NSW enrolment growth audit

School Infrastructure NSW | February 2024

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Secretary's foreword

We serve a unique purpose in public education, with the opportunity to transform lives through the power of learning. We want to create an outstanding and equitable education system, where every student can learn, grow and belong.

In our recently released *Plan for NSW Public Education 2024-2027*, we have identified the enabling power of school infrastructure in meeting the needs of a growing population and supporting improved student outcomes.

Our teams in School Infrastructure NSW are dedicated to delivering new and upgraded facilities to ensure every student has access to high quality, inclusive, sustainable learning environments at their local public school.

Examining lessons from the past

As part of this enrolment growth audit, it's been important to pause and reflect on how School Infrastructure NSW has responded to population growth in our state.

The audit has identified complex population trends that have resulted in acute challenges impacting student enrolment capacity in some parts of NSW, as well as some deficits in the use of state-wide datasets when applied to what we know of our schools – they are highly local and individual entities.

The case studies researched as part of the audit (see pages 13-35) provide important insights and 'lessons learned' for School Infrastructure NSW, both for managing growth in

metropolitan and regional communities, as well as the importance of timing the delivery of school facilities to meet the actual pace of housing growth being experienced in pockets around the state.

Informing actions for the future

I'm encouraged to see that School Infrastructure NSW is continuing with its approach for more proactive planning for priority growth areas and precincts, leading the collaboration and coordination with other NSW Government agencies, councils and the development sector to plan and respond to new housing developments and population changes.

Along with the 7 actions identified in this audit (from page 40), this collaborative whole-of-government approach will help our teams to deliver educational infrastructure that meets the needs of our students, teachers and school communities now and into the future, at the time it is needed.

Murat Dizdar PSM
Secretary
NSW Department of Education

Executive Summary

The NSW Government has requested a detailed enrolment growth audit to understand student population changes across NSW and improve school infrastructure planning. The audit was conducted from August to December 2023 and spans the past 5 years, from 2018 to 2023, and considers opportunities to better anticipate and respond to growth trends in future years.

Dynamic and complex student population trends have been identified as part of the audit. The application of the Cabinet-endorsed Common Planning Assumptions (CPA) that are provided by the Department of Planning, Housing and Infrastructure (DPHI) enable planning at larger geographies, however are not granular enough to enable school infrastructure demand profiling at the school catchment level. The audit revealed 3 key challenges that have impacted student enrolment capacity over the past 5 years.

Substantial growth in specific areas due to concentrated and localised growth, impacting the applicability of state-wide projections to individual school intake areas.

Student-per-dwelling rates differ across areas and different dwelling types, impacting the accuracy of past population projections which relied on broad averages.

Complex population dynamics exist across NSW, with some areas in metropolitan Sydney experiencing rapid and substantial growth while other areas are experiencing an overall decline in student enrolments.

Understanding these trends and applying them to school infrastructure policies and systems is essential for the NSW Government when delivering critical social infrastructure (like schools) in areas experiencing population changes and concentrated growth.

The audit also identified an enhanced population projection methodology to more accurately understand the complex and inter-related factors that drive student and dwelling changes and growth in various parts of NSW. This enhanced model uses more diverse data sources to improve the school intake area-level accuracy of student enrolment projections (5-year trend-based projections) and better inform longer term population projections (20-year projections).

The audit also includes 7 actions for School Infrastructure NSW to adopt in order to support a more effective and timely response to population changes and localised student enrolment growth in priority growth areas and precincts:

- Develop custom school population projections to add more granularity than is currently provided by population and dwelling forecasts provided by DPHI, for use in forward planning school infrastructure.

- Continue to enhance population projection methodologies and access broader data sources in collaboration with NSW Government agencies and the Common Planning Assumptions Group.

- Engage with local government stakeholders and the development sector for up-to-date dwelling forecasts, particularly in preparing for Day 1, Term 1 each school year.

- Develop a strategic land provisioning strategy for priority growth areas and precincts.

- Coordination and collaboration across NSW Government agencies for the planning and delivery of new housing.

- Active monitoring of the top 10 growth areas identified in this audit and more frequent monitoring of the top 20 growth areas across NSW.

- Short-term enrolment management strategies.

Explainer: What are the different types of school enrolment projections?

Enrolment projections estimate the number of students expected to enrol at each school in NSW over the next 5 years. Enrolment projections provide guidance and help inform short to medium-term planning.

Population projections are 20-year projections. These estimates predict the number of students likely to live in NSW, giving a longer-term view of school infrastructure needs to understand where students are likely to live, across metro, regional and rural NSW.

Audit of student enrolment growth across NSW

From August to December 2023, an enrolment growth audit was undertaken to understand student population changes and how these have differed in geographical areas across NSW over the past 5 years, from 2018 to 2023.

Dynamic and complex student population trends have been identified as part of the audit. Understanding these trends is essential for the NSW Government when developing strategies to deliver critical social infrastructure (like schools, transport and hospitals) in areas experiencing population changes and concentrated growth.

The audit revealed 3 key challenges that impacted student enrolment capacity over the past 5 years.

Concentrated and localised growth areas

Specific areas have experienced substantial growth due to a localised and concentrated surge in dwellings and corresponding student numbers. Concentrated growth is occurring in a number of areas, most notably in the north-western and south-western corridors of Sydney (the western corridors). These areas have been identified as priority growth precincts by the NSW Government since the mid-2000s.

The top 10 areas experiencing the highest student growth are all located in the western corridors and these areas continue to see exceptionally localised growth. These areas not only exceeded the population projections made in 2016, but have done so at a rate much faster than projected, with student populations in these areas growing by over 240 per cent in the past 5 years.
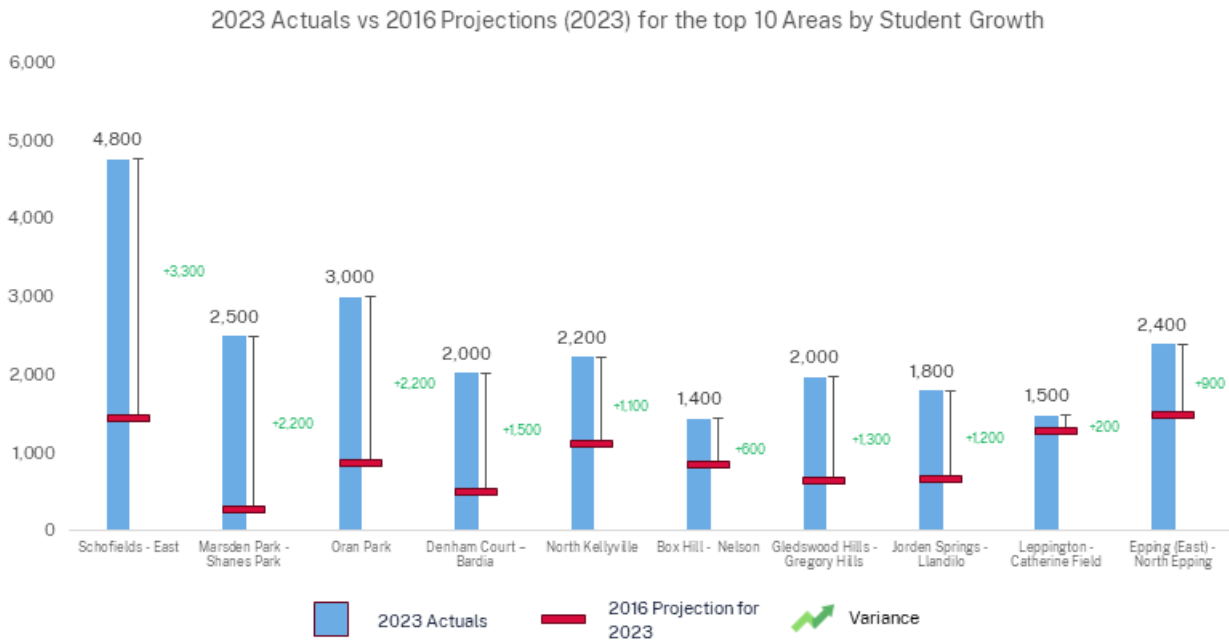
Figure 1: The graph displays the top 10 areas with student growth; the actual number of enrolments for 2023; the 2016 projected number of students for 2023 and the variance between the projected and actual numbers. The areas are ranked from the highest student growth areas to 10th highest enrolment growth area from right to left. The values are rounded to the nearest '00.

