Final Business Case Evaluation Summary

New Sydney Olympic Park High School

July 2022

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About this report

The purpose of this document is to summarise the final business case for the development of the New Sydney Olympic Park High School (the project). The project has been initiated in order to meet population growth in the Strathfield Secondary School Community Group (SCG).

A Ministerial announcement in 2017 committed $100 million for a new high school in Sydney Olympic Park. The final business case outlined the following project scope:

- A new Stream 5, 850-student capacity school in 2024
- If justified by future demand projections and should additional funding be secured, stage 2 would include an expansion of the Stream 5 school to a Stream 9, 1530-student capacity school.

The final business case for the new Sydney Olympic Park High School was prepared by the Department of Education (the Department) in line with *NSW Treasury Guidelines for Capital Business Cases* and submitted to Government in November 2020. This business case summary has been prepared by Infrastructure NSW, the Government's independent infrastructure advisory agency.

Strategic context

The Sydney Olympic Park High School addresses unprecedented precinct growth

Following a Ministerial announcement in 2017 to build a new high school at Sydney Olympic Park, a service need report was undertaken by the Department which found unprecedented growth in the Sydney Olympic Park precinct.

The site of the new high school was selected because of its size and proximity to open space which allows more than 10m² per student of place space for the 1530-student high school. The position of the school, next to Wentworth Point Primary School and adjacent to high-rise developments in Wentworth Point, maximises the opportunity for students to cycle or walk to school, as 866 students are predicted to live within 20-minutes' walk of the school. The close proximity to the primary school also provides a unique opportunity for both schools to better utilise and share resources, such as the school hall and kiss and drop facilities.

The project aligns with a number of NSW Government strategies

The project aligns with the following NSW Government strategies:

- *Premier's Priorities* (2019):
    - Bumping up education results for children: Increase the proportion of public-school students in the top 2 NAPLAN bands (or equivalent) for literacy and numeracy by 15% by 2023, including through statewide roll out of Bump It Up.
- *Department of Education Strategic Plan*:
    - Aims to prepare young people for rewarding lives as engaged citizens in a complex dynamic society.
- *School Assets Strategic Plan* (SASP), 2017:
    - Provides direction and framework for the delivery of school infrastructure, considers planned infrastructure and presents a number of key reforms.
- *NSW State Infrastructure Strategy*:
    - Aims to deliver infrastructure to keep pace with student numbers and provide modern, digitally enabled learning environments for all students.
- *Central City District Plan*:
    - Aims to deliver infrastructure to accommodate the rising demand of people within the area, adding greater pressure on the role, quality and accessibility communities expect from core civic services such as schools.

Project need

Population-driven demand

The new Sydney Olympic Park High School is located within the Strathfield Secondary School Community Group (SCG). Across the SCG, projected demand will exceed existing supply from 2021. There will be a forecast student capacity shortfall of 5755 by 2036 across the SCG.

Population demand is driven by the forecast residential growth at Wentworth Point and within the Sydney Olympic Park precinct, which is currently concentrated in the western part of the Concord High School catchment area. If no interventions are made, Concord High School will have 51 students per learning space by 2026, which is 2.5 times the state average.

Due to physical barriers (e.g. the Parramatta River, M4 Motorway and the T1 and T2 rail corridors), the increased demand cannot be readily met by upgrading existing schools and changing catchment boundaries.

Sustainable development

Most of the demand is concentrated at the Sydney Olympic Park precinct in a high density and development area. Currently students at Wentworth Point and Sydney Olympic Park have difficulty in walking or cycling to the Concord High School, the high school they are zoned to attend. This is due to the distance to the school as well as physical barriers (e.g. the Parramatta River, motorway and rail corridors).

If no action is taken, these students will have to attend schools further away, leading to increased travel time and propensity for travel by car to school. This would lead to economic costs of increased time taken by students and their parents in travelling to and from school, as well as unsustainable outcomes such as increased carbon emissions and road infrastructure in areas that are already experiencing significant congestion. Reduction in the reliance on private vehicle use aligns to the goal of creating a modern urban centre where work, home, leisure and education are in close proximity.

Fit for purpose learning spaces

A secondary driver for building a new Sydney Olympic Park High School is ensuring that there is a fit for purpose solution for students. There is a heavy reliance on demountable classrooms across the SCG, with 33 currently in use. As a result of demand growth, 26 additional demountable classrooms would be needed by 2026 to address demand across the SCG. Concord High School would require 16 of these demountable classrooms to accommodate extra students, bringing the total number to 28 (34% of total learning space). The School Assets Strategic Plan recommends demountable classrooms be only used for temporary fluctuations in demand, rather than sustaining long-term growth within a SCG. Moreover, numerous studies have determined that demountable classrooms are not conducive to delivering modern learning environments, as opposed to fit-for-purpose learning environments which support improved learning outcomes.[1] This in turn improves students' employment prospects.

