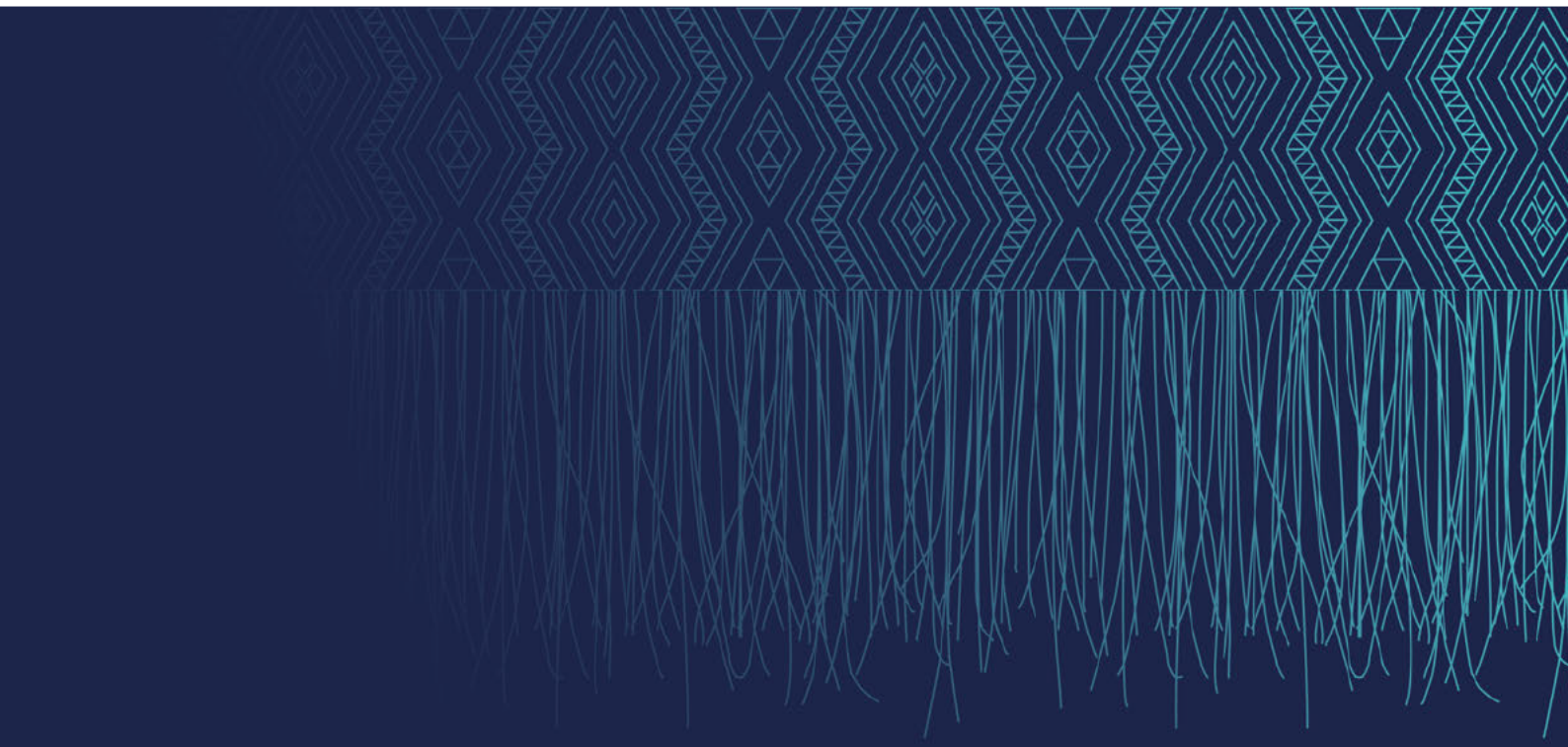
Health New Zealand
Te Whatu Ora

Detailed Business Case

Nelson Hospital Redevelopment Programme, Whakatupuranga

V1.4 AT 20 February 2025



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CONTENTS

FIGURES

TABLES

1 Executive Summary

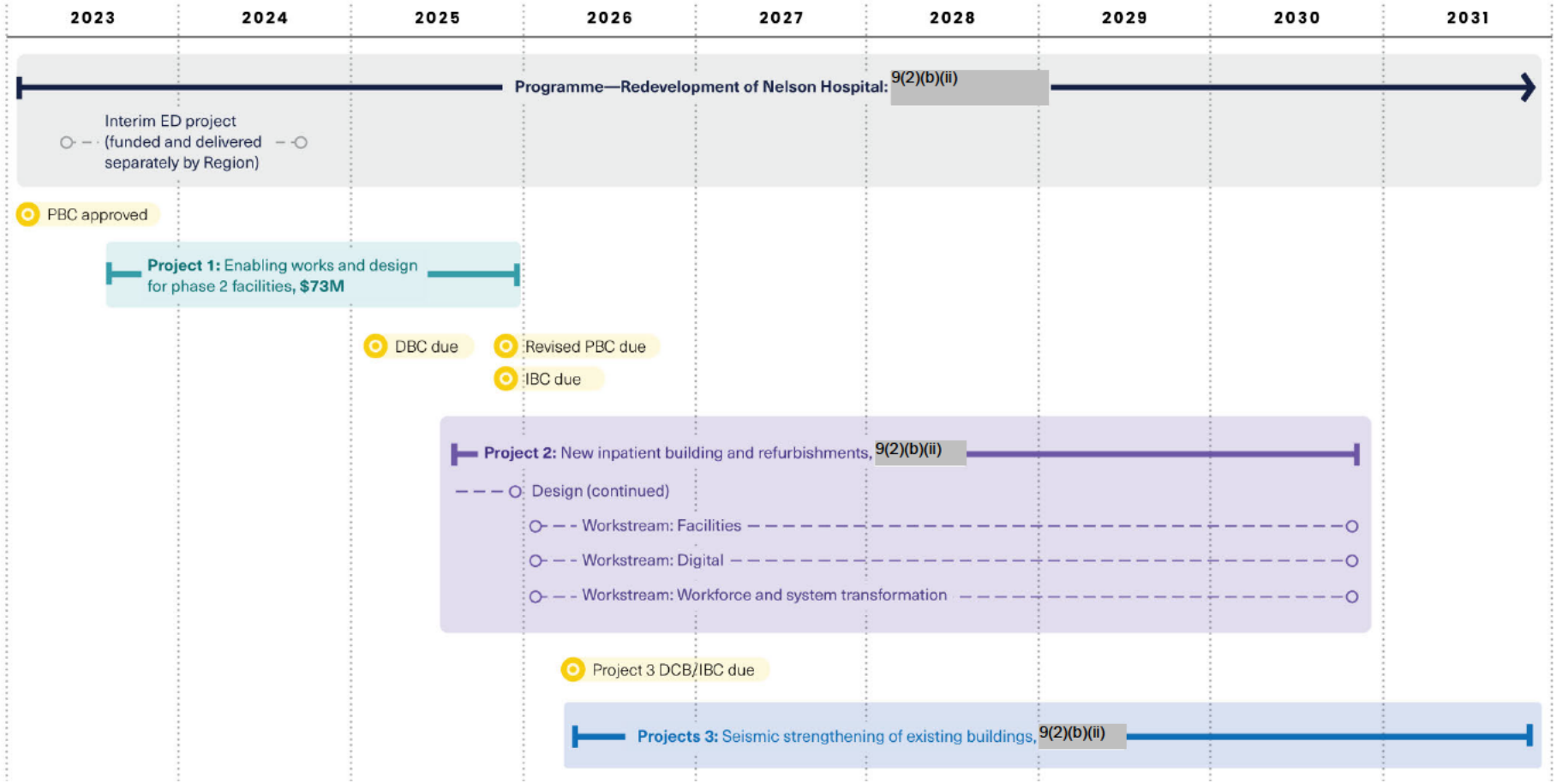
This document seeks approval to commence procurement for Project Two

This DBC sets out the arrangements for delivering **Project Two** of the Programme and seeks Cabinet approval to commence a procurement process to identify a preferred contractor (and subcontractors and consultants are required) to deliver the project. It includes this executive summary and the following sections.

- **Strategic Case:** Reconfirm the case for change.
- **Economic Case:** The preferred response to change, Project Two.
- **Commercial Case:** The commercial arrangements to deliver Project Two.
- **Financial Case:** The funding arrangements for Project Two.
- **Management Case:** The delivery arrangements for Project Two.

The following timeline at Figure 1 outlines the sequencing of the Programme with respect to Project Two.

Figure 1: Proposed timeline for the Programme as per the revised PBC and DBC

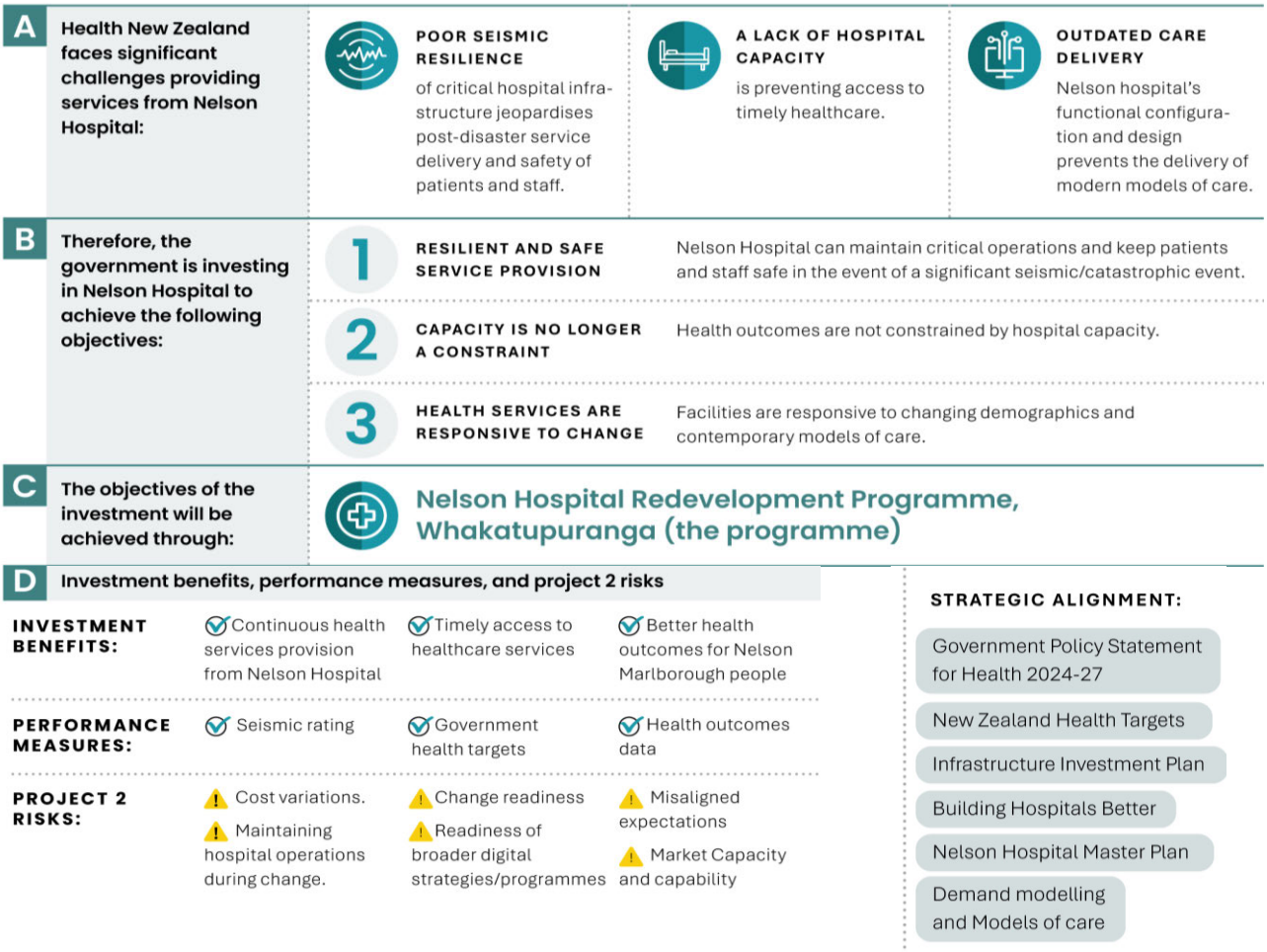


Strategic Case

The case for change for redevelopment of Nelson Hospital remains as strong as outlined in the PBC. Nelson Hospital faces significant challenges in providing services from their existing facilities.

