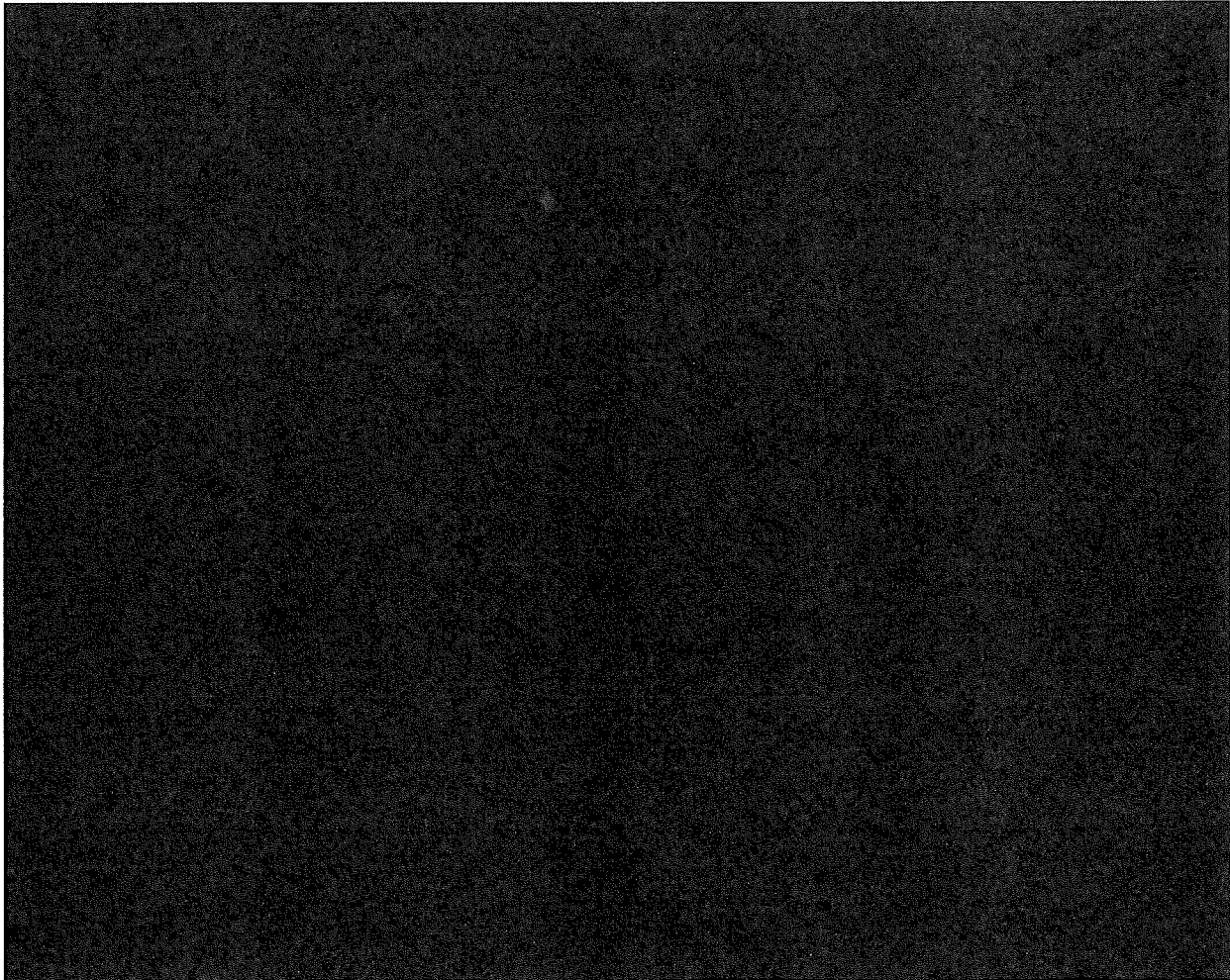

Whole of Life contingency has not been included in this section as the cost estimators have used conservative assumptions that reflect the current indicative nature of the designs. It is anticipated that a bottom-up assessment of Whole of Life risks will also be undertaken once the Models of Care have been finalised the early design phase is complete.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

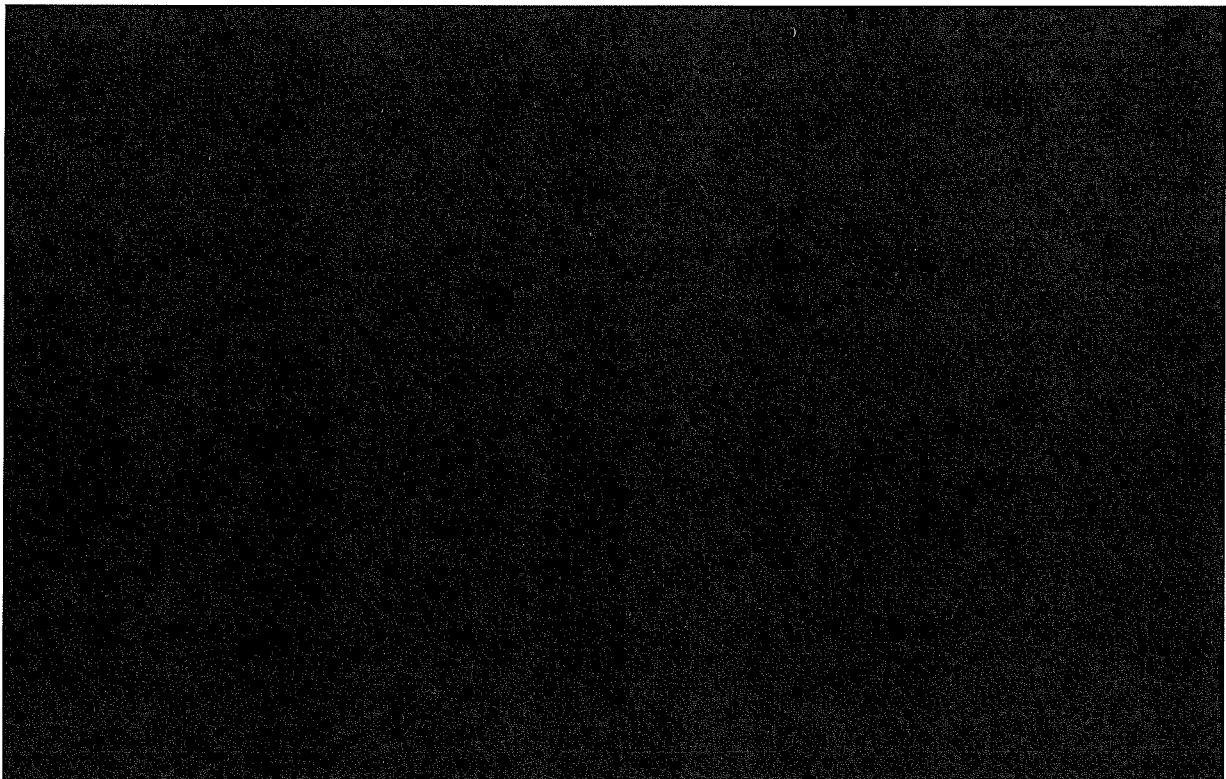


¹⁵⁴ Building Administrative Costs include: Contract Management, Administration and FM Help Desk services

¹⁵⁵ Includes Wardspersons, Technical Officers, Hospital Assistants, Allied Health, Pharmacy, Imaging, Pathology

6.3.3 Profile of Whole of Life costs

Figure 50 outlines the profile of the Whole of Life cost over the assumed 20-year operating life analysed in this Business Case.



The figure above highlights the following:

- There are significant lifecycle costs that are incurred periodically throughout the assumed 20-year operating period (every 5 years starting in 2028/29 for planned replacements of the building and every 6 years starting in 2029/30 for planned replacements of FF&E). FY2039/40 has the highest yearly lifecycle cost [REDACTED]
- Clinical staffing costs are the most significant contributor to Whole of Life costs throughout the 20-year operating period of SPIRE. Clinical staffing includes nursing staff, junior medical staff, specialists, health professionals and visiting medical officers

¹⁵⁶ for illustrative purposes some of the categories from Table 4. These categories are: Repairs and Maintenance (Repairs and Maintenance and Landscape Maintenance), Utilities and Insurance (Building Utilities and Buildings Insurance), Soft FM (Security, Cleaning, Waste management and Pest Control, and Building Administrative Costs), Administration, Clerical and Other Staff (Administration and Clerical Staff, and Other Staff), and Supplies (Supplies and Services, and Business Support Services)

-
-
- Estimated yearly repairs and maintenance costs for SPIRE will increase (beyond escalation) from the beginning of operations until FY2031. These costs include repairs and maintenance costs for the building, specialist equipment and FF&E

6.3.4 Whole of Life cost estimate notes

The following is noted regarding the Whole of Life cost estimate:

- The Whole of Life Cost estimate presented above captures the 'delta' between Option 1 and the 'base case' (as defined in Chapter 4). This means that the Whole of Life cost estimate will only capture the services which are being expanded in SPIRE (and not those that are simply transferred)
- The Sterilisation Services that will be delivered at SPIRE will be a transfer of services from the Mitchell CSSD facility (which will be shut down after the operations of SPIRE commences) instead of an expansion of services. The costs to deliver these services will not be captured in this chapter as the Whole of Life cost estimates only captures additional costs (as outlined in the point above)
- The operating costs presented in this section have been estimated based on demand modelling undertaken by ACT Health in 2018 and therefore are indicative and subject to change. Actual operating costs will be impacted by activity levels experienced and may differ materially from forecasts
- The FM costs presented in this chapter are estimated based off the scope of SPIRE (as defined in Chapter 5). Any material changes to the scope will impact the estimated FM costs
- The Whole of Life cost estimate presented above is indicative only. It is anticipated that the Whole of Life cost estimate will be further refined following the completion of the early design phase, anticipated in mid-2019 and the finalisation of the Model of Care
- Whole of Life contingency has not been included as conservative assumptions have been used by the cost estimators to reflect the current indicative nature of the designs for SPIRE (see the Contingency section later in this chapter for more information)
- Any apparent errors in summation are due to rounding
- All years are expressed in financial years

6.4 Contingency

6.4.1 Introduction

The project contingency included in the Project Outturn Cost are made up of:

- **Inherent risks:** these are risks which are considered to have an 100% chance of occurring. As SPIRE is currently at a high-level stage of design, the capital cost estimator has embedded the inherent risk in the cost estimate by using conservative assumptions that in their view are broadly reflect the inclusion of a P50 contingency
- **Contingent risks:** these are risks that have a less than 100% chance of occurring. These are evaluated in a separate process to the project costs due to their unknown nature. The process for calculating contingent risks is outlined below

6.4.2 Interpretation

In this section, P50, P75 and P90 contingency will be presented for contingent risks. In this regard:

- P50 is a mid-point estimate. It represents the project cost with sufficient risk provisions to provide a 50% level of confidence in the outcome i.e. that there is a 50% likelihood that the Project cost will not be exceeded
- P75 represents the project cost with sufficient risk provisions to provide a 75% level of confidence in the outcome i.e. that there is a 75% likelihood that the project cost will not be exceeded. In other words, it represents an estimate that has a 25% chance of being exceeded
- P90 represents the project cost with sufficient risk provisions to provide a 90% level of confidence in the outcome i.e. that there is a 90% likelihood that the project cost will not be exceeded. In other words, it represents a conservative position, one that has an anticipated 10% chance of being exceeded

6.4.3 Methodology

During February and March 2019, ACT Health hosted a series of risk identification and quantification workshops and meetings.

The first, a risk identification workshop was chaired by ACT Health's commercial advisor and attended by various Territory Directorates including ACT Health, IFCW and CHS. The purpose of this workshop was to identify project risks and potential mitigation measures.

Subsequently, risk quantification workshops and meetings chaired by ACT Health's commercial advisors were held. These meetings sought attendee input into:

- The likelihood of a risk event occurring
- The likely cost and delay impact of a risk event occurring
- The likely distribution around anticipated cost and delay impacts

The risk workshops resulted in the identification and costing, in real terms, of the project's key construction risks. Following those workshops, the project's commercial advisors performed Monte Carlo simulations to estimate the uncertainty levels and probability distributions associated with the project.

Further discussions with project stakeholders and benchmarking against other Territory projects was undertaken to refine project risks.

The aforementioned process resulted in the determination of the project's P50, P75 and P90 construction and operations and maintenance risk estimates. This produced the P50, P75 and P90 project outturn cost estimates as outlined in Table 29 below.

6.4.4 Construction Cost Contingency

The table below presents the results of the risk quantification process in P50, P75 and P90 terms for the construction of SPIRE. The results below only include contingent risk as inherent risks are already embedded in the raw construction costs.

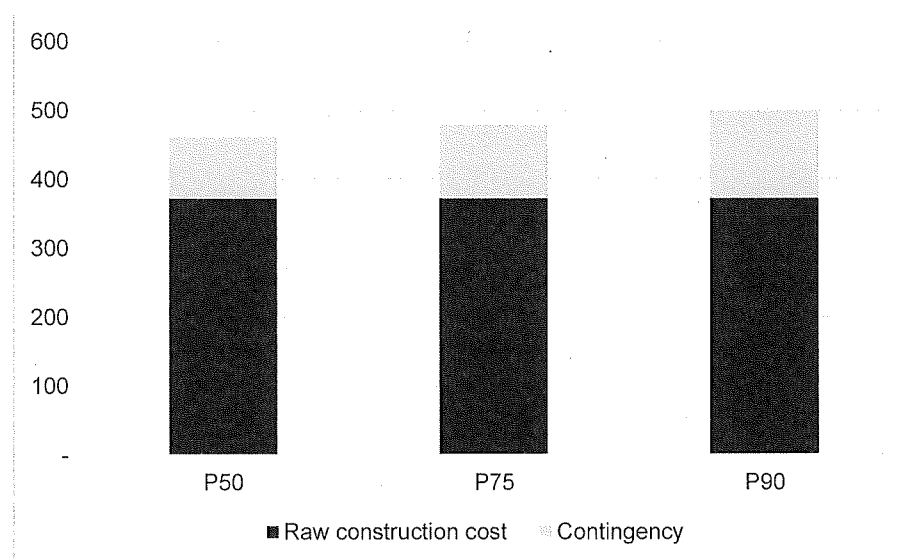
The proportions shown in the table below are presented for the purposes of understanding the quantum of contingency and to assist in benchmarking with other projects.

Table 29: Construction contingency as a proportion of the Project Outturn Cost (\$m, nominal)

Results	P50	P75	P90
Project Outturn Cost	543.8		
Contingency	89.3	106.8	126.0
Contingency % of Project Outturn Cost	16.4%	19.6%	23.2%

The P50 figure is included in the final Project Outturn Cost, at 16.4% of the total.

Figure 51: Split of construction cost and contingency (\$m, nominal)



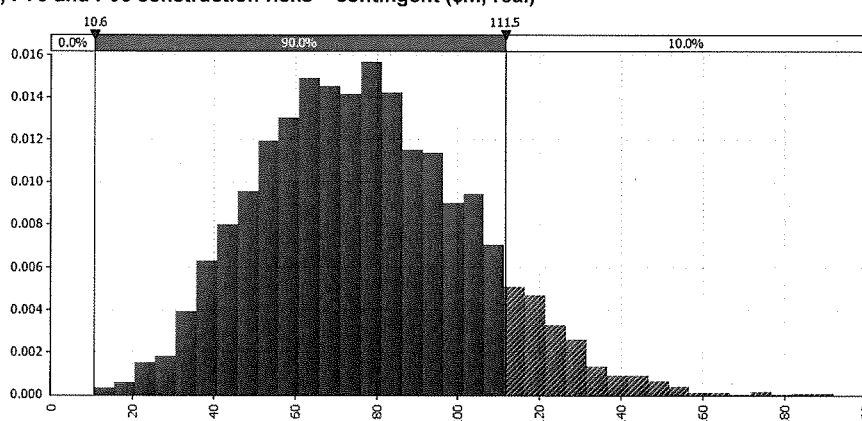
The project contingency is predominantly driven by the following risks, which make up approximately 35.9% of the total contingency:

- Risk that planning and approvals processes (excluding environmental approvals) take longer than anticipated or impose unforeseen conditions on the project (15.6% of contingency)
- Risk that the design of the new facility does not integrate effectively with back of house services (including food services, waste management, the loading dock, Building 10 and Pathology) (7.3% of contingency)
- Risk that the design of the new facility does not integrate effectively with existing infrastructure at the Canberra Hospital (including ICT and systems, access and entry points, and Enterprise Systems) (6.5% of contingency)
- Risks associated with utilities (6.5% of contingency)

See Chapter 8 for more detail on key risks.

The overall risk-adjusted capital cost distribution profile is shown below. This histogram represents the distribution of potential risk outcomes (from a capital cost point of view) which may impact on the Project.

Figure 52: P50, P75 and P90 construction risks – contingent (\$m, real)



The contingent histogram is relatively normal around the mean with a slight right skew caused by risks such as 'Risk of contract default during construction' that have a low likelihood but a significant consequence.

6.4.4.1 Whole of Life Contingency

The Whole of Life expenditure presented in this chapter was estimated by the cost estimator using conservative assumptions to reflect the current indicative nature of the designs for SPIRE (i.e. with contingency embedded into the assumptions). Additional contingency has not been included in this section to avoid double counting Whole of Life contingency. It is anticipated that a bottom-up build of Whole of Life contingency (at a P90 level) will be undertaken following the finalisation of the early design phase and the Model of Care for SPIRE.

6.4.4.2 Risk allocation

A proportion of the contingency for SPIRE will be 'transferred' to the private sector, with the remaining risk to be 'retained' by the ACT Government. As the preferred delivery model is yet to be determined for SPIRE, the risk allocations for SPIRE will not be estimated in this Business Case (see Chapter 8). However, the following general points have been noted:

- In general, it is anticipated that certain risks will be fully or substantially retained by the Territory irrespective of the delivery model selected. These risks may include planning and approvals risks, contamination risks etc. The ACT Government will likely largely retain risks associated with clinician input into the design process for SPIRE regardless of the delivery model selected
- The Whole of Life contingency (once this is estimated) will likely be largely retained by the Territory (as most of the services delivered through SPIRE will not be undertaken by the private sector)
- Transferred and retained risks are estimated following the implementation of risk mitigation strategies. See Appendix H for potential mitigation strategies for each risk
- It is anticipated that transferred and retained risk allocations will be estimated following the selection of a delivery model for SPIRE and the finalisation of the early design phase and Model of Care for SPIRE

6.5 Cash flow impact and funding strategy

6.5.1 Cash flow impact

The Project's impact on the ACT Budget will be a payment over the design and construction period for the ACT Government for the estimated Project Outturn Costs, and ongoing Whole of Life expenditure operations as per the Whole of Life requirements.

The table below provides an overview of the estimated budget impact of the Project over the forward estimates. In considering the table below it should be noted that in line with the Project's anticipated delivery timeline (operational commencement January 2025):

- The capital costs reflect the Project Outturn Cost for the Project (i.e. SPIRE, decanting and the temporary car park) anticipated to be incurred over the forward estimates, with appropriate offsets in line with previous budget appropriations for the Project
- The depreciation costs included are for the demountable buildings, the temporary car park and the FF&E associated with other decanting activities. These works are all assumed to be completed in January 2020. No depreciation costs for the main works component of SPIRE are included as depreciation will commence following the completion of construction (i.e. beyond the forward estimates)
- Associated expenses include rental cost for Callum Street, as well as repairs and maintenance costs for decant activities, including the temporary car park, calculated in line with ACT Government policy for 0% in the first year, 1% and 2% thereafter. Expenses associated with the operation of SPIRE will be required to be funded beyond the forward estimates
- As noted above, the Project Outturn Cost and Whole of Life Cost estimates will be refined following the completion of the early design phase and consequently the budget impact will be revised at this time

Table 30: Preliminary financial impacts summary (\$m, P50, nominal)

Financial impact	FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23	Total
Capital - Main Works	\$4.4	\$12.7	\$33.6	\$110.4	\$140.3	\$301.4 ¹⁵⁷
Capital - Decanting	\$0.9	\$25.0	\$0.0	\$0.0	\$0.0	\$25.9
Capital - Car Park	\$0.3	\$8.9	\$0.0	\$0.0	\$0.0	\$9.2
Offset - Capital	-\$5.7	-\$46.6	-\$33.6	-\$110.4	-\$236.9	-\$433.2
Net Capital	\$0.0	\$0.0	\$0.0	\$0.0	-\$96.6	-\$96.6

¹⁵⁷ \$129.6m (nominal, P50) and \$77.6m (nominal, P50) is expected to be expended in 2023/24 and 2045/25 respectively for the Capital - Main Works, with the Project Outturn Cost of \$543.8m (nominal, P50) comprised of Main Works, Decanting and the Car Park completely expended between 2018/19 and 2024/25

Financial impact	FY2018/19	FY2019/20	FY2020/21	FY2021/22	FY2022/23	Total
Depreciation	\$0.0	\$0.4	\$0.9	\$0.9	\$0.9	\$3.0
Associated Expenses ¹⁵⁸	\$0.0	\$0.0	\$0.2	\$0.4	\$0.5	\$1.2
Offset - HCP	\$0.0	\$0.0	-\$0.2	-\$0.4	-\$0.5	-\$1.2
Net Operating Impact¹⁵⁹	\$0.0	\$0.4	\$0.9	\$0.9	\$0.9	\$3.0

6.5.2 Funding strategy

In addition to the offsetting budget appropriation outlined above, in considering funding for SPIRE, the following should be noted:

- As SPIRE will provide important acute and critical care services for the broader region, not just the Territory, opportunities for funding from the Australian Government should be explored, potentially through Australian Government Department of Health agreements such as the five-year Heads of Agreement for public hospital funding and health reform
- Funding opportunities from tertiary education partners in the Territory (i.e. Australian National University, University of Canberra, Australian Catholic University and Canberra Institute of Technology) should be explored. These partners may leverage the facilities at SPIRE to train their students (e.g. nursing placements)
- Operating revenue opportunities (e.g. retail space) will be considered following the assessment of this Business Case and more detailed design development
- ACT Government may, in its discretion, consider the provision of partial bid cost reimbursements for shortlisted (but unsuccessful) consortia. As a default policy position, the ACT Partnerships Framework states partial bid cost reimbursements will generally not be paid by the ACT Government. As such, partial bid cost reimbursements are not contained with the cost estimate in Section 5.1.2

¹⁵⁸ This includes rental expenses for Callum Street, as well as repairs and maintenance expenses in line with ACT Government policy of 0% in the first year, 1% in the second year and 2% each year thereafter

¹⁵⁹ Net Operating Impact is the sum of Associated Expenses and Offset - HCP

7 Economic Analysis

Key messages

- Quantitative and qualitative economic analysis has been undertaken of SPIRE drawing upon research, designs and data provided by the Territory and its advisors, as well as a consideration of precedent projects, both nationally and globally
- The analysis demonstrates that SPIRE has the potential to generate significant social and economic benefits to the Territory through the anticipated improvement in health outcomes for the local community, as well as the stimulation of economic activity due to SPIRE's construction
- Wider Economic Benefits (WEBs) of \$741.0m (real) in gross economic output is estimated to be generated over the construction phase, consisting of:
 - \$372.3m in direct construction activity (raw construction costs)
 - \$368.7m in indirect (or flow-on) activity due to economic stimulation

This is associated with \$271.0m (real) in total gross value add and the average gross support of 255 jobs each year over the 7 year construction period, or approximately 1,784 job years in totality where each unit represents one job for one year. Care must be taken when considering the latter figure as this figure counts a job for each year it exists where in reality, it is likely that the same workers will be undertaking the construction work in each year. In sum, the construction of SPIRE supports work for 255 people for 7 years.

- A number of qualitative benefits may also be realised as a result of the project. These benefits can be broadly categorised into four key outcomes:
 - A healthier community through improved patient access and health outcomes
 - A happier community that has had their expectations satisfied
 - A content workforce with improved staff retention, attraction and wellbeing
 - A sustainable model through improved operational efficiency
- The quantitative and qualitative benefits described in this Chapter are anticipated to be realised by Canberra Hospital staff, patients, their friends, family and employers, ACT Health and CHS, the ACT Government and the broader community in the Territory and surrounding region

7.1 Introduction

This Chapter outlines the results of the economic analysis undertaken for SPIRE, setting out the potential benefits, beneficiaries and anticipated economic outcomes, and their alignment with the project objectives for SPIRE (see Section 2.5).

The economic merits of SPIRE have been assessed using two different types of analysis:

- **Wider economic benefits (WEBs):** this analysis identifies the expected economic impacts resulting from the injection of capital into the Territory. Namely, the economic stimulation and flow on impacts arising from the capital investment of \$372.3m (real) to decant and then construct SPIRE over the 7 year construction period (i.e. raw construction costs).
- **Socio-economic assessment of benefits (SEA):** this qualitative assessment identifies the socio-economic benefits of SPIRE. Given the difficulty in monetising health outcomes, the SEA provides a more complete picture of the benefits anticipated to be realised by the project

This approach aligns with common practice in the assessment of health and other social infrastructure projects that have a clear need and benefit, but the anticipated impact is unable to be fully or definitively quantified.

With respect to SPIRE, a number of the anticipated project benefits, as detailed in this Chapter, are largely unquantifiable in monetary terms, such as improved access to health care and leading edge medical practices and services but have the potential to have a significant positive impact on beneficiaries. Given these limitations, a Cost Benefit Analysis (CBA) has not been undertaken. However, relevant value measures for economic benefits have been identified where possible to provide an indication of significance.

Additionally, while the scope of SPIRE (see Chapter 4) consists of multiple services which, individually, would realise a number of economic benefits in their own right, this economic analysis considers the project and all of its components as a whole.

In preparing the economic analysis, the current state or 'base case' has been considered against the 'project case' to ascertain the expected impact, or additional economic value, beyond what is currently delivered by the services at the Canberra Hospital. The base case assumes the continued operation of the Canberra Hospital as is, with no significant capital investment made over the same period of analysis. The project case is the construction of SPIRE under Option 1, along with necessary decanting costs.

The table below provides a high-level overview of the difference between the base and project case for SPIRE in terms of quantitative economic modelling. Further detail on each of these scope items is contained in Chapter 4 along with additional functional areas that will form part of SPIRE.

Table 31: Base case verse Project case (Option 1) scope (real)¹⁶⁰

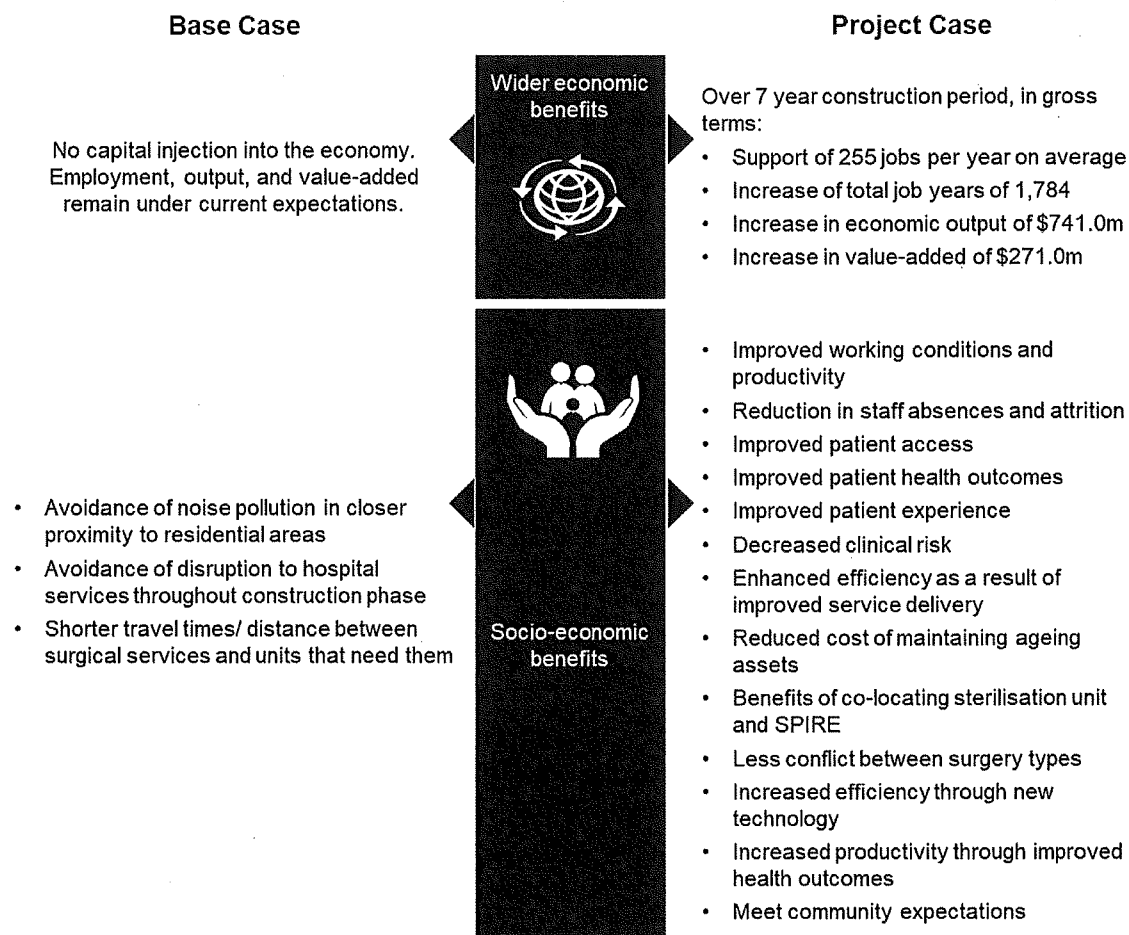
Component	Base Case	Project Case	Difference
Combined Beds ¹⁶¹	565	136	+86
<i>Inpatient unit beds</i>	515	64	+64
<i>ICU</i>	31	44	+13
<i>CCU</i>	19	24	+5
<i>PICU</i>	0	4	+4
Operating Theatres	13	22	+9
ED spaces	72	108	+36
Raw construction costs - construction	\$0	\$346.9m	+\$346.9m
Raw construction costs - decanting	\$0	\$25.4m	+\$25.4m

A summary comparison of the benefits of the base case and the benefits of the Project case can be found below.

¹⁶⁰ Note for purposes of modelling, raw construction costs were used (thus costs associated with contingencies, Government fees and escalation costs were not considered).

¹⁶¹ Refer to Table 17 in Chapter 5 for further detail.

Figure 53: Comparative benefits

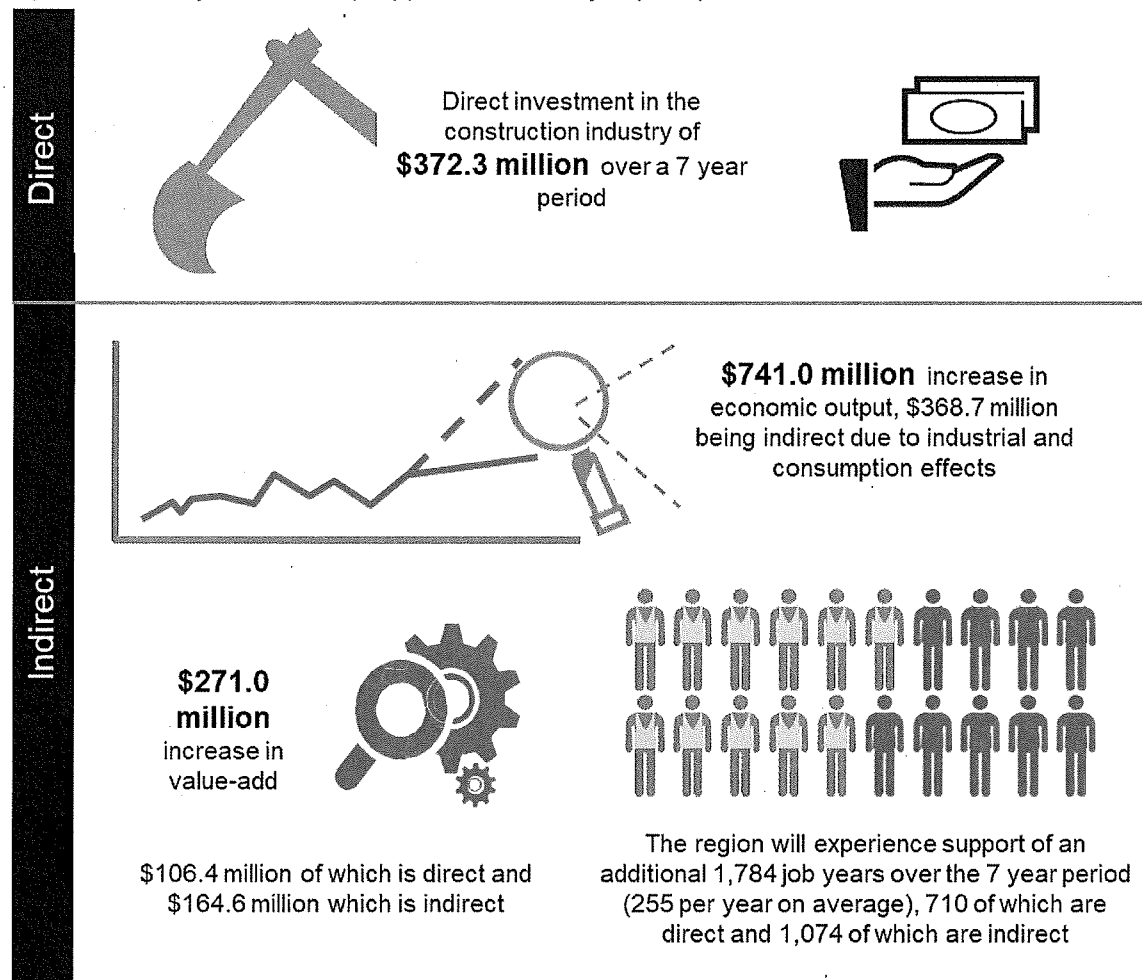


7.2 Wider economic benefit

The construction of SPIRE is expected to provide wide-ranging economic and social benefits for the Territory, stimulating not only the Territory economy, but also that of surrounding regions. While a range of wider economic benefits may result as a consequence of the operation and maintenance of the project, the following analysis is limited to the capital injection from the construction of SPIRE. This has been quantified using the approach outlined in Section 7.2.1.