[1] Slee, B., Hyde, R., (2015), A Base Line Study for Improving the Environmental Performance of Demountable Classrooms. A Case Study of New South Wales, Australia.
Cheryan, S., Ziegler, S.A., Plaut, V.C., Meltzoff, A.N., (2014), Designing Classrooms to Maximize Student Achievement.
EarthFixMedia, (2014), Sick of Portables

Sites like Concord High School would also be challenged to place demountable classrooms on already constrained sites without compromising the provision of place space and supervision. Failure to provide adequate play space will not allow students to realise the benefits of increased physical activity.

Project objectives and design

The objectives of the project are to:

- *facilitate the improvement of educational outcomes* – to support improvement in all student's educational outcomes, ensuring all students have the opportunity to be their best
- *deliver on commitments to provide education for all students* – to ensure all students have access to education
- *ensure the Department is maximising value from its current and future physical asset base* – to ensure the current and future school assets maximise value and provide the best value for money for DoE
- *facilitate the successful transition of all students through their educational journey* – to support all students to successfully transition throughout their educational journey.

The Department approaches all planning processes at a holistic level, considering the whole SCG, rather than schools at an individual level. This involves assessing all schools within an area or region to efficiently identify the best methods for student number distribution and delivery of upgraded facilities for the whole community.

Options identification and assessment

A number of options, both capital (greenfield and brownfield) and non-capital (i.e. demand management-based solutions) were developed and assessed at the strategic business case stage to determine the most appropriate way forward for addressing the service delivery and facility requirements for the School Community Group.

Three project options were taken forward for further assessment in the final business case when compared to a do-minimum Base Case:

Base Case – do minimum

The final business case focuses on the application of NSW Treasury's 40/40/20 rule (*Cost-Benefit Analysis Framework for School Investment* (January 2018)), to allocate excess demand according to the following ratios:

- 40% of students will overcrowd existing learning spaces by increasing spatial density
- 40% of students travel to the next nearest SCG with capacity
- 20% of students are allocated demountable learning spaces.

Therefore, this rule limits Base Case costs to the capital cost of demountable classrooms and the operating costs of existing assets. No additional Base Case costs were considered (beyond already planned minor works and forward maintenance), as there are currently no minor works planned at the schools in Sydney Olympic Park.

Option 2A

Option 2A is a single stage build of a Stream 9 high school that provides an additional 1530-student capacity to the SCG aligning with the service need for 2026. This option does not provide the potential for further capacity expansion in the future. The option also provides 5 new learning support general learning spaces. It has an undiscounted nominal cost of $151.9 million and a benefit cost ratio of 0.83.

Option 2B

Option 2B provides a new Stream 9 high school with a capacity for 1530 students and Stream 12 core facilities to allow for future expansion to a Stream 12 high school. Like Option 2A it addresses the service need for 2026 but also provides future proofing to a 2040-student high school. By providing the school with the Stream 12 core facilities, a reduction in the cost of a future expansion to a Stream 12 capacity school can be more readily achieved. This future upgrade is dependent upon providing a solution to the current traffic issues and securing additional funding. This option has an undiscounted nominal cost of $203.6 million and a benefit cost ratio of 0.66.

Option 5A, stage 1 of the full Option 2A (preferred option)

Option 5A (Stage 1 of the full Option 2A) proposes to build a new school in two stages. The first stage proposes to build a new Stream 5 school with capacity for 850 students in 2024. The second stage of Option 5A looks to expand the school to a Stream 9, 1530-student capacity school. However, this second stage would be subject to a separate business case and an additional funding request. It is not within the scope of this business case.

Option 5A has an undiscounted nominal cost of $99.9 million and a benefit cost ratio of 0.65, which increases to 0.79 if the second stage is delivered.

Qualitative assessment

The options were compared against each of the primary and secondary service need drivers of the project (i.e., population driven demand, fit for purpose learning and sustainability). A risk assessment of the options was also undertaken to inform selection of the preferred option for funding.

The benefits provided by the project case include:

- a reduction in travel time for students
- avoided overcrowding of other schools in the SCG
- residual value of the new school assets
- increased quality of education – future-focused classrooms and increased spatial density.

With an undiscounted nominal cost of $99.9 million, Option 5A was chosen predominantly because it has lower delivery risks and traffic congestion impacts and is within the $100 million committed funding. This option provides certainty of being readily funded, for construction to begin as soon as possible to address the unmet demand, and for the public commitment to be met.

