Sensitive

ACT Government

A New Northside Hospital Business Case

Project name:	**A New Northside Hospital**
Tier:	**Tier 1**
Risk assessment (high/med/low):	**Medium/High**
Total estimated project capital cost (P90, $m, nominal):	[redacted]
Whole of life cashflow (P90, $m, nominal):	[redacted]
Funding requested ($m):	[redacted]
Recommended delivery model:	[redacted]
Sponsoring Agency:	**ACT Health Directorate**
Sponsoring Minister:	**Rachel Stephen Smith**
Contact officer:	**Liz Lopa, Executive Group Manager Infrastructure, Communication and Engagement Division, liz.lopa@act.gov.au**
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Sign off

Sponsoring Agency:

Rachel Stephen-Smith *Print Name*	
Signature	14 April 2023

Version history

Author:	ACT Health Directorate (ACTHD), Major Projects Canberra (MPC) and PricewaterhouseCoopers (PwC)
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Rev A	Initial working draft of Chapters 2 4	29 November 2022	PwC
Rev B	Final draft of Chapters 2 4, initial working draft of Chapters 5, 6, 7, 11, 12	6 February 2023	PwC
Rev C	First draft of Gold business case (All chapters) for review	22 February 2023	PwC
Rev D	Final Gold business case	22 March 2023	PwC
Rev E	Updated Final Gold business case reflecting ACTHD comments	28 March 2023	PwC
Rev F	Updated Final Gold Business Case reflecting Minister's comment	11 April 2023	ACTHD

Glossary

Term	Definition
ACT	Australian Capital Territory
ACTHD	Australian Capital Territory Health Directorate
ACTIA	ACT Insurance Authority
APZ	Asset Protection Zone
AusHFG	Australasian Health Facility Guidelines
BCR	Benefit Cost Ratio
CBA	Cost Benefit Analysis
CCU	Critical Care Unit
CHS	Canberra Health Services
CMTEDD	Chief Minister, Treasury and Economic Development Directorate
CNA	Calvary Network Agreement
CPHB	Calvary Public Hospital Bruce
CPO	Chief Projects Officer
CSB	Critical Services Building
CSP	Clinical Services Plan
D&C	Design and Construct
DA	Development Application
DBFOM	Design, Build, Finance, Operate and Maintain
DC&M	Design, Construct and Maintain
DCFM	Design, Construct, Finance and Maintain
DF&C	Design Finalisation and Construct
ECI	Early Contractor Involvement
ED	Emergency Department
ERC	Expenditure Review Committee
ESC	Executive Steering Committee
ESD	Environmentally Sustainable Design
FF&E	Fixture, Fittings and Equipment
FM	Facilities Management
FTE	Full Time Equivalents
GBA	Gross Building Area
GGHH	Global Green and Healthy Hospitals
HSP	Health Services Plan
ICT	Information and Communications Technology
ICU	Intensive Care Unit
ILW	Investment Logic Workshop
IPU	Inpatient Unit

Term	Definition
IT	Information Technology
KPI	Key Performance Indicator
LCMHC	Little Company of Mary Health Care
LGBTIQ+	Lesbian, Gay, Bisexual, Trans and gender diverse, Intersex, Queer and questioning
MC	Managing Contractor
MCA	Multi Criteria Analysis
MME	Major Medical Equipment
MoC	Models of Care
MPC	Major Projects Canberra
NABERS	National Australian Built Environment Rating System
NGO	Non-Government Organisation
NPC	Net Present Cost
NPV	Net Present Value
NSW	New South Wales
PCG	Project Control Group
POC	Points of Care
PPP	Public Private Partnerships
PV	Present Value
PwC	PricewaterhouseCoopers
SAMP	Strategic Asset Management Plan
SID	Strategic Infrastructure Division
Sqm	Square metres
UCPH	University of Canberra Public Hospital

Contents

ACT Government

A New Northside Hospital Business Case

0. ACT Health Briefing Note

0.1 Purpose

1) The purpose of this discussion paper is to provide important context for the consideration of the Northside Hospital Tier 1 Business Case.

0.2 Issues

Build the new hospital at Bruce (Option 1)

2) As part of the ACT Government's commitment to commence construction of a new northside hospital by mid-decade, the ACT Health Directorate (ACTHD) has developed a Tier One Infrastructure Business Case for a new northside hospital. The business case is at Attachment A

3) The scope for the business case was to present options for a new northside hospital on both the Bruce Campus and a greenfield site. Diddams Close (Belconnen Block 1 Section 159) was agreed as the preferred greenfield site for inclusion in the business case (refer CAB22/798). ACTHD has undertaken desk top due diligence, planning and a concept design for a building on both sites.

4) Alongside the development of the infrastructure business case, the Government analysed and considered operating models for the new northside hospital (refer CAB 21/804; 22/316; 22/798). These commercial considerations have been undertaken separately from the analysis of infrastructure options.

5) However, as outlined in these Cabinet discussions, the commercial considerations are material to the development of the infrastructure project.

6) This covering paper brings together the commercial work with the infrastructure work and informs Budget Expenditure Review Committee (ERC) and Cabinet's consideration of the infrastructure business case. Operator considerations impact timing, cost and potential benefit realisation for the Territory through the infrastructure project.

7) For this reason, the Northside Hospital Business Case recommends developing the new northside hospital on the Bruce site (**Option 1**).

8) The Business Case sees the greenfield site score marginally better through both the multi-criteria analysis and cost benefit analysis. However, once you consider the interrelationship between the Calvary Network Agreement (CNA) and Calvary's Crown Lease on Block 1 Section 1 Bruce the decision to build a hospital on a greenfield site can lead to negative health and financial outcomes, including:

    a. The Government still being required to fund the CNA and operations at Calvary for no less than the previous year;

    b. The Government still being required to fund capital upgrades and maintain Calvary Public Hospital Bruce (CPHB);

    c. Calvary seeking development of their campus funded by the ACT Government; and

    d. The Territory operating three hospitals without the necessary workforce and creating inefficient operations.

Infrastructure options – getting to a preferred option

9) A range of infrastructure options for the new hospital development were identified – including options for both the CPHB and greenfield sites. A long list of seven options were initially assessed:

- Four options for redevelopment on the existing Bruce campus;
- One option for a greenfield site development; and
- Two smaller scale and site agnostic options.

10) The initial scope of the facility was to develop a concept design to 2041 demand projections to inform a two-year funding envelope to continue planning and a capital provision. Options 1a – c and Option 2 are designed to this horizon. [redacted]. The intent was to build shelled spaces in these facilities to provide 'room to grow'. This is an efficient way of delivering hospital spaces from a construction perspective and allows gradual expansion and fit out as required.

11) However, given the significant capital cost associated with these options ACTHD also explored an option to build a smaller hospital (Option 1d). The

scope of the smaller hospital has been informed by site constraints, and expert advice on expansion. It was developed as a variation of the preferred option (1a). It delivers the critical services to the 2041 horizon but reduces the footprint for the provision of outpatient services and inpatient units to 2030 projections.

12) This option is presented in the options analysis, and MCA of the business case. Option 1d delivers:

    a. An acute building of 90,803m^2

    b. 12 operating theatres

    c. 434 overnight beds

13) Given timing constraints, 1d was not able to be fully analysed through the business case. [redacted]

14) The most significant trade-off between 1a and 1d is cost related to square metres. That is, 1d delivers less capacity for the ACT Health system, for less upfront capital cost. Given option 1d is designed to opening day demand it is likely that it would need to be expanded soon after opening to allow for an increase in outpatient and inpatient activity.

15) Master planning of the Bruce site has demonstrated this expansion is possible both horizontally across the Bruce campus and vertically on the building (depending on design and government preferences).

16) Expansion after 2030 will mean the ultimate capital cost of the building will exceed that of options 1a-c and 2, but it will allow Government to smooth their capital expenditure over a longer period.

Territory health infrastructure

17) The current operator arrangements (Calvary under the CNA) informed the scope and size of services planned for the new northside hospital. The Government's decision to appoint CHS as the sole operator of both public hospitals provides an opportunity for Government to take a Territory-wide view to its hospital (and community) health infrastructure.

18) ACTHD is currently implementing the Canberra Hospital Master Plan. This will see important and necessary renewal occur in a phased way across the campus. Given the age and criticality of the infrastructure requiring

replacement this will be a complex and costly process. For the first time, the Government has opportunities associated with managing the operations of both hospitals directly which may allow the Government to consider phasing health infrastructure development and delivery across both campuses (and in the community). This may allow a smoother capital spend or a more strategic approach to the delivery of increased scope and capacity.

19) This would require integrating the infrastructure planning for:

    a. The Canberra Hospital (Canberra Hospital Master Plan);

    b. The Northside Hospital; and

    c. Community Health Infrastructure.

20) ACTHD will continue to work with CHS over the coming months to confirm the revised scope of the Northside Hospital Project, given that they will operate across both campuses. ACTHD will return to Cabinet to confirm the clinical scope of the new northside hospital.

21) Concurrently ACTHD will progress the Northside Hospital Project to design phase. According to the current program this would see the northside hospital construction business case and documentation being prepared for consideration in the 2025-26 Budget Process.

22) The finalisation of clinical scope and the capital provision will inform the detailed design phase ahead of construction funding being sought.

23) [redacted]

24) The integration of infrastructure planning for health facilities across the Territory will provide the ACT Government with a more holistic view of its health infrastructure pipeline and required investment with funding requests in a future business case through the 2024-25 Budget for:

    a. a range of infrastructure options on the Canberra Hospital campus, including:

        i. new pathology building – proof of concept and design,

        ii. staging and decanting strategy,

        iii. new inpatient unit proof of concept design,

iv. demolition assessment and feasibility for building 4 and 10,

v. mental health precinct feasibility,

vi. campus services infrastructure – planning; and

b. related community-based facility development (including relocation of facilities currently located at the Bruce site).

25) The significant amount of planning work taken on the northside hospital over the past 2 years will continue to inform hospital planning and health infrastructure planning.

26) [redacted]

0.3 Next Steps

27) The Business Case seeks a decision from Government on the site of the northside hospital, and a quantum of funding to progress planning for a northside hospital.

28) The Government will separately consider a Transition Submission and Transition Business Case to fund transition of operations from Calvary to CHS, including managing the provision of any required compensation payment.

1. Executive summary

1.1 Overview and purpose of the Business Case

This Business Case has been prepared to consider the delivery of a new hospital on the northside of the Australian Capital Territory (ACT) (referred to as Northside Hospital, or the 'Project').
This Business Case proposes a Northside Hospital that will deliver the required capacity to meet demand to 2040-41 and improve the overall resilience and redundancy of the Territory wide health system. It will also bring together a range of contemporary hospital services, holistic consumer centred care and flexible models of care (MoC) to meet the growing and changing needs of community now and into the future.

By mid-decade, the demand for clinical services on the fast-growing northside of the ACT is forecast to be greater than the capacity that Calvary Public Hospital Bruce (CPHB) can deliver. Current capacity and infrastructure limitations at CPHB will result in longer wait times for patients to access core services and inefficient health service delivery, impacting wait times not just at CPHB but with flow-on impacts to the broader ACT hospital network.

This rising pressure on the health system from sustained population growth on the northside of Canberra is evident in the rising number of separations and presentations to the emergency department (ED) at CPHB demonstrated by:

- Between 2016-17 and 2021-22, the number of admitted patients at CPHB increased by 56 per cent[1] and ED wait times increased by 54 per cent.[2]
- Over the next ten years, the number of admitted patients and ED presentations is forecast to grow by 3 per cent per annum.[3,4]
- An additional 173 multi day beds, 21 day stay beds, 19 ED spaces, 10 operating suites and 147 ambulatory care spaces will be required on top of current capacity at the existing CPHB to fulfil the capacity requirements to 2040-41.

The Northside Hospital project will deliver a new expanded hospital to serve the growing population in Canberra's northern suburbs (as well as to the broader ACT and surrounding NSW). This will enable the ACT Government to decommission the existing CPHB and its ageing infrastructure. In line with the key strategies and actions from the *ACT Health Services Plan 2022-2030* (HSP), the Northside Hospital will complement, strengthen and improve the accessibility of the existing ACT public health network, including recent investments such as the Canberra Hospital Expansion and Watson Community Health Precinct.[5]

This Business Case presents and assesses options to deliver the new Northside Hospital on either the current Bruce site or a greenfield site. This Business Case recommends Government progress a new

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[1] AIHW (2021), Calvary Public Hospital Bruce
[2] AIHW (2021), Calvary Public Hospital Bruce
[3] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 59 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[4] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 59 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[5] ACT Government Health (2022), ACT Health Services Plan, 2022 2030 (viewed at www.health.act.gov.au, page updated 24 October 2022)

hospital on the Bruce site, as this responds to the service need and addresses existing and future demand to 2040-41 while also enabling and improving capability to better meet the community's needs. In addition, utilising the Bruce site allows health precinct benefits with the private hospital to be maintained, provides a lower level of planning and program risk, and does not involve any opportunity cost of a greenfield site.

[redacted] A separate parallel process is currently underway to consider the operating model to support the proposed capital solution. The outcomes of this process will inform future decision making and planning as part of the planning phase for the Project.

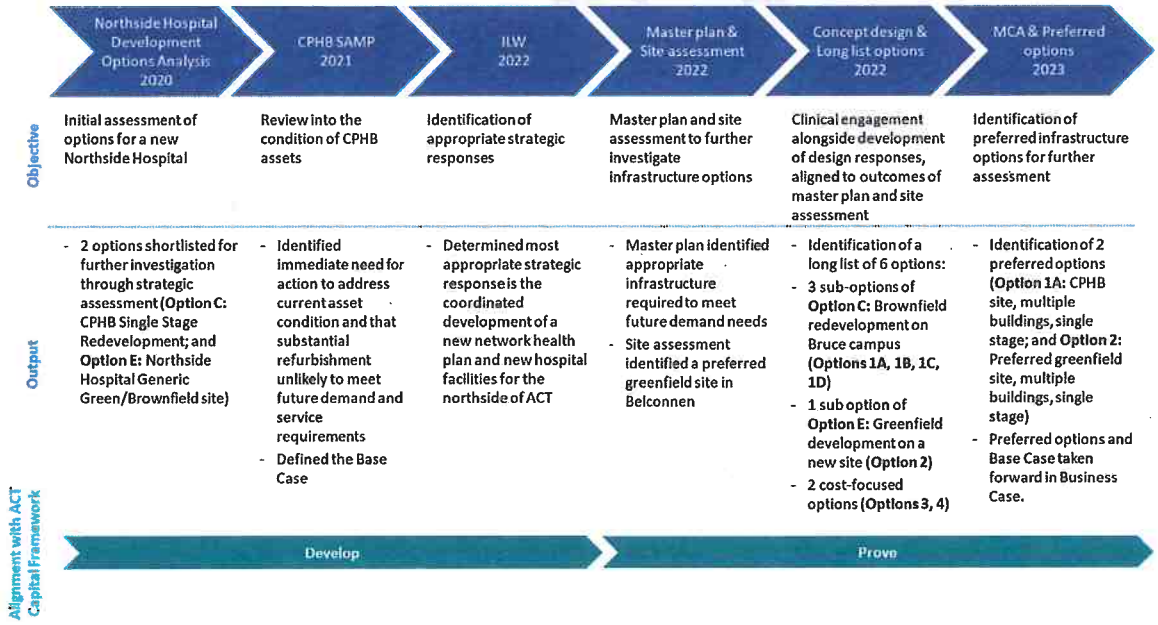
Table 1 presents the financial impact summary of the preferred capital option (Option 1A).

Funding through the 2023-24 Budget is critical to continue planning and design activities for the Project and support the commencement of construction by mid-decade, by which point the existing supply is anticipated to outstrip demand.

1.2 Project background and objectives

In 2017-18, the ACT Health Directorate (ACTHD) commissioned a scoping study into the expansion of health facilities on the northside of the ACT. The scope of the study included a clinical feasibility and service planning assessment to consider the potential range of capital solutions for the optimal provision of outpatient and general hospital facilities in Canberra's northern suburbs. Since then, further work has been undertaken to progress the Northside Hospital project, as summarised in Figure 1.

Figure 1: Project and options development summary



This Business Case presents the infrastructure options, independent of operator, for a new Northside Hospital that deliver on the following Project objectives:

- Greater capacity in the public healthcare system in the north of the ACT and across the Territory
- Patient focused / community focused care that improves patient outcomes
- A hospital that is agile and flexible, with a whole of life focus
- Greater alignment of health service delivery across the ACT
- New health infrastructure that is contemporary, safe and appropriate to support the delivery of modern, high-quality healthcare.

1.3 Strategic context and needs analysis

CPHB is a 256-bed Level 4 acute general and teaching hospital located in Bruce, and provides emergency services, medical and surgical, mental health, maternity and older persons' health services to the fast-growing communities of ACT's northside – Belconnen, Gungahlin, Molonglo and North Canberra. CPHB is operated by Calvary Health Care ACT (Calvary), a not-for-profit organisation founded by the Little Company of Mary Health Care. The operational arrangement between the ACT Government and Calvary is the Calvary Network Agreement (CNA), which defines the responsibilities of both parties in delivering services at CPHB. The decision-making process around the operating model for the new Northside Hospital is currently underway, and is not addressed in this Business Case.

CPHB plays a critical role in the delivery of health services not only within the ACT but to the surrounding areas of south-east NSW. CPHB is one of four public hospitals in the ACT, and the only acute hospital aside from Canberra Hospital, a >710-bed tertiary teaching hospital servicing all of Canberra and the surrounding region. For residents in neighbouring regional areas of NSW, CPHB and Canberra Hospital are the closest locations for tertiary care and specialised services.

Since its establishment, CPHB has experienced significant changes in the level of demand, range and complexity of services provided and model of care. Key drivers of health services in the ACT include:

- **Growing and ageing population:** the ACT population is forecast to grow by 73 per cent from 2021 to 2050, with the population aged 65 years and over forecast to increase by 80 per cent over the same period.[11] By district, the largest net increase in population is anticipated in the northern districts of Molonglo and Belconnen driven by concentrated urban development.

  The growing and ageing population is placing increasing demand on general and specialist medical and surgical services, with access to some services impacted by long wait times. For example, over the five years to 2020-21, the number of same day separations from ACT public hospitals increased by 20 per cent, while multi-day separations increased by 17 per cent. [12] For ED, the proportion of patients 'seen on time' was 67 per cent, down from 71 per cent in 2020-21 and from 72 per cent in 2017-18.[13]

- **Increasing incidence, prevalence and complexity of chronic conditions:** there is rising incidence of acute and chronic conditions, with chronic conditions now the leading cause of illness, disability and death in Australia.[14] Almost half of all adults living in the ACT have at least one of the following chronic diseases: arthritis, asthma, cancer, diabetes, mental illness or heart disease. [15]

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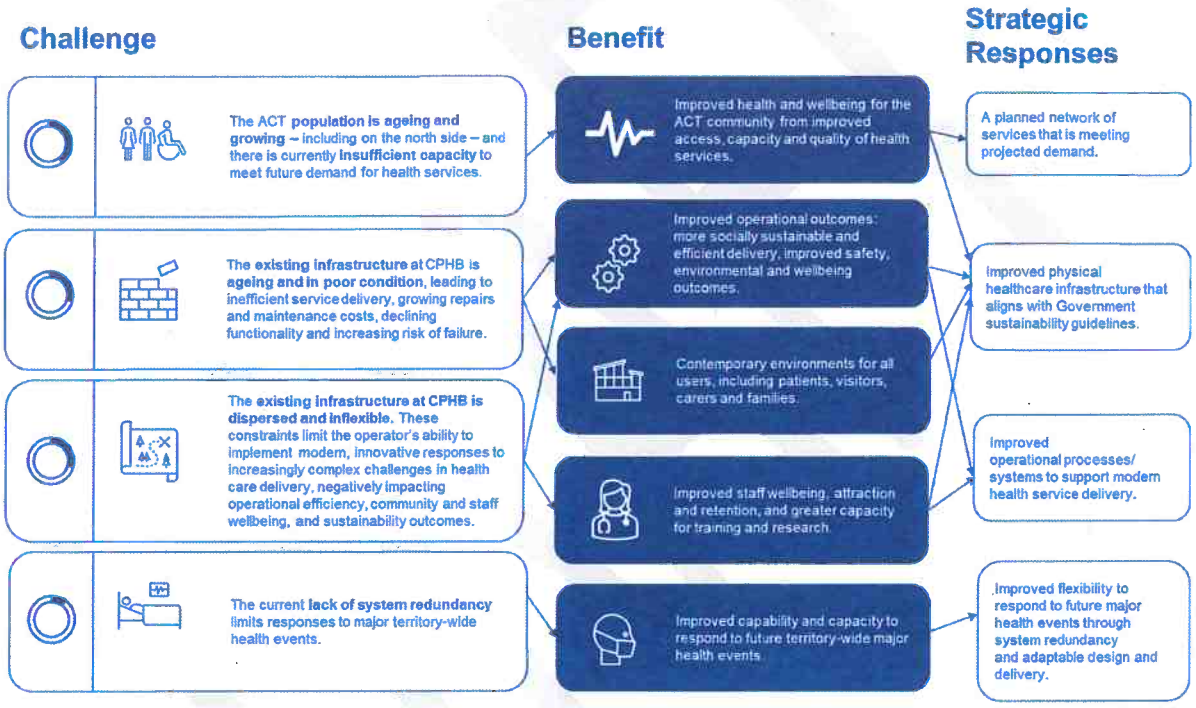
[11] ACT Government (2023), ACT Population Projections: 2022 to 2060 (viewed at www.treasury.act.gov.au)
[12] ACT Government Health (2022), ACT Health Services Plan, 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[13] AIHW (2022), Calvary Public Hospital Bruce
[14] ACT Government Health (2022), ACT Health Services Plan 2022-2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[15] Australian Bureau of Statistics (2018), National Health Survey: First Results, 2017 18 Australia. Data cube: Table 2.3 Summary health characteristics States and Territories, Proportion of persons, released 12 December 2018, (viewed at www.abs.gov.au)

This is placing increasing demands on existing hospitals and health system services as chronic conditions and disability tend to experience higher rates of hospital admission and extended lengths of stay.

As the ACT community continues to grow and age, demand for hospital and health services will increase. The types of health services provided will need to respond to the changing health profile and increasing complexity of care.

An investment logic workshop (ILW) was held in May 2022 with the Project Team and key stakeholders to identify the problems and challenges driving the need for investment in a new Northside Hospital, as presented in Figure 2.

Figure 2: ILW outcomes summary



The current challenges facing healthcare delivery on the northside of the ACT, and at CPHB specifically, include:

- **There is insufficient capacity to support the growing and ageing population on the northside of the ACT**, with CPHB unable to meet future infrastructure requirements across inpatient beds, ED, operating suites, ambulatory care and medical imaging. Demand for hospital services in the ACT is forecast to increase steadily over the next ten years – same day and multi-day separations are forecast to increase by 2.7 and 3.2 per cent per annum, respectively.[16]

  At CPHB, an additional 173 multi-day beds, 21 day stay beds, 19 ED spaces, 10 operating suites and 147 ambulatory care spaces are estimated to be required to fulfil the capacity requirements to 2040-41.

[16] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 55 (viewed at www.health.act.gov.au, page updated 24 October 2022)

- **The existing infrastructure at CPHB is ageing and in poor condition**, with most buildings now over 40 years old, in poor condition and nearing the end of their expected service life. While the infrastructure is currently managed from a risk perspective, there is an increased risk of failure to maintain safe and efficient operations without significant capital investment to overhaul aged assets at CPHB. As the assets age, and extend beyond their useful life, the list of maintenance requirements will get longer, and intervention will be required more frequently.
- **The existing infrastructure at CPHB is dispersed, inflexible and has poor functionality**, which inhibits the ability of CPHB to meet contemporary health facility requirements, adapt to changing models of care and deliver best care environments. Clinical services currently occur across five different buildings meaning some functional areas are split and / or spread across the site. This results in poor service stream coordination and creates operational and workflow inefficiencies for staff and delays in treatment for patients. Of particular note is the intensive care unit / critical care unit located in a separate location from the ED and theatres.

  As most of the existing CPHB facilities were developed prior to the release of the current Australasian Health Facility Guidelines (AusHFG) spatial guidance for hospitals, clinical areas do not meet contemporary health facility requirements and any refurbishments or expansion in capacity is limited due to the constraints of the original design.
- **There is a lack of system redundancy across the Territory wide network**, with capacity constraints in EDs and bed provision becoming evident during the heights of the COVID-19 pandemic. Between 2021-22 and 2031-32, ED presentations at CPHB are expected to increase to 95,000, representing an increase of 3.5 per cent per annum. CPHB is not equipped to expand in the case of surge capacity, placing the burden on Canberra Hospital to service any surge and overflow of patients.

As presented in Figure 2, the strategic response is to develop a new Northside Hospital to address these challenges, supported by non-capital network solutions, with an immediate timing imperative to support the commencement of hospital construction by the mid-decade. The delivery of a new Northside Hospital is expected to provide the following benefits:

1. A better environment to improve health and wellbeing outcomes for staff, patients, carers and families
2. Improved accessibility for staff, patients, carers and families from improved wayfinding, navigation and carparking spaces
3. Improved staff satisfaction and efficiencies through building design enabling quality patient care
4. Flexible, innovative and integrated models of care that use technology to deliver timely and effective person-centred digital solutions
5. Implementation of a planned maintenance program that is proactive rather than reactive, including an increase in the utilisation of digital business systems
6. Improved system redundancy and coordination between community partners across the ACT to provide appropriate and efficient response to future territory wide major events

1.4 Options development and shortlisting

The options development and assessment process commenced in 2020 with the Options Analysis conducted by AECOM Australia Pty Ltd. The Options Analysis identified five options that best responded to the service need to meet growing demand and address ageing infrastructure. Two

options were identified as viable for further investigation, and further explored through the Northside Hospital Budget Proposal submitted for the 2021-22 Budget being a new hospital on the existing Bruce campus (Option C: CPHB single stage redevelopment) or a new hospital on a new greenfield or brownfield site in north Canberra (Option E: Generic green / brownfield site).

It is noted that the options below focus on the 'asset' element of the Project and assess a range of factors that support the preferred location and form. However, the operational aspects (including an insourced or outsourced operator model) of the hospital are also critical. The assessment of the operational solution may have an impact on the overall preferred asset solution that delivers the best value for money to government.

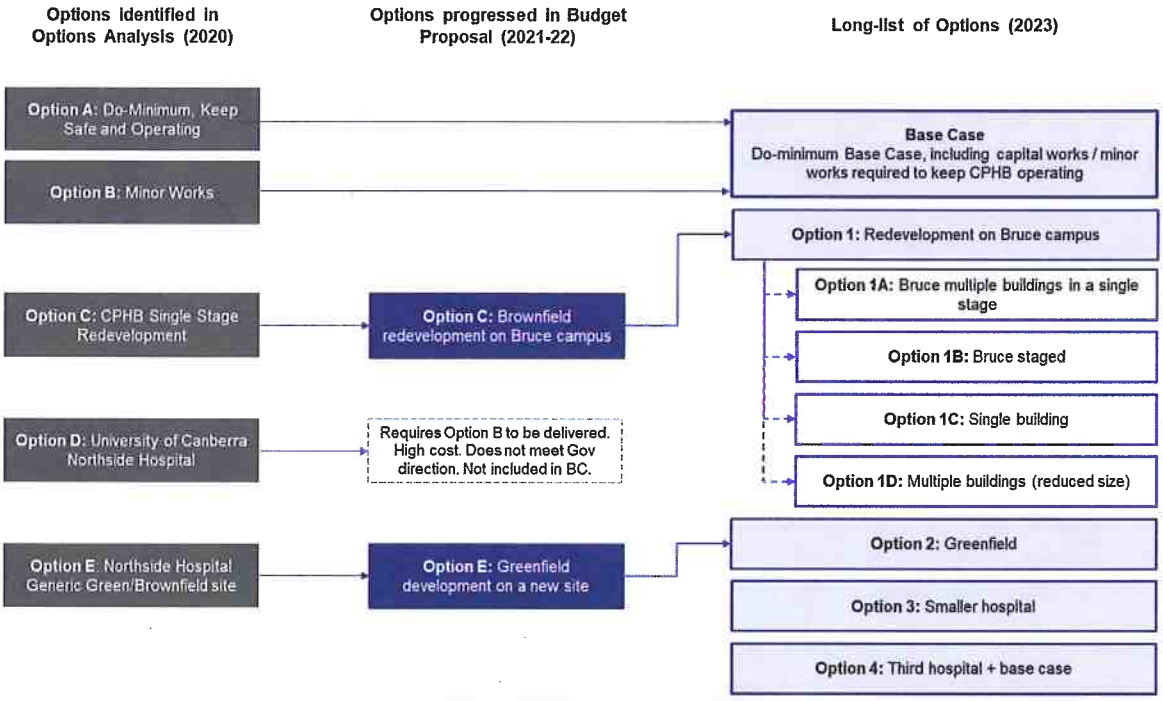
As part of this process, a review into the condition of existing assets at CPHB was undertaken to develop a CPHB Strategic Asset Management Plan (SAMP), which determined that:

- CPHB in its current state is unable to meet demand for health services by mid-decade
- There is an immediate need for action to address the current condition and associated risk at CPHB
- Substantial refurbishment of CPHB buildings is unlikely to result in a modern Level 4/5 hospital that meets contemporary standards of clinical service delivery.

The ILW conducted in May 2022 verified the outcomes of the SAMP, and confirmed a new hospital on the northside, in addition to a coordinated development of a new network health plan, as the appropriate strategic response to meet the identified service need.

Throughout 2022, ACTHD undertook an options refinement process that identified a preferred greenfield site in Belconnen for a potential greenfield development. Further, as part of the concept design process, seven capital options were developed based on the outcomes of in-depth studies and informed by clinical planning and feedback from various user groups, functional relationships and site constraints. These options are shown in Figure 3 on either the existing Bruce site or a new greenfield site, or combination of existing site and a smaller hospital on an alternative site.

Figure 3: Northside Hospital options development



A multi criteria analysis (MCA) was used to rank, shortlist and identify the preferred options for further analysis within this Business Case. Following this MCA process, two options and a Base Case have been shortlisted, being Option 1A: Bruce multiple buildings and Option 2: Greenfield.

1.5 Options consideration

Base Case: Do Minimum

The Base Case represents a 'business as usual' scenario whereby only a risk-based approach to asset maintenance and minor capital works is adopted to keep the hospital safe and operational. The Base Case accommodates no growth in demand for clinical services and assumes continuation of the existing CNA. [redacted]

Option 1: Redevelopment on Bruce campus

Option 1 refers to delivering the Northside Hospital on Block 1 section 1 Bruce. This is the site of the current CPHB. Through the concept design process and the Business Case development a range of different options for Bruce were developed (Options 1A, 1B, 1C, 1D). All the options use the same footprint for the main building, reflecting the need to keep the existing hospital operational during construction. A key difference between options is the scope of the facility, the location of the mental health services and the timing for delivery of the facility.

