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METROPOLITAN PLANNING AUTHORITY

Kindergarten Infrastructure Needs Assessment in Greenfield Growth Areas

A Revised Benchmark

partners in planning and infrastructure coordination

State Government Victoria

This final draft report is based on a report produced for the Metropolitan Planning Authority by Capire Consulting Group Pty Ltd.

The Metropolitan Planning Authority's project manager was Lisel Thomas, Infrastructure Planning Manager.

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Glossary

For the purpose of this report, the following terminology has been adopted.

Kindergarten	A funded **program** providing structured educational programs to children in the year before they commence full-time schooling. Unless otherwise stated, references to kindergarten in this report do not include programs for three-year-olds.
Session-based kindergarten	A funded kindergarten **program** offering a minimum of 15 hours of four-year-old kindergarten sessions per week for each student.
Long day care kindergarten	A funded kindergarten **program** provided as part of a long day care program. Long day care programs generally require additional service fees outside of the 15 hours of government funded four-year-old kindergarten.
Standalone kindergarten	A kindergarten **facility** dedicated to only offering kindergarten programs. Three-year-old programs are sometimes also offered in standalone kindergartens.
Integrated kindergarten	An integrated **facility** that offers both kindergarten programs and a range of other services. These other services may be limited to family and children's services (such as three-year-old kindergarten programs, playgroup space, long day care, maternal and child health (MCH), early childhood intervention services (ECIS), family and parenting services) or may include services for the broader community.
Co-located	Facilities that are proximate to one another to enable complementary programs, activities and services and shared use of resources. Kindergartens in Victoria are often co-located with schools.

Part A: Introducing a revised benchmark

Introduction

The Metropolitan Planning Authority (MPA) engaged Capire Consulting Group (Capire) to develop an evidence-based benchmark for planning kindergarten infrastructure in Melbourne's greenfield growth areas. The outcomes of the project will inform future Precinct Structure Plans (PSPs) and Development Contribution Plans (DCPs).

The main users of the revised benchmark, and the process for applying it, are expected to be practitioners involved in planning kindergarten infrastructure in Melbourne's greenfield growth areas. This will include staff from State and local government, including: community service planners; precinct structure planners; and strategic land use planners. To ensure that the local context is taken into consideration, these users will need to consult and involve: the Department of Education and Training; demographers; local kindergarten service delivery agencies; and other key service delivery partners.

In recent times, kindergarten infrastructure planning has primarily been guided by the 2008 document, *Planning for Community Infrastructure in Growth Areas*. However, since this guide was published, a number of regulatory and funding changes have been implemented, such as *Universal Access to Early Childhood Education* and the *National Quality Framework for Early Childhood Education and Care*, which have impacted on the licensed and enrolment capacities of programs. There has also been a shift in access trends, with an increase in families accessing kindergarten in long day care programs.

In response to some of these issues, a number of alternative assumptions have begun to emerge across greenfield growth area Councils that are reflective of the local context.

The aim of this project was to understand the opportunities and limitations of a range of kindergarten provision models and develop a future provision benchmark for greenfield growth areas within the current regulatory environment.

The benchmark will replace the benchmark in *Planning for Community Infrastructure in Growth Areas* (2008).

The principles underpinning the revised benchmark

The benchmark is based on the following guiding principles:

- ***flexible*** to respond to the changing needs of communities
- ***responsive*** to peak and long term populations
- ***adaptable*** to increase utilisation and access to respond to broader community needs
- ***encouraging*** and ***inclusive*** of other community uses
- ***accessible*** to a local population catchment (walking is important)
- ***delivered*** **in a range of models** to respond to the differing local context across greenfield areas.
- ***universal access*** assuming every four-year-old will attend kindergarten

The benchmark relates to the number of households in the planning area.

The revised benchmark plans for the short term peak population and the long term established population.

The revised benchmark is:
1 kindergarten room per 1,400 households in the short term
and 1 kindergarten room per 2,100 households in the long term.

It is expected that the shift from the short term peak population to the long term established population will occur within 10 to 20 years of the new community starting to establish.

Expressed another way, in the short term 1,400 households will create enough demand for one kindergarten room, whereas in the longer term a larger catchment of 2,100 households will be required to create enough demand for one kindergarten room.

In practice, this means that one third of all kindergarten rooms planned to accommodate peak demand will not be required for four-year-–old kindergarten services in the long term. These rooms should be designed as adaptable multi-use rooms that can be repurposed to support other community uses after the peak has subsided, or these rooms should be delivered in other ways.

The benchmark assumes that each kindergarten room can accommodate 33 children.

The revised benchmark is a guide only and has been designed to enable it to be refined to respond to local conditions, and adapted to changing regulatory and policy needs. For example, the benchmark can be adapted to reflect differences in: dwelling occupancy rates; population profiles (that is, the proportion of four-year-olds); the proportion of children accessing kindergarten programs through session-based kindergartens; and room capacity.

The benchmark has been developed for Melbourne's greenfield growth areas only.

Components of the revised benchmark

The following table outlines the process and assumptions underpinning the revised benchmark:

Table 1: Components of the revised benchmark

Process	Assumption
Step 1: Calculate the long term number of enrolments.	The long term dwelling occupancy rate will be 2.8 people. 1.5% of the total long term population will be four-years-old.
Step 2: calculate the peak number of enrolments.	The peak dwelling occupancy rate will be 3.3 people. A short term peak 4-year-old population level of 1.9% will precede the long term population level of 1.5%. These peaks will occur at the same time.

Step 3: Calculate how many children will attend in each setting.	74.3% session-based kindergarten. 25.7% long day care kindergarten.
Step 4: Determine how many licensed kindergarten places per room.	33 children per room.
Step 5: Determine how many kindergarten groups can be accommodated in each room.	2 groups per room.
Step 6: Calculate land and floor space requirements	Each kindergarten room must include a *minimum* of 107.25sqm of indoor space and 231sqm of outdoor space.[1]

Source: MPA and Capire 2014

Timeframes

The timeframe for planning for kindergarten infrastructure assumes a ten to twenty year horizon. This correlates with the timing of the kindergarten capital grants policy from State government that requires kindergarten services within State funded infrastructure to be delivered for ten years, and enables rooms to transition to an alternate use after that period.

As illustrated in Appendix 1, the peak four-year-old population for each municipality occurs at a different time. In most instances, the short term peak population occurs sometime over the next ten years, however there are some municipalities where the proportional growth of four-year-olds across the entire municipality continues to grow exponentially.

Land and floor space requirements

Each kindergarten room must include a *minimum* of 107.25sqm of indoor space and 231sqm of outdoor space.[2]

This is a move away from recommending overall land site areas for community infrastructure towards the allocation of floor space areas for different service activities. This supports and encourages co-location, integration and the consideration of vertical models. It also allows for a local design response and a flexible delivery model where kindergarten rooms can be located as standalone models, with other community facilities or delivered as a multi-storey building.

Examples include:

[1] The minimum floor space designated for each kindergarten room is based upon the minimum standards stipulated in *Children's Services Regulations 2009* requiring 3.25m^2 indoor and 7m^2 outdoor space per child. Based on 33 children per room.

[2] Ibid.

Triple room model

Includes: Triple room facility with 99 licenced four-year-old kindergarten places, two room Maternal and Child Health facility, small and medium meeting spaces. This includes reception area, storage, toilets, and circulation space, entrance and display areas.

Building size: typically with a gross floor area of approximately 1,800 sqm but will depend on the particular context (this includes 'outdoor' space associated with the kindergarten rooms but excludes car parking and additional landscaping requirements).

Double room model

Includes: Double room facility with 66 licenced four-year-old kindergarten places, two room Maternal and Child Health facility, medium meeting space. This includes reception area, storage, toilets, and circulation space, entrance and display areas.

Building size: typically with a gross floor area of approximately 1,200 sqm but will depend on the particular context (this includes 'outdoor' space associated with the kindergarten rooms but excludes car parking and additional landscaping requirements).

When applying a floor space approach, additional land will need to be designated for car parking associated with the kindergarten. The number of car spaces can only be calculated once the services and activities and the level of co-location and integration is determined for the site, and the overall site area required for the kindergarten facility will only be known when this has occurred.

In most circumstances in a greenfield context, the standard site area required for an integrated children's centre with two to three room kindergarten rooms and other facilities, and associated onsite car parking, is expected to be somewhere between **0.4 and 0.8 ha**, depending on the nature of the co-located facilities and services.

Applying the benchmark

The application of the benchmark is the starting point for planning kindergarten infrastructure. The final provision model for planning and delivering kindergarten services and facilities is determined through a collaborative and iterative approach with Council and key service delivery partners. To determine the provision requirement, the benchmark should be refined through a five step process (outlined in Section 4).

Once the provision requirement for the number of kindergarten rooms needed in the short and longer term, that is, to accommodate peak demand and after the peak has subsided, decisions will need to be made regarding how and where these kindergartens will be provided.

In general, approximately one third of all kindergarten rooms will need to convert to an alternate use in the long term.

In practice, this could include:

- planning a community facility that incorporates three kindergarten rooms, at least one of which has been designed so that it can be easily repurposed to support an alternative community use.

- only providing kindergarten for 4 year olds in the short term and expanding the service to also incorporate kindergarten for 3 year olds in the longer term.
- providing some kindergarten rooms in relocatable buildings that can be moved to a new location once peak demand has subsided.
- integrating some kindergarten services into rooms in primary school buildings, with the intention of converting the kindergarten room into classroom space in the long term.
- promoting use of kindergarten facilities in adjacent 'ageing' areas during the period of peak demand.

The cost and efficiency implications of each of these approaches vary, and their suitability will need to be considered with regard to the local circumstances and context.

The need for local provision and 'walkability' also needs to be considered. For example, facilities with a large number of permanent kindergarten rooms may result in kindergarten services being concentrated in only a few locations and reduce opportunities for users to walk to the facility.

Reviewing the benchmark

The benchmark is easily adapted as new data becomes available.

The benchmark should be reviewed periodically to incorporate:

- updated population forecasts (as Victoria In Future is updated).
- updated provision/take up trend rates for children attending session-based and long day care kindergarten models (as new data is collected over time).
- implications of regulatory and funding changes.

Part B: Development of the revised benchmark

1 Project methodology

Key project drivers

This project was driven by a number of factors, including:

- a need to review existing kindergarten infrastructure provision standards for Melbourne's growth areas
- the varied range of service providers and preferences and approaches to collocation and integration of kindergarten
- the increased uptake of kindergarten services in a long day care setting and the impacts on the requirements of Council-owned kindergartens
- the implications of recent and planned regulatory changes on both early years services and infrastructure
- a need for a vigorous evidence base to support kindergarten infrastructure provision for growth areas at planning panels.

Key inputs

- Ongoing State and local government strategic planning process.
- Discussions with growth area Council representatives.
- Discussions with State government stakeholders.
- Demographic and population forecasts.
- Relevant policy, strategic and research documents.

Key tasks

- Understand existing trends in access across Melbourne's growth areas.
- Understand and assess existing provision models and benchmarks used currently across growth area Councils.
- Understand the impacts of regulatory changes on future kindergarten planning and provision.
- Determine the future requirements of kindergarten infrastructure for a typical greenfield growth area.
- Case studies drawing on existing and new models of infrastructure and service provision.
- Identify appropriate models of provision including service planning and physical requirements.

Outcomes

- A recommended normative standard/benchmark for Council-owned kindergarten infrastructure provision (buildings as well as service levels).
- Preferred models of provision and land take.

2 The context

Kindergarten is an early childhood educational program delivered by an early childhood teacher in the year prior to a child starting primary school. The Victorian State Government defines kindergarten programs as:

'...an educational program in which qualified early childhood teachers and educators work to engage each child in effective learning, thereby promoting communication, learning and thinking, positive relationships, identity and wellbeing.[3]'

The majority of kindergarten programs are regulated under the *National Quality Framework for Early Childhood Education.*

For a more comprehensive source of information on kindergarten programs in Victoria, refer to the Department of Education and Training's publication, 'The Kindergarten Guide'.

Unless otherwise stated, references to kindergarten in this report do not include programs for three-year-olds.

2.1 Current role and provision of kindergarten in Victoria[4]

Funded kindergarten programs operate in the following settings in Victoria:

- long day care centres
- standalone services
- co-located services
- early years centres / pre-prep facilities in schools
- community centres.

There are two main kindergarten **program** types in Victoria:

Session-based kindergarten: A kindergarten **program** offering a minimum of 15 hours of funded four-year-old kindergarten sessions per week for each student in the year before they commence full-time schooling.

Long day care kindergarten: a funded kindergarten **program** provided as part of a long day care program. Long day care programs generally require additional service fees outside of the 15 hours of government funded four-year-old kindergarten.

[3] Department of Education and Training, 'The Kindergarten Guide 2014', March 2014.

[4] Ibid.

Some providers also deliver kindergarten programs through what is commonly called a 'wrap around' model where extended care programs operating in partnership with session-based kindergartens. In these situations, the implications for facilities will vary depending on the particular circumstances of each partnership.

For the purposes of this report, the two main kindergarten **facility** types in Victoria have been defined as:

Standalone kindergartens[5]**:** A kindergarten **facility** dedicated to only offering kindergarten programs. Three-year-old programs are sometimes also offered in standalone kindergartens.

Integrated kindergartens: An integrated **facility** that offers both kindergarten programs and a range of other services. These other services may be limited to family and children's services (such as three-year-old kindergarten programs, playgroup space, long day care, maternal and child health (MCH), early childhood intervention services (ECIS), family and parenting services) or may include services for the broader community.

Facilities are also described as being **co-located**. These are facilities that are proximate to one another to enable complementary programs, activities and services and shared use of resources. For example, kindergartens in Victoria are often **co-located** with schools.

Current trends in government policy and the requirements of the Integrated Children's Services Capital Grant have seen a shift away from facilities that only provide kindergarten programs to an integrated children's centre model that supports the co-location of:

- funded 15 hour kindergarten programs for children in the year before school (four-year-old kindergarten)
- three-year-old kindergarten programs
- playgroup space
- long day care (Note: provision of long day care within children's centres in greenfield growth areas is less common than in children's centres in established areas)
- maternal and child health (MCH)
- early childhood intervention services (ECIS)
- family and parenting services.

2.2 Role of Government

Three levels of government operate in partnership in the planning and delivery of kindergarten programs.

Federal government: The Federal government has adopted a national approach to the provision of early years education and care through the *National Quality Framework for Early Childhood*

[5] DET data collection generally refers to kindergarten programs (standalone) as 'other settings'.

Education and provides a consistent standard across service providers nationwide. The Australian Children's Education and Care Quality Authority was established by the Federal government to work with State and territory governments to implement the framework.