The key results from the analysis are depicted in Figure 54.

Figure 54: Summary WEBs results (real) (cumulative over 7 year period)



7.2.1 Approach

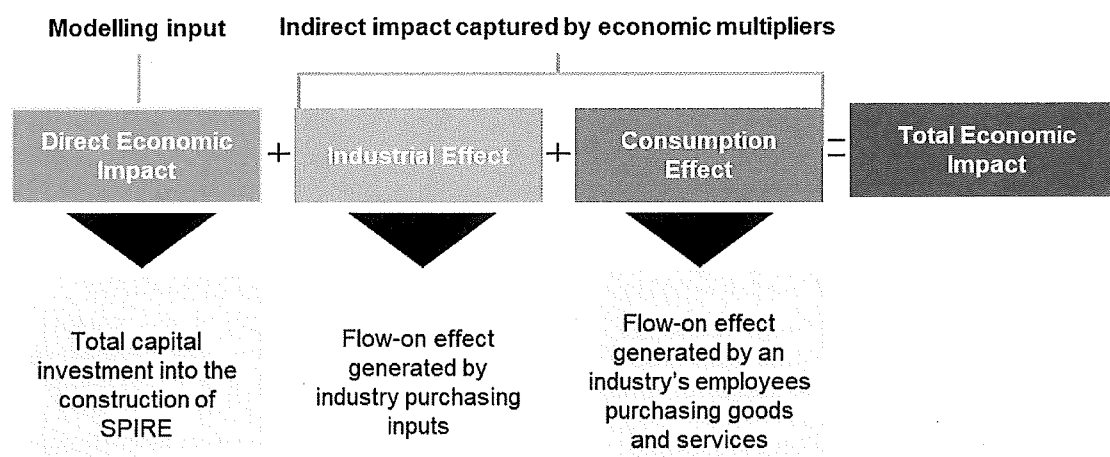
To estimate the flow-on economic impacts from the construction of SPIRE, an input-output model of the Australian and regional economies has been used.¹⁶²

Input-output models are used to trace the revenue and expenditure flows that link industries and workers within and outside economic regions. For instance, an increase in output in one industry (the direct impact) would give rise to demand for inputs from other industries (industrial effect), as well as labour (consumption effect). In turn, these support industries would demand further inputs and labour and so on. This is the called the 'multiplier' effect.

Figure 55 illustrates the high-level approach used for this analysis. It shows that to arrive at the total economic contribution of SPIRE, requires the addition of not only the direct economic impact, but also the indirect economic impact which stems from both industrial and consumption effects. It is important to note that the indirect impact results are shown as a total impact or effect figure and are not broken into their constituent parts.

¹⁶² To model the economic impact, software called REMPLAN was used. REMPLAN's core data set is based on Australian Bureau of Statistics (ABS) national accounts figures of the Australian economy, coupled with the latest Census data. REMPLAN's key advantage over other input-output models or "off-the shelf multipliers" is that it is region specific.

Figure 55: Economic contribution overview



This analysis uses tailored input-output multipliers that reflect the specific characteristics of the Territory region.¹⁶³ The model accounts for 'leakage' (i.e. expenditure that needs to be imported from outside of the selected economy and therefore leaves the economy) of direct expenditure from the economy in its multipliers.

An important limitation of input-output analyses such as this is that they do not consider capacity constraints in the economy (e.g. full employment). Such constraints limit the extent to which economic impacts can increase in a linear fashion with changes in demand. Namely, the results indicate the **gross**, rather than net, impact of the capital investment.

For a detailed description of the methodology, refer to Appendix H.

7.2.2 Assumptions

Underpinning the results is the direct impact. It is from the direct impact that the indirect impacts (industrial and consumption effects) are estimated and thus the total economic impact. For this study, the direct impact was based on the costings as discussed in Chapter 6 where the direct impact was considered to be the raw construction costs. Specifically:

Direct impact = raw cost for construction + raw cost for decanting

Where:

Raw construction cost = construction + early works + design fees + construction fees + artworks + FF&E + ICT

The direct impact does not include contingency estimates, Government fees, or escalation costs. Contingency costs were removed as these are not expected cash flows at this point in time. Escalation costs were removed as the analysis was performed in real terms. Government fees (including Act Health management and IFCW fees) were removed as these are considered to be transfers between Government

¹⁶³ To model the economic impact, software called REMPLAN was used. REMPLAN's core data set is based on Australian Bureau of Statistics (ABS) national accounts figures of the Australian economy, coupled with the latest Census data.

entities with no net increase or decrease outside of Government and thus no net increase in economic output.

The result is a total direct impact of \$372.3m being \$346.9m in raw costs for construction and \$25.4m in raw costs for decanting.

In considering the results, it should be noted that:

- The economic impact analysis undertaken focuses on the impact of the additional construction industry spending generated due to the development of SPIRE. While there will be additional expenditure that could also have additional economic impacts (e.g. the appointment of specialist advisors), given the smaller magnitude of this spending and uncertainties around which industry the expenditure will occur in, the wider economic impacts of this expenditure has not been analysed.
- The economic impact analysis undertaken uses as its base the ACT region. While the indirect impact may be felt in surrounding regions, for purposes of calculation, the ACT region's multipliers have been used to provide focus on the local impacts rather than broader NSW, or Australian impacts.
- It is also expected that there will be wider economic benefits arising from the operation of SPIRE due to the project's potential impact on employment over the operational period. Similarly as noted above, the impact of this is currently unknown and thus has not been included in the WEB analysis.
- Lastly, as previously raised, the expected improvement in health outcomes attributable to SPIRE would likely also have flow on economic benefits. For example, SPIRE is anticipated to contribute to an overall healthier community resulting in benefits such as the improved productivity of patients and their families. Due to challenges in quantification and monetisation, these benefits have been qualitatively discussed in the SEA (see Section 7.3).

7.2.3 WEBS results

The anticipated WEBS realised by SPIRE have been considered in four different categories:

- Impact on employment in the local economy – this corresponds to the total number of full time, part time and casual jobs. Importantly, the jobs figure is the number of job years supported by the construction work.
- Impact on output in the local economy – this represents the gross revenue generated by businesses and organisations in each of the industry sectors.
- Value added to the local economy – this is the marginal economic value that is added by each industry sector.
- Industry specific impacts – the above economic variables are examined by industry to ascertain where the impact will be felt most.

7.2.3.1 *Impact on employment in the Territory economy*

The construction spending for SPIRE is expected to have a direct and indirect impact on employment in the Territory economy where:

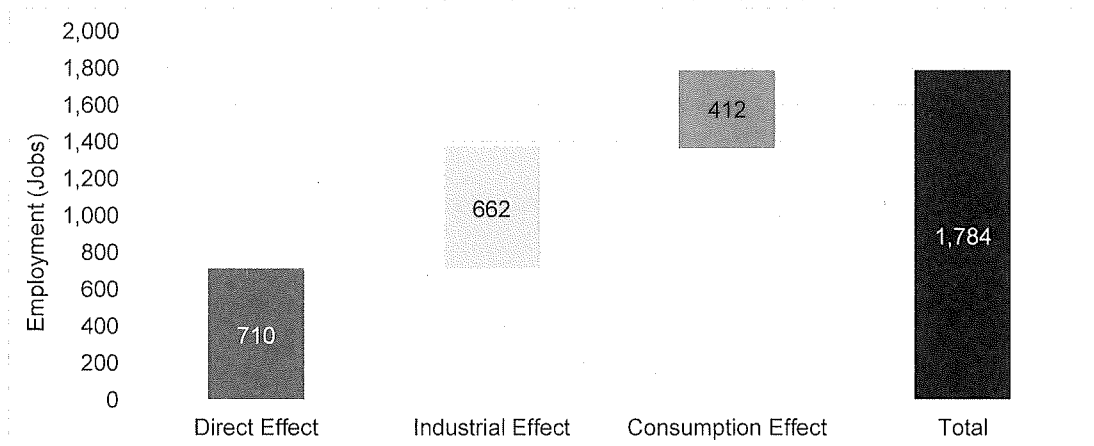
- Direct jobs are jobs created through the direct expansion to the economy caused by the construction of SPIRE (i.e. workers required to construct SPIRE).

- Indirect jobs are jobs created through the flow-on industrial – or supply chain - effects in terms of local purchases of goods and services, and consumption effects in terms of the increased consumption of local goods and services from the increase in wages and salaries paid to the new workers.

Figure 56 outlines the estimated gross impact on employment in the local economy due to the construction spend anticipated. It shows that over the 7 year period, 1,784 job years will be supported by the construction of SPIRE. This equates to an average support of 255 jobs each year over the construction period.

It is important to note that aggregating the job creation each year to estimate total jobs created through SPIRE would overestimate the amount of jobs created as it is likely that the same workers will be undertaking the construction work in each year. That is, if the same 100 workers were working on SPIRE across 5 years, then it would be an overestimation to say that 500 jobs were created. Rather, it supports work for 100 people for 5 years.

Figure 56: Anticipated total impacts to employment (cumulative over 7 year period)



Source: EY / REMPLAN analysis

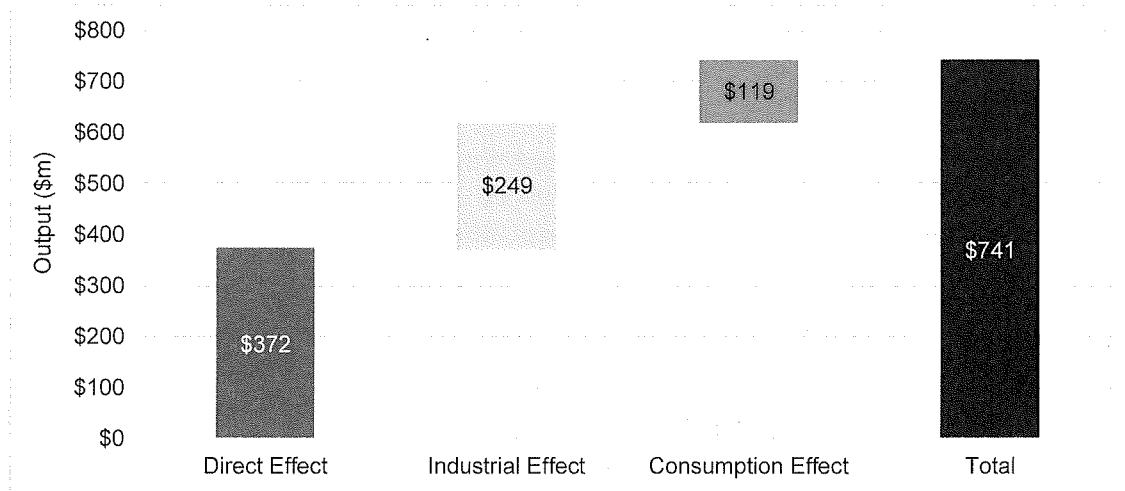
7.2.3.2 *Impact on output in the Territory economy*

The construction spending from SPIRE is expected to result in a direct and indirect increase in the economic output in the local economy where:

- Direct output is the amount of money invested in the construction industry for the build of SPIRE
- Indirect output includes the amount spent on intermediate goods and services and the flow-on effects, as servicing sectors increase their own output and demand (industrial or supply-chain effects) and consumption effects caused by the increased wages and salaries (where a proportion is typically spent on consumption of goods and services in the local economy).

Figure 57 outlines the estimated gross impact on output in the local economy due to the construction spend anticipated. It highlights that over the 7 year period \$741.0m in total economic output will transpire due to the construction of SPIRE with a near even split between that generated through direct verse indirect activities. On average, this equates to \$105.9m per year.

Figure 57: Anticipated impacts to output (\$m, real) (cumulative over 7 year period)



7.2.3.3 *Value-added to the Territory economy*

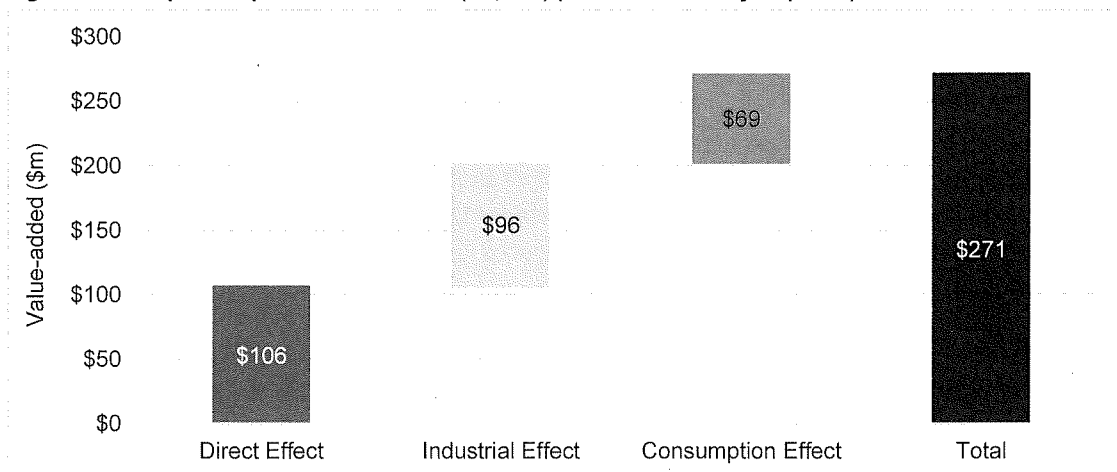
The impact from value-added reflects the impact that the construction of SPIRE is expected to have on the local economy, after omitting spending on intermediate inputs. In other words, it reflects the extent to which the construction of SPIRE is expected to grow the economy.

As a result of SPIRE, value-added to the local economy is expected to increase directly and indirectly where:

- Direct value-added is generated through the direct construction spending of SPIRE
- Indirect value-added is generated through flow-on industrial (or supply-chain) effects and consumption effects caused by increased wages and salaries paid to employees.

Figure 58 outlines the anticipated gross impact on value-added to the local economy due to the construction of SPIRE. It shows that over the 7 year construction period \$271.0m in total value-added is expected from the construction of SPIRE with a greater proportion (61% or \$164.6m) stemming from indirect impacts. On average, the total impact equates to \$38.7m in value-added per year.

Figure 58: Anticipated impacts to value-added (\$m, real) (cumulative over 7 year period)



7.2.3.4 Industry specific impacts

As expected, the construction sector is anticipated to experience the largest impact as a consequence of SPIRE's construction, with an increased total output of \$482.9m (real) and an estimated increase in total value-added of \$141.6m (real).

The second largest industry impact is expected to be seen in the Rental, hiring and real estate services industry in terms of total output and value-added with values of \$42.6m (real) and \$28.4m (real) respectively. This is due to the relatively high industry connections, or supply chain relationships, between this industry and the construction industry. Interestingly however, the second largest impact in terms of total support of jobs is seen in the Retail trade industry which may be caused by the increased spend from labour with a total number of 129 job years supported. A breakdown of the industry impacts can be found in Table 32.

Table 32: Anticipated industry specific impacts (\$m, real)¹⁶⁴ (cumulative over 7 year period)

Industry	Employment Job years	Output \$m	Value Added \$m
Construction	970	482.9	141.6
Retail Trade	129	15.8	9.6
Professional, Scientific & Technical Services	122	35.2	16.6
Accommodation & Food Services	99	14.9	6.6
Manufacturing	59	38.5	9.2
Health Care & Social Assistance	57	7.7	5.5
Administrative & Support Services	52	13.1	6.7
Education & Training	51	7.1	5.2
Other Services	51	8.2	4.5
Transport, Postal & Warehousing	49	17.5	7.6
Rental, Hiring & Real Estate Services	25	42.6	28.4
Financial & Insurance Services	25	17.5	10.0
Wholesale Trade	22	9.1	4.5
Public Administration & Safety	22	4.5	2.6
Information Media & Telecommunications	17	11.7	4.9
Arts & Recreation Services	16	3.4	1.3
Electricity, Gas, Water & Waste Services	12	9.0	4.9
Agriculture, Forestry & Fishing	4	1.8	0.9
Mining	1	0.6	0.3
Total	1,784	741.0	271.0

Note: figures may not add to total due to rounding.

7.2.3.5 Scenario Analysis

Further to the base case analysis above, a number of scenarios have also been modelled to indicate the potential impact of changes in construction spend on the economic impacts estimated. That is, scenarios to compare the economic benefits of marginal increases or decreases to the total capital cost of \$372.3m. Results have been estimated for:

¹⁶⁴ Slight differences may be noted due to rounding

- scenarios looking at cost over-runs, namely the direct impact scaled up by 10%, 20% and 40%
- scenarios looking at cost savings, namely the direct impact scaled down by 10%, 20% and 40%.

The table below highlights the key results and indicates the range of gross economic impacts that could result. All figures with regards to employment are gross total job years where each unit represents support for 1 job for 1 year and thus cannot be interpreted as total jobs.

Table 33: Scenario analysis anticipated outcomes (real, cumulative over 7 year period)

Scenario	Direct Investment (m)	Employment Job years	Output \$m	Value Added \$m
Plus 40%	\$521.3	2,496	\$1,037.4	\$379.4
Plus 20%	\$446.8	2,141	\$889.2	\$325.2
Plus 10%	\$409.6	1,962	\$815.1	\$298.1
Project Case	\$372.3	1,784	\$741.0	\$271.0
Less 10%	\$335.1	1,606	\$666.9	\$243.9
Less 20%	\$297.9	1,427	\$592.8	\$216.8
Less 40%	\$223.4	1,070	\$444.6	\$162.6

7.3 Socio-economic analysis

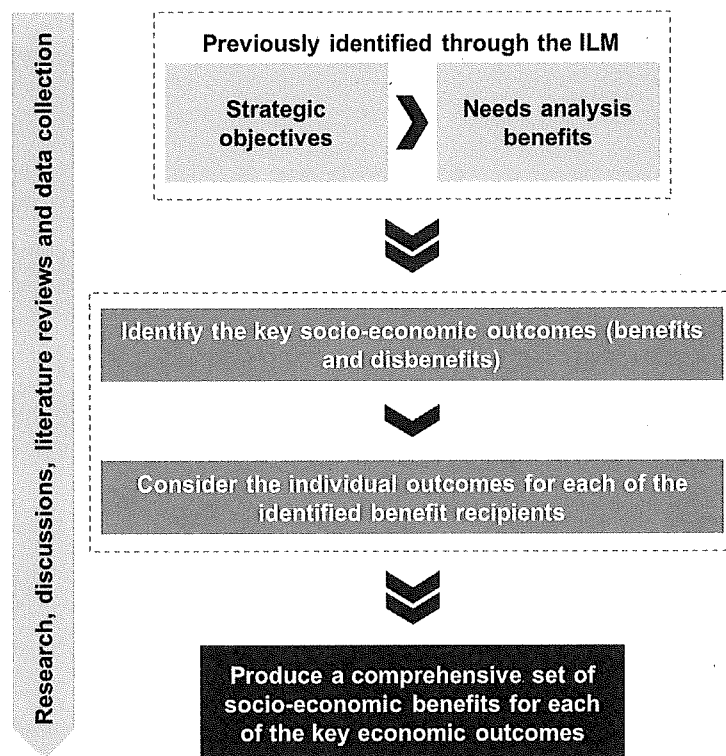
The socio-economic analysis outlined in this section provides a qualitative assessment of the economic outcomes, benefits and dis-benefits anticipated to be realised as a consequence of SPIRE. While this section includes both economic and social benefits, given the nature of SPIRE, the anticipated benefits identified are predominately social.

7.3.1 Approach

The socio-economic analysis was undertaken following the development of a conceptual assessment framework as depicted in Figure 59. Where possible, relevant quantitative measures for social and economic benefits have been identified to provide an indication of potential significance of the benefit to the project.

This framework – shown below – guided the identification of the social and economic benefits that may be realised due to SPIRE.

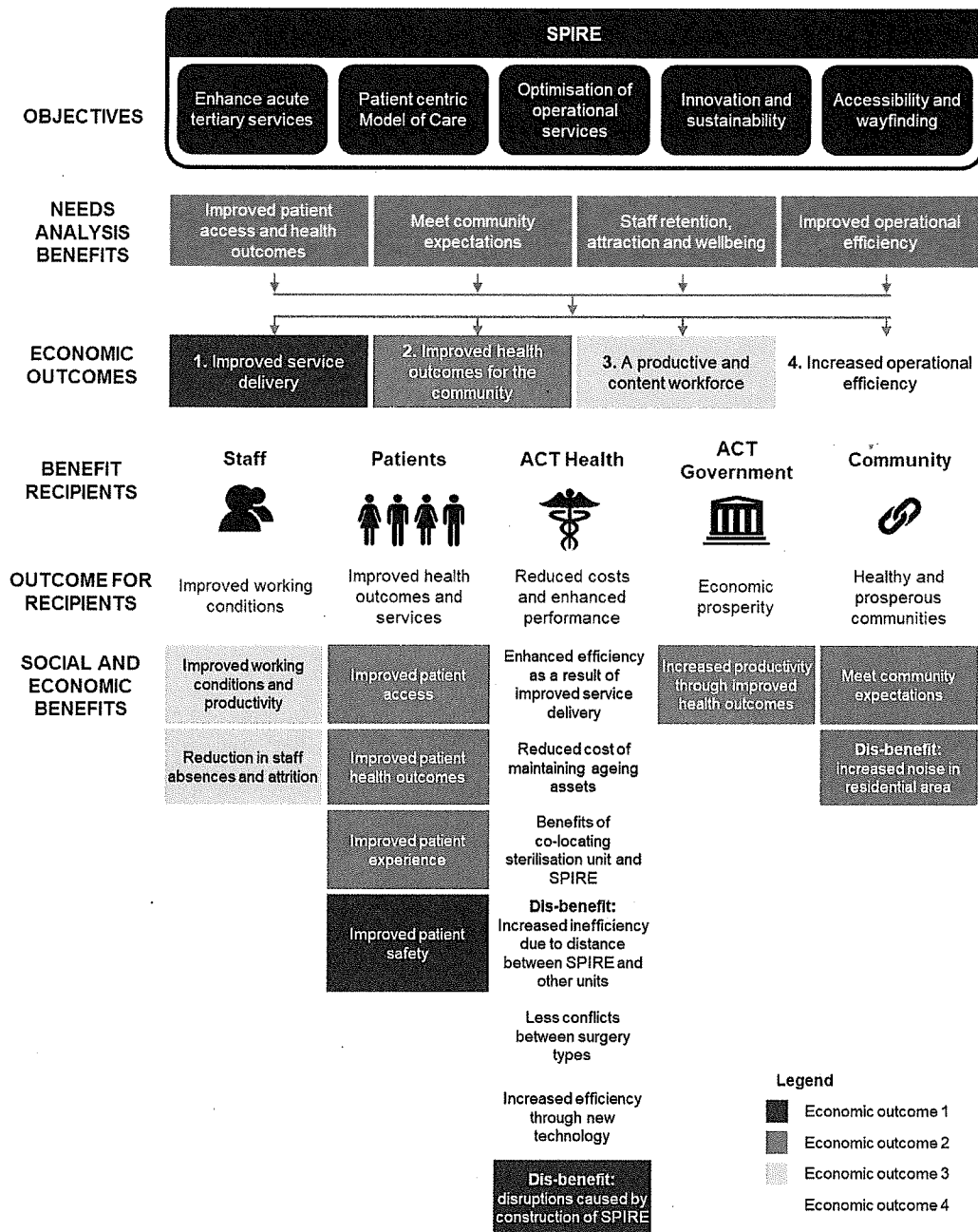
Figure 59: Conceptual framework for the socio-economic assessment of SPIRE



7.3.2 Social and economic benefits

Figure 60 provides a summary of the anticipated social and economic benefits expected to be realised by the project. These are explored in greater detail in subsequent sections.

Figure 60: Summary of the socio-economic benefits of SPIRE



7.4 Economic outcome 1: Improved service delivery

The construction of SPIRE will enable the improved delivery of health services in the ACT by supporting person-centric care and decreased clinical risk. Importantly, the increase in capacity will enable better service delivery leading to improved health outcomes where, for example:

- The increase in ED spaces may enable a faster response to Category 1 cases and allow for more patients to be seen concurrently
- The increase in ICU beds may enable a larger number of acute patients to be treated concurrently
- PICU beds will provide the necessary facilities to treat children in need of acute care with the right equipment at the right time
- The addition of operating theatres will see a reduction in the number of cancelled planned surgeries, allowing patients to be seen when planned and supporting earlier recoveries and a faster return to health

While there are many benefits associated with the improved capacity of the Canberra Hospital in terms of acute care, there will also be some dis-benefits in terms of disruption to services during the construction phase. Strategies however, will be implemented to minimise this disruption where possible (see Appendix C for further information).

7.4.1 Improved patient safety

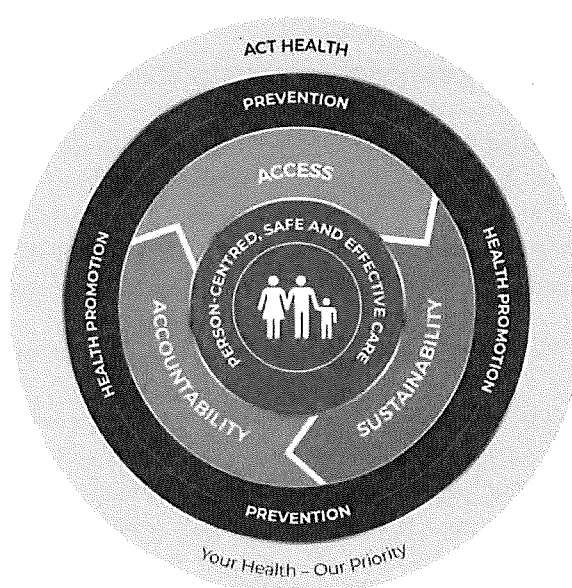
ACT Health has a strategic focus on implementing person-centric care. As illustrated in Figure 61, this model of care places the patient in the centre of focus, and emphasises ensuring the patient receives the services they need at the right place and time¹⁶⁵.

In addition to improving patient experience (see below in economic outcome 2), research indicates that a focus on person-centric care and the implementation of enhanced Models of Care can support improved patient safety and decreased clinical risk. In addition, improved patient safety will also be supported by:

- Newer technology
- Increased capacity (and lack of overcrowding)
- The separation of surgical patients
- The clustering of specialised services will all contribute to decreased clinical risk

In Australia, each year over 900,000 patients who visit a hospital, or 1 in 9, experiences a complication. Of those, 725,000 patients are patients who stayed overnight in hospital. About half of all of these

Figure 61: ACT Health person-centric model of care



Source: ACT Health Territory-Wide Health Services Strategy

¹⁶⁵ ACT Health Territory-Wide Health Services Strategy, 2018-2028

complications were considered preventable.¹⁶⁶ Complications to patients may cause discomfort, increase the length of hospital stay, increase recovery time, or more seriously cause permanent injury or death.¹⁶⁷

As a result of SPIRE, complex and specialised procedures that are currently distributed throughout the Canberra Hospital will be consolidated, allowing staff to develop a high level of skills in providing complex care. This is anticipated to support improved consistency and reliability in the care patients receive and in turn may support reduced clinical risk.

Decreasing clinical risk not only directly improves patient outcomes, it also has flow on effects for the hospital as a whole. Reduced patient complications could make hospital resources that would have otherwise been occupied available, and thereby help reduce pressure on constrained Hospital resources.¹⁶⁸ This could result in staff being able to spend more time with patients, and contribute to the realisation of improved patient experiences and health outcomes.

7.4.2 Disruptions caused by construction of SPIRE (dis-benefit)

The decanting and construction components of SPIRE will be carefully managed to minimise disruption to existing operational activities at the Canberra Hospital campus. However, despite this, noise, vibration, dust and accessibility impacts are likely to be experienced during the construction of the project. Additionally, service disruptions (e.g. electricity, gas and fibre optics etc.) as a result of construction activities may impact on Canberra Hospital operations.

Patients with compromised immune systems are particularly susceptible to construction related infections.¹⁶⁹ Additionally, dust and noise caused by construction may increase health risks and possible infections in patients.¹⁷⁰ To future-proof and advance TCH campus however, requires construction activity and the unavoidable externalities that come with it.

7.5 Economic outcome 2: Improved health outcomes for the community

Improved health outcomes is a key driver for the construction of SPIRE. As discussed in the Needs Section, the growing ACT community is expected to see an increase in health ailments and with this comes increased demand on health services. SPIRE will address this and enable improved health outcomes through increasing patient access, improving patient experience and meeting expectations. The consequence of this is a healthier, and thus more productive, community.

7.5.1 Improved patient access and health outcomes

SPIRE will help to improve patient health outcomes as a result of increased access to healthcare services, and the construction of purpose-built facilities. SPIRE will support the implementation of enhanced Models of Care and contribute to the achievement of the Canberra Hospital SAMP objectives to upgrade ageing infrastructure and services to ensure an effective and high-quality facility.

SPIRE will allow patients to have access to new fit for purpose facilities, combined with enhanced models of care intended to deliver more person-centric care. As outlined in Chapter 5, SPIRE will provide additional capacity across a range of services, such as an expanded ED, ICU and CCU, as well as the Territory's first

¹⁶⁶ Duckett, S. Jorm, C., Grattan Institute, *All complications should count: using our data to make hospitals safer*, 2018

¹⁶⁷ Duckett, S. Jorm, C., Grattan Institute, *All complications should count: using our data to make hospitals safer*, 2018

¹⁶⁸ Slawomirski, L. Aaraaen, A. Klazinga, N., OECD, *The economics of patient safety: strengthening a value-based approach to reducing patient harm at a national level*

¹⁶⁹ Northern Territory Government, *Infection control during construction renovation maintenance: NT hospital policy*

¹⁷⁰ Hall & Wilcox, *Construction at health sites managing the risks and disruption*, 2016

PICU. This extra capacity provided by SPIRE will relieve existing and future capacity constraints and respond to the healthcare needs of the Territory and surrounding region's growing and ageing population.

SPIRE's redesigned system to separate planned and unplanned surgeries, as well as its additional operating theatres to be provided will contribute to reduced patient waiting times and assist in the minimisation of elective surgery cancellations.

The clustering of specialised services will also support improved patient outcomes, as well as decreasing clinical risk, as detailed above in Economic outcome 1. Coupled with well-maintained modern equipment and established quality management tools, the new facilities may:

- Support streamline surgical processes
- Reduce delays and cancellations
- Reduce postoperative complications
- Improve person-centred outcomes
- provide greater patient satisfaction

This may result in decreased patient readmissions, and improved patient mental and physical health. Patient readmission has many associated costs, such as increased risk for hospital-acquired infections and an overall risk of decline in health.¹⁷¹ In addition, readmissions place strains on hospital capacity, and the additional healthcare costs can be large for both the hospital and the patient.¹⁷² As a result, decreasing readmissions could have many benefits for patients, Hospital staff, and ACT Health.

7.5.2 Improved patient experience

SPIRE will support the provision of a better patient experience by providing a new facility that is fit for purpose and configured to align with enhanced Models of Care and HPU briefs. SPIRE's new facilities will also allow for better implementation of a person-centric model of care, a key priority for ACT Health, which is associated with higher levels of patient satisfaction.¹⁷³ Some of the further benefits of person-centred care are detailed in Figure 62. Person-centric models are advocated by a number of national and international bodies as outlined in the box on the following page.