Option 1A: Bruce multiple buildings in a single stage

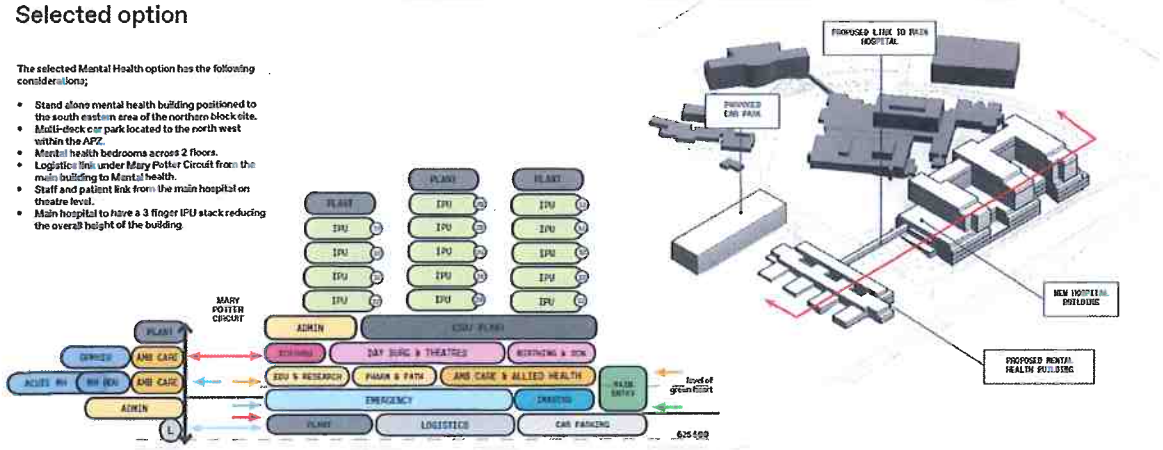
This Business Case has considered four subsets of Option 1 (see Figure 3above) with Option 1A being the preferred scope for the brownfield option. Option 1A proposes to provide capacity to meet 2040-41 demand for health services on the northside of the ACT. It delivers mental health services in a stand-alone facility on the northern block, which enables the freeing up of the acute services

building to explore an optimal IPU configuration and supports the delivery of mental health services in a safe, consumer-centric environment.

Option 1A is on the same block as the current CPHB, can be developed while the current hospital still operates (within the main Marian, Xavier and Keaney buildings) and requires only minimal decanting and demolition work. The hospital site is at the western edge of the block and runs parallel along Haydon Drive (fronting Sylvia Curley Drive).

[redacted] The redevelopment proposes to deliver 543 multi-day beds, 99 ED treatment spaces, 17 operating suites, 164 ambulatory spaces and supporting medical imaging across 109,687sqm in total. Option 1A proposes to commission points of care (POCs) to meet 2030-31 demand (estimated at 434 multi-day beds, 81 ED treatment spaces, 15 operating suites and 154 ambulatory spaces) and shelling the remaining POCs until required (2040-41).

Figure 4: Block and stack of Option 1A



Source: BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

Option 1D: Bruce multiple buildings in a single stage (reduced size)

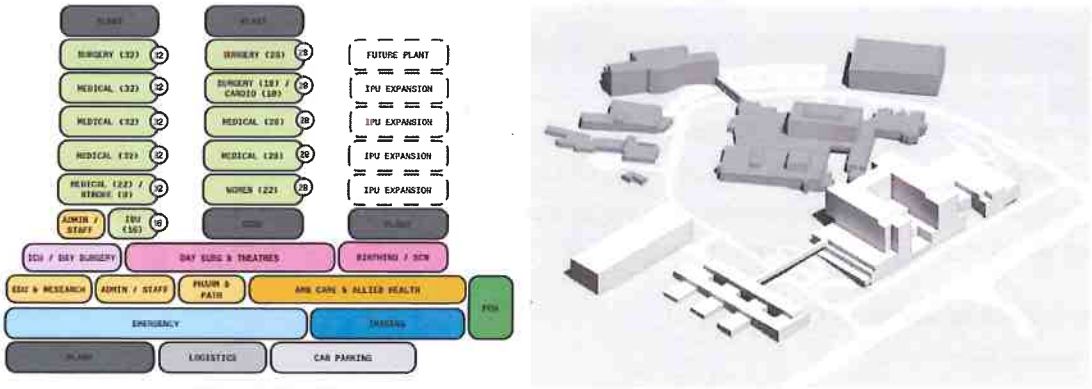
As part of the development of the business case, ACTHD identified an additional option as a subset of Option 1: Redevelopment on Bruce campus. This option is based on the scheme for 1A (see Figure 4) with a reduced capital spend from a smaller hospital size and time horizon for the facility. Rather than delivering capacity to 2040-41 across all Departments, this option will deliver capacity in ambulatory care and inpatient units to 2030-31. The critical services would still be built to 2040-41 requirements, reflecting the difficulty in expanding these services later, especially on the Bruce site.

[redacted]

[redacted]

[redacted]

Figure 5: Block and stack of Option 1D



Source: BVN, Arup, TSA, Genus Advisory and Planit (2023), Northside Hospital Concept Design Report, March 2023

Option 2: Greenfield

Option 2 proposes development on a preferred greenfield site to provide capacity to meet 2040-41 demand for health services on the northside of the ACT. In line with Option 1A, Option 2 delivers stand-alone mental health facilities. [redacted]

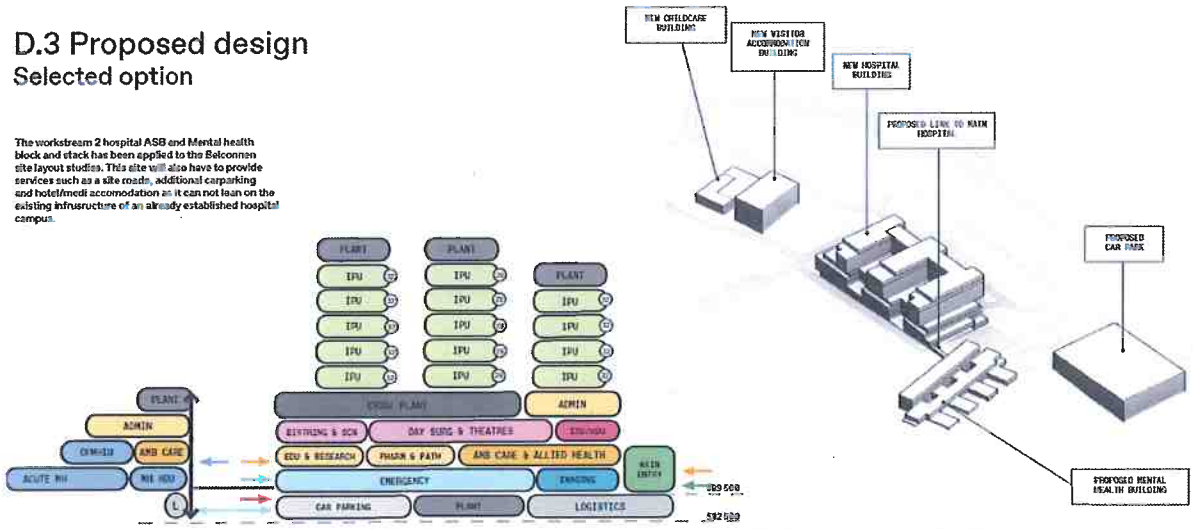
The preferred greenfield site is located on a peninsula within Lake Ginninderra across 32.7 hectares, known as Diddams Close. The site is approximately three kilometres from the existing CPHB site. The site is currently used for cycling and walking tracks, dog parks, access to waterfront activities and public facilities. Given the nature of the site, additional site works including internal roads would be required.

The proposed design developed for Option 1A has been applied to Option 2 with some modifications to respond to the different site opportunities and constraints. This includes 543 multi-day beds, 99 ED treatment spaces, 17 operating suites, 164 ambulatory spaces and supporting medical imaging

[redacted]

across 109,687sqm in total. Option 2 also proposes to commission POCs to meet 2030-31 demand and shelling the remaining POCs until required (2040-41).

Figure 6: Block and stack of Option 2



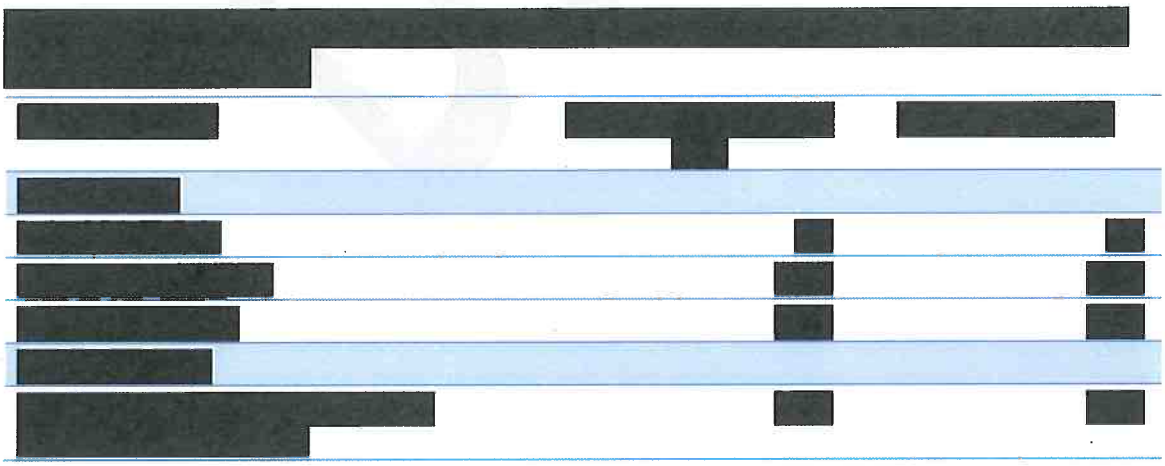
Source: BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

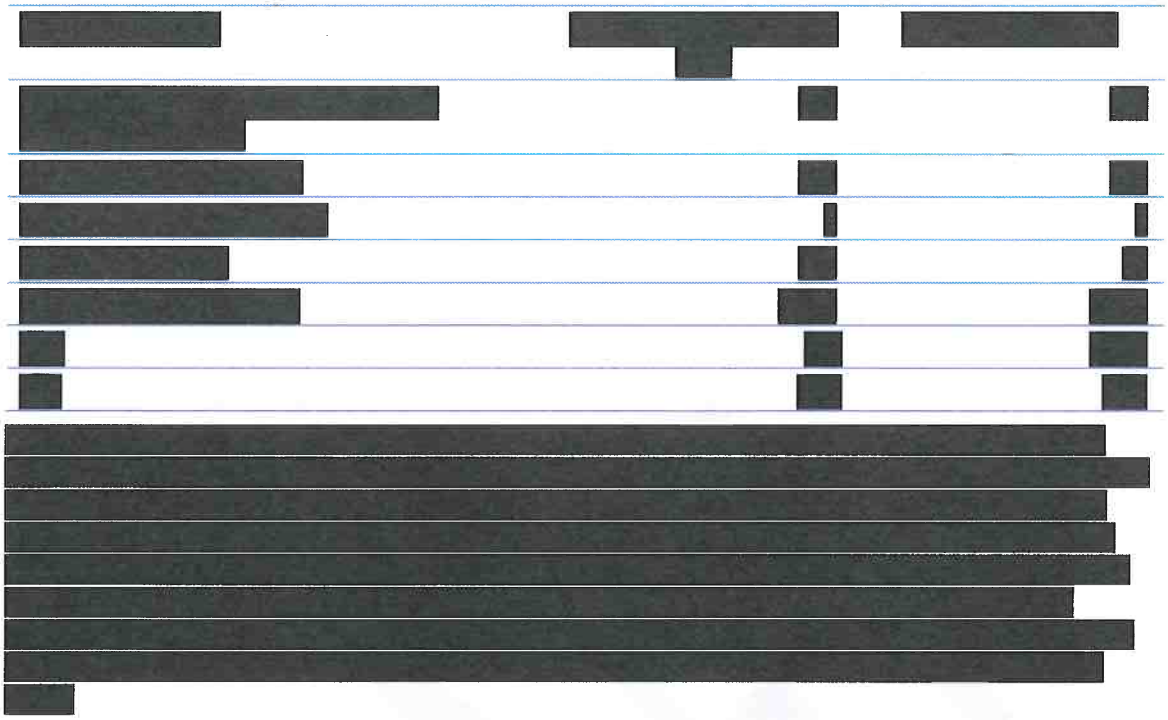
1.6 Value for money considerations

Cost-benefit analysis

A cost benefit analysis (CBA) framework was applied to the two shortlisted options to assess the economic merit of the Project against the Base Case. The CBA assessed the benefits and costs under each option that will arise through the delivery of the Project, applying discounted cash flow techniques in accordance with the ACT Capital Framework Detailed Technical Guidance on Economic Appraisal (ACT Government, 2022).

The CBA evaluates whether the incremental benefits of the preferred options exceed the incremental costs. The CBA results are summarised in Table 2. The results of the CBA are presented in terms of the net present value (NPV) of the investment over the 30-year evaluation period at a 7 per cent discount rate and using a benefit cost ratio (BCR) for comparison of options.

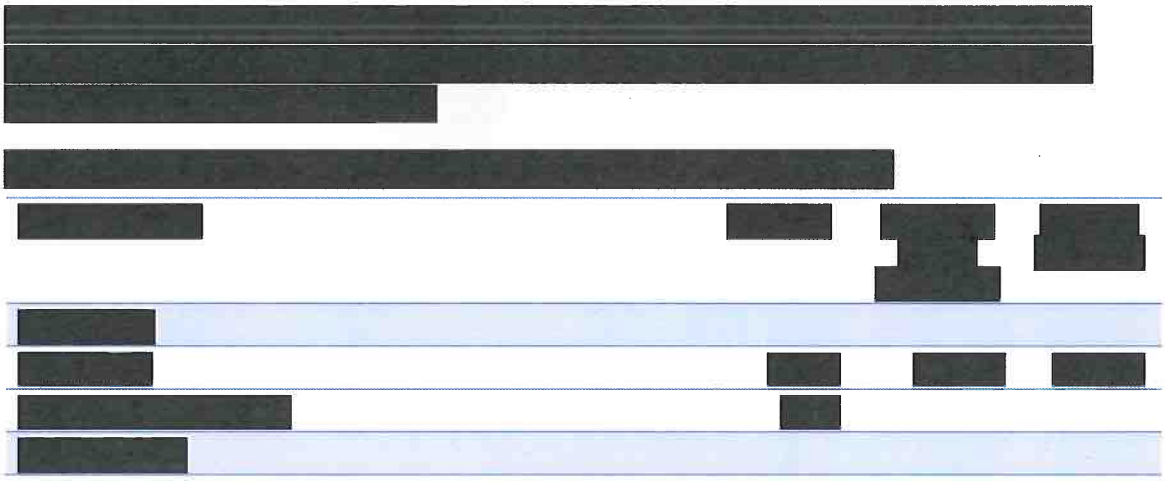




The results of the CBA demonstrate that over the 30-year appraisal period, both options generate positive economic outcomes, with positive NPVs and BCRs greater than one. Both options produce identical health-based benefits due to the identical clinical scope.

Financial analysis

A financial analysis has been undertaken to compare cash inflows relative to the cash outflows associated with the two preferred options. The financial analysis considers only the cash inflows and outflows to the Northside Hospital, and to the entity undertaking the investment – ACT Government.



[redacted]

1.7 Delivery model analysis

[redacted]

[redacted]

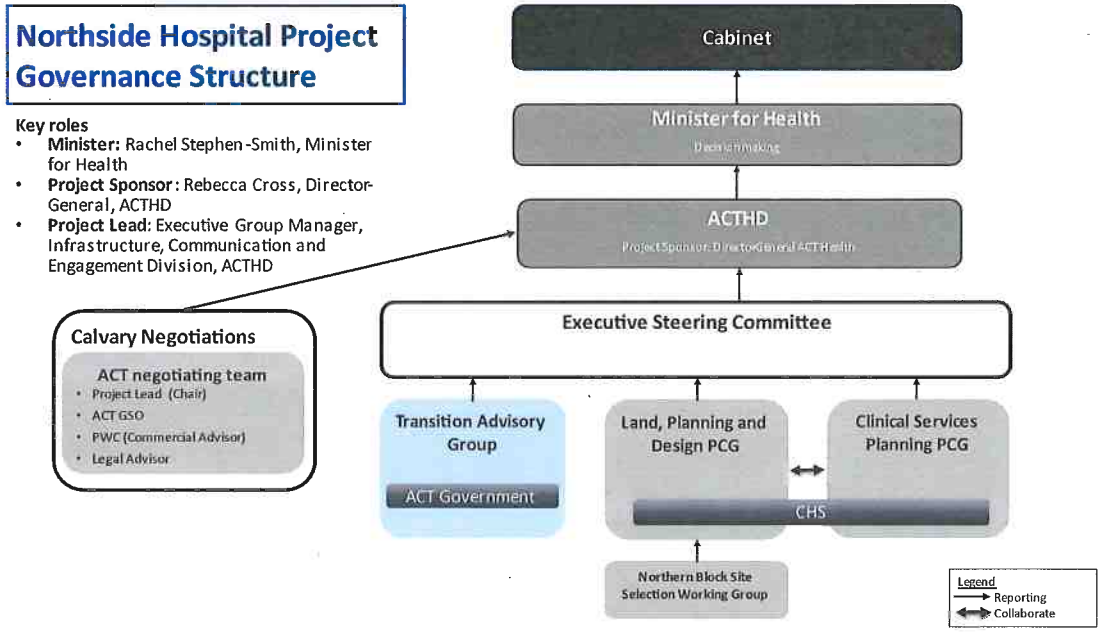
1.8 Implementation and governance

The proposed governance structure, stakeholder engagement strategy, advisor engagement plan and timeline to support the implementation of the Project are detailed below.

Project governance

The concept design phase of the Project has been led by ACTHD through a governance framework aligned with the ACT Capital Framework Project Governance Guidelines, as presented in Figure 6. It is proposed that the existing project governance structure for the Northside Hospital project remains in place until determination of major project designation (or not) by the Chief Minister.

Figure 7: Northside Hospital project governance structure



Source: ACT Health (2022), Northside Hospital Planning Project Governance Protocol: Strategic Infrastructure Division

If the project is designated as a major project, the Project will be procured and delivered by MPC on behalf of the client directorate. Project responsibility, budget and project team will transfer to MPC and be managed under the established project governance structure applicable to designated major

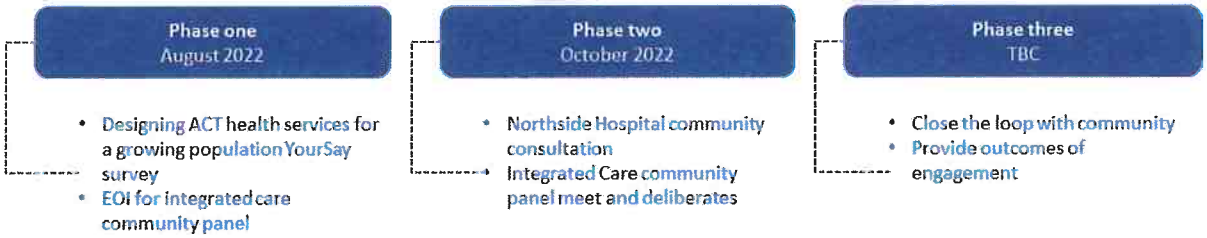
infrastructure projects. This structure incorporates a Project Advisory Board as its key governing body, including an Independent Chair and Independent member.

Stakeholder engagement strategy

A communication and stakeholder engagement strategy, *Designing ACT health services for a growing population*, has been developed as a guide to engagement activity for the Project. Throughout the duration of the Project, engagement activity has and continues to inform development and decision making for the Northside Hospital. Consultation will occur with key stakeholders and the community, in line with key project milestones.

To inform this Business Case, a stakeholder engagement program was undertaken across three phases as shown in Figure 7. This engagement structure aims to gauge public opinion on healthcare across the ACT through Phase one, then dive deeper into two separate engagement streams through Phases two and three as the Project progresses.

Figure 8: Current phase engagement program



Source: Communications Link (2022), Phase two – Northside

Advisor engagement plan

Engagement with external advisors seeks to supplement the capabilities of the Project Team and ensure provision of the appropriate expertise required as the Project progresses to further planning and detailed infrastructure design. An Advisor Engagement Plan has been developed to identify future advisory engagements required for the Project. These include:

- Legal and probity
- Financial and commercial advisors
- Technical design and engineering advisors
- Clinical and facility planning
- Stakeholder management and communication advisors.

Project timeline

Construction of the new Northside Hospital is proposed to commence in Q4 2026, following planning lodgement and approval for the main works in Q2 2026. The delivery program from enabling works through to commissioning is expected to extend over a four-year period. The Northside Hospital opening date is estimated to be Q4 2030.

The proposed Project timeline is summarised in Table 4.

Table 4: Project timeline

Milestone	Option 1A
Phase 2 design completion	
Government process	
Consultant procurement	Q4 2023
Enabling Works and ECI Business Case	Q3 2024
Main Works Business Case	Q2 2025
Planning approvals	Q1 2025
Land rezoning	n/a
Surveys and enabling works design	Q3 2025
Main works design	
Schematic design	Q4 2024
Detailed design	Q4 2025
Planning lodgement and approval	Q2 2026
Delivery	
Contractor procurement	
Appoint enabling works contractor	Q4 2025
Main works contractor ECI period	Q1 2026
Appoint main works contractor	Q4 2026
Construction	
Enabling works	Q4 2026
Main works	Q3 2030
Fit out of shelled areas	Q4 2039
Hospital commissioning	Q4 2030

Source: Arup (2023), Canberra Northside Hospital Construction Programme (High Level) – Calvary Site, ECI Procurement, Revision 4; Arup (2023), Canberra Northside Hospital Construction Programme (High Level) – Greenfield Site, ECI Procurement, Revision 5

1.9 Next steps and recommendation

ACTHD is recommending developing the new Northside Hospital at Bruce (Option 1). This is the preferred site to be progressed for further assessment and detailed design reflecting the following:

- Operator considerations.
- Option 1 does not involve any opportunity costs associated with a greenfield site. Option 2 involves a significant opportunity cost of the Belconnen site, whether it be retention of the existing parkland or potential future uses, including alternative mixed residential redevelopment.
- Option 1 also includes the cost of relocating the ageing rehabilitation facilities located on the northern block providing new community health infrastructure. This will reduce the need for future expenditure to replace these facilities.
- Option 1 enables the existing health precinct and linkages with the Calvary Private Hospital to be maintained benefiting both patients and carers and clinicians.

Option 2: Greenfield requires planning and rezoning changes which carry higher program risk. The next stage of works will encompass further site surveys, development of schematic and detailed design and preparation of planning lodgements and approvals. This will inform the development of the Early Works and Main Works Business Cases for submission in 2024 and 2025, respectively.

Recommendation

This Business Case seeks support for a funding decision of $64.2 million and a funding envelope to be agreed in principle to progress Option 1: Redevelopment on Bruce campus[23] through to detailed design over the next two years and provision for construction. The detailed design scope of works will include confirmation of operator, further site surveys, planning approvals, detailed design, ECI appointment and period and development of the Enabling Works and Main Works business cases.

2. Introduction

This chapter introduces the background of the Project and purpose of the Business Case.

The Australian Capital Territory Health Directorate (**ACTHD**) is currently developing the business case to deliver a new hospital on the north of the ACT (referred to as Northside Hospital or the 'Project') that delivers much needed additional capacity, brings together a range of contemporary hospital services, holistic consumer centred care and supports flexible models of care to meet growing needs of community now and in the future. Additionally, the new Northside Hospital will address a range of challenges including ageing existing infrastructure, growing capacity needs and inability to deliver connected, holistic and integrated health services.

This business case is seeking funding to delivery on the Parliamentary and Governing Agreement: 10th Legislative Assembly for the Australian Capital Territory (**ACT**)'s commitment to "...continue the planning and design work for a new Northside Hospital, with the aim to start construction by mid-decade" through identification and scoping of a range of suitable options for the delivery new Northside Hospital to respond to the above challenges, deliver additional capacity and meet community needs.

The Project is seeking to improve the health and wellbeing of the ACT community by increasing the capacity and accessibility of public health services on the northside of the ACT, through the delivery of a new Northside Hospital at either the existing CPHB campus or a nominated greenfield site. Building capacity of health services in the north of the ACT will also improve the resilience of the Territory wide health system by relieving demand pressures on the south, and building redundancy in the case of any future surges in demand.

This Business Case documents the proposal for a new Northside Hospital to support a funding decision to undertake detailed design and establishment of a funding envelope (in provision) for the preferred option for the new Northside hospital. The Business Case has assessed a long list of seven options for the new hospital and seeks to obtain agreement from the ACT Government on the following:

- The preferred site for the new Northside Hospital, either on the current Bruce campus, or a greenfield development on a new site
- The preferred facility, either a single development or multiple facilities
- The preferred staging, either single stage or multiple stage development
- The preferred capacity for the new Northside Hospital.

2.1 Overview

ACTHD has been tasked by the ACT Government to identify options to deliver a new hospital on the northside of the ACT (referred to as Northside Hospital or the 'Project'). This Project is in response to the evident need for expanded health services capacity on the northside to support increasing demand from sustained population growth as well as seeking to deliver contemporary models of care that is consumer centred and flexible. For example, between 2019-20 and 2020-21 the number

of admitted patients at CPHB increased by 18 per cent.[24] CPHB in its current capacity and condition is unable to meet the current and future community needs for services, impacting the health and wellbeing outcomes of the community.

Consistent with the Parliamentary and Governing Agreement: 10th Legislative Assembly for the ACT to "...continue the planning and design work for a new Northside Hospital, with the aim to start construction by mid-decade", ACTHD engaged Major Projects Canberra (**MPC**) at an early stage to support planning for a new hospital that responds to the growing challenges and needs for the community.

In line with the key strategies and actions from the *ACT Health Services Plan* (**HSP**), a new Northside Hospital will complement, strengthen and improve the accessibility of the existing ACT public health network. [25] The ACT Government is making record investments in health infrastructure to provide for the growing and ageing population. The Northside Hospital investment will complement the delivery of the Canberra Hospital Expansion (due to open in 2024), the Watson Community Health precinct (due to open by the end of 2024), and existing services such as the new University of Canberra Public Hospital (**UCPH**) and expanded network of Community Health Centres and nurse-led Walk In Centres.

This Business Case seeks support for a funding decision to progress to detailed design and establish a funding envelope (in provision) for a new Northside Hospital. It has been developed to align with the ACT Government Capital Framework and adheres to the project business case template.[26]

This Business Case seeks to obtain agreement from the ACT Government on the following:

- The preferred site for the new Northside Hospital, either on the current Bruce campus, or a greenfield development on a new site
- The preferred facility, either a single development or multiple facilities
- The preferred staging, either single stage or multiple stage development
- The preferred capacity for the new Northside Hospital.

2.2 Project objectives

The Project seeks to improve the health and wellbeing of the ACT community by increasing capacity in the health system through the development and delivery of a new Northside Hospital and addressing the following key objectives.

- Greater capacity in the healthcare system in the north of the ACT
- Patient focused / community focused care that improves patient outcomes
- A hospital that is agile and flexible, with a whole of life focus
- Greater alignment of health service delivery across the ACT

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[24] AIHW (2021), Calvary Public Hospital Bruce
[25] ACT Government Health (2022), ACT Health Services Plan, 2022 2030 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[26] ACT Government (2022), ACT Government Capital Framework, (viewed at www.treasury.act.gov.au/capitalframework)

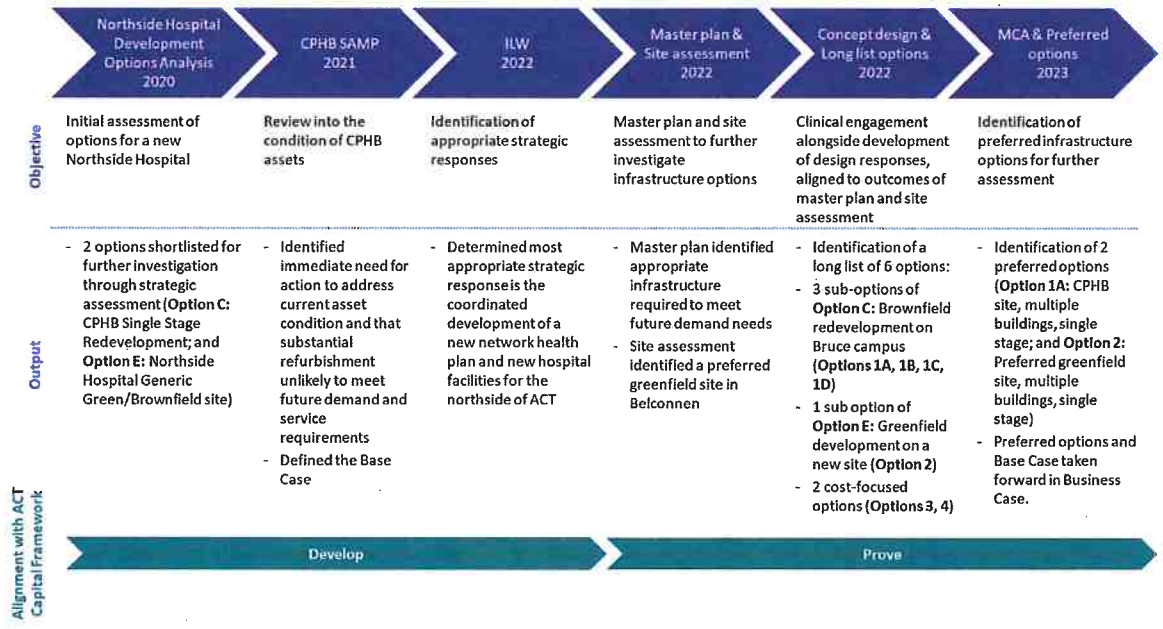
- New health infrastructure that is contemporary, safe and appropriate to support the delivery of modern, high-quality healthcare.

2.3 Project background

In 2017-18, the ACT Government invested $3.25 million in a scoping study into the expansion of health facilities on the northside of the ACT, including a clinical feasibility and service planning assessment to consider optimal provision of outpatient and general hospital facilities in Canberra's northern suburbs.

Since then, further work has been undertaken to progress the Northside Hospital project. Figure 8 outlines the project history to date.

Figure 9: Project background summary



As a result of the project options identification and analysis to date, two capital options (Option 1A: Bruce multiple buildings in a single stage and Option 2: Greenfield) have been identified as the preferred options. These two options have been further investigated through this Business Case.

