

Final Business Case Summary: Powerhouse Museum in Western Sydney

April 2018



About this report

This document summarises the Final Business Case (the Business Case) for the proposed relocation of the Powerhouse to Parramatta.

The Powerhouse Museum in Western Sydney Project (“the Project”) entails relocating the core functions of the Museum of Applied Arts and Sciences (MAAS) from Ultimo to the Riverbank site in Parramatta. It involves decommissioning the existing Museum and collection storage, and creating a new MAAS headquarters focused on STEAM (Science, Technology, Engineering, Arts and Mathematics) exhibits and new collection storage facilities at Castle Hill.

The Government plans to retain cultural space at Ultimo. It is separately considering the options for the Ultimo site, including the establishment of a Creative Industries Precinct and a plan for a Design and Fashion museum and a Broadway-style lyric theatre. Further work is being undertaken to complete a Final Business Case for Ultimo, which will enable financial investment decisions about that site to be taken by Government. A separate summary document for Ultimo will be released once that work is complete.

The Business Case for the Powerhouse Museum in Western Sydney Project was prepared between April and December 2017 by the Cultural Infrastructure Program Management Office (CIPMO) within the Arts, Screen and Culture Division of the NSW Government’s Department of Planning and Environment.

This Business Case Summary has been prepared by Infrastructure NSW, the NSW Government’s independent infrastructure advisory agency.

Summary

High quality cultural facilities attract visitors to NSW, improve educational outcomes and help drive urban renewal and regional development. They can improve the quality of people’s lives – their education and the character of the communities and neighbourhoods in which they live.

These factors informed the Government’s strategic decision in 2015 to relocate the Powerhouse Museum to Parramatta. The transformation of Parramatta into Sydney’s second CBD is central to the Government’s vision for a Metropolis of Three Cities, and that vision depends significantly for its success on the provision of high quality social and cultural infrastructure. The relocated Powerhouse Museum is intended to be the anchor for arts and culture for Greater Parramatta and the Central City District more broadly.

The Business Case takes as its starting point the Government’s decision to locate the Powerhouse Museum on the Riverbank site in Parramatta. It then assesses three options for that Museum, each offering different levels of functionality and quantities of floor-space.

The three options for a relocated Museum all comply with the requirements of MAAS’s founding legislation¹ and are based on international benchmarking and consumer preference research. All three encompass levels of functionality consistent with a “Museum of International Standard”, including a large scale touring hall for temporary exhibitions, temporary and permanent galleries for the display of the MAAS collection, dedicated education spaces, a library and research space, auditorium facilities to host lectures and other public events, and associated food and beverage facilities and visitor amenities.

The Business Case finds that two of the three of the options return a Benefit to Cost Ratio (BCR) of greater than 1.0. Of these, Option 1 has the smaller floor area and functional space (smaller than the current Ultimo site), and correspondingly a lower cost. It also has the higher BCR. Option 3 has the highest net benefit, provides the greatest functionality (including a Planetarium and large amounts of exhibition, education and other space) and returns the highest net operating result of the options; it also has the second highest BCR.

The decision before Government, therefore, can be characterised as a choice between two worthwhile investment options, trading off the superior customer experiences of Option 3 against the lower capital cost offered by the smaller Option 1.

¹ *The Museum of Applied Arts and Sciences Act, 1945*

Infrastructure NSW has conducted a number of reviews of the Powerhouse Museum project as it has developed, including a review of the Business Case undertaken in February 2018. This review critically examined a number of the assumptions underlying the economic appraisal and BCRs in the Business Case, and required sensitivity testing of those assumptions to be undertaken.

On the basis of its independent review and the further work undertaken, Infrastructure NSW is satisfied that the Business Case provides a sound basis for Ministerial decision-making on a preferred option.

Strategic context

Background

MAAS is Australia's contemporary museum for excellence and innovation in applied arts and sciences. The museum was established in 1879. It currently encompasses the Powerhouse in Ultimo, Sydney Observatory in The Rocks and the Museums Discovery Centre in Castle Hill. MAAS has occupied the Powerhouse since 1988. The Powerhouse was constructed in 1899 to power Sydney's electric tram system and did so until the early 1960s. The old tram depot adjacent to the Powerhouse has been part of MAAS since 1981 and is now used for offices, workshops, laboratories and storage.