¹⁷¹ Felix, H. Seaberg, B. Bursac, Z. Thostenson, J. Stewart, K., *Why do patients keep coming back? Results of a readmitted patient survey*, 2015

¹⁷² Felix, H. Seaberg, B. Bursac, Z. Thostenson, J. Stewart, K., *Why do patients keep coming back? Results of a readmitted patient survey*, 2015

¹⁷³ Australian Commission on Safety and Quality in Health Care, *Patient centred care: improving quality and safety by focusing care on patients and consumers*, 2010

In general, patient dissatisfaction and poor patient experience can lead to:

- Low compliance with medical advice; patients having limited understanding of their conditions
- Longer hospitalisation and recovery
- Increased complication rates

This is particularly the case for patients with more serious medical conditions, as patients who are upset find it difficult to register and recall information given to them about their disease. Patients who lack understanding of their disease may have higher anxiety rates, uncertainty, and depression. This can compound with their existing condition, leading to poorer overall health outcomes.¹⁷⁴

Figure 62: Benefits of person centred care

- Decreased mortality
- Decreased emergency department readmissions
- Fewer medication errors
- Lower infection rates
- Higher functional status
- Improved clinical care
- Improve liability claims experience

Source: Australian Commission on Safety and Quality in Health Care, Patient centred care: improving quality and safety by focusing care on patients and consumers, 2010

With SPIRE supporting the introduction of a more person-centric model of care, improved patient satisfaction may be realised, which in turn could support overall better health outcomes.¹⁷⁵

Person-centred care nationally and internationally

Several international private or not-for-profit organisations advocate specific person-centred frameworks or approaches to health service improvement built around a combination of approaches and strategies. Both public and private health service providers have used these frameworks. The leading organisations advocating person-centred healthcare frameworks are:

- World Health Organisation (WHO)
- Institute for Healthcare Improvement (IHI), Cambridge, Massachusetts, USA
- Picker Institute, Boston, Massachusetts, USA
- Institute for Patient- and Family-Centred Care (IPFCC), USA
- Cleveland Clinic, Ohio, USA
- The King's Fund, UK
- Australian Institute for Patient and Family Centred Care, Australia
- Australian Commission on Safety and Quality in Health Care (ACSQHC)

Source: ACSQHC, Patient-Centred Care: Improving Quality and Safety by focusing Care on Patients and Consumers, Discussion paper (September 2010)

¹⁷⁴ Zachariae, R. Pedersen, C. Jensen, A. Ehnrooth, E. Rossen P. von der Maase, H., Association of perceived physician communication style with patient satisfaction, distress, cancer-related self-efficacy, and perceived control over the disease, 2003

¹⁷⁵ Invigorated Behavioral Health Partners, Importance of the patient experience

7.5.3 Increased productivity through improved health outcomes

As outlined above, SPIRE is anticipated to support improved health outcomes. Improved health has been linked to a number of economic benefits, including improved labour productivity, improved education, and increased savings amongst the population.¹⁷⁶

Healthy workers are more likely to be productive than unhealthy workers. Healthy workers are less likely to miss work due to health issues, and are less likely to have health conditions that impact their ability to work, making them more productive when working¹⁷⁷.

An Australian study showed that healthy workers are up to three times more effective than unhealthy workers, working approximately 143 effective hours per month, compared to 49 hours for the least healthy workers.¹⁷⁸ Further, an unhealthy worker is likely to have a high degree of absenteeism from work. This is costly for business. While absence rates vary widely between organisations, workplace absences cost on average \$3,741 per employee per year in 2010.¹⁷⁹ As 75% of unplanned absences are for illness, the link between worker health and absenteeism costs is clear.

Improving health outcomes in children is also associated with benefits, including future increases in labour productivity. Better health in children is related to better cognitive development and educational performance. This, in turn, is linked to better outcomes later in life – including work productivity – as well as increased incentive to pursue higher education.¹⁸⁰

¹⁷⁶ Bloom, D. Canning, D., *World Bank Commission on Growth and Development, Population Health and Economic Growth*, 2008

¹⁷⁷ Bloom, D. Canning, D., *World Bank Commission on Growth and Development, Population Health and Economic Growth*, 2008

¹⁷⁸ Australian Government, *Benefits to business: the evidence for investing in worker health and wellbeing*

¹⁷⁹ *Ibid.*

¹⁸⁰ Bloom, D. Canning, D., *World Bank Commission on Growth and Development, Population Health and Economic Growth*, 2008

7.5.4 Meet community expectations

SPIRE will provide additional high quality and accessible health services, resulting in an overall improvement in community satisfaction and community expectations being met. As shown in the box to the right, the ACT community is currently showing signs of dissatisfaction with the current condition of Canberra Hospital.

SPIRE will help to address this by increasing the capacity and type of services provided, supporting reduced waiting times and providing a modern, fit for purpose critical and acute care facility.

Patient expectations when seeking healthcare can relate to either processes (what a patient expects from their doctors, and the healthcare system), or outcomes (the health outcomes the patient expects as a result of seeking medical aid)¹⁸¹. These expectations can be categorised as¹⁸²:

- **Predicted expectations:** what a patient believes will actually happen
- **Ideal expectations:** what a patient would like to happen
- **Normative expectations:** what a patient believes should happen. This expectation can have a large impact on patient satisfaction.
- **Unformed expectations:** expectations a patient cannot express, due to lack of knowledge

As shown in the box above, patients in the Territory are currently not satisfied with their healthcare, suggesting that patient and community expectations are currently not being met. SPIRE's additional capacity and newer facilities and technology, along with the implementation of a more person-centric model of care will support improved efficiency in the provision of healthcare services, potentially allowing doctors to spend more time with patients, and reducing waiting times.

Meeting patient and community expectations in and of itself also has benefits, as research has indicated that patients who receive the healthcare they expect may recover better than those who do not¹⁸³. Conversely, patients who feel that their expectations or needs are not met are more likely than other patients to cease seeking medical help.¹⁸⁴ As a result, by providing new acute and critical care facilities that are more in line with community expectations may support improved overall health and wellbeing in the Territory.

ACT patient satisfaction low

A Productivity Commission report showed that ACT patients are most likely to feel that hospital staff are unable to spend enough time with them. Only 77% of ACT patients agreed their doctors spent enough time with them – the lowest rate in the country.

Australian Institute of Health data from 2018 showed that ACT patients were more likely to wait for over a year for elective surgery, as compared to other states and territories (7.9% of elective surgeries in the ACT in 2017/18 compared to a national average of 1.8%). Data from the Australian Institute of Health also showed that only 49% of people that *present* to the emergency department in the ACT are seen on time (on time varies by triage category) – also the lowest rate in the country.

Sources:

Productivity Commission (2019) Report on Government Services; Chapter 12: Public Hospitals. Australian Government.

Australian Institute of Health and Welfare (2018) Elective surgery waiting times 2017-18; Australian hospital statistics. Australian Government.

Australian Institute of Health and Welfare (2018) Emergency Department care 2017-18; Australian hospital statistics. Australian Government.

¹⁸¹ Taylor, M. Hill, S., Deeble Institute Issues Brief, *Consumer expectations and healthcare in Australia*, 2014

¹⁸² Taylor, M. Hill, S., Deeble Institute Issues Brief, *Consumer expectations and healthcare in Australia*, 2014

¹⁸³ University of Southampton, *Research project: measurement of patients' expectations for health care continuation*

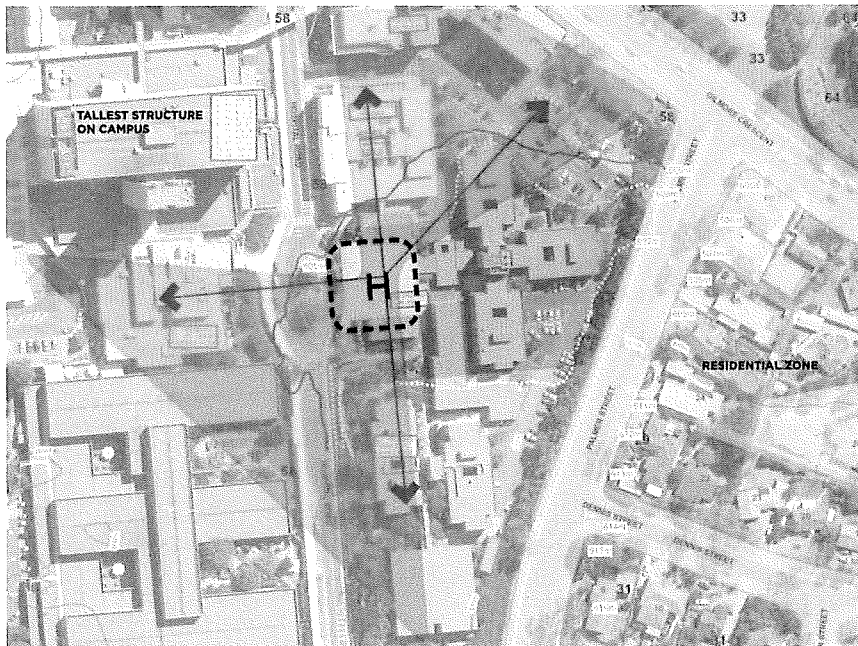
¹⁸⁴ Lateef, F., *Patient expectations and the paradigm shift of care in emergency medicine*, 2011

7.5.5 Increased noise in residential areas (dis-benefit)

Relocating the helipad from its existing location and the consequential relocation of the approach and departure flight paths may increase helicopter noise over some residential properties and existing buildings at Canberra Hospital, impacting on amenity in some parts of the campus. Additionally, emergency vehicle traffic on Palmer Street may also increase noise, having a negative impact on nearby residents.

The below figure shows the flight paths that the helicopter may take to the Canberra Hospital, shown by the yellow triangles, depending on the wind direction at the time.

Figure 63: Helicopter flight path



Source: STH

In considering this impact, it should be noted:

- The direction of approach to the Hospital has been designed to avoid flying over nearby residents, partially mitigating the impact
- Residents near the existing helipad may benefit from a reduction in noise
- Consultation will be undertaken with ACTAS to minimise noise impacts from emergency services vehicles on surrounding residents

7.6 Economic outcome 3: A productive and content workforce

There is evidence to suggest that the construction of SPIRE will also improve the working environment for the Canberra Hospital staff resulting in greater productivity levels of employees, and contributing towards reduced staff absence and attrition. These events are benefits in themselves but will cause further positive externalities through ripple on effects. For example, reduced attrition will further improve workforce productivity levels contributing towards greater ACT economic output.

7.6.1 Improved working conditions and productivity

SPIRE's updated infrastructure and new technology will improve working conditions for staff, and result in greater employee wellbeing and productivity. New technology in hospitals can allow hospital staff to complete their jobs more efficiently and effectively¹⁸⁵, as ageing technology can be slow and troublesome to use.

SPIRE will also increase hospital capacity and reduce the stress associated with poor layout or overcrowding. Such factors can have a large impact on the productivity and wellbeing of hospital staff¹⁸⁶ as working conditions are important in terms of creating the conditions for effective and efficient work, boosting morale and reducing turnover and attrition.¹⁸⁷ Unproductive and stressed workers can be costly, as evidenced by the results of several studies where, for example: ¹⁸⁸

- Presenteeism (where employees work without being fully functioning) can cost up to four times as much as absenteeism (where an employee is out of work). The economic cost of presenteeism related to chronic disease in Australia is estimated to be an approximate 2.5% decrease in labour productivity.
- Where an organisation does not manage health and wellbeing well it is four times more likely to lose talent in the next twelve months. The Australian Human Resources Institute (AHRI) estimates the cost of replacing an employee is at least 75% of the employee's annual salary and may be as much as 150% in some cases.
- Body stressing and mental stress claims accounted for 71% of premium payers' claims costs in the Comcare scheme in 2009/10. The incidence of claims is strongly influenced by the psychosocial work environment and levels of worker wellbeing. Research finds the lowest workers' compensation costs are found in work teams where organisational climate factors foster a positive work environment where employees have high levels of wellbeing.

The model of care used by hospital staff can also impact staff productivity. SPIRE will allow for improved implementation of person-centric care, which has been shown to increase not only patient satisfaction, but also employee satisfaction.¹⁸⁹

7.6.2 Reduction in staff absences and attrition

Research has indicated that staff absences and high turnover are correlated with worse patient outcomes – such as infections and falls, and worse outcomes for remaining staff – such as lower morale and job satisfaction.¹⁹⁰ Overall, SPIRE is expected to support improved working conditions, productivity, wellbeing and safety. As a result, employees are more likely to remain at the Canberra Hospital over time. SPIRE supports the objectives outlined in the Canberra Social Plan, 2011, to have 'good health for all Canberrans', partly through the attraction, training and retention of health care professionals.¹⁹¹ Retention of staff will also

¹⁸⁵ Robertson, G.. 8 ways hospitals can benefit from an "intelligent infrastructure", 2014

¹⁸⁶ Edem, M. Akpan, E. Pepple, N., *Impact of workplace environment on health workers*, 2017

¹⁸⁷ Jaskiewicz, W. and Tulenko, K. (2012) *Increasing community health worker productivity and effectiveness*. Human Resources for Health 2012.

¹⁸⁸ Australian Government, *Benefits to business: The Evidence for investing in worker health and wellbeing*

¹⁸⁹ Australian Commission on Safety and Quality in Health Care, *Patient centred care: improving quality and safety by focusing care on patients and consumers*, 2010

¹⁹⁰ Roche, M. Duffield, C. Homer, C. Buchan, J. Dimitrelis, S., *The rate and cost of nurse turnover in Australia*, 2014

¹⁹¹ Canberra Social Plan, 2011

reduce costs to the hospital that are associated with staff turnover thus also contributing to operational efficiency (Economic outcome 4).

An Australian study found that between 2008 and 2010, the cost of nurse turnover (per nurse, per year) in the ACT was \$68,621, significantly higher than in NSW (\$26,199) over the same period.¹⁹² Direct costs of nurse turnover, such as advertising and training, temporary replacements/unfilled positions and hiring comprised 49.5% of total turnover costs. Of the direct costs, temporary replacements/unfilled positions made up nearly 90% of direct costs, and 44.4% of total costs. Indirect costs such as orientation and training, decreased new nurse productivity, and termination costs made up 50.6% of total costs. High retention of staff at the Canberra Hospital could save tens of thousands of dollars each year.

The above suggests that higher staff retention can lead to higher efficiency and effectiveness amongst staff, leading to better patient outcomes.¹⁹³

7.7 Economic outcome 4: Increased operational efficiency

The creation of SPIRE will help drive efficiency in the delivery of critical health services on the Canberra Hospital campus through reducing the need to maintain and invest in aged infrastructure, co-locating services and reducing the inefficient practices that currently exist (such as the connection of planned and unplanned surgeries). These impacts will support ACT Health in reducing its current cost of service and ensuring the future viability of health services in the ACT.

7.7.1 Enhanced efficiency as a result of improved service delivery

With SPIRE, a person-centric Model of Care will be implemented, which benefits not only patients, but also hospital staff and ACT Health.

A person centred model of care is associated with better hospital financial performance. This is due to person centred care providing more efficient care to patients, resulting in an overall decrease in expenses for the hospital.¹⁹⁴ Due to this increased efficiency in providing patient care, there is a decrease in waste of hospital resources and staff time. Overall, person centred care has been shown to improve hospital performance and long-term revenue.¹⁹⁵ Evidence for this is through the Medical College of Georgia Health System (refer call out box across).

Whilst enhancing the implementation of a person centred model of care at SPIRE may not generate the same level of benefits as at the Medical College of Georgia, tangible improvements to the Canberra Hospital's KPIs are likely to be realised.

Case study: Medical College of Georgia Health System

The Medical College of Georgia, in the US adopted a person centred model of care, and had the following results over three years:

- Increase in patient satisfaction from the 10th percentile to 95th
- Increase in volume of discharges by 15%
- Decrease in length of stay for neurosurgery by 50%
- Decrease in medical error by 62%
- Decrease in staff vacancy rate from 7% to 0%
- Doctors and staff of the college perceived it to have undergone positive change

Source: Australian Commission on Safety and Quality in Health Care, *Patient centred care: improving quality and safety by focusing care on patients and consumers*, 2010

¹⁹² Roche, M. Duffield, C. Homer, C. Buchan, J. Dimitrelis, S., *The rate and cost of nurse turnover in Australia*

¹⁹³ Buchan, J., *Reviewing the benefits of health workforce stability*, 2010

¹⁹⁴ Becker's Hospital Review, *5 ways your hospital can benefit from patient-centred care*, 2015

¹⁹⁵ Becker's Hospital Review, *5 ways your hospital can benefit from patient-centred care*, 2015

7.7.2 Reduced costs of maintaining ageing assets

As noted in the Need for Investment chapter, much of the Canberra Hospital's infrastructure is ageing, and nearing the end of its useful life. Developing SPIRE in the eastern corridor will result in Buildings 5 and 24 being replaced which are over 40 years old. In addition to physical infrastructure, Canberra Hospital supports a large number of legacy technology systems. As a result, there is a high cost of maintenance to ensure the hospital can continue to operate.

SPIRE's state of the art, modern facilities will contribute to the realisation of whole of life benefits, reduced maintenance costs, and decreased risks of service disruptions.

7.7.3 Increased efficiency through new technology

In line with the aims of the ACT Health Digital Health Enterprise Technology Strategy and the ACT Health Sustainability Strategy, SPIRE will provide the foundation to bring existing infrastructure to the standards and capabilities necessary to meet the demands and complexity of new innovative digital healthcare.

SPIRE will provide the foundation to support further investment in e-health capability and other innovative technology which will ensure this new infrastructure realises its potential; providing more cost-effective service delivery, improving treatments, workflow, communication, collaboration, time savings, and records management as well as providing the means to support new and innovative models of care.

New technologies have the added advantage of being able to identify problems before breakdowns occur; helping the Canberra Hospital to achieve greater efficiencies, extend the life of assets, reduce the risk of infrastructure failure and improve the ability to meet patient, employee and executive expectations and demands.

7.7.4 Benefits of co-locating the sterilising services and SPIRE

The construction of a new sterilisation unit that is located within SPIRE will reduce financial costs and increase the Canberra Hospital's efficiency. Currently sterilising services are located in a facility in Mitchell, and it is estimated that up to half of the time taken to reprocess Reusable Medical Devices (RMDs) is taken to both decontaminate the equipment and transport it to and from the Mitchell facility. It can take 24 to 48 hours to turnaround RMDs being sterilised at Mitchell. However, onsite at the Canberra Hospital, sterilisation can take only 4 to 6 hours.

In 2016, ACT Property Group (ACTPG) commissioned a building, electrical, mechanical and fire services condition assessment of the Sterilising Services Mitchell building. Their reports highlight areas of the aging infrastructure, built in 1970, with certain building components require significant renovations, major mechanical and electrical upgrades and replacements to bring them up to an acceptable standard. ACTPG and Sterilising Services have progressed essential works however the critical infrastructure challenges are prohibitively expensive to continue within the existing building in the long term (beyond the life of the contemporary equipment installation and upgrades).

Consequently, the productivity and efficiency of the Canberra Hospital is impacted by sterilising services equipment being slow and being out of commission during maintenance. As a tertiary trauma centre, the Canberra Hospital has a large number of unplanned surgeries, and access to RMDs within a short period of time is essential.

By locating sterilising services at the Canberra Hospital and near SPIRE, there will be a number of savings and benefits to the Canberra Hospital. New equipment will require less maintenance, will be out of commission for shorter periods of time, and replacement parts will be easy to source. By locating sterilising

services on the Canberra Hospital campus, there will likely be a shorter turnaround for reprocessing RMDs, increasing the efficiency of the Canberra Hospital as a trauma centre.

7.7.5 Less conflicts between categories of surgeries being performed

Currently in the Canberra Hospital, emergency and non-emergency surgeries are not separated, leading to inefficiencies and delays, as scheduled surgeries are postponed or cancelled to make space for emergency surgeries. As mentioned above, SPIRE will allow emergency and non-emergency surgeries to be separated, reducing the conflict between these surgery types.

They key benefits of this separation are an increase in accessibility for emergency surgery and decrease in cancellation of elective surgeries.¹⁹⁶ Accessibility to emergency surgery is increased as surgery resources will be less likely to be allocated to scheduled surgery when an emergency surgery needs to be performed, which is not the case when emergency and elective surgeries share the same spaces. In addition, due to the provision of dedicated elective surgery resources, elective surgeries are less likely to be cancelled due to emergency surgery. As demonstrated in the case study below, separation of surgery types can result in significant benefits, and similar benefits may result from SPIRE.

Finally, separation of emergency and non-emergency surgeries is likely to reduce patient waiting times, and increase the number of patients seen within the recommended time.¹⁹⁷ This will improve the Canberra Hospital's performance with regard to KPIs, and in comparison to other hospitals nationally. As mentioned in the Need for Investment chapter, the Canberra Hospital ranks consistently below comparable hospitals nationally with regard to elective surgery wait times.

Case study: Santa Clara Valley Medical Centre, United States

Santa Clara Valley Medical Centre (SCVMC) adopted a model of care that has dedicated emergency and elective theatre time. A dedicated on-call surgeon is responsible for all major trauma during daytime hours. During the night, trauma services are provided by a call pool of other surgeons, including 7 full-time trauma surgeons.

The full-time trauma surgeons maintain elective surgery practices, and each have at least one designated block of time where elective surgeries can be scheduled.

There is also an urgent operating room, used on a first come, first served basis.

Of the 2,276 surgeries completed in 2005, 65% were general elective surgery, 32% emergency/urgent general surgery, and 4% were emergency trauma surgery.

As a result of SCVMC's model of care, non-trauma surgeries allowed the surgical team to increase surgical experience to an average 312 a year, and only 23% of surgeries were performed after 7pm. In addition, this model of care led to increased staff satisfaction.

Source: Victorian Government, Good practice in management of emergency surgery: a literature review, 2010

7.7.6 Increased inefficiency due to distance between SPIRE and other units (dis-benefit)

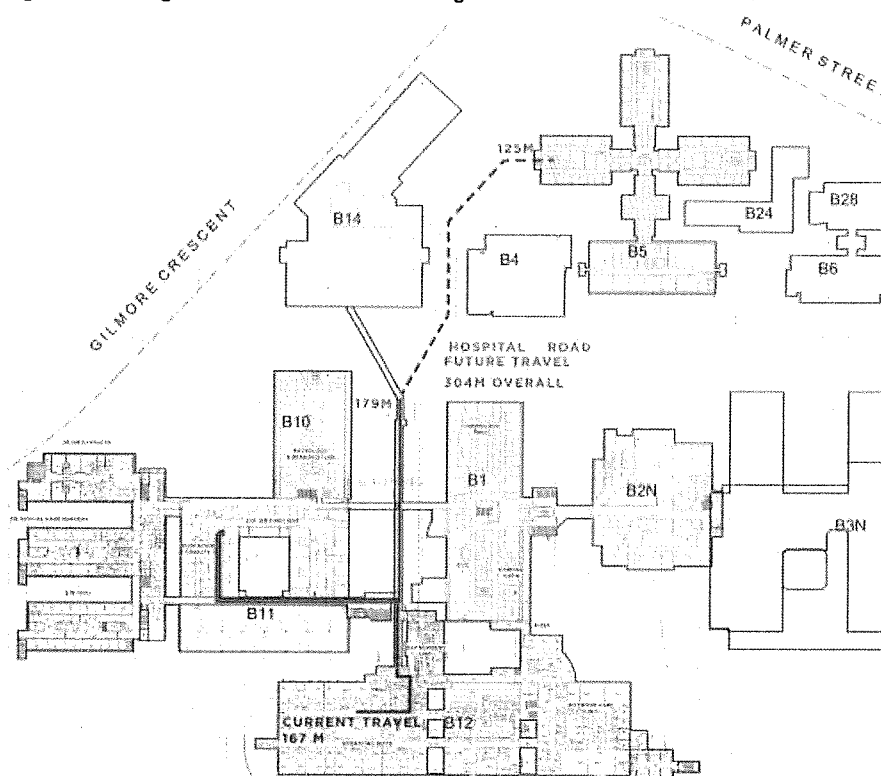
While SPIRE will co-locate a range of acute medical facilities at the Canberra Hospital, it will also increase the distance between some key units and key facilities that remain in the existing buildings at the Canberra Hospital and the acute medical services offered in SPIRE. The predominant unit that is affected by the move in terms of distance, is the CHWC. As Figure 64 illustrates, the estimated distance between CHWC

¹⁹⁶ Victorian Government, *Good practice in management of emergency surgery: a literature review, 2010*

¹⁹⁷ Heng, M. Wright, J., *Dedicated operating room for emergency surgery improves access and efficiency, 2013*

and SPIRE will be 304 meters. This is significantly further than the distance between CHWC and the current Operating Theatres in Building 12, with a measured distance of approximately 167 meters.

Figure 64: Linkages from CHWC to current surgical theatres and CHWC to SPIRE



Source: STH_internal linkages (provided 27 March 2019)

Table 34 compares the estimated time that it would take for a selection of cohorts (including staff members transporting a patient) to walk between CHWC and SPIRE with the estimated time that it would take them to walk between CHWC and the current Operating Theatres. As seen in the results, SPIRE could mean a lengthened walk time of up to 5 minutes and 17 seconds for those patients with assisted walking devices; a significant increase. It should be noted though, that these are estimated walk times and in the event of an emergency, these times would be significantly reduced.

Table 34: Estimated time to walk between CHWC and SPIRE and CHWC and the current surgical unit

Cohort	Estimated walking speed	CHWC to current operating theatres –167m	CHWC to SPIRE – 304m	Difference ¹⁹⁸
Staff transporting patient/equipment	1.0m / sec	2 minutes and 47 seconds	5 minutes and 4 seconds	2 minutes and 17 seconds
Average adult	1.2m / sec	2 minutes and 19 seconds	4 minutes and 13 seconds	1 minute and 55 seconds
Elderly adult	1.0m / sec	2 minutes and 47 seconds	5 minutes and 4 seconds	2 minutes and 17 seconds
Adult with assisted walking device	0.3m / sec	9 minutes and 17 seconds	16 minutes and 53 seconds	5 minutes and 17 seconds

Source: STH_internal linkages (provided 27 March 2019)

¹⁹⁸ Any apparent errors in the difference calculations are due to rounding

The increased distance between SPIRE and other Canberra Hospital buildings may lead to delays in providing medical services – such as delays to planned and unplanned surgeries – in some situations.

Surgery delays can increase patient dissatisfaction, increase anxiety for both patients and their families, and frustrate hospital staff.¹⁹⁹ Delays in surgeries earlier in the day can compound over time, resulting in delays in later surgeries, adversely impacting on a large number of patients and staff²⁰⁰.

While it is expected that the distance between SPIRE and other Canberra Hospital buildings would not cause delays due to adequate planning and management, it could lead to some inefficiencies if staff are required to travel across campus. This could lead to fatigue and reduced time on patient care activities for staff²⁰¹.

Alignment with health standards and guidelines

SPIRE will be constructed on the site of Buildings 5 and 24, approximately 304 metres from the maternity ward in CHWC. It is anticipated that SPIRE may provide emergency and unplanned procedures for patients of this unit, such as caesarean sections. An objective of the design will be an aim to facilitate “rapid access in emergencies and unplanned procedures” – as recommended in the AushFGs – noting the importance of accessibility and travel times between facilities. For instance, ACT Health and CHS are consulting clinical staff on whether the co-location of a dedicated obstetrics theatre with the maternity wards in the CHWC may be required to provide enhanced accessibility between CHWC and operating theatre facilities.

7.8 Key performance indicators

As noted in Chapter 3, KPIs for the project were developed at the ILM for each of the four key benefits identified. These KPIs are indicative and will inform the project’s Benefits Realisation Plan which will be developed following consideration of this Business Case.

7.8.1 Improved patient access and health outcomes

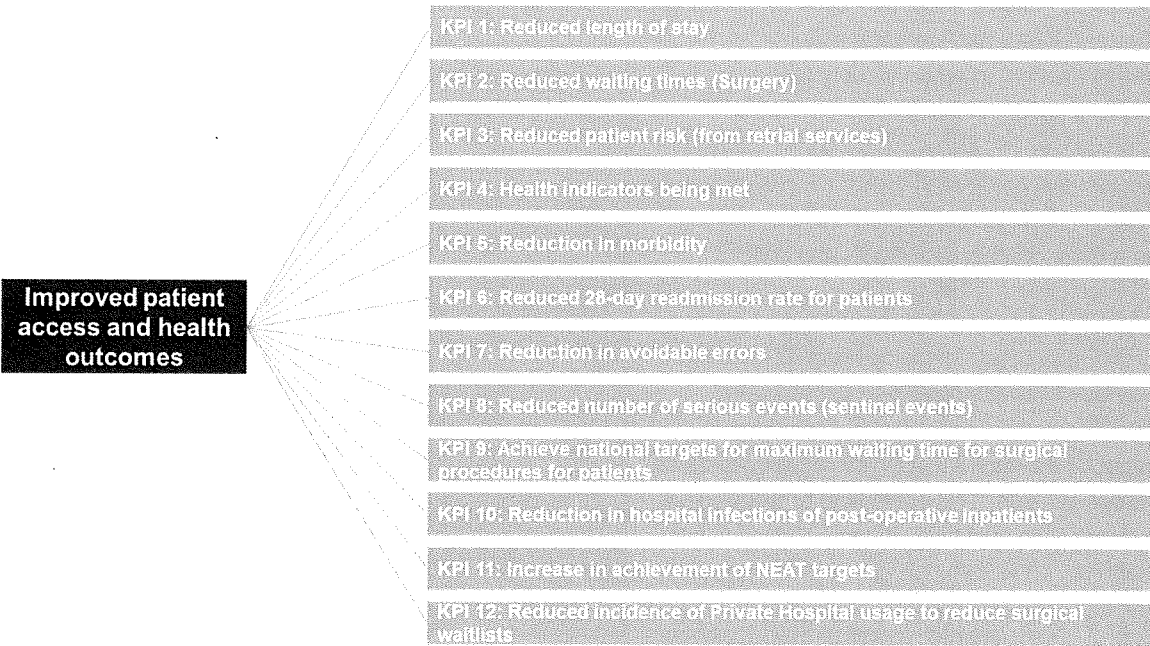
SPIRE will combine modern, purpose-built health infrastructure with a contemporary, person-centric Model of Care to support increased accessibility to health services and improved health outcomes. Figure 65 outlines the KPIs that will be used to measure the benefit of improved patient access and health outcomes.

¹⁹⁹ Wong, J. Khu, K. Kaderali, Z. Bernstein, M., *Delays in the operating room: signs of an imperfect system*, 2010

²⁰⁰ Wong, J. Khu, K. Kaderali, Z. Bernstein, M., *Delays in the operating room: signs of an imperfect system*, 2010

²⁰¹ Yi, L. Seo, H., *The Effect of Hospital Unit Layout on Nurse Walking Behaviour*, 2012

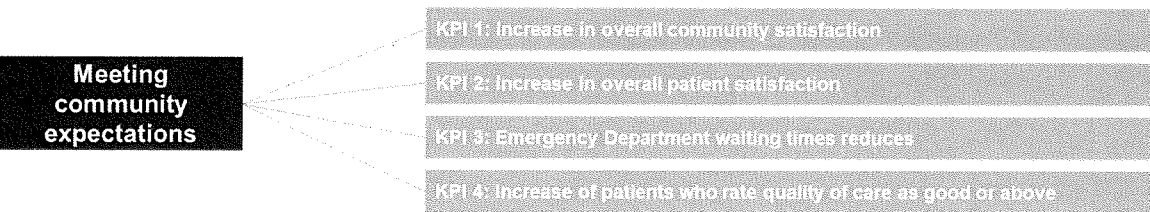
Figure 65: Improved patient access and health outcomes KPIs



7.8.2 Meeting community expectations

The design of SPIRE and the enhanced Models of Care that it will support, will support the creation of a more person-centric approach to care delivery that is able to cater for increased demand. Figure 66 below outlines the KPIs that will be used to measure the benefit of meeting community expectations.

Figure 66: Meeting community expectations KPIs

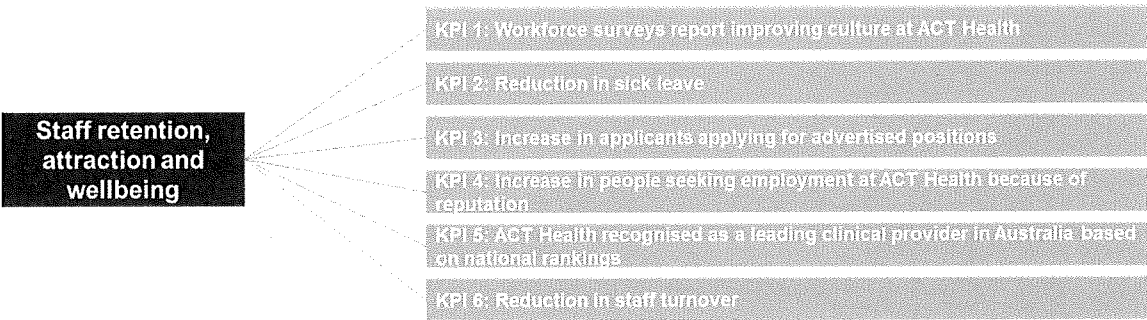


7.8.3 Staff retention, attraction and wellbeing

SPIRE will provide staff with modern facilities that are more operationally efficient and fit for purpose. This may have a positive influence on staff morale, potentially impacting on staff retention, attraction and wellbeing.