State government: Each State and territory has its own early childhood education and care system. In Victoria this system is regulated through the Department of Education and Training (DET). DET is responsible for providing resources and managing legislation for kindergarten. At a regional level DET's role is to:

- assist with, and receive applications for funding
- process funding applications and manage approvals
- provide grants for infrastructure delivery and upgrades (for example, the Integrated Children's Services Capital Grant)
- manage service agreements with service providers
- manage payment processes
- monitor compliance with funding criteria and operational requirements
- provide support and advice for service providers that may experience operational challenges.[6]

Local government: Within Victoria the role of local government in the provision and planning of kindergarten services varies. However, the following key roles were identified to be consistent across greenfield growth area Councils in consultation undertaken for this project:

- facility provision (including ongoing maintenance)
- management of a central enrolment system
- provision of professional development opportunities for educators
- assistance with service planning
- advocacy for funding and resources
- strategic planning and policy development.

The most significant difference across the greenfield growth area Councils is whether or not Council is a direct provider of services. Consultation identified that the following Councils have a role in direct service delivery of kindergarten:

- Casey City Council
- Hume City Council
- Mitchell Shire Council
- Wyndham City Council.

[6] Department of Education and Training, '*The Kindergarten Guide 2014*', March 2014.

2.3 Current access trends

As shown in Table 2, the overall trends in greenfield growth areas in 2013 were that:

- 74.3 per cent of children attended session-based kindergarten.
- 25.7 per cent of children attended kindergarten in long day care[7].

Table 2: Trends in kindergarten access for each greenfield growth area municipality

Growth area	Kindergarten setting	Actual number of children enrolled in kindergarten services (2013)[8]	
		Number of enrolments	Percentage of total enrolments
Cardinia Shire Council	Session-based	1,130	78.3%
	Long day care	313	21.7%
	Total	1,443	100%
Casey City Council	Session-based	2,839	75.0%
	Long day care	944	25.0%
	Total	3,783	100%
Hume City Council	Session-based	1,799	72.5%
	Long day care	683	27.5%
	Total	2,482	100%
Melton City Council	Session-based	1,573	76.0%
	Long day care	497	24.0%
	Total	2,070	100%
Mitchell Shire Council	Session-based	401	79.4%
	Long day care	104	20.6%
	Total	505	100%
Whittlesea City Council	Session-based	1,864	78.3%
	Long day care	516	21.7%
	Total	2,380	100%
Wyndham City Council	Session-based	2,094	67.9%
	Long day care	989	32.1%
	Total	3,083	100%
Growth areas total	Session-based	11,700	74.3%
	Long day care	4,046	25.7%
	Total	15,746	100%

[7] Calculated using data provided by DET

[8] Source: DET provided data

Note: This data does not include children who may have been eligible but who did not attend a service.

As demonstrated above, the proportion of children attending session-based and long day care kindergarten models varies across each municipality. As explained in a later section, the method by which the benchmark should be applied enables this to be taken into account. It also enables the use of anecdotal evidence regarding family preferences, supported by local data and evidence regarding provision / take up trend rates, rather than relying on the above DET data, which takes established areas within the greenfield growth areas into account. It also allows for a more detailed examination of the different settings within which families are accessing kindergarten services. For example, According to DET 2013 data provided to Hume City Council, the percentage of kindergarten enrolments in a long day care setting was 18.6%, compared to 32.2% in standalone kindergartens, 32.8% in children's centres, 2.7% in community centres, 12.8% in schools and 1.1% in a library setting.

2.4 Regulatory changes

In recent years, the Federal government has introduced a number of significant changes to early years regulations with the aim of ensuring that every four-year-old has access to kindergarten in the year prior to attending primary school. In 2013, the government introduced *Universal Access to Early Childhood Education* which requires that all kindergartens provide a minimum of 15 hours a week of four-year-old kindergarten. This was an increase from the previous minimum standard. This change has resulted in capacity constraints for existing kindergarten infrastructure and services across Victoria. Some of the key impacts identified by the Municipal Association of Victoria[9] include:

- substantial infrastructure shortfalls
- increases in the cost of services
- the need for more flexible timetabling
- additional staffing requirements
- displacement of other integrated services and programs such as three-year-old kindergarten and play groups.

In 2016 the government will be introducing further regulatory changes as part of the National Quality Framework for Early Childhood Education and Care. This framework will change the current ratio for kindergartens of one educator for every 15 children to one educator for every 11 children. This change has the potential to impact on class sizes and staffing levels which may also therefore impact on the cost of services. As identified in the COAG report Regulation Impact Statement for Early Childhood Education and Care Quality Reforms (2009) labour costs represent up to 80 per cent of services' total operating costs. The introduction of the National Quality Framework is likely to result in the need for staff with additional qualifications which will add to the cost of providing early childhood

[9] MAV, 2010, 'Universal Access to 15 Hours of Kindergarten Issues Paper', [accessed online] http://www.mav.asn.au/policy-services/social-community/children-families/early-childhood/kindergartens/documents/universal%20access%20to%2015%20hours%20kindergarten%20issue%20paper.doc

education. The impact of this change may also see class sizes reduce to 22 children or increase to 33 children.

The National Quality Framework has also led to the introduction of qualified kindergarten teachers into all long day care centres in 2014. This has been a significant contributor to the increase in the proportion of families accessing kindergarten programs provided as part of a long day care program.

3 The old benchmark

In 2008 a consortium of greenfield growth area Councils and State government departments funded the *Planning for Community Infrastructure in Growth Areas* guide. The guide identified a set of standard benchmarks for community infrastructure, which have since been widely applied.

The guide recommends the following kindergarten provision ratios:

- service: one enrolment for every four-year-old.
- infrastructure: one double-room kindergarten for every 150 four-year-olds.
- overall population benchmark: one double-room kindergarten per 10,000 people.

The provision ratios are based on the following assumptions:

- every four-year-old will attend kindergarten.
- four-year-olds represent 1.5 per cent of the total population.
- one licensed place can accommodate 2.5 enrolments: assumes each room can accommodate a licensed capacity of 30 places and can accommodate three groups of four-year-old kindergarten enrolments (equivalent to 75 four-year-olds per week).

Appendix 4 provides analysis which tests these assumptions and the key findings are provided throughout that appendix.

The guide recommends a model of provision based on the following principles:

- Co-locate kindergarten within Council-owned multi-purpose community centres or early years facilities, or on new government primary school sites.
- The facility should incorporate two kindergarten rooms with a total licensed capacity of 60 children and meet children's services regulations in regard to the design of the facility.
- Kindergarten is a local level service generally servicing a community of approximately 10,000 people.

The validity of the recommended standard provision was assessed in the guide as 'high' for the following reasons:

- State/local government responsibility (with some non-government provision).
- age cohort specific.
- not compulsory but essentially a universal service.
- enrolment data / patterns reasonably easy to obtain and useful for determining demand.
- increasing sophistication of small area forecasts allows reasonably good demand forecasts to be calculated.

4 Considerations in developing a revised benchmark

NOT ALL ELIGIBLE CHILDREN ARE PARTICIPATING IN KINDERGARTEN

Average kindergarten participation rates across greenfield growth areas in Melbourne are closer to 93.7 per cent of all eligible children.

This can be attributed to a number of factors. The *Early Childhood Infrastructure Demand Analysis* (PWC, 2013 update) prepared for DET, highlighted that some Local Government Areas (LGAs) are net 'donors' of enrolments, while others are net 'recipients'. The methodology utilised in the report assumes that LGAs will continue to 'donate' and 'receive' enrolments in the same number as they currently do, with all Councils providing services to residents of other municipalities. Access can relate to timing of delivery - some newly established communities may not have services and therefore residents access a service nearby, but outside their municipality. Access is also influenced by workforce participation, travel movements and family preference, and is influenced by kindergarten enrolment policies that give priority to particular users, such as residents of the municipality and other target groups.

Table 3: 2013 Kindergarten participation rates[10]

	Number of children eligible to attend four-year-old kindergarten	Number of children enrolled in a funded kindergarten program[11]	Kindergarten participation rate
Cardinia Shire Council	1,277	1,396	109.0%
Casey City Council	4,148	3,703	89.3%
Hume City Council	2,639	2,366	89.7%
Melton City Council	2,070	2,110	101.9%
Mitchell Shire Council	501	467	93.2%
Whittlesea City Council	2,494	2,264	90.8%
Wyndham City Council	3,239	2,928	90.4%
Growth area total	**13,729**	**12,868**	**93.7%**

[10] Source: DET provided data

[11] This data represents the number of children who are attending a kindergarten program in the year before school (and excludes those children who have been approved for a second year of kindergarten).

NOT ALL FOUR-YEAR-OLDS ARE ELIGIBLE TO ATTEND KINDERGARTEN

The age entry requirement to attend kindergarten in Victoria is that a child must have turned four-years-old before 30 April in the year they attend kindergarten. As a result, the number of four-year-olds in an area does not necessarily indicate the number of children who are eligible to attend kindergarten each year.

THE PROPORTION OF FOUR-YEAR-OLDS IN AN AREA VARIES OVER TIME

The assumption in the old benchmark is that for every 10,000 people there are 150 four-year-olds, which is equivalent to 1.5 per cent of the population.

As a result of changing population profiles, the research illustrates that while the absolute number of four-year-olds continues to grow over time, the proportion of four-year-olds in greenfield sites changes over time. While there is no clear pattern when assessed across an entire local government area (see Appendix 5), the proportion of four-year-olds generally increases as the population moves into a newly developing greenfield area, before decreasing and finally stabilising (as the local population continues to age) (see Appendix 6). The revised benchmark needs to be more responsive to changes in the population profile over time. For instance, applying the total population benchmark to an ageing population would result in the same number of kindergarten facilities as if it were a newly established community with a high proportion of young children.

COMMUNITY PREFERENCES ARE CHANGING

As outlined in the *Early Childhood Infrastructure Demand Analysis* (PWC, 2013 update) prepared for DET, the changing trends in workforce participation are likely to increase the demand for programs which have a longer duration and are offered in long day care, or extended care programs operating in partnership with session-based kindergartens (wrap around model).

The *National Early Childhood Education and Care Collection* publication (ABS) highlights a shift in kindergarten access trends. Each year the ABS collects data from State government administrative bodies responsible for early childhood education across Australia, including data on the number of children enrolled across each early education setting. The data is presented for each State by broad geographical regions including major cities, inner/outer regional and remote/very remote. Within Victoria, Melbourne's greenfield growth areas are covered by the major cities region. Current and past publications illustrate a significant change in the proportion of children who attend kindergarten in session-based programs compared to those attending kindergarten within long day care programs.

Between 2011 and 2013, the proportion of families accessing session-based programs decreased by 20.8 per cent, while the proportion that access kindergarten programs in an long day care setting increased by 16.8 per cent.

However, this trend is not evident across all Councils. Proportionally, participation in session-based kindergarten programs grew over that period in Hume City Council. Cardinia Shire Council is also experiencing a preference for session-based kindergarten and a move away from kindergarten programs offered in a long day childcare setting.

Proximity to services is important for some municipalities such as Wyndham City Council and not as much in others. Catchment areas for new developments in Hume City Council are much bigger

compared to established areas and the community is accustomed to commuting distances to access services. Many residents will also access kindergarten further from their house if it is on the way to work.

Emerging trends, such as an increasing number of parents working on weekends, will need to be factored into service and infrastructure planning.

Stakeholders emphasised that kindergarten infrastructure and service planning:

- Needs to incorporate a variety of sessions to meet different needs.
- Should prioritise local catchments and commuter corridors in greenfield growth areas, however users generally accept the need to travel.
- Should further consider the role of family day care, which is increasing in popularity in municipalities such as Casey City Council.
- Should consider increased opening hours to respond to increasingly diverse employment arrangements.
- Should consider best practice kindergarten programming to maximise outcomes for children, for example length of sessions and starting times.

PROGRAMMING SHOULD MAXIMISE THE USE OF THE FACILITY

In 2013, the government introduced *Universal Access to Early Childhood Education* which requires that all kindergartens provide a minimum of 15 hours a week of four-year-old kindergarten. This is an increase from the previous minimum standard. This change has placed pressure on existing kindergarten infrastructure, with the additional hours required per child meaning that less groups can be accommodated across the week, and in some cases has resulted in the displacement of other programs, including three-year-old programs and playgroups. The programming of spaces needs to be maximised to support the use of the facility for a range of different user groups, for example timetabling earlier or later or using the one space for a range of different groups.

THE ENROLMENT CAPACITY OF KINDERGARTEN ROOMS IS LIKELY TO INCREASE

The old benchmark's assumption that each licensed room will have capacity for 30 four-year-olds does not take into account the future government regulatory changes proposed for 2016. The *National Quality Framework for Early Childhood Education and Care* will introduce changes to educator to child ratios with the current ratio of one educator for every 15 children reducing to one educator for every 11 children. This regulatory change will impact on class sizes and staffing levels, and will ultimately impact on the cost of services to Governments and families.

In response to this regulatory change, several greenfield growth area Councils are now planning kindergarten rooms which can accommodate 33 four-year-olds at one time, with two groups able to be accommodated over the course of a week, which will increase the average capacity of kindergarten rooms. The rationale for this shift is to ensure that each staff member can have a full contingent of children, and services are not compelled to deliver at 'above ratio'. Note, some services may still choose to operate 'above ratio'.

THE AVERAGE DWELLING OCCUPANCY RATE WILL CHANGE OVER TIME

Evidence shows that greenfield growth area communities, particularly those targeted at first home buyers, have a larger than average proportion of young families. As a consequence, dwelling occupancy rates are higher. Over time, these communities become more diverse, the population profile becomes more consistent with the profile of more established areas and dwelling occupancy rates fall (See Appendix 8).

It is reasonable to assume that the average dwelling occupancy rate in a new greenfield area during the short term peak will be 3.3 people per household.

In the longer term, when the community is more established, it is reasonable to assume that the average dwelling occupancy rate will be 2.8 people per household.

PROVISION OF KINDERGARTEN FACILITIES NEEDS TO PROVIDE FLEXIBILITY TO ALLOW ADDITIONAL ACTIIVITIES IN THE SPACE

The benchmark assumes two four-year-old kinder groups per room. This allows for additional activities in the space, such as 3yo kinder, parenting groups and playgroups. Based on providing 15 hours for four-year-old kindergarten and an 8.30am-5pm, Monday to Friday timetable, approximately 10 hours are available per week for other additional activities.

WALKABILITY IS A KEY LOCATIONAL PRINCIPLE IN DELIVERING KINDERGARTEN FACILITIES

The benchmark supports kindergartens that are located where walkability is prioritised. Facilities with a large number of permanent kindergarten rooms may result in buildings that are concentrated in only a few locations. This may reduce opportunities for users to walk to the facility.