- Poor seismic resilience of the Nelson Hospital infrastructure jeopardises post-disaster healthcare following a significant seismic event. Nelson City Council has issued Earthquake-prone Building notices for key infrastructure within the hospital, and remediation or vacation of these buildings is required by 2028.
- Nelson Hospital's capacity has been exceeded by demand, and this will continue to worsen as the population continues to grow. The current existing deficit of beds is 16;[1] this is projected to rise to 53 beds by 2043.
- Nelson Hospital's current design and configuration are outdated, which impedes adoption of contemporary best practice and modern models of care. These outdated facilities are preventing improvements to health equity, overall patient experience and time efficiencies.

The case for change and the objectives of investing in Nelson Hospital are outlined in the following diagram.



[1] Based on the new nationally standardised demand modelling methodology.

Economic Case

The Economic Case sets out the critical success factors for Project Two and a thorough assessment methodology for identifying alternative options to detail how the benefits of investment can be realised. The preferred option has been identified as:

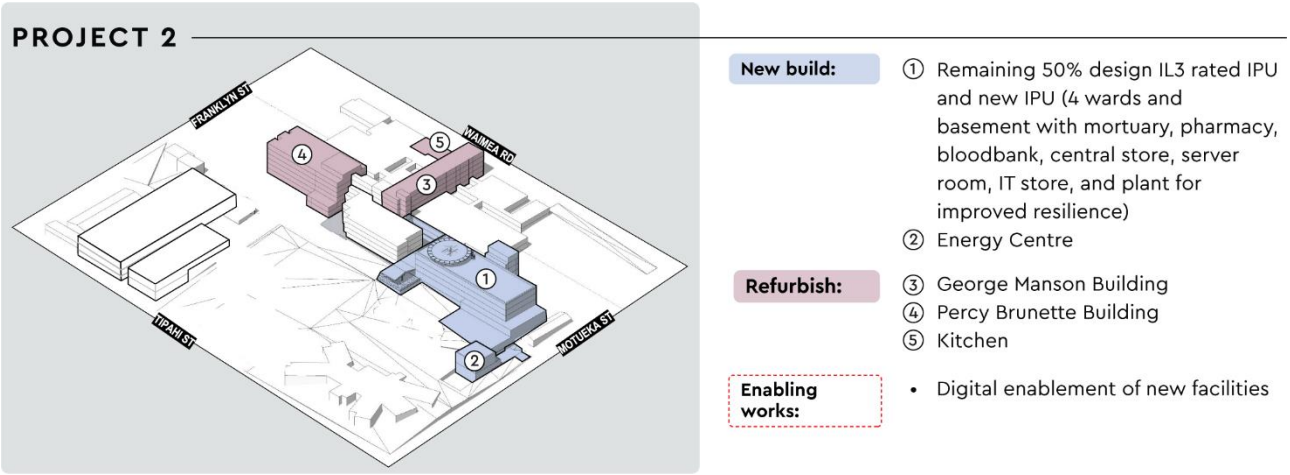
Dimension of choice		Option 5.3
Scope	Facilities	✓
	Nationally aligned and standardised digital infrastructure and solutions	✓
Scale		Meets clinical demand to 2043
Standard		IL appropriate for clinical / non-clinical standards, Greenstar 5, standardised facility design
Location		Nelson Hospital campus as per master plan
Implementation		Delivered through three work packages
Funding		9(2)(b)(ii)

The development of new facilities will be based on standardised hospital design guidelines that have been developed by Health NZ, design teams and engineers, and that use proven methodologies in efficient and effective hospital developments internationally. The construction standard will be appropriate, and will consider operational and patient flows, with a principle that the campus must function at every stage of development, not just at the completion of the Project.

The Project will be delivered from 2025–2030, with minimal disruption to the ongoing operation of Nelson Hospital and the delivery of hospital and specialist services. The Economic Case summaries the preferred option's scope, scale, standard, location, funding and implementation approach. The three main work packages are shown in Figure 2:

1. New Inpatient Building
2. New Energy Centre
3. Refurbishment of George Manson and the ground floor Percy Brunette

Figure 2: Project 2 Work packages



The delivery of the work packages is phased as outline in Firgure 12 below.

Figure 3. Summary of Project Two work packages

9(2)(b)(ii)

The following page has the high level summary of the revised programme across the integrated workstreams.

Commercial Case

The Commercial Case summarises Health NZ's commercial arrangements and procurement approach for Project Two. It builds on key lessons learned since the PBC, including:

- the need to balance Health NZ's needs with market capacity to deliver facilities
- risk recognised with the traditional delivery model that leaves design risk with the client resulting in frequent cost and programme challenges across the portfolio

- careful management or design and cost risk, designing out risk early to avoid paying premiums for unknown design risk
- a right-sized delivery model that priorities refurbishment and optimising cost efficiencies for new builds, and
- a staged delivery model.

In response to these learnings and Health NZ strategy, a design and build model, coupled with Early Contractor Involvement (ECI) has been identified as the preferred approach to delivering Project 2. This will help reduce design and construction risk through early involvement of the contractor in the design process and continuous iterations of design and cost estimates.

The Project Two Procurement Plan reflects a right-sized, standardised, stage approach to development that is appropriate and prioritises clinical demand and facility conditions to match regional market capacity.

- 9(2)(b)(ii) [redacted]

These timeframes are tight but must be maintained to ensure all earthquake prone building notices can be removed by 2028.

In addition, standardised contracts and contract management processes have been developed and matured by Health NZ since the PBC.

9(2)(b)(ii) [redacted]

[redacted]

Figure 4: Commercial case summary – Project Two

9(2)(b)(ii)

Financial Case

9(2)(b)(ii)

Health NZ has modelled the impacts of the Programme on its financial statements. 9(2)(f)(iv)

The Health NZ Digital team have provided costs for the digital elements for infrastructure, FF&E and applications. The costs allow for internal resourcing and professional fees to develop the systems and innovation where not currently developed.

9(2)(b)(ii) used multiple methods to triangulate a cost estimate for the preferred options, including functional area estimates and elemental estimates. Further allowances have been made given the Programme's regional location and the impact this can have the market appetite and costs. The following table provides a breakdown of their cost estimates.

The estimate for Project Three is indicative and will refined once further due diligence and design is completed and a specific business case developed. Costs in the table below are inclusive of contingency and escalation.

Workstreams	Project works	*Base estimate*
Project One (already appropriated)	9(2)(b)(ii)	
Project Two		
Project Three		
	TOTAL	9(2)(f)(iv)

Management Case

The Management Case describes the methods and approaches Health NZ will use to ensure successful delivery of Project Two within the context of the wider Programme.

The overall Programme has clear governance and management structures to ensure successful delivery of the whole redevelopment, and support from a Project Management Office function. Clinical representation is included at all levels of Programme and Project governance and management. In addition, the Director of the Programme and Project Two has considerable experience in delivering hospital infrastructure projects, including the new acute services building at Christchurch Hospital.

Project Two will be delivered using the Infrastructure and Investment Group's Investment and Delivery Framework Cycle. This framework is also being used for other redevelopments in the RHRP; this consistent approach will ensure that the redevelopments are delivered in an efficient and effective manner that enables continuous improvements. There are clearly defined roles and responsibilities in Project Two to ensure focused and effective governance and management, and a detailed project schedule with key milestones.

A detailed change management and stakeholder engagement plan has been developed that reflects the high profile of the Programme and interest from the community. A key feature of this is communicating frequently with staff and developing a "no surprises" approach to communicating and reporting with Ministers and Health NZ leadership.

Health NZ will report back to Cabinet within 12 months and report to Treasury at regular intervals on the actual level of benefits achieved compared with those approved in the DBC. The benefits will be further defined in the revised PBC and the Implementation Business Case (IBC). Health NZ's IIG team owns the maintenance of registers and plans for risk management across the Programme and Project Two. Risks are continually reviewed in a comprehensive and rigorous way and are escalated internally or externally as required.

2 Background

In 2023, Health New Zealand (Health NZ) submitted a programme business case (PBC) for the redevelopment of Nelson Hospital, Nelson Hospital Redevelopment Programme, Whakatupuranga (the Programme). The PBC was prepared following a Gateway Review of the DBC to seek clarity on the overall programme of work required to redevelop Nelson Hospital. Previous business cases had focused on delivering the redevelopment as one project, but it had become evident that a programme approach was required to deliver the outcomes the redevelopment sought to achieve. The PBC superseded all business cases completed up until 2023.

The PBC signalled that this investment totalled $1,098 million and received approval of an appropriation of $73 million for Project One of the Programme for enabling works and design.

Since the submission of the PBC in 2023, many changes and advances have taken place within the Programme:

- a matured approach to programme delivery and the proposed build by Health NZ
- alignment with the Government's strategic direction for health
- the commencement of an interim emergency department facility, and
- Gateway review of a draft detailed business case for Project Two of the Programme.

The Gateway review recommended:

- development of a revised PBC for the Programme as a hybrid business case of a detailed business case (DBC) with a revised PBC, and
- improvements to strengthen the DBC for Project Two.

Both these recommendations are included in this document.

Health NZ submitted this DBC and an Assurance of Action Plan as part of the Gateway Review in October 2024. An Amber confidence rating was received. The business case process sees the improved DBC being submitted to Cabinet in March 2025 and t the revised PBC will be submitted mid-2025 when more detail is known on the outer phase projects as design and cost certainty progresses. An implementation Business Case is provisioned for prior to the Design and Build Contract execution. The timing of this is to be confirmed. Any subsequent projects will be delivered through a separate detailed/implementation business case process. Figure 5 shows the timeframe outlining the business case process for Nelson Hospital.