2.4 Current state of the Project

The Project is currently in the initial design and planning phase and moving into detailed design pending Business Case approval and funding. This Business Case has identified an emerging preferred capital option, Option 1A: Bruce multiple buildings in a single stage to 2041 demand, to be brought forward for detailed design including a proposed funding envelope of $64.2 million over two years.

The next stage of works will encompass further site surveys, development of schematic and detailed design and preparation of planning lodgements and approvals. This will inform the development of the Early Works and Main Works Business Cases for submission in 2024 and 2025, respectively.

In line with the ACT Capital Framework, procurement will begin following finalisation of detailed design, with construction slated to commence by mid-decade and operations of the new Northside Hospital planned for 2030-31.

3. Needs Analysis

This chapter presents the current and future service need for a new Northside Hospital.

The ACT Government is responsible for providing comprehensive healthcare for the population of the ACT and tertiary referral services to the south-east of New South Wales (NSW). Healthcare services in the ACT are currently provided across four public hospitals, three private hospitals, six Community Health Centres and five nurse-led Walk In Centres. On the northside of the ACT, acute public hospital services are provided by CPHB, a 256 bed Level 4 acute general and teaching hospital, providing emergency services, medical and surgical, mental health, maternity and older persons' health services.

The population of the ACT is growing and ageing, forecast to grow by 73 per cent from 2021 to 2060, with the population aged 65 years and over projected to increase by 80 per cent over the same period. Population growth is expected to be concentrated in the northern suburbs of Canberra (Belconnen, Gungahlin, Molonglo and North Canberra – i.e. CPHB's catchment) which is anticipated to increase by 104 per cent to 2060. This will see the northside's share of the population increase from 59 per cent to 70 per cent by 2060.[27]

As the ACT community continues to grow and age, demand for hospital and health services will increase. The types of health services provided will also need to respond to the changing health profile and increasing complexity of care. The current challenges facing healthcare delivery on the northside of the ACT include:

- There is insufficient capacity to support the growing and ageing population on the northside of the ACT, with CPHB unable to meet future infrastructure requirements across inpatient beds, emergency department (**ED**), operating suites, ambulatory care and medical imaging[28]
- The existing infrastructure at CPHB is ageing and in poor condition, with majority of buildings now over 40 years old, in poor condition and nearing the end of their expected service life[29]
- The existing infrastructure at CPHB is dispersed, inflexible, and has poor functionality, which inhibits the ability of CPHB to meet contemporary health facility requirements, adapt to changing models of care and deliver best care environments[30]
- There is a lack of system redundancy across the Territory wide network, with capacity constraints in the ED at both CPHB and Canberra Hospital becoming evident during the heights of the COVID-19 pandemic.[31]

The strategic response is to develop a new Northside Hospital to address these challenges, future proof the Territory's health system and meet the growing community demand, that is expected to outstrip current supply by mid-decade. A new Northside Hospital also presents an opportunity to

[27] ACT Government (2023), ACT Population Projections: 2022 to 2060 (viewed at www.treasury.act.gov.au)
[28] AECOM Australia Pty Ltd (2020), Northside Hospital Development Options Analysis, 7 September 2020
[29] AECOM Australia Pty Ltd (2021), CPHB Strategic Asset Management Plan, 16 April 2021
[30] AECOM Australia Pty Ltd (2021), CPHB Strategic Asset Management Plan, 16 April 2021
[31] ACT Government (2020), Health service changes in response to COVID-19

better integrate and coordinate services across the whole health system (preventative health, care in community and in hospital settings).

In addressing the key challenges, a new Northside Hospital is expected to yield the following benefits:

- Improved health and wellbeing for the ACT community from improved access, capacity and quality of health services
- Improved operational outcomes including more socially sustainable and efficient delivery, improved safety, environmental and wellbeing outcomes
- Contemporary environments for all users, including patients, visitors, carers and families
- Improved staff wellbeing, attraction and retention, and greater capacity for training and research
- Improved capability and capacity to respond to future territory wide major health events.

3.1 Strategic context

The new Northside Hospital is critical to supporting the current and future healthcare services and community needs in the ACT. This section presents the current public and private hospital services and key drivers for health service delivery in the ACT.

Healthcare service delivery in the ACT

The ACT Government is responsible for providing comprehensive healthcare for the population of the ACT and tertiary referral services to the south-east of NSW. Healthcare services in the ACT are currently provided across four public hospitals and three private hospitals as presented in Table 5.

In 2019-20 there were approximately 118,800 inpatient hospital separations and 844,000 non-admitted patient services provided by ACT public hospitals.[32]

In addition to the public hospitals, the ACT health network also includes:

- Six Community Health Centres which provide a range of general and specialist health services to people of all ages including rehabilitation, aged care services, women, youth and children's services, mental health, dental services. Community Health Centres are currently located in Canberra City, Belconnen, Dickson, Phillip, Tuggeranong and Gungahlin.
- Five nurse-led Walk-In Centres which provide free healthcare for non-life threatening injuries and illness, health advice and information. Walk in Centres are currently located in Belconnen, Dickson, Gungahlin, Tuggeranong and Weston Creek.
- A number of smaller community-based services providing for specific needs in standalone locations or co-located with Community Health Centres or Walk-In Centres (for example, Village Creek, CHS@Molonglo).

[32] ACT Government Health (2022), ACT Health Services Plan, 2022 2030, page 25 (viewed at www.health.act.gov.au, page updated 24 October 2022)

Work is currently underway to build on the ACT's 'care closer to home' network with a further four Walk-in Health Centres (also referred to as Health Hubs) proposed in the coming years.[33] The supporting network helps improve accessibility where it is most required and aims to alleviate pressure on the EDs and hospitals to enable a more efficient delivery of care.

Table 5: Hospitals in the ACT by type, location and services provided

Hospital	Capacity	Location	Services provided
Public hospitals			
Canberra Hospital and Centenary Hospital for Women and Children	>710 beds	Garran	Canberra Hospital is a tertiary teaching hospital which provides trauma services and most major medical and surgical sub-specialty services. Services include medical, surgical, emergency, maternity, paediatrics, specialist outpatient clinics, mental health, critical care, allied health, sexual health, alcohol and drug treatment and other clinical support services.
University of Canberra Hospital	84 inpatient and 75 day places	Bruce	University of Canberra Hospital is a specialised centre for rehabilitation, recovery and associated research.
CPHB	250 beds	Bruce	CPHB is a general hospital which provides a 24/7 ED, intensive and coronary care services, medical and surgical inpatient services, maternity services, voluntary inpatient mental health services, specialist outpatient clinics, Hospital in the Home service and the Geriatric Rapid Acute Care Evaluation service. CPHB is also a teaching hospital.
The Queen Elizabeth II Family Centre	13 beds	Curtin	The Centre is operate by Tresillian and provides a residential program for families with children aged up to 3 years experiencing health and behavioural difficulties in the postnatal and early childhood periods.
Private hospitals			
National Capital Private Hospital		Garran (co located with the Canberra Hospital)	N/A
Calvary John James Hospital		Deakin	N/A
Calvary Private Hospital		Bruce (co located with CPHB)	N/A
Other public health services			
Dhulwa Mental Health Unit	10 acute care beds and 15	Symonston	Dhulwa Mental health Unit delivers 24 hour treatment and care for adults with complex mental health needs.

[33] ACT Government (2021), New Walk In Health Centres to offer Canberrans care where they need it, released 28 January 2021 (viewed at www.cmtedd.act.gov.au/open_government)

Hospital	Capacity	Location	Services provided
	rehabilitation beds		
Clare Holland House	27 beds	Barton	Clare Holland House Hospice is operated by Calvary Health Care and provides inpatient specialist palliative care service and outpatient clinics, community based palliative care services, specialist outreach services and the Palliative Care Research Centre.

Source: ACT Government Health (2022), ACT Health Services Plan, 2022-2030; AECOM Australia Pty Ltd (2020), Northside Hospital Development Options Analysis, 7 September 2020; Canberra Health Services (2020 and 2021), Annual Report 20 -21 and 21-22

The ACT is surrounded by regional areas of NSW with relatively low population density and where physical access to tertiary care is limited, making the ACT's hospitals the closest location for these more specialised services. The population of these areas rely on Canberra Hospital and CPHB for referral services and for clinical leadership from specialists in areas such as cancer and renal services. This is reflected in 18 per cent of total separations in 2018-19 being accounted for by NSW residents.[34] This places increased pressure on the hospitals in the ACT to provide sufficient capacity from NSW as well as the ACT.

Key drivers of health services in the ACT

The ACT community is growing and ageing, with a rising burden of disease due to the increasing incidence, prevalence and complexity of chronic conditions.[35] The changing health profile of the population is expected to increase demand for hospital and health services and increase the complexity of care across the ACT and surrounding region.

Key factors driving the future healthcare requirements in the ACT are presented below.

ACT current and future demographics

Between 2016 and 2021, the ACT population increased by 14 per cent to approximately 454,000 residents.[36] The resident population of the ACT is estimated to grow to 579,231 by 2036 and 784,043 by 2060. This represents an increase on the 2021 population by around 28 per cent by 2036 and 73 per cent by 2060; a growth rate of 1.4 per cent per annum to 2060. [37]

Over the 40 years to 2060, population growth is expected to be concentrated in Canberra's north. The northern districts (Belconnen, Gungahlin, Molonglo and North Canberra) are forecast to increase by 104 per cent to 2060 compared to 24 per cent for the remainder of the ACT. This will see the northern districts' share of the population increase from 59 per cent in 2021 to 70 per cent by 2060.[38]

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[34] ACT Government Health (2022), ACT Health Services Plan, 2022 2030, page 25 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[35] ACT Government Health (2022), ACT Health Services Plan, 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[36] Australian Bureau of Statistics (2022), Snapshot of Australian Capital Territory (viewed at www.abs.gov.au)
[37] ACT Government (2023), ACT Population Projections: 2022 to 2060 (viewed at www.treasury.act.gov.au)
[38] ACT Government (2023), ACT Population Projections: 2022 to 2060 (viewed at www.treasury.act.gov.au)

Table 6 shows that by district, Molonglo is expected to increase at the fastest rate (5.3 per cent per annum) to 2060, driven by the new developments of Denman Prospect and Whitlam. Belconnen is expected to remain the largest district in terms of population over the same period, growing to 175,826 residents (representing 22 per cent of the total population).[39]

Between 2016 and 2021, the ACT population that identified as Aboriginal and Torres Strait Islander people increased from 6,508 to 8,949, representing an increase of 38 per cent. Aboriginal and Torres Strait Islander people comprise 1.8 per cent of the northside population, with 46 per cent of those people residing in the Belconnen area.[40]

Table 6: Population growth in the northern districts of the ACT

District	Population			
	2021	2036	2060	Average rate of growth
Belconnen	105,872	129,266	175,826	1.3%
Gungahlin	87,843	111,214	148,799	1.4%
Molonglo	11,382	51,692	86,148	5.3%
North Canberra	61,372	90,511	140,999	2.2%
Northern districts total	**266,469**	**382,683**	**551,772**	**1.9%**
Remainder of the ACT*	**185,633**	**196,548**	**232,271**	**0.6%**
Total ACT	**453,558**	**579,231**	**784,043**	**1.4%**
Northern districts as % of ACT	59%	66%	70%	

Source: ACT Government (2023), ACT Population Projections: 2022 to 2060 (viewed at www.treasury.act.gov.au)

**Remainder of the ACT includes Canberra East, South Canberra, Tuggeranong, Urriarra/Namadg, Weston Creek and Woden Valley*

In line with the rest of Australia, the population of the ACT is continuing to age. Between the 2016 and 2021 census, the number of ACT residents aged 70 or older grew by 34 per cent, from approximately 33,000 to 44,000.[41] This was more than twice the rate of growth for the population of the ACT overall, which increased by 14 per cent.[42] The population aged 65 years and older is expected to increase from 13 per cent of the population in 2021 to 15 per cent in 2060, reflecting an increase of approximately 80 per cent in raw numbers.[43]

The growing and ageing population is placing increasing demand on general and specialist medical and surgical services, with access to some services impacted by long wait times. For example, over the five years to 2020-21, the number of same day separations from ACT public hospitals increased by 20 per cent, while multi-day separations increased by 17 per cent.[44] For EDs, the proportion of patients 'seen on time' was 67 per cent, down from 71 per cent in 2020-21 and from 72 per cent in

[39] ACT Government (2023), ACT Population Projections: 2022 to 2060 (viewed at www.treasury.act.gov.au)
[40] ACT Government Health (2022), Draft Northside Clinical Services Plan v0.2
[41] ACT Government (2019), ACT Population Projection: 2018 to 2058, January 2019, page 17 (viewed at www.treasury.act.gov.au)
[42] ACT Government (2019), ACT Population Projection: 2018 to 2058, January 2019, page 17 (viewed at www.treasury.act.gov.au)
[43] ACT Government (2023), ACT Population Projections: 2022 to 2060 (viewed at www.treasury.act.gov.au)
[44] ACT Government Health (2022), ACT Health Services Plan, 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)

2017-18.[45] As the population on the northside of Canberra continues to grow, the geographic distribution of services across the ACT will become increasingly important.[46]

Changing demand for healthcare

The rising burden of disease related to increasing incidence, prevalence and complexity of chronic conditions is placing increasing demands on existing hospitals and health system services. Chronic conditions and disability tend to experience higher rates of hospital admission and extended lengths of stay. Health systems will continue to manage the growth in demand as much as possible, through practices such as hospital avoidance and reduced length of stay type initiatives, however this will not stop demand growth in absolute terms.

Key factors placing greater demand on hospitals and healthcare in the future include:

- **Chronic conditions:** There is rising incidence of acute and chronic conditions in Australia, with chronic conditions now the leading cause of illness, disability and death in Australia.[47] Almost half of all adults (48.7 per cent) in the ACT had at least one of the following chronic diseases in 2017–18: arthritis, asthma, cancer, diabetes, mental illness or heart disease.[48] There is also a rise in the number of comorbidities, with 20.3 per cent of all ACT adults living with two or more of the aforementioned chronic diseases.

  Within the northside of the ACT (Belconnen, North Canberra, Gungahlin and Molonglo) the total number of persons reported to be living with a long term health condition in 2021 was 123,205.[49] Approximately two per cent of this total is represented by Aboriginal and Torres Strait Islander residents.[50]

- **Mental health:** Mental health is a leading cause of disease in the ACT. In 2017-18, 20.8 per cent of Canberrans aged 18 years and over had a mental or behavioural condition, 13.9 per cent had an anxiety related condition and 10.3 per cent reported depression or feelings of depression.[51]

  In 2016, an estimated 4,400 people were living with dementia in the ACT, with approximately 2,531 hospital separations involving a diagnosis of dementia.[52] Of the 2,162 deaths recorded in 2020 in the ACT, 10 per cent were caused by dementia.[53] Between 2006 and 2018, the age standardised death rate for dementia in the ACT significantly increased by an average of 2.3

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[45] AIHW (2022), Calvary Public Hospital Bruce
[46] ACT Government Health (2022), ACT Health Services Plan, 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[47] ACT Government Health (2022), ACT Health Services Plan 2022-2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[48] Australian Bureau of Statistics (2018), National Health Survey: First Results, 2017 18 Australia. Data cube: Table 2.3 Summary health characteristics States and Territories, Proportion of persons, released 12 December 2018, (viewed at www.abs.gov.au)
[49] ACT Government Health (2022), Draft Northside Clinical Services Plan v0.2
[50] ACT Government Health (2022), Draft Northside Clinical Services Plan v0.2
[51] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[52] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[53] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)

per cent per year.[54] With an ageing population, this trend is likely to continue as the most significant risk factor for dementia is ageing.

- **People with a disability:** The proportion of ACT residents living with disability increased from 16.2 per cent (62,000 people) in 2015 to 19.4 per cent (80,000 people) in 2018.[55] More people in the ACT are now living with profound or severe core activity limitations —18,800 people in 2015 compared to 25,800 in 2018.[56]
- **Obesity:** Obesity is a rising issue. In 2017-18 almost two thirds of adults in the ACT were overweight or obese — around 37.6 per cent were overweight and 26.4 per cent were obese. Meanwhile, over one quarter of children aged 2-17 was overweight or obese—around 22.1 per cent of children were overweight and 7.4 per cent were obese.[57]

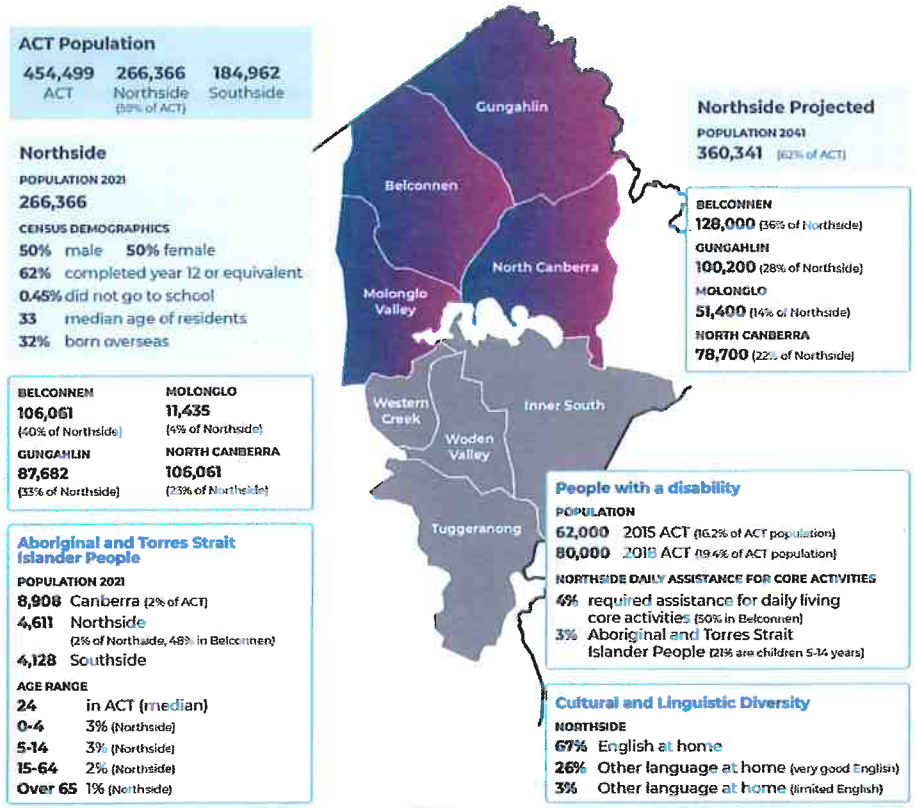
The COVID-19 pandemic has also impacted on utilisation of health services, increasing demand in some parts of the health system, while also resulting in delayed care in other areas. The public health impacts of COVID-19 have included an increased demand for crisis and support organisations, online mental health services, Medicare Benefits Scheme mental health services and high levels of psychological stress.

Overview of the current Calvary Public Hospital Bruce

CPHB is a 256 bed Level 4 acute general and teaching hospital, providing emergency services, medical and surgical, mental health, maternity and older persons' health services. Located in the northern suburb of Bruce, CPHB serves the fast growing communities of ACT's northside (North Canberra, Molonglo, Belconnen and the Gungahlin precinct), as well as surrounding areas in ACT and NSW, as shown in Figure 9.

[54] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[55] Australian Bureau of Statistics (2019), Disability, Ageing and Carers, Australia: Summary of Findings,4430.0 – Disability, Ageing and Carers, Australia: Australian Capital Territory Data Cube, 24 October 2019, (viewed at www.abs.gov.au)
[56] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[57] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)

Figure 10: Map of communities served by CPHB, with population figures (2021)



Source: ACT Government Health (2022), Draft Northside Clinical Services Plan v0.2, adopting data from ABS Census of Population and Housing 2021 (2022) and ACT Planning

CPHB is operated by Calvary, a not-for-profit organisation founded by the Little Company of Mary Health Care (**LCMHC**). The operational agreement between the ACT Government and Calvary is the Calvary Network Agreement (**CNA**), that defines the responsibilities of both parties in delivering services at CPHB. Under the CNA, an annual performance plan is prepared which sets out:

- The funding provided by the ACT Government, through ACTHD to Calvary, for the provision of services, operation and management at CPHB
- A schedule of services to be delivered by Calvary at CPHB
- Key performance indicators (**KPIs**) to measure Calvary's delivery of those services at CPHB.[58]

[redacted]

[58] Calvary Network Agreement between ACT and Calvary
[59] Performance Plan, ACT Health Directorate and Calvary Health Care ACT Ltd, 1 July 2021 – 30 June 2022

In addition to CPHB, Calvary also provides services at the Clare Holland House (Barton) Campus which is not governed by the CNA. Clare Holland House is a 27-bed inpatient specialist palliative care service, outpatient and in home specialist palliative care services.

Table 7: Services provided at CPHB, 2021[60]

Service type	Service	
Core services	• Pathology (Level 5) • Pharmacy (Level 5) • Radiology and Interventional Radiology (Level 5) • Nuclear Medicine (Level 4)	• Anaesthesia and recovery (Level 4) • Intensive Care Service (Level 4) • Operating Suite (Level 4)
Emergency Medicine	• Emergency Medicine (Level 4)	
Medicine	• Acute Stroke Services (Level 4) • Cardiology and Interventional Cardiology (Level 4) • Dermatology (Level 3) • Drug and Alcohol Services (Level 1) • Endocrinology (Level 3) • Gastroenterology (Level 4) • General and Acute Medicine (Level 4) • Geriatric Medicine (Level 4) • Haematology (Level 3)	• Immunology (Level 4) • Infectious Diseases (Level 5) • Neurology (Level 4) • Oncology Medical (Level 2) • Palliative Care (Level 2) • Rehabilitation Medicine (level 2) • Renal Medicine (Level 2) • Respiratory and Sleep Medicine (Level 3) • Rheumatology (Level 2) • Sexual Assault Services (Level 1)
Surgery	• General Surgery (Level 4) • Burns (Level 2) • Ear, Nose, Throat (Level 4) • Gynaecology (Level 4) • Ophthalmology (Level 3)	• Orthopaedic Surgery (Level 4) • Plastic Surgery (Level 4) • Urology (Level 4) • Vascular Surgery (Level 1 3)
Child and Family Health Services	• Maternity (Level 5) • Neonatal (Level 3)	• Paediatric Medicine (Level 2) • Surgery for Children (Level 2)
Integrated Community and Hospital Services	• Adult Mental Health (Level 4)	• Older Persons Mental Health (Level 4)

Source: AECOM (2021), Northside Hospital Development CPHB SAMP

In the 2022-23 ACT Budget, the ACT Government announced that it will deliver more intensive care unit (**ICU**) beds and inpatient beds at CPHB, with a $17 million investment across the inpatient environment and an expansion of outpatient services to meet increased demand across the

[60] The Scope of Services provided in the table includes services provided by Canberra Health Services

system.[61] [redacted]

[redacted]

3.2 Problem or opportunity

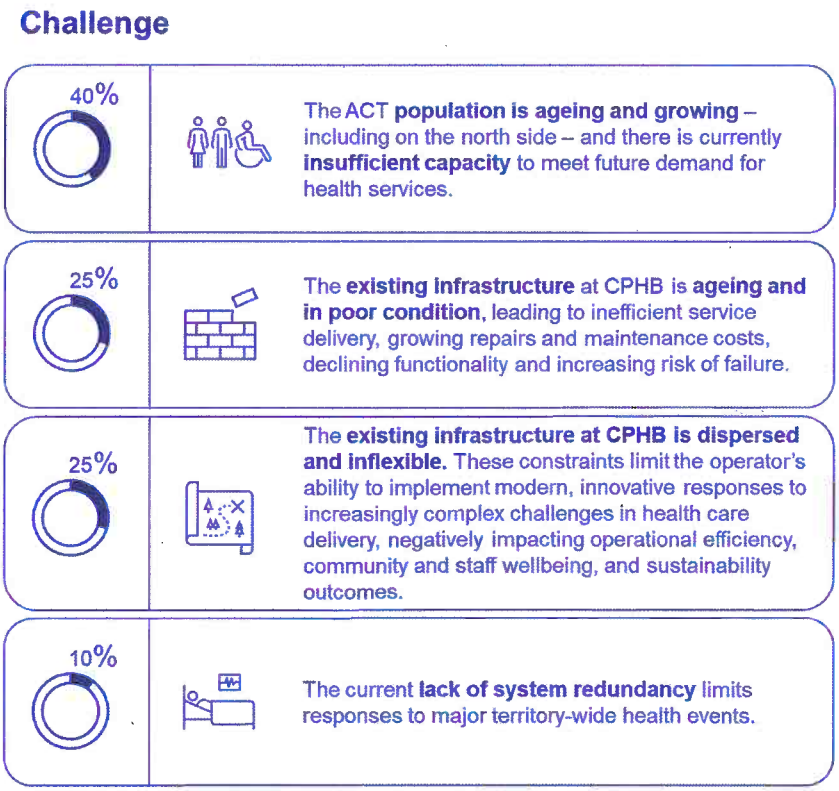
CPHB plays an important role in the delivery of healthcare not only within the ACT but to the surrounding areas of south-east of NSW. Since its establishment, CPHB has experienced significant changes in the level of demand, range and complexity of services provided and models of care.

Given the growing and ageing population, and the changing demand in line with increasing burden of disease, demand for existing hospital services is expected to rise and change in complexity on the northside of the ACT. While efforts have been made to manage the rising demand for health services, there is now insufficient capacity at CPHB to meet the future needs of the community. Additionally, the age and condition of the existing infrastructure and lack of system redundancy do not support the efficient and sustainable delivery of quality care.

An Investment Logic Workshop (**ILW**) was held in May 2022 with participants from the new Northside Hospital project Team, key stakeholders from ACTHD and MPC and other members of the Project Control Group including representatives from the Chief Minister Treasury and Economic Development Directorate (**CMTEDD**), the Environment, Planning and Sustainable Development Directorate, Transport Canberra and City Services, Justice and Community Safety (Emergency Services Agency), Canberra Health Services (**CHS**). The purpose of the ILW was to identify the problems and challenges driving the need for investment in a new Northside Hospital. The current challenges facing healthcare delivery on the northside of the ACT, as identified through the ILW, are summarised in Figure 10 and discussed in the sections that follow. Further information on the ILW can be found in Appendix A - Investment Logic Workshop.

[61] ACT Government (2022), More investment to support Canberra hospitals [media release], 27 July 2022 (viewed at www.act.gov.au)
[62] MPC (2022), 'Base Case' assumptions for 2023 2024 Business Case – Draft for Discussion

Figure 11: Key challenges currently facing healthcare delivery on the northside of the ACT



Challenge 1: Insufficient capacity to support the growing and ageing population on the northside of the ACT

The projected demand for clinical services by residents on the northside of the ACT is forecasted to be greater than the capacity at which CPHB is able to deliver by mid-decade. Given the critical role of CPHB as a Level 4 hospital servicing the northside of the ACT, the current capacity limitations will result in longer wait times for residents to access core services acute care beds, ED, operating suites and ambulatory care spaces.

Demand for hospital services is expected to rise across the Territory, driven by the growing and ageing population and the changing demand for healthcare. A range of key strategies and actions have been identified within the ACT HSP (ACTHD, 2022) to help address the increased demand for services on the northside, including:

- Investing in rigorous care management for mental health service clients who frequently present to the ED
- Increasing the capacity and capability of key services on the northside to support improved access, self-sufficiency and patient flows
- Improving services for older patients requiring hospital care
- Increasing the capacity and capability of endocrinology services at CPHB to support the Maternity Access Strategy and improve self-sufficiency of CPHB in servicing the northside population

- Ensuring long term sustainability of ED access across the Territory through increased capacity and implementation of hospital diversion strategies to moderate demand.

However, these efforts will not diminish the need for an increase to physical capacity. Demand for hospital services in the ACT is forecast to increase steadily over the next ten years, including:

- Same day separations – 2.7 per cent per annum
- Multi day separations – 3.2 per cent per annum
- Multi bed days – 3.0 per cent per annum.[63]
- The two EDs at Canberra Hospital and CPHB have also been facing growing demand, with ED presentations forecast to increase at 3.0 per cent per annum over the next ten years.[64]

Table 8 shows the projected demand for services at CPHB to 2031-32.

Table 8: Service demand projections at CPHB

	2017-18	Projection 2021-22	Projection 2026-27	Projection 2031-32	Average % change per annum
Forecast hospital inpatient activity - Summary					
Multi day separations[65]	12,945	15,774	18,811	22,211	3.9
Multi day bed days[66]	69,619	83,965	99,735	117,443	3.8
Same day separations	8,658	10,199	11,883	13,588	3.3
Forecast surgical services activity					
Multi day separations	3,070	3,631	4,232	4,855	3.3
Multi day bed days	7,399	9,424	11,084	12,854	4.0
Same day separations	3,548	3,966	4,393	4,793	2.2
Forecast number of operations – elective and non-elective/emergency activity					
Elective	5,422	6,239	7,139	8,063	2.9
Non elective	1,682	1,940	2,240	2,545	3.0
Forecast medical services activity					
Multi day separations	5,984	7,627	9,467	11,665	4.9
Multi day bed days	35,049	44,239	54,134	65,981	4.6
Same day separations	3,315	4,107	5,006	5,968	4.3

Source: ACT Government Health (2022), ACT Health Services Plan, 2022-2030

Note: the figures shown here have not considered the patient flow reversals from Canberra Hospital upon commissioning of the new Northside Hospital

[63] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 55 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[64] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 59 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[65] Separation refers to the process by which an episode of care for an admitted patient is ceased. This may occur on the same day as admission (same day separations) or over two or more days (multi day separations). Source: Australian Institute of Health and Welfare, Meteor Metadata Online Registry.
[66] Days during which a person is confined to a bed and in which the patient stays overnight in a hospital.

CPHB in its current capacity is unable to meet the infrastructure requirements to service the growing northside population and the associated demand for health services. As shown in Table 9, an additional 173 multi day beds, 21 day stay beds, 19 ED spaces, 10 operating suites and 147 ambulatory care spaces will be required at CPHB to fulfil the capacity requirements to 2040-41.

Table 9: Projected demand at CPHB

Care type beds	Current	2030-31	2040-41
Multi day beds	234	407	507
Day Stay Beds	15	27	36
ED spaces	80	81	99
Operating Suites	7	15	17
Ambulatory care spaces	17	154	164
Medical Imaging	12	20	20

Source: ARUP (2022), Northside Hospital – Technical Advisor; Concept Design Portfolio

In addition to health and wellbeing impacts from delayed access to care, the CPHB SAMP (AECOM, 2021) found that the potential implications of delivering health services to meet future demand using existing CPHBS infrastructure is likely to result in:

- Accelerated wear and tear of the building fabrics, internal fit outs and immediate surrounding grounds if the number of patients and staff on site increases
- Accelerated deterioration of plant and equipment if operating hours are extended to meet the change in demand
- Increased need for additional heating, ventilation and air conditioning to ensure sufficient airflow
- Increased need for office, training and education equipment as demand for services and health service professionals grow
- Increase of electrical load based on the changing nature of services delivered
- Increased need for fire suppression and safety equipment to cater for the number of people in the building.