In many greenfield sites, it is assumed that session-based kindergarten provision by the Council will occur within an integrated early years model, however the MPA will work with Councils to consider a range of models (for example, standalone facilities, multi-use facilities, kindergarten integrated with primary schools, as well as kindergarten within an integrated early years model) to prioritise walkability in the design process.

THE IMPACT OF THE WORKER POPULATION SHOULD BE CONSIDERED

The impact of worker populations and whether there is a need to plan for the needs of their children needs further consideration. In locations where there is a high concentration of jobs there may be additional demand for kindergarten programs, particularly in the long day care kindergarten setting. This may result in some Councils needing to plan for kindergarten demand greater than that generated by their resident population.

The take up of session-based kindergarten and long day care kindergarten could change as patterns of work change – for example, an increase in flexible work hours and more instances of people working from or near to home may lead to resurgence in demand for session-based kindergarten.

Data relating to these trends should be collated, reviewed and analysed as the kindergarten benchmark is refined.

At this point it is considered appropriate for the greenfield kindergarten benchmark to focus on planning kindergarten provision for the resident community.

5 The revised benchmark

The revised benchmark has been developed for application in Melbourne's greenfield growth areas only. It plans for the short term peak population and the long term established population.

It is expected that this shift from the short term peak population to the long term established population will occur within 10 to 20 years of the new community starting to establish.

The benchmark relates to the number of households in the planning area.

The benchmark is 1 kindergarten room per 1,400 households at the peak and 1 kindergarten room per 2,100 households in the long term.

Expressed another way, in the short term 1,400 households will create enough demand for one kindergarten room, whereas in the longer term a larger catchment of 2,100 households will be required to create enough demand for one kindergarten room.

In practice, this means that one third of all kindergarten rooms planned to accommodate peak demand will not be required for four-year-–old kindergarten services in the long term. These rooms should be designed as adaptable multi-use rooms that can be repurposed to support other community uses after the short term peak population has subsided, or these rooms should be delivered in other ways.

This benchmark is a guide only and should be applied and refined in a manner that responds to local conditions.

The benchmark is flexible and can adapt to changing regulatory and policy needs. The final model for kindergarten services and facilities will be determined in collaboration with Council and key service delivery partners.

To determine the provision requirement, the benchmark should be refined with local data through a five step process. These steps are outlined below. At each step there is a recommended approach and a list of issues that should be considered when refining the benchmark.

Step 1: Calculating the number of enrolments

Recommendation

- Assume a long term dwelling occupancy rate of 2.8 people.
- Assume 1.5 per cent of the total long term established population will be four years old.

Considerations

- Plan for the long term number of four-year-old children.
- Population forecasts may change - set a five-year horizon to allow population forecasts to be updated (as *Victoria In Future* (VIF) is updated).
- Plan assuming 100 per cent of four-year-olds will attend kindergarten to allow for maximum participation.

- Recognise that some children do a second year of kindergarten, but the number of children in this category does not change significantly from year to year, so this demand only needs to be planned for once.
- Allow benchmark to be easily adapted as new data becomes available.

Step 2: Plan for peak and long term enrolment population

Recommendation

- Assume a peak occupancy dwelling occupancy rate of 3.3 people.
- Assume that the proportion of the population that is four years old will peak at 1.9 per cent.
- Assume that these peaks occur at the same time.

Considerations

- Plan for the peak number of four-year-old children.
- Acknowledge that the proportion of four-year-olds in a new greenfield community will be higher in the short term than in the long term, and that it is reasonable to provide for this short term peak population, while noting that the this trend of new greenfield development areas predominantly housing young families may change, with a broader range of residents moving in from the very early days in the future.
- Allow Councils to have certainty about the short and longer term planning requirements for kindergarten provision, and provide some flexibility to have more adaptable infrastructure capable of being repurposed within the DCP.
- Allow for Councils to provide kindergarten programs within different delivery models such as standalone, within community centres and co-located with other facilities; that may be able to adapt after the population peaks.
- Recognise that in some cases, a new 'young' population may be able to utilise kindergarten facilities in adjacent 'ageing' areas during the period of peak demand.

Step 3: Calculate how many children will attend in each setting

Recommendation

- 74.3 per cent session-based.
- 25.7 per cent long day care kindergarten.

Considerations

- The proportion of children attending session-based and long day care kindergarten models varies across each municipality.
- The recommended provision rates take established areas within the greenfield growth areas into account.
- Calculating session-based and long day care models provides Councils with guidance regarding direct provision of kindergarten facilities and where provision by others should be facilitated / supported, and allows more certainty for childcare providers moving into the municipality.
- Provision/ take up trend rates may change - set a five-year review cycle to allow rates to be updated as new DET data is collected over time.

- Determine whether or not there is additional demand generated by local worker populations. In locations where there is a high concentration of jobs there may be additional demand for kindergarten programs, particularly in the long day care kindergarten setting. This could result in those Councils needing to plan for kindergarten demand greater than that generated by their resident population.

Step 4: Determine how many licensed kindergarten places per room

Recommendation

- 33 children per room.

Considerations

- Existing local adopted policy can be followed, however provide flexibility to amend if the regulations change in the future.
- Maximise the number of children per room to support full utilisation, such as 1:11 staff to child ratio.

Step 5: Determine how many kindergarten groups can be accommodated in each room

Recommendation

- 2 groups per room.

Considerations

- Allow for additional activities to take place within the space, such as three-year-old kindergarten, parenting groups and play groups. (See Appendix 4, Assumption 2 for further details regarding room timetabling.)

Step 6: Calculate land and floor space requirements

Recommendation

- Each kindergarten room must include a *minimum* of 107.25sqm of indoor space and 231sqm of outdoor space.[12]

Considerations

- When applying a floor space approach, additional land will need to be designated for car parking associated with the kindergarten. The number of car spaces can only be calculated once the services and activities and the level of co-location and integration is determined for the site.
- The current guide for land space requirements is 0.4-0.8ha. This includes the building floor space **and** the car parking and landscaping requirements.

[12] The minimum floor space designated for each kindergarten room is based upon the minimum standards stipulated in *Children's Services Regulations 2009* requiring 3.25m^2 indoor and 7m^2 outdoor space per child. Based on 33 children per room.

Examples

Hypothetical example

A notional area of 15,000 households has been used to demonstrate how the peak and long term benchmarks have been derived in the following tables.

Worked example of the recommended revised benchmark methodology

Long term population		
Households	15,000	households
Population (dwelling occupancy = 2.8)	42,000	population
No. of 4 year-olds (1.5 per cent of the population)	630	4 year-olds
Proportion of 4-year-olds in **session-based** kindergarten (74.3per cent)	468	attend session-based kindergarten
If each kindergarten room can accommodate 66 children	7.1	kindergarten rooms required
Benchmark = 1 kindergarten room per	**2,115**	**households**

Peak population		
Households	15,000	households
Population (dwelling occupancy = 3.3)	49,500	population
No. of 4 year-olds (1.9 per cent of the population)	941	4 year-olds
Proportion of 4 year-olds in **session-based** kindergarten (i.e. 74.3 per cent)	699	attend session-based kindergarten
If each kindergarten room can accommodate 66 children	10.6	kindergarten rooms required
Benchmark = 1 kindergarten room per	**1,417**	**households**

Source: MPA and Capire 2014.

This community is likely to need a long term provision of seven kindergarten rooms with an additional three or four kindergarten rooms to accommodate a short term peak 4-year-old population.

For an area with 15,000 households, a total of ten or eleven rooms should be planned, with at least one third designed as adaptable multi-use rooms that can be repurposed to support other community uses after the peak population has subsided, while still meeting children services regulations to enable use as kindergarten rooms during the peak.

Application of the revised benchmark:

Peak provision - 15,000 divided by 1,400 = 10.6 rooms

Long term provision - 15,000 divided by 2,100 = 7 rooms

The examples on the following pages show how the benchmark can be refined to better reflect local factors for a particular municipality.

Casey example

Casey's preference is to provide kindergarten programs with a maximum of 26 children per room and the proportion of children in session-based kindergarten is slightly higher than average.

The proportion of four-year-olds across the municipality is expected to remain relatively steady at 1.5 per cent of the population. However, this may hide peaks in smaller areas within that municipality. For this reason, it is considered reasonable to apply a moderate peak benchmark when planning for Casey's greenfield developments, particularly in areas where it is unlikely that a new 'young' population will be able to utilise kindergarten facilities in adjacent 'ageing' areas during the period of peak demand.

Worked example of the recommended revised benchmark methodology - Casey

Long term population		
Households	15,000	households
Population (dwelling occupancy = 2.8)	42,000	population
No. of 4 year-olds (**1.5 per cent** of the population)	630	4 year-olds
Proportion of 4 year-olds in session-based kindergarten (i.e. **75 per cent**)	473	attend session-based kindergarten
If each kindergarten room accommodates **52 children**	9.1	26-place kindergarten rooms required
Long term provision = 1 kindergarten room per	**1,651**	**households**

Peak population		
Households	15,000	households
Population (dwelling occupancy = 3.3)	49,500	population
No. of 4 year-olds (**1.7 per cent of the population**)	842	4 year-olds
Proportion of 4-year-olds in session-based kindergarten (**75 per cent**)	631	attend session-based kindergarten
If each kindergarten room accommodates **52 children**	12.1	26-place kindergarten rooms required
Peak provision = 1 kindergarten room per	**1,236**	**households**

For a greenfield area with 15,000 households in Casey, the community is likely to need a long term provision of nine kindergarten rooms, each large enough to accommodate 26 children.

The community is likely to need an additional three rooms (total of twelve rooms) large enough to accommodate 26 children and able to be converted to an alternative use in the longer term.

Wyndham example

The proportion of children attending session-based kindergarten in Wyndham is lower than the average rate across all greenfield growth areas and the proportion of four-year-olds across the entire municipality is expected to be particularly high in Wyndham, peaking at 2.0 per cent of the population.

Worked example of the recommended revised benchmark methodology - Wyndham

Long term population		
Households	15,000	households
Population (dwelling occupancy = 2.8)	42,000	population
No. of 4 year-olds (**1.5 per cent of the population**)	630	4 year-olds
Proportion of 4-year-olds in session-based kindergarten (**67.9 per cent**)	428	attend session-based kindergarten
If each kindergarten room accommodates **66 children**	6.5	33-place kindergarten rooms required
Long term provision = 1 kindergarten room per	**2,314**	**households**

Peak population		
Households	15,000	households
Population (dwelling occupancy = 3.3)	49,500	population
No. of 4 year-olds (**2.0 per cent** of the population)	990	4 year-olds
Proportion of 4 year-olds in session-based kindergarten (i.e. **67.9 per cent**)	672	attend session-based kindergarten
If each kindergarten room accommodates **66 children**	10.2	33-place kindergarten rooms required
Peak provision = 1 kindergarten room per	**1,473**	**households**

For a greenfield area with 15,000 households in Wyndham, the community is likely to need a long term provision of six or seven kindergarten rooms, each large enough to accommodate 33 children.

The community is likely to need an additional three or four rooms (total of ten rooms) large enough to accommodate 33 children and able to be converted to an alternative use in the longer term.

Mitchell example

The proportion of children attending session-based kindergarten in Mitchell is slightly higher than the average rate across all greenfield growth areas and the proportion of four-year-olds across the entire municipality is expected to peak at 1.9 per cent of the population, but like all greenfield areas, will ultimately 'mature' to around 1.5 per cent of the population.

Worked example of the recommended revised benchmark methodology – Mitchell

Long term population		
Households	15,000	households
Population (dwelling occupancy = 2.8)	42,000	population
No. of 4 year-olds (**1.5 per cent of the population**)	600	4 year-olds
Proportion of 4-year-olds in session-based kindergarten (**79.4 per cent**)	500	attend session-based kindergarten
If each kindergarten room accommodates **66 children**	7.6	33-place kindergarten rooms required
Long term provision = 1 kindergarten room per	**1,979**	**households**

Peak population		
Households	15,000	households
Population (dwelling occupancy = 3.3)	49,500	population
No. of 4 year-olds (**1.9 per cent** of the population)	941	4 year-olds
Proportion of 4 year-olds in session-based kindergarten (i.e. **79.4 per cent**)	747	attend session-based kindergarten
If each kindergarten room accommodates **66 children**	11.3	33-place kindergarten rooms required
Peak provision = 1 kindergarten room per	**1,326**	**households**

For a greenfield area with 15,000 households in Mitchell, the community is likely to need a long term provision of eight kindergarten rooms, each large enough to accommodate 33 children.

The community is likely to need an additional three rooms (total of eleven rooms) large enough to accommodate 33 children and able to be converted to an alternative use in the longer term.

Appendices

Appendix 1: Data used to develop the benchmark

The following data sources were used to develop the revised benchmark.

Table 4 Population forecasts by municipality

Growth area Council		Total number of four-year-olds	Total overall population for the municipality	Proportion of four-year-olds in the population
Cardinia Shire Council	2011	1,203	75,831	1.6 per cent
	2021	2,076	120,908	1.7 per cent
	2031	2,404	164,419	1.5 per cent
Casey City Council	2011	4,023	261,282	1.5 per cent
	2021	5,312	344,923	1.5 per cent
	2031	6,312	432,299	1.5 per cent
Hume City Council	2011	2,543	174,290	1.5 per cent
	2021	3,942	229,558	1.7 per cent
	2031	4,456	291,278	1.5 per cent
Melton City Council	2011	2,035	112,643	1.8 per cent
	2021	2,827	168,195	1.7 per cent
	2031	3,998	254,899	1.6 per cent
Mitchell Shire Council	2011	494	35,105	1.4 per cent
	2021	1,006	53,421	1.9 per cent
	2031	1,702	88,932	1.9 per cent
Whittlesea City Council	2011	2,349	160,800	1.5 per cent
	2021	4,247	246,501	1.7 per cent
	2031	4,769	320,641	1.5 per cent
Wyndham City Council	2011	2,977	166,699	1.8 per cent
	2021	5,152	274,784	1.9 per cent
	2031	5,583	367,495	1.5 per cent
Growth areas total	2011	15,625	986,650	1.6 per cent
	2021	24,562	1,438,289	1.7 per cent
	2031	29,224	1,919,963	1.5 per cent

Source: www.VIF.vic.gov.au

Table 5 Kindergarten Setting by municipality

Growth area	Kindergarten setting - session-based/long day care
Cardinia Shire Council	78.3 per cent (21.7 per cent)
Casey City Council	75.0 per cent (25.0 per cent)
Hume City Council	72.5 per cent (27.5 per cent)
Melton City Council	76.0 per cent (24.0 per cent)
Mitchell Shire Council	79.4 per cent (20.6 per cent)

Growth area	Kindergarten setting - session-based/long day care
Whittlesea City Council	78.3 per cent (21.7 per cent)
Wyndham City Council	67.9 per cent (32.1 per cent)
Growth areas total	74.3 per cent (25.7 per cent)

www.education.vic.gov.au

Table 6 Kindergarten places per room by municipality

Growth area	Kindergarten places per room
Casey City Council	26 places
All other greenfield growth area Councils.	33 places

www.education.vic.gov.au

Table 7 Kindergarten preferred model by municipality.