Figure 67 outlines the KPIs that will be used to measure the benefit of staff retention, attraction and wellbeing.

Figure 67: Staff retention, attraction and wellbeing KPIs



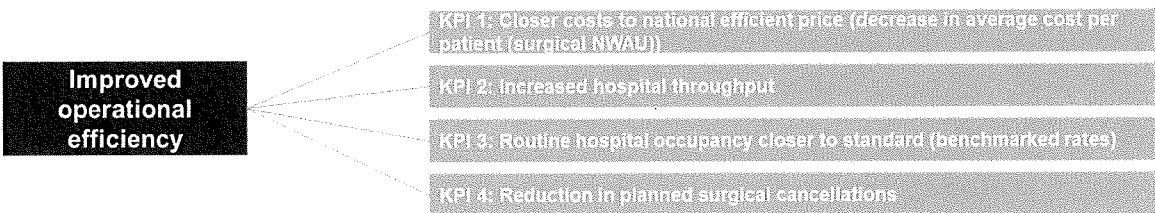
7.8.4 Improved operational efficiency

SPIRE will support improved operational efficiency at Canberra Hospital by:

- Integrating facilities that have previously been spread across Canberra Hospital
- Creating purpose-built infrastructure
- Increasing the service offering at Canberra Hospital, including interventional radiology suites, hybrid theatres and surgical theatres

Figure 68 outlines the KPIs that will be used to measure the benefit of improved operational efficiency.

Figure 68: Improved operational efficiency KPIs



8 Delivery Model Analysis

Key messages

- A packaging approach is recommended for SPIRE to effectively deliver each component of the Project from design through to operations and maintenance. The recommended packaging approach for SPIRE is:
 - **Package 1: Capital Works – Demolition package** comprising demolition works for Buildings 5, 8 and 24
 - **Package 2: Main works construction package** including bulk excavation works
 - **Package 3: Capital Works – Modular package** in relation to the proposed modular builds
 - **Package 4: FF&E medical equipment package**
 - **Package 5: Operations package** for services at SPIRE
 - **Packages 6 and 7: Soft FM and Hard FM packages**
- The key drivers for this packaging structure were to align with the current operations and FM service delivery at Canberra Hospital (where the Territory provides the majority of operating services); bundle capital works components to de-risk delivery and interface risks; and to develop a packaging structure that would be attractive to the market
- The recommended delivery model for SPIRE is:
 - **Packages 1 and 3: D&C**
 - **Package 2:** either an ECI or D&C approach for capital works packages as it allows for more appropriate risk allocation and transfer; and market attractiveness through a combined main works package (inclusive of bulk excavation)
 - **Packages 4, 5, 6 and 7:** FF&E medical equipment, operating services, soft FM and hard FM to be delivered consistent with existing Campus-wide arrangements
- The primary drivers behind the delivery model selection for SPIRE include:
 - Timing considerations to support completion of construction by June 2024 wherein the preferred delivery model allows for procurement to take place during detailed design definition
 - Appropriate design risk transfer to the Contractors responsible for the delivery and fit for purpose warranties and adequate price certainty with a fixed price contract
 - Contractor input into the design process, noting that the Territory intends to retain control of clinical consultation activities and design input
- To deliver the project, the Territory will be supported by a range of groups including Executive and Project Control Groups; a Clinical Reference Group; specialist design consultants; and an Independent Commissioning Agent

8.1 Background and approach

The recommended delivery model options outlined in this Chapter were selected using a consultative approach, including workshops with relevant Territory stakeholders, including ACT Health, CHS, IFCW and external advisors.

In developing the methodology to assess delivery model for SPIRE, the following considerations were taken into account:

- The requirements of The Capital Framework
- The Project objectives (see Section 2.5.1)
- The current and intended functions and operating model for SPIRE

- The Project timeline (see Chapter 12)
- Existing contractual and service delivery arrangements at the Canberra Hospital
- Market analysis of delivery models for hospital projects of a similar size and scale

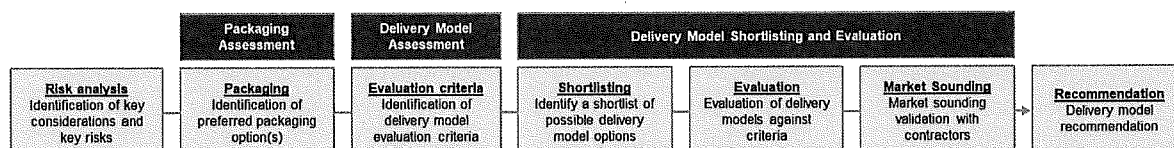
Previous analysis undertaken for the project by ACT Government and external advisors was considered as part of this Business Case. This included the Strategic Business Case, preliminary project designs and project cost estimates prepared by cost estimators

The approach for the Business Case included consideration of the following analysis:

- **Risk analysis:** risk identification, allocation and quantification work undertaken by ACT Government, its advisors and other project stakeholders
- **Packaging assessment:** project specific assessment of the appropriate packaging solution
- **Delivery model evaluation criteria and assessment:** qualitative assessment of different options against agreed evaluation criteria
- **Market sounding validation:** preliminary market sounding engagement with a shortlist of contractors – as selected by ACT Government – to test market appetite; potential interest in SPIRE; gauge experience across the shortlisted delivery; and validate assumptions made

The figure below provides an overview of the delivery model methodology.

Figure 69: Delivery model methodology



The fundamental approach taken in assessing delivery models has been:

- Assessing on a 'best for project' basis with no preconceived bias in favour of one model over another
- Undertaking a bottom up analysis based on the needs of the project and the scope of works and services to be delivered
- Being cognisant of the nature of the inherent project opportunities, risks and constraints

8.1.1 Important note

At the outset, it is important to note the following:

- **Balanced assessment:** no single delivery model option perfectly addresses all aspects of the project. The delivery model recommendation contained herein is based upon a balancing of the advantages and disadvantages of potential delivery models for SPIRE
- **Differing opinions:** some stakeholders and market participants may have differing opinions as to the optimal delivery model to be utilised for the project, and as to the numerous ways in which a particular delivery model may be structured and implemented. This is particularly relevant as

procuring the project in the context of the existing hospital operations at the Canberra Hospital and in accordance with key stakeholder views (such as clinicians, patients and the community) adds complexity to the process

- **Maintaining the option to change delivery model:** the delivery model options recommended in this Business Case is based on known information at the time of drafting, including the ongoing design development, as a key influencing factor. Time is also a key driver for the preferred delivery model recommendation in accordance with ACT Government commitments for completion of construction by June 2024. Consequently, the preferred options may be subject to revisions should material changes occur to the project design (e.g. packaging revisions).

8.2 Outline of key risks

Consideration of risk has been a key element of works undertaken by the ACT Government to support this Business Case and consideration of the optimal delivery model. The risk assessment process has involved workshops and interactions with key stakeholders, advisors from across ACT Government and external advisors.

A risk assessment and quantification process has been undertaken in developing this Business Case. This has included:

- Conducting internal risk assessment workshops, including risk identification and quantification analysis with input from relevant ACT Government stakeholders and technical advisors
- Assessment of risk identification work undertaken previously at the hospital, including the Strategic Business Case
- Preliminary design and site investigations as part of early design work design work. To date, this has included site access and entry routes, site linkages (clinical, logistics and non-clinical support and public), Schedule of Accommodation and indicative stacking schematics, traffic studies, decanting analysis, helipad impacts and flight paths, and consideration of the urban environment
- Consideration of risks from similar projects in other jurisdictions

A Risk Register, including potential mitigation strategies, is included at Appendix C.

An outline of the key project risks is contained in Table 35.

Table 35: Key potential project risks

Risk	Description
Planning Risk	• Risk that planning and approvals processes take longer than anticipated or impose unforeseen conditions on the project, such as: ◦ Development application (DA) process ◦ Approvals associated with interdependent projects to SPIRE such as the multi-storey car park and the helipad ◦ Environmental approvals (as required), including regulated tree approvals and the potential for an EIS in the event that site analysis warrants additional investigations
Design Risk	• Risk that the detailed design does not support the agreed and appropriate models of care for delivering services at SPIRE • Risk that the design of the new facility does not integrate effectively with: ◦ Existing infrastructure at the Canberra Hospital (e.g. ICT and systems; access and entry points) ◦ Front of house patient services

Risk	Description
	- o Back of house services (e.g. logistics; food services; pathology; loading dock) • Risk that the design of SPIRE does not adequately account for traffic impacts, accessibility and the separation of patient, emergency vehicles, staff, visitors, public transport, pedestrians and deliveries at the Canberra Hospital • Risks associated with the proposed decanting strategy, including: - o New locations onsite and offsite are not fit for purpose - o Car parking availability - o Requirements for additional floor space at the Canberra Hospital • Risk that the design of the proposed helipad at SPIRE adversely impacts on service delivery at the Canberra Hospital
Site Risk	• Risks associated with the demolition of Buildings 5 and 24 including discovery of unanticipated contaminants; impact to underground services; and noise, vibration and dust impacts • Risk that further land is contaminated and/or the materials brought into the site are hazardous/contaminated and the resulting remedial costs are higher than anticipated • Risks associated with utilities such as requirements for unanticipated upgrades; discovery of unknown utilities; and difficulties in reaching agreement with utilities providers • Risk that unknown geotechnical conditions occur and have an adverse impact on the project
Construction Risk	• Risk that unforeseen issues arise during construction which cause revisions, such as: - o Accessibility and traffic flow impacts (e.g. staff, visitor and patients are not adequately separated or there is more congestion than anticipated; emergency vehicle access; integration issues with surrounding infrastructure such as Garran Primary, Palmer Street and National Capital Hospital) - o Existing operations are adversely impacted during construction - o Construction activities causing more disruption and damage to adjacent assets than anticipated • Risk that inadequate input from clinical staff and maintenance staff results in whole of life benefits not being achieved during construction • Risk of contractor default • Building and operational commissioning risks prior to operational commencement
Stakeholder Risk	• Risk that there are material changes to the scope that occurs post contract award including government changes in requirements and potential for additional and/or changed clinician requirements • Risk that key stakeholders change during the duration of the project • Risk that additional community consultation is required that imposes unanticipated restrictions on the project
Compliance / Regulation Risk	• Risk that changes in law adversely impact on the project • Risk of union action, industrial relations and/or OH&S risks • Risk that accreditation is not maintained throughout the operating life of SPIRE
Procurement Risk	• Risk that the market has insufficient capacity, capability and/or interest to deliver/construct the project. This includes the risk that an inexperienced contractor is selected, thereby leading to performance issues • Risk that documentation required to proceed to procurement is insufficient
External Risk	• Risk of extreme weather conditions and other force majeure events including bushfires, total fire bans and flooding
Operational Risk	• Risk that recruitment of suitable clinical and support staff is more difficult than anticipated • Risk that there are changes to clinical practice and/or Models of Care post construction • Risk of equipment failure • Risk that demand is higher / lower than contracted and/or forecasted

8.3 Packaging assessment

A packaging assessment was undertaken for SPIRE – in accordance with the Capital Framework – to consider the potential methods of delivery for different components of the Project. This section sets out the

project characteristics for SPIRE; packaging options development; and the preferred packaging approach for each package.

8.3.1 Project characteristics

SPIRE involves the design and construction of a range of capital works on a brownfield site at the Canberra Hospital campus. As outlined in Chapter 4, the scope of works includes both capital and ongoing operations. The capital works include the following:

- Extensive planning and design works – construction works and utilities – as part of the design process
- Demolition package as part of the decanting strategy and the need to repurpose facilities prior to SPIRE's construction
- Excavation and site early works inclusive of:
 - Bulk excavation works, and
 - Utilities – relocation and protection
- Construction of the SPIRE site in accordance with the functional specifications and area specifications outlined in Chapter 4 for clinical, accessibility and supporting infrastructure. The construction works will also include the following:
 - Provision of utilities for the site
 - Road works and traffic management – noting that upgrades are likely to be required to Hospital Road and surrounding road infrastructure (such as Palmer Street access) and that this will be confirmed as part of the design phase in consultation with traffic engineers and the relevant authorities
 - ICT and systems (hardware and software)
 - FF&E
- Modular works inclusive of:
 - Construction works for the modular buildings as part of the staging and decanting strategy in the context of SPIRE
 - FF&E
- FF&E for medical equipment

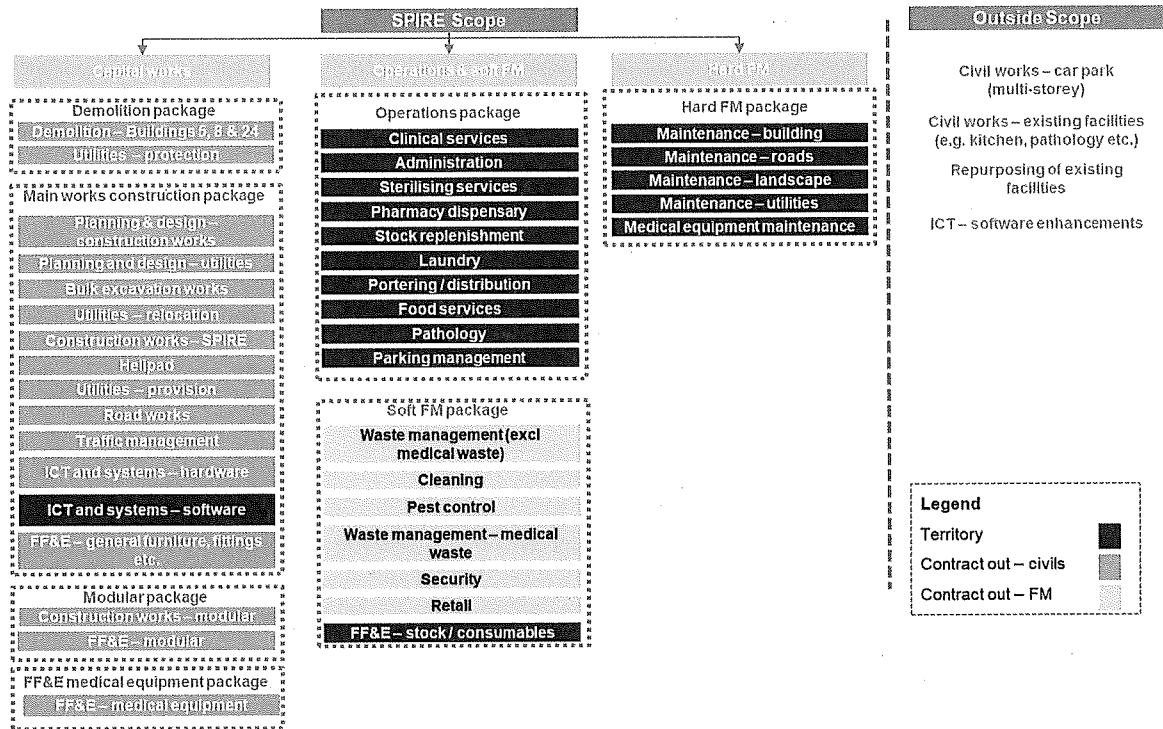
Operating services within SPIRE's scope include a range of clinical and patient facing services (e.g. clinical services, sterilising services), administration services and back of house logistics and services such as laundry, food services, pathology and portering. The scope of operating services is set out overleaf and referenced in section 5.4.

Facilities management (FM) services – comprising both Soft FM and Hard FM – will be key requirements for the new SPIRE facility with effective integration with existing FM services at the Canberra Hospital a critical dependency that will require management as part of the preferred delivery model and contracting approach.

Soft FM services will include cleaning, waste management, security, retail and pest control services while hard FM services comprise of building maintenance, road maintenance, utilities maintenance and medical equipment maintenance.

All key project components are illustrated below comprising capital works; operations and soft FM; hard FM and activities that are considered outside of scope for the purposes of this Business Case.

Figure 70: SPIRE scope and packaging



Out of scope activities have been identified on the basis that they comprise of key interdependencies to the successful delivery of SPIRE, such as the requirement of DA approval with respect to the car park expansion activities required at the Canberra Hospital and the potential for additional capacity to be required for services at the hospital that will supply SPIRE (e.g. food, deliveries, linen). These activities are outlined in further detail in Chapter 4 and are to be considered as part of separate proposals to Government.

8.3.2 Packaging options development

In undertaking the packaging assessment for SPIRE, it was important to consider the following characteristics:

- The wide-ranging service delivery requirements
- Interfaces within SPIRE, the Canberra Hospital and Canberra health network
- Stakeholder expectations from internal (clinicians) and external (local residents and the community)
- General whole of life and fit for purpose outcomes associated with a facility of this scale

Accordingly, the packaging process explores a number of possible permutations and ultimately balances these considerations and selects a preferred approach. This section sets out the process for selecting the preferred approach to packaging the works.

The preferred packaging option was developed after analysing the characteristics, interdependencies and specific risks associated with each of the components of the project in order to identify opportunities for bundling various components into a broader package of works.

Key considerations involved in developing the preferred packaging option include:

- **Interface issues:** are there opportunities to reduce interface risks and consolidate responsibilities by combining packages, particularly across closely related construction packages or to combine construction, operation and maintenance responsibilities?
- **Time to procure:** including consideration of:
 - What packaging approach will allow for rapid procurement and early delivery of works onsite?
 - What packaging approach will allow for the completion of SPIRE in line with ACT Health's timing objectives?
- **Economies of scale:** including consideration of:
 - What packaging approach encourages economies of scale in delivery?
 - What packaging approach incentivises whole of life efficiencies?
- **Person-centric Model of care:** what packaging approach will support the creation of a person-centric model of care?
- **Market appetite, competition and capacity:** what packages will generate market interest and is there market capacity to deliver a competitive outcome?
- **Technical specifications:** do the technical specifications of certain scope items (e.g. medical equipment) warrant a particular packaging solution?

The outcomes of the packaging assessment are outlined in the table below following two workshops with ACT Government stakeholders and advisors. In developing the preferred packaging approach(es), consideration was given to the potential delivery models that may best deliver each package, including consideration of whether packages could be delivered on a standalone basis or as a combined package of works.

Table 36: Preferred Packaging Approach

Ref	Package	Description	Rationale and approach	Link to Key Considerations
1	Capital Works – Demolition package	Capital works package for demolition activities including demolition works (Buildings 5, 8 and 24) and utilities protection	A single demolition works package for SPIRE is driven by the following factors: • Allows commencement of site works immediately, while procurement of other packages is underway	• Time to procure: packaging of demolition works is likely to support compressed timeframe for delivery and onsite works this calendar year • Technical specifications: demolition works package likely to be attractive to the local

Ref	Package	Description	Rationale and approach	Link to Key Considerations
			- De-risks later packages by clearing the site without creating new interfaces - Packaging may not be preferable where the timing of the decanting process requires staggering of the demolition for each building	construction market (i.e. private sector provider)
2	Capital Works –main works construction package	Main construction works is bundled in this package, including: - Bulk excavation and utilities relocation - Construction of SPIRE - Utilities – provision - Road works and traffic management - ICT and systems – hardware - FF&E – general furniture, fittings etc Some delivery models – where contractors are working with the Territory on a collaborative basis – may allow bulk excavation and utilities relocation to be procured separately as part of an early works package	A single capital works package for main construction works at SPIRE is driven by the following factors: - Packaging of multiple construction activities will likely assist with the management of interface risk and integration with the SPIRE build - Provides one point of contact for the Canberra Hospital with the head contractor, thereby reducing interface risks - Maintains a packaging approach – in concert with the other capital works packages – where works are bundled according to their stage of project development	Time to procure: packaging of excavation and main construction capital works avoids multiple procurements which is likely to support compressed timeframe for delivery Interface issues: packaging of multiple construction works activities minimises multiple interfaces on site Technical specifications: the packaged works are compatible for one contractor with subcontractors where required Economies of scale: package of sufficient size to generate economies of scale Market appetite, competition and capacity: an integrated construction works package may be able to assist the level of market interest
3	Capital Works – Modular package	Capital works package for construction of modular buildings (as outlined at Section 5.3.1). This package may include FF&E for the new modular buildings.	A single modular works package is driven by the following factors: - As the modular works are geographically separate from the SPIRE site, there is minimal direct physical interface risk with the other works. - A head contractor will be responsible for the entire modular buildings include fit out - Packaging the modular works in one package does reduce interface risks from a split procurement of the works	Time to procure: packaging of modular works likely to support compressed timeframe for delivery Technical specifications: modular works conducive to be managed by the construction market (i.e. private sector provider). FFE for the modular is not of a technical level requiring specialist's skills Interface issues –while procuring all modular works together reduces interface risk, a residual risk exists if the works are not completed in time for the decanted staff to move for the commencement of the SPIRE works
4	Capital Works – FF&E Medical equipment	Package for FF&E medical equipment for SPIRE. ICT software will likely also be procured by	Comprised as a single package given the specialised nature of the medical equipment required to service SPIRE. This procurement is likely to be managed directly by the	Time to procure: A separate package for medical equipment FF&E provides time to incorporate latest advances in medical technology for SPIRE;

Ref	Package	Description	Rationale and approach	Link to Key Considerations
		the Territory as part of this package.	Territory and procured either individually or on a combined basis. Additionally, medical equipment – particularly highly technical equipment – may be able to be leased rather than purchased as part of the project's FF&E	- resulting in increased flexibility for the Territory Interface risk –SPIRE will need to be fit to accommodate the FF&E required by the Territory. This interface risk will need to be managed by the Territory. This includes the physical space required, sufficient utilities provision and facilities able to facilitate efficient whole of life maintenance
5	Soft FM	A standalone package for soft FM services, including: - Cleaning - Waste management - Pest control - Security - Retail Soft FM services are currently delivered through contractual arrangements on a campus-wide basis. This package may also comprise the provision of FF&E (stocks and consumables).	Soft FM services at SPIRE procured by the Territory in accordance with the wider Canberra Hospital contracts is driven by the following: - Integration with the Canberra Hospital's broader activities will enable efficient procurement and management of many services and a consistent approach hospital wide - Contract terms would need to be considered to ensure some alignment and hospital wide procurements (including SPIRE) could be undertaken as needed - There may be opportunities in the future to restructure the hospital wide procurement of some services	Time to procure: this approach does not consider a separate procurement process prior to operational commencement but does provide some efficiencies through the use of existing contractual frameworks Interface issues: maintaining soft FM as a single package allows for integration and linkages to be maintained across the Canberra Hospital campus. SPIRE will need to be delivered to ensure the facility is fit to accommodate whole of life service provision. The Territory will be required to manage this interface risk. Economies of scale & Person-centric model of care: this model will enable hospital wide contracting which will enhance the size of the contracts and the economies of scale when compared to separate contracting. Market appetite, competition and capacity: The larger services packages procured on a whole of hospital basis are likely to be more attractive to the market. Further opportunities may exist in the future to procure on hospital wide contracts
6	Hard FM	A standalone package for hard FM services, including: - Maintenance – building - Maintenance – roads - Maintenance – landscaping - Maintenance – medical equipment	Hard FM services at SPIRE provided by the Territory or through existing Canberra Hospital wide contract(s) are driven by the following factors: - Integration with the Canberra Hospital's broader activities will enable efficient management of many services and a consistent approach hospital wide - Retain knowledge of the existing in-house providers	Time to procure: this approach does not consider a separate procurement process prior to operational commencement but does provide some efficiencies through the use of existing contractual frameworks Interface issues: maintaining hard FM as a single package allows for integration and linkages to be maintained across the Canberra Hospital campus. To ensure SPIRE is adequately maintained to achieve it whole of life outcomes, the Territory will need to manage the interface risk between the delivery contractor and the Hard FM providers. Economies of scale & Person-centric model of care:

Ref	Package	Description	Rationale and approach	Link to Key Considerations
				this model will enable hospital wide contracting which will enhance the size of the contracts and the economies of scale when compared to separate contracting. • Market appetite, competition and capacity: The larger services packages procured on a whole of hospital basis are likely to be more attractive to the market (noting that in house services are not considered to be taken to market as part of SPIRE).
7	• Operations – clinical services • Operations – administration services • Operations – logistical services	A standalone package for the operating services components of SPIRE, including: • Clinical services • Administration • Sterilising services • Pharmacy dispensary • Stock replenishment • Laundry • Portering / distribution • Food services • Pathology • Parking management	Hospital operations and clinical services for SPIRE to be provided by the Territory, on the basis of the following factors: • Integration with the Canberra Hospital's broader activities will enable central management of many services and a consistent approach hospital wide • Alignment with the current delivery of operating health services at the Canberra Hospital allows efficient alignment to Models of Care	• Time to procure: this approach does not consider a separate procurement process prior to operational commencement but does provide some efficiencies through the use of existing employment and contractual frameworks • Interface issues: maintaining operations as a service delivered by the Territory allows for integration and linkages to be maintained to the delivery of operations across the Canberra Hospital campus. An interface risk is created where the clinical staff are not adequately involved in the facility design development – this risk will need to be managed by the Territory through design development • Economies of scale: centralised management and oversight of the entire Canberra Hospital does provide some efficiencies • Person-centric model of care: provides a basis for supporting contemporary Models of Care with operations delivered through the Territory

Figure 71 below illustrates the preferred packaging option for the project with each row representing a different project component and the circle labels representing the different packages from Table 36.

Figure 71: Preferred Packaging Option Diagram

SPIRE Scope	Design	Construct	Maintain	Operate
Capital Works – Demolition package		1		
Capital Works – Main Works Construction package	2			
Capital Works – Modular package	3			
Capital Works – FF&E medical equipment	4			
Soft FM			5	
Hard FM			6	
Operations – clinical services				7
Operations – administration services				
Operations – logistical services				

Legend	
Territory delivery	
Contract out – civils	
Contract out – FM	

8.4 Delivery model assessment

8.4.1 Objectives

The objective of the delivery model analysis is to identify which procurement methods achieve the project objectives for SPIRE (see Section 2.5.1), while maximising value for money outcomes for the Project.

8.4.2 Evaluation Criteria

The following evaluation criteria were developed following a consultative process with key Territory stakeholders to compare procurement models. Each criterion is supported by a description of the criteria and the key issues associated with it, along with a relative importance weighting attributed to it.

As highlighted in the table, ‘time to procure’ SPIRE has been rated at Very High importance in the Delivery Model assessment. This was driven by the project timelines mandated for the final delivery of the project and the immediate need to further enhance the delivery of health services in the Territory as outlined in Chapter 3.

Due to the current timetable, the “time to procure” criterion was weighted “Very High” at the first delivery model workshop. However, where this timetable may be flexible, its relative importance would reduce. Due to the uncertainty of the timetable flexibility, it was agreed that two assessments would be undertaken. Both are set out below.

Table 37: Delivery model assessment evaluation criteria

Criteria	Description	Key Issues	Relative importance	
			Time critical	Non-time critical
Time to procure	Is the delivery model suitable for rapid procurement?	The Territory intends for delivery activity to commence onsite this calendar year (inclusive of decanting infrastructure works) and therefore it is important that procurement activities commence immediately	Very high	Medium – while still important the requirement to procure immediately

Criteria	Description	Key Issues	Relative importance	
			Time critical	Non-time critical
		- Commitment for construction to conclude by 2024 - Ensuring appropriate detailed design can be incorporated into the procurement process		has been relaxed
Market interest	To what extent are there suitable contractors available with the capacity and capability to undertake the project?	- A large number of infrastructure projects in planning or delivery on the east coast are constraining the market and the availability of talent within the construction market – including over 100 projects under development from a health infrastructure perspective in NSW - Important to attract the best contractors for a project of this size to drive competition and a quality final outcome	High	High
Flexibility	Is the delivery model flexible and can it easily accommodate uncertainty and variation to scope and/or operational flexibility into the future?	- Changes in clinical practice and Model of Care are possible, given the long procurement and delivery timeframe - Operations need to fit into the Canberra Hospital campus operations noting that SPIRE will be a part of a complex change to the hospital (e.g. provision of new technology) - Operational flexibility to accommodate future expansion - Number of related projects on the campus and in the area will influence each other in a variety of ways (e.g. design, timing, traffic management and accessibility)	Medium	Medium
Risk	To what extent does the delivery model support risk management and provide for appropriate risk allocation between the Territory and the private sector?	Key risks that need be considered through the packaging approach and/or delivery model assessment include: - Interface risks with existing operations as SPIRE will be constructed on a brownfield site (including patient front of house, back of house and infrastructure interfaces) - Planning approvals may be challenging given project interdependencies, particularly with the multi-storey car park - Risk that clinicians do not have sufficient input into the planning and design that impacts on SPIRE	Medium	High

Criteria	Description	Key Issues	Relative importance	
			Time critical	Non-time critical
		Accessibility (patients, visitors, emergency vehicles, public transport etc.) considerations are critical to the functionality of the Canberra Hospital		
Price certainty	To what extent does the delivery model result in price certainty for the Territory?	- Achievement of project principles within capital affordability requirements - Key objective to increase operational efficiency and upgrade aged assets with significant maintenance expenditure - Contribute to price certainty for interdependent projects (e.g. multi-storey car park, decommissioning, decommissioning of Building 12 etc.)	High	High
Innovation and incentive	To what extent does the delivery model drive design and construction innovation?	- Key objective to implement a contemporary Model of Care and incorporate new technologies - Alignment to government priorities for innovative approaches in infrastructure projects (e.g. carbon neutrality)	High	High

8.5 Delivery model shortlisting and evaluation

This section identifies potential delivery model options for the preferred packaging option for the main works construction package (Package 2) given the likely size, scale and complexity of this package. The potential and preferred delivery model for the other packages is set out at Section 8.6.

The choice of delivery model option is important given that it affects the relationship between the ACT Government and its Contractors; the manner of managing the contract packages; the likely total cost of the Project (comprising whole-of-life costs through the project's procurement and delivery phases); and the risks assumed by each contracting party. Each delivery model listed in the Capital Framework exhibit differing degrees of integration and flexibility and each were considered in the context of delivering SPIRE.

Highly integrated packaging approaches – such as design, construct, operate and maintain (DCOM) and public private partnership (PPP) that combine capital works with operations and maintenance – were considered but ultimately discounted given the preferred packaging approach as outlined in Table 36 for delivery of operations and maintenance will be separate to the delivery of SPIRE. This separation is likely to reduce the whole of life and value for money benefits of the DCOM and PPP models.

Project Management Agreements and Design then Construct were considered but ultimately discounted on the basis that they are not appropriate for a project of this size and scale. Further, the Alliance model was not shortlisted on the basis that the technical complexity and risk profile for SPIRE is not sufficient to warrant such a highly collaborative approach.

As a result, the Early Contractor Involvement (ECI) model, Managing Contractor model and traditional models such as D&C (including an interactive D&C) were shortlisted for further consideration due to:

- Ability to support project timing imperatives given the current development of the SPIRE project and the compressed timeframe for delivery
- Allows for operations and maintenance activities to be integrated with existing requirements, thereby mitigating interfaces with delivery at the Canberra Hospital
- The ECI and Interactive D&C encourage collaborative design development which may help drive a more innovative final product
- There is likely to be market capacity and capability for the D&C package, but limited appetite for operations and maintenance activities
- Well known and understood delivery models for the market

Based on the above analysis, four delivery models were shortlisted. Analysis and scoring is provided below including consideration of Territory controlled time mitigation strategies in the context of delivering SPIRE in accordance with the indicative programme set out in Chapter 12.

8.5.1 Delivery model options analysis and scoring

Shortlisted delivery model options were considered against the evaluation criteria in line with the rating scale outlined below:

Table 38: Delivery model evaluation rating scale²⁰²

Rating	Description	Optional numeric equivalent
✓✓	Delivery model is very effective in satisfying the requirement of the criterion	2
✓	Delivery model is effective in satisfying the requirement of the criterion	1
-	Delivery model is neither effective nor ineffective in satisfying the requirement of the criterion	0
x	Delivery model is ineffective in satisfying the requirement of the criterion	-1
xx	Delivery model is very ineffective in satisfying the requirement of the criterion	-2

As noted above, a dual evaluation approach was implemented in accordance with the evaluation criteria and consideration of a time critical and non-time critical approach. Time to procure and risk flexibility under each approach were evaluated with different weightings applied to delineate between the shortlisted delivery models.

The following table outlines the preferred approach for each model and the relative differences each model provides from a delivery perspective.

Table 39: Shortlisted delivery models – description, advantages and disadvantages

Shortlisted Delivery Models	
Early Contractor Involvement (ECI)	
Description	• A two-stage approach that is generally adopted for complex or highly technical or risky projects:

²⁰² Capital Framework rating scale.

