



FEATURE ARTICLE

High rise schools

Putting students first

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2017 has transformed the way we envisage the future schools of NSW. Facilities of the past were rarely more than three storeys, but now the sky is the limit. In the enthusiasm to embrace the option of “high rise” schools, are the needs of students still integral to the new planning framework?

The year in review

A striking trend in 2017 has been the introduction of the high-rise school. In NSW this is a Sydney-centric phenomenon driven by escalating land costs, forcing the consolidation of schools within their current boundaries to meet the rapidly growing needs of communities undergoing urban renewal.

It can be argued this trend is not new. Schools in Victorian times were often 2 to 3 storeys and St Andrews Cathedral School is within a 14 storey building in the centre of Sydney’s CBD. The challenge we are now facing is that whilst our understanding of what makes a low-rise school successful from a planning interface perspective has been comprehensively tested, this new “high rise” model has not.

Case studies and examples

A recent example is Arthur Phillip High School (APHS), a new 17 storey high school and Parramatta Primary School (PPS), a new 4 storey primary school currently being built in Parramatta¹. Both schools have been designed by Grimshaw Architects in association with BVN Architecture, to be “a showcase for the delivery of multi-storey education facilities in response to metropolitan Sydney’s increasing residential density”². Another example is the private vertical high school proposed for the Ivanhoe Estate, Macquarie Park, a Communities Plus project³. The school is to be within a building which will also house a Community Centre with a hall, gymnasium and pool. A further example is proposed in Rhodes⁴, where floorspace for a new primary school may be linked to a mixed use development within the Rhodes East Gateway site and partially funded by State

Infrastructure Contribution (SIC) and delivered via a Planning Agreement⁵.

The new way

Delivering schools that use limited resources more productively can be a successful strategy. Classrooms in multistorey buildings (with lifts) and stairs servicing 2-4 storeys are a more effective way of using land than single level classrooms. The provision of shared spaces that can function as centres for adult learning in the evening, that provide a venue for markets on the weekend, that share halls and open space with the community, are a more effective use of limited land and enable more efficient

use of limited funding. But we should not underestimate the challenges. This type of school is new to NSW and to Australia and we do not yet have the planning controls in place or know the “rules of thumb” that should inform their development.

A healthy and safe school environment

To achieve the best learning outcomes schools should be designed for purpose and focused around the needs of the students. Circulation spaces are an integral part of the learning environment and need to encourage positive interaction. Ceiling heights are also critical and it is desirable that classrooms, and essential that halls, gymnasiums and the like, have sections of higher and raked ceilings to enable vigorous use and mitigate potential acoustic challenges. As we move to a high-rise model this knowledge becomes more critical particularly if schools are located within much larger multi-storey multi-use buildings. We do not have basic safety standards in place yet, for example we do not know what fire stairs are required to evacuate a 7 year old in a high rise primary school or how much longer they will take than an adult.

The school environment also encompasses both internal and external spaces. The Interim Guideline for Development near Rail Corridors and Busy Roads notes “Strategic site selection from the perspective of road and rail corridors for schools and childcare centres is particularly important as young people are generally more sensitive to the effects of noise and adverse air quality than adults”⁶. The Design Guide for Schools⁷ also notes “Schools should include appropriate, efficient, stage and age appropriate indoor and outdoor learning and play spaces, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage and service areas”.

Effective, whole of life, flexible and adaptive

We cannot foretell how we will be teaching the students of the future. We do know that increasingly the focus is



Figure 2: Outdoor spaces provide opportunities for outdoor learning, socialising and collaboration. (Source: Studio GL 2016)

on providing choice, so that students can access learning in a manner that is suited to their needs. Flexibility and resilience is necessary, to allow for the inevitable changes that will be required during the life of school facilities, and this will escalate into the future.

The acting president of the NSW Teachers Federation Joan Lemaire says going high is fine, but only if it is done right. "You need to have strong consultation with the teachers — you can't limit how teachers will teach by the way you build a room," she says. "Without having proper consultation, you can build something that looks good but has a whole range of problems."⁸

Equitable and efficient

High-rise schools are expensive to build. Initially AHS was expected to cost "more than \$100 million", however by May 2017 it was reported that the school is expected to cost "\$252 million"⁹, substantially higher than the cost of a similar sized low-rise school. When planning the future schools of NSW we need to be careful that by reducing one cost (land) another cost (building) does not escalate, nor should design quality be sacrificed to balance the budget. A fundamental principle of public education is that all students should have equal access to a quality educational environment and by pursuing a more-costly model there is a risk that a few developments will consume funding to the detriment of others.

Conclusion

Unless you have school age children or work in education or school design it is rare to think about schools, but they are a critical component of the future. The well-researched Design Guide for Schools, by the GANSW, supports the design quality principles in the Education and Child Care SEPP but these principles are



Figure 1: Ceiling heights play an important role in effective school design (Source: Studio GL 2016)

predominantly qualitative not quantitative, creating a need to develop greater detail relating to the design requirements for successful high-rise schools. This will ensure that high rise schools have the flexibility, adaptability and design features to enable the creation of healthy and safe learning environments for future generations.

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Felicity Lewis is a registered Architect with over 25 years experience. Previously Felicity was a Director at QOH Architects where she specialised in the design and delivery of educational facilities ■

Endnotes

- ¹ Bleby, M, 2016 'School in the sky? Parramatta's Arthur Phillip High first public NSW high-rise school' Financial Review 22 Jan 2016
- ² <http://www.dec.nsw.gov.au/about-the-department/our-reforms/innovative-education-successful-students/newschools/parramatta/arthur-phillip-redevelopment>, accessed 26 Oct 2017.
- ³ www.communitiesplus.com.au/#Ivanhoe
- ⁴ See: www.planning.nsw.gov.au/Plans-for-your-area/Priority-Growth-Areas-and-Precincts/Rhodes-East
- ⁵ The Department of Planning and Environment and City of Canada Bay Council, 2017 Rhodes East Priority Precinct Investigation Area Planning Report
- ⁶ NSW Department of Planning, 2008, Development Near Rail Corridors and Busy Roads – Interim Guideline
- ⁷ GANSW, 2017 Design Guide for Schools
- ⁸ Martin, R, 2017 'High-rise schools may seem strange but expect to see more in Australia' ABC 27 Apr 2017
- ⁹ Bosworth, T 2017, 'Skyscraper school late and over budget by \$50 million' Parramatta Advertiser 31 May 2017

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