Growth area	Preferred models of provision
Cardinia Shire Council	• Two-room, standalone kindergarten services within integrated children's centres and co-location with schools. • Regardless of the delivery model Council supports two room facilities with licensed capacities of 33 with an additional community room that can be licensed for 33 children if required due to growth.
Casey City Council	• Council's preferred mode of provision is to locate kindergarten services in a family and community centre that includes MCH services and community spaces. • Council supports a facility model of at least three rooms where each room has a licenced capacity for 26 children.
Hume City Council	• Council prefers to co-locate or integrate at least two kindergarten rooms within community hubs with maternal and child health and other complementary child and family services. • Council do not have a preferred number of rooms per facilityas each site is assessed based on location and need. This local place based planning also takes into consideration mobility of the community, geographic barriers to access (such as railway lines and major roads) and vulnerability indicators of a community. • Council also supports the provision of services in integrated children's centres and co-located with schools.
Melton City Council	• Council's preferred provision model is to co-locate three to four kindergarten rooms within community hubs with other community services (not limited to children's services).
Mitchell Shire Council	• Council's preferred model of provisions is to locate kindergarten rooms in integrated children's centres. However Council also supports locating them in two and three room standalone facilities, schools and within community hubs with other community services (not limited to just community services). • Council support a facility model of at least two or three rooms where each room has a licensed capacity for a maximum of 33 children.
Whittlesea City Council	• Council's preferred model of provision in growth areas is three-room facilities. • Council supports modular buildings to provide early education. • Council supports co-location of kindergarten services with MCH services and playgroup space and where possible located on school sites.
Wyndham City Council	• Council no longer supports standalone facilities. It supports the provision of kindergartens within integrated children's centres, within community hubs and co-located with schools. • Council supports a facility model of at least three rooms where each room has a licensed capacity for 33 children.

Source: Information provided by each Council

Appendix 2: Current practice

The information provided in this appendix was primarily gathered through interviews with growth area Councils as well as a workshop with stakeholders from each of the greenfield growth area Councils and relevant State government agencies. The questions discussed at the workshop were:

- How do infrastructure planning and service planning influence each other?
- How do Councils plan for kindergarten infrastructure?

Themed discussions were then undertaken:

- Theme 1: Current practice and Council's experience
  - Is the kindergarten infrastructure delivered through recent Precinct Structure Plans and Development Contribution Plans meeting community needs?
  - What do we know about family preferences for different kindergarten settings?
  - Are there any other service trends that might influence kindergarten infrastructure requirements such as central enrolment systems?
- Theme 2: Population forecasts
  - Is there a consistent trend evident in the life-cycle of greenfield growth area communities i.e. a short term peak in the kindergarten population?
  - How should the benchmark and provision models respond to short and long-term demand for kindergarten?
  - Is there a role for temporary, re-locatable or easily re-purposed kindergarten facilities in greenfield growth areas?
- Theme 3: Desired components of the benchmark

The following trends were identified in regard to current practice and are illustrated in Table 8:

- There are variations between Councils in regard to:
  - The process for determining the need for kindergarten services and facilities
  - The preferred model for providing kindergarten programs
  - The role Council plays in the planning and delivery of kindergarten services
- Councils are adapting provision models in response to regulatory changes. For example, most Councils are increasing licensed room capacities compared to historical benchmarks (that is, from 30 to 33 children per room) to optimise delivery with new staff to child ratios. However, this is balanced by the desire to ensure that kindergartens have walkable catchments, which can be undermined if there are fewer larger kindergartens as compared to smaller more dispersed kindergartens.
- Models needs to provide flexibility to adapt to different local settings and preferences.
- There is a shift away from facilities that only provide kindergarten programs to facilities that co-locate kindergarten programs with other early years services and broader community services.

Table 8: Summary of current practice

Growth area	Does this Council have a specific benchmark for its municipality?	Current models of provision	Preferred models of provision
Cardinia Shire Council	Cardinia does not have an adopted benchmark for kindergarten services. Council utilises demographic data, kindergarten central enrolment data and MCH birth rate data to determine need.	The majority of kindergarten programs are operating from standalone kindergartens. There is also a high proportion operating from children's centres.	**Preferred models**: integrated model **Preferred number of rooms**: two-rooms **Preferred setting**: standalone kindergarten services within integrated children's centres and co-location with schools. Regardless of the delivery model, Council supports two-room facilities with licensed capacities of 33 with an additional community room that can be licensed for 33 children if required due to growth.
Casey City Council	Casey does not have an adopted benchmark for kindergarten services. Council utilises projected growth and service demand to determine need.	Kindergarten programs are mostly operating from integrated children's centres. There are also kindergartens operating from long day care centres and community hubs with other community services (not limited to community services). The majority of standalone facilities (47.5 percent) are operating as two room kindergartens with 42.5 percent operating as single rooms, with ten per cent of services offered in three room facilities.	**Preferred models**: none. Support variety of models. **Preferred number of rooms**: at least three rooms where each room has a licenced capacity for 26 children. **Preferred setting**: Council supports the provision of services in integrated children's centres (limited to children's services) and community hubs with other community services (not limited to community services).
Hume City Council	Hume does not have an adopted benchmark for kindergarten services. Council uses a variety of data sources and guidelines to determine the need for kindergarten services and facilities. Hume Development Guidelines support the provision of one kindergarten (60 places) per district (where a district is made up of 3,000 households). Hume is currently reviewing its Development Principles to reflect learnings, changes in the service delivery sector, changes in PSPs and development contributions processes.	There are a high number of programs operating from standalone single room facilities (86%) and only a small number of two room facilities (14%). There are also a high number of kindergarten programs offered in long day care centres, children's centres and schools, and a small proportion within community centres.	**Preferred models**: to co-locate or integrate at least two kindergarten rooms within community hubs with maternal and child health and other complementary child and family services. **Preferred number of rooms**: Council does not have a preferred number of rooms per facility as each site is assessed based on location and need This local place based planning also takes into consideration mobility of the community, geographic barriers to access (such as railway lines and major roads) and vulnerability indicators of a community. **Preferred setting:** Council also supports the provision of services in integrated children's centres and co-located with schools.

Growth area	Does this Council have a specific benchmark for its municipality?	Current models of provision	Preferred models of provision
Melton City Council	Melton uses the provision ratio detailed in *Community Infrastructure Planning for Growth Areas (2008)* one place per four-year-old. Council also supports a licensed room capacity of 33 children.	There are a high number of programs operating from standalone facilities. There are also a high proportion of programs offered through children's centres.	**Preferred models**: community hubs **Preferred number of rooms:** three to four kindergarten rooms within community hubs with other community services. One of these rooms may be used for occasional care. **Preferred setting**: community hubs and with a range of different community services
Mitchell Shire Council	Mitchell's adopted benchmark is one kindergarten room per 66 children aged four-years. Council also refers to the Mitchell Shire Integrated Community Services and Infrastructure Plan.	Kindergarten programs are currently offered from a 1-2 room standalone kindergarten facility or from a 1-2 room children's centre (co-located with MCH)	**Preferred models**: Preferred model of provision is to locate kindergarten rooms in integrated children's centres **Preferred number of rooms**: Council supports a facility model of at least two or three rooms where each room has a licenced capacity of 33 children. **Preferred setting**: However Council also supports locating them in two and three room standalone facilities in schools and within community hubs with other community services (not limited to just community services).
Whittlesea City Council	Whittlesea does not have an adopted benchmark. Council utilises the current 0–4 year-old population (specifically 3 and 4 year-old population) and future population projections compared with the number of funded kindergarten places in Council facilities and private childcare – at a municipal and suburb/local area level.	The majority of kindergarten programs are offered in long day care centres (21) and standalone centres (30). There are also kindergartens programs operating from community centres (7) and children's centres (1).	**Preferred models:** community hub. Council also supports modular buildings to provide early education. **Preferred number of rooms:** three-room facilities. **Preferred setting:** Council supports co-location of kindergarten services with MCH services and playgroup space and where possible located on school sites.
Wyndham City Council	Council utilises its Social Infrastructure Planning Framework benchmark to determine need: Four-year-old kindergarten: Participation rate: 87% Session-based kindergarten enrolments: 90% Licensed room capacity: 33 Room enrolment capacity: 66 Three-year-old kindergarten: Participation rate: 40% Licensed room capacity: 20 Enrolment capacity: 40	The majority of kindergarten services are operating out of community centres (8) and children's services facilities (3), accommodating two rooms (11 in all). There is also a high proportion of single room kindergartens in standalone facilities (4), community centres (3) and children's centre facilities (1) and a small proportion accommodating three rooms on school sites and community centres (3).	**Preferred models:** Council no longer supports standalone facilities. It supports the provision of kindergartens within integrated children's centres, within community hubs and co-located with schools **Preferred number of rooms:** Council supports a facility model of at least two rooms where each room has a licensed capacity for 33 children. **Preferred setting:** Three room kindergartens will be delivered where demand is evident.

The nexus between service planning and infrastructure planning

There was agreement across stakeholders that infrastructure planning needs to be informed by comprehensive service planning.

> *Service planning should drive it and inform infrastructure planning, not the other way around. If we don't know what services we need how do we know what infrastructure to build? (Wyndham City Council)*
>
> *Service planning's minimum requirements directly impact infrastructure planning ratios and floor space (Melton City Council).*

The key influences in regard to service and infrastructure planning identified were that:

- community need informs size of service provision
- service planning needs to be informed by an understanding of current asset utilisation
- land allocation is informed by service modelling
- service planning principles inform clusters of services
- space requirements should be generated from service models and co-location/integration opportunities
- infrastructure planning is an iterative process and is influenced by internal and external factors such as budget, regulations, policies and need.

Wyndham City Council integrates service and infrastructure planning, rather than one process informing the other.

Application of population and demand data

Councils are generally using short term peak population projections to determine service levels and models.

Hume City Council plans for a ten year peak and Casey City Council's new facilities are multi-use to provide flexibility over their lifespan as the population peaks and stabilises.

Wyndham City Council noted that centralised enrolment systems can manage demand and allocation across multiple catchments within the municipality.

Planning for kindergarten infrastructure

Councils rely on a range of data when planning for kindergartens, including:

- comparison to existing PSPs
- municipal wide community infrastructure plans
- population projection data and DET data
- development principles
- surrounding services in the area
- travel patterns.

Due to the long timeframes between initial planning and development of infrastructure, detailed planning is undertaken further into the development process.

> *There is clearly an expectation when developing a PSP that a certain number of facilities will be provided. The detail of the particular hub will be planned for shortly before development of land takes place (Melton City Council).*

Funding and timing

Councils' ability to finance kindergarten infrastructure delivered through the PSP process was identified as a key influence on the success of delivering facilities. For example:

- Wyndham City Council has not been able to provide enough space for universal access.
- Co-location opportunities have been lost in Wyndham depending on DET funding availability.

With respect to timing, it was noted that DCPs do not provide for short term facilities and this impacts on the capacity to meet demand. Cardinia Shire Council noted the importance of appropriate timing, citing instances where waiting for a school to be built or limited access to utilities, such as a telephone line, delay the ability to provide services in a timely manner.

Councils have needed to be proactive for effective service and facility planning. For example, Cardinia Shire Council saw a State and Federal government gap in early intervention and picked up responsibility for provision. Melton and Hume City Councils provide facilities regardless of State and Federal funding.

Appendix 3: Kindergarten case studies

Kid's City

The following table outlines a range of different kindergarten case studies in a range of settings.

Name of facility Kids' City (Proposed)

Address/ location Kids' City is a concept proposed by Adam Wiercinski, a Polish architect

Summary of development
This is a modular kindergarten designed with the concept of a small town in the city. It is constructed using a two-storey grid of container frames in three sizes, with modular houses placed inside. The structure is designed using a main street (hallway), extending alleys and connected squares with scattered houses (rooms) between them. The modular design means the whole floor area can be increased or decreased. Open spaces in the building can be filled with terraces and gardens with greenhouses and crops.

Total population catchment for the local area	Not yet built
Number of kinder rooms	Four
Number of licensed places per room	The floor area is 95 square meters, providing space for 25 children per room.

Laurel Street Preschool

Name of facility Laurel Street Preschool
Address/ location Walker Reserve cnr Laurel and Forest Streets, Whittlesea
Summary of development
The Laurel Street preschool has been temporarily relocated to two relocatable buildings while its permanent home, the Whittlesea Community Activity Centre is being rebuilt. The new facility is anticipated to be available by late 2014.
The kindergarten and child care facility was identified as an essential service that needed to be maintained during construction. The project was identified in Whittlesea City Council's Capital Works Program and is directly linked to the business case to extensively redevelop the existing Community Activity Centre.
The relocated kindergarten is within 100 meters of the old facility. It consists of two buildings and was installed to minimise the permanent impact on the site.

Total population catchment for the local area	The catchment is primarily local, extending out to Doreen, Mernda, Upper Plenty and King Lake North
Number of kindergarten rooms	One room currently shared with day care (kindergarten in the morning, day care in the afternoon. The new centre will have one room dedicated to kindergarten programs
Number of licensed places per room	33 children. New facility will also be licensed for 33 children.

Brookside Pre School

Name of facility Brookside Pre School

Address/ location 17-20 Federation Way Caroline Springs

Summary of development

Brookside Pre School is located at the Brookside Community Centre, part of the 13 ha Brookside community hub.

The hub also includes:

- Brookside Recreation Reserve (1 full sized and 1 very junior sized oval)
- Brookside Tennis Facility (4 courts with pavilion)
- 1 court indoor stadium (joint use arrangement with adjoining school)
- Small retail activity centre
- Brookside Community Centre (kindergarten, M&CH and small meeting space)
- Mowbray College
- Caroline Springs College
- Christ the Priest Catholic Primary School
- Stevenson's House

Brookside Preschool is operated by a not-for-profit cluster. While it had no formal affiliation with the co-located MCH and community services, partnerships have been developed. The kindergarten works closely with the MCH nurses and has a standing arrangement with Brookside College to hold weekly sessions in the college library.

Total population catchment for the local area	The vast majority of families come from the local Caroline Springs area, and within the zone.
Number of kindergarten rooms	One
Number of licensed places per room	Licenced for 28 four-year-old places. Internal policy caps three year-olds at 23 places to maintain a high standard of care.