Despite Option 2A representing better value for money, both Option 2A and 2B would incur more risk as they require a shift in travel mode to be implemented sooner in an area that is already congested. Both options also risked delays to the commencement of the project as they would require additional funding to be sought.

Economic evaluation

A cost benefit analysis (CBA) of the short-listed options has been conducted in line with *NSW Government Guidelines for Economic Appraisal*. Costs and benefits were analysed over a 40-year timeframe (based on the expected useful life of the asset) and discounted at 7%, with sensitivities done at 3% and 10%.

	Option 2A	Option 2B	Option 5A	Option 5A sensitivity (delivery of stage 2)
Benefit Cost Ratio	0.83	0.66	0.65	0.79

The CBA for Project Option 5A was undertaken which indicated a benefit cost ratio (BCR) of 0.65, when a 7% discount rate is used. When discount rates of 3% and 10% were applied during sensitivity testing, the BCR was 1.75 and 0.37, respectively.

The BCR for Stage 1 is less than 1 at 0.65. This is driven by the substantial capital costs of establishing a new school and its core facilities as well as the substantial incremental recurrent costs of operating a new facility which includes the fixed cost of an additional staffing body. If the second stage of the option is funded, then the overall BCR of the combined stages will rise to 0.79 (if a modular build is used).

The BCR for Option 2A is slightly superior (0.83) to the combined Stage 1 and 2 Option 5A sensitivity (0.79). This is primarily due to the additional benefits of providing additional capacity in 2024 and 2025 to meet unmet demand if current demand forecasts are realised.

Deliverability

Procurement

The procurement strategy developed for this project is in accordance with the Department's standard procedures. The strategy provides confidence that value for money approach is being taken and that the project can be delivered on time.

The procurement model selected for the project was the design and construct procurement model as it is the most suited for a design for manufacture and assembly (DfMA) delivery approach. The selection of the procurement model also took into consideration the use of early contractor involvement to enable the Department to partner with a DfMA specialist who can inform design development and planning for the offsite manufacturing element.

Under the Government procurement system, a panel of best practice contractors is maintained and these contractors are accessed for the procurement of these projects. Contractors are continually assessed and monitored for performance and management of statutory obligations. A DfMA partner will be selected from the panel.

Key risks and mitigation

Effective risk management allows for project risks that may have a negative influence on project success to be identified, assessed and mitigated. It also optimises risk outcomes and enhances opportunities that can have a positive influence on project success.

A risk management plan has been developed for the project. It identifies, assesses and mitigates risks which may impact the project. It also outlines team members and stakeholders who will be responsible for various aspects of risk identification, mitigation and management.

The output of the risk management process is the risk register, which tracks identified risks over the course of the project. The risk register will be developed and updated throughout the life of the project. Key project risks being managed include planning, construction and project development-related risks.

The Infrastructure NSW view

Infrastructure NSW undertook a review of the final business case for the development of the New Sydney Olympic Park High School.

Infrastructure NSW found that the final business case demonstrated the need for the investment in this project, with the population-driven demand for the project being well articulated.

The final business case has identified a BCR of 0.65 in its economic analysis. Although the BCR is below 1.0, Infrastructure NSW notes the Base Case scenario, which provides additional demountable classrooms, does not provide a realistic long-term solution and has many disadvantages. Under the Base Case, 26 additional demountable classrooms would need to be placed across the SCG by 2026 to address the demand. This is not considered to be an appropriate long-term solution, because numerous studies have determined that demountables are not conducive to meeting long-term demand, nor to delivering improved learning outcomes.

Infrastructure NSW notes the preferred option delivers a range of qualitative benefits, including greater provision of support classes, improved teacher efficiency and increased student and staff satisfaction.

While the preferred option delivers a poorer value-for-money outcome compared to a single-stage build of a Stream 9 high school, it is a more affordable solution and provides flexibility for a second stage to upgrade to a Stream 9 high school. Given increased uncertainty in relation to medium-term population projections due to the COVID-19 pandemic, this is a prudent response to balance value-for-money and affordability considerations. However, Infrastructure NSW also found that a single-stage approach could deliver additional synergies and cost efficiencies compared to a staged approach.

Subsequent to the final business case, a decision was made in 2021, through a final business case addendum, to replace Option 5A, previously elected as the preferred option, with Option 2A. Capital funding of $60 million was subsequently allocated in the FY22 NSW State Budget process for Stage 2 of the project. Infrastructure NSW notes that Option 2A delivers a higher BCR of 0.83.

Infrastructure NSW has concluded that the project is being effectively developed and delivered in accordance with the Government’s objectives.