Figure 5: Timelines for the Nelson Hospital redevelopment business case programme

This document outlines the proposed PBC case changes and the DBC for Project Two. It seeks Cabinet approval of a new preferred option, in order to continue design and commence a procurement process to identify a preferred contractor (and sub-contractors and consultants as required) to deliver Project Two.

2023 Programme business case

The PBC set out a programme of work over the next 15 years for the redevelopment of the hospital. It comprised of eight interdependent and discrete projects that had been sequenced over the programme lifecycle to reflect the complex operating environment of the hospital campus. An overall cost estimate had been provided for the programme, with greater cost certainty for those projects nearer to the commencement of the programme than those in the outer years. The PBC was approved in June 2023 with a **signalled budget of $1,098 million**. The following diagram outlines the PBC.

Nelson Hospital Redevelopment: Original Programme Business Case (PBC) Overview

A Health New Zealand faces significant challenges in providing services from existing infrastructure

CHALLENGES	NATIONAL	NELSON HOSPITAL
Earthquake Prone Building (EPB) stock	3%	7%
Deficit of hospital beds	500	34

B Alignment between Health New Zealand strategy and Nelson Hospital redevelopment

TE PAE TATA INTERIM NZ HEALTH PLAN 2022
As a part of Health New Zealand, Nelson Marlborough will need to be aligned with this direction in order to contribute to achievement of national priorities.

TE WHATU ORA SOI 2022–24
The programme needs to align with the strategic direction set out in the Statement of Intent (SOI). This includes Output Class 5 on Capital Programmes.

WHAKAMAUA: MĀORI HEALTH ACTION PLAN
The programme needs to align with the plan's high-level outcomes by prioritising Māori health equity.

HE KOROWAI ORANGA: MĀORI HEALTH STRATEGY
While the new Māori health strategy is in development, this is the most recent strategy available and provides useful context for the programme.

C Health New Zealand faces significant challenges providing services from Nelson Hospital:

The Nelson region has a high seismic risk due to the Alpine fault; the sparse distribution of its population and poor seismic resilience of critical hospital infrastructure could jeopardise post-disaster service delivery following a severe seismic event (40%).

Changing population demographics, health needs, expectations, and care growth are not met by current facilities which compromise service delivery, including the ability to address Māori health equity (35%).

The functional configuration and design of facilities prevent innovation and opportunities to improve operational efficiencies, quality of care, patient experience and deliver Kaupapa Māori approaches (25%).

D Therefore, the Government is investing in Nelson Hospital to achieve these objectives:

1. Māori health needs are met in order to improve equitable health outcomes.
2. Critical health services can continue to be provided in the event of a significant seismic or other catastrophic event.
3. Facilities are responsive to changing demographics, contemporary models of care and Kaupapa Māori models of care, now and in the future.
4. Health services are delivered using staffing and resources appropriate to the level and setting of care, and which prioritise Māori health equity.

E Investment objectives will be achieved via:

Nelson Hospital Redevelopment Programme, Whakatupuranga (the programme)

F Which is made up of three workstreams:

1 WORKFORCE AND SYSTEM TRANSFORMATION (WST):
Supports the Facility workstream by implementing and enhancing models of care required to meet new and changing demand.

2 FACILITY:
Physical redevelopment of the Nelson Hospital campus, and the predominant focus of this PBC.

3 DIGITAL:
Supports virtual care and base IT functionality for the new facility. Is a key enabler of the Facility workstream and focuses on advancing the region's digital maturity to help deliver modern models of care.

G Workstreams are the scope of the PBC and will deliver these benefits:

Continuity & resilience of service delivery	The hospital can continue to provide critical health services in the event of a major seismic event or other disaster and can meet future health needs of a growing population.
Increased quality in service provision	Services provided are patient centred, safe, efficient, effective, equitable and timely.
Equitable health outcomes	Services provided are equitable, culturally safe, appropriate and contribute to lifting Māori health outcomes.
Flexible and sustainable service provision	Hospital services will be designed in a flexible way to accommodate future technology and MoH changes.

H Programme risks

MEETING CLINICAL AND OPERATIONAL REQUIREMENTS
Funding constraints focus on cost rather than clinical and/or ongoing operational requirements, reducing the ability to realise clinical and efficiency benefits.

APPROVAL PROCESSES
The PBC approvals timeline is delayed leading to a consequent programme delay.

MISALIGNED EXPECTATIONS
Misaligned expectations resulting in reputational damage through adverse public, staff and media reaction to key project events and incidents.

HEALTH SYSTEM REFORM
Project directions change due to decisions made by the Health New Zealand and Te Aka Whai Ora as reforms progress.

LONG-TERM FUTURE PROOFING
Allocation of responsibilities and risks between Health New Zealand stakeholders is not clearly defined.

ROLES AND RESPONSIBILITIES BETWEEN HEALTH NEW ZEALAND STAKEHOLDERS
Funding fails to allow for growth beyond the 20-year planning horizon, thereby restricting capacity of facilities to respond to changing demand.

Programme Whakatupuranga $1.098 billion

PROJECT 1: ENABLING WORKS & DESIGN — JUN 2023

PROJECT 2: INPATIENT & ACUTE SERVICES — MAR 2025

PROJECTS 3–8: OUTPATIENT, STERILE SERVICES AND SUPPORT INFRASTRUCTURE & FACILITIES — NOV 2031 to MAY 2036

The case for change

As part of the Te Waipounamu Region, Health NZ – Health New Zealand (Health NZ) Nelson Marlborough (Nelson Marlborough) covers the top of the South Island (Te Tau Ihu), specifically the Nelson, Tasman, and Marlborough regions. Nelson Marlborough provides healthcare services to a population of 169,700 people across an area of 22,700 square kilometres (km^2). This includes Golden Bay (approximately 80 km from Nelson), Nelson, Picton (approx. 139 km from Nelson), Murchison (approximately 123 km from Nelson) and Blenheim (approx. 120 km from Nelson).

Nelson Marlborough provides care from two secondary hospitals (Nelson Hospital and Wairau Hospital in Blenheim), the Nelson Marlborough Public Health Service, and multiple community services. Additionally, Nelson Marlborough also relies on Capital Coast/Hutt Valley and Canterbury to provide some tertiary/specialised services. Health NZ faces significant challenges in providing services from their existing facilities, particularly at Nelson Hospital.

Seismic resilience

The poor seismic resilience of critical Nelson Hospital infrastructure jeopardises post-disaster healthcare following a significant seismic event. A significant earthquake at the top of the South Island has a high probability of occurring. In Nelson City alone there are eight active or potentially active faults. It is critical that Nelson Hospital remains operational post a significant event scenario due to the sparsely distributed population it serves, as access to surrounding hospitals that can provide post-disaster care is heavily restricted.

In 2020, Nelson City Council issued Earthquake-prone Building (EPB) notices for the George Manson building, Percy Brunette building, Boiler House, and Chimney. These EPB notices require remediation or vacation of these buildings by 2028. As the George Manson and Percy Brunette buildings contain and surround critical site services, a significant earthquake would likely significantly reduce Nelson Hospital's post-disaster functionality.

Capacity

Nelson Hospital's capacity has been exceeded by demand, and this will continue to worsen as the population continues to grow. Nelson Marlborough's population is growing and ageing. Between 2018/19 and 2040/41, the population is projected to grow by 9.6%. To meet existing demand across all services, the PBC demand modelling signalled deficit of 34 beds; this was projected to rise to 94 beds to meet 2037/38 demand.[2] This increasing demand is leading to delayed care: some patients assessed in the Emergency Department cannot be admitted due to a lack of capacity.

Design and configuration

The dated facilities are preventing improvements to health equity, overall patient experience, and time efficiencies via the introduction of modern models of care (MoC). The design and configuration of Nelson

[2] Demand modelling as indicated at the time of the PBC development.

Hospital facilities (particularly room sizes and components, ward sizes, corridors, vertical clearances, and data and digital systems) do not allow for contemporary best practice generally, or Kaupapa Māori and culturally safe care. These constraints have flow-on effects that reduce hospital efficiencies and adversely affect patients and staff, such as delayed decision-making, prolonged hospital stays and delayed or cancelled surgeries. The lack of data and digital infrastructure prevents virtual health clinics and telehealth capability that would reduce hospital congestion and lower healthcare costs.

These challenges are also significant in perspective of national hospital facilities and as such the redevelopment of Nelson Hospital is high on Health NZ's investment priority schedule.

Table 1: Challenges facing Nelson Hospital at the time of the PBC modelling in 2023

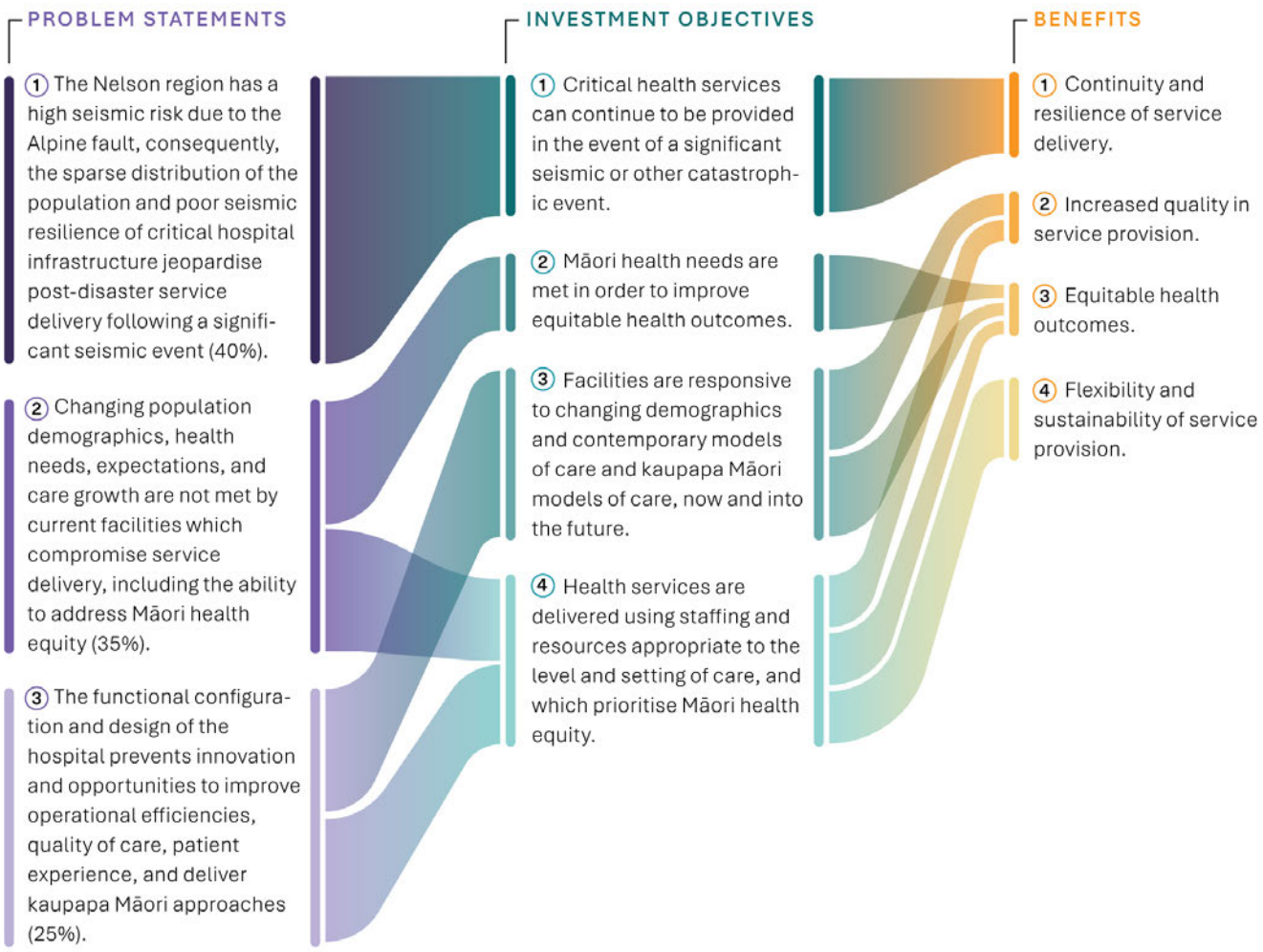
Challenges	National	Nelson Hospital
Earthquake prone building stock[3]	3%	7%
Deficit of hospital beds (medical/ surgical)	500	34

Investment objectives and benefits

At the time of completion of the PBC in 2023, Health NZ were responding to the case for change through the following investment objectives and benefits as outlined in the following investment logic map at Figure 6.