Bubup Nairm Children's Centre

Name of facility Bubup Nairm Children's Centre

Address/ location 99b Carlisle Street, St Kilda

Summary of development

Bubup Nairm Children's Centre is part of the Bubup Nairm Family & Children's Centre.
It was previously called the St Kilda Children's Centre and was located at 8 York Street, West St Kilda.
The Centre was opened on Monday 8th April 2013. The City Port Phillip Council contributed $5.3 million while the State and Federal Governments provided $1.2 million and $1.6 million respectively.
Bubup Nairm Family and Children's Centre is a three level facility; lower ground car park, ground floor and first floor. It is located next to the City of Port Phillip Council offices, a church and a primary school with an oval.
This centre is based on an integrated model which brings various programs together to ensure better coordination and simpler access for families.
The new centre has: 3 x maternal and child health services, 2 x dedicated playgroup rooms, new parent group sessions, immunisation services, early childhood intervention services, family services and a multi-purpose room for hire.

Total population catchment for the local area	City of Port Phillip.
Number of kindergarten rooms	7 rooms in total. 1 x 3-4 years; 1 x 4-5 years
Number of licensed places per room	116 per day licensed children's service, an increase of 63 places on the old St Kilda Children's Centre. 30 x 0-2 year places; 48 x 2-3 year places; 20 x 3-4 year places; 21 x 4-5 year places

Appendix 4: Testing the old benchmark

This section assesses the assumptions that underpin the benchmark for kindergarten provision in greenfield growth areas as detailed in *Planning for Community Infrastructure in Growth Areas* (2008).

Assumption 1: Do all four year olds attend kindergarten?

Not all eligible children are participating in kindergarten

As illustrated in Table 9 kindergarten participation rates across greenfield growth areas and Victoria are not 100 per cent. This can be attributed to a number of factors. The *Early Childhood Infrastructure Demand Analysis* (PWC, 2013 update), prepared for DET, highlighted that some local government areas (LGAs) are net 'donors' of enrolments, while others are net 'recipients'. The methodology utilised in the report assumes that LGAs will continue to 'donate' and 'receive' enrolments in the same number as they currently do with all Councils providing services to other nearby municipalities. This may relate to timing - that some newly established communities may not have services and therefore residents attend a service nearby (but outside the municipality). Workforce participation, travel movements and family preference may also be factors.

The following table provides an overview of participation rates for each greenfield growth area municipality. The table highlights an average participation rate of 93.7 per cent.

Table 9: 2013 Kindergarten participation rates[13]

	Number of children eligible to attend four-year-old kindergarten	Number of children enrolled in a funded kindergarten program[14]	Kindergarten participation rate
Cardinia Shire Council	1,277	1,396	109.0 per cent
Casey City Council	4,148	3,703	89.3 per cent
Hume City Council	2,639	2,366	89.7 per cent
Melton City Council	2,070	2,110	101.9 per cent
Mitchell Shire Council	501	467	93.2 per cent
Whittlesea City Council	2,494	2,264	90.8 per cent
Wyndham City Council	3,239	2,928	90.4 per cent
Growth area total	**13,729**	**12,868**	**93.7 per cent**

Another factor that impacts participation rates is the proportion of children who do not access kindergarten in the year prior to attending prep. The Australian Early Development Index (AEDI) reports on the number of children who attend kindergarten in the year prior to attending kindergarten

[13] Source: DET provided data

[14] This data represents the number of children who are attending a kindergarten program in the year before school (and excludes those children who have been approved for a second year of kindergarten).

(as recorded by the school) and therefore provides a guide to the number of children who did not attend kindergarten. Table 10 summarises the result from the 2012 AEDI Community Profiles for each greenfield growth Council.

Table 10: Children who attended kindergarten in the year before full time school in 2012

	Children who attended kindergarten in the year before school[15]	Total number of children who this data was identified for	Estimated number of children who did not attend kindergarten in the year before school
Cardinia Shire Council	1,1,35	1,204	69 (5.7 per cent
Casey City Council	3,542	3,897	355 (9.1 per cent)
Hume City Council	2,042	2,256	214 (9.5 per cent)
Melton City Council	1,471	1,602	131 (8.2 per cent)
Mitchell Shire Council	464	495	31 (6.3 per cent)
Whittlesea City Council	2,079	2,243	164 (7.3 per cent)
Wyndham City Council	2,143	2,363	220 (9.3 per cent)

There are potential limitations to the data detailed in the above table, for example families moving in or out of the municipality and the quality and accuracy of data, and therefore should be considered with caution. However, it begins to illustrate that non-attendance is an issue that needs to be addressed in future kindergarten service and infrastructure planning.

In DET's *Kindergarten Guide 2014,* the following groups are identified as less likely to be enrolled in kindergarten:

- children from culturally and linguistically diverse backgrounds
- children from some rural and remote areas
- Aboriginal and/or Torres Strait Islander children
- children from low socio-economic backgrounds
- children with no employed parent.

Not all four-year-olds are eligible to attend kindergarten

The age entry requirement to attend kindergarten in Victoria is that a child must have turned four years old before 30 April in the year they attend kindergarten. As a result, the number of four-year-olds in the population does not necessarily indicate the number of children who are eligible to attend kindergarten each year.

The table below illustrates the difference between the numbers of four-year-olds living in each greenfield growth area municipality compared to the number of four-year-olds eligible for the service. The difference in these numbers may also be attributed to people moving in and out of the area.

[15] Included children who attended kindergarten in a long day care centre. This data only included children where teachers knew if the child had attended kindergarten in the year before entering formal full-time school.

Table 11: Number of four-year-olds compared to the number of children eligible to attend kindergarten

	2011				2013			
	Number of four-year-olds[16]	Children eligible to attend kindergarten [17]	Difference	Potential infrastructure implications of these differences[18]	Number of four-year-olds	Children eligible to attend kindergarten	Difference	Potential infrastructure implications of these differences
Cardinia Shire Council	1,211	1,186	- 25	- 0.3 rooms	1.372	1,277	-50	-0.7 rooms
Casey City Council	4,172	4,055	-117	-1.5 rooms	4,228	4,148	-80	-1.1 rooms
Hume City Council	2,549	2,733	+184	+2.5 rooms	2,772	2,639	-133	-1.8 rooms
Melton City Council	2,047	1,969	-78	- 1 room	2,187	2,070	-117	-1.6 rooms
Mitchell Shire Council	482	500	+ 18	+ 0.2 rooms	556	501	-55	-0.7 rooms
Whittlesea City Council	2,287	2,268	-19	- 0.2 rooms	2,604	2,494	-110	-1.5
Wyndham City Council	2,821	2,959	+138	+1.8 rooms	3,366	3,239	-127	-1.7 rooms

**Note: The above table is not illustrating the calculated need for these areas but uses the existing assumptions to illustrate the implications of the assumption being tested.*

Changing trends in access and the impact on infrastructure provision

As outlined in the *Early Childhood Infrastructure Demand Analysis* (PWC, 2013 update) prepared for DET, the changing trends in workforce participation are likely to increase the demand for programs which have a longer duration and are offered in long day care or as extended care programs operating in partnership with session-based kindergartens (wrap around model).

The *National Early Childhood Education and Care Collection* publication (ABS) highlights a shift in kindergarten access trends. Each year the ABS collects data from State government administrative bodies responsible for early childhood education across Australia including data on the number of children enrolled across each early education setting. The data is presented for each State by broad geographical regions including major cities, inner/outer regional and remote/very remote. Within Victoria, Melbourne's greenfield growth areas are covered by the major cities region. Current and

[16] Source: ABS 2011 Census data

[17] Source: DET provided data.

[18] For the purposes of assessing this assumption it is assumed that each room can accommodate 75 enrolments, however this assumption is assessed further in section 4.2.

past publications illustrate a significant change in the proportion of children who access kindergarten in session-based programs in comparison to those within long day care programs.

Between 2011 and 2013 the proportion of families accessing session-based programs decreased by 20.8 per cent, while the proportion who access kindergarten programs in an long day care setting increased by 16.8 per cent.

At the time of this report the data by LGA was only available for 2011 and therefore may not reflect the most current trends in access.

A case study to test the assumption

As an example to illustrate the impacts that trends have on current enrolment, Tables 8 and 9 compare the application of the 100 per cent utilisation rate against current access trends in the Casey City Council.

The comparison illustrates a significant difference in the required number of kindergarten rooms. A total of 25 less session-based kindergarten rooms are required if the 2013 trends in access are taken into consideration. It is important to note that the application of the 100 per cent utilisation assumption does not take into account that long day care providers are likely to provide kindergarten programs.

Table 12: Application of the assumption that 100 per cent of four-year-olds are to be accommodated in session-based services

Growth area	Number of four-year-olds (2013)[19]	Application of 100per cent utilisation assumption to infrastructure requirements*
Casey City Council	4,228	56 rooms

Table 13: Application of 2013 access trends to assess likely infrastructure requirements

Growth area	Kindergarten setting	Actual number of children enrolled in kindergarten services (2013) [20]		Infrastructure requirements based on access trends*
		Number	Percentage	
Casey City Council	Session-based	2,839	78 per cent	38 rooms
	Long day care	944	22 per cent	n/a
	Total	3,633	100 per cent	38 rooms + sessions provided in LDC

**For the purpose of comparison, the infrastructure requirements have been calculated based on the assumption that each kindergarten room can accommodate 75 enrolments.*

Assumption 2: Does one licensed place provide for 2.5 enrolments?

Develop programming to maximise the use of the facility

In 2013, the Federal government introduced U*niversal Access to Early Childhood Education* which requires that all kindergartens provide a minimum of 15 hours a week of four-year-old kindergarten. This is an increase from the previous minimum standard. This change has imposed additional

[19] Source: Council population forecasts prepared by Forecast id.

[20] Source: DET provided data

capacity constraints on existing kindergarten infrastructure and in some cases has resulted in the displacement of other programs, including three-year-old programs and playgroups.

The assumption that one licensed place can accommodate 2.5 enrolments, assumes each dual-room kindergarten facility can accommodate a licensed capacity of 60 places and can accommodate three groups of four-year-old kindergarten enrolments (equivalent to 75 four-year-olds) per week.

The *Early Childhood Infrastructure Demand Analysis* (PWC, 2013 update) prepared for DET highlights that session-based kindergarten services should be able to provide two kindergarten programs per room. The report however, also identifies that this may not be achievable in practice, particularly when providing programs for three-year-olds and other children.

The assumption that one licensed place provides for 2.5 enrolments is most likely attributed to the assumption that a two room kindergarten facility can accommodate three groups of four-year-old kindergarten.

In order to maximise the number of sessions offered at each kindergarten, some services have adjusted their programming to accommodate two groups of four-year-old kindergarten and one group of three-year-old kindergarten per room. This has had an impact on service operation hours and timetabling. In some cases it has also reduced the time teachers have to set up and prepare between classes. Consultation with the greenfield growth area Councils identified that a number have been introducing a service model where one room with a licensed capacity of 33 children can accommodate 66 enrolments.

An example of how this model has been applied is provided in Table 14

Table 14: Timetabling example for one kindergarten room21

Echidna (4-year-old)	Kookaburra (4-year-old)	Platypus (3-year-old)

Time	Monday	Tuesday	Wednesday	Thursday	Friday
AM	ECHIDNA 8:30–4pm (contact hours: 7.5)	KOOKABURRA 8:30am–12:30pm (contact hours: 4)	KOOKABURRA 9:00am–4pm (contact hours: 7)	ECHIDNA 8:30–4pm (contact hours: 7.5)	PLATYPUS 8:30am–11am (contact hours: 2.5)
PM		PLATYPUS 1:30pm–4pm (contact hours:2.5)			KOOKABURRA 12pm–4pm (contact hours:4)

This model reflects a ratio where one licensed place can accommodate two four-year-old kindergarten enrolments. Table 15 illustrates the comparison of the 1:2 ratio and the 1:2.5 ratio and the likely infrastructure requirements for each ratio.

[21] Source: Glover Street Kindergarten, East Bentleigh www.gloverstreetkindergarten.com.au

Table 15: Comparison of the application of the 1:2.5 ratio and 1:2 ratio22

	Children eligible to attend kindergarten (2013)	**Application of the1:2.5 ratio** (no. of required licensed places)	**Application of the 1:2 ratio** (no. of required licensed places)	**Difference** (no. of required licensed places)
Cardinia Shire Council	1,277	511	638	+127
Casey City Council	4,148	1,659	2,074	+415
Hume City Council	2,639	1,055	1,319	+264
Melton City Council	2,070	828	1,035	+207
Mitchell Shire Council	501	200	250	+50
Whittlesea City Council	2,494	997	1,247	+250
Wyndham City Council	3,239	1,295	1,619	+324

**The above table is not illustrating the calculated need for these areas but uses the existing assumptions to illustrate their implications.*

The table above shows that the application of a 1:2 ratio increases demand for licensed kindergarten places by 25 per cent at each facility.

Assumption 3: Will each kindergarten room accommodate 30 enrolments?

The assumption that each licensed room will have capacity for 30 four-year-olds does not take into account the regulatory changes proposed for 2016 as part of the *National Quality Framework for Early Childhood Education and Care*. This framework will see the current ratio for kindergartens, of one educator for every 15 children reduced to one educator for every 11 children. This regulatory change has the potential to impact on class sizes and staffing levels, which may also impact on the cost of services.

In response to this regulatory change, a number of greenfield growth area Councils are now planning kindergarten rooms which can accommodate 33 four-year-olds. This is likely to increase the average capacity of kindergarten rooms.

The table below compares the impact that a change in licensed room capacities has on overall infrastructure requirements. Across greenfield growth areas, Table 16 shows that an additional three licensed places per room results in a 25 room variation in demand.

[22] Source: Capire June 2014

Table 16: Impacts of regulatory changes on licensed capacity assumptions and overall infrastructure requirements [23]

	Children eligible to attend kindergarten (2013)	Total number of licensed places required[24]	Infrastructure requirement based on licensed capacity of **30 places**	Infrastructure requirement based on licensed capacity of **33 places**	Difference
Cardinia Shire Council	1,277	638	21 rooms	19 rooms	-2 rooms
Casey City Council	4,148	2,074	69 rooms	62 rooms	-7 rooms
Hume City Council	2,639	1,319	44 rooms	40 rooms	-4 rooms
Melton City Council	2,070	1,035	34 rooms	31 rooms	-3 rooms
Mitchell Shire Council	501	250	8 rooms	8 rooms	0 room
Whittlesea City Council	2,494	1,247	41 rooms	37 rooms	-4 rooms
Wyndham City Council	3,239	1,619	53 rooms	49 rooms	-4 rooms
Growth areas	16,368	8,184	273 rooms	248 rooms	-25 rooms

**The above table is not illustrating the calculated need for these areas but uses the existing assumptions to illustrate the implications of the assumption.*

Although the new regulation may result in larger class sizes it is important to understand the impacts that the larger class sizes may have on children, service providers and educators**.**

Assumption 4: Do four-year-olds comprise 1.5 per cent of the future population?