Top 20 student growth areas

The audit identified that the top 20 student growth areas collectively accounted for more than 50 per cent of the overall student enrolment growth in NSW.
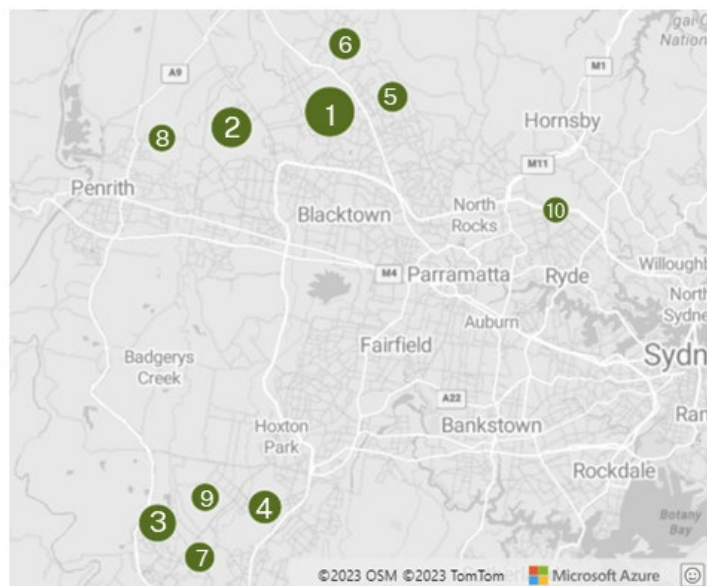

Figure 2: Displays the top 10 areas of growth in Metropolitan Sydney from 2018-2023. The size of the bubble represents the magnitude of growth. Areas from 1-10: Schofields-East, Marsden Park–Shanes Park, Oran Park, Denham Court–Bardia, North Kellyville, Box Hill–Nelson, Gledswood Hills–Gregory Hills, Jordan Springs–Llandilo, Leppington–Catherine Field, Epping (East)–North Epping.

Student growth

The audit identified a prominent trend in the top 20 student growth areas where student enrolments have not only increased substantially, but at a pace far exceeding the 2016 population projections. The 2023 actual enrolment figures in NSW public schools have exceeded the 2016 projections calculated for 2023 and have already surpassed the 2016 enrolment projections for 2041.

Dwelling growth

The audit uncovered a similar trend of dwelling growth outpacing population projections within the top 20 student growth areas. While the 2018 DPHI dwelling projections were near the actual dwelling growth delivered between 2018 and 2023, the new dwellings in these areas were delivered sooner than anticipated in the projections.

The top 20 dwelling growth areas are primarily located in the western corridors, as well as some parts of inner Sydney.

Dwelling types and student population trends

The student-per-dwelling ratio is the average number of students per household within an area. The audit found that student-per-dwelling ratios vary considerably across NSW and that there is a correlation between dwelling types, local demographics and how many students will live in a dwelling. This leads to varying and hard-to-predict student population distribution trends across school intake areas in NSW.

Dwelling type emerges as a key factor when correlating dwelling growth to student growth. The nature of dwellings, whether they are single-family houses, apartments or other forms of housing, can influence the attractiveness of an area to families with school-aged children.

The western corridors stand out not only for their significant student growth but also for the higher student-per-dwelling ratios and the greater number of houses built when compared to the inner Sydney growth areas.

For example, despite the proximity of the western corridors to the inner Sydney growth areas, there is a notable disparity in student population growth trends between them. While the western corridors experienced a corresponding surge in student population in line with total dwelling growth, inner Sydney growth areas have not demonstrated equivalent increases in student enrolments in line with the rising number of dwellings.

This discrepancy suggests that factors other than total dwelling growth alone influence student population dynamics.

The audit also found that the relationship between student growth and dwelling growth is not linear due to complex and localised factors. In some areas, there is student enrolment growth that is not matched by dwelling growth, for example where there are families with school-aged children moving into existing dwellings in neighbourhoods that previously had more elderly residents. Areas impacted by this trend include Carlingford - East, Kellyville Ridge - The Ponds, and Pemulwuy - Greystanes (North).

Understanding how different dwelling types align with student growth is essential in anticipating future school infrastructure needs. The relationship between student population growth and dwelling growth can be influenced by a number of variables such as:

- population redistribution (young families moving into established areas)

- localised demographic trends (pockets with stronger birth or migration rates)

- housing availability (constrained housing availability despite high demand, seeing families living in smaller dwellings)

- redevelopment and renovation (renovating existing dwellings to accommodate larger families)

- school system preferences (choosing government or non-government schools).

Factors impacting the accuracy of past enrolment projections

A more complex, dynamic and localised landscape of population trends means that student enrolments in each school intake area are harder to accurately predict.

While some areas in metropolitan Sydney have experienced localised and concentrated enrolment growth, it is notable that other areas in NSW have experienced a decline in student enrolments.

The audit found that NSW growth areas largely offset the decline in other areas of the state, resulting in a relatively modest net decline of 0.6% in overall student enrolment in government schools from 2018 to 2023.

The audit observed a trend where student numbers have decreased at government schools; a combination of complex factors may have impacted this overall decline, including:

- decreasing kindergarten enrolments since 2018, after a previous period of growth between 2013 and 2018, resulting in a primary school surge at that time and a secondary school surge since 2019, as these students progress

- lower birth rates, with Australia currently experiencing the lowest rate of babies born since 1975; this is reinforced by Medicare data which shows a decrease in the number of babies born in NSW

- a net decrease in migration into NSW, both international (especially due to COVID-19 restrictions) and interstate migration of government school students out of NSW to other Australian jurisdictions

- a decreasing government share across primary and secondary cohorts, where students move to non-government schools.

The interconnectedness between these complex factors influences student enrolment trends in government schools. These factors not only individually shape student populations but may also compound each other.

Analysing and understanding both local and state-wide trends is critical to support the development of more accurate student population projections. This will better support informed decisions about critical school infrastructure planning and delivery.

Case studies

School Infrastructure NSW has investigated several school intake areas in greater depth, to better understand the impact of local area factors and dynamics (such as timing, density, location and school preferences) on projections of future student enrolment demand.

Seven case studies provide examples of highly localised factors that can lead to a disconnect between student population growth and the delivery of new schools and school upgrades:

1. Edmondson Park
2. Denham Court
3. Marsden Park
4. Gillieston
5. Lennox Head
6. Canterbury South
7. Ryde/Denistone.

Case study overview

Two of the case study areas, Edmondson Park and Denham Court, are located in the south western Sydney growth area and have been impacted by development occurring faster than expected.

The third, Marsden Park, has been impacted by a higher-than-expected dwelling density and more occupants-per-dwelling than projected.

Two regional case studies highlight issues specific to regional areas in NSW. The growth experienced at Gillieston Public School (in the Maitland LGA) and Lennox Head Public School (in the Ballina LGA) outline the impact of intra-state migration, where families are moving within NSW.

Finally, there are 2 case studies demonstrating areas where the CPA predicted stronger population and dwelling growth than has been delivered at a local school intake area level, resulting in schools with additional enrolment capacity beyond current needs. These 2 schools are located in Sydney – Canterbury South Public School and Smalls Road Public School.

Edmondson Park

Edmondson Park is located in the south western Sydney growth area and one of the top 20 student growth areas identified in this audit. This area has experienced substantial growth due to a localised and concentrated surge in dwellings and corresponding student numbers.

Local growth profile

🗺️	Concentrated and localised growth
🏘️	Dwelling density higher than expected
🌡️	Timing and rate of growth faster than expected
📈	Timing of dwelling construction impacting school delivery

Figure 4: Aerial image of Edmondson Park Public School and nearby residential growth. Source: School Infrastructure NSW website.

Growth in Edmondson Park

A number of factors have been attributed to the strong localised growth in Edmondson Park.