In 2014, MAAS developed a Business Case requesting funds for the renewal of the Powerhouse Museum. It argued that its current operations at Ultimo were becoming unsustainable as the existing infrastructure had reached the end of its useful life and was no longer fit for purpose.

At the same time, Parramatta, in the heart of Western Sydney was entering a period of rapid growth. It was identified in 2014's *A Plan for Growing Sydney* as the metropolis's emerging second Central Business District, with the provision of supporting social and cultural infrastructure regarded as integral to its success.²

In the *State Infrastructure Strategy Update 2014*, Infrastructure NSW proposed the development of a Parramatta Cultural Precinct³ and recommended that, before any further public investment was made in the Powerhouse, urgent consideration should be given to MAAS's potential relocation to the Parramatta Cultural Precinct. This was later reinforced in the *Cultural Infrastructure Strategy 2016*, in which Infrastructure NSW commented that the proposed relocation presented "an opportunity to develop a vibrant creative and cultural precinct" in the heart of Parramatta.⁴

In February 2015, the then NSW Premier and Deputy Premier announced the Government's decision to relocate the Powerhouse Museum to Parramatta. Following that announcement, MAAS initiated and led the development of the planning framework for the relocation of the Powerhouse, including a site selection assessment which concluded that the Riverbank site in Parramatta was the preferred site for the New Museum. The Government confirmed and announced its choice of the Riverbank site in April 2016.

In mid-2016, MAAS commenced work on the preparation of a Business Case for the relocation of the Powerhouse Museum and its entire collection storage to the new site and the divestment of the current Ultimo site. Following a review of the draft Business Case by Infrastructure NSW in February 2017, the Government transferred responsibility for its further development to CIPMO and extended the scope of its work to include consideration of a continued cultural presence at the Ultimo site.

² *A Plan For Growing Sydney* (NSW Department of Planning & Environment), page 34

³ *State Infrastructure Strategy Update 2014* (Infrastructure NSW, 2014), page 125

⁴ *Cultural Infrastructure Strategy 2016* (Infrastructure NSW, 2016), page 68

Policy context

The Business Case for the relocated Powerhouse Museum has been developed in the context of a range of NSW Government policies and strategies, including the Premier's Priorities⁵ and *Create In NSW: The NSW Arts and Cultural Policy Framework*. The Business Case makes the case that a relocated Powerhouse will help to reshape the economic and social landscape of Western Sydney and Parramatta, and will further the Government's priority of enabling all communities in NSW to receive a fair share of the benefits and opportunities the state has to offer.

The economic appraisal contained in the Business Case assesses, among other things, the benefits that are expected to flow from the Project. These benefits are quantified and then weighed against the Project's costs. Broadly, the economic benefits of investing in the relocated Museum (and in other cultural infrastructure) fall into the following categories:

- Interstate and international visitation, which generates economic benefits for local business, as visitors spend money on, for instance, food and accommodation. This leads to increased economic activity and employment opportunities for the local community.
- Benefits to NSW citizens from new and improved museum facilities, calculated on the basis of surveys which measure the value that people would place on the availability of the relocated Powerhouse Museum.
- Educational benefits for students visiting the Museum.

In addition, cultural infrastructure can bring benefits which are difficult to quantify. As noted in the *Cultural Infrastructure Strategy 2016*, policy-makers around the world have embraced culture and cultural infrastructure as having a central role to play in delivering urban renewal and regional development. A thriving cultural sector can provide a focus for communities, activate neighbourhoods and provide opportunities for learning and self-development.⁶

Problem description

For some years, MAAS has argued that its existing premises at Ultimo includes infrastructure which is reaching the end of its useful life and is no longer fit for purpose. The current premises were designed for 19th and 20th century collections, and have constrained the Museum's capacity to move with the times: competitive contemporary museums require technology, varied spaces and sophisticated building services. The Museum is increasingly struggling to meet its obligations under the MAAS Act to display, conserve, maintain, secure and operationally manage its collections. The Business Case argues that, without fundamental change, this position is expected to deteriorate further.

The relocation of the Powerhouse Museum presents the opportunity for a purpose-built, world class facility which faces none of these challenges and constraints. A museum of MAAS's reputation and standing would be a significant, positive addition to Western Sydney. Western Sydney is one of the fastest-growing regions in Australia; it is home to 47 per cent of Greater Sydney's residents, and over the next 20 years, its population is expected to increase by 50 per cent to over three million.