Shortlisted Delivery Models

	○ Stage 1: contractor works under a service agreement (such as a Planning Development Agreement (PDA)) – working to a target price – and develops the design to a point where it can be accurately priced. This stage may be undertaken in partnership with the Territory and can be interactive. ○ During Stage 1: an early works packages is normally undertaken to clear site risks which could include demolition, contamination and geotech treatments and services relocation. This significantly de-risks the project for the contractor before a fixed price contract is negotiated. The early works can be undertaken by the ECI contractor or a third party ○ Stage 2: Territory negotiates with the contractor on price (guaranteed maximum price (GMP)) and if agreement is reached, the contractor is appointed (without competitive tender) to complete the D&C. If not, the Territory undertakes a competitive D&C process. The GMP is often part of a non-binding price bid at Stage 1 that can be evaluated but is subject to amendment as the design develops. • The Territory may retain intellectual property (IP) gathered throughout Stage 1 • Due to its interactive nature, Stage 1 is generally not a fixed price contract • Territory would retain responsibility for stakeholders ensuring clinical engagement in design and that local residents input into the planning approval process and the community are informed of plans – the key delay risk areas during procurement • The Territory manages the interface risk between D&C and O&M, including through control over clinical design and involvement with respect to fit for purpose risk for errors in the output specification • Model generally used where the project has significant areas of uncertainty where collaborative development would assist in addressing • Contractor would be responsible for design development and interface with ACT Health management and IFCW
Advantages	• Bringing the Contractor in early and allowing their input into the planning and design ensures a broader focus and allows for a shared understanding of the project by the Territory, Designer and Contractor. The interactive approach may generate innovative solutions and value for money (VfM) outcomes when robust probity measures are in place. There is also potential benefit of being able to ensure costs and scope remain fully aligned through the design process, which will be important to manage the project affordability impacts during this phase. • Early involvement minimises resource requirements from industry during the tendering stage and provides flexibility in each stage, allowing for a range of design scenarios, sensible allocation and treatment of risk and the development of appropriate contract documents for the proposed scope, timing, budget and risk profile. • Project risk is appropriately allocated before construction commences and may result in some risks being retained by the Principal to optimise value for the project. • The opt-out provision at the end of Stage 1 ensures a fine balance between incentive and penalty, thereby promoting strong consideration of all project aspects
Disadvantages	• Likely non-competitive D&C procurement for Stage 2 may impact on overall price and risk transfer due to sole source negotiation with Stage 1 contractor • While there are opportunities to de-risk the project through a separate early works packages – providing the contractor more certainty to bid a fixed price – the process is not competitive and contractors would normally price this risk under normal conditions • Lack of fixed price for Stage 1 may lead to unanticipated cost increases. Further, the procurement process will not comprise price competition wherein the contractor is appointed on the basis of capability and capacity • Does not provide a design competition leaving the Territory with only one design to consider

Shortlisted Delivery Models							
	- Requires close Territory oversight during the design development to prevent unnecessary scope creep and cost increases for the project - The level of project uncertainty being passed to the contractor is unlikely to inhibit the ability of the market to provide a fixed price upfront (through alternate models) if the market is provided with an appropriately developed reference design - While there is some time efficiency in the initial contractor procurement due to less developed design, the key risk in the design delay is scope changes as a consequence of planning and design processes and clinician consultation. These risks remain. There may also be long delays should a new procurement be required for the main works contractor (if the outcome of Stage 1 process is unacceptable to the Territory) – reducing flexibility to change later in the process						
Case Study examples ²⁰³	- Fiona Stanley Hospital (WA) - St George Hospital Acute Services Building (NSW) - Westmead Redevelopment (NSW)						
Time to procure	Market	Innovation and incentive	Price Certainty	Risk	Flexibility	Overall	
						Time critical	Not time critical
✓	✓✓	✓✓	x	xx	✓✓	✓	x
Overall Comments The model is likely to be attractive to the market – as noted in the market sounding and referenced at section 8.5.3 – and does present enhanced opportunities for innovation through collaborative design development and timing advantages to getting to market quicker and for overall delivery. The model does however limit competition which may impact value for money and eliminates the potential for a full design competition. As per the alternate D&C models the key risks to delay remain under the Territory's management with the model not providing a clear advantage in the mitigation of these risks. While the model is being used extensively by NSW Health for hospital procurement it has not been used for Health infrastructure in the Territory previously.							
D&C							
Description	- Territory develops design to a certain point (e.g. 30% / 50% PSP), as well as performance and quality requirement specification prior to procurement - D&C contractor contracted for preparation of the detailed design, followed by construction and commissioning (i.e. GC21 contract) - The Territory manages the interface risk between D&C and O&M, and consequently bearing the fit for purpose risk for errors in the output specification - Territory would retain responsibility for stakeholders ensuring clinical engagement in design and local residents and the community are informed of plans – the key delay risk areas during procurement - The Territory manages the interface risk between D&C and O&M, including through control over clinical design and involvement with respect to fit for purpose risk for errors in the output specification - There would be opportunities to include an interactive process during the RFT phase to provide feedback to the consortia on design, technical and commercial approach						
Advantages	- Simple model that is well understood by the market - Provides price certainty (unless variations are sought) for the whole works under a competitive tender process						

²⁰³ Noting that the use of the ECI delivery model is currently common in NSW for Health Infrastructure projects

Shortlisted Delivery Models							
	- The RFT process is shorter when compared to the D&C interactive model as the tenderers are not required to compete on their proposed design solution - Potential for some design risk transfer to the contractor - D&C contractor manages (and takes the risk for) subcontracting arrangements - Onus on the contractor to effectively manage delays and technical risk in D&C interfaces - Provides the Territory with a design competition to evaluate at tender time						
Disadvantages	- Requires more up-front design work (likely to be above 30% PSP ECI level) by the Territory, potentially impacting on development timing - Requires a longer RFT process for the contractor to prepare a response and the Territory to evaluate designs - Territory carries the risk of poor management of interfaces between D&C and O&M - Limited incentives for D&C contractor to consider whole of life cost considerations and benefits - Ongoing design changes following contract award (e.g. as a result of clinician, community consultation or planning and approvals processes) can lead to increased costs and delays - Limited flexibility post contract award						
Case Study examples	- South East Regional Hospital Bega (NSW) - Dubbo Hospital Redevelopment Stages 3 and 4 (NSW)						
Time to procure	Market	Innovation and incentive	Price Certainty	Risk	Flexibility	Overall	
						Time critical	Not time critical
✓	✓✓	-	✓✓	✓	x	-	✓
Overall Comments The D&C model is well-known and understood model by the Territory and the market and likely to be attractive model for the market. The model also provides a complete design and fixed price procurement process. The time required to go to market is longer than the ECI models as design development and the RFT process is longer which may impact the achievement of Territory development timelines. As per the ECI model the key risks to delay remain under the Territory's management with the model not providing a clear advantage in the mitigation of these risks.							
D&C Interactive							
Description	- Territory develops design to a certain point (e.g. 30% / 50% PSP), as well as performance and quality requirement specification prior to procurement - D&C contractor contracted for preparation of the detailed design, followed by construction and commissioning (i.e. GC21 contract) - The Territory manages the interface risk between D&C and O&M, and consequently bearing the fit for purpose risk for errors in the output specification - Key differentiator for this model is the facilitation of an interactive design component during the RFT preparation period - The interactive design component would take place over a short timeframe (i.e. 2-3 months) and would comprise of shortlisted EOI bidders participating in interactive sessions with Territory stakeholders						
Advantages	- Interactive design process may result in innovative design solutions being incorporated - Some flexibility during the interactive RFT phase which may reduce variations post contract award						

Shortlisted Delivery Models							
	- Provides price certainty (unless variations are sought) for the whole works under a competitive tender process - Greater flexibility during the design phase through the interactive RFT process - Likely attractive to contractors in a constrained east coast construction market given design competition component and opportunity to showcase capability - Provides the Territory with a design competition to evaluate at tender time						
Disadvantages	- Time intensive from the perspective of incorporating the additional interactive design component as part of the procurement process - Ongoing design changes following contract award (e.g. as a result of clinician, community consultation or planning and approvals processes) can lead to increased costs and delays - Requires close Territory oversight during the design development to prevent unnecessary scope creep and cost increases for the project						
Case Study examples	- As above for D&C - UCH²⁰⁴						
Time to procure	Market	Innovation and incentive	Price Certainty	Risk	Flexibility	Overall	
						Time critical	Not time critical
x	✓	✓	✓✓	✓	-	-	-
Overall Comments The D&C model is well-known and understood model by the Territory and the market and likely to be attractive model for the market. The model also provides a complete design and fixed price procurement process with potential design innovation through the interactive process. The time required to go to market is longer than the D&C and ECI models as design development and the RFT process is longer which may impact the achievement of Territory development timelines. As per the ECI model the key risks to delay remain under the Territory's management with the model not providing a clear advantage in the mitigation of these risks.							
Managing Contractor							
Description	- Procuring entity appoints a Managing Contractor to engage subcontractors to deliver the works - The Managing Contractor is responsible for administering these subcontracts and accepts an element of delivery risk, although they may not design and construct the project themselves - The key difference between Managing Contractor and a D&C with subcontracted elements is that the Managing Contractor identifies and appoints its subcontractors in consultation with the Territory, generally on an open book basis, with the Territory having an ultimate right of refusal - Similar to an ECI, a two-stage process can be adopted: - Stage 1: the Managing Contractor is engaged to assist the Territory with planning, design, approvals, project milestones and payment arrangements, usually a guaranteed construction sum for Stage 2 - Stage 2: the Managing Contractor completes any outstanding design work and constructs and commissions the project						
Advantages	- May allow for more rapid procurement on a less progressed scope / design - Model may be attractive to the market on the basis that there is reduced competitive tension with this approach in practice - Greater flexibility during the design phase which may reduce variations during Stage 2 D&C						

²⁰⁴ Noting UCH's delivery model was a DCM

Shortlisted Delivery Models							
	- The Territory is able to retain a high level of control throughout the project, ensuring that its strategic outcomes and priorities are met - There is a single point of responsibility for the design and construction of the project						
Disadvantages	- A fixed lump sum for Stage 2 is typically negotiated and not competitively tendered, potentially impacting on value for money – although incentives can be built into the Stage 2 contract - Requires close Territory oversight during the design development to prevent unnecessary scope creep and cost increases for the project - Territory will share time, cost and design risk until the end of Stage 1 - Whole of life benefits may be reduced if not included in the contract scope						
Case Study examples	- Monash Children's Hospital (VIC) - Box Hill Hospital (VIC) - Lyell McEwin Hospital Stages A-C (SA)						
Time to procure	Market	Innovation and incentive	Price Certainty	Risk	Flexibility	Overall	
						Time critical	Not time critical
✓	✓	✓	x x	x x	✓✓	x	x x
Overall Comments While likely to be attractive to the market the key upside to the model of an expedient collaborative process upfront is achieved through the ECI model which provides enhancements for value for money as a fixed price contract may be achieved in Stage 2.							

8.5.2 Territory controlled time mitigations

To mitigate and alleviate timing constraints for SPIRE, a range of strategies could be considered over the design, procurement, constructing and commissioning stages, including:

- Consideration of sole source arrangements for the detailed design component of SPIRE
- Appointment of specialist advisors to advice throughout the project development, including:
 - Commercial advisors to facilitate and assist on the procurement process at the EOI and RFT stages
 - Clinical specialists to maintain continuity and clinical input into the detailed design (e.g. in accordance with the recommended Clinical Project Director role and reference groups in the proposed governance structure for SPIRE)
- Flexibility in PSP design and development prior to the appointment of the lead contractor for the design and construction works
- Consolidation of the capital works packages to potentially streamline the procurement process and documentation required

8.5.3 Market sounding validation

A preliminary market sounding process occurred on 14 March 2019 in Sydney. Sounding participants – comprising construction contractors with demonstrated hospital infrastructure experience in NSW / ACT and to a similar size and scale to SPIRE – were identified by the ACT Government for consultation.

The purpose of the market sounding was to:

- Understand current market capacity in the context of the extensive pipeline of health infrastructure projects on the east coast of Australia²⁰⁵
- Test the market's appetite for delivering design and construct components of SPIRE
- Receive initial industry input on potential contracting and delivery approaches (including delivery model and packaging of components) for SPIRE
- Receive advice on the proposed timeframe for SPIRE with a focus on the procurement, design and construction time periods
- Assess the market's capacity to deliver, manage and mitigate specific project risks identified

Sounding participants were consulted on three themes in relation to SPIRE:

- General – project and market
- Scope, technical, risks and interface considerations
- Delivery model

The key takeaways from the market sounding process by theme are provided in the table below.

Table 40: SPIRE Market Sounding findings

Consultation theme	Market feedback
General – Project and Market	• Based on the indicative timeframe provided and commitments (current and upcoming), all participants indicated a level of capacity to undertake SPIRE • Importantly, participants expressed a strong interest in SPIRE and that the scale of the project was commensurate to larger projects being procured in other jurisdictions (such as NSW and VIC) • Participants noted that a 9-12 month timeline for design development²⁰⁶ was appropriate provided strong clinical engagement had informed the process and that planning risks are under management by the Territory • The proposed construction timeframe of approximately 39 months was appropriate for SPIRE and may have up to 6-9 months float based on initial benchmarking against projects of a similar size and scale • All participants noted that they would not anticipate needing to enter into partnership arrangements to deliver SPIRE (such as JVs) • Strong engagement with the local market was a common theme throughout the consultations, provided that local subcontractors could provide the Territory with value for money • Participants emphasised that innovative approaches should be explored by the ACT Government for SPIRE, including pre-fabrication design and digital technology solutions (e.g. BIM)

²⁰⁵ Noting that NSW Health Infrastructure has committed more than \$14.4 billion in infrastructure spending over their forward capital programme with over 90 projects underway.

²⁰⁶ Indicative 9-12 timeline for design development – canvassing design development from contractor appointment through to taking design to a sufficient point prior to construction commencement

Consultation theme	Market feedback
Scope, technical, risk and interface considerations	- The main risks highlighted through the market sounding included the following: Planning risks with respect to the need to finalise the DA process and legislative requirements early in the process Site risks such as the risk that contamination and unknown materials are identified - Managing operational and interface risks during the construction process given that SPIRE will be developed on a brownfield site at a live hospital Stakeholder engagement risks that may arise if engagement and communication processes are not effectively and clearly implemented - Participants noted several mitigation strategies for the abovementioned risks, including: - Early and regular engagement with clinicians – through the use of user groups and robust governance structures - Early engagement and awareness during the planning phase - Ensuring that the design is maintained in accordance with the Australian Health Facility Guidelines (AHFG) - Open communication channels between the client and the contractor to manage expectations
Delivery model	- An integrated early works and main works D&C package was generally preferred among market participants to minimise interface and timing risks (such as during the excavation and site clearing process prior to the main facility build) - The exception to this view was preference for an integrated main works package (not including demolition) on the basis of a reduced risk appetite for this component of early works - Market participants indicated an interest in tendering for SPIRE under a range of delivery models – including all shortlisted models under consideration in this Business Case - However, more collaborative and relationship-based approaches were proposed by participants, (e.g. a 2 stage ECI delivery model) on the basis that: - Participants have recent contracting experience under this model; particularly on brownfield projects within the Health Infrastructure pipeline of projects in NSW - Early involvement has the potential to provide better synergies across the full spectrum of design and a basis for the contractor to better understand client priorities and de-risk the project earlier without having to price in additional risk - Early input into the design process can provide innovative solutions and add better value to the project outcome - Potential opportunities to de-risk the project before fixed price contracting - Potential opportunities to speed up delivery as early work is undertaken in parallel to design. However, if an off ramp is required, this time advantage may be lost - Participants introduced the concept of very early contractor involvement (VECI) – which has been used on recent, but rare, occasions in NSW. It was noted that this approach is primarily driven by the execution of a contract early in the process and that it had been found to add unnecessary complexity to the design phase - In general, a traditional D&C model approach was also supported by participants; particularly where the approach provides the ability to innovate on aspects of design and earlier involvement during design to avoid a price competition based on a fully developed design by the Territory - Minor concerns were raised in relation to an extended design competition process (noting increased bid preparation costs)

8.6 Recommended delivery model

Based on the analysis outlined above, two delivery model options were found to meet the project objectives for the main works package:

- ECI:** likely to be attractive to the market, may present opportunities for innovation through collaborative design development and meet the Territory's timing objectives. However, this may be at the expense of design competition, price certainty and risk transfer

-
- **D&C:** likely to be attractive to the market, allow for price certainty and risk transfer and meet the Territory's timing objectives. However, this may be at the expense of collaborative design development and innovation

A preferred delivery model approach has not been confirmed for the main works package of the Project. It is recommended that a preferred delivery model for this package is confirmed prior to detailed design through the governance structures for the Project, giving consideration to the design, risk and price certainty trade-offs between an ECI or D&C approach.

The recommended delivery models for other project packages are:

- **Packages 1 and 3:** D&C
- **Packages 4, 5, 6 and 7:** FF&E medical equipment, operating services, soft FM and hard FM to be delivered consistent with existing Campus-wide arrangements

Additionally, commercial principles for delivering SPIRE will be developed following the determination of the preferred delivery model.

8.7 IFCW Review – Delivery Model Selection

IFCW directorate to sign off that the delivery model selected is appropriate for the project risk profile and value.

Review 3 (IFCW) Officer Name: _____

Signature: _____

Date: _____

9 Project governance

Key messages

- The delivery of SPIRE comprises a governance framework that includes a Directorate Leadership Committee (DLC), Executive Steering Committee, BHSP Strategic Advisory Committee, Project Control Groups (PCGs), a Clinical Reference Group, a Consumer Reference Group and various Working Groups
- The Executive Steering Committee, BHSP Strategic Advisory Committee and PCGs, including representation from a Clinical Reference Group, will report to the Directorate Leadership Committee (DLC) comprising senior leadership from ACT Health and CHS. Ultimate responsibility for key signoffs and approvals will sit with the Minister for Health and Wellbeing and Cabinet
- A number of key directorates are represented in the governance structure, including ACT Health, CHS, IFCW, CMTEDD, EPSDD and TCCS

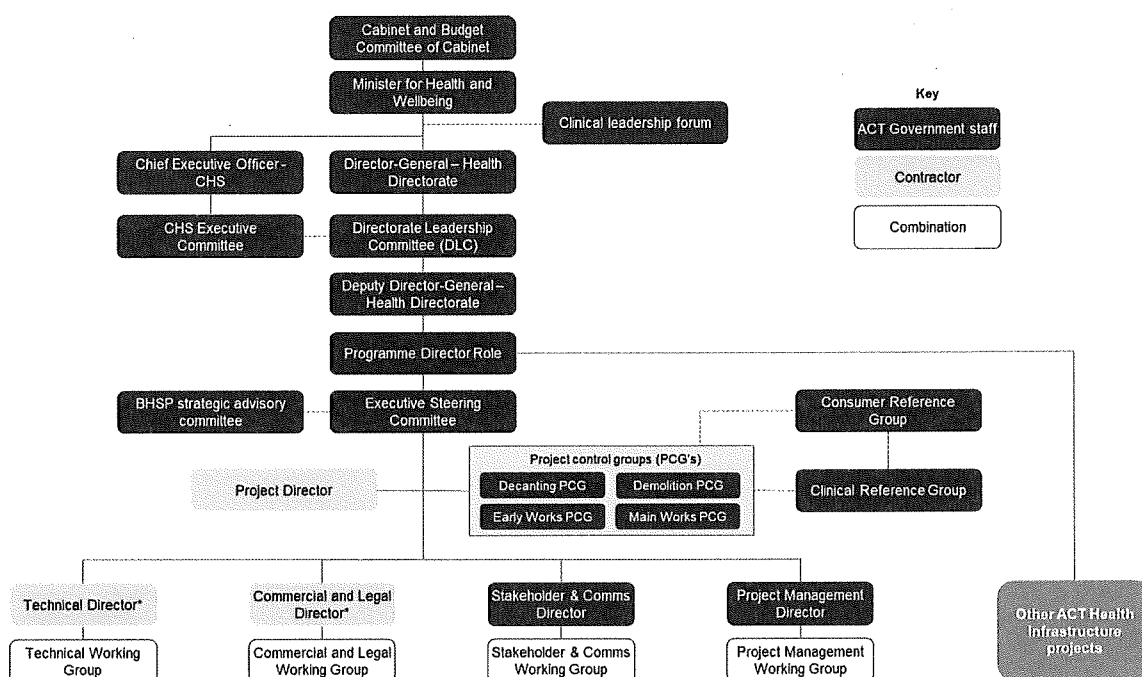
9.1 SPIRE governance structure

The governance arrangements for SPIRE will be in line with ACT Health processes for infrastructure projects of this scale and complexity. The governance model for SPIRE is made up of the following key groups:

- The Director-General of the ACT Health Directorate, to which the Executive Steering Committee and Project Control Groups (PCGs) report, through the Deputy Director-General, Programme Director, and Directorate Leadership Committee (DLC)
- A Programme Director Role, to which the Executive Steering Committee report, that will oversee the delivery of a range of ACT Health Infrastructure Projects
- An Executive Steering Committee, which is an accountable decision-making body for SPIRE
- The BHSP Strategic Advisory Committee – a cross-government advisory committee – which will be chaired by the Director-General of ACT Health and will provide input to the Executive Steering Committee
- PCGs for Decanting, Demolition, Early Works and Main Works. These groups are decision setting and monitoring bodies
- A Project Director, who will implement the decisions made by the PCGs and Executive Steering Committee. Workstreams Directors will report to the Project Director. Workstream Directors will be accountable for the delivery of each key workstream identified for SPIRE (technical, commercial and legal, stakeholder and communication, and project management)

A high-level overview of the SPIRE governance structure is illustrated in Figure 72 with key positions set out in Table 41.

Figure 72 Indicative project delivery governance structure



* The Technical Director and Commercial and Legal Director will likely be contractors initially due to resourcing requirements and capabilities. ACT Health will investigate filling these roles with ACT Government staff members at a later stage of the project

It is important to note that:

- Members identified for each group are indicative and are subject to change as more detailed design, project procurement and delivery governance structures are developed
- Government directorates will be supported by external advisors where appropriate (as noted in Chapter 10)
- While indicative members have been identified for the PCGs, not all members will be appropriate for each of the four PCGs – decanting, demolition, early works and main works. Accordingly, each PCG will be tailored and resourced with appropriately skilled personnel
- No members of the Working Groups have been included in the table. These members will be identified as more detailed delivery governance structures are developed. It is anticipated that the Working Groups will comprise a combination of ACT Government staff, contractors and external advisors

Table 41: Key positions within the governance structure

Governance Groups
Ministerial and Directorate Executive representation
Minister for Health and Wellbeing Director-General (ACT Health) Deputy Director-General (ACT Health) Chief Executive Officer (CHS) Directorate Leadership Committee (DLC)

Governance Groups	
CHS Executive Committee Clinical Leadership Forum	
BHSP – Strategic Advisory Committee	
Chair	Director-General (ACT Health)
Secretariat	Strategic Infrastructure
Members	Deputy Director-General, Corporate Services (ACT Health) Chief Executive Officer (CHS) Deputy Director-General, Clinical Services (CHS) Deputy Director(s)-General, ACT Treasury (CMTEDD) Deputy Director-General, Land Strategy and Environment (EPSDD) Deputy Director-General, City Services (TCCS) Chief Executive, Capital Health Network (CHN) Calvary Health Care Representative(s)
Attendees	Executive Group Manager, Strategic Infrastructure (ACT Health)
Executive Steering Committee	
Chair	Director-General (ACT Health)
Deputy Chair	Deputy Director-General, Corporate Services (ACT Health)
Secretariat	Executive Director, IFCW (CMTEDD)
Members	Executive Group Manager, Strategic Infrastructure (ACT Health) Chief Executive Officer (CHS) Deputy Director-General, Clinical Services (CHS) Executive Branch Manager, Strategic Infrastructure (ACT Health) Executive Director, Infrastructure Management & Maintenance (CHS) Executive Director, Finance and Budget Division (CMTEDD)
Attendees	SPIRE Project Management Role (Specialised Consultant) Specialist Advisor, Strategic Infrastructure (ACT Health) SPIRE Clinical Director (Clinical Consultant)
Project Control Groups (PCGs)	
Chair	Executive Group Manager, Strategic Infrastructure (ACT Health)
Secretariat	Director, Social Infrastructure Branch, Infrastructure Finance and Capital Works (CMTEDD)
Members	Executive Branch Manager, Strategic Infrastructure (ACT Health) SPIRE Project Management Role (Consultant) SPIRE Clinical Director (Clinical Consultant) Executive Director(s), Medical Services and Nursing and Midwifery (CHS) Executive Director, Surgery and Oral Health (CHS) Executive Director, Critical Care (CHS) Director, Facilities and Maintenance IM&M (CHS) Director, Social Policy Branch, Finance & Budget Division (CMTEDD)
Attendees	Clinical Facilities Planning Lead(s), Strategic Infrastructure (ACT Health) Commercial Advisor, Strategic Infrastructure (ACT Health) SPIRE ICT Services Lead, Digital Solutions Division (ACT Health)

Governance Groups	
	ACT Health External Advisors Lead Clinicians (where applicable) Lead Project Managers and Work Stream Leads
Project Delivery Leadership	
Programme Director Role Project Director	
Workstream Leads	
Technical Director Commercial and Legal Director Stakeholder and Communications Director Project Management Director	
Working groups	
Technical Working Group Commercial and Legal Working Group Stakeholder and Communication Working Group Project Management Working Group	

9.1.1 Roles and responsibilities

The roles and responsibilities of the key governance groups for SPIRE – set out in Figure 72 – are outlined below.

Cabinet

Cabinet is the peak-decision making body and approver for the project, including the decision (or otherwise) to proceed with the Project. The general matters to be escalated to this group for approval include:

- Business Case approval, including cost estimates, and design and delivery strategy
- Cross-governmental coordination issues as required throughout the duration of the project
- Risk oversight

Minister for Health and Wellbeing

The Minister for Health and Wellbeing will be responsible for key project signoffs and approvals prior to endorsement at the Cabinet level.

Clinical Leadership Forum

The Clinical Leadership Forum consists of a range of experienced health professionals with demonstrated abilities in advising the Minister for Health and Wellbeing and the Minister for Mental Health on areas such as clinical management, governance, health service planning and asset management. The Clinical Leadership Forum will meet quarterly to provide independent advice to the Ministers and to contribute to the continuous improvement of the ACT Health system, including SPIRE.

DLC

The DLC will provide strategic direction and oversight of the project, including:

- Strategic project direction and guidance
- Cost, risk, funding, programme and procurement oversight
- Consider key project issues as they arise and escalate as appropriate to Cabinet

The DLC will comprise senior leadership within the Project including the Director-General (ACT Health), Deputy-Director (ACT Health), CHS CEO and CHS Executive Committee.

Programme Director Role

The Programme Director Role will provide leadership and oversee a range of ACT Health Infrastructure projects. Key responsibilities include:

- Manage interfaces and identify opportunities for efficiencies across multiple projects (e.g. reducing duplication of functions where appropriate)
- Ensuring standardisation of processes when appropriate (e.g. reporting methods and templates)
- Enabling the efficient integration of ACT Health infrastructure projects with the whole ACT health ecosystem

Executive Steering Committee

The Executive Steering Committee will be an accountable decision-making body as part of the SPIRE governance structure. This Committee will determine the strategic direction for SPIRE and oversee the operations of the project teams (PCGs and workstreams). Key responsibilities include:

- Consider and determine preferred positions on key commercial and policy issues
- Oversee the procurement process for SPIRE and consider recommendations as part of this process
- Make recommendations to Cabinet through the responsible Minister and executive staff on key policy and commercial matters

A SPIRE Clinical Director will also form part of the Executive Steering Committee. The Clinical Director will be appointed by the CEO of CHS and have a focus on critical care and/or surgical services; with accountability for providing guidance on the clinical requirements and managing clinical stakeholder inputs.

BHSP Strategic Advisory Committee

The BHSP Strategic Advisory Committee will meet quarterly and provide:

- Cross Directorate input into project development
- Strategic oversight and management of key project interfaces with ACT Health and other Directorates

Project Director

The Project Director will provide leadership and oversee the delivery of SPIRE as a dedicated resource for the Project. Functions will include management across workstreams and budget management.

Project Control Groups (PCGs)

The PCGs, working with the Project Director, will oversee, lead, monitor, advise and coordinate all project deliverables in accordance with the desired project objectives. The PCGs will be responsible for the following:

- Deliberate on activities specific to each PCG (decanting, demolition, early works and main works)
- Oversee and provide guidance on all tasks undertaken by the Workstreams / Working Groups and other consultants including project documentation and relevant client materials
- Identify any opportunities for cost reduction, risk mitigation and potential design innovations during the project life
- Escalate any issues to the Executive Steering Committee and BHSP Strategic Advisory Committee as they arise

Clinical Reference Group

The Clinical Reference Group will provide key input into the PCGs. The Clinical Reference Group will:

- Provide clinical input and subject matter expertise into the design development and delivery of SPIRE, including Models of Care and patient experience
- Support ongoing consultation activities with clinical staff and provide an important conduit for clinician feedback and suggestions throughout the Project's development

Consumer Reference Group

A Consumer Reference Group will be utilised as part of the SPIRE governance structure and will have direct engagement with the Clinical Reference Group.

Workstream Directors

The Workstream Directors will oversee and coordinate the functions of the key workstreams for the delivery of SPIRE (see the next section for more information on the key workstreams). They will provide input to the Project Director and PCGs to assist them to make decisions and coordinate resources efficiently.

Working Groups

Working Groups will provide input and advice on specific technical, clinical and operational issues to the Workstream Directors. To maintain consistency across the Project, there may be potential for Working Group members to form part of the PCGs where appropriate. Further detail on the Working Groups is set out in the following sub-section.

9.2 SPIRE Workstreams

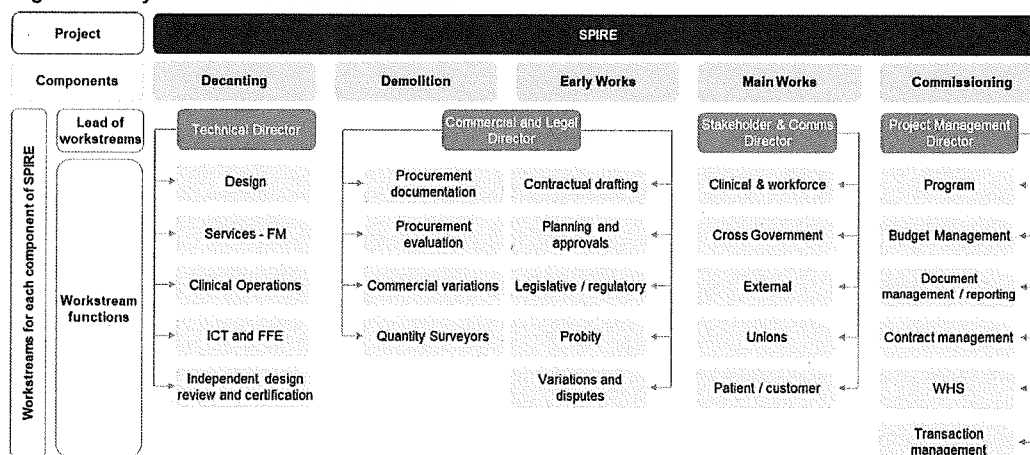
The delivery of SPIRE has been broken down into four key workstreams. These are:

- Technical

- Commercial and Legal
- Stakeholder and Communications
- Project Management

As outlined above, each of these workstreams will be led by a Workstream Director that will report to the Project Director and the PCGs. The workstreams will deliver various key functions for the different components of SPIRE (i.e. decanting, demolition, early works, main works and commissioning). Figure 73 outlines the key functions that will be undertaken for the different components of SPIRE.

Figure 73: Key functions for each workstream



Note: these are only the key functions for each workstream. There may be some functions which are not included in this figure

10 Stakeholder Engagement Plan

Key messages

- SPIRE is one project within an inter-related suite of health infrastructure projects across the ACT that make up the BHSP. The BHSP is based on extensive Territory-wide health services planning and demand modelling.
- SPIRE is a complex project with a significant number of stakeholders including clinicians, administrators and other support staff at Canberra Hospital; emergency services personnel; the community, particularly patients, their families and friends; and site neighbours, which includes the National Capital Private Hospital and Garran Primary School
- Extensive consultation and communication has been undertaken to date, including a Ministerial announcement of the new site for SPIRE, engagement with internal hospital stakeholders as part of the Business Case development process, and external engagement with Garran Primary School and Woden Community Council to inform the community about SPIRE. Importantly, the feedback of project stakeholders has played a critical role in the design development process
- The communications and stakeholder engagement approach has been tailored to ensure that it considers the key interests of each stakeholder, as well as each stage of project development from design to construction, commissioning and ongoing operations
- Accordingly, the communications and consultation approach outlined in this Chapter is founded on the principle that regular and meaningful engagement will be necessary to achieve the project objectives

10.1 Introduction

As Canberra's largest public hospital, developments at Canberra Hospital are of significant community and stakeholder interest. SPIRE will be no exception, with the Project scope encompassing a range of critical and acute facilities (see Chapter 4) that provide vital services to the community.

Given this interest and the anticipated impact of the project on a range of stakeholders, a strong and coordinated engagement approach is essential to ensure that the project objectives are achieved and that all stakeholders are well informed about the benefits of the Project and its progress towards completion.