[3] This metric should be interpreted with caution, as it may not be universally applicable due to its high dependency on specific contextual factors.

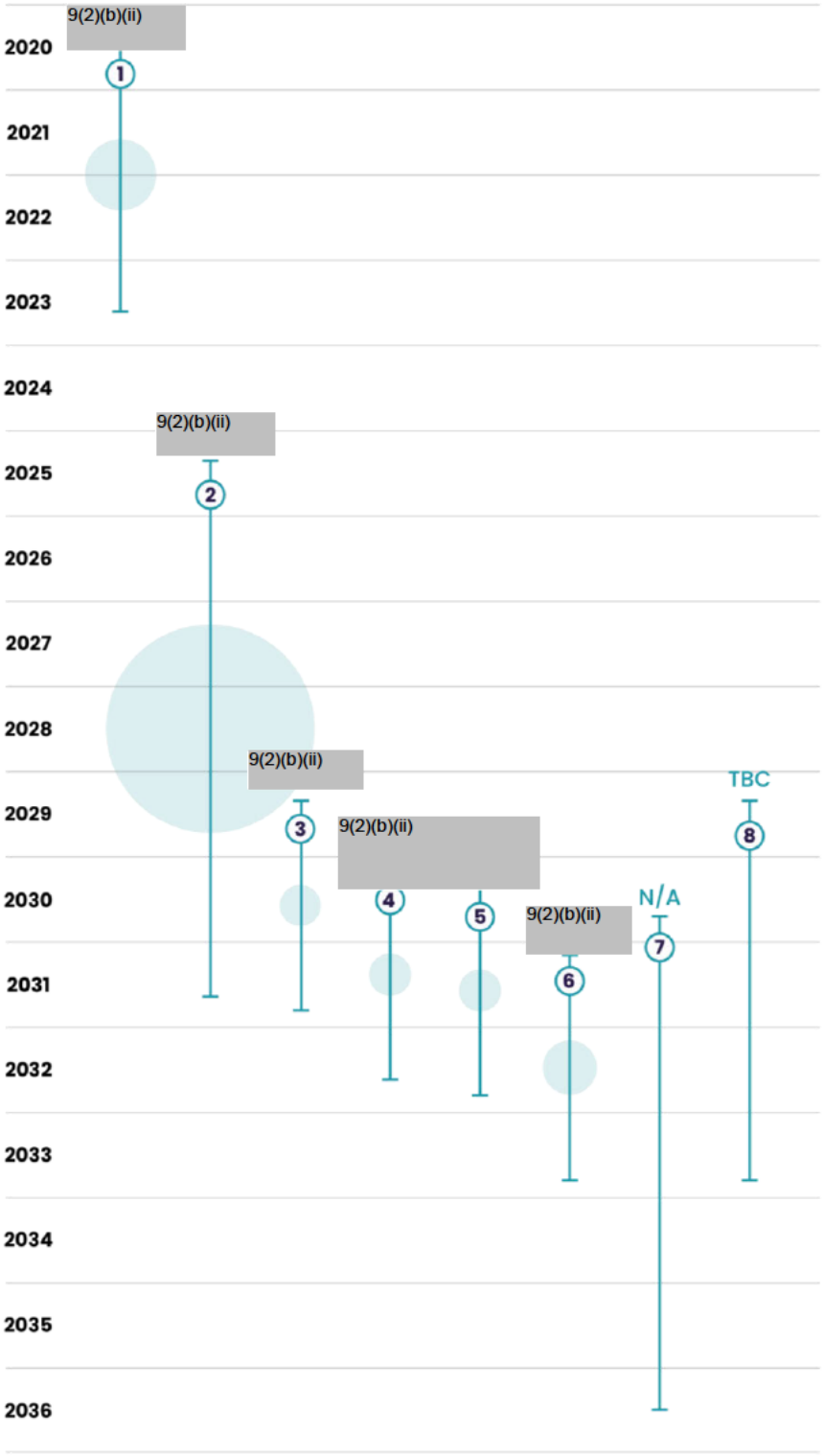
Figure 6: Nelson Hospital Redevelopment Programme, Whakatupuranga investment logic map



Nelson Hospital Redevelopment Programme

The PBC identified that the Programme would be delivered through eight projects due for completion in May 2037. The Programme timeline is shown at Figure 7.

Figure 7: Timeline of Projects within original PBC



1
JUL 2020 - AUG 2023
Design and enabing works
Appropriated ($73M)

2
MAR 2025-NOV 2031
Acute services building (including inpatients)
DBC

3
MAR 2029-NOV 2032
Existing inpatient building
Subject to future business cases

4
JAN 2030-AUG 2032
Percy Brunette
Subject to future business cases

5
APR 2030-NOV 2032
George Manson and existing Theatres
Subject to future business cases

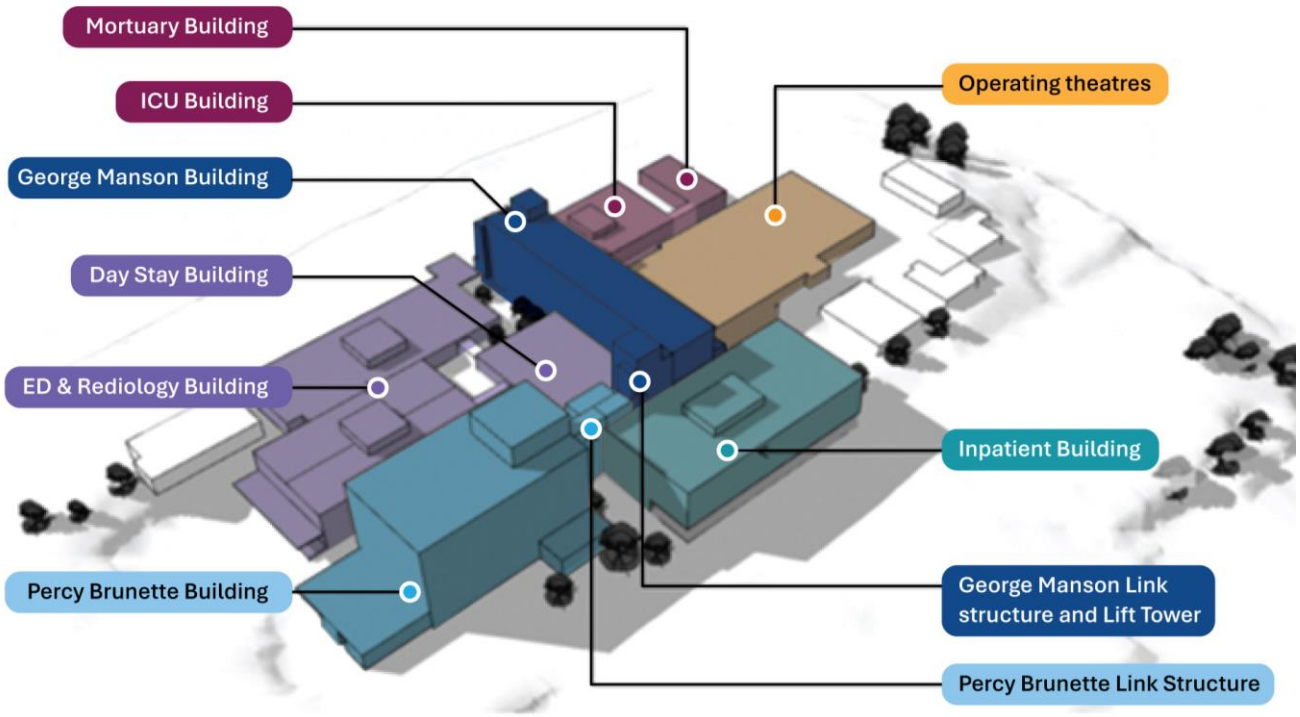
6
JAN 2031-NOV 2033
Emergency building, radiology, DAY stay, ICU, mortuary
Subject to future business cases

7
OCT 2030-MAY 2036
Radiology oncology building
Subject to future business cases

8
MAR 2029-OCT 2033
Carpark and MIC
Subject to future business cases

Figure 8 below, summarises the physical layout of Nelson Hospital's facilities.

Figure 8: Physical facilities within the PBC



The PBC detailed that funding for the Programme will come from the Crown with the following cost requirements, as shown in Table 2.