The CPHB SAMP determined that substantial refurbishment of the Xavier and Marian buildings on the existing CPHB site would be unlikely to result in a modern, compliant Level 4/5 hospital that will meet future demand and contemporary clinical services delivery. It would also involve considerable complexity to ensure patient safety and amenity is not compromised.

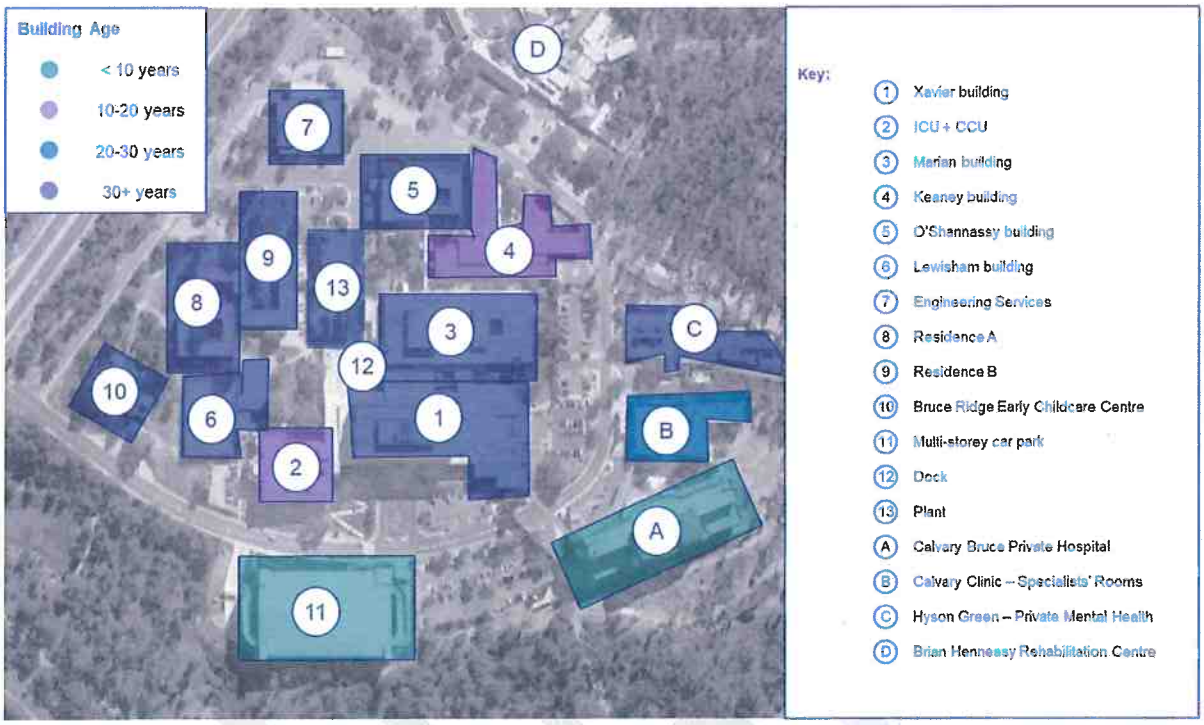
Challenge 2: The existing infrastructure at CPHB is ageing and in poor condition

The CPHB site was originally developed in the late 1970s and consists of two primary clinical buildings (Xavier and Marian), two secondary clinical buildings (Keaney and ICU/ Critical Care Unit (**CCU**) Building) and eight other buildings that provide supplementary clinical and supporting services. Since the early 1980s, various expansions and infill buildings have been constructed to expand the capacity of the facility.

While several CPHB buildings have received upgrades over time, a majority of the buildings are now over 40 years old (see Figure 11), in poor condition and nearing the end of their expected service

lives. CPHB cannot cater for future population growth, the changing health demand needs and models of care and support territory wide network resilience with the current infrastructure.

Figure 12: Age of CPHB building assets



Source: adapted from BVN (2022), Northside Hospital Master Plan Report, 22 July 2022

The CPHB SAMP (AECOM, 2021) documents the actions and investments needed to minimise the risk of service failure, and provides a prioritised list of works required, where priority has been determined by assessing the impact of failure on CPHB service delivery and the likelihood of failure occurring during the planning period considered.

The CPHB SAMP (AECOM, 2021) identified the following:

- Assets are generally approaching end of life (except for some newer buildings such as ICU / CCU)
- 12 per cent of CPHB assets are at or beyond their end of useful life, of which a third are critical assets
- 42 per cent of assets have less than 25 per cent nominal service life remaining and will likely require capital intervention (replacement) as they continue to deteriorate in the near term
- A number of buildings are rated as being in 'Poor' condition
- There were 19 serious non-compliances identified against current standards, with 11 relating to fire protection.[67]

[67] AECOM Australia Pty Ltd (2021), CPHB Strategic Asset Management Plan, 16 April 2021

[redacted]

While currently managed from a risk perspective, there is an increased risk of failure to maintain safe and efficient operations without significant capital investment to overhaul aged assets at CPHB. As the assets age, and extend beyond their useful life, the list of maintenance requirements will get longer, and intervention will be required more frequently.

Challenge 3: Existing infrastructure at CPHB is dispersed and inflexible

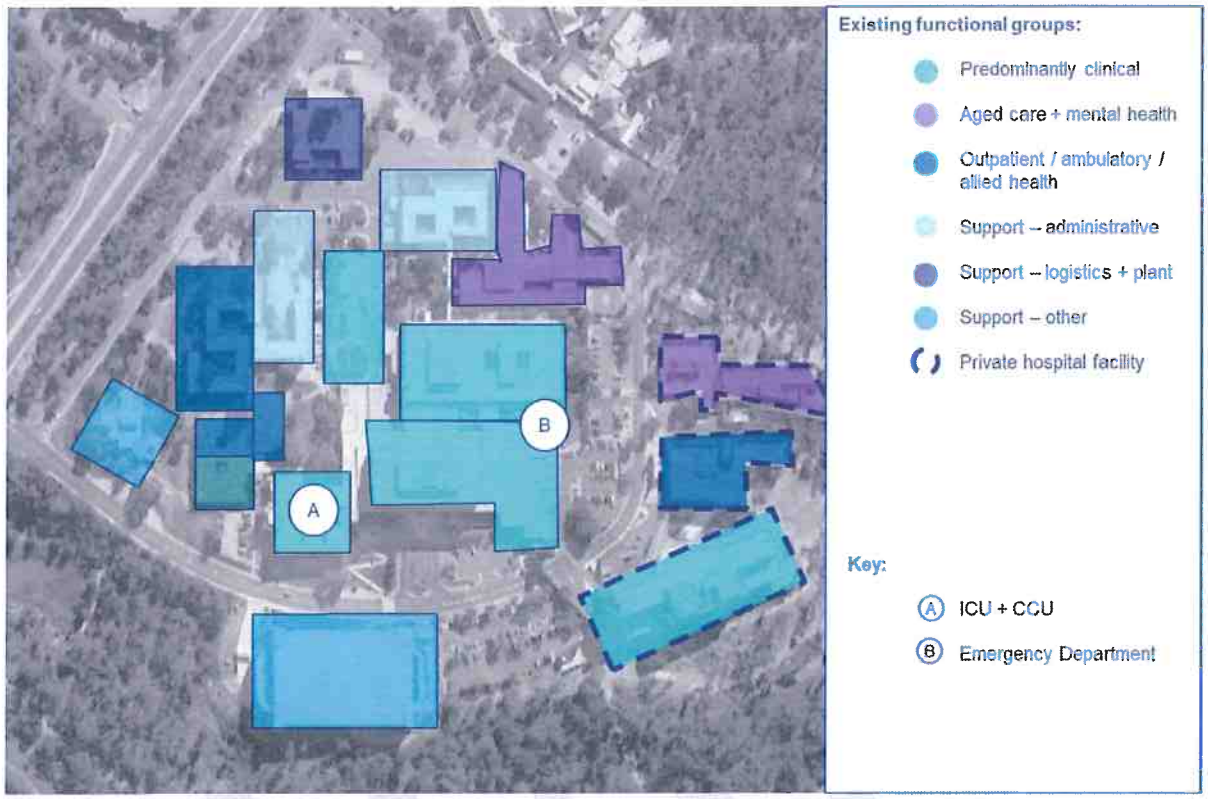
Reflective of the age of CPHB and limited capital investment since commissioning, the existing hospital infrastructure is dispersed, inflexible and functionality is poor. The configuration of the original build inhibits the ability of CPHB to meet contemporary health facility requirements, adapt to changing models of care and deliver best care environments.

Site configuration means sub optimal clinical adjacencies for contemporary service delivery. Figure 11 above demonstrates the incremental approach to the development and commissioning of buildings at CPHB, which has occurred between 1979 and 2009. The staged development of CPHB has resulted in a gradual addition of buildings, with inadequate connections and sub optimal adjacencies between clinical areas, making CPHB difficult to navigate and increasing inefficient patient flows. The current lack of wayfinding support also creates accessibility issues for patients and visitors to CPHB.

As presented in Figure 12, clinical services occur across five different buildings meaning some functional areas are split and / or spread across the site. This results in poor service stream coordination and creates operational and workflow inefficiencies for staff and delays in treatment for patients. Of particular note is the ICU / CCU, located in a separate location from the ED and theatres.

[68] AECOM Australia Pty Ltd (2021), CPHB Strategic Asset Management Plan, 16 April 2021

Figure 13: Existing functional groups across CPHB



Source: Adapted from BVN (2022), Northside Hospital Master Plan Report, 22 July 2022

Infrastructure does not align to contemporary guidelines

The Australasian Health Facility Guidelines (**AusHFG**) provide information to assist in planning and designing health facilities. AusHFG create a common set of guidelines and specifications for best practice health facility design across Australasia. AusHFG consider the clinical and functional use of space, and user needs based on evidence from literature and research, industry input and consumer consultation. They were developed to enable the planning of health facilities to support and enhance the delivery of high standards of patient care.[69]

AusHFG are regularly updated to reflect changes in the delivery of healthcare. As most of the existing CPHB facilities were developed prior to the release of the current AusHFG spatial guidance for hospitals, clinical areas do not meet contemporary health facility requirements and any refurbishments or expansion in capacity is limited due to the constraints of the original design.

Applying AusHFG standards to the current points of care (**POC**) at CPHB would see the facility increase in size from the current 37,500 metres squared (**sqm**) of gross building area (**GBA**) to over 50,000sqm (a 33 per cent increase). This increase reflects space required for room sizes, circulation, plant, travel allowances and clinical spaces.

[69] Australasian Health Facility Guidelines (2016), Part A – Introduction and Instructions for Use, Revision 6.0, 1 March 2016 (viewed at www.healthfacilityguidelines.com.au)

Infrastructure does not support emerging technologies

The condition, size and functionality issues currently facing CPHB do not enable contemporary models of care, including digital infrastructure to enable virtual care.[70] This impacts how healthcare is delivered at CPHB, its ability to meet the future health needs of the community and to efficiently deliver quality healthcare.

Advances in technology provide opportunities to improve healthcare including clinical diagnosis and treatment, delivery of support services, and communication with and between staff and patients. This includes developments in surgical services (e.g. robotics surgery) to maximise patient outcomes, genetic and genomic medicine to support clinical decision making and the use of telehealth and telemonitoring to provide improved access and care closer to home.[71]

A key area of service demand and reform noted in the ACT HSP (ACT Government Health, 2022) is to expand virtual care as a service delivery option, including early implementation of virtual technology to ensure models of care are embedded in clinical models and practice prior to facility planning. This will support agile ways of working, clinical networking and whole of health system collaboration.[72] Examples of virtual care which could be integrated into the ACT health system include:

- Telephone – an audio connection between two or more people
- Video conference – video connection of two or more people allowing all participants to speak to each other, see each other and in some cases exchange data simultaneously
- Remote monitoring – using technology to collect and send medical data to an app, device or service
- Store and forward – where a patient allows clinical information to be collected and sent electronically to another person or site for evaluation or management.[73]

With the right hospital infrastructure in place, it is estimated that 30 per cent of outpatient services could be provided through virtual care models.[74] However, whilst telehealth and telemonitoring are widely used in other jurisdictions, it has had limited uptake in the ACT to date.

Challenge 4: Lack of system redundancy

The lack of redundancy in the ACT health system was made evident through capacity constraints experienced at hospitals during the COVID-19 pandemic. The sudden high demand from COVID-19 patients, within the already constrained health system, resulted in elective surgery being postponed and patients from Canberra Hospital and CPHB being transferred to the University of Canberra Hospital in order to accommodate the surge in capacity.[75] The surge in cases also led to the Garran Surge Centre, located on Garran Oval, being constructed to further support ACT Health efforts in COVID-19 vaccinations.[76]

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[70] ACT Government Health (2022), Draft Northside Clinical Services Plan v0.2
[71] ACT Government Health (2022), ACT Health Services Plan 2022 2030, page 20 (viewed at www.health.act.gov.au, page updated 24 October 2022)
[72] ACT Government Health (2022), Draft Northside Clinical Services Plan v0.2
[73] ACT Government Health (2022), Draft Northside Clinical Services Plan v0.2
[74] ACT Government Health (2022), Draft Northside Clinical Services Plan v0.2
[75] ACT Government (2020), Health service changes in response to COVID-19
[76] Canberra Health Services (2021 and 2022), Canberra Health Services Annual Report 2020 21 and 2021 22

A key underlying issue impacting the ACT health network's resilience is the capacity constraints of the two EDs at CPHB and Canberra Hospital and significant constraints on bed provision across the territory. For example, CPHB currently operates a 80 treatment space ED which received approximately 57,000 presentations in 2021-22.[77,78] Canberra Hospital currently operates a 75 treatment space ED which received 87,000 presentations in 2021-22.[79,80] Between 2021-22 and 2031-32, ED presentations at CPHB are expected to increase to 95,000 as shown in Table 10. CPHB is not equipped to expand in the case of surge capacity, placing the burden on Canberra Hospital to service any surge and overflow of patients.[81]

Table 10: Forecasted CPHB ED presentations by triage category

Presentations	Actual	Projected			Average % change per annum
	2017-18	2021-22	2026-27	2031-32	
Triage 1	213	215	259	313	2.8
Triage 2	4,966	6,281	7,597	9,049	4.4
Triage 3	27,463	30,268	36,870	44,119	3.4
Triage 4	22,572	26,074	29,893	33,633	32.9
Triage 5	3,903	6,855	7,543	8,138	5.4
Total	**59,117**	**69,694**	**82,163**	**95,252**	**3.5**

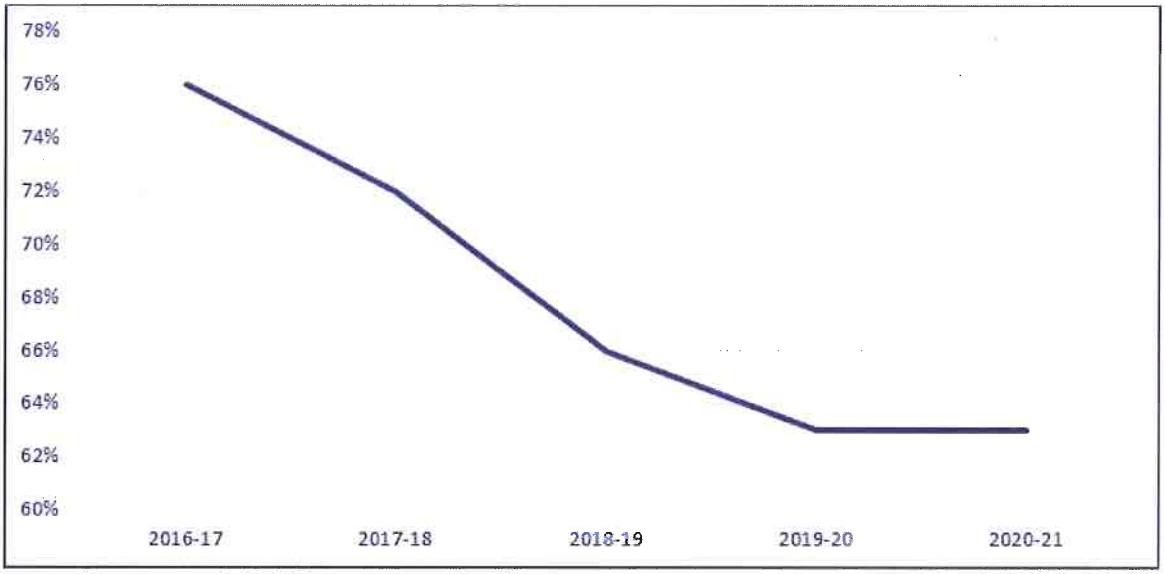
Source: ACT Government Health (2022), ACT Health Services Plan, 2022-2030 (viewed at www.health.act.gov.au, page updated 24 October 2022)

Despite the $6.7 million investment in 2019-20 to expand the CPHB ED by an additional 14 'see and treat' spaces and eight additional short stay beds, the demand for ED services is rising.[82] The number of presentations and median wait time at CPHB ED increased by nearly 5,000 people and 43 minutes between 2016-17 and 2020-21.[83] Similarly, the Canberra Hospital ED presentations have increased by over 8,000 people and median wait times by 51 minutes between 2016-17 and 2020-21.[84] This leaves ACT Health reliant on the NSW Health system to take on patients if there is any further surge.

Figure 13 presents the percentage of patients who departed the CHPB ED within the recommended time of four hours. This percentage has declined from 76 per cent in 2016-17 to 63 per cent in 2019-20 and 2020-21, indicating a deterioration in the performance of the ED at CPHB.

[77] AIHW (2022), Emergency department presentations, 2012-13 to 2021-22
[78] Note the difference in the number of ED presentations in 2021-22 as compared to **Error! Reference source not found.** is due to 2021-22 figures presented in the table being projected figures
[79] AIHW (2021), The Canberra Hospital, Version 8.0, 2 October 2021 (viewed at www.aihw.gov.au)
[80] ACT Government (2022), Key features of the Canberra Hospital Expansion's new Critical Services Building
[81] ACT Government Health (2016), Canberra Hospital and Health Services Operational Procedure: Capacity Escalation Procedure
[82] ACT Government Health (2020), Calvary Public Hospital Bruce ED Expansion
[83] AIHW (2021), Calvary Public Hospital Bruce, Version 8.0, 2 October 2021 (viewed at www.aihw.gov.au)
[84] AIHW (2021), The Canberra Hospital, Version 8.0, 2 October 2021 (viewed at www.aihw.gov.au)

Figure 14: Percentage of patients who departed CPHB ED within four hours



Source: AIHW (2022), Calvary Public Hospital Bruce, Version 8.0

In addition, while CPHB currently have existing aeromedical capabilities with landing at a nearby oval, the location and limited functionality has resulted in it not being utilised for a significant amount of time, driven by its lack of integration within the existing CPHB campus and still additional need for road transport from the oval to the hospital. As such, patient transfers are primarily for emergency care or any transfers to Canberra Hospital rely heavily on land travel (25 minutes by road).

3.3 Timing imperative

Given the existing capacity constraints and ageing infrastructure at CPHB, there is pressing need for investment in new hospital facilities for the northside of Canberra. Without this investment, there will be growing pressure on existing services and greater reliance on Canberra Hospital and hospitals outside of the ACT (e.g. NSW) to pick up potential patient overflow.

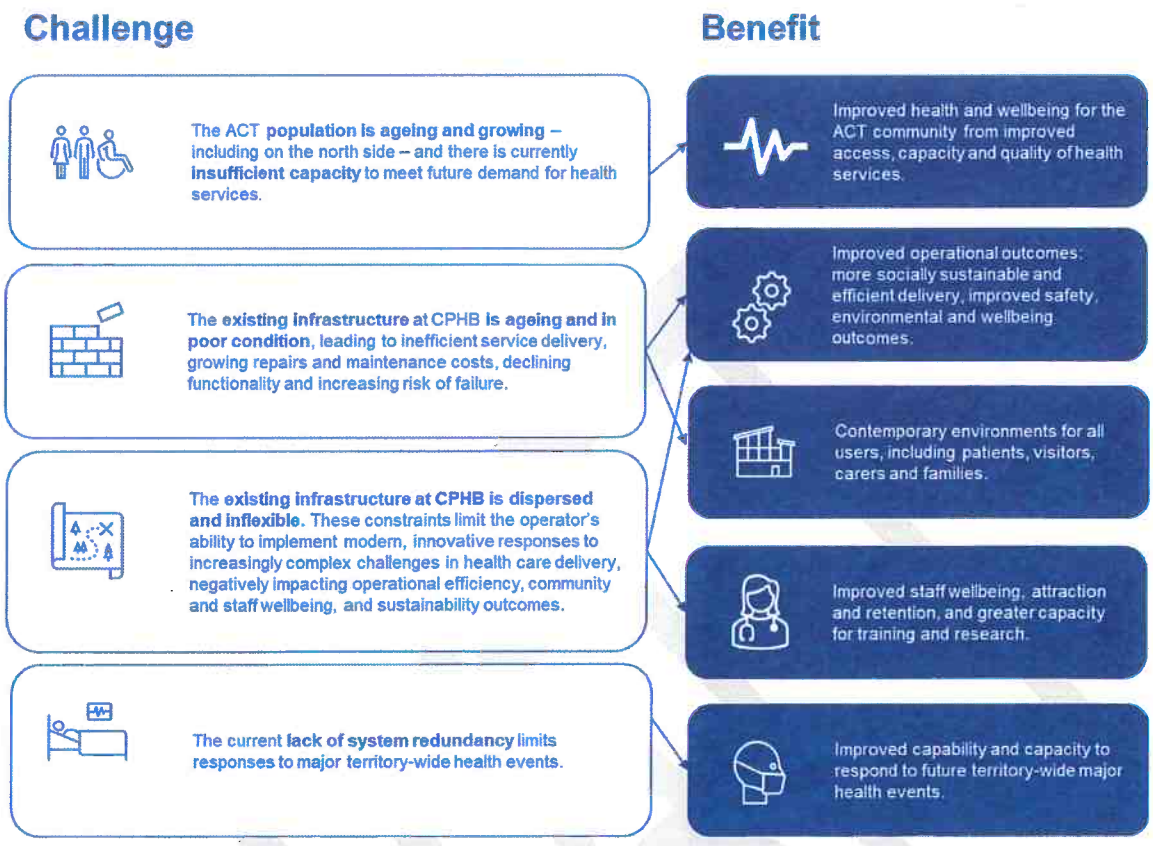
The proposed investment in a new Northside Hospital will enable self-sufficiency of healthcare on the northside through delivery of additional capacity and support the timely and equitable access to health services for residents of the ACT.

It is critical that funding in the 2023-24 Budget is provided to continue the planning and design activities for a new Northside Hospital, to enable the commencement of hospital construction by the mid-2020s before projected demand outstrips existing capacity and access to care becomes increasingly delayed.

3.4 Benefits

The delivery of a new Northside hospital will deliver a range of benefits to patients, their families/carers, ACT Government and broader ACT community. These benefits result from addressing the key challenges currently facing the delivery of healthcare on the northside of the ACT, as identified in the ILW and presented in Figure 14.

Figure 15: Benefits of addressing the challenges currently facing the delivery of healthcare in the ACT as identified in the ILW



The benefits identified above are expected to significantly improve health, environmental and wellbeing outcomes and support improvements to day-to-day hospital operations, workforce capability and system resilience.

A new Northside Hospital is expected to provide the following benefits:

- A better environment to improve health and wellbeing outcomes for staff, patients, carers and families
- Improved accessibility for staff, patients, carers and families from improved wayfinding, navigation and carparking spaces
- Improved staff satisfaction and efficiencies through building design enabling quality patient care
- Flexible, innovative and integrated models of care that use technology to deliver timely and effective person-centred digital solutions
- Implementation of a planned maintenance program that is proactive rather than reactive, including an increase in the utilisation of digital business systems
- Improved system redundancy and coordination between community partners across the ACT to provide appropriate and efficient response to future territory wide major events

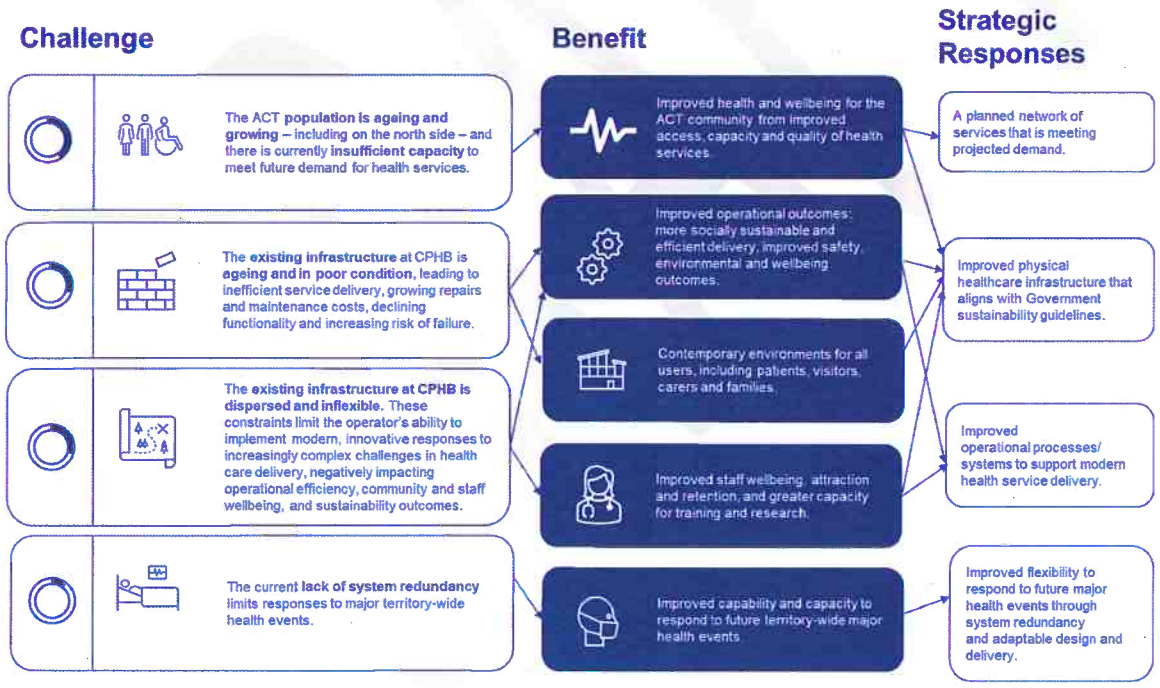
- Greater transparency of service delivery / contractual opportunities through improved coordination between operators and the ACTHD
- Broader economic benefits for the ACT including additional jobs and new businesses / services provided adjacent to the hospital.

Additionally, a new Northside Hospital presents an opportunity to improve the integration and coordination of health services across the entire health system. MoC at the new Northside Hospital with emphasise integration of care between the hospital, the community and primary care, including the sharing of information. The delivery of integrated and coordinated health services at the new hospital aligns with the Territory health network approach to linking primary and community healthcare providers.

3.5 Strategic responses

In considering the need for investment and drivers for the new Northside Hospital, ACTHD and MPC have considered a range of strategic responses spanning across a spectrum of network level interventions to capital intervention in new facilities to meet community needs. This is illustrated in Figure 15.

Figure 16: Strategic responses to the challenges currently facing healthcare on the northside of the ACT



As indicated, the range of strategic responses identify the need for change across a range of areas, including health planning, infrastructure development as well as health service operations and workforce capability. If implemented, these reforms are expected to deliver a range of outcomes, including:

- Additional capacity to meet future demand for health services that are technology enabled, functional, flexible, sustainable and adaptable for the northside of the ACT

- Improved risk management systems to identify safety measures and hazards and implementation of a proactive planned maintenance program
- Improved alignment with the opportunities identified in the ACT HSP
- Improved alignment with the sustainability guidelines of the ACT Climate Strategy
- A user centric experience that accommodates the entire journey of care for both the consumers, carers and family, promotes healing, improves accessibility and is culturally appropriate
- A future ready workforce
- Improved capability to respond to future health events / pandemics.

The mapping of problems, benefits and strategic responses highlighted that the foundation of an appropriate strategic response is the coordinated development of a new network health plan and new hospital facilities for the northside of Canberra.

4. Strategic and Policy Alignment

This chapter summarises how a new Northside Hospital aligns with key government policies and strategies.

The targeted outcomes of a new Northside Hospital are strongly aligned to a range of ACT Government commitments, policies, strategic vision and objectives. Specifically, a new Northside Hospital supports strategic outcomes across three key areas, including:

- ACT Health service plans and strategies: a new Northside Hospital meets the service needs identified by the ACT HSP by delivering expanded inpatient and outpatient services to meet the rising demand, and by redesigning clinical service offerings on the northside to improve access and capacity across the care continuum and quality of health services. It also supports the Northside Clinical Services Plan (**CSP**) which identifies priority service directions across the northside and for the Northside Hospital.
- ACT Aboriginal and Torres Strait Islander health plans and agreements: a new Northside Hospital will support the targets of the ACT Aboriginal and Torres Strait Islander Agreement 2019 2028 through delivery of culturally appropriate healthcare options and services in Canberra to ensure equity in health and wellbeing outcomes.
- Broader ACT infrastructure and economic plans: a new Northside Hospital is identified as a long-term priority within the ACT Infrastructure Plan and also supports the Territory Plan to deliver health infrastructure in north Canberra where demand is high and urban development is concentrated. A new hospital will support a growing healthcare sector, contribute to the attraction and retention of healthcare workers and create opportunities for local residents.

A new Northside Hospital would also align with other projects and programs across the ACT including the Canberra Hospital Expansion, Community Health Hubs and nurse-led Walk In Centres, as well as a range of Commonwealth Government policies and priorities including Australia's Long Term National Health Plan and National Aboriginal and Torres Strait Islander Health Plan.