The *Greater Sydney Region Plan Metropolis of 3 Cities*⁷ identifies the relocated Museum as one of the key projects that will drive the transformation of Greater Parramatta. The Greater Sydney Commission's *Central City District Plan* states that "a new museum on the banks of Parramatta River will be the anchor for arts and culture for the District. It has potential to deliver world-class opportunities for education and research, alongside exhibition space, and space for social and digital interaction and exchange."⁸

⁵ The Premier's Priorities include an ambition to increase cultural participation by growing attendance at cultural venues and events by 15% by 2019.

⁶ *Cultural Infrastructure Strategy 2016* (Infrastructure NSW, 2016), pages 20-21

⁷ *The Greater Sydney Region Plan Metropolis of 3 Cities*, page 104

⁸ *Central City District Plan* (Greater Sydney Commission, 2018), page 59

Powerhouse Museum in Western Sydney: project description

Whilst the Business Case assesses three main options for the relocated Powerhouse Museum, each option is based on a project definition which in turn conforms with the requirements of the MAAS Act and seeks to give effect to the Project's Vision, which is to develop:

“a world class 21st century museum in Western Sydney, focused on science and innovation, that will meet the needs and aspirations of the community and deliver an exciting new cultural destination for the people of NSW and beyond.”

This vision is expressed through eleven Project Objectives such as architectural excellence, functional design, technological innovation, storage and exhibition capacity, environmental sustainability, place-making and value for money.

Benchmarking work was used to identify recent investments in cultural infrastructure around the world which would provide a useful guide as to contemporary best practice.⁹ This was supplemented by “willingness to pay” analysis which surveyed community attitudes and preferences as an input to the project brief.

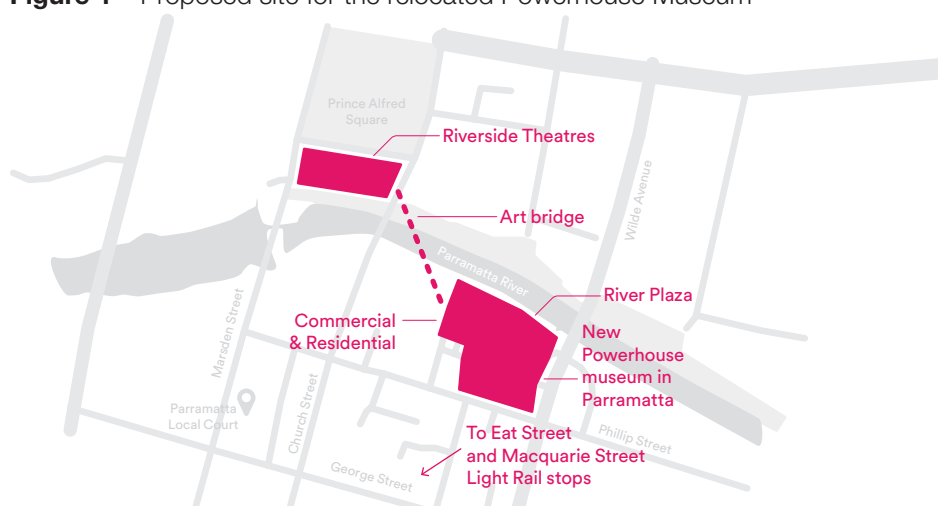
The community research identified the optimal offering for the relocated Museum, measured consumers' willingness to pay and tested expected levels of demand. Participants were asked to choose between a series of potential attributes for the Museum. The important features to the community were programming focused on space travel, science, technology and engineering, as well as screen-based culture, applied arts and mathematics. Besides potential exhibition themes, people attached importance to entry cost and the quality of exhibition features and spaces. There was strong consumer support for the inclusion in the relocated Museum of a Planetarium.

Whilst three options for the Museum are identified in the Business Case, each encompasses the following core functionality, which CIPMO regards, on the basis of its benchmarking work, as the minimum requirements for a “Museum of International Standard”:

- A large scale touring hall for temporary exhibitions
- Temporary and permanent galleries for the display of the MAAS collection
- Dedicated education spaces
- A library and research space
- Auditorium facilities to host lectures and other public events
- Associated food and beverage facilities and visitor amenities.

Also included within the Project's scope is the expansion of the current Museum's Discovery Centre at Castle Hill to provide a purpose-built facility for the care and storage of MAAS's collections. This investment will reduce the need for collection treatment and storage in Parramatta, and thereby maximise gallery and visitor space.