Table 2: Programme Business Case funding requirements (note costs have increased under reassessment)

9(2)(b)(ii), 9(2)(f)(iv)

The programme is made up of three workstreams and these workstreams are included within each of the eight projects. The workstreams are:

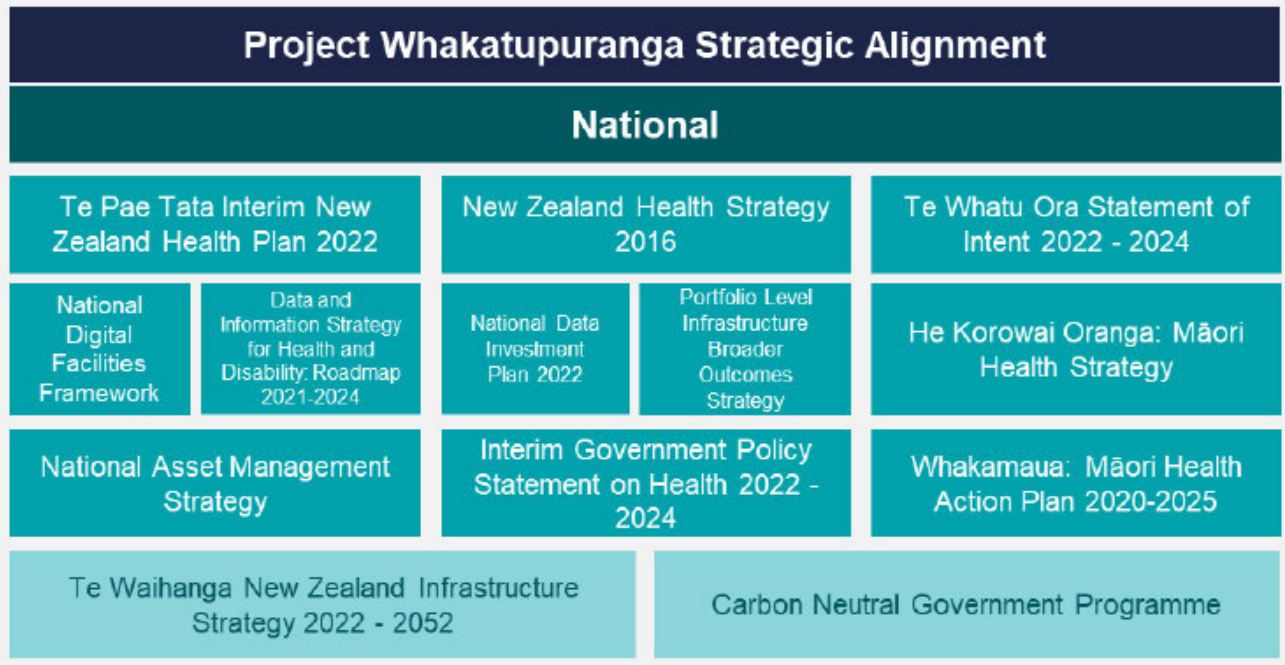
1. **Facilities:** the physical redevelopment of the Nelson Hospital campus.
2. **Workforce and system transformation (WST):** supports the Facilities workstream by implementing the models of care needed for the facility to meet patient demand, but also is supported by the new facility in delivering new, more effective models of care.
3. **Digital:** supports virtual care and base IT functionality for the new facility. It is a key enabler of the Facility workstream and focuses on advancing Nelson Marlborough's digital maturity to help deliver and meet modern models of care.

Strategic alignment

The Programme had been developed in alignment with several national health strategies that were in place in 2023, as well as broader infrastructure and carbon neutral work programmes. This alignment is particularly important, as it will enable Health NZ to achieve its outcomes at the strategic level nationally, and with this specific hospital redevelopment.

This extent of this national alignment is shown in Figure 9.

Figure 9: Programme's strategic alignment with national frameworks and strategies



The Programme has also been developed in alignment with the following regional strategies:

- Regional Hospital Redevelopment Programme (RHRP)
- Te Waipounamu South Island Health Services Plan 2019-22
- Nelson Marlborough Digital Strategy and Roadmap 2021-2024
- Nelson Marlborough Statement of Intent 2019/20-2022/23
- Nelson Marlborough Annual Plan 2021/22.

Programme risks

The PBC identified the following contributing factors as the greatest risk to the successful delivery of the Programme, as shown in Table 3.

Table 3: Programme risks

Contributing factor	Description	Risk
9(2)(g)(i)		
Health System Reform	Changes by the Health NZ and Te Aka Whai Ora Boards' impact or slow the delivery of the Programme.	High
Long-term future proofing	Constrained funding does not allow for future proofing beyond the 15–20-year planning horizon of clinical services and demand, thereby restricting the flexibility of the facilities to respond to changing population needs in the longer-term future.	High
Roles and responsibilities between Health NZ stakeholders	Allocation of responsibilities and risks between Health NZ stakeholders are not clearly defined.	High

Changes since the 2023 Programme Business Case

Government direction

Since the PBC there has been a change in government, and as a result there has been a re-setting of the strategy for healthcare delivery by Health NZ. Reflecting these changes, Health NZ has also developed and matured their approach to planning and delivering infrastructure projects.

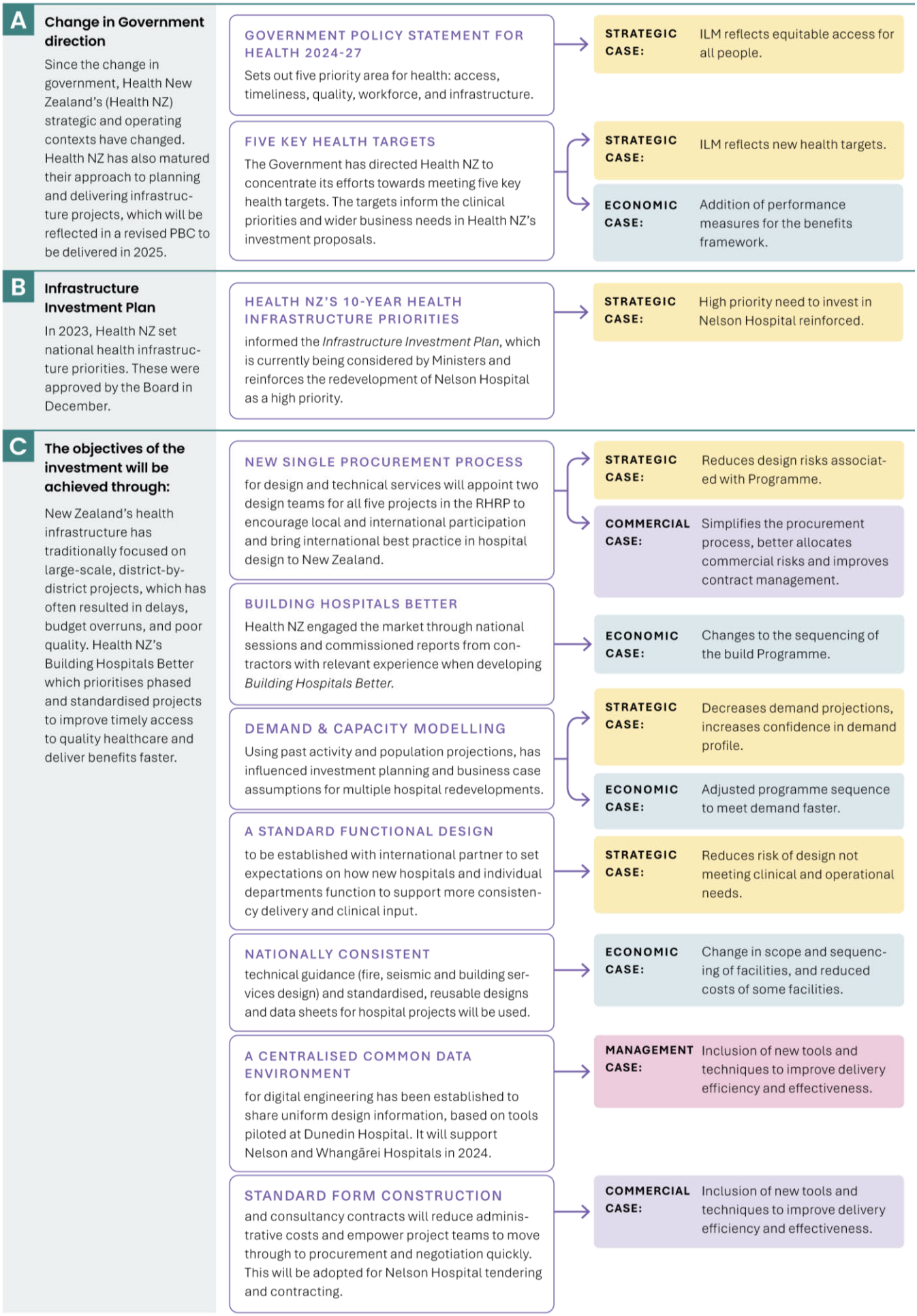
These changes and advances will form the basis for a revised PBC to be delivered in mid-2025. The following section outlines these changes and advances. It describes the change, the impact on the Programme and the resulting changes that Health NZ has made to the PBC.

These key changes include:

- Responding to government's strategic direction (health targets, GPS etc) in the proposed build
- Health NZ's Infrastructure Investment Plan, which was developed in 2023, and
- Health NZ's Building Hospitals Better strategy.

A summary of these changes is on the following page.

Figure 10: Summary of key changes and impacts on the PBC



Government Policy Statement for Health 2024-27

The GPS 2024–27 sets out five priority areas for the health system:

4. **Access** – ensuring all New Zealanders have equitable access to the health care services they need, no matter where they live.
5. **Timeliness** – making sure all New Zealanders can access these services in a prompt and efficient way.
6. **Quality** – ensuring New Zealand's health care and services are safe, easy to navigate, understandable and welcoming to users, and are continuously improving.
7. **Workforce** – having a skilled and culturally capable workforce which is accessible, responsive, and supported to deliver safe and effective health care.
8. **Infrastructure** – ensuring that the health system is resilient and has the digital and physical infrastructure it needs to meet people's needs now and the future.

Impact on PBC: Health NZ has changed the Strategic Case's Investment Logic Map (ILM) to reflect equitable access to healthcare for all people as opposed to focus on Māori.

Government health targets

In the period since the June 2023 PBC the Government has directed Health NZ to concentrate its effort toward meeting five key health targets:

1. **Faster cancer treatment** – 90 per cent of patients to receive cancer management within 31 days of the decision to treat.
2. **Improved immunisation for children** – 95 per cent of children fully immunised at 24 months of age.
3. **Shorter stays in emergency departments (ED)** – 95 per cent of patients to be admitted, discharged or transferred from an ED within six hours.
4. **Shorter wait times for first specialist assessment (FSA)** – 95 per cent of people wait less than four months for a first specialist assessment.
5. **Shorter wait times for elective treatment** – 95 per cent of people wait less than four months for elective treatment.

These targets – four out of five of which are related to reducing the wait times for healthcare – are now informing the clinical priorities and wider business needs that are being reflected in Health NZ's investment proposals.

Impact on PBC: Health NZ has changed the **Strategic Case**'s ILM to reflect key health targets; and updated the **Economic Case** to include the addition of performance measures for the benefits framework.

Infrastructure Investment Plan

Throughout 2023, Health NZ undertook an intensive process to identify national priorities for investment in health infrastructure. This was informed by senior clinical leadership, regional representatives, and infrastructure planners, and was ultimately signed off by the Health NZ Board in December 2023.

These priorities, set over 10 years, are the basis for the Infrastructure Investment Plan which is currently under consideration by Ministers. The Infrastructure Investment Plan reinforces the redevelopment of Nelson Hospital as a high priority for investing in health infrastructure in New Zealand.

Impact on PBC: Health NZ has changed the **Strategic Case** to reinforce the high priority need to invest in Nelson Hospital.

Building Hospitals Better

New Zealand's approach to health infrastructure has historically been district-by-district, focusing on significant greenfield redevelopments that prioritised whole-of-campus replacements and mega developments. Health NZ inherited many of these projects, including their business cases, from District Health Boards (DHBs) following the recent health system reforms. Previous projects using this approach were known to be hampered by severe delays, budget overruns, poor quality, and final outputs that were no longer fit-for-purpose for the local area's health needs.