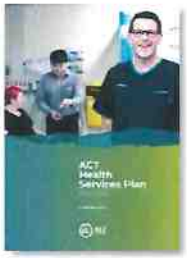
4.1 Alignment with ACT Government commitments and policies

A new Northside Hospital aligns with and contributes to a range of ACT Government commitments, policies, strategic visions, and objectives:

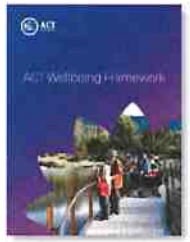
- ACT HSP, 2022-2030 (ACT Government Health, 2022)
- Draft Northside CSP 2022-2030 (V0.2) (ACT Government Health, 2022)
- Accessible, accountable, sustainable - A framework for the ACT Public Health 2020-2030 (ACT Government Health, 2022)
- Healthy Canberra ACT Preventative Health Plan, 2020-2025 (ACT Government Health, 2019)
- ACT Women's Plan 2016-2026 (ACT Government Community Services, 2016)
- ACT Mental Health and Suicide Prevention Plan 2019-2024 (Capital Health Network, 2020)
- ACT Wellbeing Framework (Capital Health Network, 2020)

- Digital Health Strategy 2019 2029 (ACT Government Health, 2022)
- ACT Infrastructure Plan: Planning for the Future (ACT Government Treasury, 2019)
- The Territory Plan (ACT Government Environment, Planning and Sustainable Development Directorate – Planning, 2022)
- ACT Planning Strategy 2018 (ACT Government, 2018)
- ACT Climate Change Strategy 2019-2025 (ACT Government, 2019)
- ACT Aboriginal and Torres Strait Islander Agreement 2019-2028 (ACT Government Community Services, 2019)
- Canberra Switched On 2022-2025 (ACT Government ACT's Economic Development Priorities, 2021)
- Parliamentary & Governing Agreement for the 10th Legislative Assembly Australian Capital Territory (ACT Government, 2020)
- The ACT Carers Strategy 2018-2028, Final Report, First Action Plan (ACT Government Community Services, 2021)
- ACT Disability Health Strategy (ACT Government Health, 2022)
- Maternity in Focus – The Public Maternity System Plan for 2022-2032 (ACT Government Health, 2022)
- ACT Transport Strategy 2020 (ACT Government Transport Strategy, 2020)
- The Global Green and Healthy Hospitals (**GGHH**) network (GGHH, 2022)
- Lesbian, Gay, Bisexual, Trans and gender diverse, Intersex, Queer and questioning (**LGBTIQ+**) Health Scoping Study (ACT Government Health, 2021).

Table 11: Alignment with ACT Government strategies

Government commitments and policies	Policy overview	A new Northside Hospital alignment
ACT HSP, 2022-2030 (ACTHD, 2022) 	The ACT HSP sets a roadmap for the next 8 years to redesign, invest in and redevelop health services. The plan sets the ACT Government's vision for how they will meet the needs of Canberra's growing population and deliver healthcare for those in surrounding regions; to support the workforce to do what they do best; and to keep working towards true person centred care. The focus and desired outcomes of the plan include: • Addressing key areas of service demand and reform • Supporting seamless transitions of care • Formalising ACT's role as a local, Territory and regional service provider • Strengthening core ACT Government funded clinical support services.	The ACT Health Services Plan is based on an assessment of service need across the care continuum and taking into consideration current ACT Government commitments including a new Northside Hospital. A new Northside Hospital helps to meet the plan's vision by delivering increased inpatient and outpatient health services to meet rising demand and by redesigning clinical service offerings on the northside to improve access, capacity and quality of health services.
Draft Northside CSP 2022-2030 (V2.0) 	The Draft Northside CSP takes forward many of the Territory wide actions from a northside planning perspective. The Northside CSP supports the achievement of the priority service directions identified in the ACT HSP and seeks to deliver care closer to home and improve health outcomes and access to care. The Draft Northside CSP has identified the health needs of the community across the overall health system and provides a plan to address those needs.	The Draft Northside CSP guides the facility planning and future service requirements for the new Northside Hospital.
Accessible, accountable, sustainable - A framework for the ACT Public Health 2020 2030 	Accessible, Accountable, Sustainable: A Framework for the ACT Public Health System 2020-2030 has been developed to provide a common vision for the strategic, policy and planning activities that will shape the future direction of ACT health services over the next decade. The Framework was developed in consultation with an advisory group that included representatives from consumer, carer, peak and advocacy groups, primary health and clinical services. The Framework identifies the priority population groups and key strategic partnerships to be focused on in delivering on the key strategies identified under each goal. Substantial work has been progressed on a number of	The new Northside Hospital supports the strategic goals of the framework by: • Delivering increased capacity to make services more accessible for Canberrans in line with the changing demand • Delivering new infrastructure which supports workforce training and development and enables implementation of contemporary models of care to improve accountability of the health service

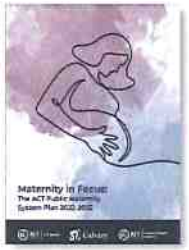
Government commitments and policies	Policy overview	A new Northside Hospital alignment
	these strategies, including Healthy Canberra: ACT Preventive Health Plan 2020-2025, the Digital Health Strategy 2019-2029, the Regional Mental Health and Suicide Prevention Plan, the ACT HSP and Infrastructure Planning.	• Improving sustainability of health services by building resilience of the network and improving overall operational efficiency.
Healthy Canberra ACT Preventative Health Plan, 2020 – 2025 (ACTHD, 2019) 	The Healthy Canberra Plan sets the foundations for reducing the prevalence of chronic disease and supporting good health across all stages of life. It articulates strategic priorities and areas for government led action, taking into account the latest available evidence and needs of the ACT population. The plan identifies five priority areas: supporting children and families, enabling active living, increasing healthy eating, reducing risky behaviours and promoting healthy ageing.	A new Northside Hospital will support the promotion of healthy ageing by improving access to care within the community and focusing on early intervention and disease management. This will help reduce the risk factors of many chronic diseases, improve health and wellbeing in later life and reduce the social and health costs of the ageing population.
ACT Women's Plan 2016 – 2026 (ACTHD, 2016) 	The ACT Women's Plan 2016 26 is a 10 year plan to create an ACT community that values and respects women and girls, commits to gender equality and promotes and protects the rights, wellbeing and potential of all women and girls. The Plan identifies how the ACT Government will work with community members, the community sector and the private sector to ensure that everyone is actively working towards true equality for women and girls.	A new Northside Hospital will increase access to new and contemporary health services for women in the ACT.
ACT Mental Health and Suicide Prevention Plan 2019 – 2024 (Capital Health Network, 2019)	The joint regional ACT Mental Health and Suicide Prevention Plan is a 5 year plan that identifies local mental health and suicide prevention programs and service planning priorities and actions. The plan is informed by the priorities of the Fifth National Mental Health and Suicide Prevention Plan (Fifth Plan) and speaks to the local context and needs of the ACT region. The strategic priorities of the plan include improved outcomes; responsive and integrated services; a skilled and sustainable workforce;	A new Northside Hospital will increase the capacity of inpatient and outpatient mental health services on the northside of the ACT and contribute to meeting the future mental health needs of the ACT community. In addition, new and contemporary mental health facilities available to the ACT community is a key contributor to providing person centric, whole of person care, will support the reduction in

Government commitments and policies	Policy overview	A new Northside Hospital alignment
	early intervention; whole of person care; reduced self-harm and suicide prevention; and improving the economic and social conditions of people's lives.	self-harm and suicide prevention and contribute to improving wellbeing of people with a lived mental health experience.
ACT Wellbeing Framework (ACT Government, 2020) 	The ACT Wellbeing Framework provides high level indicator outcomes for Canberra to support future policy design and decision making. The framework includes 12 domains of wellbeing, reflecting key factors that impact on the quality of life of Canberrans: Health, safety, living standards, housing and home, environment and climate, social connection, education and life-long learning, time, identity and belonging, governance and institutions, access and connectivity, and economy. The ACT Government is committed to using the Wellbeing Framework to inform Government priorities, policies and investment decisions – including through the annual Budget process.	A new Northside Hospital will deliver on 2 key wellbeing domains: • Health: by improving patient outcomes including health and wellbeing, improving wellbeing for families and carers, and delivering care closer to home • Economy: by supporting economic growth and job creation in the ACT during both the delivery and operation of the new hospital.
Digital Health Strategy 2019 2029 (ACTHD, 2019) 	The Digital Health Strategy presents ACTHD's strategic vision for enabling and delivering person centred care through digital innovation. The strategy outlines the direction and principles to guide the design and development of the digital capabilities needed to support a sustainable, innovative and world class health system. It illustrates a desired future state for the ACT with regard to digital health, based on the strategic themes of patient centred care; health services enabled by contemporary technology; and research, discovery and collaboration.	A new Northside Hospital presents an opportunity to deliver hospital infrastructure that embeds contemporary healthcare technologies and equipment and enables technology driven health services.
ACT Infrastructure Plan: Planning for the Future (ACT Treasury, 2019)	The ACT Infrastructure Plan outlines future infrastructure decisions and goals for the territory. Infrastructure investment decisions included in the plan span across various areas including health, education, transport, community services, cultural and recreational facilities, city services and city planning and land release. The new edition of the ACT Infrastructure	A new Northside Hospital is identified as a long term priority within the ACT Infrastructure Plan and is part of delivering infrastructure to support sustainable health services for the growing population of the ACT. A new Northside Hospital provides opportunities to harness contemporary models of

Government commitments and policies	Policy overview	A new Northside Hospital alignment
	Plan takes a longer term view of the communities needs and the infrastructure necessary to meet them.	care and digital technologies to support better health outcomes and to attract and retain medical practitioners as outlined in the plan.
The Territory Plan (ACT Government, 2022) 	The Territory Plan is a statutory document that guides planning and development in the ACT to provide the people of the ACT with an attractive, safe and efficient environment in which to live, work and play. The Territory Plan contains a statement of strategic direction of broad strategic principles, maps, objectives and development tables and area codes for the territory.	A new Northside Hospital will be aligned with the Territory Plan and its objectives for development in north Canberra. It will provide increased access to healthcare close to home and additional jobs and opportunities for local residents.
ACT Planning Strategy 2018 (ACT Government, 2018) 	The ACT Planning Strategy 2018 is a refresh of the 2012 strategy, building on its successes and incorporating social, economic and environmental changes currently occurring. It captures issues of concern for Canberrans and provides a clear, robust and contemporary urban planning framework to guide growth and prosperity. It complements other strategies in climate change, transport and housing. The five themes of the strategy are: • Compact and efficient • Diverse • Sustainable and resilient • Liveable • Accessible.	A new Northside Hospital aligns to the themes of the ACT Planning Strategy 2018 by delivering improved access to healthcare, especially on the northside where demand is high and urban development is concentrated, supporting a growing healthcare sector and contributing to a more liveable city by supporting physical and mental health.
ACT Climate Change Strategy 2019 – 2025 (ACT Government, 2019)	The strategy outlines the next stage of the ACT Government's climate change response and identifies actions to meet the targets and prepare for climate change. The actions have been developed with the community and stakeholders and are focused on: meeting the 2025 target; building resilience to climate change impacts; ensuring that the ACT does not 'lock	A new Northside Hospital presents an opportunity to incorporate best practice sustainability features and support achieving a zero emissions public health sector by 2040. A new Northside hospital will be developed to work in

Government commitments and policies	Policy overview	A new Northside Hospital alignment
	in' future emissions; and laying the foundations for achieving net zero emissions.	alignment with the standards in section 5D Zero Emissions Government, including: • 5:10 Establish and implement a pathway to a zero emissions ACT Government health sector by 2040 informed by an assessment of all current and planned public health facilities • 5:13 Ensure all newly built or newly leased Government buildings and facilities are all electric and climate wise.
ACT Aboriginal and Torres Strait Islander Agreement 2019 – 2028 (ACT Government, 2019) 	The ACT Aboriginal and Torres Strait Islander Agreement acknowledges that Aboriginal and Torres Strait Islander leadership is central to the process of ensuring the long term emotional and physical wellbeing of Aboriginal and Torres Strait Islander communities. It also includes a specific target of "continued partnerships for the development of culturally appropriate rehabilitation and detox options in Canberra for Aboriginal and Torres Strait Islander people." Delivery of this Aboriginal and Torres Strait Islander specific service will help to ensure Aboriginal and Torres Strait Islander peoples have equity in health and wellbeing outcomes with other members of the community.	The new Northside Hospital project provides an opportunity to provide culturally appropriate spaces for Aboriginal and Torres Strait Islander people, and to develop dedicated programs and initiatives with the local community to deliver improved health outcomes.
Canberra Switched On – ACT's Economic Development Priorities 2022 – 2025 (ACT Government, 2021) 	The ACT Government is currently delivering the agenda of the original statement in 2016, and has set 3 key missions to achieve the objectives and to create an ambitious shared future for Canberra: • A city that gives back time • Towards a net zero city and beyond • Knowledge based economic growth.	A new Northside Hospital contributes to the shared future for Canberra through: • Providing access to healthcare close to home for residents of the northside of the ACT and provides additional jobs for the local communities • Providing new facilities that will support sustainability targets of the ACT • Supporting increased research and training for the healthcare sector.

Government commitments and policies	Policy overview	A new Northside Hospital alignment
Parliamentary & Governing Agreement for the 10th Legislative Assembly 	The ACT Labour and ACT Greens Parliamentary and Governing Agreement for the 10th Australian Capital Territory Legislative Assembly represents the parties' shared commitment to serve the people of the ACT. The Labour and Greens government for the ACT have agreed on a list of priorities and outcomes to be achieved during the Parliamentary Term of the 10th Legislative Assembly through constructive and collaborative engagement as a two party government.	The Parliamentary and Governing Agreement notes that the Government aims to deliver high quality healthcare for Canberra, and state their intention to continue the planning and design work for a new Northside Hospital, with the aim to start construction by mid-decade.
The ACT Carers Strategy 2018 – 2028, Final Report, First Action Plan 	The ACT Government is committed to recognising and supporting carers' rights, choices and opportunities to participate fully in all areas of life. The ACT Government committed to developing a carers strategy in close consultation with Carers ACT, stakeholder groups and the community in the Parliamentary Agreement for the 9th Legislative Assembly. A deliberative panel collaborated to develop the vision, outcomes and priorities for the ACT Carers Strategy 2018-2028. The strategy's vision is to have a community that that cares for carers and the people they care for.	The new Northside Hospital will be developed in consideration of the ACT Carer's Strategy. Of particular relevance are the following actions identified within the strategy: • To acknowledge carers on health plans, including their role and support needs • To consider carers needs during the hospital discharge process. • Conduct a carer impact assessment for the 'Hospital in the Home' initiative, to consider carers' needs and their role as part of the care team.

Government commitments and policies	Policy overview	A new Northside Hospital alignment
Disability Health Strategy (under development) 	ACTHD, in collaboration with the Office for Disability, are co designing the ACT Disability Health Strategy with the ACT disability community to ensure better health outcomes for people with disabilities, their families, and carers. The strategy is still under development, with the launch of the final strategy expected towards the end of 2023.	The new Northside Hospital would seek to align to the ACT Disability Health Strategy, through enabling the provision of effective care for people with a disability attending the hospital. The design of the hospital will develop upon 'Universal design' of health services (including facilities, equipment and processes) which can improve access to care for the whole population, especially when co designed with consumers.
Maternity in Focus **The ACT Public Maternity System Plan 2022-2032** 	The ACT Government is committed to providing high quality, safe and woman and person centred care to all women and individuals accessing care through the public maternity system. Maternity in Focus incorporates a variety of national maternity related strategies and the Government's Response to the ACT Legislative Assembly's Inquiry into Maternity Services into one plan. Outlining the sector's priorities over the next 10 years, Maternity in Focus is designed to inform and prioritise practical steps to create sustainable and meaningful change across our services.	As part of this plan, the ACTHD, CHS and CPHB will work closely with stakeholders to deliver a public maternity system that delivers the right care in the right place at the right time and meets the needs of the community and workforce. The new Northside Hospital will be designed to reflect the changes and priorities identified in the Maternity in Focus System Plan.
ACT Transport Strategy 2020 	The ACT Transport Strategy sets out the ACT Government's approach to achieving their vision and provides a framework for planning and investing in transport for the next 20 years. The vision for transport is for a world class system that supports a compact, sustainable, and vibrant city. At a strategic level, the ACT Transport Strategy seeks to employ the following main avenues to bring about the transport system of the future: • A future focused investment framework • Refocused network planning and design • Optimising our infrastructure	The new Northside Hospital will be planned with consideration for current and future transport infrastructure and services.

Government commitments and policies	Policy overview	A new Northside Hospital alignment
GGHH, 2022 	The ACTHD/ ACT Government is a member of GGHH. GGHH is an international network of hospitals, healthcare facilities, health systems, and health organisations with the shared goal of reducing the environmental footprint of the health sector and contributing to improved public and environmental health. The framework and roadmap to reach this goal is provided by the GGHH Agenda and its 10 interconnected sustainability goals for hospitals and health systems to work towards at their facilities.	The new Northside Hospital will be planned with consideration of the sustainability goals within the GGHH Agenda through implementation of sustainable design principles and operations.
LGBTIQ+ Health Scoping Study, 2021 	The ACT Government is focused on improving the health and wellbeing of LGBTIQ+ Canberrans to make Canberra the most LGBTIQ+ inclusive and welcoming city in Australia. The scoping study looks at the gaps and opportunities for health services for LGBTIQ+ people in the ACT and identifies barriers to seeking health services. The report details a range of recommendations to help ensure health services meet the diverse needs and priorities of the ACT's LGBTIQ+ community, including the need to focus on education, improve service provision and increase kindness and respect.	The new Northside hospital will be planned with consideration of the health and wellbeing LGBTIQ+ community in Canberra, through the delivery of inclusive health services in consultation with relevant stakeholders.

Source: ACT Government Health (2022), ACT Health Services Plan, 2022-2030 (viewed at www.health.act.gov.au, page updated 24 October 2022), ACT Government Health (2022), Draft Northside Clinical Services Plan 2022-2030 v0.2, ACT Government Health (2020), Accessible, accountable, sustainable A framework for the ACT Public Health 2020-2030, (viewed at: health.act.gov.au), ACT Government Health (2019), Healthy Canberra ACT Preventative Health Plan, 2020 – 2025, (viewed at: health.act.gov.au), ACT Government Community Services (2016), ACT Women's Plan 2016 – 2026 (viewed at: communityservices.act.gov.au) Capital Health Network (2020), ACT Mental Health and Suicide Prevention Plan 2019 – 2024 (viewed at: chnact.org.au), ACT Government (2020), ACT Wellbeing Framework (viewed at: act.gov.au), ACT Government Health (2022), Digital Health Strategy 2019 2029 (viewed at: health.act.gov.au), ACT Government Treasury (2019), ACT Infrastructure Plan: Planning for the Future (viewed at: treasury.act.gov.au), ACT Government Environment, Planning and Sustainable Development Directorate – Planning (2022), The Territory Plan (viewed at: planning.act.gov.au), ACT Government (2018), ACT Planning Strategy 2018 (viewed at: planning.act.gov.au), ACT Government (2019), ACT Climate Change Strategy 2019 – 2025 (viewed at: environment.act.gov.au), ACT Government Community Services (2019), ACT Aboriginal and Torres Strait Islander Agreement 2019 – 2028 (viewed at: communityservices.act.gov.au), ACT Government ACT's Economic Development Priorities (2021), Canberra Switched On 2022 – 2025 (viewed at: act.gov.au/cbr switched on), ACT Government (2020), Parliamentary & Governing Agreement for the 10th Legislative Assembly Australian Capital Territory (viewed at: cmtedd.act.gov.au), ACT Government Community Services (2021), The ACT Carers Strategy 2018 – 2028, Final Report, First Action Plan (viewed at: communityservices.act.gov.au), ACT Government Health (2022), ACT Disability Health Strategy (viewed at: health.act.gov.au), ACT Government Health (2022), Maternity in Focus – The Public Maternity System Plan for 2022-2032 (viewed at: health.act.gov.au), ACT Government Transport Strategy (2020), ACT Transport Strategy 2020 (viewed at: transport.act.gov.au), The Global Green and Healthy Hospitals network, 2022 (viewed at: greenhospitals.org), ACT Health (2021), LGBTIQ+ Health

4.2 Wellbeing Impact Assessment

In line with the ACT Wellbeing Framework (ACT Government, 2020), a wellbeing assessment has been completed (see Appendix B -- Wellbeing Impact Assessment), which highlights improved wellbeing across the domains of health and economy of the ACT from the investment in a new northside hospital.

Two key wellbeing impacts have been identified, as summarised in Table 12.

Table 12: Wellbeing Impact Assessment summary

Impact	Description	Type	Stakeholders	Timeframe
Health	Improved patient outcomes through improved health and wellbeing for patients and future generations, provision of care closer to home and improved wellbeing for families and carers and across the ACT community.	Positive Major	• ACT residents and patients • Healthcare workers • Families and carers • Business and local economy	5+ years
Economy	Economic growth and job creation in the ACT during both the delivery and operation of the new hospital.	Positive Major	• Workers in healthcare, construction and other associated industries • Broader ACT community over the long term	5+ years

Source: ACT Government Health (2022), Northside Hospital Wellbeing Impact Assessment, see Appendix B

4.3 Alignment with other projects, programs and precincts

A range of investments in health and transport across the ACT have been considered in the planning of the new Northside Hospital, including:

- The Canberra Hospital Expansion
- Canberra Hospital Master Plan 2021-2041
- Digital Health Record Project
- Walk-in Centres across Canberra
- Watson Community Health Precinct
- Extension of Canberra's Light Rail Network to Belconnen
- Health workforce strategies.

A summary of these investments and their alignment with a new Northside Hospital are presented in Table 13.

Table 13: Alignment with other projects, programs and precincts

Projects / programs / precincts	Description and timing	Alignment with a new Northside Hospital
Health		
The Canberra Hospital Expansion	The Canberra Hospital expansion includes investment in a new Critical Services Building on the existing hospital campus in Woden . This new 40,000 square metre facility will enable a bigger, better Canberra Hospital to meet the needs of a growing population within central Canberra, including a new emergency room, additional operating rooms, treatment spaces and intensive care beds to expand the overall capacity of the Canberra Hospital. Construction of the new facility began in 2021 and is expected to be completed by 2024.	Construction of a new Northside Hospital will complement the commissioning of this new facility at Canberra Hospital through reducing the demand pressures from the northside of Canberra. The Canberra Hospital expansion and demand for services at this expanded facility have been taken into account when forecasting the demand for services at the new Northside Hospital.
Canberra Hospital Master Plan	The Canberra Hospital Master Plan outlines a path for the development of the Canberra Hospital campus over the coming 20 years. The investment will deliver a world leading medical environment to support the best healthcare in the region.	A new Northside Hospital will complement the vision of the Canberra Hospital Master Plan through the provision of health services for residents on the northside of the ACT. This will ensure equity of service and access to high quality healthcare across the Territory. A new Northside Hospital will also support resilience of the ACT health system by providing additional capacity during major incidents and events, easing the pressure on Canberra Hospital.
Digital Health Record Project	The ACT Government has made significant investments in health related information communications technology (ICT) infrastructure. Through the Digital Health Record project, $200 million will be invested over the 7 years to 2025-26 to transform and enhance the way healthcare is provided – with each person having a unique record that can be accessed at any service location. This will facilitate faster access to information, improve quality of care and provide better data to inform future investment priorities.	A new Northside Hospital presents an opportunity to incorporate the latest, most advanced healthcare technologies and equipment, to increase efficiency and quality of healthcare services delivery. This will support the roll out of the Digital Health Record and support both staff and patients in improved access to information and care.

Projects / programs / precincts	Description and timing	Alignment with a new Northside Hospital
Walk-in Centres across Canberra	Operating alongside the public hospital system, the Government has now opened new nurse-led Walk In Centres in Belconnen, the Inner North, Gungahlin, Tuggeranong, and Weston Creek. These centres provide free healthcare for people with minor injuries and illnesses and help reduce pressure on the EDs. They provide accessible healthcare for people close to where they live and, in the case of the Weston Creek Walk In Centre, vital testing facilities during the COVID-19 pandemic.	Walk In Centres help to relieve the demand for health services from the ED, allowing the new Northside Hospital ED to have more capacity to service the most urgent cases. When forecasting demand for services at the new Northside Hospital, the activity levels at Walk in Centres have been taken into account.
Watson Community Health Precinct	The ACT Government is continuing to work with community partners to strengthen health services for young people and Aboriginal and Torres Strait Islander Canberrans as planning starts for the Watson Community Health Precinct. New facilities will be built for Ted Noffs and Catholic Care which currently operate on the site, to continue providing alcohol and other drug rehabilitation services for young people and residential care for young people with mental health conditions. Work is also underway to develop an Aboriginal and Torres Strait Islander community controlled residential alcohol and other drug rehabilitation facility on a separate part of the Watson site aimed at promoting rehabilitation and recovery in a culturally safe and inclusive environment.	The rehabilitation services delivered at Watson Community Health Precinct are expected to take the pressure off mental health and drug and alcohol rehabilitation services at current and future hospitals. When forecasting demand for services at the new Northside Hospital, the activity levels at Watson Community Health Precinct have been taken into account.
Health workforce strategies	Various workforce strategies have been developed by the ACT Government which outline a vision for the ACT public healthcare system where healthcare staff are supported and protected from harm and feel safe at all times. The strategies seek to create a safer and healthier environment for all staff and persons who enter ACT public health workplaces. Workforce strategies include *Nurses and Midwives: Towards a Safer Culture* strategy, *Addressing Occupational Violence Strategy 2019-2022* (ACT Government), *Nurse/Midwife Ratios Framework* (ACT Government Health), *Independent Review into Workplace Culture* (ACT Government Health), the Occupational Violence Strategy Working Group run by CHS and the Great Workplaces Program run by CPHB.	The ACT Government will progress workforce reform to future proof health services in the ACT by creating a strong culture of respect and safety for staff. The aims of the workforce strategies will be applied to the new Northside Hospital.

Projects / programs / precincts	Description and timing	Alignment with a new Northside Hospital
Transport		
Extension of Canberra's Light Rail Network to Belconnen	ACT Light Rail Stage 2 is a proposed new 11km light rail corridor operating between Civic and Woden, via the Parliamentary Triangle. A long term priority of the ACT Government is to expand the Light Rail network along an east west link connecting Belconnen to the City.	Although plans for this stage of the Light Rail are yet to be considered by Government, it is expected that servicing the Northside Hospital site will be a consideration when determining the rail alignment.

Source: The Canberra Hospital Expansion: ACT Government (2022), Canberra Hospital Expansion takes shape, 1 June 2022 (viewed at: www.act.gov.au/ourcanberra/latest news), ACT Government Health (2021), Canberra Hospital Master Plan 2021-2041, (viewed at: health.act.gov.au), Watson Community Health Precinct: ACT Government (2022), Next stage in planning for health service upgrades in Watson, 18 February 2022, Media release from Rachel Stephen Smith, Minister for Health (viewed at: www.act.gov.au/open_government/inform/act_government_media_releases), Extension of Canberra's Light Rail Network to Belconnen: ACT Government (2022), Light Rail to Woden (viewed at: www.act.gov.au/lightrailtowoden/about)

4.4 Consideration of Commonwealth Government policies and priorities

The planning of a new Northside Hospital has been conducted in alignment with the following Commonwealth Government policies and priorities:

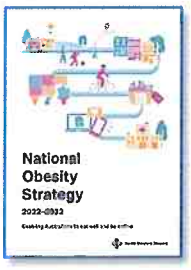
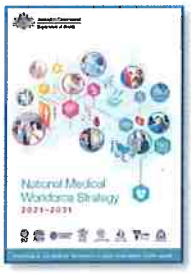
- Australia's Long Term National Health Plan (2019)
- National Aboriginal and Torres Strait Islander Health Plan (2021-2031)
- National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021-2031)
- National Obesity Strategy (2022-2032)
- National Medical Workforce Strategy (2021-2031)
- National Women's Health Strategy (2020-2030)
- National Action Plan for the Health of Children and Young People (2020-2030)
- National Men's Health Strategy 2020-2030
- Fifth National Mental Health and Suicide Prevention Plan (2017)
- Australasian Health Facilities Guidelines (2022)
- Infrastructure Australia - 2021 Infrastructure Plan (2021).

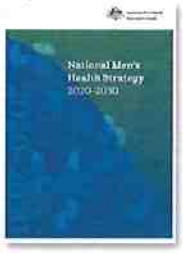
A summary of these policies and priorities and their alignment with a new Northside Hospital are presented in Table 14.

Table 14: Alignment with Commonwealth Government policies and priorities

Policies and priorities	Description and timing
Australia's Long Term National Health Plan (2019)	Australia's Long Term National Health Plan (2019) outlines the way forward in key areas of mental health, primary care, hospitals, preventative health and medical research. The four key pillars in the reform plan are:

Policies and priorities	Description and timing
	• Guaranteeing Medicare and improving access to medicines through the Pharmaceutical Benefits Scheme • Supporting public and private hospitals, including improvements to private health insurance • Prioritising mental health and preventive health • Investing in health and medical research. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.
National Aboriginal and Torres Strait Islander Health Plan (2021-2031) 	The National Aboriginal and Torres Strait Islander Health Plan 2021–2031 is the new national policy to improve health and wellbeing outcomes for Aboriginal and Torres Strait Islander people over the next 10 years. The plan identifies 12 priorities: • Priority 1: Genuine shared decision making and partnerships • Priority 2: Aboriginal and Torres Strait Islander community controlled comprehensive primary healthcare • Priority 3: Workforce • Priority 4: Health Promotion • Priority 5: Early Intervention • Priority 6: Social and emotional wellbeing and trauma aware, healing informed approaches • Priority 7: Health environments, sustainability and preparedness • Priority 8: Identify and eliminate racism • Priority 9: Access to person centred and family centred care • Priority 10: Mental health and suicide prevention • Priority 11: Culturally informed and evidence based evaluation, research and practice • Priority 12: Shared access to data and information at a regional level. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.
National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021 2031) 	The National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan (2021-2031) has been co designed with Aboriginal and Torres Strait Islander people. This plan outlines the Australian Government target for Aboriginal and Torres Strait Islander people to be fully represented in the healthcare workforce by 2031. The plan is guided by 6 overarching strategic directions to support the ongoing development of the size, capability, and capacity of the Aboriginal and Torres Strait Islander health workforce. It includes actions to attract, recruit and retain workers across all roles, levels and locations within the health sector. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.
National Obesity Strategy (2022-2032)	The National Obesity Strategy (2022-2032) is a 10 year framework for action to prevent, reduce, and treat, overweight and obesity in Australia. It focuses on prevention, but also includes actions to better support Australians who are living with overweight or obesity, to live their healthiest lives. 3 ambitions are identified for addressing obesity in Australia:

Policies and priorities	Description and timing
	• Ambition 1: All Australians live, learn, work, play and age in supportive, sustainable and healthy environments • Ambition 2: All Australians are empowered and skilled to stay as healthy as they can be • Ambition 3: All Australians have access to early intervention and supportive healthcare. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.
National Medical Workforce Strategy (2021-2031) 	The National Medical Workforce Strategy (2021–2031) has been developed to guide long term medical workforce planning across Australia. This 10 year strategy will improve access to healthcare by supporting the right people to have the right skills, where we need them most. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.
National Women's Health Strategy (2020-2030) 	The National Women's Health Strategy (2020-2030) outlines Australia's national approach to improving the health of women and girls – particularly those at greatest risk of poor health – and to reducing inequities between different groups. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.
National Action Plan for the Health of Children and Young People (2020-2030) 	The National Action Plan for the Health of Children and Young People (2020-2030) outlines the national approach to improving health outcomes for all children and young people. It aims to ensure that children and young people, from all backgrounds and all walks of life, have the same opportunities to fulfil their potential, and are healthy safe and thriving. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.
National Men's Health Strategy 2020-2030	The National Men's Health Strategy 2020-2030 outlines Australia's national approach to improving the health of men and boys – particularly those at greatest risk of poor health – and to reducing inequities between different groups. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.