To this end, ACT Health has prepared a Stakeholder Engagement Plan for SPIRE that adopts a tailored approach to each of the key stakeholder groups, identifying their likely issues (see box right) and the appropriate method and timing of consultation. As the Project includes decanting activities, a Decanting Engagement Plan has been prepared to ensure that departments relocated as part of SPIRE are appropriately consulted and informed throughout.

It is expected that the engagement strategy and activities will evolve as the project passes through critical milestones in design, construction, commissioning and operations. For example, in the

Key areas of interest for internal stakeholders

Clinical, other Canberra Hospital staff and ambulance services

- Design and functionality of SPIRE
- Impact of construction on existing operations
- Model of Care and technological changes
- Staffing impacts
- Accessibility and parking
- Emergency vehicle access and ambulance bay capacity
- Integration and transition of existing facilities to SPIRE
- Patient flow and accessibility
- Decanting and staging

Government stakeholders

- Relationship with other BHSP projects, both at Canberra Hospital and across the Territory
- Impact on health service delivery in the Territory

Key areas of interest for external stakeholders

Patients, their families and visitors

- Car parking, accessibility and public transport
- Impact on patient care and operations
- Access to critical services, particularly the Emergency Department relocation from Building 12 to SPIRE
- Wayfinding during construction and once SPIRE is operational

Local community

- Traffic changes and congestion on Palmer and Gilmore Streets
- Impact on Garran Primary School access
- Helicopter noise
- Emergency vehicle traffic and noise
- Construction traffic, noise, dust and vibration

initial design phase, ongoing consultation is being undertaken with Canberra Hospital clinical and maintenance staff in a collaborative and iterative manner to ensure that the design meets their requirements and facilitates the implementation of enhanced Models of Care and achieves operating efficiencies. This consultation is being led by key leaders in ACT Health and CHS and supported by specialist advisors as required.

As the Project continues to develop, communication and consultation will be undertaken with a broader pool of stakeholders. This will continue to include consultation with clinical and maintenance staff, but will also include other staff and users of Canberra Hospital, patients and visitors, as well as the local community in Woden and Garran, including Garran Primary School. Effective stakeholder consultation with the local community will be critical to support planning and approvals processes and to understand and address community concerns as they arise. It is anticipated that external communications activities will be coordinated by the ACT Health Communications and Media Unit, in consultation with the ACT Health Strategic Infrastructure Unit and the CHS Communications team. Communications will align with the Whole of Government Communications and Engagement Plan 2019, in which Health is a priority area.

This Chapter provides an overview of the anticipated project stakeholders and their likely areas of interest, as well as providing a summary of the communications approach.

10.2 Our stakeholders

SPIRE is a complex project, with a broad range of internal and external stakeholders, ranging from staff at Canberra Hospital, patients and visitors, through to Territory Directorates, aged care facilities, unions, health service providers and emergency services personnel.

Project stakeholders have been split into internal (i.e. within the ACT Government) and external for discussion in this Chapter.

10.2.1 Internal stakeholders

Internal stakeholders within ACT Government are outlined below. The internal stakeholder list comprises key internal stakeholders likely to have a direct and active interest in SPIRE, including those directly involved and affected as a result of SPIRE. These stakeholders will require engagement (from inform to consultation depending on the activity) at each stage of project development.

Table 42: Internal stakeholders

Internal Stakeholder Group	Key Stakeholder
Canberra Hospital staff and ACT Health	• ACT Health and CHS staff • Canberra Hospital staff, including: ◦ Clinicians ◦ Administrative staff ◦ Clinical support staff ◦ Staff to be decanted in Buildings 5 and 24 • Project Steering Committees and Working Groups (see Section 8.5)
Other Internal Stakeholders	• ACT Minister for Health and Wellbeing • ACT Minister for Mental Health • Members of the ACT Legislative Assembly • CMTEDD • Environment Planning and Sustainable Development Directorate (EPSDD) • IFCW

Internal Stakeholder Group	Key Stakeholder
	• Australian Commission on Safety and Quality in Health Care – National Safety and Quality Health Service (NSQHS) standards • ACT Emergency Services • Community Services Directorate (CSD) • Education Directorate • Transport Canberra and City Services (TCCS), including ACT Roads (off campus road network implications), and Transport Canberra (public transport) • ACT Ambulance Service (ACTAS) • Access Canberra • CSSD in Mitchell (currently utilised by Canberra Hospital) • Other hospital facilities in the ACT (e.g. CPHB)

10.2.2 External stakeholders

External stakeholders are outlined in Table 43. The external stakeholder list comprises key external stakeholders likely to have an active interest in SPIRE and benefit from communication and engagement throughout the Project. It should be noted that the list is not exhaustive and additional external stakeholders may be consulted as part of the stakeholder engagement plan for SPIRE.

Table 43: External stakeholders

External Stakeholder Group	Key Stakeholder
Government agencies	• Commonwealth Department of Health • Other Commonwealth Departments • Key NSW Government stakeholders with respect to Canberra Hospital servicing the surrounding region including NSW Health and local councils • Australian Commission on Safety and Quality in Health Care – National Safety and Quality Health Service (NSQHS) standards
Community stakeholders	• Patients, carers and families • Local residents • Garran Primary School staff and families • Sporting groups and organisations that use surrounding facilities²⁰⁷ • Media organisations • Community councils • Community interest groups • Consumer and carer organisations • Visitors
ANU Medical School staff and students	• Teaching staff, research staff and administrative staff • Executive staff • Students • ANU Medical Faculty • ANU Medical School communications unit • Policy and administration staff
Key external hospital and health service providers	• National Capital Private Hospital • Doctors and nurses working outside the Canberra Hospital in the surrounding region

²⁰⁷ Including Phillip District Playing Field, Phillip Enclosed Oval and Woden Park Athletic

External Stakeholder Group	Key Stakeholder
	- General practitioners (GPs) and referring doctors - Potential ACT Health employees - Aged care providers
External suppliers and contractors	- Existing and potential contractors - Existing and potential suppliers
Non-Government Organisations, peak bodies and professional associations	Stakeholders may include the following: - Aboriginal and Torres Strait Islander Community Groups - ACT Mental Health Consumer Network - Allied Health Professional Associations²⁰⁸ - Alzheimer's Australia ACT Ltd - Arthritis ACT - Australian College of Midwives (ACT Branch) - Australian Medical Association (ACT Branch) - Capital Health Network - Carers ACT - Community Transport Services - Health Care Consumers' Association (HCCA) - Mental Health Community Coalition of the ACT - Pastoral Care Groups - Royal Australian College of Surgeons - Royal Australian College of General Practitioners
Academic institutions	Providers who have students on placement with CHS (e.g. The University of Canberra (UC), Australian Catholic University (ACU), Canberra Institute of Technology (CIT))
Unions	- Health Service Union (ACT Branch) - Australian Nursing Federation ACT - Community and Public-Sector Union - Liquor, Hospitality & Miscellaneous Workers Union - Professionals Australia - CMFEU

The recommended modes of communication for all internal and external stakeholders is provided at Appendix J.

10.3 Communication and consultation

10.3.1 Communication objectives

The communication objectives for SPIRE include the following:

- Receive clinical and other user / expert input into infrastructure planning to ensure project concepts and early designs meet healthcare needs and community expectations;
- Inform and engage local communities, health services staff and user groups in the infrastructure development programme as it unfolds; and

²⁰⁸ Including Australian Physiotherapy Association and Speech Pathology Australia

- Build positive public sentiment towards the project.

These objectives align with the ACT Government's commitment to engaging effectively with its citizens as outlined in *Engaging Canberrans: A guide to community engagement*²⁰⁹.

Additionally, key projects in the BHSP, such as SPIRE, the Northside Hospital scoping study and expansion of CHWC are all closely related. Consequently, a Territory-wide approach to health services planning and communication is anticipated to be maintained during planning and early design of each project. Further information on the key messages for Territory-wide health planning and SPIRE is set out at Appendix J.

10.3.2 Consultation methods

Internal and external stakeholder groups will be engaged by ACT Health and CHS throughout the development of SPIRE through a series of meetings, consultations and workshops.

Communications will be developed by the ACT Health Communications and Media Unit, in consultation with ACT Health and CHS. The Executive Group Manager Strategic Infrastructure will act as the lead spokesperson for SPIRE with support from the Deputy Director General, Director General (ACT Health), the CEO of CHS and the Minister for Health as required and at significant project milestone events.

The community will be given opportunities to provide ongoing feedback throughout the Project's development. A variety of different consultation methods will be used, including:

- **Communication and engagement tools** – tailored for internal and external stakeholders (as set out in this Chapter)
- **ACT Government's Your Say online engagement website and platform** – use of the latest tools and technologies to engage online with stakeholders and the community

The proposed tools and channels for engaging with stakeholders are set out in the table below with further detail provided at Appendix J.

Table 44: Stakeholder engagement tools and channels

Tool / channel	Internal Stakeholders	External Stakeholders
ACT Health website	✓	✓
ACT Health and ACT Government social media accounts	✓	✓
ACT Health intranet	✓	
CHS internal staff newsletter – Pulse	✓	
CHS CEO all staff emails	✓	
ACT Health Director-General all staff emails	✓	
Division-wide newsletters	✓	
Managers information kit	✓	
Director-General and Chief Executive Forums	✓	
Direct email	✓	✓
Media relations (releases, alerts, press conferences, op-eds, backgrounders with journalists)	✓	✓

²⁰⁹ https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.act-yoursay/files/2614/6724/4263/communityengagement_FINAL.pdf

Tool / channel	Internal Stakeholders	External Stakeholders
Collateral (posters/flyers in workplaces, digital screens across the campus etc.)	✓	✓
Face-to-face meetings	✓	✓
Presentations at existing scheduled staff meetings	✓	✓
Your Say website	✓	✓
Our Canberra newsletter	✓	✓
Public meetings	✓	✓
Letterbox drops (Garra residences)	✓	✓
External signage and worksite hoardings	✓	✓

10.3.3 Communication issues by project phase

Anticipated communication issues by Project phase are outlined in the table below. These will be revised as the Project progresses.

Table 45: Communication issues

Communication strategy	
Phase	Description
Project initiation	Communication will focus on: - Informing stakeholders about the facility planning process - Outlining project benefits, vision and objectives - Informing stakeholders on opportunities for engagement - Providing advice on the high-level timeline for the project's development
Facility planning	Communication activities will focus on: - Outlining project benefits, vision and objectives - Keeping stakeholders informed of achievements, milestones and critical decisions during facility planning - Receiving early design input from clinicians and maintenance staff and other stakeholders
Design and construction	Communication activities will focus on: - Keeping stakeholders informed of achievements, milestones and critical decisions - Continuing to receive design input from clinicians and maintenance staff and other stakeholders - Providing advice on the proposed decanting strategy and timing for its implementation - Informing Canberra Hospital staff, patients and other relevant stakeholders on temporary access arrangements to facilities - Informing stakeholders on key construction activities, including early works and demolition - Providing advice on any impacts on operational activities at Canberra Hospital from both a staff and patient perspective, and any temporary operational arrangements that are in place, as well as planned service disruptions - Providing information on temporary traffic impacts, both on and offsite, as well as wayfinding information for temporary access and parking arrangements

Communication strategy	
Phase	Description
Commissioning and change management	During the final pre-occupation stage of construction, communication activities will focus on: • Keeping stakeholders informed of the progress of building and operational commissioning to ensure that there is a smooth transition when operations commence following completion of construction in mid-2024 and a 6-month commissioning process • Advising staff, patients and visitors on transition arrangements from existing clinical facilities (e.g. ED in Building 12) into SPIRE • Informing clinical staff and other staff on the implementation of changes in Model of Care and / or service delivery • Providing wayfinding information to patients, visitors and other stakeholders • Advising the community on any anticipated operational impacts, such as emergency vehicle traffic and anticipated helicopter noise
Post occupancy evaluation	In the final phase of construction, communication activities will focus on: • Ongoing consultation with the local community in relation to the impact of SPIRE • Ongoing consultation with patients, visitors and staff to ensure operational phase continues to meet the project objectives • Reviewing the implementation of operational policies and changes to the models of care and service delivery

Communication of the decanting strategy will be a critical component of the overall communications plan for the Project, affecting several of the phases identified above. Consequently, a Decanting Engagement Plan will be finalised following endorsement of the Business Case, inclusive of the proposed approach for decanting.

The communication approach for decanting will include consultation with internal and external stakeholders directly affected by the decant, including:

- Current occupants of Buildings 5 and 24
- ANU Medical School (Building 4)
- Stakeholders connected with the provision of residential accommodation for patient's families

10.3.4 Previous and planned community consultation

Various community consultation activities have been undertaken to date or are planned to be undertaken throughout the planning and design process for SPIRE. These are outlined in the table below, with further detail and dates for key engagement activities provided at Appendix J.

Table 46: Planned consultations (including consultation undertaken to date)

Date	Consultation
December 2018	On December 12 2018, the new location for SPIRE at the Canberra Hospital was publicly announced by the ACT Minister for Health and Wellbeing. For the announcement, a media doorstep style media event was held at the Canberra Hospital and a new SPIRE fact sheet was developed and made available on the ACT Health website
Recently completed	• Meeting held with the Garran Primary School 11 April 2019 to communicate project updates in the context of SPIRE and its proximity to the school • Woden Valley Community Council members were informed of the overall project objectives at an information session 6 March 2019. Meeting participants were invited to sign up to an updates email list to receive periodic

Date	Consultation
	project information. Updates will be made available to the community via the ACT Health website, subscription email updates and through the Our Canberra newsletter (i.e. article on SPIRE within the March edition of the publication)
Ongoing (community)	Your Healthy Future is a series of community consultations that will be undertaken throughout 2019. The consultation is designed to understand the communities' thoughts on initiatives that are underway, including: • Better Health Infrastructure - \$756m in health infrastructure investment (including SPIRE) • Health Reform – planning for our future healthcare needs including Territory-wide Health Services • Mental Health Reform Agenda – improve our mental health service system and a new Office for Mental Health and Wellbeing • Preventative Health Strategy – developing a new strategy to support health and wellbeing The insights gained from these community consultations will help to inform key projects, such as SPIRE, and help ACT Health to build a future healthcare system that aligns with the needs of Canberrans
Ongoing (Canberra Hospital workforce)	ACT Health has commenced engagement with the clinical workforce and key staff stakeholder groups (including FM and administrative staff) on SPIRE as early design work progresses. A clinical leadership forum on SPIRE was held in November 2018 prior to the location announcement, with engagement to continue throughout 2019 under the oversight of a Steering Committee (see Chapter 8.5), including: • The establishment of specialist user groups to oversee the design and planning of construction works such as ICT, clinical procedures, and accessibility • Ongoing communications with staff
Planned and upcoming (2019)	• Online content, including: ◦ Content published on Your Say website (external) ◦ Monthly project updates in staff newsletters (internal) ◦ Regular project updates on the ACT Health website • Staging and Decanting strategy and communications plan – ongoing throughout 2019 in consultation with CHS, ACT Health and design consultants • Site signage (prior to works starting) • Letterbox drop notification to key external stakeholders including surrounding residents – to provide an overview of the SPIRE construction timeline at key milestones (e.g. demolition and site preparation notification) • Media releases for SPIRE including SPIRE site preparation and demolition
Planned and upcoming (2020-2024)	• Online content, including: ◦ Content published on Your Say website (external) ◦ Monthly project updates in staff newsletters (internal) ◦ Regular project updates on the ACT Health website • Media releases for SPIRE at major project milestones (e.g. final designs, selection of preferred contractor, construction milestones)

11 Advisor engagement plan

Key messages

- A variety of external advisors have been appointed in accordance with ACT Government procurement processes to assist the Territory to develop the project during the planning and design phase (current project phase)
- The expertise and support required from advisors will change as the project progresses and as the Territory's needs change

11.1 Proposed advisor roles

Given the scale and complexity of the project, a variety of external advisors may be appointed to assist in developing various elements of the project. The advisors required will depend upon Cabinet's decision in relation to this Business Case, the project's agreed governance arrangements (see Chapter 8.5) and the subsequent procurement process with the preferred tenderer.

To date, external advisors engaged by the ACT Government include:

- Design (Principal Consultant)
- Commercial and financial
- Technical advisors, including:
 - Cost estimation
 - Traffic engineers and consultants
 - Airspace consultants
 - Land surveyors

A list of key external advisory mandates that may be required for the next stage of the project are outlined in Table 47 below. It is noted that this list of advisors is indicative and is likely to change as the project progresses from the Business Case stage, through to procurement, construction and operations.

Table 47: Potential external advisory mandates

Key advisory mandates	Potential scope of engagement
Clinical and health services	Clinical advisory services may include: • Clinical service design and model of care advice • Service Delivery Planning Consultants
Commercial and financial	Commercial and financial services may include: • Commercial and Legal Director Workstream lead (as identified in the proposed governance structure in Chapter 9) • Market engagement, briefings and commercial advice • Transaction preparation, evaluation and negotiation Additionally, external advisor representation may form part of the Commercial and Legal Working Group (as set out in Chapter 9).
Legal	Legal advisory services may include: • Commercial and Legal Director Workstream lead (as noted above)

Key advisory mandates	Potential scope of engagement
	- Project procurement assistance, including drafting and negotiation of project documentation and probity requirements - Legislative requirements such as planning and building approvals - Probity advice across the lifecycle of the project including during the procurement process Additionally, external advisor representation may form part of the Commercial and Legal Working Group (as set out in Chapter 9)
Design and Technical	Technical design and planning advisory services may include: - Technical Director Workstream lead (as identified in the proposed governance structure in Chapter 9) - Technical design and engineering (including as part of the Principal Consultant brief and early design work) - Traffic studies (including as part of the access routes to SPIRE and the potential impact on Hospital Road and surrounding streets such as Gilmore Crescent and Palmer Street) - Airspace advice in relation to the flightpath for the helipad on SPIRE - Utilities location and geotechnical surveys - Environmental investigations (including in relation to regulated trees and flora and fauna) Additionally, external advisor representation may form part of the Technical Working Group (as set out in Chapter 9)
Commissioning	Building commissioning support through the services of an Independent Commissioning Agent (ICA)
Cost estimation	Cost estimation advice may include: - Provision of cost estimation works for the Project's capital costs - Provision of cost estimation works for the Project's operating costs and FM costs
Project management	Project Management services may include: - Planning and scheduling for major health infrastructure procurements - Provision of expert assistance on project risk assessment, project controls and assurance - Advice on the preparation of documentation and/or review and clearance processes Additionally, external advisor representation may form part of the Project Management Working Group (as set out in Chapter 9). The current governance structure also considers that the Project Director role (described in 9.1.1) may be considered for external delivery
Communications, consultation and strategic relations	Communications, consultation and strategy relations services may include: - Community engagement planning and ongoing consultation on various project aspects - Preparation of project communications materials and reports - Advice, coordination and advocacy with respect to the Australian Government, its departments, agencies and authorities Additionally, external advisor representation may form part of the Stakeholder and Communication Working Group (as set out in Chapter 9)

If the ACT Government proceeds with SPIRE, additional specialist advisory services may be required in addition to those outlined in the table above.

12 Project Timeline

Key messages

- All indicative dates listed in this Business Case are subject to a number of factors, including Cabinet decisions regarding this Business Case
- SPIRE is indicatively expected to have the following key milestones:
 - Cabinet approval of SPIRE – June 2019
 - Substantial completion of the early design – July 2019
 - Development Approval (DA) (demolition and demountable works) – July 2019
 - Early works contract award – October 2019
 - Site ready to commence demolition – November 2019
 - 50% PSP Design – May 2020
 - Main works contract award – June 2020
 - DA (excavation and groundworks) – October 2020
 - Substantial completion of early works – December 2020
 - Substantial completion of excavation – May 2021
 - Main works construction – early 2021 to June 2024
 - Commissioning – mid-late 2024
 - Operational commencement (following commissioning) – late 2024 / early 2025
- Indicative timing described herein is based upon the preliminary design progress and assumptions on the construction timeframe and delivery model

12.1 Outline

SPIRE will be one of the most significant infrastructure project planned to be undertaken in the short term at the Canberra Hospital campus by the ACT Government. The ACT Government has committed to progress SPIRE in accordance with its public commitment to complete construction by June 2024.

The proposed project timeline has been designed to align with this objective. Therefore, a streamlined approach has been adopted. A consistent focus on programme and risk management activities will be critical to minimise delays, address project constraints and proactively mitigate identified risks and constraints throughout the project's design development, procurement, construction and commissioning.

The key influences, drivers and potential constraints on the SPIRE timeline include the following:

- Commitments for the SPIRE project to be completed, noting:
 - Construction is to be completed by June 2024 with a 6-month operational commissioning period following construction prior to operational commencement
- Conclusion of design consultation activities with clinicians
- Completion of the planning and DA process, noting separate approvals will be required for the early works and the main works package. Community consultation, and resolution of road upgrades and access, as well as car parking and helicopter impacts will also be key parts of this process

- The progress of interdependent projects and other infrastructure projects currently and/or planned to be underway, including CHWC and car parking works across the Canberra Hospital. These projects are outlined in Chapter 3 and 4
- Strategy for the packaging of capital works components, particularly early works, utilities protection and relocation, demolition and construction of the modular builds
- The recommended delivery model and the necessary procurement process timing
- The timing and implementation of the proposed decanting strategy for Buildings 5 and 24. As outlined in Chapter 4, new modular builds are key to the decanting strategy for Buildings 5 and 24
- Time taken to undertake operational commissioning, particularly with respect to ICT systems, and the transition from existing facilities in Building 12 to SPIRE

Other risks to the project timeline are outlined in the Risk Register (see Appendix C).

12.2 Project timeline

Key project phases for SPIRE comprise:

- Design development
- Planning and approvals
- Staging and decanting
- Early works
- Main works construction and delivery phase

Key milestones for each phase are set out in this section. The indicative dates are based on the proposed programme (set out in Appendix G) and the proposed opening date.

It should be noted that all dates are indicative and subject to a number of factors including Cabinet decisions regarding the Business Case and other Project decisions. Actual timing will be subject to the completion of the procurement process, planning and environmental approvals and other risks.

12.2.1 Design development

Key milestones for the design development phase are set out below.

Table 48: Key milestones (design development)

Milestones (Design)	Anticipated Timeline
Early Design complete	July 2019
Procurement for Principal Consultant – Preliminary Sketch Plan (PSP) design	April 2019 – August 2019
PSP (30% / 50%) – completion	January 2020 / May 2020

Substantial completion of the early design is to be finalised by July 2019. The early design will comprise design and concept definition for SPIRE, including the decanting strategy and site studies associated with the project.

PSP procurement will follow early design and take place in mid-2019. The appointed Principal Consultant for PSP design will be tasked with preparing PSP to 30% and 50% confidence by January 2020 and May 2020 respectively.

12.2.2 Planning and approvals

Key milestones for the planning and approval phase for SPIRE are set out below.

Table 49: Key milestones (planning and approvals)

Milestones (Planning and Approvals)	Anticipated Timeline
Lodgement and Approval – DA for demolition and demountable works	May 2019 – July 2019
Lodgement and Approval – DA for excavation and main works	August 2020 – October 2020

DA approvals will be required to progress SPIRE and commence the decanting, early works and main construction works packages. As noted in Chapter 10, early and regular engagement with planning authorities and key stakeholders (including clinicians and the community) will be maintained to help to mitigate potential planning approval risks.

12.1.1 Staging and decanting

Key milestones for the staging and decanting phase for SPIRE are set out below.

Table 50: Key milestones (decanting)

Milestones (early works)	Anticipated Timeline
Decant occupants from B24	October / November 2019
Prepare B24 and B5 for demolition	November 2019 – early 2020
Demolish B8 and adjacent car park	July 2019 – October 2019
Erect demountables	October 2019 – January 2020
Decant occupants	February 2020
Executive car park ready for demolition	September 2019

As outlined in Chapter 4, the staging and decanting process is an important element of the project to ensure that demolition activities for Buildings 5 and 24 can occur and suitable accommodation is found for existing operational activities in these locations. The decanting process is anticipated to take place over approximately nine months to allow sufficient time for demolition preparation, physical decanting and relocation, and the construction of a demountable facilities.

12.2.3 Early works

Key milestones for the early works phase of SPIRE are set out below.

Table 51: Key milestones (early works)

Milestones (early works)	Anticipated Timeline
RFT process (early works)	May 2019 to September 2019
Head Contractor award	October 2019
Early works commencement	November 2019

Milestones (early works)	Anticipated Timeline
Early works completion	December 2020

This phase will incorporate a one stage procurement process over an approximate five-month period from tender document preparation to the submission of a tender evaluation report. Following Head Contractor award, the delivery period for early works is estimated to be approximately 13 months from commencement to completion.

12.2.4 Main works construction and delivery

Key milestones for the main construction and delivery phase of SPIRE are set out below.

Table 52: Key milestones (main works)

Milestones (main works)	Anticipated Timeline
EOI process (main works)	June 2019 – September 2019
RFT process (main works)	September 2019 – April 2020
Head Contractor award	June 2020
Document Readiness and Design Development	June 2020 – November 2021
Construction commencement ²¹⁰	January 2021
Construction completion	June 2024
Commissioning period	Mid-late 2024
Operations Commence	2025

The process for procuring main works is anticipated to commence with the release of an EOI in mid-late 2019, with the EOI evaluation process to be completed by September 2019.

The RFT is expected to be issued in September 2019 and finalised by April 2020 to be in a position to announce the successful Head Contractor in June 2020.

Document Readiness (DR) will take place on a staged basis from June 2020 to November 2021 to ensure that documentation is in place for excavation and groundworks (January 2021), building structure (March 2021), building façade (May 2021), internal services and finishes (August 2021), and external works (November 2021).

The main construction works are expected to take 39 months to complete between January 2021 and March 2024, with an approximate three-month programme contingency (to ensure that construction is completed by June 2024).

Main works will also comprise an excavation process, with substantial completion estimated for May 2021, in ground services and all remaining construction works over the construction timeframe.

Following completion of construction, a commissioning process will occur over a minimum six-month period prior to operational commencement for SPIRE.

²¹⁰ Includes main works required for construction – excavation & in-ground works; and all remaining works.

12.3 Project decision points

Key project decisions following consideration of this Business Case will include project and design approvals. All key project decisions will be implemented in accordance with the governance structure outlined in Chapter 8.5.

Appendix A Summary of early concept design

SPIRE

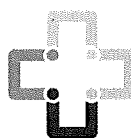
Surgical, Perioperative, Interventional
Radiology & Emergency Centre
Development at The Canberra Hospital



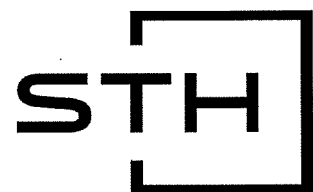
Proof of Concept Report
50% Status Executive Summary
April 2019
Rev A



ACT
Government
Health



CANBERRA HOSPITAL
AND HEALTH SERVICES



DOCUMENT CONTROL SCHEDULE

PROJECT: **SPIRE**
Surgical, **P**eroperative, **I**nterventional **R**adiology & **E**mergency
Centre Development at The Canberra Hospital

Proof of Concept Report

JOB NO: 10421.00

REVISION 50% POC Submission

DATE: April 2019

WRITTEN: STH

AUTHORISED: STH

DISTRIBUTION:

Company	Attention	Copies
Silver Thomas Hanley		Control Copy

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

Silver Thomas Hanley (STH), was commissioned in January 2019 to provide Principal Consultancy Services, supported by specialist consultancies comprising the following organizations:

Organisation	Role
Donald Cant Watts Corke	Quantity Surveyors
PTC Consulting	Traffic Engineering
Oxygen	Urban Design
Heliport Design Group	Aviation Services
Canberra Town Planning	Town Planning
Arup	Building Services Engineers
TTW Consulting	Structural & Civil Engineers
RVM Building Surveyors	Building Surveyors
Fire & Life Safety	Exova Defire
Eric Martin & Associates	Access Consultant
Food Service Australia	Food Services
AIM Medical	Equipment
Minale Tattersfield	Wayfinding

1.2 Project Definition

The ACT Government reports that community demand for health services is projected to increase rapidly over the next 15 years, and beyond. It is recognised that an investment in infrastructure to support the health care needs of the community is essential as a complex mix of population ageing, changing technology, and provider & consumer expectations, drive a significant increase in demand for health services.

Surgical, Perioperative, Interventional Radiology & Emergency Centre (SPIRE) will provide integrated services in a more efficient way, that brings greater operational efficiencies, increased quality of care, ability to perform new and Australian best care practices, and also leverage this development to drive new university and private sector investment in the ACT.

The opportunities provided by the SPIRE project include:

- Respond to unprecedented rapid population growth in the ACT and surrounding NSW regions and address growing capacity gaps.
- Redesign theatre flows to separate planned and unplanned surgeries. This will have a significant impact on reducing cancellations, increasing efficiency, reducing operational cost and optimising care delivery.
- Clinical care delivery realignment across the ACT to support Centre of Excellence enabling a consolidation of specialty services to create critical mass, lower operational costs and increase clinical safety and quality of care.

The SPIRE Centre will include a new, purpose built building with 3 options area models currently under consideration. Below is a summary of these options, and the areas to be delivered.