Figure 1 – Proposed site for the relocated Powerhouse Museum



⁹ The following facilities were analysed: Frost Museum of Science (Miami); California Academy of Sciences, San Francisco; Queensland Gallery of Modern Art, Brisbane; Museum of Old and New Art, Hobart; and Melbourne Museum, Melbourne.

In line with Government policy, all three options for the Museum contemplated in the Business Case involve its being located on the Riverbank site in central Parramatta. The NSW Government has entered into a Heads of Agreement (HOA) with the City of Parramatta Council which secures the site for the Museum. The HOA sets out a framework for the cooperative development of the Parramatta River foreshore through the development not only of the Museum but through potentially significant works to the Riverside Theatres to create a vibrant cultural precinct.

Integral to the Business Case and the financial analysis it contains is the ability to partially offset the Project's costs by divesting a portion of the Riverbank site to facilitate residential development. The Business Case includes a Development Options Assessment which examines a range of options for residential, commercial and mixed use development on the Riverbank site and estimates the revenues associated with each, along with revenues from property development on part of MAAS's current premises at Ultimo. These revenues are then factored into the Business Case's financial and economic analysis.

The NSW Government has entered into binding legal agreements with the City of Parramatta Council which will enable the Government to also use the site for residential development, provided the new Museum is constructed on the site. This creates a direct nexus between the relocated Powerhouse Museum and the associated residential development. The agreements between City of Parramatta and the NSW Government are subject to and conditional upon NSW Government approval and provide that:

- Council will transfer the site to the NSW Government
- The Government will work with the Council to achieve an outstanding design for the new Museum
- The proportion of the financial return from the residential development as a whole that the Government is to reinvest in the new Museum.

Options identification and assessment

The Business Case takes as its starting point the Government's strategic decision in 2016 to relocate the Powerhouse from Ultimo to Parramatta. It then evaluates three options for the Museum, as follows:

- **Option 1** - the "project baseline", which includes a large-scale touring hall for temporary exhibitions, temporary and permanent galleries for the display of the MAAS collection, dedicated education spaces and spaces for in-residence artists and inventors, a library and research space to enable research and education opportunities, auditorium facilities to host lectures and other public events, and associated food and beverage facilities and visitor amenities. Option 1 has a nominal construction cost of \$623 million, or \$488 million in net present value (NPV) terms.
- **Option 2** - has all the functionality and features of Option 1, but with additional gallery space equivalent in capacity to that of the Powerhouse Museum in Ultimo – that is, 14,830 square metres of exhibition and experience spaces with a total of 18,030 square metres of net museum area (including back of house space). Option 2 has a nominal construction cost of \$785 million, or \$615 million in NPV terms.
- **Option 3** - extends the scope of Option 2 through the inclusion of additional attributes identified by the "willingness to pay" survey, including a NSW Planetarium. Option 3 has 18,000 square metres of exhibition and experience spaces with a total of 21,200 square metres of net museum area (including back of house space). Option 3 has a nominal construction cost of \$825 million, or \$641 million in NPV terms.

Economic evaluation

SGS Economics was engaged by CIPMO to undertake an economic appraisal of the Project in accordance with NSW Treasury's *Government Guide to Cost-Benefit Analysis*¹⁰ and its *Supplementary Notes on Issues for the Economic Appraisal of Proposed Investments in Cultural Venues*. The appraisal was supported by the outcomes of the "willingness to pay" survey undertaken by consultants Cappre, capital cost modelling provided by Rider Levitt Bucknall, and operational modelling by the Paxon Group which used data provided by CIPMO.

¹⁰ NSW Treasury, TPP 17-03, 2017

The economic appraisal was conducted using an appraisal period of 26 years, commencing in 2017/18 and concluding in 2042/43. This allows for 20 full years of operation to be appraised following the completion of the Project's construction in 2023.