Policies and priorities	Description and timing
	
Fifth National Mental Health and Suicide Prevention Plan (2017) 	The Fifth National Mental Health and Suicide Prevention Plan outlines the nationally agreed priority areas and actions to achieve an integrated mental health system. It builds on the foundation established by the 4 previous National Mental Health Plans and on existing state and territory mental health plans and reforms. Endorsed by the Council of Australian Government in 2017, the Fifth Plan focuses on suicide prevention, coordinating treatment and support for people with severe and complex mental illness, improving the physical health of people with mental illness and ensuring safety in the delivery of services. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.
Australasian Health Facilities Guidelines (AHIA, 2022)	AusHFG provide information to assist health services and design teams to plan and design health facilities. The guidelines enable planners and designers to use a common set of guidelines and specifications. The benefits of AusHFG include providing an Australasian best practice approach to health facility planning, access to standard spatial components and a flexible tool responsive to changes in the delivery of healthcare. A new Northside Hospital will be delivered to align with the AusHFG to meet contemporary health facility requirements. This includes an expansion in GBA to accommodate the specified POC.
Infrastructure Australia 2021 Infrastructure Plan: 	The 2021 Australian Infrastructure Plan is a practical and actionable roadmap for infrastructure reform. The Plan is focused on reforms and policy recommendations that will deliver better infrastructure outcomes for Australian communities. Of particular relevance are the following 2 recommendations: 1.1 Rethinking our Fast growing Cities 8.1 Transforming social infrastructure to enhance quality of life. A new Northside Hospital will support the Australian Government achieving the objectives of this plan.

Source: Australian Government Department of Health (2019), Australia's Long Term National Health Plan to build the world's best health system, August 2019 (viewed at: www.health.gov.au), Australian Government Department of Health (2022), National Aboriginal and Torres Strait Islander Health Plan 2021–2031, December 2021 – updated June 2022 (viewed at: www.health.gov.au), Australian Government Department of Health (2022), National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan 2021–2031, March 2022 – updated July 2022 (viewed at: www.health.gov.au), Australian Government Department of Health (2022), National Obesity Strategy 2022 32, March 2022 (viewed at: www.health.gov.au), Australian Government Department of Health (2022), National Medical Workforce Strategy 2021–2031 (viewed at: www.health.gov.au), Australian Government Department of Health (2019), National Women's Health Strategy (2020 2030) (viewed at: www.health.gov.au), Australian Government Department of Health (2019), National Action Plan for the Health of Children and Young People 2020–2030 (viewed at: www.health.gov.au), Australian Government Department of Health (2019), National Men's Health Strategy (2020 2030) (viewed at: www.health.gov.au), Australian Government National Mental Health Commission, Fifth National Mental Health

and Suicide Prevention Plan (2017) (viewed at: mentalhealthcommission.gov.au), Australasian Health Infrastructure Alliance, Australian Health Facilities Guidelines (2022), (viewed at: healthfacilityguidelines.com.au), Australian Government, Infrastructure Australia (2021), The 2021 Australian Infrastructure Plan (viewed at: infrastructureaustralia.gov.au)

5. Options Analysis

This chapter details the process undertaken to determine the preferred options for the Northside Hospital project.

In 2020, the Northside Hospital Development Options Analysis conducted by AECOM Australia Pty Ltd identified and assessed five project options. This work confirmed that to increase capacity in the health system a new hospital on the northside would be required. Of the five project options, two options (Option C: CPHB single stage redevelopment and Option E: Generic green/brownfield site) were taken forward for further investigation through the Northside Hospital Budget Proposal (submitted for the 2021-22 ACT Budget).

An ILW undertaken in early 2022 confirmed a new Northside Hospital, in addition to a coordinated development of a new network health plan, as the appropriate strategic response to the problems currently facing healthcare delivery in Canberra's northern suburbs.

Throughout 2022, and in the development of this Business Case, a range of infrastructure options have been identified and developed to deliver the new Northside Hospital. This included a concept design process in 2022 aimed at determining how best to meet the identified need. A long list of seven options were identified for assessment:

- Four options for redevelopment on the existing Bruce campus site associated with Option C: CPHB single stage redevelopment of the 2020 Options Analysis (Options 1 - A, B, C, D).
- One option for a greenfield site development associated with Option E: Generic green/brownfield site of the 2020 Options Analysis (Option 2).
- Two smaller scale and site agnostic options (Options 3, 4).

A multi criteria analysis (**MCA**) framework was developed and applied through a workshop with the Northside Hospital project team to support the prioritisation of the seven long listed options. The MCA results determined that Option 2 ranks the highest against the established criteria, followed by Option 1A.

This Business Case has assessed the two shortlisted options and the Base Case through economic and financial analysis. The options considered in this Business Case are summarised below:

Base Case: The base case represents a business-as-usual scenario whereby only a risk based approach to asset maintenance and minor capital works is adopted to keep the hospital safe and operational. The Base Case accommodates no growth in demand or clinical services, and assumes continuation of the existing CNA. The Base Case presents a capital cost of $531 million (nominal) over 30 years to cover the cost of critical asset replacement as identified through the CPHB SAMP.

Option 1: Redevelopment on Bruce: Option 1 refers to delivering the Northside Hospital on block 1 section 1 Bruce (site of the current CPHB). A range of sub-options for Bruce were developed through concept design and Business Case development (Options 1A, 1B, 1C, 1D). All options use the same footprint for the main building, but differ in the scope of the facility, the location of the mental health services and the timing for delivery of the facility.

- **Option 1A: Bruce multiple buildings in a single stage:** Option 1A proposes redevelopment on the Bruce campus to provide capacity to meet 2040-41 demand for health services on the northside of the ACT. It includes the delivery of satellite mental health facilities on the north block and development of an acute services building with optimal inpatient unit (IPU) configuration. [redacted]
- **Option 1D: Bruce multiple buildings in a single stage (reduced size):** Option 1D is based on the scheme for 1A with a reduced capital spend. Rather than delivering capacity to 2040-41 across all Departments, this option will deliver capacity in ambulatory care and inpatient units to 2030-31. The critical services would still be built to 2040-41 reflecting the difficultly in expanding these services later, especially on the Bruce site. While Option 1D does not rank highly through the MCA, it is still considered a viable, cost-effective option to meet service need, with many of the same advantages of Option 1A. This option is discussed in [redacted]

Option 2: Greenfield: Option 2 proposes development on a preferred greenfield site to provide capacity to meet 2040-41 demand for health services on the northside of the ACT. In line with Option 1A, Option 2 delivers stand-alone mental health facilities. [redacted]

ACTHD is recommending developing the new Northside Hospital on the Bruce campus[91]. This is the preferred site to be progressed for further assessment and detailed design reflecting the following:

- Operator considerations.
- Option 1 does not involve any opportunity costs associated with a greenfield site.

[redacted]

- Option 1 also includes the cost of relocating the ageing rehabilitation facilities located on the northern block providing new community health infrastructure. This will reduce the need for future expenditure to replace these facilities.
- Option 1 enables the existing health precinct and linkages with the Calvary Private Hospital to be maintained benefiting both patients and carers and clinicians.
- Option 2 requires planning and rezoning changes which carry higher program risk.

5.1 Options development process overview

The project options identification and assessment process for the Northside Hospital commenced in 2020 with the Northside Hospital Development Options Analysis conducted by AECOM Australia Pty Ltd. The purpose of the Options Analysis was to consider and inform the decision-making process on the strategic options for delivering public hospital health services on the northside into the future. AECOM's strategic assessment identified five options that best responded to the service need.

Subsequently, two project options were short listed for further investigation: Option C: CPHB single stage redevelopment on the existing Bruce Campus site and Option E: Generic green/brownfield site. These options were further explored through the Northside Hospital Budget Proposal submitted for the 2021-22 ACT Budget.

Through a process of master planning, site assessments and concept design in consultation with ACTHD, MPC and key stakeholders, a long list of seven options was refined, aligned to the strategic responses established through the ILW. This process is illustrated in Figure 16.

From the long list of seven options, two options were identified through an MCA as the preferred options for the new Northside Hospital, in addition to the Base Case:

- **Base Case:** Represents a business-as-usual scenario whereby only a risk based approach to asset maintenance and minor capital works is adopted to keep the hospital safe and operational. [redacted]
- **Option 1A: Bruce multiple buildings in a single stage:** Redevelopment on the Bruce campus to provide capacity to meet 2040-41 demand for health services on the northside of the ACT. It includes the delivery of satellite mental health facilities on the north block and development of an acute services building with optimal IPU configuration. [redacted]
- **Option 2: Greenfield:** Development on a preferred greenfield site to provide capacity to meet 2040-41 demand for inpatient health services on the northside of the ACT. The preferred greenfield site is 32.7 hectares located on a peninsula within Lake Ginninderra, approximately

[redacted]

3 kilometres from the current CPHB site. In line with Option 1A, Option 2 delivers stand-alone mental health facilities. [redacted]

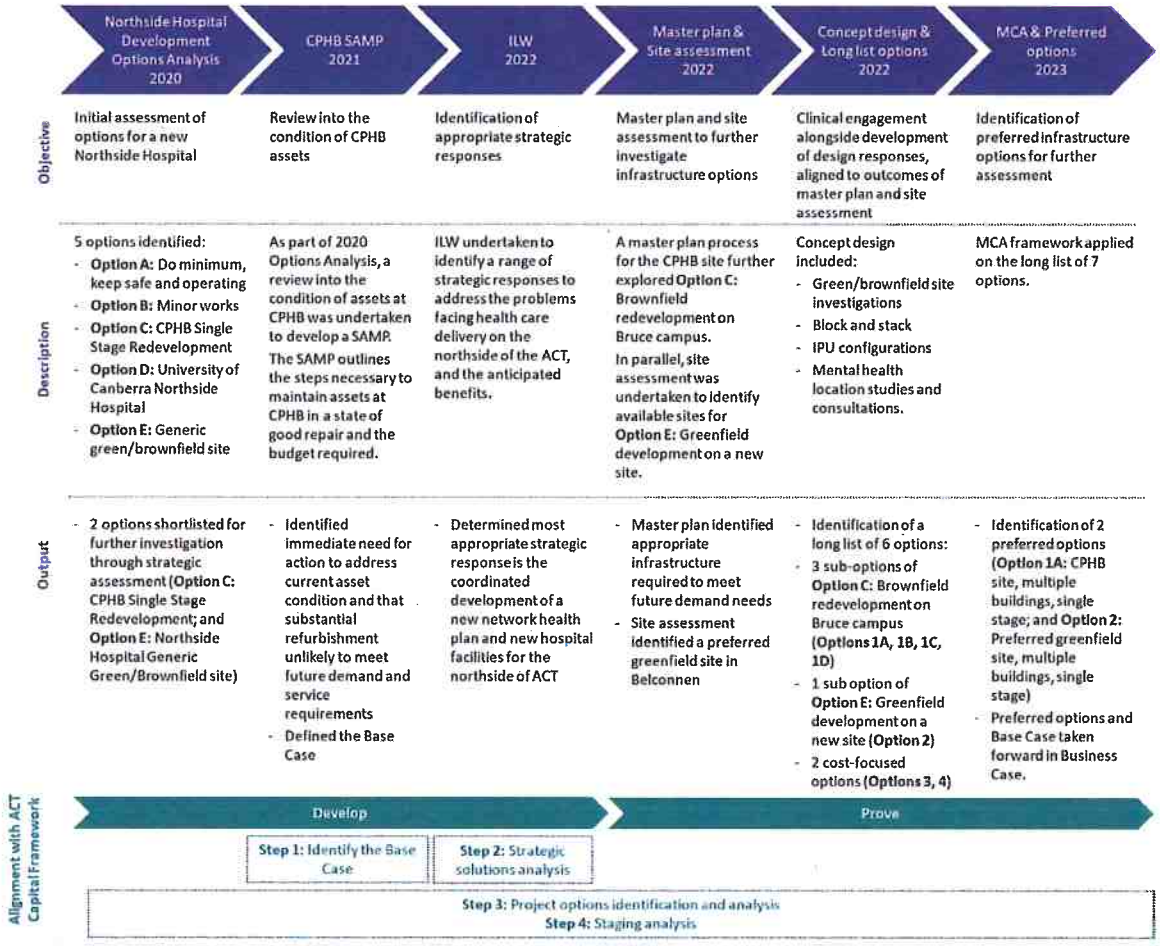
Appendix C - Options Assessment Report documents the options identification and assessment process. It provides the detailed scope of the long list of options (including capacity, cost, site, program and key considerations) and documents the MCA process through which the preferred options were identified. Only the two preferred options and the Base Case are explored further in the remainder of this Business Case.

The options identification and assessment process for the new Northside Hospital has been conducted in alignment with the ACT Capital Framework Options Analysis Process (ACT Government, 2022).

There are a range of ways operator model may also contribute improving the delivery of healthcare in the Territory. As outlined earlier, operator considerations are occurring in a parallel process and do not form part of this analysis.

[redacted]

Figure 17: Project options process



Source: AECOM Australia Pty Ltd (2020), Northside Hospital Development Options Analysis, 7 September 2020; AECOM Australia Pty Ltd (2021), CPHB Strategic Asset Management Plan, 16 April 2021; BVN (2022), Northside Hospital Master Plan Report; BVN (2022), Northside Hospital Campus Greenfield site assessment; BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

5.2 Base Case

The Base Case represents a business-as-usual scenario where CPHB operates in its current capacity without accommodating for any growth in demand or clinical services. The Base Case proposes that a risk-based approach to capital replacement is implemented, to keep the hospital safe and operational. The detailed scope of the Base Case is provided in Appendix C -- Options Assessment Report.

A review of the condition of assets at CPHB was undertaken to develop the CPHB SAMP (AECOM, 2021) as part of the Northside Hospital Development Options Analysis conducted by AECOM Australia Pty Ltd. The SAMP concluded that:

- The SAMP determined that CPHB will not be able to meet demand to 2036 27 in its current state

- The SAMP determined that substantial refurbishment of the main CPHB buildings is unlikely to result in a modern Level 4 / Level 5 hospital and will not meet contemporary standards of clinical service delivery
- The SAMP identified the immediate need for action to address the current condition and increasing risk relating to the asset condition at CPHB whereby many assets are at or approaching end of life.[96]

In absence of investment in a new Northside Hospital, the CPHB SAMP (AECOM, 2021) identified a range of actions and investments required to minimise the risk of service failure and keep CPHB safe and operating for 20 years (commencing 2021). Two options were identified:

- **Option A – Low capital option: Do minimum, keep safe and operating.** This option proposes that the highest priority capital works are implemented, with all other assets managed through routine maintenance budgets. [redacted]
- **Option B – Risk based approach: Maintain assets.** This option proposes a risk based approach to capital replacement in the short to medium term to extend the lifespan of the facility. These works will not increase the capacity of the CPHB but will aim to maintain the existing assets in an adequate condition. [redacted]

Option B was the preferred option by AECOM as it enables the assets to be maintained in the preferred state of good repair (an 'adequate' condition). Option A, while less capital intensive, results in significant degradation of asset condition and does not effectively manage risks to service failure.

The Base Case has therefore been defined as the adoption of Option B, assuming that the capital works currently committed and funded by the ACT Government in response to the SAMP will be delivered at CPHB under both the Base Case and Project options. It is estimated that approximately $23 million ($2021) in funding has been committed to address urgent upgrades to a range of building systems including fire safety, electrical and hydraulics. The Base Case also assumes the continuation of the existing CNA and the continued funding through the Better Infrastructure Fund to cover minor capital expenditure at CPHB. [redacted]

The Base Case assumes the continued delivery of existing services at CPHB within its current assets in a safe and operational environment but does not address the existing challenges facing the delivery of healthcare on the northside of the ACT or meet the objectives of the new Northside Hospital.

[redacted]

5.3 Strategic solutions

In consultation with MPC and ACTHD, four strategic responses, aligned to the ACT Government Capital Framework (2022) have been developed as part of the ILW to address the service need and challenges presented in this Business Case (see Section 3.2). The strategic responses are summarised in Table 15.

Table 15: Alignment of strategic solutions with the ACT Government Capital Framework

Strategic Solutions	Examples	Strategic responses for a New Northside Hospital
Regulatory changes	• Regulatory regimes • Market frameworks • Improved standards • Licensing • Pricing structures • Queueing and rationing	• N/A
Changes to improve asset use	• Active management systems • Intelligent systems • Smart cards or metering • Pricing and demand management	• Improved flexibility to respond to future major health events through system redundance and adaptable design and delivery
Governance changes	• Administrative and institutional frameworks • Public service delivery processes • Approval processes • Contractual provisions	• Current contractual arrangements are being explored external to the Business Case process
Capital investment	• Expansion of existing infrastructure • New infrastructure • Programs of projects from across a network	• Increased health system capacity through expanded infrastructure • Improved healthcare infrastructure that aligns with Government sustainability guidelines
Service changes	• Service delivery / quality reform • Comfort and amenity programs • Information and open data	• A planned network of services with increased capacity to meet projected demand • Improved operational processes / systems to support modern health service delivery
Land use reform	• Planning or land use controls • Strategic regional planning • Integrated decision making	• N/A

Source: ACT Government (2022), ACT Capital Framework, Detailed Technical Guidance, Options Analysis, (viewed at www.treasury.act.gov.au/capitalframework)

Recommended strategic solution

The strategic solutions identified that there is not a single capital or non-capital solution to meet the key challenges facing the delivery of healthcare on the northside of the ACT. The recommended solution reflects the need for reform across a range of areas, including health planning, infrastructure development as well as health service operations and workforce capability.

The mapping of problems, benefits and strategic responses through the ILW highlighted that the foundation of an appropriate strategic response is the co-ordinated development of a new network health plan and new hospital facilities for the northside of Canberra.

5.4 Long list of project options

As shown in Figure 16, the project options identification and assessment commenced in 2020 with the Northside Hospital Development Options Analysis conducted by AECOM Australia Pty Ltd, where five project options were identified. Through a strategic assessment, two project options were short listed for further investigation: Option C: Brownfield / CPHB site redevelopment and Option E: Greenfield development. These options were further explored through the Northside Hospital Budget Proposal submitted for the 2021-22 ACT Budget (see Figure 17).

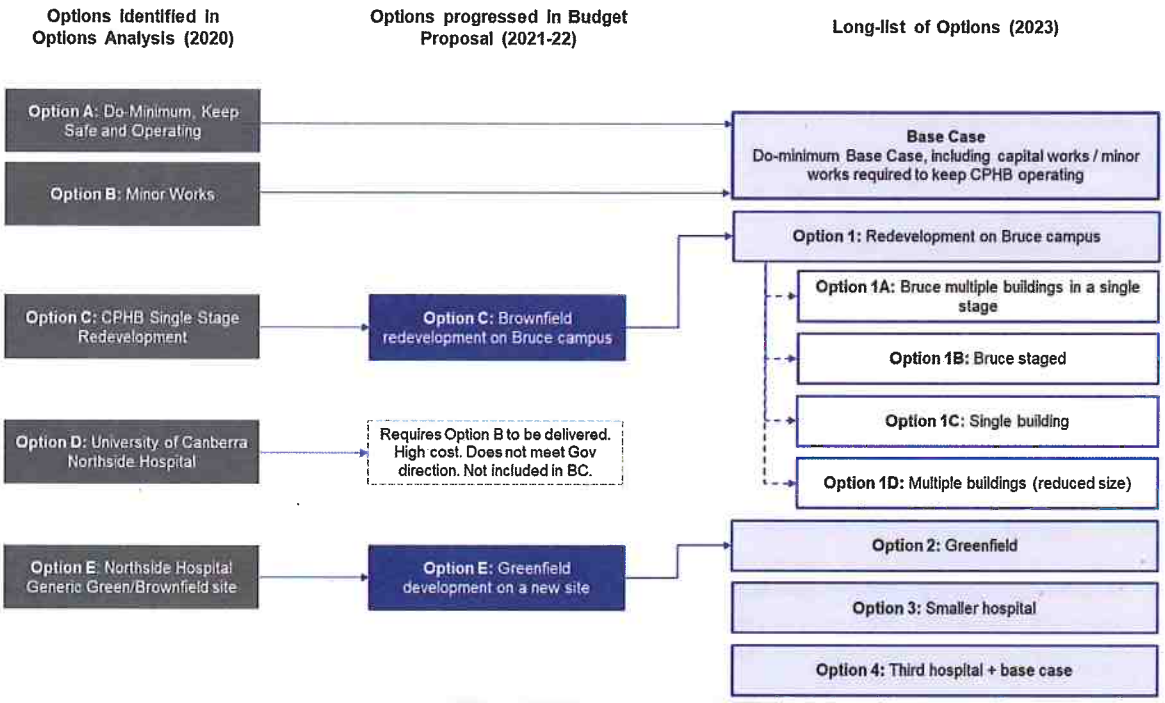
The following activities were undertaken to progress the two shortlisted options:

- A master plan process for the Bruce campus further explored Option C: CPHB single stage redevelopment to demonstrate the indicative footprint of the new hospital and its relation to the broader site.
- A site assessment was progressed to confirm the available sites for Option E: Generic green/brownfield site. A long list was developed across government, from which two greenfield sites were shortlisted for assessment by the Technical Advisory Team. Through site studies and desk top due diligence, the Belconnen site was identified as the preferred greenfield site for the Northside Hospital.

In 2022, a concept design process commenced building on the outcomes of the master plan and site assessment. It involved in depth studies of site assessments, hospital block and stack, staging, IPU and podium configurations and massing. Several configurations and design options were prepared through this process. As illustrated in Figure 17, a refined long list of seven preferred options were informed by clinical planning, functional relationships and site constrains:

- Four options for redevelopment on the existing Bruce campus site associated with Option C: CPHB single stage redevelopment of the 2020 Options Analysis (Options 1 - A, B, C, D).
- One option for a greenfield site development associated with Option E: Generic green/brownfield site of the 2020 Options Analysis (Option 2).
- Two smaller scale and site agnostic options (Options 3, 4).

Figure 18: A New Northside Hospital Options Identification

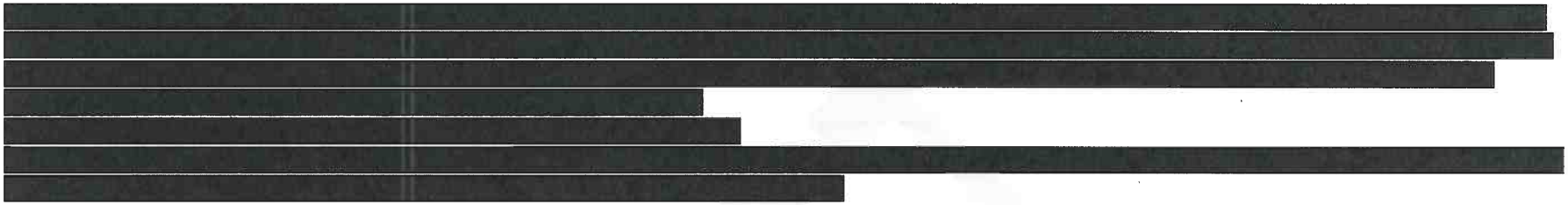


The seven project options, including proposed stages, are summarised in Table 16 below and further detailed in Appendix C - Options Assessment Report.

The Business Case is focused on infrastructure options for the Northside Hospital project, to address the immediate clinical need. It does not address the proposed operating model of the hospital which is being considered external to this Business Case.

Table 16: Long list options summary

Name	Site	Description	CNA continuation	Capacity year	Shelled space	Total capacity at commissioning
Base Case	Bruce campus	A do minimum scenario where assets are maintained through a risk based approach to keep the hospital safe and operating.	Yes	2022	No	- Multiday beds: 249 - ED **POC**: 80 - Operating suites: 7 - Ambulatory: 17
Option 1A: Bruce multiple buildings in a single stage	Bruce campus	Redevelopment of the existing Bruce campus to deliver a new hospital with a stand-alone mental health facility. Delivery of an 800-space car park.	Subject to negotiation and value for money	2040-41	Yes	**2030/31** - Multiday beds: 434 - ED POC: 81 - Operating suites: 15 - Ambulatory: 154 **2040/41** - Multiday beds: 543 - ED POC: 99 - Operating suites: 17 - Ambulatory: 164
Option 1B: Bruce staged	Bruce campus	As per Option 1A, with a staged delivery of the stand-alone mental health facility. Delivery of an 800-space car park.		2040-41	Yes	
Option 1C: Single building	Bruce campus	Redevelopment of the existing Bruce campus to deliver a new hospital in a single building (including mental health). Delivery of an 800-space car park.		2040-41	Yes	
Option 1D: Multiple buildings (reduced size)	Bruce campus	Redevelopment of the existing Bruce campus to deliver a smaller, new hospital with a stand-alone mental health unit (MHU). Delivery of a 600-space car park.		<2030 for ambulatory care 2040-41 for critical services[4]	No	- Multiday beds: 452 - ED POC: 99 - Operating suites: 17 - Ambulatory: <154
Option 2: Greenfield	Preferred greenfield site	Development on a preferred greenfield site to deliver a new hospital with a stand-alone mental health facility. Delivery of an 800-space car park.		2040-41	Yes	- Multiday beds: 543 - ED POC: 99 - Operating suites: 17 - Ambulatory: 164
Option 3: Small hospital	Site agnostic (brownfield / greenfield)	Development of a new hospital to meet 2030-31 demand. Delivery of a 600-space car park.		2030-31	No	- Multiday beds: 434 - ED POC: 81 - Operating suites: 15 - Ambulatory: 154
Option 4: Third hospital + base case	Site agnostic (greenfield)	Continuation of health services at the existing CPHB and the development of an additional smaller greenfield hospital to meet demand to 2040-41. Delivery of a 600-space car park.	Yes – for existing CPHB	2040-41	No	- Multiday beds: 294 - ED POC: 19 - Operating suites: 10 - Ambulatory: 147



5.5 Options shortlisting process

An MCA was used to rank, shortlist and identify the preferred capital options for further assessment within this Business Case. The MCA framework has been developed in accordance with the ACT Capital Framework (ACT Government, 2022) and Infrastructure Australia Assessment Framework (Infrastructure Australia, 2021).

The MCA consisted of the following key steps:

- Step 1: Determine a set of appropriate evaluation criteria (see Table 17)
- Step 2: Assign a relative importance to each criterion (see Table 17)
- Step 3: Provide a rating for each option against each criterion
- Step 4: Rank each option, review the results and provide a written justification.

Table 17: MCA criteria and relative importance

Theme	Objective	Criteria	Relative importance
Access	Improve the health and wellbeing of Canberrans	1) Meets current and future healthcare demand (in terms of capacity) of the community	High
		2) Provides appropriate health services to meet the needs of the community in a location that is accessible	High
		3) Improves the wellbeing outcomes of patients and carers	High
Models of care (MoC) / Accountability	Support ACT health workforce outcomes	4) Improves the skills, capacity, flexibility of the ACT health workforce to respond to future service demands	High
		5) Improves staff wellbeing and experience	High
	Improve the quality of healthcare for Canberrans	6) Provides ability and flexibility to implement contemporary MoC	High
Sustainability	Build digital capabilities	7) Supports building of digital capabilities needed to support a sustainable and innovative health system	High
	Increase resilience of the ACT health network	8) Improves system redundancy and ability to respond to major territory wide health events	High
	Improve operational efficiency	9) Improves operational efficiency of the hospital and the network	High
Deliverability and operability	Level of investment required from ACT Government	10) Order of magnitude capital costs	High
	Management of delivery and operating risk	11) Level of delivery and operating risk for each option	High
		12) Level of planning and program risk	High
		13) Certainty of land tenure	High

Source: ACTHD and MPC (2023)

An MCA workshop held with the new Northside Hospital project Team where each option was assessed against each criterion and scored using a non-numeric scale. An overall rank for each option was determined based on the relative importance of each criterion and the scoring of each option against the criteria.

Detail on the approach to MCA development, its application to the Northside Hospital project and the results is provided in Appendix C - Options Assessment Report.

5.6 Shortlisted options

Following the criteria analysis, Options 1A and 2 have been identified as the shortlisted options for further consideration in this Business Case. The outcome of the MCA is presented in Table 18.

Both Options 1A and 2 deliver increased inpatient capacity to service the community to 2040-41, including a stand-alone mental health facility designed to better support patient recovery. Through the delivery of new and contemporary facilities, both options support improved quality of care, better support the training and development of the workforce and improve the sustainability and resilience of the health network.

The operating model for the preferred options is a key consideration for Government as it moves into the later business case phases as the existing CNA which expires in 2098. Accordingly, the MCA will need to be updated taking into consideration the implementation of either an insourced (Territory) or outsourced (Calvary) led operating model for the new hospital.

Table 18: Summary of MCA outcomes[99]

	Objectives / benefits of Project	MCA criteria	Base Case	Option 1A Bruce multiple buildings in a single stage	Option 1B Bruce staged	Option 1C Single building	Option 1D Multiple buildings (reduced size)	Option 2 Greenfield	Option 3 Smaller hospital	Option 4 Third hospital + base case
Access	Improve health and wellbeing for the ACT community	1) Meets current and future healthcare demand and reduces patient wait times	D	A	A	A	B	A	C	B
		2) Provides appropriate health services in a location of population growth	C-	A	A	B	B	A-	B	B
		3) Improves patient and carer wellbeing outcomes	D	A+	A	B	A	A+	B	C-
Accountability	Improve staff wellbeing, retention and training capacity	4) Develops the skills and flexibility of the ACT healthcare workforce	D	A	A	A	C	A	B	C
		5) Improves staff wellbeing and experience	D	A	A	A	B	A	B	C
Sustainability	Provide a contemporary healthcare environment	6) Enables contemporary models of care	D	A	A	A	C	A	B	C
		7) Supports digital capabilities for a sustainable and innovative health system	D	A	A	A	A	A	A	C
	Increase resilience of ACT health network	8) Improves system redundancy and response to major health events	D	A	A	A	A	A	B	B
	Improve operational outcomes	9) Improves operational efficiency of the hospital and ACT health network	D	A-	A-	A	B	A	B	C
Deliverability and operability	Asset performance	10) Order of magnitude capital costs and removal of asset maintenance backlog	A	C	C	C	C	C	C	B
	Delivery and operating risk	11) Level of delivery and operating risk (including operational disruption at CPHB)	B	C	D	C	C	B	C	C
		12) Level of planning and program risk (including approvals and public acceptance)	A	C	C-	B	C	D	B-	B-

[99] The MCA undertakes a qualitative analysis of project characteristics with affordability measured through economic and financial analysis within the Business Case

Objectives / benefits of Project	MCA criteria	Base Case	Option 1A Bruce multiple buildings in a single stage	Option 1B Bruce staged	Option 1C Single building	Option 1D Multiple buildings (reduced size)	Option 2 Greenfield	Option 3 Smaller hospital	Option 4 Third hospital + base case
	13) Certainty of land tenure[100]	D	D	D	D	D	A	B	B
	Overall ranking	8	2	4	3	6	1	5	7

Source: MPC and ACTHD (2023)

[100] The operating model for the new Northside Hospital is a key consideration for Government, and the Territory is currently assessing both an insourced (Territory) and outsourced (Calvary) led operating model for the new hospital. Contractual negotiations with Calvary commenced in 2022, external to the Business Case process, with the aim of agreeing a new and modern service agreement. Determination of negotiation outcomes is anticipated in 2023 and will determine the operating and service delivery model of the new Northside Hospital and inform the consideration of the preferred option. The operator decision will impact on the certainty of land tenure on the Bruce site and is anticipated to result in a positive change in the scoring for Options 1 -A, B, C, D. The land tenure criterion changing to a score of A for Options 1 – A, B, C, D results in Option 1A becoming the highest ranking option, followed by Option 2.