Option 1 (Reported as Option 1A in Cost Plan)

Modality	Area (m2)	Clinical Provision
Main Entry	500	Co-located with Emergency at Ground Level
Emergency & Satellite Radiology	4772	108 Treatments spaces including: • 7 Resuscitation Cubicles • Fast Track Treatment Bays • Adult Acute Treatment Bays • Paediatric Acute Treatment Bays • Adult Emergency Medical Unit • Paediatric Emergency Medical Unit • Mental Health Treatment Pod Satellite Radiology including: • CT Scanning • General X-Ray • Ultrasound 12 Ambulance Bays
Perioperative & Interventional Radiology Suite	8913	22 Theatres Including: • 16 General Operating Rooms • 2 Hybrid Operating Rooms • 4 Interventional Radiology Rooms 55 Day Surgical Beds
Acute Cardiac Care Unit (ACCU) & Interventional Cardiac Laboratories (ICL)	2246	ACCCU Procedure Rooms including: 3 ACCU Procedure Rooms 24 Cardiac Inpatient Beds (3 x 8 Bed Pods) Interventional Cardiac Laboratory Procedure Rooms including: • 1 Hybrid Cardiac Catheterisation Laboratory • 2 Cardiac Catheterisation Laboratories • 1 Electrophysiology Laboratory • 1 Procedure Room
Intensive Care Unit (ICU)	2862	44 Adult Intensive Care Unit Beds 4 Paediatric Intensive Care Unit Beds
Surgical Inpatient Units (IPU)	2507	64 Beds (2 x 32 Bed Wards)
Sterilising Services	1074	Located in close proximity to Interventional Suites
Helipad Retrieval Services	68	1 Roof Top Helipad
Logistics Receiving (Loading Dock)	492	

Option 2 (Reported as Option 1B in Cost Plan)

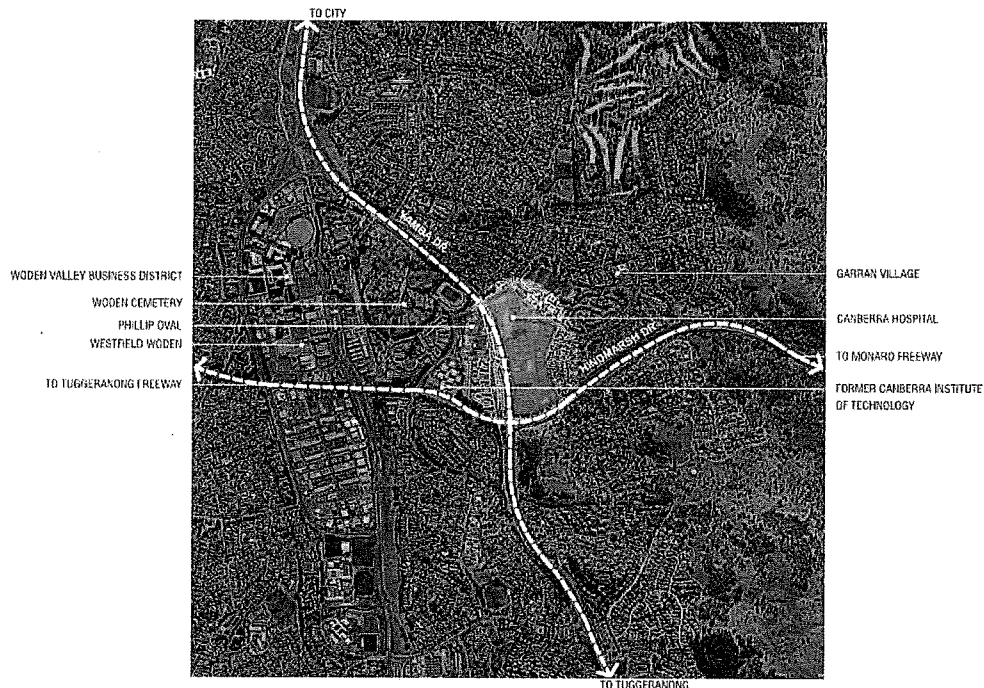
Modality	Area (m2)	Clinical Provision
Main Entry	500	Co-located with Emergency at Ground Level
Emergency & Satellite Radiology	5188	124 Treatments spaces including: • 7 Resuscitation Cubicles • Fast Track Treatment Bays • Adult Acute Treatment Bays • Paediatric Acute Treatment Bays • Adult Emergency Medical Unit • Paediatric Emergency Medical Unit • Mental Health Treatment Pod Satellite Radiology including: • CT Scanning • General X-Ray • Ultrasound 12 Ambulance Bays
Perioperative & Interventional Radiology Suite	8913	22 Theatres Including: • 16 General Operating Rooms • 2 Hybrid Operating Rooms • 4 Interventional Radiology Rooms 55 Day Surgical Beds
Acute Cardiac Care Unit (ACCU) & Interventional Cardiac Laboratories (ICL)	2246	ACCCU Procedure Rooms including: 3 ACCU Procedure Rooms 24 Cardiac Inpatient Beds (3 x 8 Bed Pods) Interventional Cardiac Laboratory Procedure Rooms including: • 1 Hybrid Cardiac Catheterisation Laboratory • 2 Cardiac Catheterisation Laboratories • 1 Electrophysiology Laboratory • 1 Procedure Room
Intensive Care Unit (ICU)	3305	56 Adult Intensive Care Unit Beds 4 Paediatric Intensive Care Unit Beds
Surgical Inpatient Units (IPU)	2507	64 Beds (2 x 32 Bed Wards)
Sterilising Services	1074	Located in close proximity to Interventional Suites
Helipad Retrieval Services	68	1 Roof Top Helipad
Logistics Receiving (Loading Dock)	492	

Option 3 (Reported as Option 2B in Cost Plan)

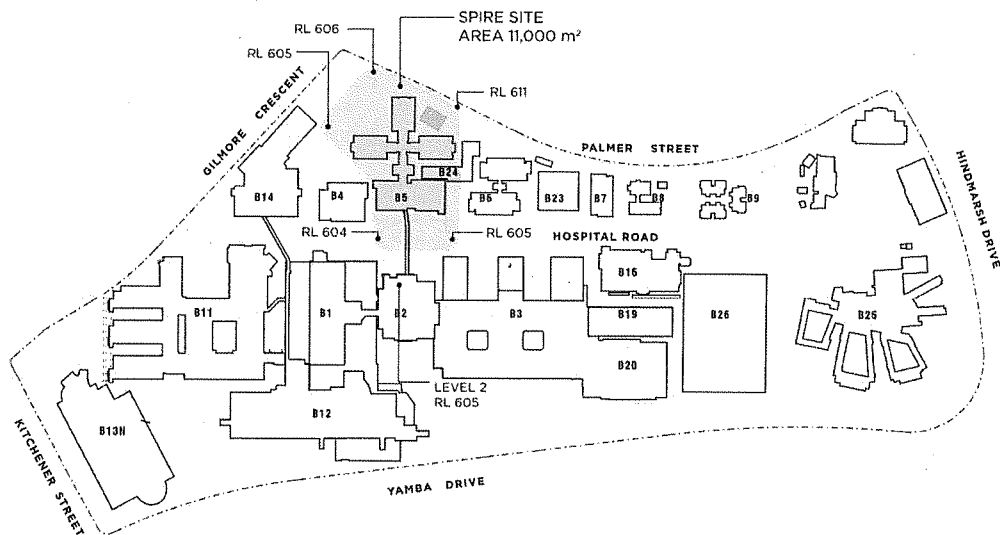
Modality	Area (m2)	Clinical Provision
Main Entry	500	Co-located with Emergency at Ground Level
Emergency & Satellite Radiology	6410	124 Treatments spaces including: • 7 Resuscitation Cubicles • Fast Track Treatment Bays • Adult Acute Treatment Bays • Paediatric Acute Treatment Bays • Adult Emergency Medical Unit • Paediatric Emergency Medical Unit • Mental Health Treatment Pod Satellite Radiology including: • CT Scanning • General X-Ray • Ultrasound 12 Ambulance Bays
Perioperative & Interventional Radiology Suite	9687	22 Theatres Including: • 16 General Operating Rooms • 2 Hybrid Operating Rooms • 4 Interventional Radiology Rooms 55 Day Surgical Beds
Acute Cardiac Care Unit (ACCU) & Interventional Cardiac Laboratories (ICL)	2753	ACCCU Procedure Rooms including: 3 ACCCU Procedure Rooms 24 Cardiac Inpatient Beds (3 x 8 Bed Pods) Interventional Cardiac Laboratory Procedure Rooms including: • 1 Hybrid Cardiac Catheterisation Laboratory • 2 Cardiac Catheterisation Laboratories • 1 Electrophysiology Laboratory • 1 Procedure Room
Intensive Care Unit (ICU)	4135	56 Adult Intensive Care Unit Beds 4 Paediatric Intensive Care Unit Beds
Surgical Inpatient Units (IPU)	2659	64 Beds (2 x 32 Bed Wards)
Sterilising Services	1438	Located in close proximity to Interventional Suites
Helipad Retrieval Services	68	2 Roof Top Helipads
Logistics Receiving (Loading Dock)	1338	

1.3 Location

The SPIRE Centre will be built within the north eastern corridor of The Canberra Hospital campus, located in Garran, ACT. The campus is serviced by the primary road networks of Yamba Drive in the north south, and Hindmarsh Road in the east west.



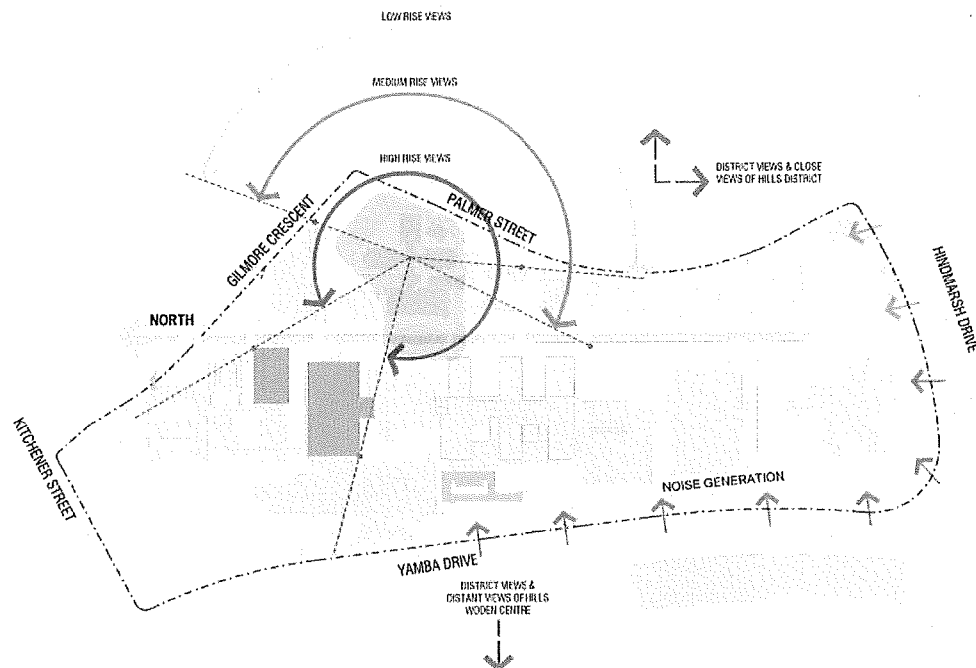
The Canberra Hospital campus is bound by primary road networks of Yamba Drive to the west and Hindmarsh Drive to the south, and residential road networks of Palmer Street to the east, and Gilmore Crescent & Kitchener Street to the north. The site parcel within the campus is located to the north east between Hospital Road and Palmer Street, and has an area of 11,000m²



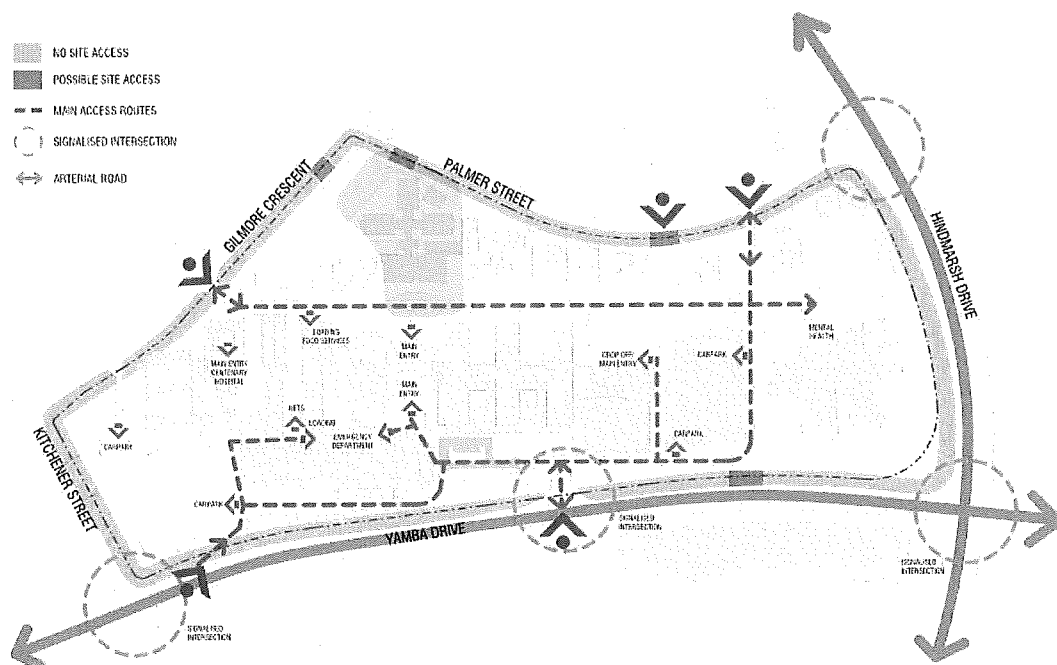
1.4 Site Analysis

The site is located directly opposite the Main Hospital Entry at Level 2 on an internal road, known as Hospital Road, on land currently occupied by an aged 4 Level brick building (Building 5) and 2 Level demountable building (Building 24). These buildings will be demolished with the occupants of these buildings to be decanted to alternative accommodation on or off campus.

The topography of the campus terrain typically falls from its highest point to the east across the campus to the north west. The proposed site for SPIRE is relatively flat. Views across the Garran precinct and beyond will gradually increase on higher floors, with views typically available above Level 3. The orientation of the site has on its long axis a northerly aspect.



Hospital Road extends in the north south through the campus connecting to Gilmore Crescent at the north and Palmer Street to the south east. Hospital Road is at the same Level at both the Hospital Main Entry and SPIRE Main Entry. Primary campus access points are via Gilmore Crescent, Palmer Street and Yamba Drive.



The primary clinical building stock is located on the western side of Hospital, with smaller structures located between Hospital Road and Palmer Street. The current flight path for helicopters follows an east west trajectory with land facilities on the car park at the corner of Yamba Drive and Kitchener Street.

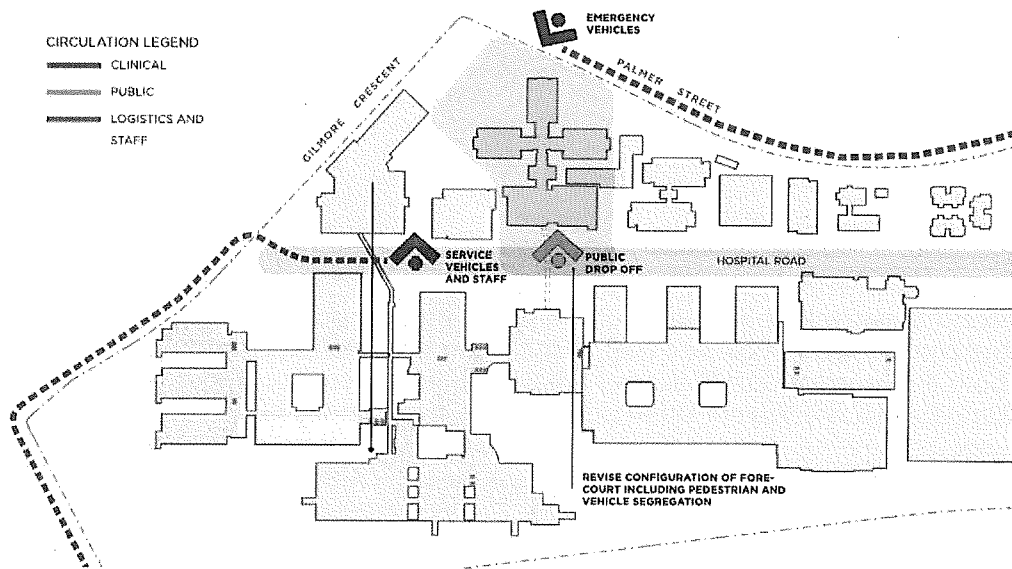
1.5 Site Access & Linkages

The traffic analysis has concluded that there are 3 primary types of vehicle movements to be considered:

- Ambulance Vehicles;
- Logistics Vehicles; and
- Public.

Separation of these vehicle streams has been considered with Ambulances enjoying a dedicated entry and exit to the Hospital Campus and SPIRE Centre. The primary access points to the campus and SPIRE Centre for each vehicle type is as follows:

- Ambulance Vehicles access via the northern end of Palmer Street;
- Logistics Vehicles to enter via Hospital Road to the north from Gilmore Crescent; and
- Public to enter via Hospital Road.

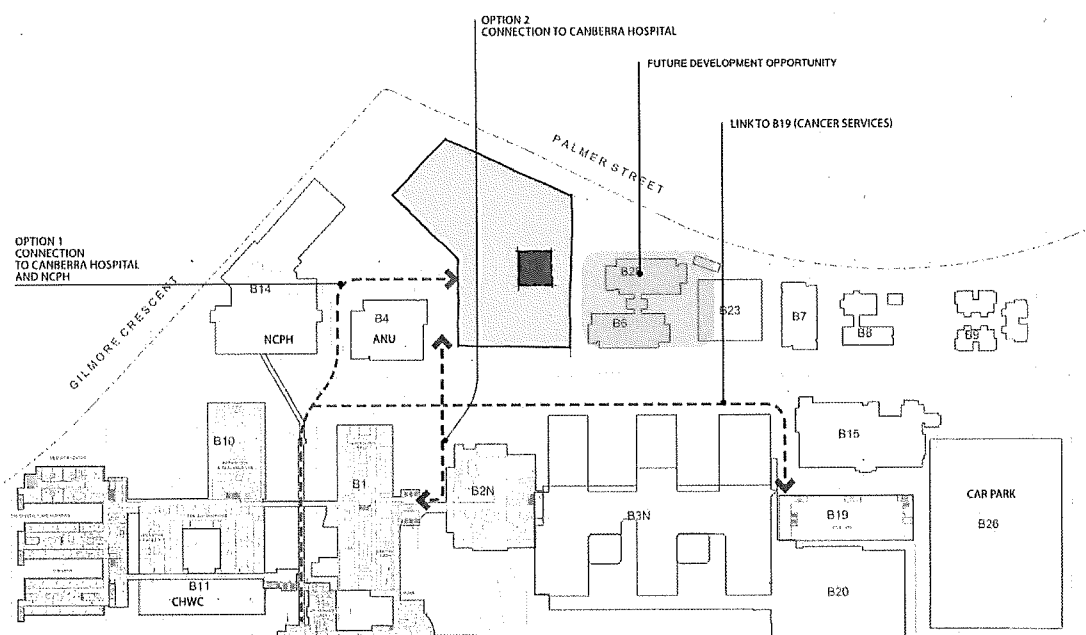


The location for the SPIRE Centre relative to the other main Canberra Hospital assets and services will necessitate the incorporation of a range of physical linkages in order to support the operational effectiveness of the facility.

A physical link will need to be established between SPIRE and the other assets and services on the Canberra Hospital site, in order to accommodate:

- Helicopter evacuation from other Canberra Hospital assets;
- Access to the National Capital Private Hospital;
- Transfers to mortuary; and
- Discharges from SPIRE may need transfer to other facilities via patient transfer vehicles. Patients will be transferred to the current Discharge / Transit Lounge

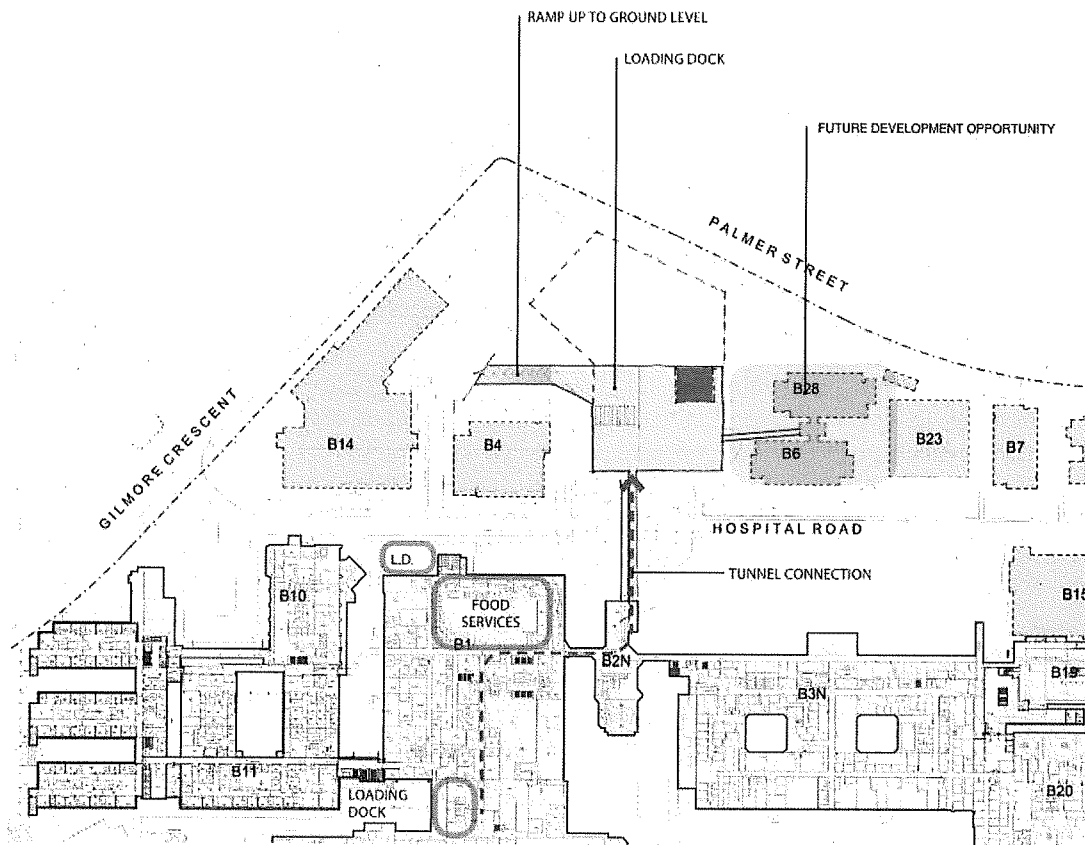
An elevated bridge link/s are being explored connecting SPIRE with the existing link way that connects B1 to the National Capital Private Hospital, and further opportunities to connect additional Canberra Hospital Assets



Concept Plan based on (Proof of Concept 50%) Masterplan Option 2A highlighting potential linkages from SPIRE to Canberra Hospital assets and National Capital. To be further explored in 100% of Proof of Concept Phase.

Logistics & Non-Clinical Support Linkages

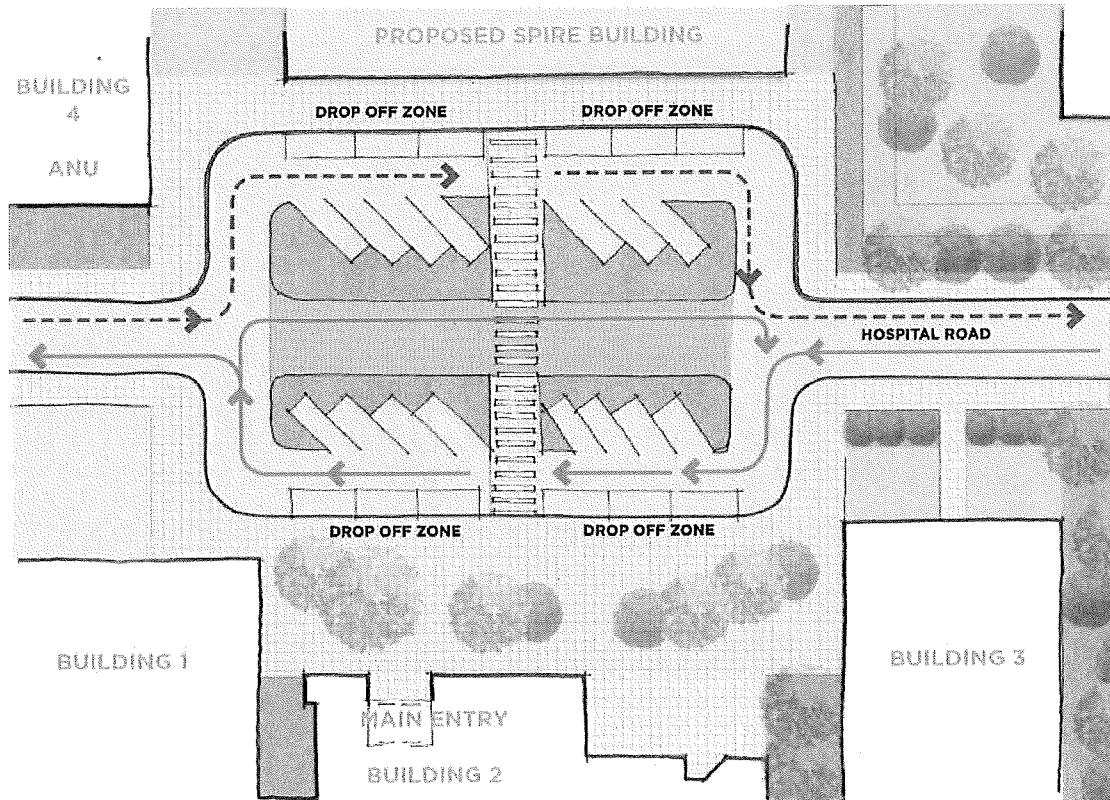
The SPIRE will incorporate a Loading Dock to support the primary functions accommodated within the facility. SPIRE will be substantially serviced from the existing environmental / hotel service functions currently accommodated at Level 1 in Building B1. A new purpose designed tunnel link will be provided under Hospital Road connecting Level 1 SPIRE to Level 1 of Building B1.



Concept Plan based on (Proof of Concept 50%) Masterplan Option 2A highlighting tunnel link below Hospital Road connecting to Building 2, level 1. To be further explored in 100% of Proof of Concept Phase.

Public

Public will access SPIRE via a shared pedestrian plaza with the Hospital Main Entry from Hospital Road. Direct public entries to SPIRE will be at the Main Entry and via Ambulant Emergency Entry. Public will not require direct access to any form of physical link between SPIRE and other Canberra Hospital assets.



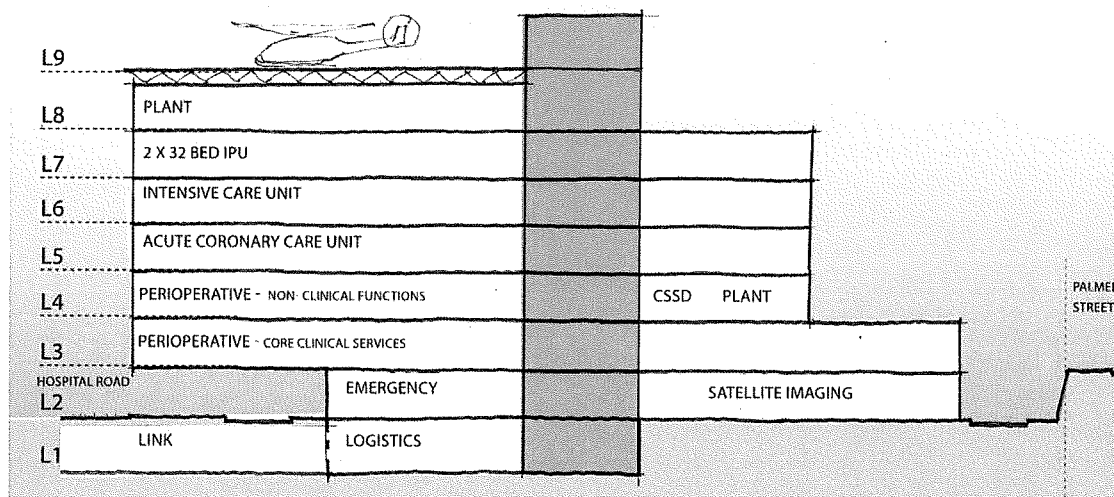
Concept Plan based on (Proof of Concept 50%) Masterplan Option 2A highlighting public access via a shared pedestrian plaza on Hospital Road opposite the Hospital Main Entry. To be further explored in 100% of Proof of Concept Phase.

1.7 Facility Planning and Asset Management

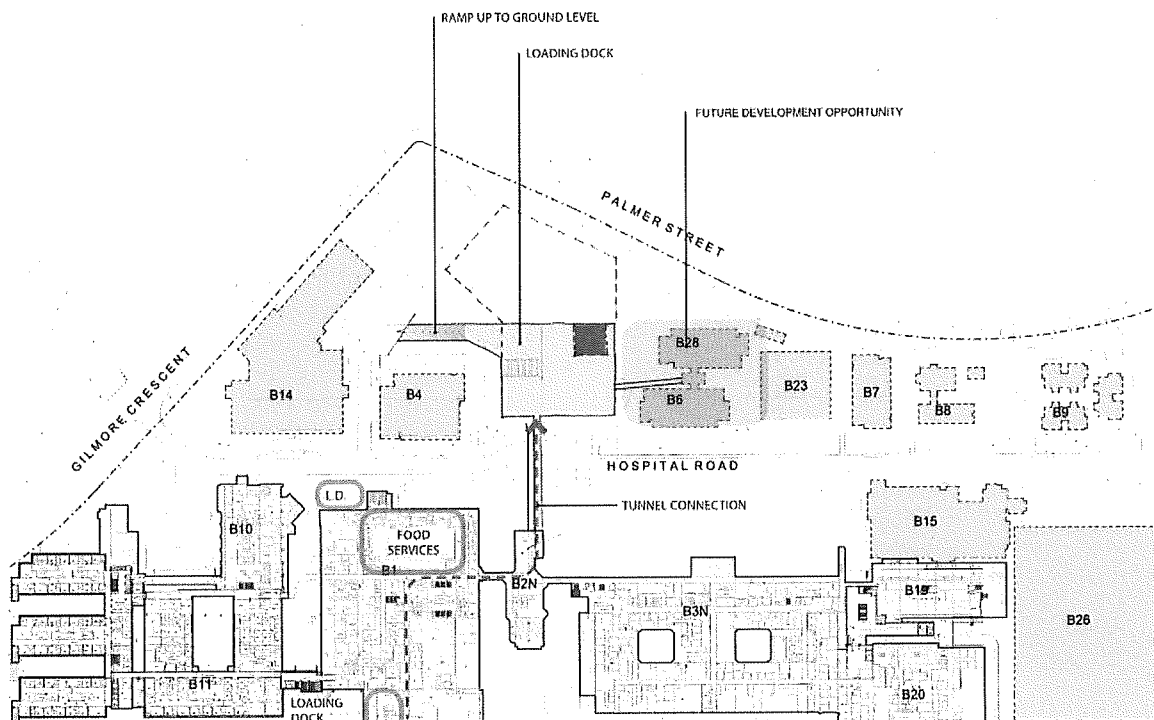
The facility planning at 50% Proof Of Concept, has been upon Master Plan Option 2A, and will deliver a compact built form with vertical and horizontal linkages. The facility outcomes include:

- Emergency & Satellite Radiology co-located with Main Entry located on Level 2 with direct access to Hospital Road Plaza;
- Perioperative & Interventional Suites with direct vertical linkages to Emergency, Sterilising Services, ACCU, ICL and ICU. This option contemplates core clinical services to be located on level 3 and non-clinical services on level 4;
- Sterilising Services with direct vertical and horizontal connections to Interventional Suites and Interventional Cardiac Laboratories, proposed to be located on level 4;
- Acute Cardiac Care Unit co-located with Interventional Cardiac Laboratories on level 5;
- Intensive Care Unit on level 6;
- Surgical Inpatient Unit to be constructed on a single floor level on level 7;
- Helipad Retrieval Service with direct vertical connection to Emergency and Interventional Suites via a dedicated "Hot Lift" located on level 9;
- Logistics Centre with Loading Dock located in Level 1; and
- Associated plant located primarily on levels 4 and level 8 with vertical duct risers servicing the floors below.

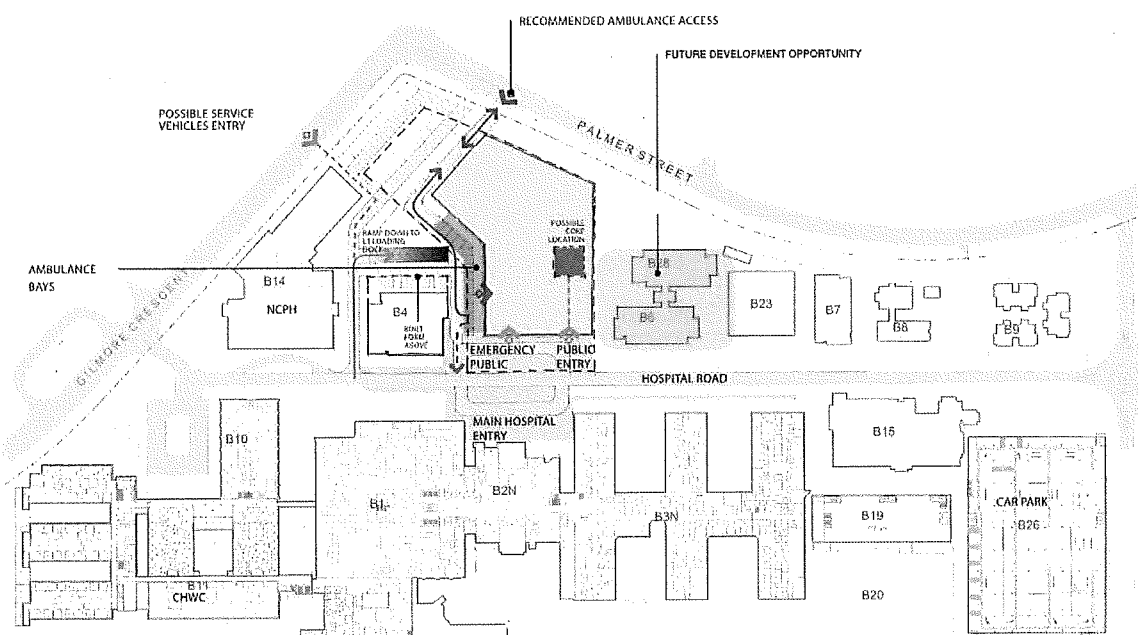
Future development opportunities have been identified to the south of SPIRE, offering prospects to further consolidate clinical delivery via the SPIRE Centre. Below is a graphical representation of the proposed facility based upon **Master Plan Option 2A at 50% Proof of Concept**. This concept will be further explored and developed through to 100% Proof of Concept.



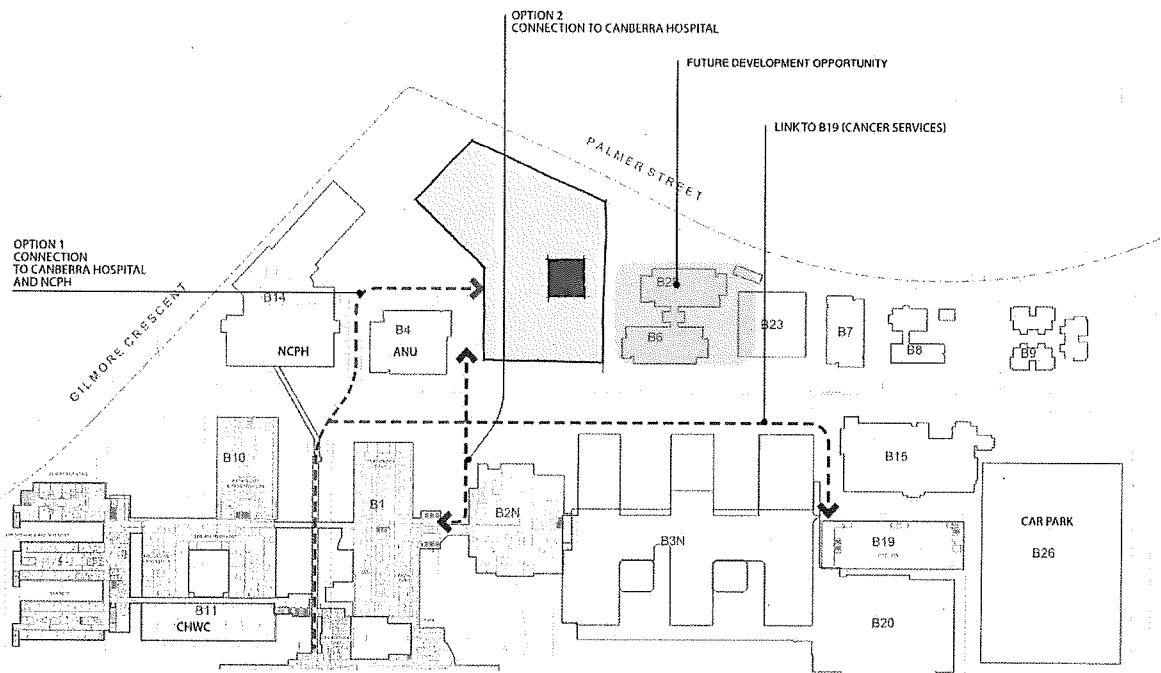
Concept **Stacking Diagram** highlighting horizontal and vertical relationships between the various modalities.