The assumption that for every 10,000 people there are 150 four-year-olds is equivalent to 1.5 per cent of the population being four years of age.

As illustrated in Table 17 this proportion varies across time and across growth areas.

[23] Source: Capire, 2014 based on data provided by DET.

[24] This assumes that one licensed place can accommodate 2 enrolments.

Table 17: Comparison of the two population triggers for dual-room kindergarten facilities over time (2011, 2021 and 2031)

		VIF forecast data			Calculations		
Growth area Council		Total number of four-year-olds	Total overall population for the municipality	Percentage of four-year-olds per total population	Total number of four-year-olds divided by 150	Total population divided by 10,000	Difference between two population triggers
Cardinia Shire Council	**2011**	1,203	75,831	1.6 per cent	8.0	7.6	-0.4
	2021	2,076	120,908	1.7 per cent	13.8	12.1	-1.7
	2031	2,404	164,419	1.5 per cent	16.0	16.4	+0.4
Casey City Council	**2011**	4,023	261,282	1.5 per cent	26.8	26.1	-0.7
	2021	5,312	344,923	1.5 per cent	35.4	34.5	-0.9
	2031	6,312	432,299	1.5 per cent	42.1	43.2	+1.1
Hume City Council	**2011**	2,543	174,290	1.5 per cent	17.0	17.4	+0.5
	2021	3,942	229,558	1.7 per cent	26.3	23.0	-3.3
	2031	4,456	291,278	1.5 per cent	29.7	29.1	-0.6
Melton City Council	**2011**	2,035	112,643	1.8 per cent	13.6	11.3	-2.3
	2021	2,827	168,195	1.7 per cent	18.8	16.8	-2.0
	2031	3,998	254,899	1.6 per cent	26.7	25.5	-1.2
Mitchell Shire Council	**2011**	494	35,105	1.4 per cent	3.3	3.5	+0.2
	2021	1,006	53,421	1.9 per cent	6.7	5.3	-1.4
	2031	1,702	88,932	1.9 per cent	11.3	8.9	-2.5
Whittlesea City Council	**2011**	2,349	160,800	1.5 per cent	15.7	16.1	+0.4
	2021	4,247	246,501	1.7per cent	28.3	24.7	-3.7
	2031	4,769	320,641	1.5per cent	31.8	32.1	+0.3
Wyndham City Council	**2011**	2,977	166,699	1.8 per cent	19.8	16.7	-3.2
	2021	5,152	274,784	1.9 per cent	34.3	27.5	-6.9
	2031	5,583	367,495	1.5 per cent	37.2	36.7	-0.5
Growth areas total	**2011**	15,625	986,650	1.6 per cent	104.2	98.7	-5.5
	2021	24,562	1,438,289	1.7 per cent	163.7	143.8	-19.9
	2031	29,224	1,919,963	1.5 per cent	194.8	192.0	-2.8

Source: Prepared by Capire using Victoria in Future (VIF) 2014 data (Department of Transport, Planning and Local Infrastructure).

Note: Single-year age forecasts are not available at a local government level (LGA). Data for LGA level is only available in five-year-age cohorts. Single-year age forecasts are available at State level. Therefore, to calculate the number of four-year-olds for each municipality, the Victorian proportion of four-year-olds within the zero to four age cohort was applied to each municipality.

Table 17 illustrates that on average across all greenfield growth areas, the four-year-old population provision ratio generates more kindergarten rooms than the total population ratio. When applying a ratio of one dual-room kindergarten for every 150 four-year-olds, the net difference is 5.5, 19.9, 2.8 (2011, 2021, 2031) when compared to the 10,000 population ratio.

As a result of changing likely population profiles, the table also shows that the disparity between the two provision ratios will increase to 2021 before reducing by 2031 as the population ages. This change illustrates that the age specific ratio of one double-room kindergarten for every 150 four-year-olds is more responsive to changes in the population profile of greenfield growth area communities.

The old benchmark does not adapt to changes in age structure. For instance, applying the total population benchmark to an ageing population would result in the same number of kindergarten facilities as if it was a new community with a high proportion of young children.

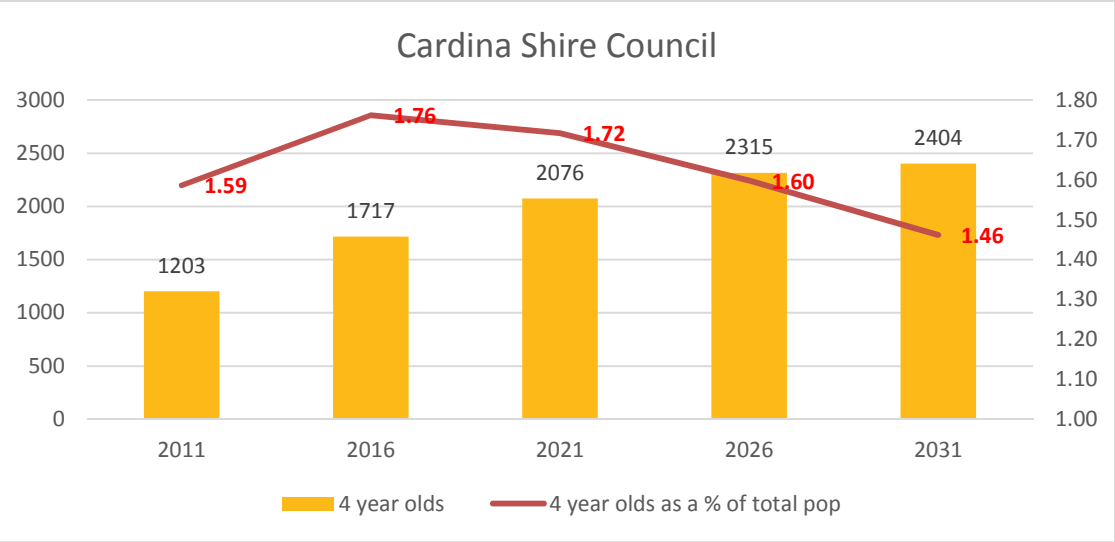
Appendix 5: Four years old profile across each local government area

The benchmark needs to provide flexibility to both increase and decrease the number of available kinder rooms over time.

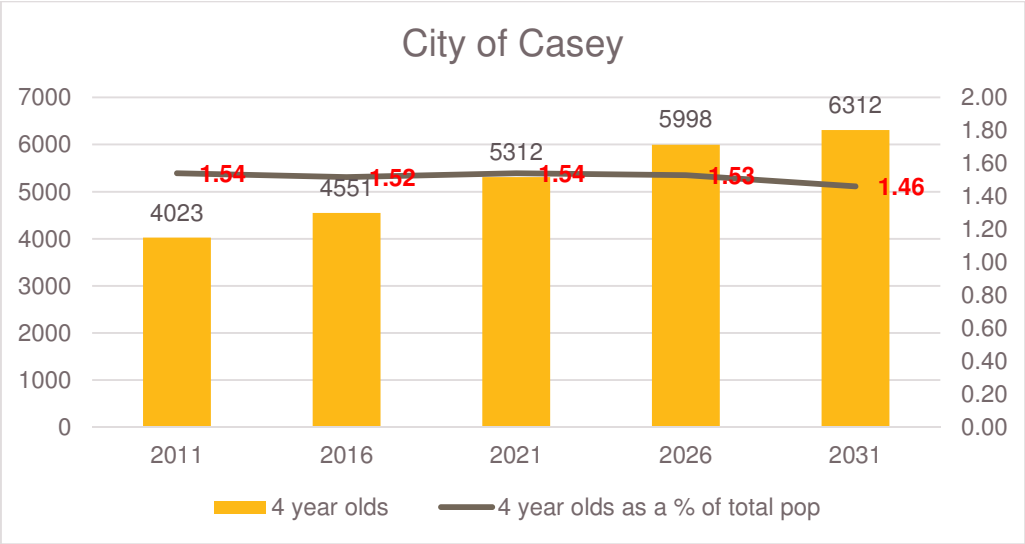
The graphs below illustrate that the rate of proportional change in four-year-olds increases and decrease over time, and varies across each local government area. No one trend appears to be common to all local government areas.

However, assessing the proportion of four-year-olds across the entire municipality may hide peaks in smaller areas within that municipality. For this reason, it is considered reasonable to apply a peak benchmark when planning for kindergarten provision in specific greenfield developments, particularly areas where it is unlikely that a new 'young' population will be able to utilise kindergarten facilities in adjacent 'ageing' areas during the period of peak demand.

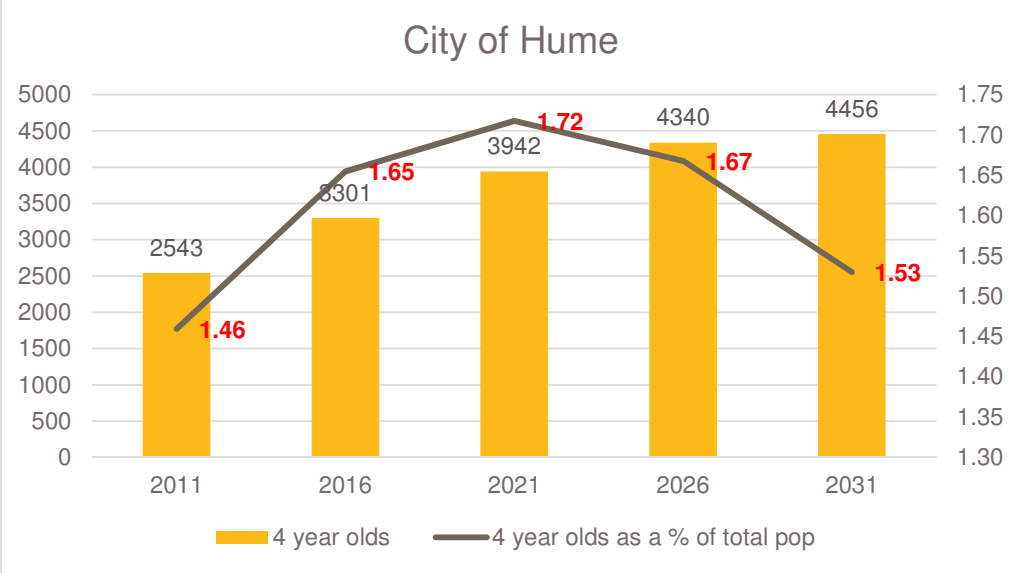
In Cardinia, the proportion of four-year-olds increases to a peak and then reduces over time.



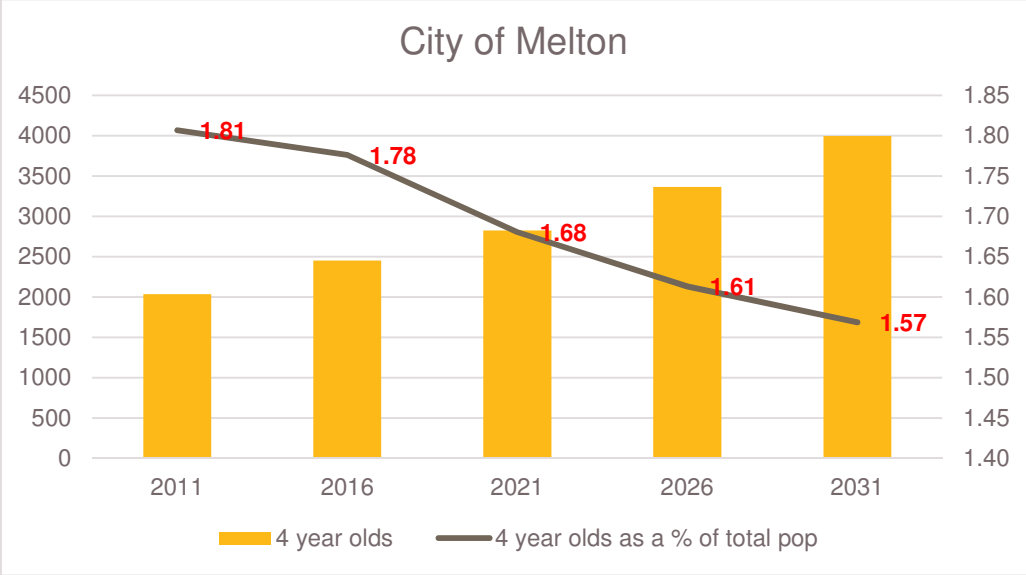
In Casey, the proportion of four-year-olds remains stable over time.



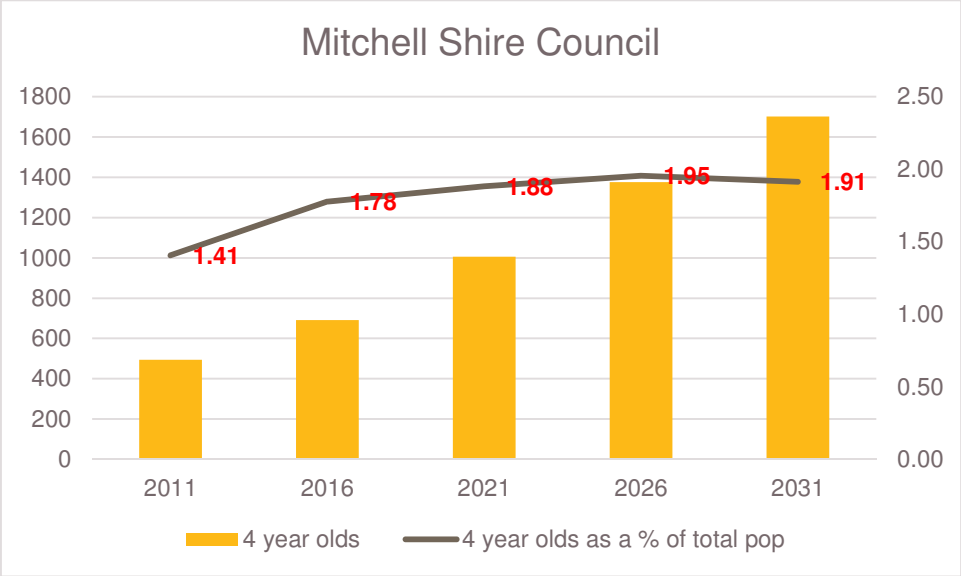
In Hume, the proportion of four-year-olds increases to a peak and then reduces over time.