5.7 Recommended preferred option

A financial and economic assessment of Option 1A: Bruce multiple buildings in a single stage and Option 2: Greenfield has been undertaken in this Business Case to inform the identification of the preferred option in line with ACT Capital Framework. The outcomes of the financial analysis and economic appraisal are detailed in Sections 9 and 10 respectively.

As part of the development of the business case, ACTHD identified an additional option (Option 1D) as a subset of Option 1: Redevelopment on Bruce campus. This option is based on the scheme for 1A with a reduced capital spend from a smaller hospital size and time horizon for the facility. Option 1D is discussed in Appendix C - Options Assessment Report, but is not further explored in this Business Case document. Timing did not allow for the full financial and economic analysis to be undertaken on this option, however full capital cost plans were prepared (whole of life and operational costings have not been prepared at this stage). This represents a reduced cost (and capacity) option for ACT Government to consider in addressing the service need.

ACTHD is recommending developing the new Northside Hospital at Bruce[101] (Option 1). This is the preferred site to be progressed for further assessment and detailed design reflecting the following:

- Operator considerations.
- Option 1 does not involve any opportunity costs associated with a greenfield site. Option 2 involves a significant opportunity cost of the Belconnen site, whether it be retention of the existing parkland or potential future uses, including alternative mixed residential redevelopment.
- Option 1 also includes the cost of relocating the ageing rehabilitation facilities located on the northern block providing new community health infrastructure. This will reduce the need for future expenditure to replace these facilities.
- Option 1 enables the existing health precinct and linkages with the Calvary Private Hospital to be maintained benefiting both patients and carers and clinicians.
- Option 2 requires planning and rezoning changes which carry higher program risk.

[101] Noting that this business case is based on Option 1A as the preferred Bruce option, however Option 1D is also a viable option for delivery at Bruce campus should Government want a lower capital option.

6. Project Scope

This chapter summarises the capacity and service scope delivered through the Northside Hospital project.

Scope of detailed design and planning

This Business Case seeks support for a funding decision to continue the Project through to detailed design over the next two years and provision for construction. The detailed design scope of works will include confirmation of operator, planning approvals, detailed design, [redacted] and period and development of the Enabling Works and Main Works Business Cases.

The next stage of detailed design will focus on the preferred capital option, as determined by this Business Case.

The scope of the shortlisted options assessed within this Business Case is detailed below.

Option 1A: Bruce multiple buildings in a single stage

Option 1A proposes the single stage redevelopment of the Bruce campus to provide capacity to meet 2040-41 demand for inpatient health services on the northside of the ACT. It delivers mental health services in a stand-alone facility on the northern block, which enables the freeing up of the acute services building to explore an optimal IPU configuration and supports the delivery of mental health services in a safe, consumer centric environment.

The redevelopment proposes to deliver 543 multi day beds, 99 ED POC, 17 operating suites, 164 ambulatory spaces and supporting medical imaging across 109,687sqm. Option 1A proposes to commission POCs to meet 2030-31 demand (434 multiday beds, 81 ED POCs, 15 operating suites and 154 ambulatory spaces) and shelling the remaining POCs until required (2040-41).

Option 2: Greenfield

Option 2 proposes development on a preferred greenfield site to provide capacity to meet 2040-41 demand for inpatient health services on the northside of the ACT. In line with Option 1A, Option 2 delivers stand-alone mental health facilities.

The preferred greenfield site is 32.7 hectares located on a peninsula within Lake Ginninderra, approximately 3 kilometres from the CPHB site. The site is currently used for cycling and walking tracks, dog parks, access to waterfront activities and public facilities.

The proposed design developed for Option 1A has been applied to Option 2. This includes 543 multi-day beds, 99 ED POC, 17 operating suites, 164 ambulatory spaces and supporting medical imaging across 109,687sqm. Option 2 also proposes to commission POCs to meet 2030-31 demand and shelling the remaining POCs until required (2040-41).

Project interdependencies

The development of a new Northside Hospital will align with a number of projects currently being delivered across the ACT. The Project is dependent on the delivery of the Canberra Hospital

Expansion and Master Plan, Walk in Centres and the Watson Community Health Precinct as the forecasted demand for the new Northside Hospital takes into consideration the patient flow and increased capacity at the network level.

In addition to the above, other project workstreams that will affect and be affected by the Northside Hospital project are:

- The northside clinical services and workforce planning
- The selection of an operating model for the new hospital
- The relocation of the northern block services at the existing CPHB (if Option 1A is selected)
- The feasibility of birthing centres
- The need for operation commissioning (which would need to be funded separately from this Project).

6.1 Service requirements

As detailed in Section 3.2, the demand for healthcare services is rising in the ACT, driven by the ageing and growing population. The current and forecasted demand across care type beds for a new Northside Hospital is presented in Table 19. CPHB's current built capacity is insufficient to support future demand across multi day beds, day stay beds, ED, operating suites, ambulatory care and medical imaging. As such, the scope of the project options has been developed to align with the forecasted demand to 2030-31 and 2040-41.

Table 19: Current and forecasted demand, CPHB

Care type beds	Current	2030-31	2040-41
Multi day beds	**234**	**407**	**507**
Medical beds	99	174	218
Inpatient Behavioural Unit		16	18
Surgical beds	24	78	100
Cardiology beds			
Rehab & aged care	28		
Specialist medical beds			
Intensive Care	8	12	15
High Dependency Unit			
Stroke Unit	4	7	9
Cardiac Care Unit	6	8	10
Adult & OPMHIU	36	72	91
Specialist ECT			
Women's Beds	15	22	24
Special Care Nursery	10	12	14
Birthing Rooms	4	6	8
Day Stay Beds	**15**	**27**	**36**
Day Chemo		6	8

Care type beds	Current	2030-31	2040-41
Maternity Day Only		2	2
Adult Day Surgery Beds	15	19	26
Same Day Medical		0	0
Renal Dialysis		0	0
Emergency Department	**80**	**81**	**99**
Resus/Cubicles/Fast Track			
Resus		6	7
Fast Track		13	16
Acute	61	36	45
Behavioural / mental health		6	6
Seclusion and de-escalation room		1	1
Short stay	19	19	24
Operating Suite	**7**	**15**	**17**
Operating Room	5	11	12
Procedure Room	2	4	5
Ambulatory	**17**	**154**	**164**
Acute site Outpatients hub – Consultation Spaces		63	73
Acute site Outpatients hub – Treatment Spaces		6	6
Acute site Outpatients hub – Specialist Spaces		34	34
Acute site Outpatients hub – Cardiac Treatment		5	5
Virtual Care Spaces			
Paediatric, adolescent and neonatology		8	8
Ambulatory Procedures/Infusion Centre – Consult		4	4
Ambulatory Procedures/Infusion Centre – Treat		27	27
Ambulatory Procedures/Infusion Centre – Spec		7	7
Allied Health			
Medical Imaging	**12**	**20**	**20**
Interventional Radiology		2	2
Interventional Radiology CT		1	1
General X ray		4	4
MRI		2	2
CT		2	2
Ultrasound		6	6
OPG		1	1
Fluoroscopy – fixed		2	2
Mammography			

Source: ARUP (2022), Northside Hospital – Technical Advisor; Concept Design Portfolio

6.2 Scope of services

Table 20 summarises the main services that will be delivered through the Project.

Table 20: Summary of benefits and services to be delivered through the Project

Benefit	Service description
Reduced time to receive care	Increased service capacity will result in timely access to healthcare, including reduced ED wait times.
Improved quality of inpatient health services	Delivery of new and contemporary health facilities, enabled with the latest technology, will support the implementation of contemporary models of care and improve the quality of healthcare provision. This includes, for example: • Medical inpatient unit supported by a mix of rooms to allow for increased adaptability and flexibility in caring for a wide range of patient groups, with all beds and treatment areas fit for multipurpose use. • Stroke unit providing nursing capabilities and 24-hour telemetry for patients with suspected cardio-embolic strokes. • Mental Health Adult Inpatient Unit which provides a safe clinical and therapeutic environment for people who may be characterised as complex, difficult to treat and are of serious ongoing risk to themselves or others.
Improved range of health services	Delivery of an appropriate range of services to meet the predicted future service case mix to 2040-41. This includes additional adult and older person mental health inpatient unit (**OPMHIU**) to support an ageing population, delivery of maternity day only beds to support increased maternity services, increased ED capacity for paediatric cases, and increased ambulatory and outpatient consultation spaces.
Improved amenity for patients, carers and staff	Increased commercial, café, public amenity, staff amenity, cultural spaces, accommodation, end of trip facilities and additional car parking spaces to improve the experience for patients, carers, family and staff.
Improved efficiency of health service delivery	Improved design and configuration of the facilities in line with AusHFG, implementation of latest technology and contemporary MoC will enable improved operational and technical efficiency, clinical flows and overall service delivery. This includes, for example: • ED will have formal linkages to enable 24 access to support for service provision above the hospital's service capability including assistance to decision making, care planning and management of critically ill patients. • Surgical inpatient unit will aim to decrease the length of stay in overnight hospital care by engaging patients and carers in the healthcare experience and when appropriate, transition them through the continuum of care to a range of multidisciplinary health services e.g. ambulatory and outpatient clinics. • Outpatient services will cluster sub-specialty clinics, specialty diagnostic and support services and allied health services into a co-located environment to support efficient service delivery. It will also provide the basis for virtual clinics/telehealth service delivery. • The ICU will be supported through functional links with a higher level ICU, in a networked approach to service delivery to enable timely access via telehealth/remote monitoring to senior critical care clinical advice and transfer of patients requiring more complex care.

Benefit	Service description
Improved redundancy of health services	Increased capacity of inpatient services, ED and flexibility in the configuration of the facilities will support the improved redundancy of the health network in future cases of demand surges.

6.3 Scope of works

The scope of works to be delivered under the preferred project options is summarised in the sections below and provided in more detail in Appendix C - Options Assessment Report.

Option 1A: Bruce multiple buildings in a single stage

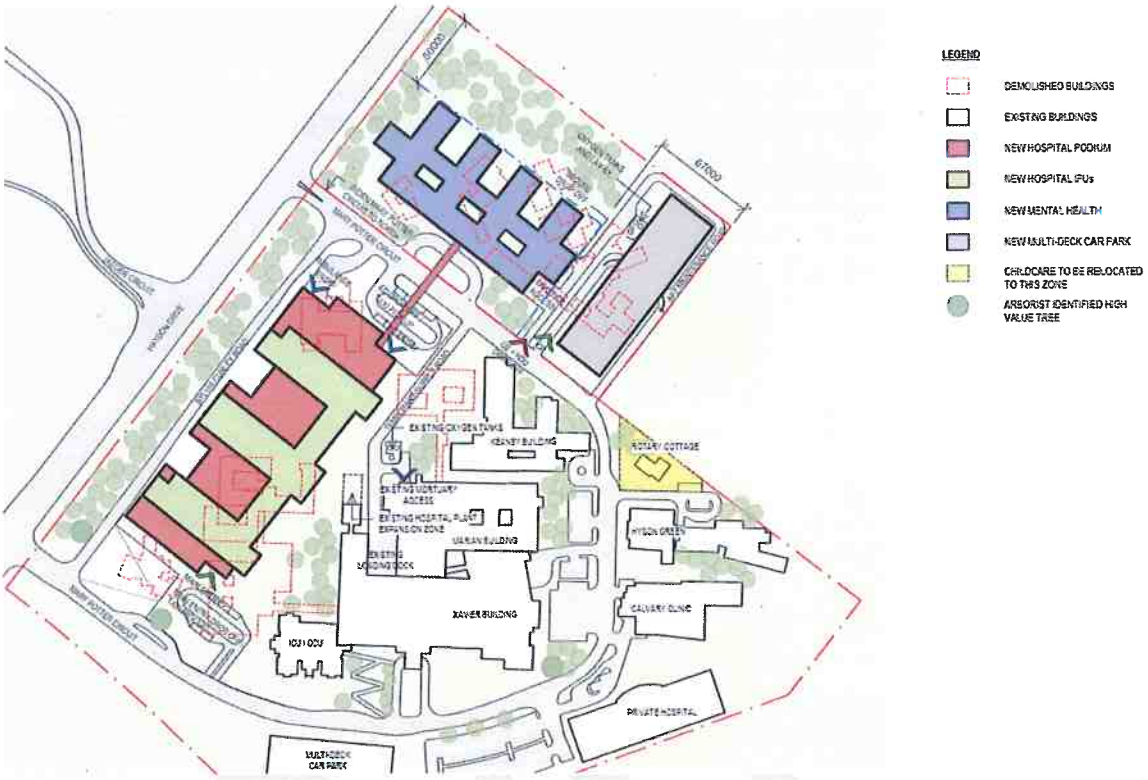
Option 1A proposes the single stage redevelopment of the Bruce campus to provide capacity to meet 2040-41 demand for inpatient health services on the northside of the ACT. The redevelopment is proposed to include a new 94,563 sqm (including contingency) main hospital building including a child care centre, and a new 15,124sqm (including contingency) satellite mental health facility on the northern block, as presented in Figure 18.[102]

Option 1A is on the same block as the current CPHB, can be developed while the current hospital still operates and requires only minimal decanting and demolition work. The hospital site is at the western edge of the block and runs parallel along Haydon Drive (fronting Sylvia Curley Drive).

The aim of this option is to deliver mental health services in a stand-alone facility on the northern block. This enables the freeing up of the acute services building to explore an optimal IPU configuration and supports the delivery of mental health in a safe, consumer centric environment.

[102] TSA (2023), 230317_Northside Hospital high level SOA_V3.7

Figure 19: Site plan Option 1A Bruce multiple buildings in a single stage



Source: BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

The clinical scope of the redevelopment is summarised in Table 21. Option 1A proposes to commission POCs to meet 2030-31 demand and shelling the remaining POCs until required. Fit out of the shelled spaces is planned for 2039-40, for commissioning in 2040-41. In further stages of planning the timing of fit out and commissioning of shelled spaces will be further explored.

Table 21: Option 1A clinical capacity

Care type beds	Capacity at commissioning		
	2030-31	*Shelled*	2040-41
Multi day beds	434	*109*	543
ED	81	*18*	99
Operating suite	15	*2*	17
Ambulatory	154	*10*	164
Medical imaging	20		20

Source: BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

Table 22 presents the non-clinical scope of Option 1A.

Table 22: Option 1A non-clinical scope

Category	Scope
Enabling works	Enabling works to clear the construction site: • Relocation of communications rooms and information technology (IT) networks

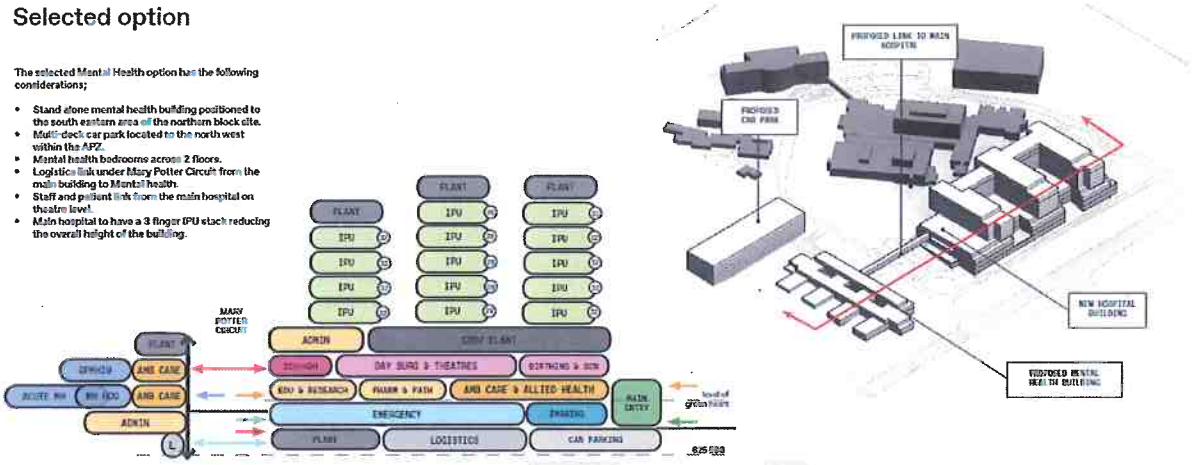
Category	Scope
	• Demolition of the child-care centre, O'Shannassy, Lewisham and Residences B and C • Planning for staged demolition of facilities on the north block • Provision of temporary access to the existing loading area, substains and bulk oxygen • Utility diversions • Site remediation • Temporary car park solution.
Main works	[redacted] Main works includes: • Bulk earthworks completion. • Other construction works for the development, including roads, paths and paving, carparking, retaining walls, boundary walls and fences, outbuildings and covered ways, tunnels and linkways, landscaping and conservation works, and any special provisions. • Commissioning and setting to work of the buildings • Moving staff into the new buildings and full operations.
Car park	7-level 800 space multi deck car park.
Childcare	1,705sqm childcare centre.
Amenities (main hospital building and mental health facility)	• Overnight rooms/junior medical officer lounge, end of trip facilities and family accommodation • Administrative space, cultural spaces, education space and clinical research space.
Environmentally Sustainable Development (**ESD**) considerations	ESD initiatives to achieve a minimum 5 Star Green Star rating (or equivalent) performance level, including: • All-electric Hospital Building • Rooftop photovoltaic solar • Electric vehicle charging enabled
Existing buildings	Decanting and decommissioning of Xavier and Marian (Buildings 1 and 3).
Rehabilitation Services Relocation	• Demolition, decanting and relocation of the existing Rehabilitation Services building ahead of the development of the Northside Hospital on the northern block

Source: Genus Advisory (2023), Northside Hospital Canberra Concept Design Cost Plan Workstream 2a Option C2
Note: Items not within scope include refurbishment/demolition of Xavier and Marian and helipad.

The preferred block and stack for Option 1A, as presented in Figure 19, includes:

- A five-storey podium accommodating the ED, imaging, ambulatory care and allied health, pharmacy and pathology, education and research, birthing, operating theatres, intensive care unit / high dependency unit and admin
- Three five to six storey IPU towers with plant rise above the podium
- A stand-alone mental health building positioned to the southern area of the northern block site.

Figure 20: Block and stack of Option 1A Bruce multiple buildings in a single stage



Source: BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

Option 2: Greenfield

Option 2 proposes the development of a new Northside Hospital on a greenfield site to provide capacity to meet 2040-41 demand for inpatient health services on the northside of the ACT.

The preferred greenfield site is located on a peninsula within Lake Ginninderra across 32.7 hectares, known as Diddams Close. The site is approximately three kilometres from the existing CPHB site. The site is currently used for cycling and walking tracks, dog parks, access to waterfront activities and public facilities. Given the nature of the site additional site works, including internal roads, will be required.

Development of the site would contribute to improving access and upgrading the quality of these activities for the broader community. However, there is a significant opportunity cost of delivering a hospital on the proposed site which may have alternative uses such as parkland or residential development.

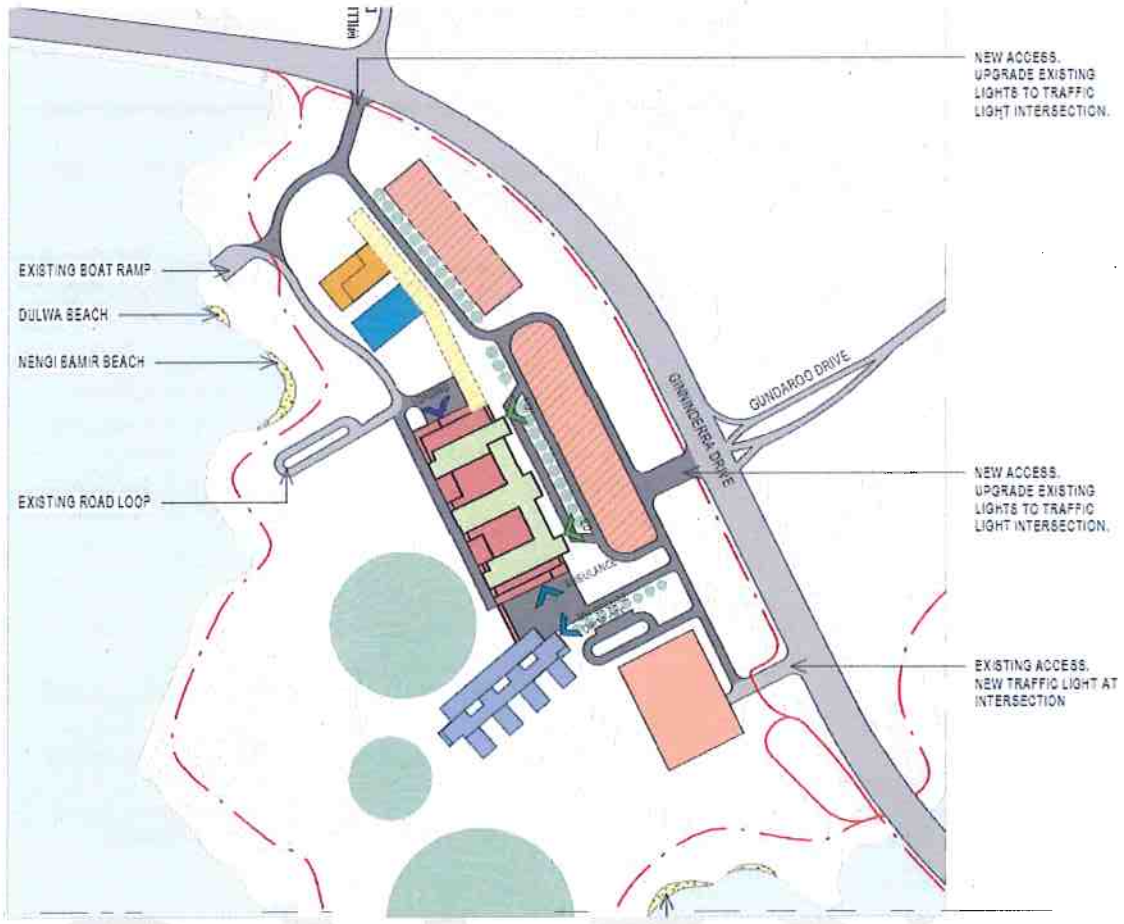
Figure 21: Preferred greenfield site on Lake Ginninderra

Source: BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

The proposed design developed for Option 1A has been applied to Option 2 with some modifications in response to the different site opportunities and constraints. The design includes a new 94,563sqm (including contingency) main hospital building including a childcare centre, and a new 15,124sqm (including contingency) satellite mental health facility, as presented in Figure 21.[103]

[103] TSA (2023), 230317_Northside Hospital high level SOA_V3.7

Figure 22: Site plan Option 2 Greenfield



Source: BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

The clinical scope of the redevelopment is summarised in Table 23. Aligned to Option 1A, Option 2 proposes to commission POCs to meet 2030-31 demand and shelling the remaining POCs until required. Fit out of the shelled spaces is planned for 2039 40, for commissioning in 2040-41. In further stages of planning the timing of fit out and commissioning of shelled spaces will be further explored.

Table 23: Option 2 clinical capacity

Care type beds	Capacity at commissioning		
	2030-31	2036-37	2040-41
Multi day beds	434	*18*	543
ED	81	*2*	99
Operating suite	15	*10*	17
Ambulatory	154		164
Medical imaging	20	*109*	20

Source: BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

Table 24 presents the non-clinical scope of Option 2.

Table 24: Option 2 non-clinical scope

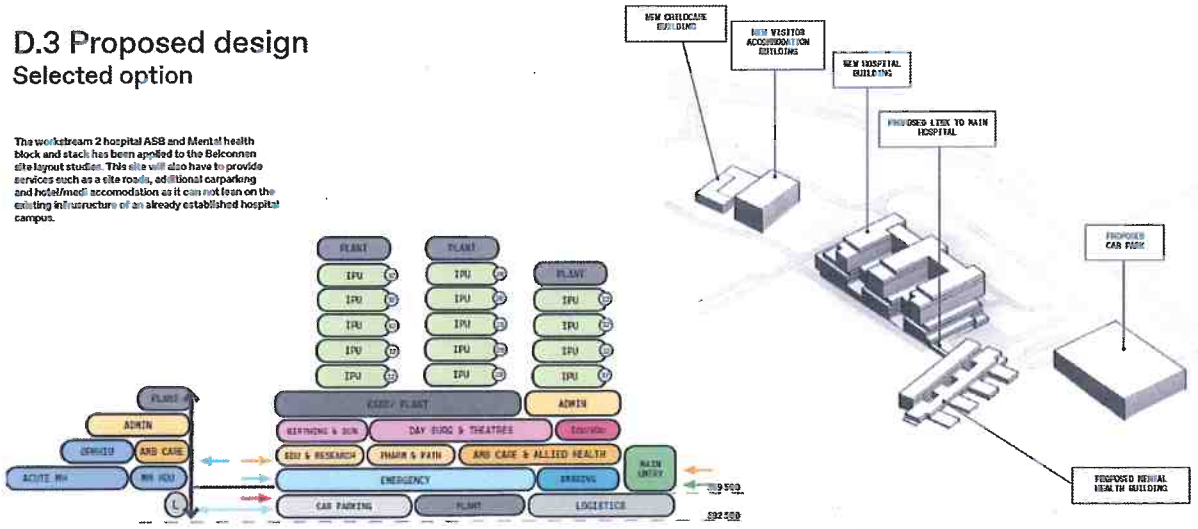
Category	Scope
Enabling works	Enabling works includes: • Site preparations e.g. services diversions, lighting poles, setting up of site supplies • Demolition of existing trees, grub up and disposal of existing roads, pavements and footpaths • Bulk excavation
Main works	[redacted] Main works includes: • Bulk earthworks completion • Other construction works for the development, including roads, paths and paving, carparking, retaining walls, boundary walls and fences, outbuildings and covered ways, tunnels and linkways, landscaping and conservation works, and any special provisions. • Commissioning and setting to work of the buildings • Moving staff into the new buildings and full operations.
Car park	4 level 800 space multi deck car park.
Childcare	1,705sqm childcare centre.
Amenities (main hospital building and mental health facility)	• Overnight rooms/junior medical officer lounge, end of trip facilities and family accommodation • Administrative space, cultural spaces, education space and clinical research space.
Environmentally Sustainable Development (ESD) considerations	ESD initiatives to achieve a minimum 5 Star Green Star rating (or equivalent) performance level, including: • All-electric Hospital Building • Rooftop photovoltaic solar • Electric vehicle charging enabled

Source: Genus Advisory (2023), Northside Hospital Canberra Concept Design Cost Plan Workstream 3 Option E1
Note: Items not within scope include any proposed works (e.g. refurbishment) for the Bruce campus and helipad.

The preferred block and stack for Option 2, as presented in Figure 22, includes:

- A five-storey podium accommodating the ED, imaging, ambulatory care and allied health, pharmacy and pathology, education and research, birthing, operating theatres, intensive care unit / high dependency unit and admin
- Three five to six storey IPU towers with plant rise above the podium
- A stand-alone mental health facility

Figure 23: Block and stack of Option 2 – Greenfield



Source: BVN, Arup, TSA, Genus Advisory and Planit (2022), Northside Hospital Concept Design Report, December 2022

6.4 Detailed design and overarching next steps

Given the current stage of project development, this Business Case seeks support for a funding decision to continue the Project through to detailed design over the next two years and provision for construction. The detailed design scope of works include:

- Confirmation of the hospital operator
- Site surveys including ecology, hazmat and geotechnical and land surveys
- Planning approvals for:
  - Early inter government notification
  - Pre-development application (DA) community consultation
  - National Capital Design Review Process
  - Schematic design, including clinical planning
  - Detailed design
  - Construction documentation
  - Decant and accommodation strategy
  - Enabling works [redacted]
  - [redacted]

6.5 Project interdependencies

As noted in Section 4.3, the development of a new Northside Hospital will align with a number of projects currently being delivered across the ACT. The Project is dependent on the delivery of the Canberra Hospital Expansion and Master Plan, Walk in Centres and the Watson Community Health Precinct as the forecasted demand for the new Northside Hospital takes into consideration the patient flow and increased capacity at the network level. Impacts on the timing or capacity of the

projects will mean that the scope delivered under the Northside Hospital project will be insufficient to meet the network demand.

In addition to the above, other project workstreams that will affect and be affected by the Northside Hospital project are:

- **The northside clinical services and workforce planning** – The Northside Hospital CSP identifies the need for increased access to a range of health services on the northside, sufficient planned capacity for residents in northside community facilities and in the Northside Hospital, and improved access to specialised services. It also highlights the need for workforce planning including teaching and training the number of staff required to deliver services across the ACT, introducing new roles to support specialised staff, extending the scope of roles for nursing and allied health to support doctors, and adapting the ways of working across the service system to meet the needs of the community. Planning for the new Northside Hospital should consider the issues and strategies identified in the CSP to inform the scope of services and works of the Project. It is noted that the Northside Hospital CSP is currently under development and further clinical planning and finalisation of the CSP will also need to be considered for the Project.
- **The selection of an operating model for the new hospital** – The operating model for the new Northside Hospital will need to consider the existing CNA which expires in 2098. At this stage, the Territory is currently assessing both an insourced (Territory) and outsourced (Calvary) led operating model for the new Hospital. This decision will be finalised through the assessment of the operating model that provides the best long term alignment with the Territory's strategic objectives, provision of the best health and wellbeing outcomes for the ACT community, risk and value for money. Irrespective of an in sourced or outsourced led operator model, the process may result in changes to the existing contractual arrangements between the Territory and Calvary. These workstreams will continue to progress and outcomes would be captured as part of further business case stages.
- **The relocation of the northern block services at the existing CPHB (if Option 1A is selected)** – Option 1A proposes removing the Child and Adolescent Mental Health Services and the Acute Mental Health Service from the main hospital building and relocating them to the Northern site, and relocating the existing rehabilitative services currently located on the northern block elsewhere on the campus. It has already been identified that delivery of mental health services on the northern block relies on the relaxation of the APZ requirements to the northern portion of the site. Additionally, further ecology studies must be conducted prior to any enabling or main works commencing. The outcomes of these assessment may have delivery implications on the Project.
- **The feasibility of birthing centres** – The ACT currently has two birthing centres that are at capacity.[104] There has been a longstanding desire from Canberrans and midwives for a freestanding midwife led family birth centre located separately to a hospital. There is an opportunity for a six-bed stand-alone birthing centre to be built adjacent to the new Northside

[104] Australian Government Department of Health and Aged Care (2022), Having a baby in the ACT

Hospital. Feasibility of the birthing centre will be tested in the next phase of planning and with an update to the masterplan to include space for the birthing centre currently underway.