In September 2024, Health NZ delivered a new approach to building new hospitals in New Zealand: Building Hospitals Better. Building Hospitals Better is a structured, nationalised approach to designing and building health infrastructure, with an emphasis on phasing and standardising projects. It aims to enable more timely access to quality care, by taking a comprehensive and considered approach to the way Health NZ works and thinks about health infrastructure.

The Infrastructure Investment Plan will outline the investments that are to be made across the infrastructure portfolio, whereas the Building Hospitals Better approach will inform the way those investments are designed and built, largely aiming to take a phased approach that results in the faster realisation of benefits for patients.

Health NZ is revising project masterplans and undertaking a review of all business cases for core projects where a single "mega development" or whole-of-campus build has been proposed. This will provide an opportunity to pivot to deliver a phased building approach with faster benefit realisation.

The revised master plan for Nelson Hospital has been completed and the outcomes of this process are:

- rephasing of projects to improve deliverability, and
- earlier realisation of benefits.

These changes to the Programme will be incorporated into the revised PBC that will be delivered next year.

The remainder of this section outlines the components of Building Hospitals Better that have been progressed to date and the implications on the existing PBC.

Design and technical services

Health New Zealand has established a single procurement process to appoint two design teams for all five projects in the Regional Hospitals Redevelopment Programme (RHRP). This provides an incentive for designers and the international market to participate in the RHRP. It should bring international best practice

in hospital design to the New Zealand market and many tender responses from both international and local providers.

This tender process is still underway and the announcements on preferred design teams will occur in November 2024.

Impact on PBC: Health NZ has amended the **Commercial Case** to reduce the design risk associated with the programme and to simplify the procurement process, better allocate commercial risk, and improve contract management.

Market engagement

As part of developing Building Hospitals Better, Health NZ has undertaken further market engagement since the development of the PBC. There have been two components to this:

- **New Zealand and Australia:** In April, Health NZ hosted sessions across New Zealand and Australia to test the Building Hospitals Better approach, including identifying risks and opportunities.
- **Nelson Hospital (location-specific):** Health NZ commissioned two major contractors with recent experience in delivering comparable projects (Christchurch Hospital Tower 3; New Dunedin Hospital Outpatients Building) to provide comprehensive reports detailing their own lessons learned in relation to market capacity, risk, programme, and contracting models.

Both these exercises reinforced the Building Better Hospitals approach to infrastructure investment.

Impact on PBC: Health NZ has updated the **Economic Case** to include changes to the sequencing of the build programme.

Demand modelling

Building Better Hospitals includes the development of a standard nationwide approach for demand and capacity modelling to inform service planning and hospital rebuild programmes using international functional benchmarks. The approach uses past activity and utilisation rates with Statistics NZ's population projections to predict need; functional benchmarks are then applied to the demand projections to translate into future capacity requirements.

This was developed as part of the National Clinical Service and Campus Plan development in 2023, approved by the Health NZ Board and used to inform investment planning. It has already been used to reconfirm business case assumptions for the Dunedin, Whangārei and Nelson Hospital redevelopments, resulting in changes to demand modelling and results.

Impact on PBC: Health NZ has updated the **Strategic Case** to show reduced demand projections for Nelson Hospital and highlighted the greater confidence in the demand profile for services delivered within Nelson Hospital and in the community; Health NZ has amended the **Economic Case** to include changes to programme sequencing to reduce the length of time for supply to meet demand.

Functional design

Building Hospitals Better includes the establishment of a standard form functional brief that sets out the expectation on how hospitals and individual departments function, allowing for more consistent delivery of builds, with clinical input, across the country. An international partner has been appointed to assist in developing the brief, which is expected to be complete by the end of 2024.

The standard brief is already being used to develop a tailored project briefs for the Nelson and Whangarei hospitals.

Impact on PBC: Health NZ has amended the **Strategic Case** to consider the reduced risk that the hospital design will not meet the clinical and operational requirements for Nelson Hospital.

Nationally consistent technical guidance

Building Hospitals Better includes the development of nationally consistent fire, seismic and building services design guidance, in addition to establishing standardised, reusable room designs and data sheets for hospital projects. The Fire Design Guidance has been approved and incorporated into Nelson Hospital; the Seismic Design Guidance and Building Services Engineering Guidelines are in development; and the New Zealand Standards Components (including reusable room designs) out for endorsement.

This has resulted in several Nelson Hospital buildings being reduced from IL4 to IL3 or IL2 requirements, by changing some of the uses of the buildings.

Impact on PBC: Health NZ has amended the **Economic Case** to include the change in scope and sequencing of facilities, and the reduction in costs for some facilities.

Digital engineering

Building Hospitals Better includes the development of a centralised common data environment for project-level planning and design to enable greater sharing and standardisation of design templates, data, information, and processes. This builds on tools piloted at the new Dunedin Hospital and will be used to support the sharing of design information on Whangārei and Nelson Hospitals at the end of 2024.

Impact on PBC: Health NZ has updated the **Management Case** to include new tools and techniques to improve the efficiency and effectiveness of delivery for digital engineering.

Standard contracts for construction and consultancy

Building Hospitals Better includes the development of standard form contracts to reduce administrative cost and empower project teams to move quickly through procurement and negotiation. These will be adopted for the tendering and contracting for Nelson Hospital.

Impact on PBC: Health NZ has updated the **Commercial Case** to include standard form contracts for construction and consultancy.

Changes to the Programme Business Case

The following section provides more details about each of the PBC changes signalled above. **These revisions will be made in the new PBC in 2025, are reflected in this DBC and will be incorporated into the Implementation Business Case (IBC).**

Changes to the Investment Logic and Investment Logic Map (ILM)

As noted above, there was a need to amend the original PBC's investment logic and ILM to reflect the contextual and health system changes since 2023. Table 4, below, compares the original and revised problem statements, investment objectives and benefits. As shown below, one investment objective and one benefit have been removed as they no longer align with government strategy.

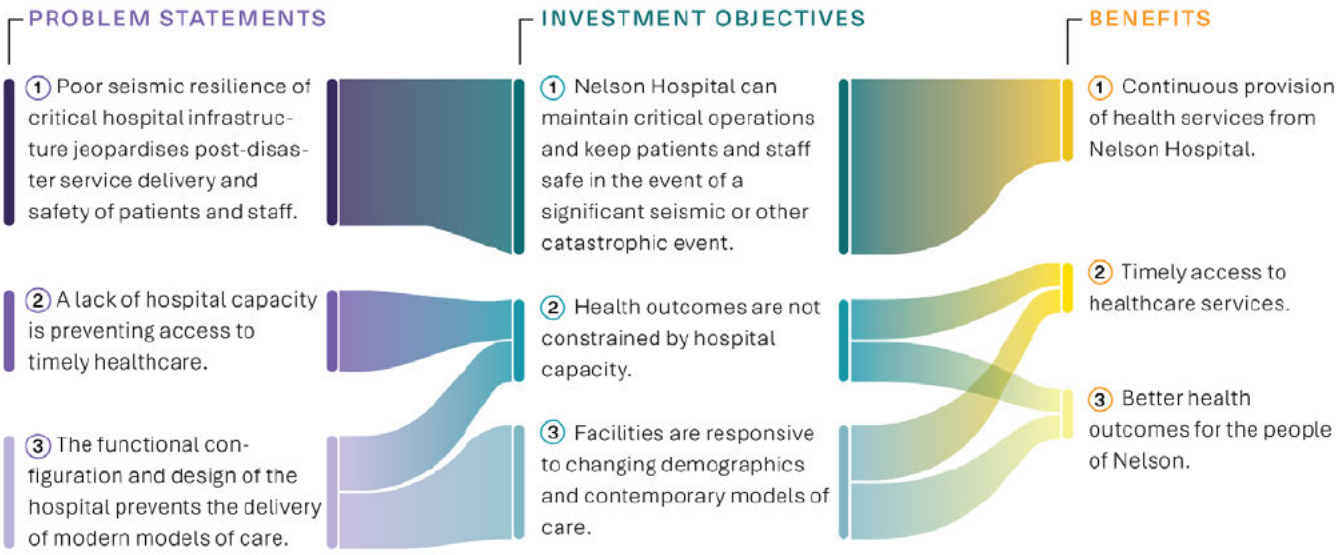
Table 4: Comparison of original and revised investment logic

Problem statements – original	Problem statements – revised
The Nelson region has a high seismic risk due to the Alpine Fault, consequently, the sparse distribution of the population and poor seismic resilience of critical hospital infrastructure jeopardise post-disaster service delivery following a significant seismic event (40%).	Poor seismic resilience of critical hospital infrastructure jeopardises post-disaster service delivery and safety of patients and staff.
Changing population demographics, health needs, expectations, and care growth are not met by current facilities, which compromises service delivery, including the ability to address Māori health equity (35%).	A lack of hospital capacity is preventing access to timely healthcare.
The functional configuration and design of facilitates prevents innovation and opportunities to improve operational efficiencies, quality of care, patient experience and deliver Kaupapa Māori approaches (25%).	The functional configuration and design of the hospital prevents the delivery of modern models of care.
Investment objectives – original	**Investment objectives – revised**
Māori health needs are met in order to improve equitable health outcomes.	Removed as new government focus is on equitable health outcomes for all
Critical health services can continue to be provided in the event of a significant seismic or other catastrophic event.	Nelson Hospital can maintain critical operations and keep patients and staff safe in the event of a significant seismic event.

Facilities are responsive to changing demographics, contemporary models of care and Kaupapa Māori models of care, now and in the future.	Health outcomes are not constrained by hospital capacity.
Health services are delivered using staffing and resources appropriate to the level and setting of care, and which prioritise Māori health equity.	Facilities are responsive to changing demographics and contemporary models of care.
Benefits – original	**Benefits – revised**
Continuity and resilience of service delivery.	Continuous provision of health services from Nelson Hospital.
Increased quality in service provision.	Timely access to healthcare services.
Equitable health outcomes.	Better health outcomes for the people of Nelson Marlborough.
Flexibility and sustainability of service provision.	

These changes to the investment logic for the Programme result in the following new ILM, seen below at Figure 11.

Figure 11: Revised PBC ILM



Change to the investment programme

As summarised in the section above, some considerable changes have been made to the overall Programme. The key changes are highlighted in Table 5, below.

Table 5: Key changes to the investment programme

PBC	Revised PBC
Delivered through eight projects	Delivered through three projects
Completion: 2037	Completion: 2031
One IL4 building for inpatient and acute services, delivered through Project Two	One IL3 building for inpatient services and refurbishment of others, delivered through Project Two and Three
Expansion and new facilities for all acute and inpatient beds	• No growth in theatres • Radiology, ICU. Maternity, Paediatrics remain in current inpatient building
First tranche of benefits to be delivered by 2030	First tranche of benefits to be delivered by 2029
9(2)(b)(ii)	
Demand modelling by external consultant, assessed with a population data horizon of 2038.	Demand modelling reviewed using National standardised methodology, assessed with a population data horizon of 2043.

