

Final Business Case Evaluation Summary

Tweed Hospital and Integrated Ambulatory Services Redevelopment



July 2022

About this report

This report summarises the final business case (FBC) for the Tweed Valley Hospital Project (the project).

The Tweed Valley Hospital will be developed on a greenfield site, networked with the hospital services provided from the Murwillumbah District Hospital (MDH) along with the Byron Central Hospital and community health facilities in the Tweed-Byron region. Its location, on a north-facing ridge, will maximise access to natural light and panoramic views across a nature reserve and out to the mountains and coast, providing a welcoming, warm atmosphere for patients, staff and visitors alike.

This project is part of a progressive renewal of regional health assets across the State, in support of the *NSW Rural Health Plan: Towards 2021*. The Project aims to address critical shortfalls in healthcare service delivery in the Tweed Valley and ensure more equitable access to those services. More than 70% of residents within the Tweed Local Government Area live within 30 minutes' drive of the project site.

The FBC, published in November 2020, was developed by NSW Health Infrastructure (HI) for the Ministry of Health (MoH) and approved by the NSW Government. This business case evaluation summary has been prepared by Infrastructure NSW, the Government's independent infrastructure advisory agency, in accordance with NSW Treasury's *Guidelines for Capital Business Cases*.

Strategic context

Projected demand for healthcare in the Tweed-Byron region is set to rise dramatically over the next decade. This project has been designed to meet these expected demand increases, helping to ensure the provision of high-quality healthcare in northern NSW. Such provision will be underpinned by new models of service delivery and ambulatory/outpatient care. Additionally, these services aim to reverse cross-border patient flows into Queensland, particularly for those patients requiring specialist care.

The Tweed Valley Hospital project is aligned with the strategic directions of the NSW Government, the MoH, Northern NSW Local Health District (NNSW LHD) and Local Government.

Specifically, this project aligns with the following NSW Government strategies:

- The *NSW State Health Plan – Towards 2021* provides the strategic framework that brings together NSW Health’s existing plans, programs and policies:
 - the project will expand the capacity of key services to support timely access to healthcare for one of the fastest growing regions of NSW.
- The *NSW Rural Health Plan Towards 2021* sets strategic goals with a specific focus on rural NSW:
 - the project will support the development and consolidation of referral hospital services within a network of services in the region
 - the project will strengthen the clinical network to improve self-sufficiency in the Tweed Valley region.
- According to the *Queensland and NSW Statement of Principles and Priorities for Cross-border Collaboration 2016–2019*, residents living in cross-border regions should have equitable access to services:
 - the project will increase the self-sufficiency of the NNSW LHD.

Project need

With the current service delivery limitations presented against the backdrop of a growing and ageing population, the case for change in the Tweed Valley is clear. Several key drivers for the project exist. Most crucially, these include:

- addressing projected demand increases for healthcare services in the Tweed-Byron region, particularly for specialist care
- the need to deliver high-quality and safe healthcare, underpinned by new models of care (including contemporary telehealth) and improved ambulatory service delivery
- the need for greater self-sufficiency in all specialties and new clinical services to reduce cross-border patient flows into Queensland
- provision of a more central, equitably accessed hospital with a more highly structured and logical architectural layout for enhanced, more rapid service delivery
- allowing for adequate expansion headroom at a new site and ensuring consistent ease of access during flood events, each of which is insufficiently addressed at the existing Tweed Hospital site
- surmounting difficulties in helicopter flight paths, which are currently too risky for landing at the Tweed Hospital (due to the proximity of private residences), potentially slowing emergency patient delivery to the existing site.

Project objectives and design

Objectives

The objectives of the project are to:

- deliver the service capacity needed now and into the future for a growing and ageing population (with a forecast 24% population growth in the Tweed-Byron region over 20 years)
- improve self-sufficiency and minimise the costs and complexity associated with cross-border resident flows to health services in Queensland
- expand emergency, trauma and critical care services (including a new interventional cardiology service and improved cancer treatment facilities)
- support further development of specialty and sub-specialty clinical services
- support contemporary models of care to improve patient health outcomes
- deliver patient-centred healthcare supported by an environment that fosters integrated service delivery
- improve utilisation of the workforce and develop an environment that will attract and retain a highly skilled and motivated workforce
- support development of increased clinical capability through learning, development and research (LDR) opportunities in the region.

Design

An advanced, digitally enabled and integrated health system is central to the NNSW LHD's healthcare vision for the 21st Century. As such, effectively incorporating information and communication technology (ICT) innovations into hospital design for enhanced patient care is key to 'smart hospital' development in the Tweed Valley. Additionally, and reflective of such a vision, sustainable design principles have been embraced with a view to leveraging natural assets at the project site, including the northern topography and vegetation buffer, promoting a sense of wellness and connection to nature. Environmentally, the project aims to realise a 5-star Green Star target.