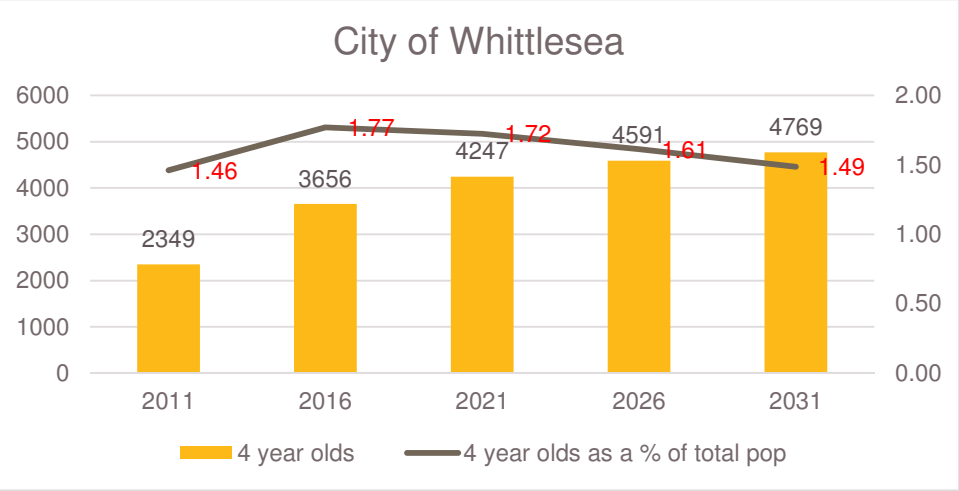
In Melton, the proportion of four-year-olds reduces over time.



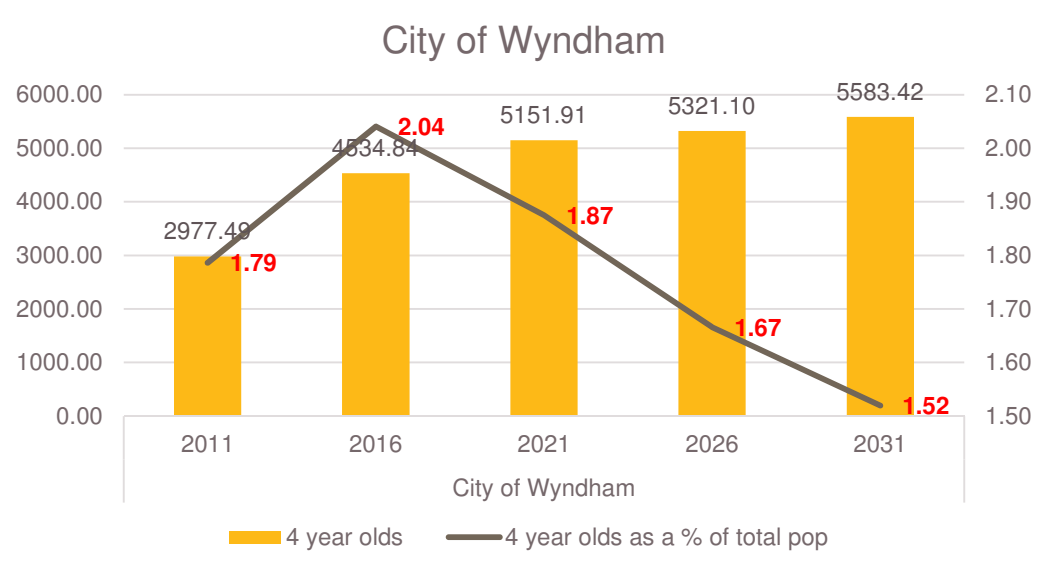
In Mitchell, the proportion of four-year-olds increases over time.



In Whittlesea, the proportion of four-year-olds increases to a peak and then reduces over time.



In Wyndham, the proportion of four-year-olds increases to a peak and then reduces over time.



The following datasets were used for the above calculations.

	Cardinia Shire				
Age groups	**2011**	**2016**	**2021**	**2026**	**2031**
0-4	6,086	8,726	10,553	11,564	11,931
5-9	5,814	7,834	10,325	12,020	12,621
10-14	5,624	7,227	9,518	11,924	13,137
15-19	5,468	6,269	8,489	10,957	12,867
20-24	5,206	5,591	6,487	8,876	11,179
25-29	5,398	6,657	7,076	8,096	10,034
30-34	5,148	7,794	9,514	10,017	10,327
35-39	5,569	7,006	9,926	11,567	11,551
40-44	5,830	6,581	8,017	10,836	12,187
45-49	5,326	6,595	7,287	8,659	11,232

	Cardinia Shire				
50-54	4,760	6,048	7,346	8,022	9,158
55-59	3,960	5,130	6,233	7,484	8,101
60-64	3,671	4,576	5,376	6,423	7,579
65-69	2,846	3,995	4,538	5,311	6,334
70-74	1,944	2,972	3,994	4,515	5,248
75-79	1,319	2,009	2,920	3,874	4,361
80-84	1,016	1,197	1,804	2,618	3,480
85 and over	846	1,241	1,503	2,102	3,092
Total	**75,831**	**97,447**	**120,908**	**144,863**	**164,419**

	Casey City Council				
Age groups	**2011**	**2016**	**2021**	**2026**	**2031**
0-4	20,358	23,131	26,995	29,959	31,331
5-9	19,449	22,424	25,412	29,088	31,533
10-14	19,722	21,075	24,269	27,139	30,347
15-19	19,882	20,715	22,449	25,863	28,221
20-24	18,607	21,473	23,023	25,223	27,840
25-29	19,219	21,538	25,534	27,450	28,356
30-34	19,629	23,127	26,006	30,210	31,009
35-39	20,650	22,082	25,971	28,724	32,401
40-44	20,369	21,958	23,410	27,125	29,421
45-49	18,893	20,924	22,465	23,857	27,211
50-54	16,886	19,090	21,155	22,719	23,876
55-59	13,613	17,038	19,244	21,288	22,613
60-64	11,005	14,056	17,421	19,561	21,361
65-69	7,687	11,043	13,900	17,158	19,220
70-74	5,588	7,464	10,577	13,388	16,529
75-79	4,143	5,507	7,411	10,392	13,021
80-84	3,063	3,697	5,029	6,750	9,456
85 and over	2,519	3,648	4,652	6,337	8,553
Total	**261,282**	**299,991**	**344,923**	**392,229**	**432,299**

	Hume City Council				
Age groups	**2011**	**2016**	**2021**	**2026**	**2031**
0-4	12,870	16,777	20,034	21,679	22,116
5-9	12,819	14,188	17,979	21,073	22,847
10-14	13,128	13,593	15,145	18,973	22,024
15-19	13,487	13,729	14,316	15,896	20,101
20-24	13,925	14,488	14,915	15,758	17,359
25-29	13,412	16,219	17,403	17,841	18,926
30-34	12,833	16,066	19,230	20,148	20,968
35-39	12,351	13,915	17,618	20,771	21,840
40-44	13,239	12,661	14,377	18,159	21,372
45-49	12,680	13,470	12,848	14,505	18,405
50-54	11,011	12,873	13,629	12,981	14,752
55-59	9,133	11,297	13,110	13,795	13,134
60-64	7,747	9,272	11,328	13,156	13,673
65-69	5,685	7,659	9,134	11,158	12,918
70-74	4,075	5,428	7,374	8,838	10,771

	Hume City Council				
75-79	2,897	3,719	5,188	7,037	8,524
80-84	1,867	2,265	3,245	4,742	6,303
85 and over	1,131	1,827	2,685	3,736	5,244
Total	**174,290**	**199,448**	**229,558**	**260,246**	**291,278**

	Melton City Council				
Age groups	**2011**	**2016**	**2021**	**2026**	**2031**
0-4	10,298	12,460	14,364	16,805	19,844
5-9	9,081	11,646	14,140	16,738	19,615
10-14	8,023	10,334	13,307	16,489	19,603
15-19	7,513	8,879	11,551	15,111	18,432
20-24	7,992	8,361	10,000	13,381	17,020
25-29	9,350	9,846	10,855	13,696	17,513
30-34	10,529	11,589	12,583	14,915	18,355
35-39	10,239	12,144	13,793	15,633	18,506
40-44	8,691	11,290	13,328	15,467	17,563
45-49	7,033	9,494	12,025	14,463	16,680
50-54	6,285	7,601	10,101	12,958	15,428
55-59	5,727	6,646	8,019	10,732	13,742
60-64	4,572	5,839	6,819	8,365	11,141
65-69	2,826	4,782	6,045	7,266	8,921
70-74	1,769	2,926	4,798	6,209	7,456
75-79	1,244	2,015	3,201	5,150	6,622
80-84	826	1,151	1,886	2,976	4,764
85 and over	645	1,001	1,381	2,215	3,696
Total	**112,643**	**138,003**	**168,195**	**208,570**	**254,899**

	Mitchell Shire Council				
Age groups	**2011**	**2016**	**2021**	**2026**	**2031**
0-4	2,499	3,516	5,110	6,872	8,447
5-9	2,598	2,710	4,008	6,047	7,823
10-14	2,766	2,919	3,382	4,619	6,691
15-19	2,726	2,790	3,036	3,916	5,170
20-24	2,269	2,416	2,672	3,800	4,704
25-29	2,180	2,968	3,915	4,725	5,974
30-34	2,033	2,940	4,533	5,831	6,771
35-39	2,552	2,598	4,047	5,801	7,150
40-44	2,714	2,740	3,057	4,629	6,385
45-49	2,663	2,885	3,029	3,540	5,114
50-54	2,471	3,094	3,498	3,482	4,006
55-59	2,094	2,569	3,238	3,825	3,828
60-64	1,883	2,347	2,912	3,456	4,046
65-69	1,303	1,934	2,348	2,999	3,540
70-74	870	1,330	1,856	2,373	3,015
75-79	653	868	1,227	1,979	2,483
80-84	464	637	791	1,228	1,903
85 and over	367	571	763	1,266	1,883
Total	**35,105**	**41,832**	**53,421**	**70,388**	**88,932**

	Whittlesea City Council				
Age groups	**2011**	**2016**	**2021**	**2026**	**2031**
0-4	11,886	18,586	21,584	22,932	23,674
5-9	10,922	14,508	20,323	22,851	24,060
10-14	10,071	12,562	15,619	21,114	23,544
15-19	10,520	11,357	13,671	16,583	21,955
20-24	12,398	13,418	14,019	16,854	19,538
25-29	13,879	17,003	17,636	18,391	20,958
30-34	12,920	18,750	20,779	21,220	21,730
35-39	12,374	15,953	21,102	22,741	23,039
40-44	11,906	14,235	17,023	21,804	23,346
45-49	10,781	13,069	14,934	17,523	22,189
50-54	9,831	11,632	13,610	15,345	17,882
55-59	8,678	10,826	12,121	13,913	15,605
60-64	7,670	9,537	11,174	12,323	14,054
65-69	5,557	8,247	9,634	11,170	12,314
70-74	4,308	5,754	8,190	9,541	11,069
75-79	3,401	4,645	5,939	8,258	9,633
80-84	2,180	3,244	4,426	5,638	7,783
85 and over	1,518	3,260	4,717	6,342	8,267
Total	**160,800**	**206,585**	**246,501**	**284,543**	**320,641**

	Wyndham City Council				
Age groups	**2011**	**2016**	**2021**	**2026**	**2031**
0-4	15,066	23,051	26,181	26,578	27,714
5-9	12,483	18,184	25,565	27,901	28,679
10-14	11,122	15,048	20,394	27,190	29,834
15-19	10,893	12,781	16,736	21,830	28,568
20-24	12,138	13,184	14,958	18,592	23,546
25-29	15,324	17,941	18,836	19,396	23,142
30-34	16,222	22,542	23,972	23,364	24,759
35-39	14,602	20,141	26,024	26,350	26,500
40-44	12,966	16,795	21,880	27,133	27,844
45-49	11,183	14,575	17,872	22,546	27,961
50-54	9,401	12,148	15,313	18,339	23,120
55-59	7,738	10,378	12,790	15,659	18,865
60-64	6,230	8,484	10,768	12,943	15,933
65-69	4,124	6,612	8,558	10,702	12,957
70-74	2,797	4,257	6,486	8,362	10,502
75-79	1,924	2,722	4,094	6,172	8,047
80-84	1,351	1,653	2,369	3,609	5,472
85 and over	1,135	1,709	1,987	2,711	4,053
Total	**166,699**	**222,203**	**274,784**	**319,376**	**367,495**

	Cardinia Shire				
Single year	2011	2016	2021	2026	2031
0	1212	1776	2137	2304	2369
1	1236	1755	2122	2311	2377
2	1219	1740	2104	2316	2386
3	1216	1739	2102	2318	2395
4	1203	1717	2076	2315	2404
Total 0-4	6086	8726	10542	11564	11931
4% of total pop	1.6	1.8	1.7	1.6	1.5
4yo divided by 150	8.0	11.4	13.8	15.4	16.0

	Casey City Council				
Single year	2011	2016	2021	2026	2031
0	4053	4708	5466	5970	6221
1	4134	4652	5442	5987	6242
2	4079	4612	5409	6000	6266
3	4069	4608	5365	6004	6290
4	4023	4551	5312	5998	6312
Total 0-4	20358	23131	26995	29959	31331
4% of total pop	1.5	1.5	1.5	1.5	1.5
4yo divided by 150	26.8	30.3	35.4	40.0	42.1

	Hume City Council				
Single year	2011	2016	2021	2026	2031
0	2562	3415	4057	4320	4391
1	2613	3374	4039	4332	4406
2	2579	3345	4014	4342	4423
3	2572	3342	3982	4345	4440
4	2543	3301	3942	4340	4456
Total 0-4	12870	16777	20034	21679	22116
4% of total pop	1.5	1.7	1.7	1.7	1.5
4yo divided by 150	17.0	22.0	26.3	28.9	29.7

	Melton City Council				
Single year	2011	2016	2021	2026	2031
0	2050	2536	2909	3348	3940
1	2091	2506	2896	3358	3953
2	2063	2485	2878	3366	3969
3	2058	2482	2855	3368	3984
4	2035	2451	2827	3364	3998
Total 0-4	10298	12460	14364	16805	19844
4% of total pop	1.8	1.8	1.7	1.6	1.6
4yo divided by 150	13.6	16.3	18.8	22.4	26.7

	Mitchell Shire				
Single year	2011	2016	2021	2026	2031
0	498	716	1035	1369	1677
1	507	707	1030	1373	1683
2	501	701	1024	1376	1689
3	499	700	1016	1377	1696
4	494	692	1006	1376	1702
Total 0-4	2499	3516	5110	6872	8447
4% of total pop	1.4	1.7	1.9	2.0	1.9
4yo divided by 150	3.3	4.6	6.7	9.2	11.3