Faster and more dense dwelling delivery

The Edmondson Park precinct primarily began as a low-density area but has recently seen substantial and intensified growth around the local train station. Development in Edmondson Park has increased in the past 5-7 years and there is high demand for a high school.

The original concept plan for the area was approved in 2011, with the first lots sold by Landcom in 2012. While initial development stages largely remained low density, alterations of the original concept plan for the town centre have increased the overall dwelling density. As a result, the Town Centre originally planned for 10,795 fewer people than are currently expected. To mitigate the timing risk around updated information being formalised in government projections, School Infrastructure NSW will engage more frequently with local government for up-to-date dwelling projections and develop custom school population projections.

Timing of dwelling construction has impacted school delivery

Both primary and high schools were planned for the Edmondson Park area. The primary school was completed in 2023. Original plans for a vertical high school were replaced in 2023 with plans for a traditional high school to be built adjacent to the primary school.

Figure 5: Proposed concept design plan for the new high school in Edmondson Park, which is subject to approvals.

Source: School Infrastructure NSW website.

Actual vs DPHI Projection (2017 iteration)

2023 Actual	2023 DPHI Housing Projection	Difference
13,668	10,156	3,512

Within Edmondson Park Public School intake area, the number of actual dwellings recorded in 2023 surpassed the housing supply projections made by the DPHI in 2017 by a margin exceeding 30%, resulting in 3,512 more dwellings being delivered than were projected.

Actual vs DPHI Housing Projection (2017 Iteration) by Year

Year	Actual	DPHI Housing Projection	Difference
2018	7,662	4,306	3,356
2019	8,818	5,404	3,414
2020	10,271	6,357	3,914
2021	12,147	7,402	4,745
2022	13,357	8,816	4,541
2023	13,668	10,156	3,512

2016 Actual vs 2023 Actual

2016 Actual	2023 Actual	Difference
3,799	13,668	9,869

Within the intake area of Edmondson Park Public School, there has been a substantial increase in the number of dwellings from 2016, rising by approximately 10,000 dwellings, from an initial count of 3,799 to a total of 13,668.

Denham Court

Denham Court is located in the south western Sydney growth area and ranked in the top 5 areas for localised and concentrated student growth in the past 5 years. In 2024, the suburb will be close to being fully developed in line with the original indicative layout, which was originally expected to be completed by 2029.

Local growth profile

🗺️	Concentrated and localised growth
📈	Timing and rate of growth faster than expected

Figure 6: Aerial image of Denham Court Public School and nearby residential growth. Source: School Infrastructure NSW website.

Growth in Denham Court

Denham Court has developed rapidly over the past decade and has seen a 290% increase in student growth between 2018 and 2023. Its current pace of growth is noted as 5-6 years ahead of schedule. A combination of complying development pathways and consolidated land ownership may be attributed to this suburb developing faster than expected.

The impact of fast growth

Initial planning for the suburb began in the early 2010s. The need for a new primary school was identified in the *2013 Infrastructure Delivery Plan* (IDP) for the East Leppington Precinct and a new primary school was delivered in November 2021. The IDP also outlines a 16-year staged development trajectory, anticipating that the area would be fully developed by 2029.

Despite rezoning in 2013, a voluntary planning agreement was reached between Campbelltown Council and Stockland in 2017. Since then, development in the area has occurred more rapidly than anticipated. Based on the 2016 and 2021 Census, the population of Denham Court increased from 1,981 to 9,129 (7,148 people), representing a 360% increase over 5 years.

A large number of development applications were approved in 2022 and most of the relevant area has been developed as of 2023. School Infrastructure NSW will engage more regularly with councils and the development sector to better ascertain the pipeline of dwelling completions to monitor for any substantial changes from underlying projections.

Figure 7: Denham Court Public School.

© NSW Department of Education

Actual vs DPHI Housing Projection (2017 Iteration)

2023 Actual	2023 DPHI Housing Projection	Difference
13,668	10,156	3,512

The intake area of Denham Court Public School, which is the shared with Edmondson Park Public School, saw the number of actual dwellings in 2023 exceed the DPHI's 2017 housing supply projections by over 30%, resulting in 3,512 more dwellings being delivered than were projected.

Actual vs DPHI Housing Projection (2017 Iteration) by Year

Year	Actual	DPHI Housing Projection	Difference
2018	7,662	4,306	3,356
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2023	13,668	10,156	3,512

2016 Actual vs 2023 Actual

2016 Actual	2023 Actual	Difference
3,799	13,668	9,869

Within the intake area of Denham Court Public School, there has been a substantial increase in the number of dwellings from 2016, rising by approximately 10,000 units, from an initial count of 3,799 to a total of 13,668.

Marsden Park

Marsden Park is part of the North West Growth Area and ranked second in localised and concentrated student growth in the past 5 years. Marsden Park exemplifies a higher than anticipated residential density, resulting in delayed delivery of school enrolment capacity.

Local growth profile

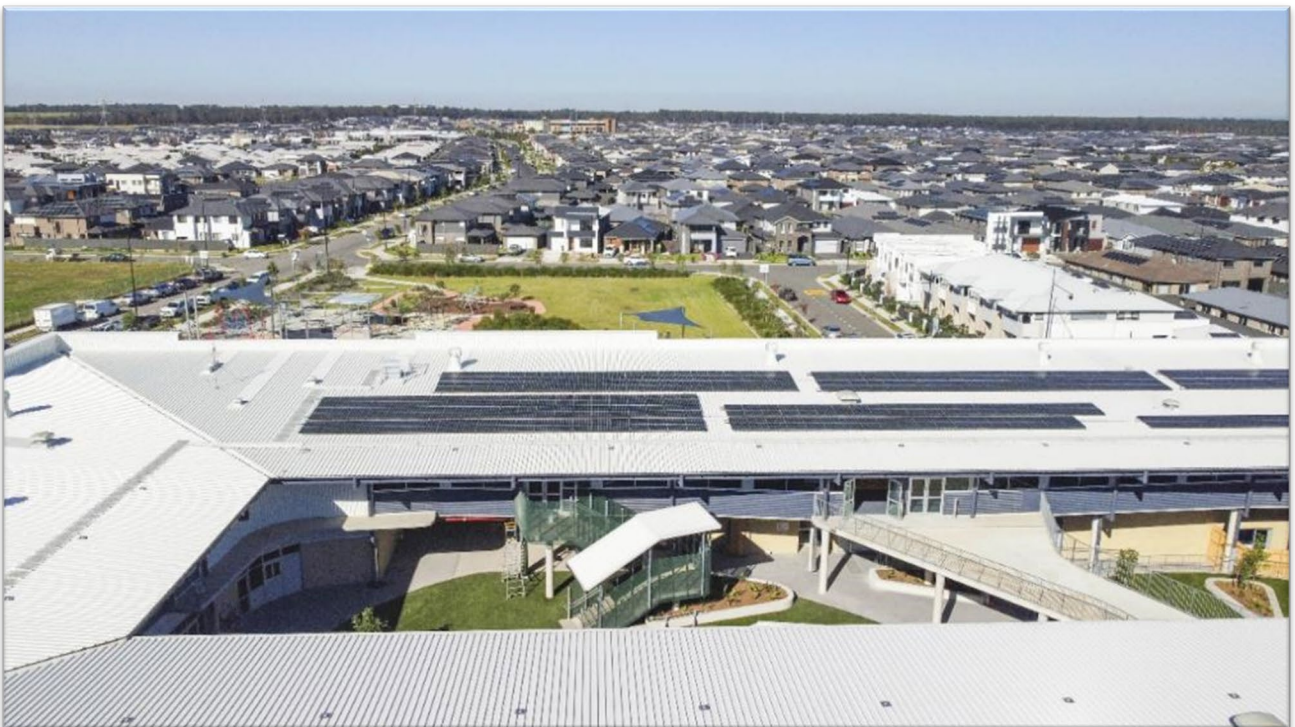|	
	Dwelling density higher than expected
	Population per household higher than expected
	Schools reaching enrolment capacity sooner than expected

Figure 8: Aerial view of Northbourne Public School surrounded by residential homes and showcasing the housing density in the vicinity. Source: School Infrastructure NSW.