Allowing for future expansion capacity at the Tweed Valley Hospital has been central to its design. Most notably, the site will support the development of a broad and integrated Health and Education Precinct, interfacing with the nearby Kingscliff TAFE campus. Telehealth and ambulatory service delivery will form a key pillar of the hospital's approach to contemporary healthcare provision.

As indicated in Figure 1, the master plan of the Tweed Valley Hospital intends to:

- closely connect with the civic heart of Kingscliff and take advantage of the centrality and equitable access afforded by the Cudgen Road interface
- utilise the north-facing site ridgeline, which traverses the centre of the site, as a step-off point for the location of the main hospital development, while provisioning for future expansion and the development of additional allied health services on site
- provide a network of site circulation roads, along with site crossover points that safely and effectively manage the various vehicle types that will require access to the site

- orient the hospital building to optimise access to daylighting, view to nature and maximal airflow
- provide an architectural and landscape response that is sensitive to the unique attributes of the site.

With the advent of newer, larger helicopters, the existing helicopter landing sites now pose a risk to private residences in the Tweed Valley. To counter this risk, the project's design will integrate an upgraded helicopter landing site with unobstructed flight paths to support emergency patient delivery to the Tweed Valley Hospital.



Figure 1 Tweed Valley Hospital Masterplan, including future development expansion

Capital Cost

Over several budgets, the NSW Government has committed a total of \$673.2 million for the Tweed Valley Hospital Development, inclusive of \$48 million for interim holding works upgrades at the Tweed Hospital.

The final business case estimates that Option 2 (the preferred option) will require the full capital allocation, exclusive of \$50 million for the preferred multi-deck and at-grade car parking solution at the site, to be evaluated in a separate business case.

Options identification and assessment

The following options were identified for qualitative, financial and economic analyses by Infrastructure NSW in the preparation of the project's FBC:

Option 0

- This option covers completed holding works (a program of interim upgrades for the existing Tweed Hospital) and no further capital investments.
- This is presented in the FBC as the project's Base Case ('keep safe and operational'), falling short of projected healthcare needs into the next decade, and failing to meet several of the key drivers for change.
- Option 0 has therefore been rejected.

Option 1

- This approach provides for a minimum scope development, a staged delivery of the MoH-approved *2019 Service Statement* (projected through to 2031-32).
- Crucially, however, beds are expected to be operating at capacity on project launch. This option, therefore, fails on key healthcare metrics and is not supported by the NNSW LHD.

Option 2

- This option allows for the *2019 Service Statement* scope to 2031/32 to be met in full, without staging, while effectively making way for future modular scope expansion.
- This is the **preferred option**, generating a positive net present value (NPV).

A further option, Option 3, was also analysed. This option included additional scope (incremental to Option 2) as requested by the Medical Staff Council (MSC), a body of interested medical stakeholders in the project. The following qualitative criteria were developed to assess these project options.

- **Patient safety** – protecting the health of our community and minimising risks to patient safety.
- **Service quality and access** – providing patient-centred care, quality and access to a comprehensive range of integrated services with key external partners while embedding research and education as an integral element of clinical services.
- **Operational self-sufficiency** – using available healthcare resources (staff and funding) wisely to ensure services are sustainable, developing a skilled and motivated workforce, and making more effective and efficient use of available clinical staff, improved staff satisfaction and greater opportunity to attract and retain staff.
- **Stakeholder expectations** – retaining service at MDH and Tweed Valley while meeting community and stakeholder expectations for the project.

Economic evaluation

A cost benefit analysis was undertaken as part of the final business case. This economic evaluation included an analysis of the economic, social and environmental impacts of the project.

Benefits

Healthcare services

Delivering high quality and safe healthcare in the Tweed-Byron region is a core objective of the project. New models of service delivery will underpin the project's approach to excellent healthcare for rural NSW and allow for the project to effectively meet rising projected healthcare demand in the region.

Avoided travel time and costs

The centrality of the Tweed Valley Hospital site will result in reduced average travel times and costs incurred by patients and their carers/families. Improved accessibility and ease of access may result in fewer visitors choosing to travel further afield to other NSW hospitals or cross the NSW–Queensland border.

Residual Value

The new and refurbished buildings are assumed to have an economic life beyond the 20-year analysis period. The economic benefit is represented by the depreciated value of the new and refurbished buildings at the end of the assessment period.

Non-quantified benefits

Qualitative benefits include:

- greater overall integration of service efficiencies, improving the patient experience
- improved amenity for patients and staff
- timely access, improving the performance of the emergency department
- new and more efficient buildings, potentially enhancing staff satisfaction, attraction and retention
- increased service delivery via telehealth, improving access to specialist services. The provision of more telehealth services enables greater reach of critical health services for a sustainable healthcare delivery model.

Capital cost value of the project

The NSW Government has committed a total of \$673.2 million for the Tweed Valley Hospital Development, including \$48 million for interim upgrades at TTH (holding works).