Benefits

The Business Case seeks to quantify the following categories of benefits for the Project:

- **Consumer benefits:** the forecast benefits, expressed in monetary terms, that will accrue to residents of NSW who will visit the new Museum, based on “willingness to pay” surveys of community attitudes.
- **Producer benefits:** the financial benefits to the NSW economy that will come from increased overseas and interstate visitation as a result of the new Museum, based upon the assumption that such visitors will extend their stay in NSW by an average of one night.
- **Education benefits:** the educational value of the Museum to the students who are expected to visit.¹¹
- **Residual asset value:** the remaining value of the Museum beyond the 26 year appraisal period.
- **Revenue benefits:** the extra tax revenue earned directly by Government as a result of the projected increase in visitors; funds which MAAS is expected to raise in donations through business sponsorships and endowments to help finance the construction of the Project; and the anticipated financial benefit of being able to divest a portion of the Riverbank site in Parramatta and of MAAS's property at Ultimo to facilitate residential and commercial development. The revenues from donations and property are estimated at \$325 million.

The assumptions underpinning each of these forecast benefit streams are documented in detail in the Business Case.

Costs

The Business Case quantifies both the capital and operating cost impacts of each option. These costs fall into the following categories:

- **Construction costs:** estimated for each option by expert advisers Rider Levitt Bucknall, with appropriate contingencies and allowances for risks and client-side costs. Capital cost variances between the options are driven largely by differences in floor space requirements.
- **Lifecycle costs:** the costs associated with replacing assets once they reach the end of their useful lives.
- **Project operating costs:** transitional costs associated with re-locating MAAS's collection to Parramatta, installing new business systems and re-tendering existing supply contracts.
- **Operating costs:** ongoing costs, including wages and salaries, utility costs, advertising and maintenance.
- **Land acquisition:** the opportunity cost to Government of acquiring the Riverbank site for the New Museum. The Government has agreed an option price for the site of \$145 million in nominal terms.

The outcomes of the analysis

The outcomes of the Business Case's economic appraisal are summarised in Table 1 on page 8. The economic values are expressed in present value terms and economic forecasts were discounted using a rate of 6.88 per cent. The economic values presented are not all equivalent to direct monetary receipts.

As Table 1 demonstrates, Options 1 and 3 return a BCR of greater than 1, whilst Option 2 returns a BCR of 0.93. This means that, across the three options, for every \$1 cost borne by the NSW Government, there will be a whole-of-society benefit of between \$0.93 and \$1.09 depending upon the option chosen.

Option 1 has the highest BCR, reflecting its lower cost, which in turn reflects the fact that its floor area is smaller than that of the current Ultimo site. Option 3 has the highest net benefit, provides the greatest functionality (with 18,000 square metres of exhibition and public space) and returns the highest net operating result of the options, but it also has the second highest BCR.

¹¹ According to the Productivity Commission, the value of one hour of education is around \$13; it is estimated that the average duration of student's visit to the New Museum will be about three hours.

The decision before Government, therefore, involves a choice between two economically beneficial investment options, trading off the superior customer experiences of Option 3 against the lower capital cost offered by the smaller Option 1.

Table 1 - Cost benefit analysis

Cost Benefit Analysis Outputs - Present Value – 6.88% Discount Rate - (\$FY18, \$m)			
	Option 1	Option 2	Option 3
Costs			
Construction costs	\$488.0	\$615.0	\$640.5
Life cycle costs	\$30.3	\$38.9	\$42.5
Project operating costs	\$25.4	\$25.4	\$25.4
New Museum operating costs	\$285.5	\$310.8	\$355.9
Land acquisition	\$115.0	\$115.0	\$115.0
Total costs	\$944.2	\$1,105.2	\$1,179.3
Benefits			
Consumer benefits	\$415.9	\$426.8	\$466.6
Producer surplus	\$164.7	\$132.4	\$174.1
Education benefits	\$31.0	\$31.0	\$31.0
Residual asset value	\$42.2	\$57.3	\$62.6
Revenue benefits	\$378.1	\$378.3	\$472.7
Total benefits	\$1,031.9	\$1,025.8	\$1,207.0
Outputs			
Net benefit	\$87.7	(\$79.4)	\$27.7
Benefit cost ratio	1.09	0.93	1.02

The net capital cost to Government of the three options, after allowing for forecast revenues from property and donations, ranges from \$443 million for Option 1 to \$645 million for Option 3 (in nominal dollars).

Deliverability

Procurement method

The Business Case indicates that the Department of Planning and Environment, via CIPMO, will be responsible for design development and in particular the management of an international design competition for the relocated Powerhouse Museum. Infrastructure NSW will be responsible for the procurement and construction of the Museum, working closely with CIPMO and MAAS throughout the procurement and construction period.