Growth in Marsden Park

Projections underestimated dwelling density

In 2013, the Marsden Park Precinct indicative layout plan was finalised and reported:

- a minimum dwelling yield of 10,308 which was factored at 11 to 15 dwellings per hectare for low density residential areas (contingent upon zoning outcomes)

- an expected population of 30,238, which was based on the anticipated dwelling density

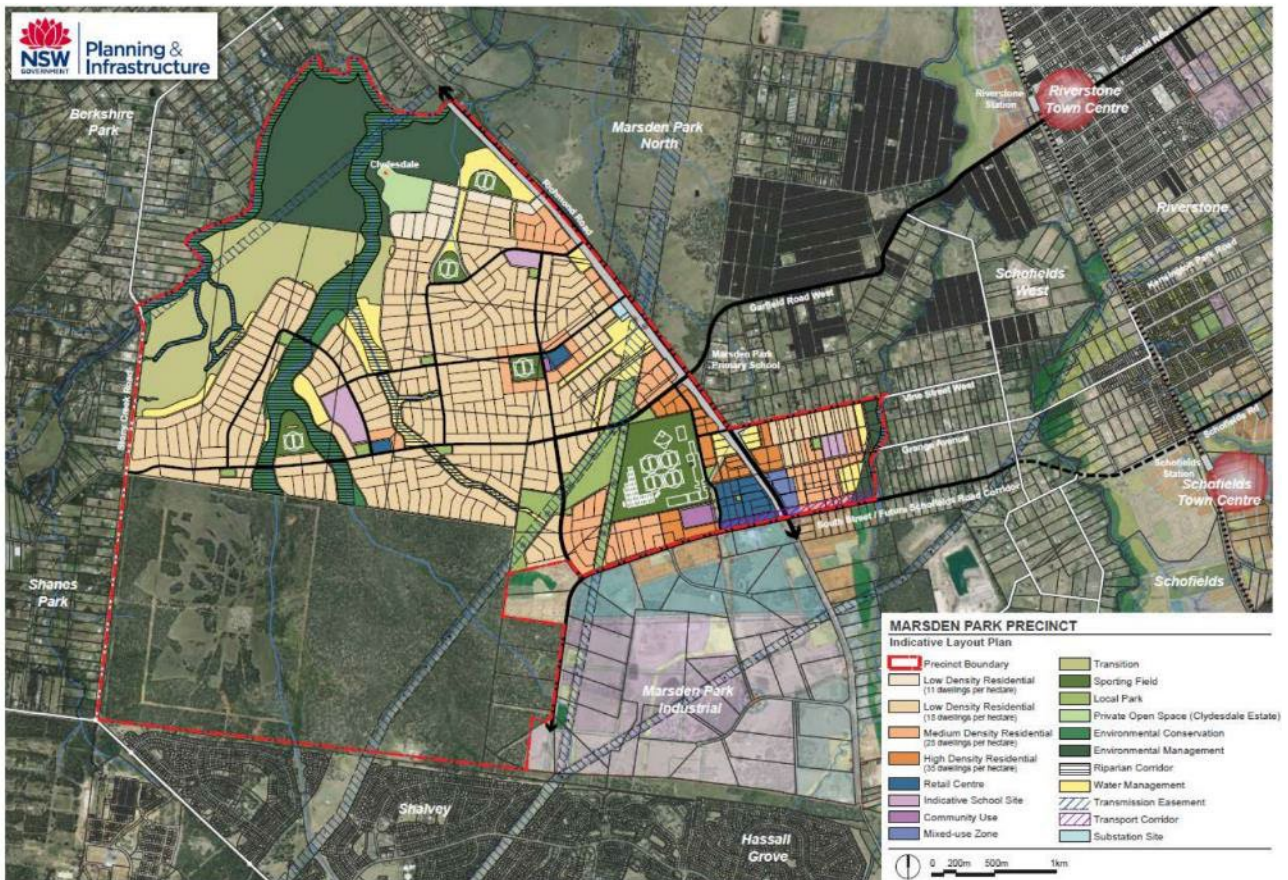- a need for one K-12 school and 2 primary schools.

Figure 9: Final indicative layout plan for the Marsden Park precinct. Prepared by (the then) Department of Planning and Infrastructure for the Marsden Park Precinct Plan (August 2013).

The actual development in the Marsden Park precinct has exceeded expectations, featuring much denser development with minimum lot sizes well below the anticipated benchmarks. Sampled low-density residential areas in Melonba and Marsden Park have seen development exceeding 20 dwellings per hectare, resulting in significantly higher densities than originally planned.

Population was higher than anticipated

Population in Marsden Park exceeded projections, as the 2013 plan projected 2.9 people per dwelling, while the 2021 Census revealed averages of 3.3 people per household in Melonba and 3.4 in Marsden Park. Consequently, the actual 2022 population in Marsden Park – Shanes Park SA2 surpassed NSW Government projections by 11,431 despite fragmented landholdings.

Figure 10: Demountables on a public school site. Source: School Infrastructure NSW.

Schools are encountering capacity issues

Schools are facing capacity challenges, exemplified by Northbourne Public School, which opened in temporary facilities in early 2021 and was completed in mid-2021 with an original capacity of 1,000 students. In 2023, student enrolment reached nearly 1,600. In 2024, student enrolments are expected to exceed 2,000.

The newly delivered Northbourne Public School uses a combination of permanent and demountable accommodation (retained from the temporary school) to meet enrolment demand. The NSW Government is now delivering the new Melonba Public School and Melonba High School to help meet demand in this area.

Actual vs DPHI Housing Projection (2017 Iteration)

2023 Actual	2023 DPHI Housing Projection	Difference
7,683	3,287	4,396

Within the intake area of Northbourne Public School, the number of actual dwellings recorded in 2023 significantly exceeded the housing supply projections made by DPHI in 2017, with the actual figures (7,683), surpassing the forecast by a substantial margin of 4,396 dwellings, which is more than double the projected amount of 3,287 dwellings.

Actual vs DPHI Housing Projection (2017 Iteration) by Year

Year	Actual	DPHI Housing Projection	Difference
2018	2,604	848	1,756
2019	3,719	1,284	2,435
2020	4,134	1,763	2,371
2021	6,371	2,329	4,042
2022	6,914	2,808	4,106
2023	7,683	3,287	4,396

2016 Actual vs 2023 Actual

2016 Actual	2023 Actual	Difference
305	7,683	7,378

Within the intake area of Northbourne Public School, there has been a remarkable increase in the number of dwellings from 2016 to 2023, with a surge of 7,378 dwellings, escalating from a baseline of 305 to a total of 7,683.

Gillieston

Gillieston Public School is located outside the Sydney metropolitan area in the Hunter region and is surrounded by developing housing estates. Gillieston Public School currently relies on demountable accommodation to meet enrolment needs.

Local growth profile

🗺️	Concentrated and localised growth
	Fluctuating student per household numbers
	Regional population projection data not available

Figure 11: Gillieston Public School. Source: Google Maps.

Growth around Gillieston Public School

Gillieston Public School opened in 1858 and has taught generations of rural families and their children in 2 permanent teaching spaces, with a total enrolment capacity of around 50 students. The Gillieston Public School intake area currently services the suburbs of Maitland, Gillieston Heights and Cliftleigh.

Surge in student enrolment demand

The local area has seen rapid growth in residential housing development and a corresponding increase in the number of students living in the school's intake area. Student enrolments have increased substantially. In 2018, there were 170 students enrolled at the school. Five years later in 2023, enrolments doubled, with 343 students enrolled at the school.