Figure 12: Timeline of Projects within the Revised PBC

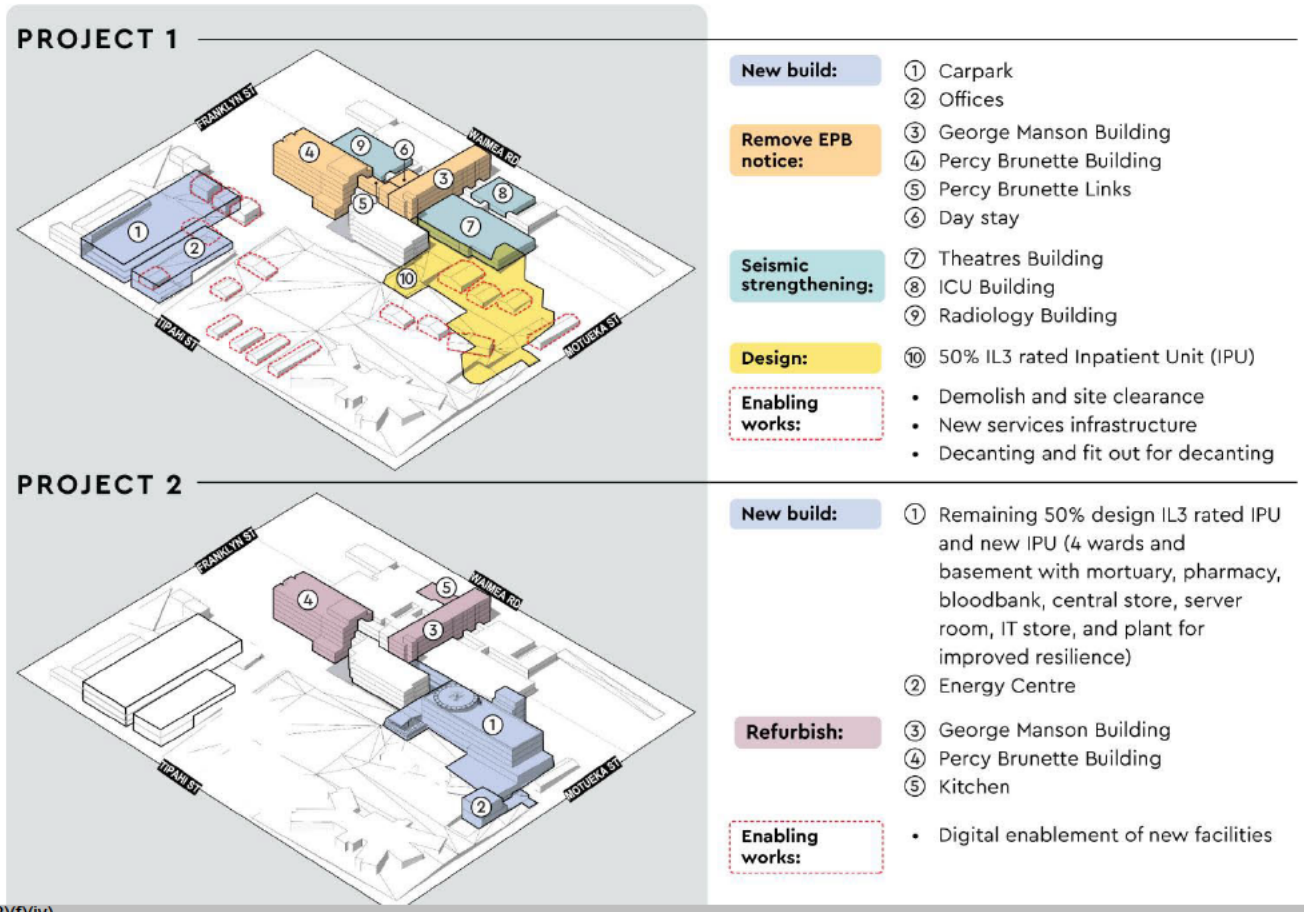
9(2)(b)(ii), 9(2)(f)(iv)

As a result of the above changes, the Revised PBC will deliver three projects due for completion in October

2031. 9(2)(b)(ii) [redacted]

In addition, Figure 13 provides a depiction of the physical phasing of the Projects within the Revised PBC across the Nelson Hospital facilities.

Figure 13: Physical layout of the Nelson Hospital facilities within the Revised PBC



9(2)(f)(iv)

Table 6: Programme detail for the Nelson Hospital Redevelopment Programme

Project	Interim ED Project	Project 1	Project 2	Project 3
Scope	Extension of ED	**New development/builds:** • Compliant carparking • Design • 50% IL3 rated IPU **Remove EPB notices for:** • George Manson building • Percy Brunette building, Percy Brunette Link and Day stay **Seismic restraint of:** • Plant • Theatres Building • ICU building • Radiology building **Other:** • Demolition and site clearance • New services infrastructure • Decanting and fit out for decanting	**New builds:** • IPU (4x 32 bed wards) , Acute Assessment Unit, AT&R, basement with mortuary, pharmacy, bloodbank, central store, server room and IT store, and plant for improved resilience) • IL4 Energy centre to support new and existing facilities **Design:** • 50% remaining for IL3 rated IPU **Refurbish:** • Refurbish George Manson for non-patient use and decant wards to new IPU • Percy Brunette- refurbishment of ground floor and (current) oncology unit • Kitchen **Other:** • Digital enablement of new facilities	**Seismic strengthening to IL4 buildings:** • Theatre Building • ICU Building • Radiology Building • ED (partial)
Seismic improvement	Improved SLS2 for new area	• EPB notices lifted • Seismic restraint to high-risk plant rooms in acute buildings	• IPU to 100% NBS @ IL3+ • George Manson and Percy Brunette, refurbished to improve non-structural	• Structural strengthening to acute buildings, aspiration to achieve 67% NBS @IL4 • Improve SLS2

Project	Interim ED Project	Project 1	Project 2	Project 3
			emblements and SLS2. IL rating lowers to IL2	
Capacity at end of project	Meets demand (within tolerance agreed with HSS)	• Medical / surgical – 84 (+0) • Demand deficit 16 beds	• Medical / surgical – 125 (+41) • Transit lounge + 8 • Theatres, ICU, radiology- no change to current capacity (table 8). • Outpatient SoA to maintained through Model of care changes	• Medical / surgical – 125 (+0) • Transit lounge - 8 (0) • Theatres, ICU, radiology- no change to current capacity (table 8).
New GFA m2	n/a	n/a	11,000 m2	n/a
Refurb GFA m2	n/a	n/a	8,600 m2	n/a
Project duration	2024-2025	August 2023 – December 2025	June 2025 – November 2030	Est. 2026 – 2031
Benefits realised as standalone project	2025	December 2025	November 2029	2027 – 2031
Capital cost	$10.6 million	$73.0 million	9(2)(b)(ii), 9(2)(f)(iv)	
Programme	Underway —funded by Health NZ Baseline depreciation funding	Underway—appropriated	Budget 2025 bid	9(2)(b)(ii), 9(2)(f)(iv)

Change in benefits

There are two key changes to benefits in the revised PBC:

- inclusion of Government health targets as measures within the benefits realisation framework, and
- earlier benefits realisation from the change in the programme scheduling and sequencing.

The changes to the Programme mean the time to benefits realisation is reduced by at least five years, based on a revised programme[4] for both meeting seismic requirements and meeting hospital demand.

Summary of revised Programme Business Case

- The revised PBC will set out a programme of work until 2031 for the redevelopment of Nelson Hospital that recognises, and addresses, key contextual changes that have occurred within the wider health system since 2023.
- In addition, the Revised PBC recognises the maturity that has occurred within Health NZ over this time, and the organisation's commitment to identifying key lessons from similar hospital build projects and adapt their delivery to promote continuous improvement in its delivery of healthcare infrastructure. This includes positive and negative lessons learned from the Dunedin and Christchurch Hospital redevelopments.
- The revised PBC will comprise of three discrete projects that have been sequenced across the Programme's lifecycle. 9(2)(b)(ii), 9(2)(f)(iv)
- The following diagram provides an outline of the Revised PBC and key contextual changes, and highlights the specific focus of the DBC for Project Two. It can be compared to the original PBC one page summary.

[4] Revised programme based on cashflow as advised by AECOM and Contractor advisory reports

3 The Strategic Case – the Case for Change

This section outlines the case for change that was approved by Cabinet in 2023, as well as the revised problem statements, benefits, and investment objectives. It explains that while the case for change is robust and remains the same, several changes in the strategic context have occurred in the intervening period.

These changes are described in the introduction to this business case and this strategic case:

- **Confirms the strategic context:** This section reconfirms the strategic context in the PBC. It outlines the broader strategic context for the redevelopment of Nelson Hospital and how this applies to the focus of this DBC, for Project Two of the redevelopment.
- **Revisits the investment logic:** This section summarises the new investment logic for the redevelopment of Nelson Hospital as defined in the PBC, including the need for change, investment objectives, business requirements, high-level benefits, and the preferred option for redevelopment. It also includes an updated investment logic for material changes that have taken place since the development of the PBC.
- **Outlines the benefits of investment:** Further detailed benefits analysis from the PBC, and the impact that Project Two will have when contributing to the wider Programme benefits.
- **Describes the risks, dependencies and constraints:** This section further develops and provides greater detail on the risks outlined in the original PBC, with greater focus on the delivery stages for Project Two. It also includes strategic constraints and dependencies that were not included in the PBC.

Strategic Case summary

- The case for change for redevelopment of Nelson Hospital is as strong as outlined in the PBC.
- There have been numerous changes since the change in Government and as Health NZ has continued to develop and mature the approach to delivering infrastructure across the country.
- The changes have resulted in a change to the sequencing of the Programme, which will ensure benefits are delivered two years earlier.
- The faster benefits realisation will be achieved through a revised Programme schedule where a new inpatient building will be built with refurbishment of other buildings. This will be delivered through Project Two.
- Project Two includes the development of an inpatient building, refurbishment of the George Mason building and the development of an energy centre.
- These changes will be reflected in a revised PBC to be submitted mid-2025 and this DBC assumes the changes to the PBC will be adopted.
- Programme benefits, risks and constraints and dependencies have been further refined since the PBC and the delivery of Project Two aligns with these.

3.1 The operating context for Nelson Hospital remains the same

As part of the Te Waipounamu Region, Health NZ Nelson Marlborough (Nelson Marlborough) covers the top of the South Island (Te Tau Ihu), specifically the Nelson, Tasman, and Marlborough regions. Nelson Marlborough provides healthcare services to a population of 169,700 people across an area of 22,700 square kilometres (km^2). This includes Golden Bay (approximately 80 km from Nelson), Nelson, Picton (approximately 139 km from Nelson), Murchison (approx. 123 km from Nelson) and Blenheim (approx. 120 km from Nelson).

Nelson Marlborough provides care from two secondary hospitals (Nelson Hospital and Wairau Hospital in Blenheim), the Nelson Marlborough Public Health Service, and multiple community services. Nelson Marlborough also relies on Capital Coast / Hutt Valley and Canterbury to provide some tertiary/specialised services.