During 2018, the scope of holding works was reviewed and value-managed to ensure alignment to the 'keep-safe and operational' objective. In June 2020, the program of interim upgrades at the Tweed Hospital (holding works) was completed at a total project cost of \$27.6 million, resulting in a revised Tweed Valley Hospital budget of \$645.6 million.

Operating costs of the project

Operating costs are obtained from the financial impact statement. Maintenance costs for the maintaining security and compliance requirements for the existing TTH site has been accounted for in all options.

The outcomes of the analysis

A detailed costed risk register has been developed and updated progressively through the project to track the risk profile and recommended contingency position.

The capital cost risk position for the project has been substantially reduced due to the following key activities:

- Engagement of the VECl contactor (Lendlease) in December 2018 and subsequent engagement as ECI contractor in February 2020. Early engagement of Lendlease throughout the planning phase has transferred design risk, resolved constructability issues, provided program confidence and a robust cost plan (independently validated by the cost manager) supported by approximately 50% market trade coverage.
- Completion of site selection and land acquisition process. While the matter is currently still being resolved in the Land and Environment Court, the final compensation value from the Valuer General has been allowed for in the cost plan and the extra compensation sought by the former landowners has been accounted for in the costed risk register.
- Completion of preliminary works in February 2019. These works included site remediation of contaminated areas and environmental protection works to comply with legislative requirements.
- Substantial completion of early works. At the time of this business case, the early works (comprising predominately bulk earthworks and piling) was well progressed with bulk earthworks approximately 80% and piling 50% complete. A major trade procurement has been completed and forecasted, and nil latest conditions are anticipated.
- Independent program review completed in February 2020 to validate the Lendlease program and client contingency which has confirmed the December 2022 handover, as currently forecasted, is realistic.

Deliverability

Procurement

The very early contractor involvement (VECI) procurement model was implemented following a 2-stage procurement process in August 2018, which involved an initial Statement of Participation (SoP) to shortlist 3 suitable contractors, followed by a Request for Tender (RFT).

These procurement processes comply with the *NSW Government Action Plan: A ten-point commitment to the construction sector (June 2018)*.

Timeframe

The project is currently set for completion in 2023, with operations scheduled to commence by 2023.

Key risks and mitigation

The risk management plan for the project has been developed in line with Health Infrastructure's robust process for the identification, mitigation and management of risk. The risk management plan is a 'live' document and will be regularly reviewed, updated and reported at PDC/PCG and ESC meetings throughout the life of the project.

All project risks will be grouped under one of the following categories:

1. Service delivery
2. Design/scope
3. Change, communications and stakeholders
4. Construction/commissioning/existing hospital interface
5. Program
6. Financial (capital/recurrent).

A consultative process will continue to be adopted to identify, analyse and manage project risks. This approach is based on a continuous and proactive approach to risk management and includes:

- discussions on risk at monthly PDC meetings
- discussions on risk with the nominated risk owners
- discussions on risk at design team meetings
- the use of a preliminary risk matrix prepared holistically, utilising information from all of these stakeholder risk discussions
- risk review workshops to be held at key milestones throughout the life of the project.

The Infrastructure NSW view

Infrastructure NSW undertook a review of the final business case for this project, to measure levels of confidence against a series of Government objectives.

Infrastructure NSW finds that the Tweed Hospital and Integrated Ambulatory Services Redevelopment (the project) will improve the availability of health services and facilities, increase their capacity and, crucially, enhance the quality of healthcare provision in regional NSW. Particularly strong confidence has been demonstrated throughout the final business case in relation to the project's anticipated social, economic and environmental sustainability outcomes. Notably, a strong integration with the tertiary sector has been a focus of the project's conception and design, to bolster innovation, clinical research and education outcomes for NSW.

Following a multi-factor analysis, Option 2 (the preferred option) is most strongly supported on a range of qualitative metrics and also forecasts strong economic benefits for the NSW community: an NPV in excess of \$600m and a benefit to cost (BCR) ratio of 1.47, each calculated under the NSW Treasury's *Guidelines for Capital Business Cases*.

The project has been designed to meet expected healthcare demands to 2031-32 in accordance with the MoH-approved *2019 Service Statement* and has been fully funded to the estimated total cost of \$673.2 million through NSW Budget allocations.

Substantial stakeholder engagement has been undertaken in the project's design and development, ensuring openness and diversity of voice, authentic engagement, and clear transparency throughout the consultation process. The Aboriginal and Torres Strait Islander community has been heavily involved in providing stakeholder input, with the expectation that the project will substantially bolster Indigenous health outcomes. Additionally, Medical Staff Council recommendations have been taken into consideration in the project's design to optimise healthcare outcomes for patients, with potential for further expansion to the north of the site.

Infrastructure NSW found that the project effectively fulfils key Government objectives and addresses critical shortfalls against projected healthcare demand into the 2030s and beyond.

Infrastructure NSW has also found that the need for investment is well articulated through evidence-based scientific studies and demonstrated alignment with Government policies. The options have been well considered and the preferred option is an appropriate response to the service need.