To accommodate this surge in school enrolments, demountable facilities are on the school site to facilitate teaching and learning.
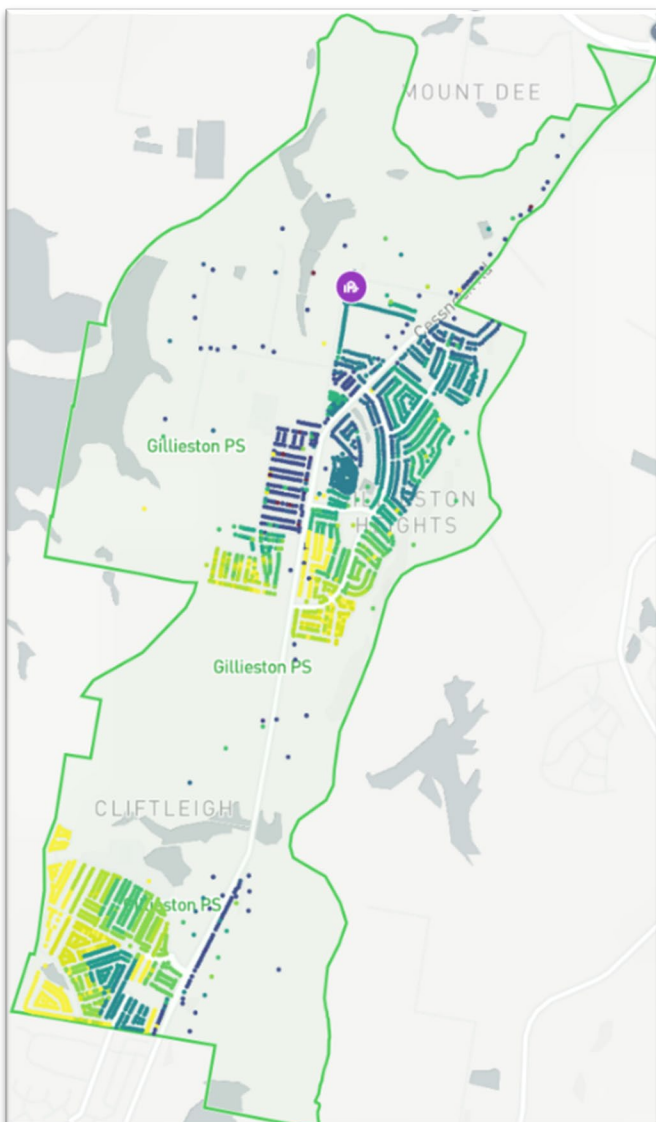
Dwelling density and students per household

Substantial dwelling growth has been recorded in the Gillieston Public School intake area. In 2014, there were 1,262 recorded residential dwellings.

In 2018, there were 2,027 recorded residential dwellings.

In 2023, residential dwelling records more than doubled the 2014 figure, with 3,021 recorded residential dwellings.

Figure 13: Map of residential dwellings in the Gillieston Public School intake area. The dwelling age corresponds to the intensity of colour, with the lighter shades indicating newer properties.

Source: Geoscape Australia.

Further to this, students per dwelling have fluctuated. There has been an increase in students per dwelling in the Gillieston Public School intake area in the past 5 years, with 0.28 students per 100 dwellings recorded in 2018 and 0.33 students per 100 dwellings in 2023.

Lack of regional projection data

Regional housing forecasts have not historically been available via the DPHI (although this work is now underway), which has impacted accurate planning for the growing enrolment demand in and around Maitland.

Understanding local dynamics and projections is increasingly important for schools that are located in regional areas. School Infrastructure NSW is already engaging with Local Government NSW and the development sector to better understand future dwelling forecasts and the projected timing for dwellings to start construction and be occupied by residents.

2016 Actual vs 2023 Actual

2016 Actual	2023 Actual	Difference
1,891	3,251	1,360

Within the intake area of Gillieston Public School, the number of dwellings has seen a significant increase from 2016 to 2023, with an increment of 1,360 dwellings, representing a growth of more than 70% from the initial count of 1,891 to 3,251.

Lennox Head

Lennox Head Public School has supported the local coastal community from its current site since 1961. With 8 permanent teaching spaces, the small school has a total enrolment capacity of 185 students.

Enrolments have been increasing for a number of years, peaking at 494 students learning at the school in 2021 and 2022, with 442 students enrolled in 2023 (after an intake area adjustment to balance enrolments with the neighbouring Southern Cross Public School).

Local growth profile

🗺	Concentrated and localised growth
🚚	Intra-state migration after the COVID-19 pandemic
🌾	Regional population projection data not available

Figure 14: Lennox Head Public School. Source: Google Maps.

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Growth around Lennox Head Public School

In 2021 and 2022, the local area has seen rapid growth in residential housing development and a corresponding increase in the number of students living in the school's intake area. This appears to be related in part to the COVID-19 pandemic, with families looking to secure more housing space and access to outdoor recreation spaces in regional NSW.

To accommodate this surge in school enrolments, demountable facilities are on the school site to facilitate teaching and learning and a major capital works project in underway to relocate the school to a new site that will support learning facilities for more students to learn, play and grow.
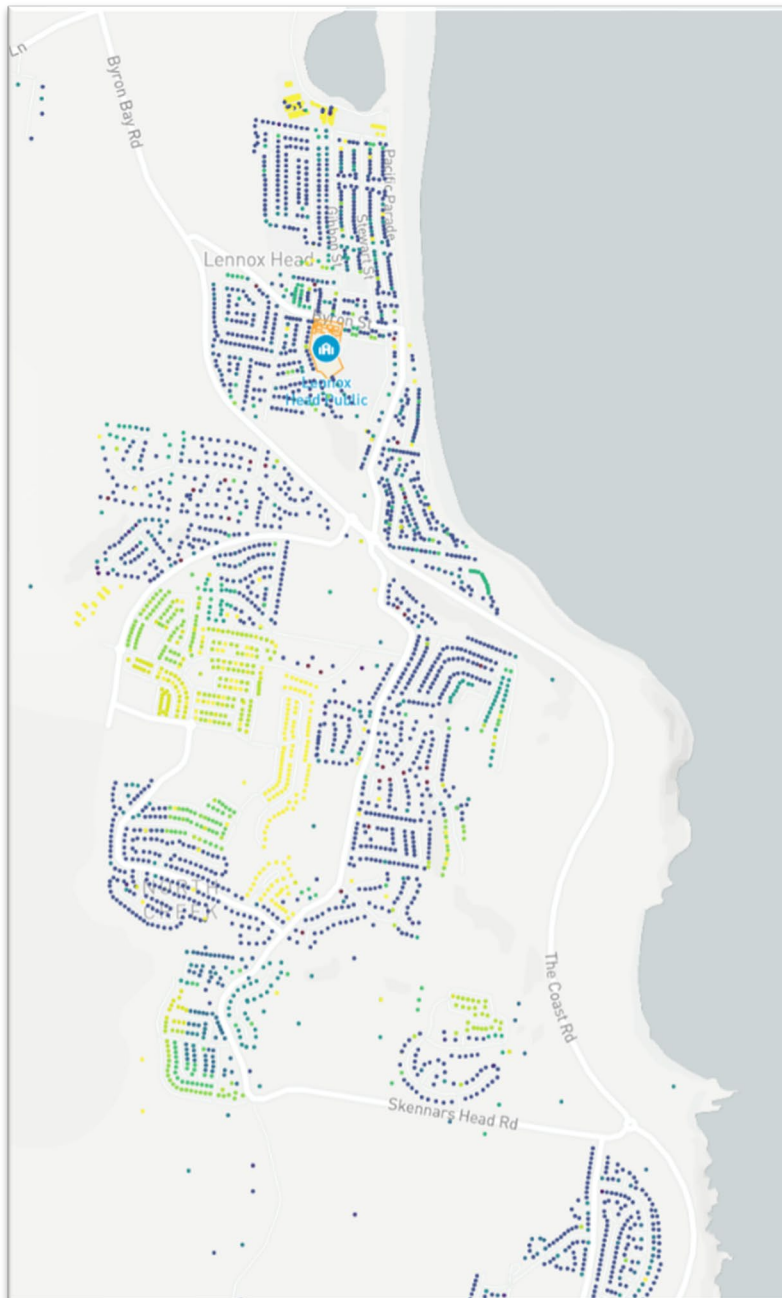

Figure 15: Map of residential dwellings in the Lennox Head area. The dwelling age corresponds to the intensity of colour, with the lighter shades indicating newer properties.

Source: Geoscape Australia.

Lack of regional projection data

Regional housing forecasts have not historically been available via the DPHI (although this work is now underway), which has impacted accurate planning for the growing enrolment demand in the North Coast.

On top of this, it is was not possible to predict the timing and nature of the COVID-19 pandemic and the associated intra-state migration patterns it resulted in.