The Business Case has identified and assessed a range of procurement options. Based on this assessment, it proposes a “Design, Novate and Construct” model as the preferred procurement strategy. This model, which should be tested through market sounding, would enable the Museum’s constructor to retain the services of the winner of a design competition, allow Government to retain control of design through the management of the project and ensure value for money.

Key delivery risks and mitigations

The Business Case contains a risk analysis developed in accordance with relevant industry standards.¹² This analysis led to the creation of a Risk Register, which identifies key project-related risks, their likelihood and consequence, and appropriate mitigating actions. Various categories of risk are addressed in the Register, relating to planning, procurement, project design, construction delivery, stakeholder engagement, collection management during transition, and relevant regulatory and legislative approvals.

A key risk addressed in the Business Case and associated documentation relates to the need to relocate MAAS’s collections from Ultimo to Parramatta. The MAAS collection comprises around half a million items, which have been classified into ten different sets based on the specific handling and processing requirements for each object. A Collections Relocation and Logistics Report has been prepared, which proposes a

¹² AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines

methodology, project plan, workflow and timeline to mitigate any risks associated with the relocation. Given the Museum's Riverbank location, detailed studies were undertaken by consultants Taylor Thomson White to identify measures to mitigate potential flood risks for inclusion in the Project's architectural and structural design, all of which have been appropriately factored into the cost estimates in the Business Case.

Proposed governance

The Business Case recognises the importance of establishing effective project governance arrangements which will ensure successful project delivery. These arrangements will include a Project Steering Group which will contain key representatives from relevant government agencies, including MAAS, as well as external experts.

The Infrastructure NSW view

In accordance with the NSW Government's Infrastructure Investor Assurance Framework (IIAF), Infrastructure NSW routinely assesses business cases and provides advice to Government on the efficacy of their findings.

The relocated Powerhouse Museum Project is classified under the IIAF as a "Tier 1" project and, as such, is subject to regular independent review and monitoring. Since February 2016, no fewer than six external reviews have been undertaken as work on the New Museum has evolved. The Gateway process managed by Infrastructure NSW involved extensive independent review by multiple experts in cultural infrastructure, urban planning, economic analysis, construction and operation. In addition, as part of the Business Case's development, CIPMO has sought advice from multiple experts in cultural infrastructure, museum logistics, urban planning, construction and operations through peer review processes and expert advisory panels.

Infrastructure NSW's review of the Business Case for the relocated Powerhouse Museum, completed in February 2018, concluded that the Business Case had successfully demonstrated the case for change. The review encouraged closer dialogue with MAAS and Infrastructure NSW as the designated asset owner/operator and delivery entity respectively. This action has been taken, enabling realistic, risk-assessed estimates of overall costs and revenues to be established.

The review supported the project team's proposal to separate the planning and delivery of developments at Parramatta and Ultimo, noting that ongoing engagement and collaboration with MAAS would be critical to the successful operational integration of the two facilities. It noted that the Museum would become the flagship for the surrounding cultural precinct and an anchor institution to support the Government and the City of Parramatta Council's plan for major urban renewal and growth in Parramatta and Western Sydney.

The Business Case was rated "satisfactory" or "strong" in all areas. The review noted that the Business Case included a number of assumptions and provisions which would benefit from more rigorous testing, including the potential impacts of combining lower than expected property receipts with higher than expected capital costs. This further testing was duly undertaken by CIPMO.

The review recommended a further 'deep dive' to examine the economic appraisal in detail. The deep dive review was completed in March 2018 and tested the assumptions which underpinned the assessment of costs and benefits in the Business Case. Two areas in particular were highlighted: visitor numbers and the projected income from the divestment of land in Parramatta and Ultimo.

In response to the first of these concerns, Tourism Research Australia data was provided by CIPMO to support its initial projections, and further sensitivity testing has been undertaken to understand the possible impacts should visitor numbers and generated benefits be lower than assumed in the Business Case. These sensitivity tests demonstrated that Option 3 would continue to return a BCR of close to 1 even if projected visitation were halved, while the BCR for Option 1's BCR would continue to exceed 1.

Forecast property receipts at Parramatta and Ultimo were also independently tested, and appropriately conservative assumptions have been adopted.

On the basis of the Business Case and the further work undertaken, Infrastructure NSW is satisfied that the Business Case provides a sound basis for Ministerial decision-making on a preferred option.