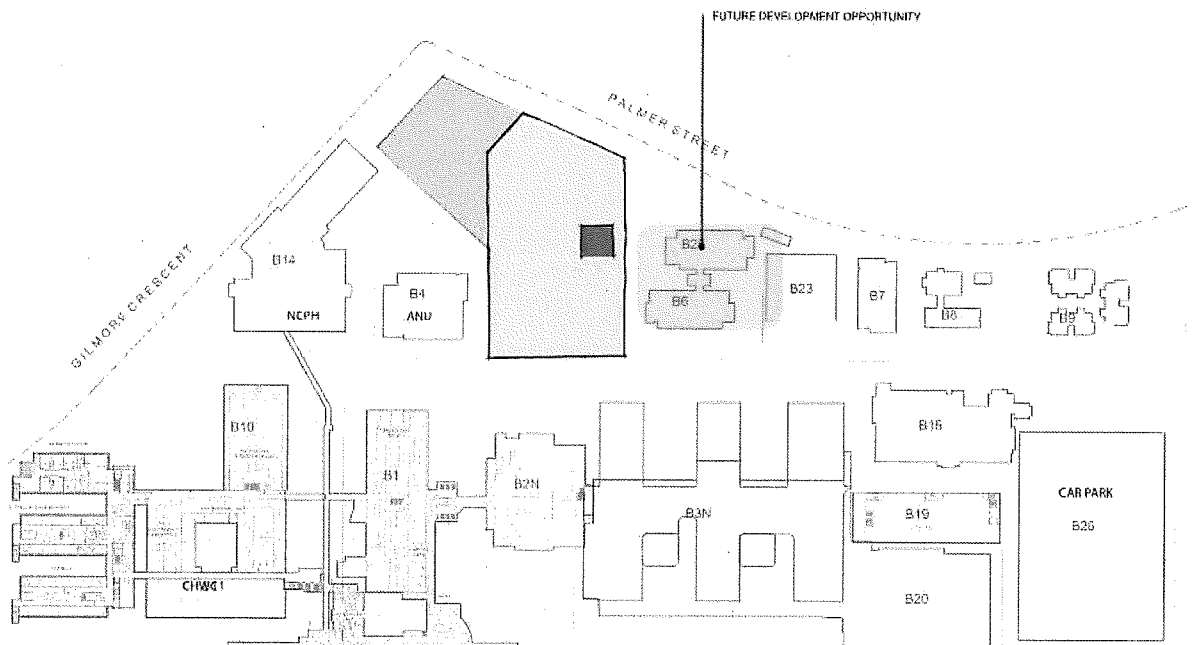
Level 1 Concept Plan - Logistics



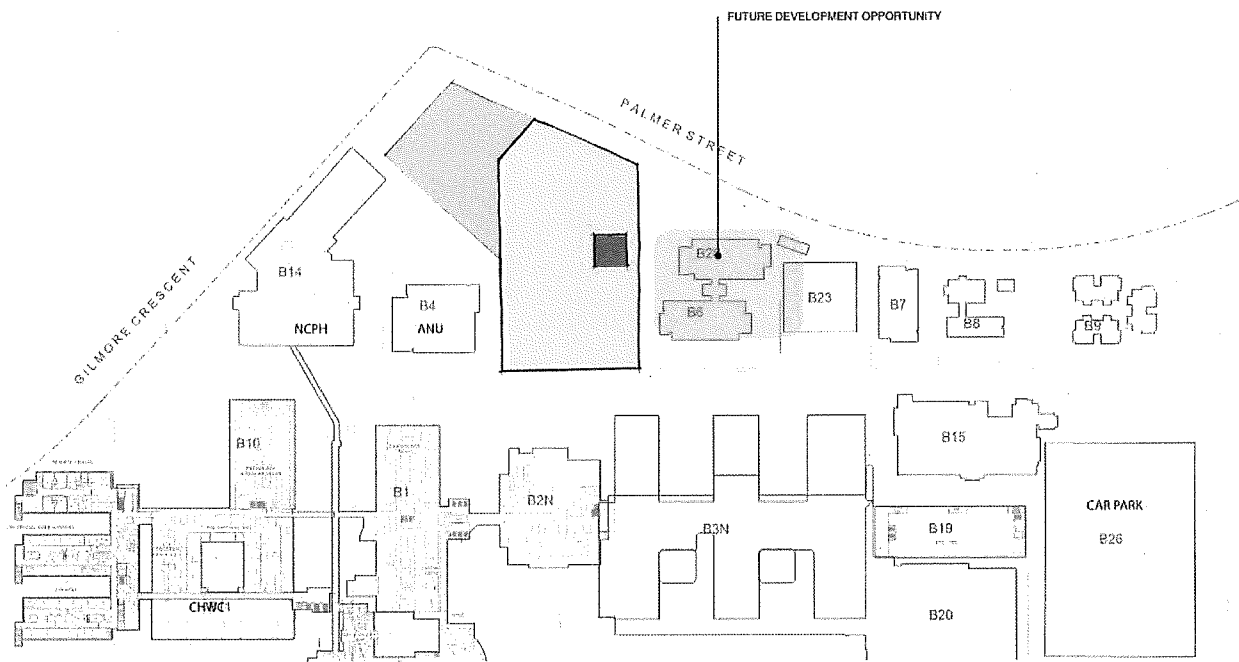
Level 2 Concept Plan - Emergency and Satellite Radiology



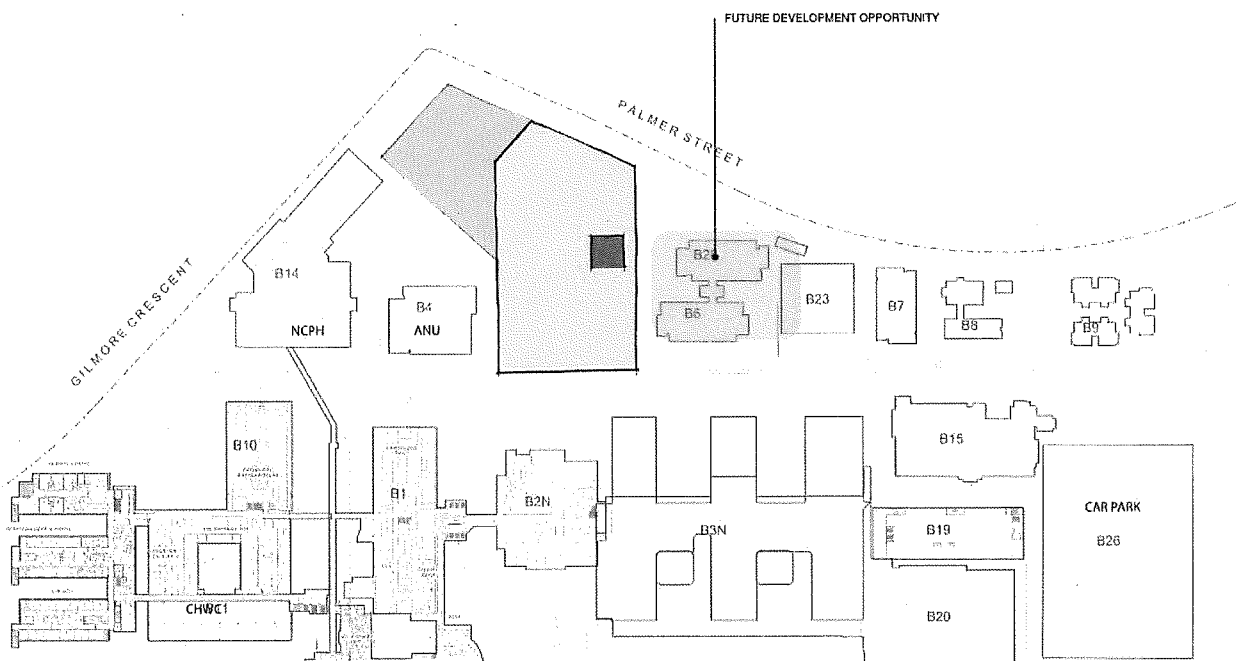
Level 3 Concept Plan – Perioperative & Interventional Suites (Core Clinical Services)



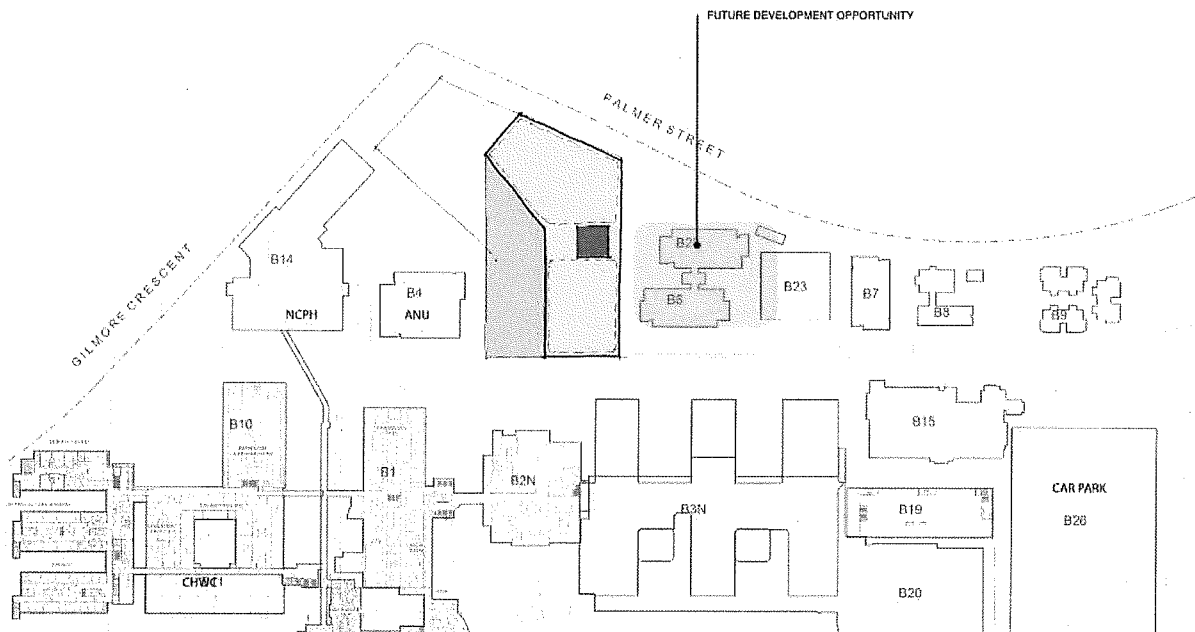
Level 4 Concept Plan – Perioperative & Interventional Suites (Non-Clinical Services) and Sterilising Services



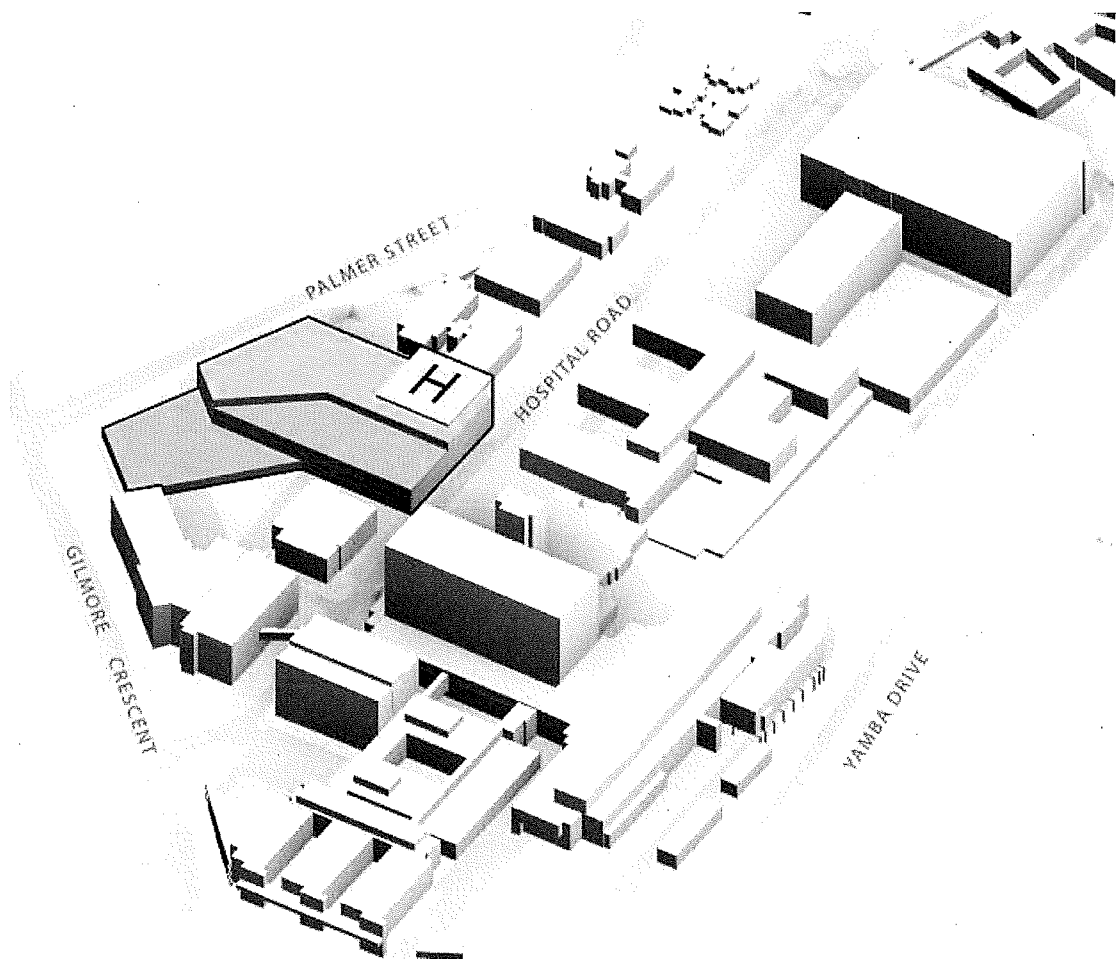
Level 5 Concept Plan – Acute Cardiac Care Unit and Interventional Cardiac Laboratories



Level 6 Concept Plan – Intensive Care Unit



Level 7 Concept Plan – 2 x 32 Bed Surgical Inpatient Units



Massing Diagram highlighting Roof Top Helipad

Design Response

Place Making

The SPIRE Centre precinct offers the opportunity to enrich the public experience of The Canberra Hospital, by means of a considered urban design approach to the proposed pedestrianised plaza, linking both the Main Hospital Entry to the new SPIRE Centre.

The entry set down for both the Main Entry and SPIRE will be segregated from Hospital Road, improving through traffic flows for vehicles on Hospital Road avoiding traffic congestion. The public plaza will be design appropriately to encourage the slowing of vehicles and to be more pedestrian centred. Treatment of the surfaces will be differentiated from Hospital Road through material changes, planting and street furniture, elevating the plaza to an important public realm.



*Artists Impression highlighting Conceptual **Main Forecourt Plaza***

Neighbourhood Character

The design response to SPIRE will be respectful of its urban setting, primarily along Palmer Street, being a residential precinct. The Centre will consider the following:

- Articulation of the fenestration to mitigate overlooking of the neighbouring properties;
- Appropriate selection of materials to be sympathetic to neighbouring properties;
- Appropriate treatment of the SPIRE Centre ground level interface with Palmer Street suitable to a residential setting; and
- Placement of the helipad to the western edge of SPIRE, and designation of flight paths to avoid residential flyovers.

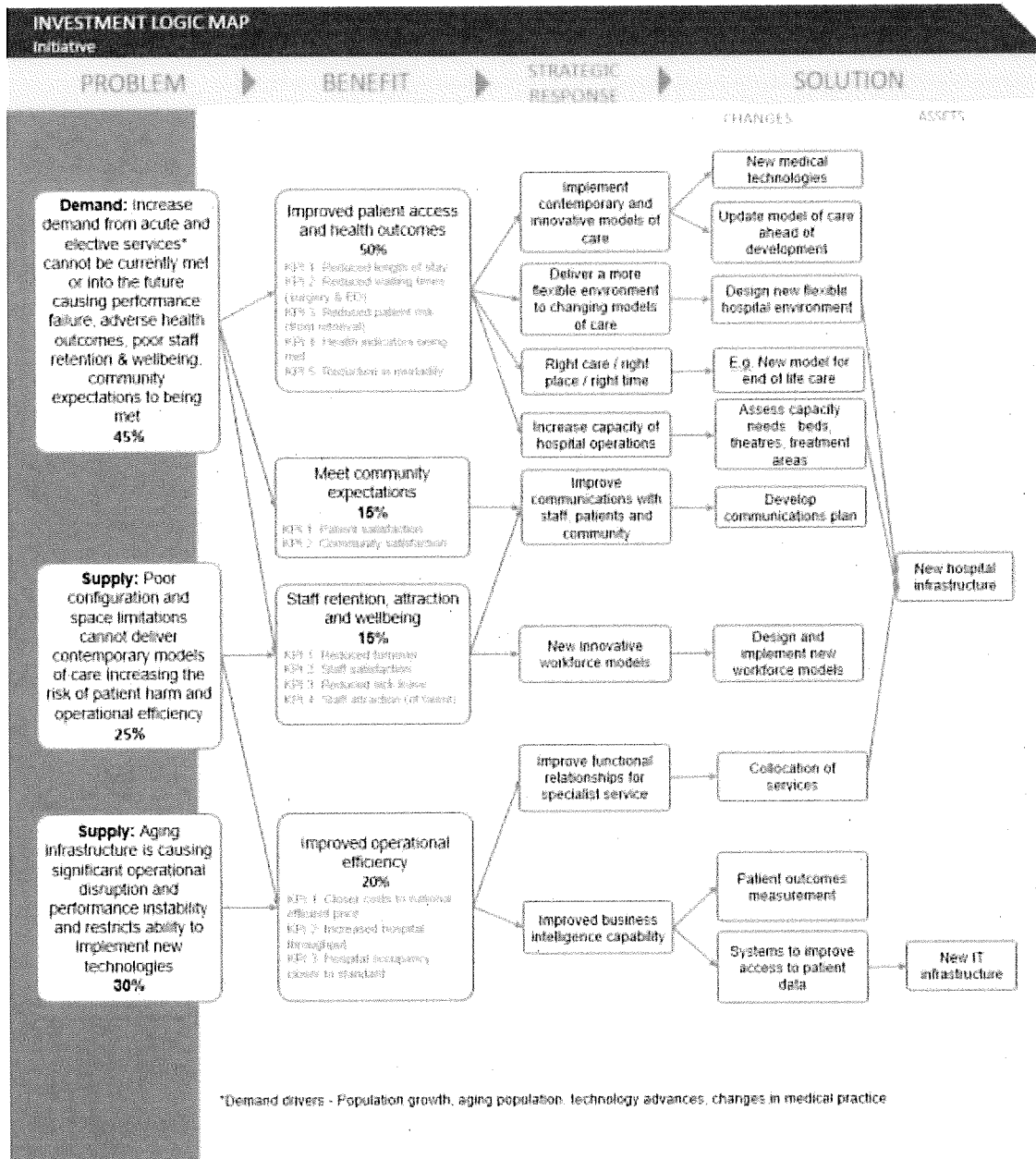


*Artists Impression highlighting Conceptual **Building Form***

Appendix B Investment Logic Map

ACT Government

SPIRE Project



Investor: ACT Government
Facilitator: Cameron Bird
Accredited Facilitator: Yes

Version no: 6.1
Initial Workshop: 21 September 2017
Last modified by: Cameron Bird
Template version: 5.0

Appendix C SPIRE Risk Register

The Risk Register for SPIRE is set out overleaf:

SPIRE Risk Register

Risk Identification & Description					Qualitative Analysis						
No.	Risk Category	Description	Comments	Potential Consequence	Mitigation Strategy	Consequence	Likelihood	Cost (Residual Risk)		Delay (Residual Risk)	Risk Rating
								Consequence Rating	Risk Rating		Risk Rating
Construction Risks											
1	Planning Risk	Risk that planning and approvals processes (excluding environmental approvals) take longer than anticipated or impose unforeseen conditions on the project	- Development application, building approvals and certifications will be required - DA process may require significant time to complete - ACTPLA may require road upgrades to be undertaken as part of SPIRE - DA and EIS will be required for relocating the flight path - Canberra residents are relatively vocal (e.g. with Curtin shop developments, Doma development in Dickson)	May lead to: - Increased costs in design and/or construction to accommodate additional scope items - Unexpected delays due to additional time for community consultation (beyond what is expected) - If a dispute arises with the community, potentially ACAT hearings (up to 18 months on previous processes) - Requirement to conduct an independent audit of traffic arrangements - Extended negotiations to obtain support for the project	May be mitigated through: - Careful management of construction and approvals process - Early and ongoing engagement with the planning approval agencies - Ensuring that the community around the hospital get something back from the project (e.g. increased amenity of street) - Early and ongoing community consultation - Development of stakeholder engagement plans - Traffic studies - Lessons learnt from previous projects	Cost & Delay	Possible	Minor	Medium Risk	Catastrophic	Extreme Risk
2	Planning Risk	Risk that interdependent projects (e.g. multi storey car park) are not approved and/or completed which are necessary precursors to obtaining approvals for SPIRE	- It is likely that a government commitment to the multi-storey car park will be a requirement to get the DA for SPIRE (minimum, gateway requirement) - Approval for external services upgrades will be required, including a new electricity feed from the substation - Potential road upgrades needed	May lead to: - Unexpected delays to commencement of construction - Increased costs in design and/or construction to accommodate additional scope items - Extended negotiations to obtain support for the project	May be mitigated through: - Detailed project management and planning to understand the sequencing and dependencies between projects at TCH - Careful management of construction and approvals process - Early and ongoing engagement with the planning approval agencies - Use of a helpad	Cost & Delay	Possible	Minor	Medium Risk	Moderate	Medium Risk

Risk Identification & Description												Qualitative Analysis			
No.	Risk Category	Description	Comments	Potential Consequence	Mitigation Strategy	Consequence	Likelihood	Cost (Residual Risk) Consequence Rating	Risk Rating	Delay (Residual Risk) Consequence Rating	Risk Rating				
					consultant - Early discussions with EPSDD and TCCS (conversation has already been started)										
3	Planning Risk	Risk that environmental approvals (e.g. cultural and heritage) take longer than anticipated or impose unforeseen conditions on the project	- Engagement currently underway with EPSDD with respect to whether an EIS needs to be undertaken - Relocation of the flight path will need to be considered - It is likely that there are some regulated trees on the site that will have to be considered - It is unlikely that cultural / heritage issues are a significant risk due to knowledge of site and previous projects at TCH campus	May lead to: - Unexpected delays and increased costs - Increased costs in design and/or construction to accommodate additional scope items or specific design requirements - Extended negotiations to obtain support for the project	May be mitigated through: - Environmental site assessments - ACT Health to undertake comprehensive assessments of planning risks (e.g. Aboriginal heritage) - Early and ongoing consultation with EPSDD to determine whether an EIS needs to be undertaken	Cost & Delay	Possible	Minor	Medium Risk	Insignificant	Low Risk				

Risk Identification & Description					Qualitative Analysis						
No.	Risk Category	Description	Comments	Potential Consequence	Mitigation Strategy	Consequence	Likelihood	Cost (Residual Risk) Consequence Rating	Risk Rating	Delay (Residual Risk) Consequence Rating	Risk Rating
4	Design Risk	Risk that the detailed design is not fit for purpose or does not align with the appropriate Model of Care for delivering services at SPIRE	- The design will need to address a range of factors including operational linkages, requirements against clinical provisions (as noted in the STH model of care working assumptions paper) - Fit for purpose can mean a variety of things (e.g. model of care, code standards) - Likely that there will be changes to clinicians / technology during the planning and construction phases - PSP and detailed design should bring out and resolve many of the issues (e.g. locking in models of care)	- May lead to: - Increased costs and/or requirements - Design revisions - Clinical service issues - Operational inefficiencies - Suboptimal patient experience outcomes - Restriction of further expansion at TCH as a result of inflexible design	- May be mitigated through: - Detailed design definition stage and project planning - Extensive engagement with medical staff and clinicians during the design phase - Adequate development of the model of care and masterplan for TCH - Use of AushFGs during planning and design - Detailed design strategy involving advanced 3D design software, sufficient collaboration with ACT Health and regular coordination with design contractors - Technical management and oversight of design	Cost	Possible	Minor	Medium Risk		

Risk Identification & Description					Qualitative Analysis						
No.	Risk Category	Description	Comments	Potential Consequence	Mitigation Strategy	Consequence	Likelihood	Cost (Residual Risk)		Delay (Residual Risk)	Risk Rating
								Consequence Rating	Risk Rating		
5	Design Risk	Risk that the design of the new facility does not integrate effectively with existing infrastructure at the Canberra Hospital including: - ICT and systems - Access and entry points - Enterprise Systems	- ICT and systems are a key issue for consideration given the importance of interconnectivity across the campus and current systems approach	May lead to: - Increased costs - Delay to operational commencement - Suboptimal service delivery capabilities as a result of integration problems - Suboptimal patient experience outcomes	May be mitigated through: - Early engagement with key business support stakeholders - Communication about the interface of the proposed site (B5 and B24) with existing infrastructure (e.g. B1, B12, CHWC, carpark, AMHU, access and entry points etc.) - Systems integration planning (ICT) - Appropriate time for building and operational commissioning activities - Developing standard specifications - Lessons learnt from previous projects - Use of test labs	Cost & Delay	Possible	Insignificant	Low Risk	Major	- High Risk
6	Design Risk	Risk that the design of the new facility does not integrate effectively with front of house patient services	- Patient flows from different areas of the hospital (e.g. admissions, maternity and pathology) has been a key consideration during the early design phases - This includes roads, existing main entrances, etc.	May lead to: - Suboptimal outcomes for stakeholders including patients and staff - Increased costs and/or requirements - Suboptimal patient experience outcomes - Reputational risk to hospital	May be mitigated through: - Detailed design and proof of concept work including analysis of physical linkages between SPIRE and other assets and services at TCH - Early consideration of patient experience outcomes and patient flows during the design phase	Cost	Possible	Minor	Medium Risk		

Risk Identification & Description				Qualitative Analysis							
No.	Risk Category	Description	Comments	Potential Consequence	Mitigation Strategy	Consequence	Likelihood	Cost (Residual Risk) Consequence Rating	Risk Rating	Delay (Residual Risk) Consequence Rating	Risk Rating
		Risk that the design does not adequately consider traffic impacts, accessibility and the separation of patient, emergency vehicles, staff, visitors, public transport, pedestrians and deliveries at TCH	- Wayfinding is important for SPIRE: there will be a period of education which is needed for the public to understand how the hospital will operate with SPIRE - Access plans are still being developed and refined, with deliveries and emergency vehicles intended to access SPIRE from Palmer Street. Hospital Street access for deliveries may be possible - Need to ensure that ambulance entry is not impeded by deliveries / patient access - Pedestrian access needs to be considered (especially across Hospital Road) - The roundabout will have increased usage due to SPIRE and will need to be upgraded to be an entry point for the hospital with appropriate signage / traffic calming measures - Impacts on residents will need to be considered due to forecast increase in road usage (e.g. residential community, school) - Consideration of pick ups and drop offs onsite, as well as surrounding areas (such as the school) and public transport requirements will be incorporated into planning	May lead to: - Increased costs and/or requirements - Change in project scope and designs - Congestion onsite and surrounding streets - Compromised access for emergency vehicles - Additional offsite road upgrades - Suboptimal patient experience outcomes - Operational inefficiencies	May be mitigated through: - Detailed traffic studies - Consultation with stakeholders to understand the impact on patient and visitor access/throughput through the hospital - Appropriate signage and wayfinding on the TCH campus and relevant surrounding streets (e.g. that emergency vehicles will use to access SPIRE) - Consultation with ACTAS and TCH with respect to ambulance requirements (e.g. sirens, speed) - updated around residential houses to minimise noise - Lessons learnt from UCPH	Cost & Delay	Unlikely	Insignificant	Low Risk	Minor	Medium Risk
	8	Design Risk									

Risk Identification & Description							Qualitative Analysis				
No.	Risk Category	Description	Comments	Potential Consequence	Mitigation Strategy	Consequence	Likelihood	Cost (Residual Risk)		Delay (Residual Risk)	
								Consequence Rating	Risk Rating	Consequence Rating	Risk Rating
9	Design Risk	Risk that the proposed decanting strategy is inadequate, such as: - New locations onsite and offsite are not fit for purpose - Car parking at the new locations is insufficient - Additional floor space is required by other services that were planned to be located in Buildings 5 or 24 in the future	- Consideration of whether decanting will take place within existing / proposed capacity at TCH site (e.g. new modular site at B8, B19 Level 3) and/or whether decanting can incorporate relocations offsite - Sensitivities associated with relocating sexual health services as it is a patient service - Location and implementation of research and training functions, given the decanting process is likely to impact previous site earmarked for future research and training facilities - Demolition due to commence by the end of this year. Decanting will need to have occurred by the start of demolition. However, there is the potential to undertake a staged decanting approach	May lead to: - Increased costs and/or requirements - Additional cost to fit out relocation sites to ensure they are fit for purpose - Delay to allow for new relocation sites to be found - Restrictions on staff / client access (e.g. car parking)	May be mitigated by: - Early and regular engagement with key ACT Government stakeholders and staff currently within B5 and B24, as well as those planned to be housed in B5 or B24 in the future - TCH master planning - Preparation of a detailed decanting strategy	Cost & Delay	Possible	Insignificant	Low Risk	Minor	Medium Risk
10	Design Risk	Risk that the design of the proposed helipad at the SPIRE site (including projected flight path) adversely impacts on operational services at TCH	- Noting that noise and potential disruptions are likely to have an increased impact on surrounding buildings to the proposed site at B5 and B24 - Previous projects (such as Geelong) have had no adverse impacts due to the operation of a new helipad	May lead to: - Increased costs including reinforcement and remediation works to support future proofing of windows - Increased costs to sound proof surrounding buildings	May be mitigated through: - Thorough planning and design (including engagement with appropriate technical and sound experts) - Stakeholder engagement with occupants of surrounding buildings and the community (as set out in risk 23)	Cost & Delay	Possible	Insignificant	Low Risk	Minor	Medium Risk

Risk Identification & Description					Qualitative Analysis						
No.	Risk Category	Description	Comments	Potential Consequence	Mitigation Strategy	Consequence	Likelihood	Cost (Residual Risk) Consequence Rating	Risk Rating	Delay (Residual Risk) Consequence Rating	Risk Rating
11	Site Risk	Risks associated with the demolition of Buildings 5,8 and 24, such as: - The risk that unanticipated contaminants (e.g. asbestos) are discovered - The risk that underground services (including fibre optics, gas, ICT) are adversely affected - The risk that vibrations, noise or dust adversely impact on surrounding operational activities and/or residents - Unanticipated safety risks	- It is expected that demolition activities will require a separate DA - It is thought that Buildings 5,8 and 24 may contain asbestos - The buildings around the proposed SPIRE site are not critical services so it is expected that vibrations should not cause many disruptions to services or impact surrounding residents - Building 24 is relatively new so expected to be relatively easy compared to the other buildings (as site conditions are well known) - Potential safety risks due to demolition - There could be impacts on the operations of surrounding buildings	May lead to: - Increase costs to remove / relocate asbestos and/or services - Delays to the start of SPIRE construction - Reputational risk due to residential complaints - Additional restrictions on building activities (e.g. operational hours, noise/dust/vibration restrictions) - Claims for property damage due to vibrations - Operational impacts on existing TCH campus	May be mitigated through: - Early site investigations - Early consultation with surrounding buildings at the Canberra Hospital and nearby residents - Allowing sufficient time for demolition - Vibration audits on nearby buildings	Cost & Delay	Likely	Insignificant	Medium Risk	Moderate	High Risk