2016 Actual vs 2023 Actual - Lennox Head Public School

2016 Actual	2023 Actual	Difference
2,033	2,255	222

2016 Actual vs 2023 Actual - Southern Cross Public School

2016 Actual	2023 Actual	Difference
4,839	6,014	1,175

The intake zone for Lennox Head Public School underwent intake area adjustments with a substantial section being reassigned to the Southern Cross Public School.

This reconfigured area has witnessed notable development, leading to a modest increase of 222 dwellings within the current boundaries of Lennox Head Public School since 2016.

In contrast, the Southern Cross Public School has seen a significant uptick in its intake area, with an addition of 1,175 dwellings in the same period.

Canterbury South

Located in the Canterbury Bankstown local government area (LGA), Canterbury South Public School was redeveloped to increase the school's enrolment capacity to accommodate up to 690 students, along with an upgrade of the school's core facilities. The new facilities opened to students in Term 3 2021, including a new building with 30 learning spaces, plus a new hall, library, canteen and administration building and upgraded roads around the school to support local traffic movements.

Local growth profile

⌀	Timing and rate of growth has not matched projections
▤	School enrolment capacity has not been reached

Figure 16: The new 3-storey building at Canterbury South Public School opened for students and teachers in 2021.

Growth around Canterbury South Public School

Originally, the redevelopment was designed to support a gradual increase in student numbers over the coming decade, based on CPA population projections at that time.

In 2023, the school had 259 students enrolled. Almost all other public primary schools in the local area also have spare enrolment capacity.

The local area has seen some dwelling growth in line with the CPA, however that growth has not occurred in the Canterbury South Public School intake area.
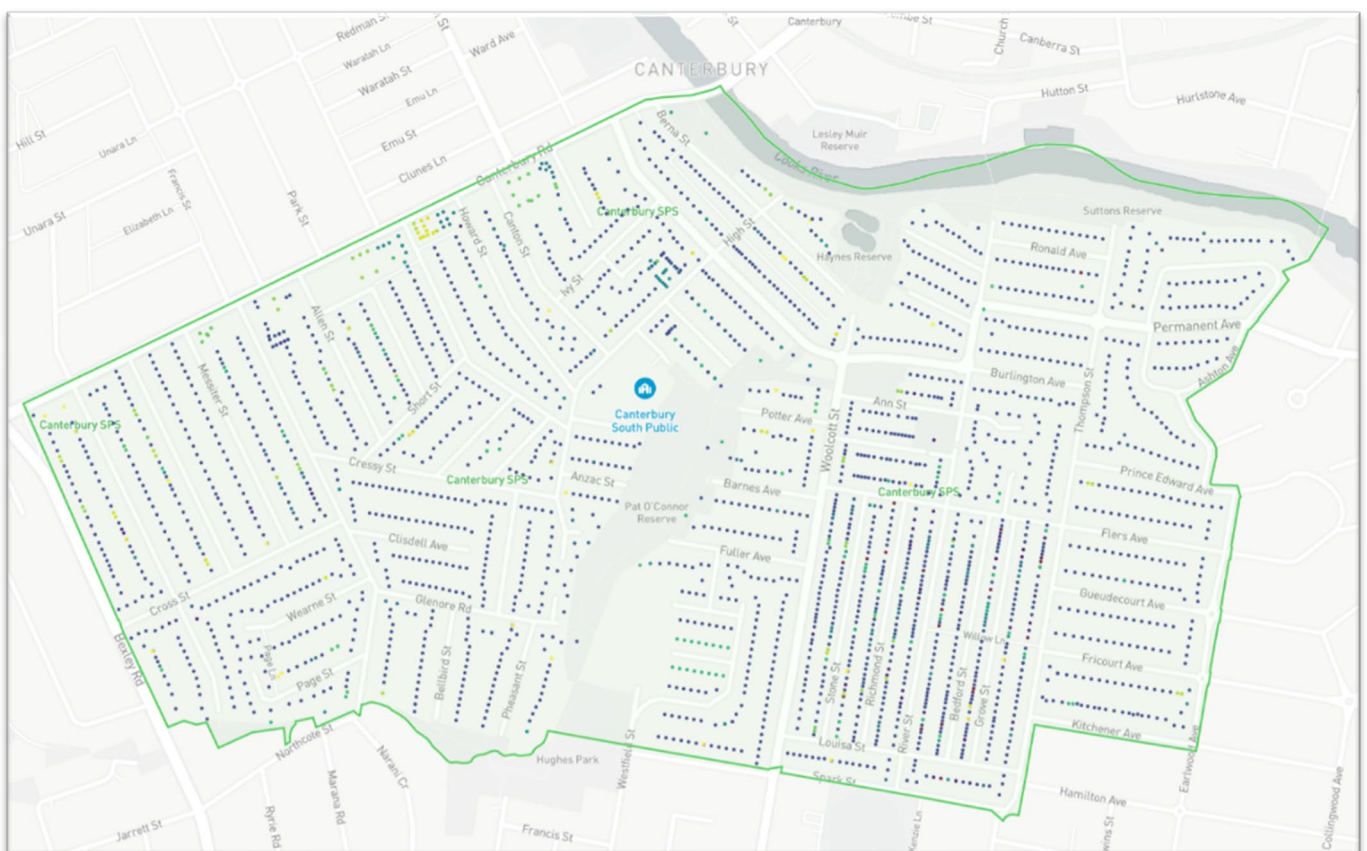

Figure 17: Map of residential dwellings in the Canterbury South Public School intake area. The dwelling age corresponds to the intensity of colour, with the lighter shades indicating newer properties.

Source: Geoscape Australia.

Growth around Canterbury South Public School

Actual vs DPHI Housing Projection (2017 Iteration)

2023 Actual	2023 DPHI Housing Projection	Difference
3,662	3,249	413

Actual vs DPHI Housing Projection (2017 Iteration) by Year

Year	Actual	DPHI Housing Projection	Difference
2018	3,352	3,076	276
2019	3,427	3,123	304
2020	3,489	3,125	364
2021	3,567	3,166	401
2022	3,637	3,208	429
2023	3,662	3,249	413

2016 Actual vs 2023 Actual

2016 Actual	2023 Actual	Difference
2,919	3,662	743

Student per Dwelling (SPD) Profile

Year	Gov Students	Residential Dwellings	SPD
2019	424	3,373	13%
2020	398	3,435	12%
2021	383	3,512	11%
2022	353	3,582	10%
2023	357	3,607	10%

In the catchment area of Canterbury South Public School, despite a modest rise in residential dwellings exceeding the projections of the DPHI, the student per dwelling (SPD) ratio has seen a notable decline from 13% in 2019 to 10% by 2023.

Ryde

Located in Ryde LGA, Smalls Road Public School is a new primary school that can accommodate up to 1,000 students. It was opened in Term 1 2020. The Smalls Road Public School intake area currently services parts of the suburbs of Ryde, Denistone and Denistone East. The school features 43 learning spaces and 3 support class spaces, as well as a hall, library, canteen, administration facilities and multi-purpose sports courts.

Local growth profile

🕑	Timing and rate of growth has not matched projections
📊	School enrolment capacity has not been reached

Figure 18: The new Smalls Road Public School opened for students and teachers in 2020.

Growth around Smalls Road Public School

As a new school, Smalls Road Public School commenced operations in 2020 with a Kindergarten intake of 55 students. In 2021, the school opened their enrolments to Years 1-6, seeing enrolments rise to 171 students. In 2023, the school had 373 students enrolled.

It is not unusual for some new primary schools to experience slow student enrolment uptake in the initial years, as parents are often reluctant to move children away from their established friends and support networks, especially with a number of long-standing schools in the local area.