	Whittlesea City Council				
Single year	2011	2016	2021	2026	2031
0	2366	3783	4371	4569	4701
1	2413	3738	4351	4583	4716
2	2382	3706	4325	4593	4735
3	2375	3703	4290	4596	4753
4	2349	3656	4247	4591	4769
Total 0-4	11886	18586	21584	22932	23674
4% of total pop	1.5	1.8	1.7	1.6	1.5
4yo divided by 150	15.7	24.4	28.3	30.6	31.8

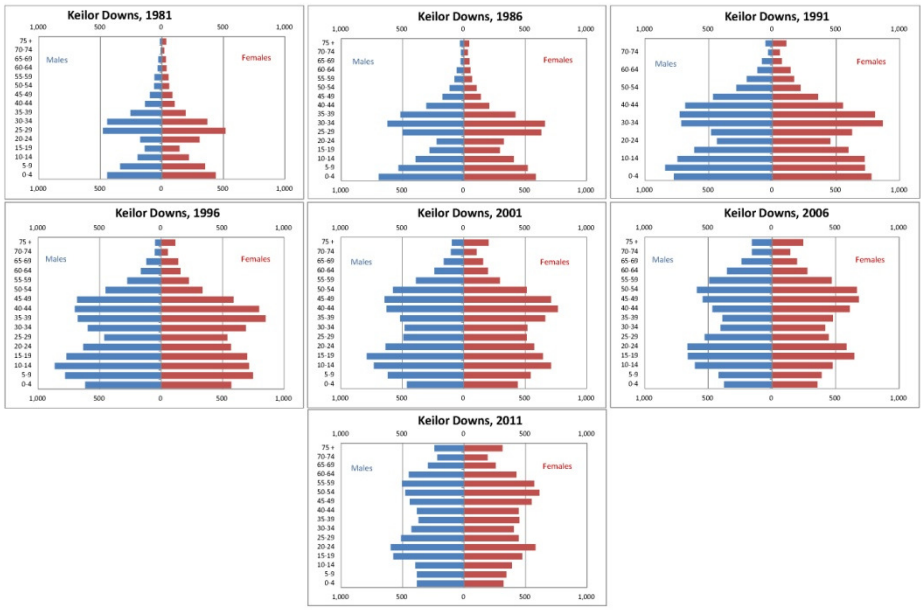
	Wyndham City Council				
Single year	2011	2016	2021	2026	2031
0	3000	4692	5302	5296	5503
1	3059	4636	5278	5311	5521
2	3019	4597	5246	5323	5543
3	3011	4592	5204	5327	5564
4	2977	4535	5152	5321	5583
Total 0-4	15066	23051	26181	26578	27714
4% of total pop	1.8	2.0	1.9	1.7	1.5
4yo divided by 150	19.8	30.2	34.3	35.5	37.2

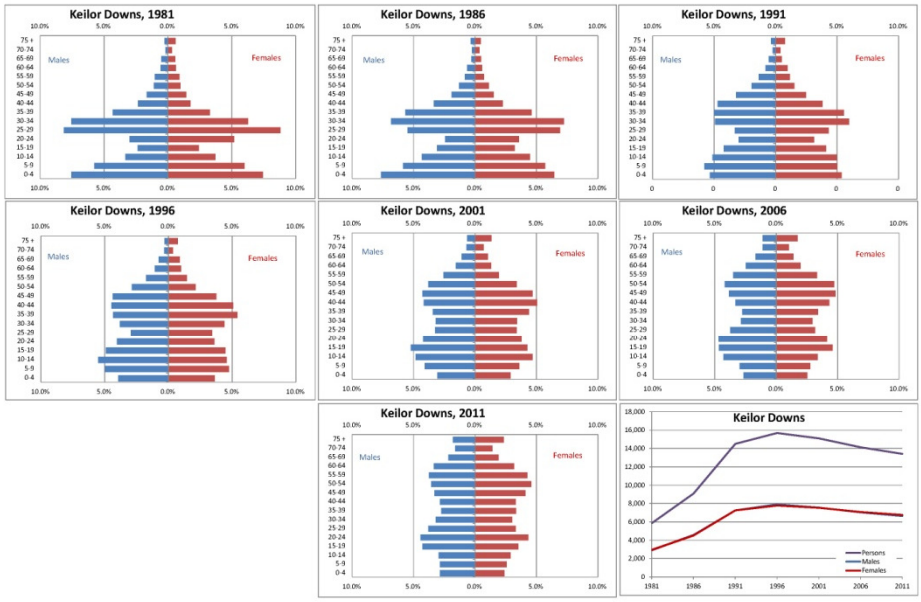
	Combined growth areas total				
Single year	2011	2016	2021	2026	2031
0	15741	21625	25276	27176	28803
1	16053	21368	25157	27255	28898
2	15842	21186	25001	27315	29011
3	15801	21167	24813	27335	29123
4	15625	20902	24562	27306	29224
Total 0-4	79063	106248	124809	136388	145059
4% of total pop	1.6	1.7	1.7	1.6	1.5
4yo divided by 150	104.2	139.3	163.7	182.0	194.8

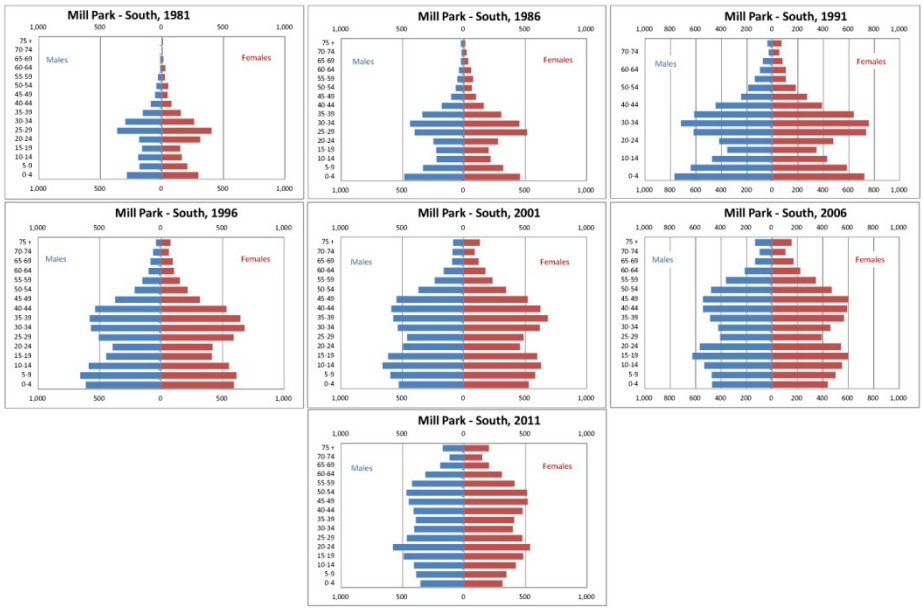
Appendix 6: Changes to the population profile in new communities

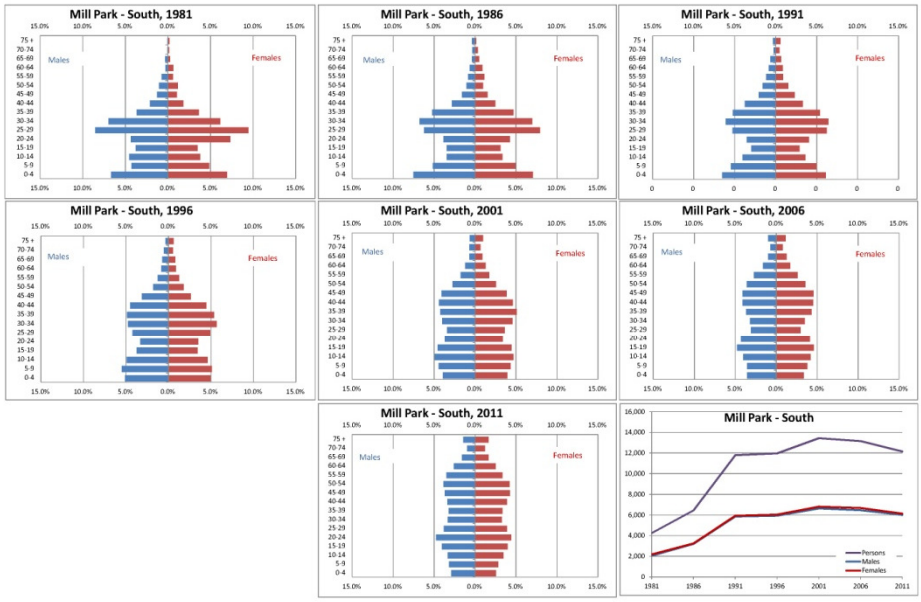
The following age sex population pyramids represent typical growth area communities in Melbourne from the last few decades, and show the change in population profile (total change and percentage change) over time. These pyramids clearly demonstrate that growing communities can ‘mature’ quite quickly. They also show that the number and proportion of children between the age of 0 and 4 years old can peak while the community is establishing and then falls as the maturing community becomes more diverse.

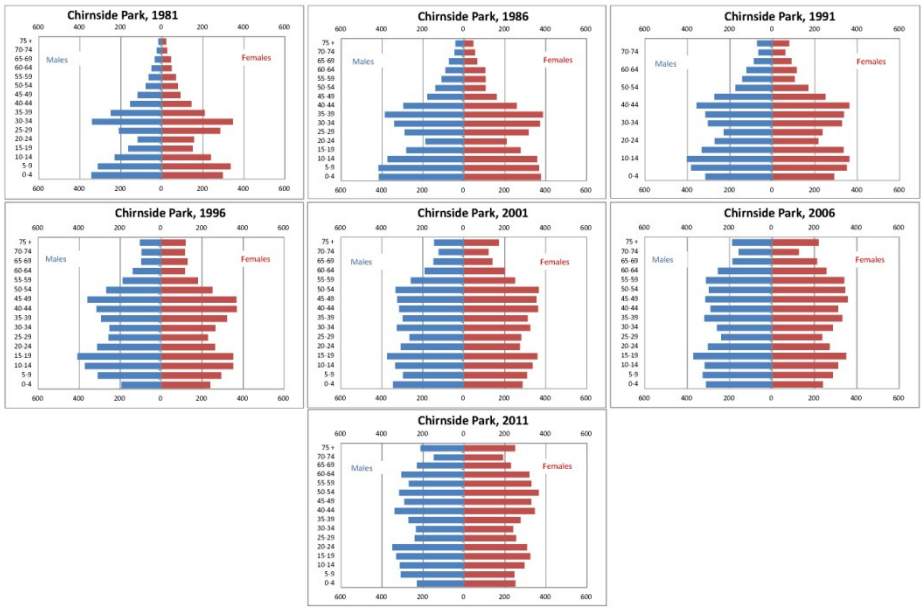
If planning and provision of permanent kindergarten infrastructure is based on the early population profile, this infrastructure may be redundant within a couple of decades if it is unable to be re-purposed for alternative uses.

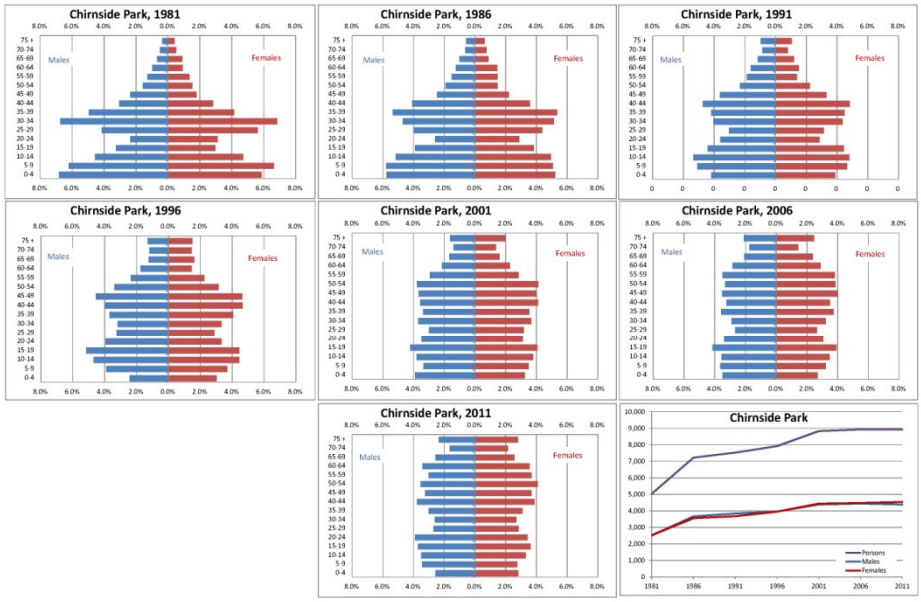

Keilor Downs, 1981
Keilor Downs, 1986
Keilor Downs, 1991
Keilor Downs, 1996
Keilor Downs, 2001
Keilor Downs, 2006
Keilor Downs, 2011
Males
Females


Keilor Downs, 1981
Keilor Downs, 1986
Keilor Downs, 1991
Keilor Downs, 1996
Keilor Downs, 2001
Keilor Downs, 2006
Keilor Downs, 2011
Keilor Downs
Males
Females
Persons
Males
Females


Mill Park - South, 1981
Mill Park - South, 1986
Mill Park - South, 1991
Mill Park - South, 1996
Mill Park - South, 2001
Mill Park - South, 2006
Mill Park - South, 2011
Males
Females


Mill Park - South, 1981
Mill Park - South, 1986
Mill Park - South, 1991
Mill Park - South, 1996
Mill Park - South, 2001
Mill Park - South, 2006
Mill Park - South, 2011
Mill Park - South
Males
Females
Persons
Males
Females


Chirnside Park, 1981
Chirnside Park, 1986
Chirnside Park, 1991
Chirnside Park, 1996
Chirnside Park, 2001
Chirnside Park, 2006
Chirnside Park, 2011
Males
Females


Chirnside Park, 1981
Chirnside Park, 1986
Chirnside Park, 1991
Chirnside Park, 1996
Chirnside Park, 2001
Chirnside Park, 2006
Chirnside Park, 2011
Chirnside Park
Males
Females
Persons

Appendix 8: Household size

Evidence shows that greenfield growth area communities, particularly those targeted at first home buyers, have a larger than average proportion of young families. As a consequence, dwelling occupancy rates are higher. Over time, these communities become more diverse, the population profile becomes more consistent with the profile of more established areas and dwelling occupancy rates fall.

It is reasonable to assume that the average dwelling occupancy rate in a new greenfield area during the short term peak will be 3.3 people per household.

In the longer term, when the community is more established, it is reasonable to assume that the average dwelling occupancy rate will be 2.8 people per household.

Average household size, ABS data 2011