- **The Canberra Hospital Masterplan** – In 2021, construction started on the Canberra Hospital's Critical Services Building (**CSB**), the largest healthcare infrastructure project undertaken in ACT's history.[105] The CSB will include 22 operating theatres, 147 ED spaces, 55 day surgery beds, 32 cardiac care beds, 156 inpatient beds, and 60 ICU treatment spaces (including 4 paediatric ICU beds). The Canberra Hospital Expansion will significantly increase the capacity of Canberra Hospital over the coming years and address current and future demand pressures. The Canberra Hospital Master Plan outlines a path for the development of the Canberra Hospital campus over the coming 20 years. A new Northside Hospital will complement the vision of the Canberra Hospital Master Plan through the provision of health services for residents on the northside of the ACT. This will ensure equity of service and access to high quality healthcare across the Territory. A new Northside Hospital will also support resilience of the ACT health system by providing additional capacity during major incidents and events, easing the pressure on Canberra Hospital.

[105] ACT Health (2021), Canberra Hospital Master Plan

7. Risk Analysis

This chapter provides an overview of the Risk Analysis Process in relation to the Northside Hospital project including the risk management framework applied and risk quantification results.

The Northside Hospital project's approach to risk management is aligned with the ACT Government Risk Management Policy through the development of a comprehensive risk management culture and framework, use of a risk register to identify and manage risks effectively, and alignment of risk management activities with strategic objectives.

This involves a systematic process of identifying, assessing, and monitoring all risks, with a risk assessment process serving as the foundation for their risk management strategy, enabling identification and prioritisation of potential risks, and continuous monitoring for quick response to changes in risk status. This approach is consistent with the international standard ISO 31000:2018.

Risk Identification, Analysis and Quantification:

A risk register has been created through the Business Case development process, where a range of project risks were identified and evaluated.

The risk register will be updated regularly to reflect the current risk status and any changes that have occurred.

A risk quantification exercise was conducted, through the use of Monte Carlo calculation, to determine a risk contingency amount for the project options.

The results of the risk quantification provided a P50 and P90 risk contingency which has been incorporated in the capital costs for the project options.

7.1 Risk Overview

The Northside Hospital project Team is committed to developing a risk management culture that is fully integrated into all aspects of the project. This will be accomplished through the use of a comprehensive risk management framework that is guided by several key policies and guidelines, including the ACT Government Treasury Capital Framework, the ACT Government Risk Management Policy 2021, and the ACTIA Risk Matrix 2021.

In applying these frameworks and policies, the Project has adopted six key attributes being as follows:

- Cultivate a positive risk culture
- Establish a risk management framework and risk management plan
- Establish a robust risk assessment process
- Definite responsibility and accountability
- Align risk management activities with strategic objectives

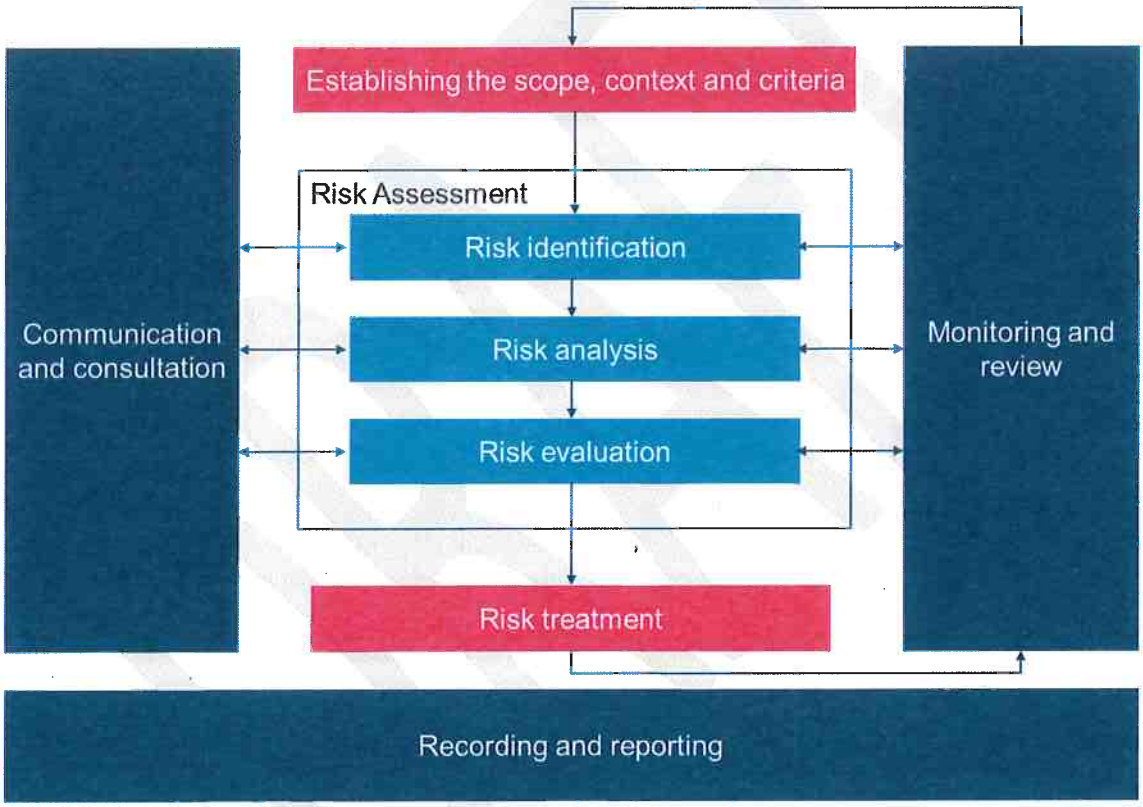
- Enabled risk management activities into all operations and processes.

As part of this process, a risk register has been developed and maintained throughout the development of the Business Case to guide the ongoing assessment and reporting of risks. This will ensure that risks are identified, understood, and managed in a timely and effective manner, and that the Project Team is able to make informed decisions throughout the project's lifecycle.

7.2 Risk management process

The Project Team has implemented a comprehensive approach to risk management that is fully compliant with the ACT Government Risk Management Policy and the international standard ISO 31000:2018. This approach involves a systematic and ongoing process of identifying, assessing, and monitoring all risks that may potentially impact the project's objectives and deliverables.

Figure 24: Risk assessment process; ISO 31000:2018



Source: ACT Government Risk Management Policy 2021 & ISO 31000:2018

The risk assessment process, as outlined in Figure 23, serves as the foundation for the Project Team's risk management strategy. This process includes several key steps, including identifying and documenting all potential risks, evaluating the likelihood and impact of each risk, determining the appropriate risk treatment options, and implementing and monitoring risk management plans.

Through this process, the Project Team is able to identify and prioritise potential risks, ensuring that the most critical risks are addressed in a timely and efficient manner. Additionally, the continuous monitoring of risks throughout the Project's lifecycle allows the team to quickly respond to any changes in risk status and adjust their risk management plans accordingly.

7.3 Risk identification and evaluation

A risk register was developed as part of this Business Case. The risk management process was applied throughout this process, ensuring that all potential risks were identified and assessed in a consistent and comprehensive manner.

The risk identification process was conducted through a series of risk workshops. These workshops were designed to engage all stakeholders in the risk management process, allowing for a thorough and inclusive identification of potential risks.

The outcomes of the risk identification process were captured in Appendix F - Risk Register. This document serves as a comprehensive record of all identified risks, including their likelihood and potential impact. The risk register will be regularly reviewed and updated throughout the Project's lifecycle, ensuring that the Project Team is always aware of the current risk status and can respond quickly to any changes.

7.4 Risk categorisation

The category of risks and risk matrix have been based on the ACT Insurance Authority (**ACTIA**) framework. The categories are detailed in Table 25.

Table 25: Risk categories

Category of risk	Contextual Definition
Business Operations	Achievement of strategic and operational business objectives
Service Delivery	Delivery of functions of the business / branch / entity depending on their classification as essential/critical or not
Compliance / Regulation	Non-compliance with legislation, regulation, policy or procedure (including conflicts of interest), and the associated consequences to operations
Cultural and Heritage	Damage or adverse outcomes to items or places of culture or heritage value
Financial	Financial losses from the project or entity represented as either a percentage of the project/entity budget or a dollar amount, whichever is greater
Information and Records Management	Access to and security of information and records that enable the conduct of business and provision of services
Natural Environment	Adverse outcomes for the natural environment
People Injuries	Direct physical and psychological injuries to people (staff, contractors, customers) arising from the risk occurring
Reputation & Image	Observable measures of how the risk may impact the reputation or image of the ACT Government
Emergency / Disaster Management	Measures of the social impact to the ACT arising from emergencies

Source: ACTIA (2021)

7.5 Monitoring and reporting

Risk management is a process that involves ongoing engagement with key stakeholders and continuous monitoring, review, and control for each identified risk. This process is necessary to ensure that potential risks are identified and managed in a timely and effective manner, minimising the impact on the Project's success.

Throughout the development and implementation of the Project, the Risk Register will be maintained as a live document, reviewed, and challenged by risk management specialists, as required, in consultation with the risk owners. The Risk Register will be updated regularly to reflect the current risk status and any changes that have occurred.

The effectiveness of risk management activities will be reviewed during regularly scheduled Project meetings. These reviews will include:

- Reviewing the status of all risks to determine if there are any factors to indicate a heightened probability of occurrence or change in impact
- Identifying new risks based on daily team interactions and activities
- Monitoring any detailed risk management activities that are assigned
- Reporting on the risk response status for risks assigned.

7.6 Risk analysis

Having identified a comprehensive risk register, a risk analysis process was conducted through a workshop with the Project team to determine:

- The potential consequence of each risk
- The likelihood of each risk occurring.

With each of the above assigned, a Risk Rating was determined based on the risk matrix outlined in Section 7.7.7.4

7.7 Risk matrix

The risk rating framework (ACTIA) matches the probability determined likelihood against an assessed consequence by utilising a visual representation of defined levels of risk ratings as outlined in Figure 24 below.

Figure 25: ACTIA Risk Matrix

Risk Rating		Consequence				
		Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Likelihood	Almost Certain (5)	Medium	High	High	Extreme	Extreme
	Likely (4)	Medium	Medium	High	High	Extreme
	Possible (3)	Low	Medium	Medium	High	Extreme
	Unlikely (2)	Low	Medium	Medium	High	High
	Rare (1)	Low	Low	Medium	Medium	High

Source: ACTIA 2021

7.8 Risk quantification

In order to quantify the cost impact in the event that the risk occurs, based on the risk matrix rating, the impact of each risk was classified into the following categories:

- Impact on capital costs associated with the design, fit out and procurement of equipment prior to the commencement of operations
- Delay impact, resulting from a delay to the pre contract and/or post contract programme
- Capital and delay impact, in relation to risks that require both additional capital costs to rectify the delivery and fit out and result in a delay to the operations start date.

A best, likely and worst case outcome has been quantified resulting from the occurrence of the risk assigned. For risks that were determined to have a capital and delay impact, the separate capital and delay costs were totalled to calculate the impact of the risk. The cost assigned for each risk fluctuates across the project options as the magnitude of impact among risks differs between project options.

Risk modelling

The risk model developed incorporated the inputs as determined based on the approach above and processed into a Monte Carlo calculation using the @Risk software package and Microsoft Excel.

Monte Carlo simulation is a well-established method for modelling random variables and generating a range of potential outcomes. The method involves randomly selecting values from a probability distribution for each risk considered.

Monte Carlo sampling is used in probability analysis in the following way:

To incorporate the risk estimates, the cost estimates for the "Best Case", "Likely Case", and "Worst Case" scenarios as determined based on the risk impact type are input into the risk model as a probability distribution to represent the values at the 50th percentile (P50) and the 90th percentile (P90).

The 50th percentile represents the mean outcome at which outputs will roughly be evenly split above and below the P90 level. Meanwhile, the 90th percentile represents the outcome at which roughly 90 per cent of results should fall below the P90 level and roughly 10 per cent should lie above this level.

The Monte Carlo simulation is performed by randomly selecting values for each risk within the specified range and repeating the calculation a number of times to obtain the probability distribution of the risks in the project. To minimise sampling bias, the model performs 10,000 iterations.

In addition, the risk cashflows are timed according to the stage of the project and aligned with the project's timing assumptions. The total risk cashflows are then discounted to the base date to calculate the risk contingency adjustment to the total project cost for each option.

In summary, the risk analysis defines a probability distribution for each risk and considers the effects of these risks in combination over the course of the project. The outcome is a range of values in which the final outcome could lie, based on the consequence and likelihood assumptions agreed upon during the risk workshop process.

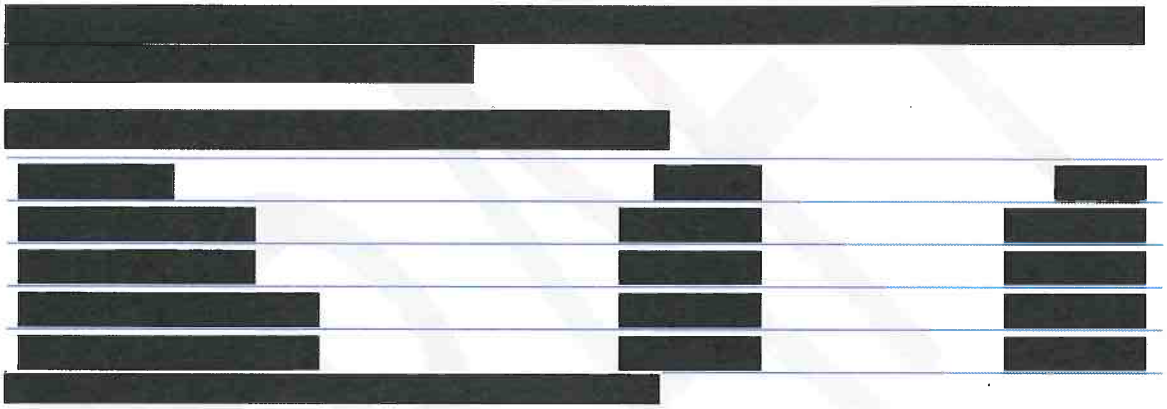
Key project risks and risk quantification results

Table 26 below summarises the key project risks which have a high relative impact on the total contingency, including the method applied to determine the risk cost.

The quantification of the risk differs across the two project options. Where there are similar risks for each of the options, the cost consequence has been formulated from a base number and then applying a pro-rata approach to achieve a cost consequence. This process enables relative differences to the cost consequences between each of the options.

The other key difference between the options is that Option 2 has the following risks added to reflect the greenfield site:

- Risks related to site identification - Competition
- Risks related to site identification - Native Title Risks
- Risks related to site identification - Strategic Planning
- Local community protest
- Broader precinct development and other enabling infrastructure costs
- Time for planning and zoning approvals is under-estimated.



The total contingency allowed for in the Project Capital Costs for each option is similar to the P90 contingencies quantified as part of this process, providing reasonable comfort that the Project Capital Costs provide an adequate buffer.

The overall value of the contingency when expressed as an overall percentage of gross construction cost is aligned with other projects of a similar value, complexity, and constraints. As part of the next stage of detailed design and planning, further risk workshops would be undertaken as the design progresses to enable the further development of the risk register and to enable the completion of updated Monte Carlo analysis to determine updated project risk costs.

9. Financial Analysis

This chapter provides an overview of the Financial Analysis process in relation to the Northside Hospital project to under financial implications and assess value for money of each option.

For the base case and shortlisted Options 1A and 2, cost and revenue estimates were determined as follows:

- Capex and Lifecycle for Base Case and Project Cases provided by Genus Advisory, including P90 contingency.
- Operating costs for the Base Case have been developed in accordance with the CNA funding amount projections.
- Operating costs for Project Cases have been benchmarked against other hospital developments and consider key categories including Employee Expenses, Contracted Services, Clinical Supplies, IT Expenses, Other Expenses.
- Lifecycle costs for the Project Cases provided by Genus Advisory, which includes recurrent maintenance, capital maintenance, recurrent FF&E, replacement MME, utilities and building operating costs

The Financial Analysis (FA) has been undertaken in line with the ACT Capital Framework. The FA evaluates and summarises the costs and revenues associated with the base case and Project Options 1A and 2 and has used these cash flows to determine the NPV of the Project and other key metrics associated with its implementation.

Sensitivity analysis of the FA has been conducted to determine the impact of varying key assumptions and inputs on the overall results.

9.1 Financial analysis approach

Overview

A financial analysis (**FA**) has been undertaken by to understand the financial and funding implications of the two project options. The financial analysis considers only the cash inflows and outflows to the hospital. The objective of the financial analysis is to compare the estimated capital cost and whole-of-life cashflows associated with the two project options and the base case.

Financial analysis framework

The financial analysis is concerned with the profitability of an investment. Its scope is narrowed to financial costs and benefits, and to those financial costs and benefits that are incurred by, or accrue to, the entity undertaking the investment which for this business case is ACT Government.

The financial analysis framework has been designed to evaluate the financial viability of the Project and to assist decision makers to assess options that will best deliver the objectives given budget considerations and the fiscal context.

The key steps undertaken in developing the financial analysis are summarised below:

- **Identifying and measuring the cashflows:** forecast the incremental costs and revenues incurred by, or accrued to, the ACT Health; and calculate the nominal cashflows over the Project's economic life.
- **Identify the discount rate and discounting cashflows:** determine an appropriate nominal discount rate – Net cashflows are to be discounted at a rate reflective of the risk inherent for the Project.
- **Calculating the NPV of the Project:** subtract a project's outflows (total costs) from its cash inflows at each period and discount revenue to the current financial year.
- Analysing the sensitivity associated with the cashflows: conduct sensitivity tests.
- **Review results:** Conduct review of results.

The financial analysis framework has been designed to capture the whole of life analysis of net project costs for the Northside Hospital building(s) and is reflected on a nominal and an NPV basis over the analysis period.

Key assumptions and parameters

The key analysis assumptions and parameters used in the financial analysis are presented in Table 34.

Table 34: Input parameters for financial analysis

Parameter	Assumption	Rationale / Source
Base year	2022-23	Current year / base year for cost plans.
Unit of account / price year	2022-23	Parameters designated in prices prior to the base price year are inflated to 2022-23 dollars.
Analysis period	30 years from FY2023 to FY2052	Includes the operations of the current hospital under base case and construction and operation under project cases
Asset life	40 years	The average composite asset life for a hospital has been estimated through academic research to be an average of 40 years, which captures both the asset life associated with the building and equipment
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Parameter	Assumption	Rationale / Source
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
Capital costs	Base Case – provided by MPC (using AECOM SAMP Report) Project options were provided by Genus Advisory with additional inputs provided by ACTHD and MPC.	MPC (2023), Attachment A – Base CaseCalculations_UPDATED.xlsx Genus Advisory, ACTHD and MPC
Contingency	Deterministic Contingency (validated against P90 quantification)	Genus Advisory, in line with ACT Government Capital Framework

Key assumptions around the estimates include:

- Capital costs for Project Options provided by Genus (including deterministic contingency) with additional inputs for ACTHD/MPC costs and management costs provided by ACTHD and MPC.
- Capital costs and Lifecycle for Base Case have been derived from the AECOM SAMP Report. Escalation has been applied to these amounts based on rates provided by Genus Advisory and also extrapolated the cost to 30 years to align with the analysis period (extending the average annual cost).
- Operating costs for the Base Case have been developed in accordance with the CNA funding amount projections.
- Operating costs for Project Cases have considered the key categories of:
  - Employee Expenses based on Workforce profile provided by Capital Insight and PwC analysis of ACT salary benchmarks
  - Contracted Services and Clinical Supplies based on NWAU projections and costs per NWAU derived from Annual Financial Report FY21 Calvary Health Care ACT Limited
  - [redacted]
- For the purposes of this business case and supporting economic and financial analysis:
  - capital costs have been developed excluding the costs associated with the purchase of land and this will be considered as the project progresses.

- operating costs for the Project Options have been developed agnostic of the potential future operating model for the new Northside Hospital. The implications of this are being considered separately to the business case process.

- Lifecycle costs for the Project Cases provided by Genus Advisory, which includes recurrent maintenance, capital maintenance, recurrent FF&E, replacement MME, utilities and building operating costs. Note, building operating costs only include the costs of operating the facility and external works arising from the building itself rather than from its occupancy and as such does not overlap with any other operating cost items above.
- Revenues for Project Case are projected pro rata within *Canberra Health Services Annual Financial Statements FY22*.
- Residual value of the building infrastructure has not been included in the financial analysis. Refer to Section 9.2 for further information.
- Activity Based Funding projections are based on NWAU projections *Northside Hospital: NWAU projections, 2020-21 to 2040-41* provided to PwC by ACTHD.

9.2 Financial costs and revenues

Capital costs

The financial analysis of the delivery phase includes an analysis of the direct construction costs (including early works), project on costs and other principal costs incurred by client to deliver the Project and prepare the Project to be fully operational. The raw costs have been risk adjusted with the inclusion of a deterministic contingency, and a cashflow profile for all risk adjusted Capital Cost items was provided for each option, in real and nominal dollar terms.

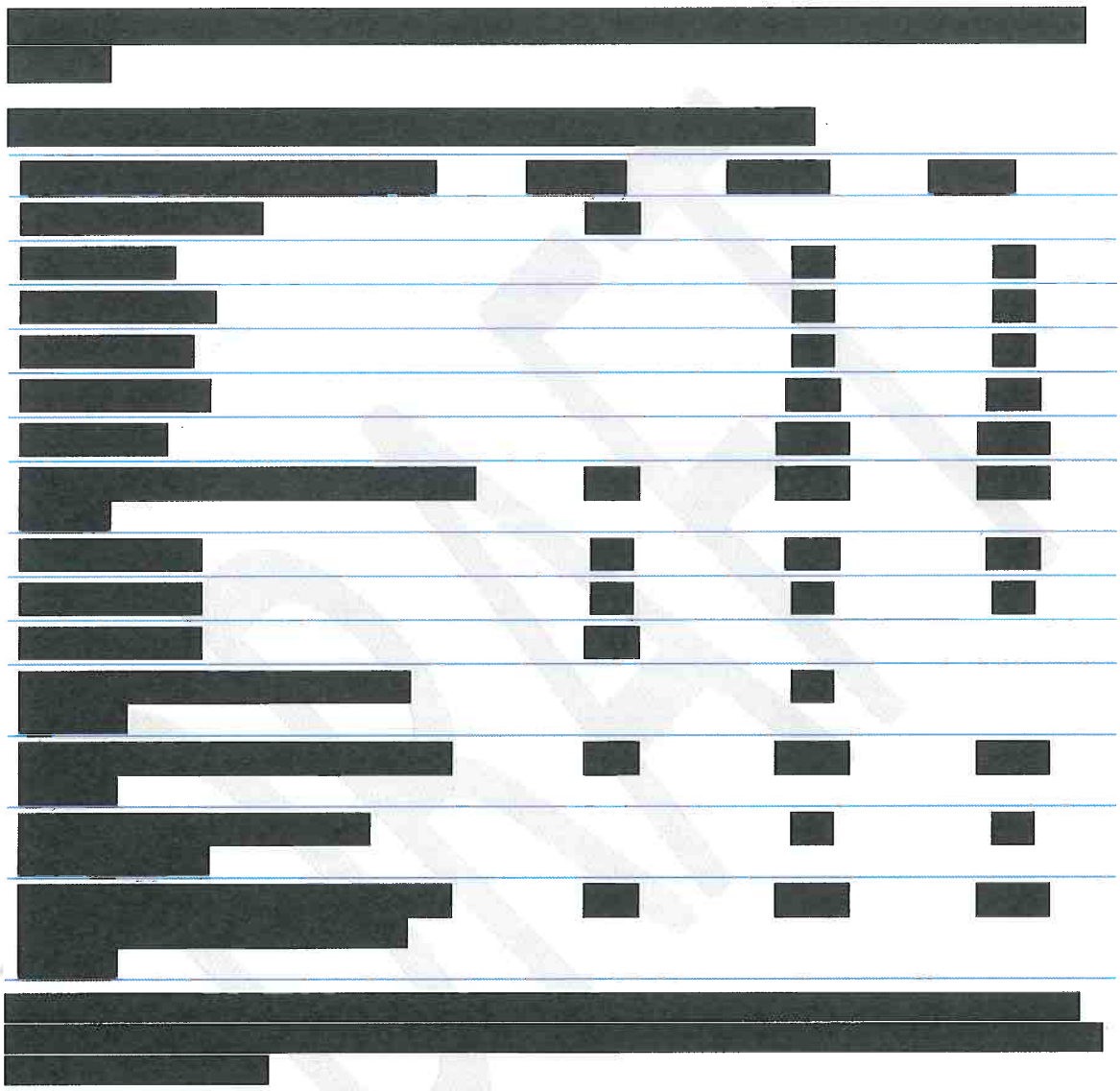
The key data source and assumptions for the delivery phase costs are detailed in Table 35.

Table 35: Assumptions – Capital costs

Item	Source / Assumption
Cost estimates (including risk adjustments)	Option 1A and 2: Capital Cost estimates developed by Genus Advisory, as detailed in Section 9.1 above. Base case: AECOM SAMP Option B Adjusted Capital Costs report adjusted as detailed in Section 9.1 above.
Construction spend profile	Annually
Construction base date	December 2022
Construction staging	Construction Completion based on the program prepared for the shortlisted options: • Enabling Works: Q4-26 for 1A and 2 • Multi Deck Car Park: Q2-30 for 1A and 2 • Child Care Centre: Q3-27 for 1A and 2 • Rehabilitation Services Relocation: Q2-28 for 1A only • Mental Health Unit (2031 Base Build): Q3-30 for 1A and 2 • Public Hospital (2031 Base Build): Q3-30 for 1A and 2 • Mental Health Unit (2041 Base Build): Q3-40 for 1A only • Mental Health Unit (2041 Fitout Gap): Q3-40 for 2 only

Item	Source / Assumption
	• Public Hospital (2041 Fitout Gap): Q3-40 for 1A and 2
Escalation rates	Provided by Genus Advisory, refer to Appendix I - Financial Analysis and Economic Appraisal Report for further details.

Source: Genus Advisory 2023 NHTA Concept Design Cost Plan Report.



Lifecycle, workforce projections and operating costs

Lifecycle costs

To inform the financial analysis, a detailed lifecycle cost cashflow profile was developed and considered the following categories of costs, in accordance with ISO:15686 part 5: 'Service Life Planning':[106]

[106] Details set out in Appendix H – "Northside WoL Report Jan 2023"

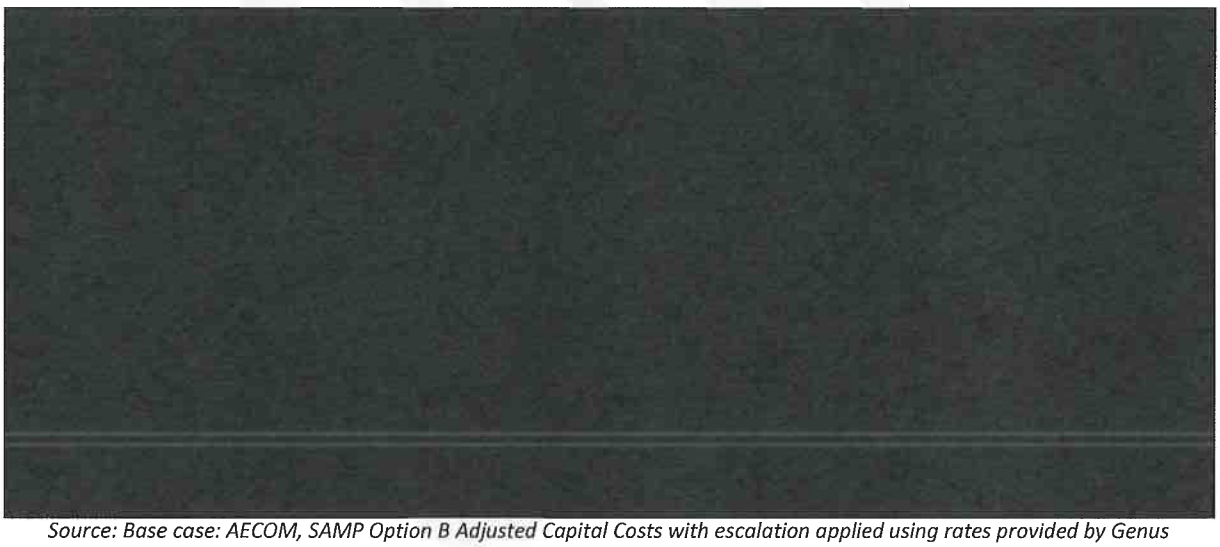
- Recurrent maintenance costs
- Capital maintenance costs
- Recurrent FF&E and ICT costs
- Replacement MME costs
- Utilities
- Building operating costs.

Lifecyle costs for Project Options 1A and 2 are based on a cashflow profile prepared by Genus Advisory that includes all risk adjusted operations and lifecycle cost items has been estimated for each option.

The lifecycle costs have been based upon the costs within the initial Concept Design Cost Plan and rely on the current building and landscaping areas included within these. Both Options 1A and 2 comprise of multiple stages due to be completed at different times over multiple years. To account for this the total lifecycle costs have been calculated by amalgamating the costs for each of the separate stages.

The nominal lifecycle costs for the Base Case have been derived from the AECOM SAMP Report. The Base Case lifecycle costs also include the 'Better Infrastructure Funding' which the ACT Government provides through ACTHD to Calvary, for minor repairs and maintenance works.

Table 37 below summarises the lifecycle costs for the 30 year analysis period (FY2023 to FY2052).



Source: Base case: AECOM, SAMP Option B Adjusted Capital Costs with escalation applied using rates provided by Genus Advisory

Option 1A and Option 2: Genus Advisory 2023, NHTA Concept Design Cost Plan Report.

Note, under the Base Case, utilities and building operating costs are funded via the CNA. Under option 1A and 2, building operational costs included in Table 37 only include the costs of operating the facility and external works arising from the building itself. This includes cleaning, administrative allowance for operating the building not associated with service delivery, insurance costs, rates and charges. These items do not overlap with the operating cost items detailed in the 'Operating costs' section below, which relate to service delivery.