The local area surrounding the school has not seen dwelling growth commensurate with other parts of the Ryde LGA. Some schools nearest to Smalls Road Public School also have a degree of spare enrolment capacity, including Kent Road Public School and Ryde Public School.
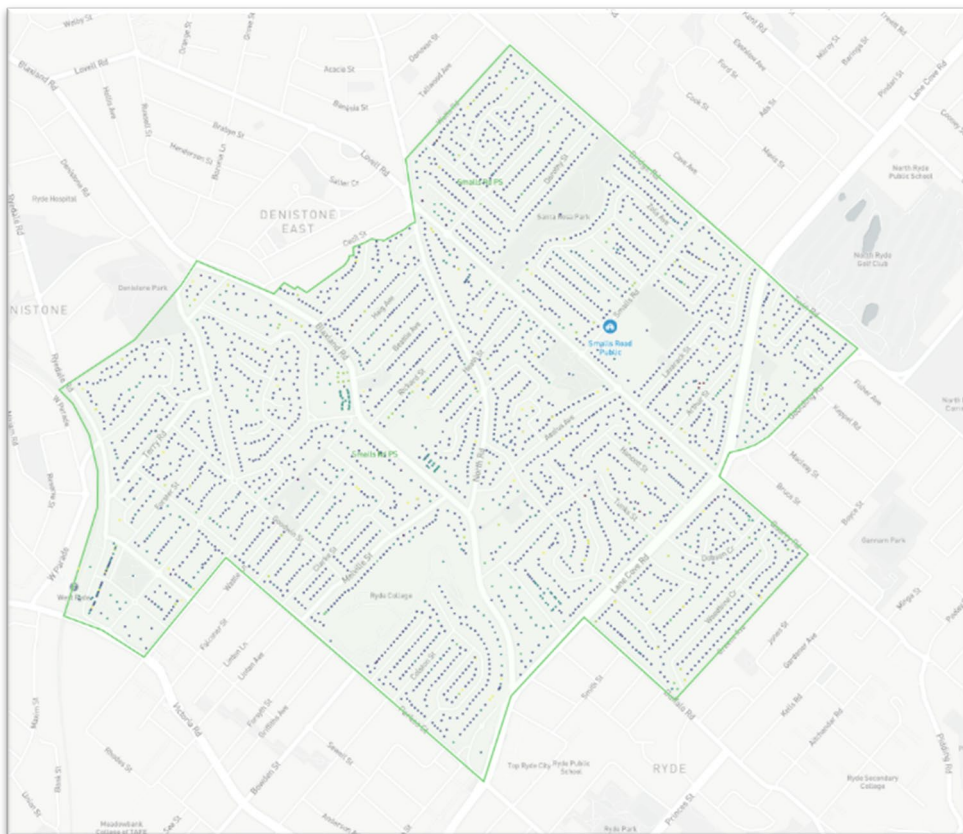

Figure 19: Map of residential dwellings in the Smalls Road Public School intake area. The dwelling age corresponds to the intensity of colour, with the lighter shades indicating newer properties.

Source: Geoscape Australia.

Some schools further from Smalls Road Public School are experiencing high levels of student enrolment demand, including around Carlingford. There are other potential drivers contributing to the over-utilisation of schools in these areas, including perceptions of high academic outcomes for students enrolled at these schools.

Actual vs DPHI Housing Projection (2017 Iteration)

2023 Actual	2023 DPHI Housing Projection	Difference
5,576	5,212	364

Actual vs DPHI Housing Projection (2017 Iteration) by Year

Year	Actual	DPHI Housing Projection	Difference
2018	5,309	5,010	299
2019	5,360	5,031	329
2020	5,400	5,052	348
2021	5,493	5,101	392
2022	5,514	5,156	358
2023	5,576	5,212	364

2016 Actual vs 2023 Actual

2016 Actual	2023 Actual	Difference
5,246	5,576	330

The audit process

The auditing methodology used in this study ensured a clear understanding of student population change in government schools via 3 study subsets:

1. **Students entering government schools:** Examining kindergarten enrolments, birth rates, international and interstate migration patterns and student transitions from non-government schools.

2. **Students progressing through government schools:** Examining student retention through progression and attrition rates. The progression rate measures the year-on-year change in government school attendance, while the attrition rate identifies the percentage of enrolments leaving government schooling the following year (excluding year 12 cohorts).

3. **Students departing from government schools:** Examining educational completion in years 10, 11 and 12, international and interstate migration and student transitions to non-government schools.

Additionally, a geospatial analysis was conducted to determine whether changes in the student population were uniform across NSW, or whether there were pockets of high and low changes in different geographic areas. The geospatial analysis identified key markers such as dwelling growth, student-per-dwelling ratios and government school-share dynamics which contribute to regional differences.

Advanced projection methodology

The audit used an enhanced population projection methodology to estimate student numbers expected in school intake areas over the next 20 years.

The advanced population projection model continues to use the population and housing projections from the NSW CPA provided to School Infrastructure NSW by DPHI but now incorporates fixed and variable parameters, ensuring greater stability and ensuring it is grounded in the current educational context while providing flexibility parameters which are subject to variation (see Figure 20).
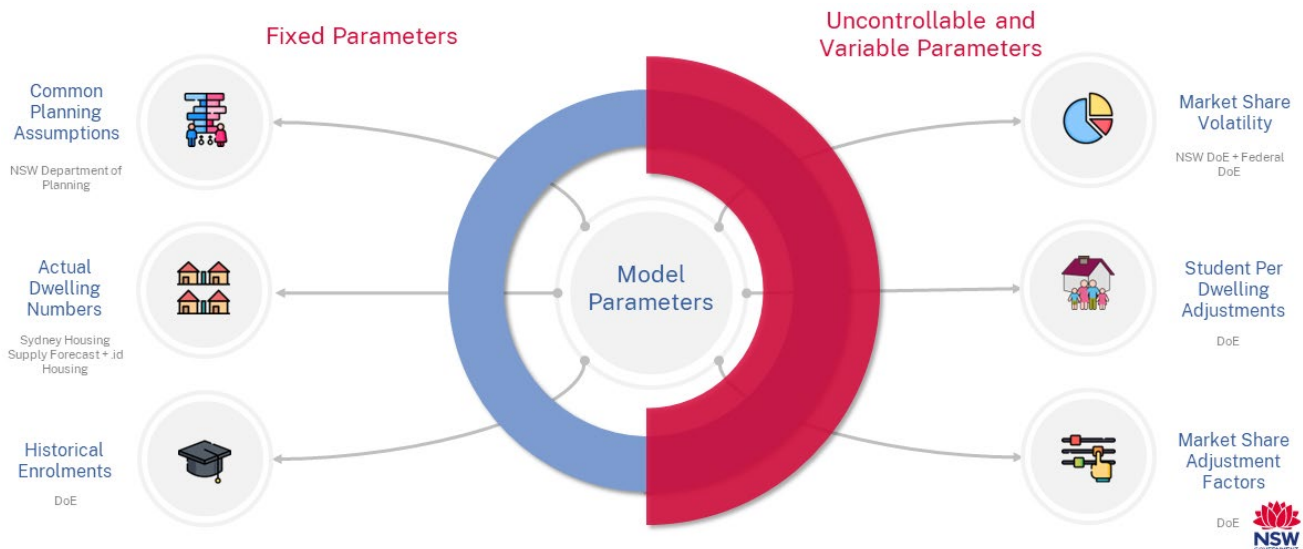
Figure 20: Fixed and variable parameters that inform the enhanced population projection model.

The enhanced population projection model employs multiple robust adjustment processes to account for dynamic demographic and market-share changes. The methodology includes:

- Leveraging 3 datasets (the Sydney Housing Supply Forecast (SHSF), the Geocoded National Address File (G-NAF), and .id Housing data) to identify the number of dwellings per mesh block to forecast student populations. It covers historical, current and forecasted dwellings across NSW.

- Adjusting SA2-level CPA population projections using Medicare, school enrolment and dwelling data to calculate the student populations attending schools at the SA1 level.

- Using historical data to extrapolate the government school share to 2041, to understand the distribution of government and non-government students in the projected total student population.

- Incorporating area-specific trends to account for localised fluctuations in student populations.

- Identifying key growth regions and recalibrating the projections to accommodate areas with rapid residential expansion and adjusting areas with limited or no students which have potential for future growth.

- Incorporating weighted measures for actual data (Medicare and enrolment data).

- Calculating projections on custom areas, such as school intake areas, by calculating the area of overlap between the custom area and the SA1s with which it intersects.

See Appendix A for more information about key housing datasets and Appendix B for definitions of SA1 and SA2 areas.

Population projection model analysis

School Infrastructure NSW has continued to enhance the methodology used to forecast student populations. A core enhancement in the population projection model which differentiates it from previous versions is use of additional data sources including:

- **Medicare data** which provides current and historical numbers for the school-going population and identifies the geospatial distribution of the school-going population across NSW. This data is used as a proxy to estimate the growth rates of children aged 0-4 and provides a long-term baseline of the school-age population. Please note strict privacy regulations govern the storage, use and sharing of this data.

- **Non-government enrolment and government share** data indicates the total number of primary or secondary non-government enrolments at each non-government school, to inform the government school share. This is used to adjust the CPA projections to the SA1 level.

- **Geospatial Dwelling** data from SHSF, G-NAF, and .id Housing data enables a richer understanding of the historical, current and projected student population in NSW.

The enhanced population projection model includes a comprehensive validation process to ensure the model can remain robust and dependable over time. At a high level, validation includes:

- historical data comparison, to assess accuracy and reliability

- cohort analysis, to analyse trends specific to key cohorts (Kindergarten, year 7, year 10 and year 12)

- case studies, including analysis of random and target areas

- CPA alignment, including analysis of their consistency and alignment with projected enrolment trends

- alternate model comparison, using different assumptions and data to test the projections

- sensitivity analysis, informed by key expert review and stakeholder feedback.

Despite advancements within the DPHI population projection model since 2019, the School Infrastructure NSW enhanced model has faced limitations at the school catchment level while using the NSW CPA as a foundational framework and with data quality and availability, among other macro constraints. Continuous refinement in the model is crucial to address these limitations and ensure the model's utility and reliability in the future for usage in forecasting demand for educational facilities. Short-term demand management strategies, including intake area adjustments, will continue to be implemented by the department to manage short-term peaks.

Actions to manage student enrolment growth into the future

In light of the audit's key findings, the following actions will be implemented by School Infrastructure NSW to support more effective and timely management of population changes and localised student enrolment growth in priority growth areas and precincts.

Action 1: Custom school population projections

School Infrastructure NSW will develop localised population projections for school intake areas, using an enhanced range of data sources, to provide detailed insights on local areas beyond what the NSW CPA housing and population projections are able to model. The additional localised information will enable more accurate, planned interventions to meet projected demand.

Action 2: Enhanced data sources and projection methodology

School Infrastructure NSW will continue to enhance the range of data sources and inputs and continuously review with other NSW Government agencies to refine the population projections methodology at the school intake area-level, including the monitoring of actual dwellings being approved and constructed.

Action 3: Engagement with local stakeholders for dwelling forecasts

School Infrastructure NSW will engage with Local Government NSW, councils and the development sector regularly, to better understand future dwelling forecasts and the projected timing for dwellings to start construction and be occupied by residents.

Action 4: Strategic land provisioning strategy

School Infrastructure NSW will continue developing a strategic property provision pipeline in priority growth areas and precincts, to ensure land is made available for future schools in appropriate locations. This will help to forward plan the delivery of schools in the areas where land is more likely to be needed.

Action 5: NSW Government coordination and collaboration

School Infrastructure NSW will continue to deepen its collaboration with other NSW Government agencies to support a coordinated approach to planning school infrastructure in priority growth areas and precincts.

Action 6: Active monitoring of the top 10 growth areas

School Infrastructure NSW will actively monitor the areas this audit identified as the top 10 most likely to experience substantial student enrolment and dwelling growth over the next 20 years and ensure the list of top 20 growth areas is regularly reviewed and updated in line with new projections and identified housing developments.

See Appendix C for the 2023 list of top 20 growth areas in NSW.

Action 7: Short-term enrolment management strategies

School Infrastructure NSW will continue undertaking short-term demand management of student enrolments through intake area adjustments, to ensure school intake areas are sized appropriately to accommodate the number of students that the available school infrastructure in the local area can support.

Appendices

Appendix A: Housing datasets used in the population projection model

Sydney Housing Supply Forecast: The Sydney housing supply forecast is the NSW Government's information on where, when and how many new homes are likely to be built in the Sydney area in the next 5 years. The NSW DPHI updates the housing supply forecast each year to inform governments, industry and the public about potential future housing supply. It applies generally to private dwellings in the form of detached housing, medium-density housing and apartments.

Geocoded National Address File (G-NAF): The Geoscape G-NAF is the Australian geocoded address database. It is the source of geocoded address data with over 50 million contributed addresses distilled into 15.4 million G-NAF addresses. It is built and maintained using independently examined and validated government data and is updated quarterly.

housing.id – housing monitor: housing.id presents data about housing supply, demand and affordability at local government area level and is updated every 6 months.

Appendix B: Definitions of SA1 and SA2

SA1 (Statistical Area Level 1) is an Australian Bureau of Statistics (ABS) measurement unit. It is the smallest unit for the release of census data and covers an area of Australia with a population of 200 to 800 people, with the average population size around 400 people.

SA2 (Statistical Area Level 2) is a medium-sized ABS measurement unit, made up from whole SA1s. SA2s generally have a population range of 3,000 to 25,000 people, with an average of about 10,000 persons.

Appendix C: Top 20 student and dwelling growth areas in NSW

Top 20 student enrolment growth areas in NSW government schools: 2018-2023					
Rank	Area name	Actual enrolments in 2018	Actual enrolments in 2023	Student growth	Student growth rate %
1	Schofields - East	1,535	4,762	3,227	210%
2	Marsden Park – Shanes Park	236	2,493	2,257	956%
3	Oran Park	1,060	3,004	1,944	183%
4	Denham Court - Bardia	520	2,026	1,506	290%
5	North Kellyville	1,025	2,234	1,209	118%
6	Box Hill - Nelson	119	1,445	1,326	1,114%
7	Gledswood Hills – Gregory Hills	805	1,969	1,164	145%
8	Jordan Springs - Llandilo	923	1,800	877	95%
9	Leppington – Catherine Field	543	1,485	942	173%
10	Epping (East) – North Epping	1,670	2,399	729	44%
11	Kellyville - West	683	1, 443	760	111%
12	Edmonson Park	541	1, 206	665	123%
13	Schofields (West) - Colebee	503	1, 131	628	125%
14	Wentworth Point – Sydney	555	1, 236	681	123%

	Top 20 student enrolment growth areas in NSW government schools: 2018-2023				
	Olympic Park				
15	Spring Farm	780	1, 422	642	82%
16	Riverstone	918	1, 543	625	68%
17	Carlingford – West	2, 670	3, 229	559	21%
18	Kingswood - Werrington	2, 391	2, 918	527	22%
19	Albion Park – Macquarie Pass	1, 994	2, 572	578	29%
20	Epping (NSW) - West	2, 525	2, 952	427	17%

	Top 20 dwelling growth areas in NSW: 2018-2023			
Rank	Area name	Dwellings 2018*	Dwellings 2023*	Dwelling growth %
1	Box Hill - Nelson	1,652	8,535	417%
2	Schofields - East	3,941	12,465	216%
3	Austral - Greendale	2,620	7,957	204%
4	Marsden Park - Shanes Park	2,931	8,723	198%
5	Riverstone	3,333	6,608	98%
6	Leppington - Catherine Field	3,704	7,327	98%
7	Edmondson Park	2,498	4,756	90%
8	Schofields (West) - Colebee	2,458	4,169	70%
9	Googong	1,940	3,273	69%
10	Cobbitty - Bringelly	1,455	2,362	62%
11	Wentworth Point - Sydney Olympic Park	7,775	11,989	54%
12	Denham Court - Bardia	3,829	5,846	53%
13	Oran Park	4,926	7,391	50%
14	Gledswood Hills - Gregory Hills	4,040	5,922	47%

Top 20 dwelling growth areas in NSW: 2018-2023				
15	Jordan Springs - Llandilo	2,995	4,387	46%
16	Horsley - Kembla Grange	3,382	4,935	46%
17	Castle Hill - North	4,165	6,082	46%
18	Kellyville - West	3,360	4,806	43%
19	North Kellyville	4,874	6,835	40%
20	Kogarah	5,303	7,375	39%

*Actual Dwelling numbers are sourced from the G-NAF via the Australian Government Department of Industry, Science and Resources. See Appendix A for definition.