Nelson Marlborough has a sparsely distributed population and is relatively isolated from the rest of the country due to its position at the top of the South Island. Nelson is 210 km (six hours by sea, 45 minutes by air) from Wellington and over 400 km (five hours by road, 55 minutes by air) away from Christchurch. The average journey between the Nelson and Wairau Hospitals is over two hours and is challenging due to the mountainous terrain. Figure 14 portrays Nelson Marlborough's geographic isolation and other geographic features, including the Alpine Fault.

Key features of the region are:

- Nelson Marlborough's population is generally in better health than other parts of the country.
  - The Nelson Marlborough population has a higher life expectancy and lower amenable mortality than the New Zealand average.
  - Māori in Nelson Marlborough are doing better on most health indicators than Māori elsewhere in New Zealand.
  - Children (0–14 years) are generally at lower risk and in better health than their national counterparts.
- Nelson Marlborough has an ageing population, with the greatest population growth occurring in those aged over 75
- Eleven per cent of the Nelson Marlborough population identifies as Māori.
- Nelson Marlborough is home to other vulnerable populations, including former refugees and seasonal workers.

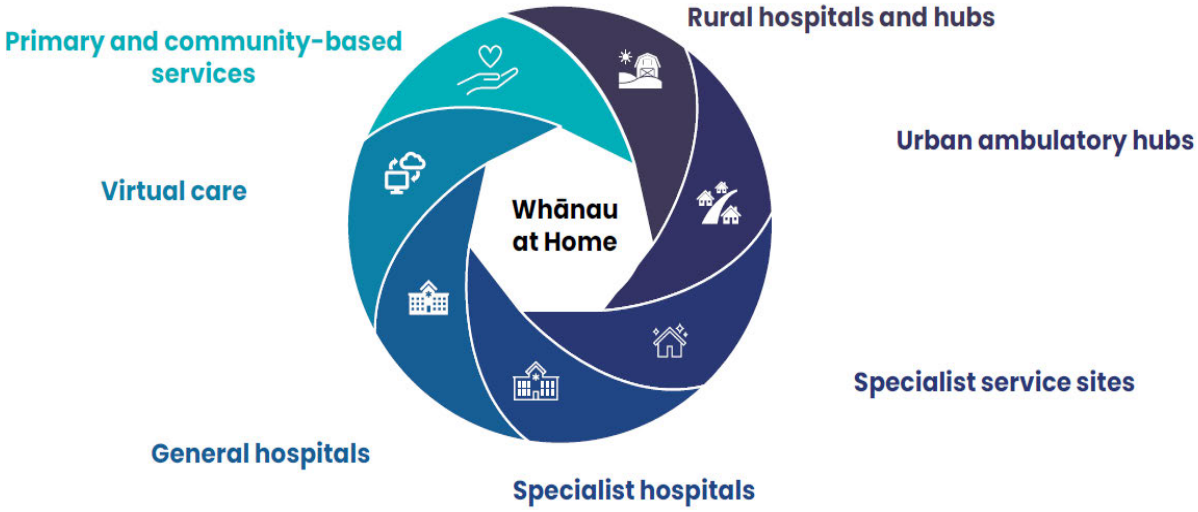
Figure 14: Healthcare infrastructure in and around Nelson Marlborough

Health New Zealand Nelson Marlborough, over several years has strategically worked in conjunction in other healthcare providers and community partners to improve key areas of need in the region and specific projects have made tangible benefits to service delivery, creating a cross functional system that provides improved outcomes for patients and their whanau.

The Nationwide Service and Campus Plan creates transparency in the service delivery settings and intentions of the public health service delivery system. It takes a forward planning view setting out the guiding framework for how hospital & specialist services sites and service networks for physical and mental health will be configured to meet the needs of communities to achieve the goal of timely access to quality healthcare. The plan describes:

- The types of service delivery sites – setting of care – and the services that should be provided across New Zealand.
- The geography-based networks of service delivery and the settings of care within these networks.

Figure 15: Settings of care within the Regional network



3.2 Health NZ has revisited the case for change

The Strategic Case in the 2023 PBC has been reassessed, and this confirmed the underlying case for change is robust and remains the same. Health NZ faces significant challenges in providing services from these existing facilities, particularly at Nelson Hospital. However, demand projections have been revised downwards and these new projections are outlined below.

3.2.1 The Nelson Hospital has poor seismic resilience

The poor seismic resilience of critical Nelson Hospital infrastructure jeopardises post-disaster healthcare following a significant seismic event. The Nelson region sites in a Medium Seismic Zone. In Nelson City alone, there are eight active or potentially active faults. It is critical that Nelson Hospital is likely to remain operational in a post-event scenario, as due to the sparsely distributed population it serves, access to surrounding hospitals that can provide post-disaster care is heavily restricted.

In 2020, Nelson City Council issued Earthquake-prone Building (EPB) notices for the George Manson building, Percy Brunette building, Boiler House, and Chimney. These EPB notices require remediation or vacation of these buildings by 2028. As the George Manson and Percy Brunette buildings contain and

surround critical site services, a significant earthquake would likely significantly reduce Nelson Hospital's post-disaster functionality.

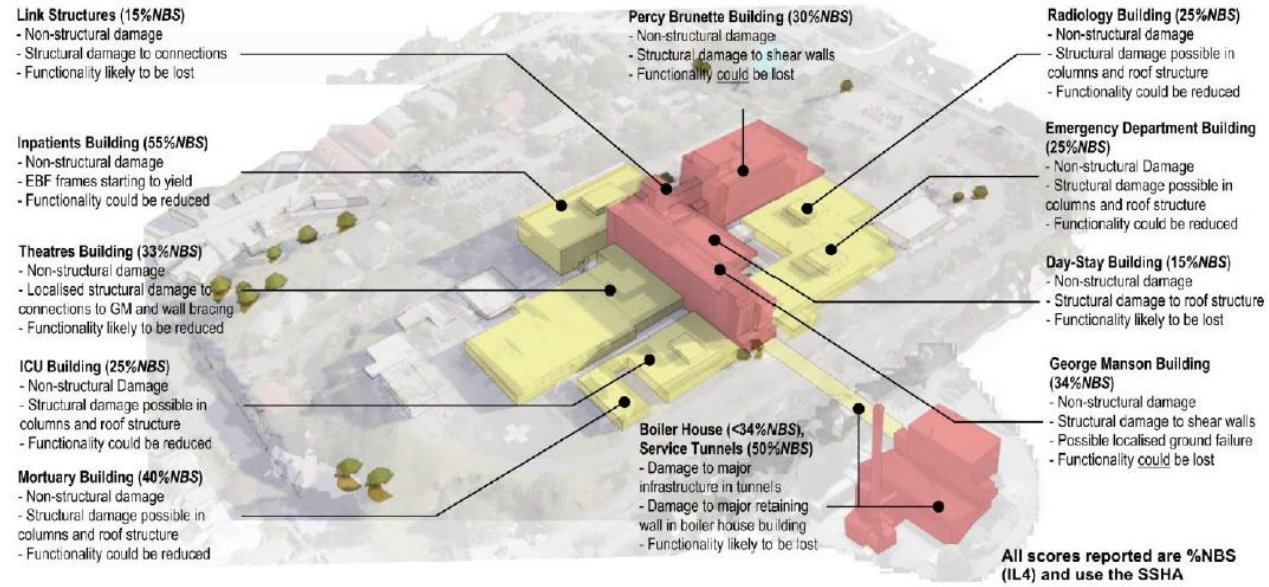
The EPB notices are being addressed in Project One, with an expected completion date of 2025, subject to access in the live operational environment.

Since the PBC, engineering reports and advice from the Health NZ's trusted seismic advisor have been reviewed, resulting in the residual seismic risk to the existing campus being less than previously understood. The George Manson Building will remain at the heart of the campus with earthquake strengthening addressed, and the acute buildings surrounding it retained to provide their current function.

The single level buildings that house acute functions, such as theatres, radiology, ICU and the Emergency Department, have elements to them that requiring strengthening and general improvements to the seismic restraint of services to improve operational continuity.

The current status is summarised in Figure 16.

Figure 16: Overview of key upgrades required in the Programme for seismic resilience



Priorities for strengthening and seismic restraint have been reviewed in workshops with engineers and the hospital emergency planning team and assessed on a risk basis. High risk areas such as heavy plant in plant rooms in buildings with acute functions will be addressed in Project One.

Improvements to George Manson and Percy Brunette Buildings will occur in Project Two.

Improvements to the structure to achieve an aspirational 67 percent NBS at IL4 have been identified and design will continue to quantity these works in Project Three. Minimising disruption to functional areas will be prioritised with strengthening to occur outside of the buildings (exoskeletal) or from above the ceiling where possible.

Health NZ's Trusted Seismic Advisor has undertaken a review of the level of seismic risk following the work proposed under the three projects. This report establishes how life safety risk and functionality risk interact in an overall resilience categorisation of a building, which features the following four levels:

- Resilience Category RC1 - **High** Resilience
- Resilience Category RC2 - **Good** Resilience
- Resilience Category RC3 - **Moderate** Resilience
- Resilience Category RC4 - **Low** Resilience

Table 7 on the following page summarises how the overall level of seismic resilience is likely to change through the proposed project stages.

Together with the new IPU building and new energy centre from Project Two, when the proposed strengthening of the existing acute services buildings is completed under Project Three, the overall seismic resilience of the hospital will be significantly increased.

Table 7: Extract from Seismic Risk Review – Nelson Hospital Redevelopment Programme, Whakatupuranga - Overview of Expected Building Performance in 500 Year Earthquake Shaking

9(2)(f)(iv)

Building	Upon Completion of Project One (2025/26)			Upon Completion of Project Two		
	Life Safety	Continued Functionality	Overall Resilience	Life Safety	Continued Functionality	Overall Resilience
George Manson	60%NBS (500yr)	Basic functionality ***likely lost,*** restored in ***days to weeks***	**RC4** (as IL4) **Low**	60%NBS (IL2)	Basic functionality ***likely reduced,*** restored in ***days to weeks***	**RC3** (as IL2) **Moderate**
Percy Brunette	60%NBS (500yr)			60%NBS (IL2)		
ED & Radiology	55%NBS (500 yr)	Basic functionality ***likely reduced,*** restored in ***days to weeks***	**RC3** (as IL4) **Moderate**	55%NBS (500 yr)	Basic functionality ***likely reduced,*** restored in ***days to weeks***	**RC3** (as IL4) **Moderate**
ICU	60%NBS (500 yr)			60%NBS (500 yr)		
Operating Theatres	60%NBS (500yr)			60%NBS (500 yr)		
New IPU				Building Code compliant	SLS2 for 1 in 250 year shaking Basic functionality restored in ***minutes to hours***	**RC1** (as IL3) **High**

9(2)(f)(iv)

Building	Upon Completion of Project One (2025/26)			Upon Completion of Project Two		
	Life Safety	Continued Functionality	Overall Resilience	Life Safety	Continued Functionality	Overall Resilience
New Energy Centre				Building Code Compliant	SLS2 for 1 in 500 year shaking Basic functionality likely to be ***maintained***	**RC1** (as IL4) **High**

3.2.2 Nelson Hospital's capacity has been exceeded by demand

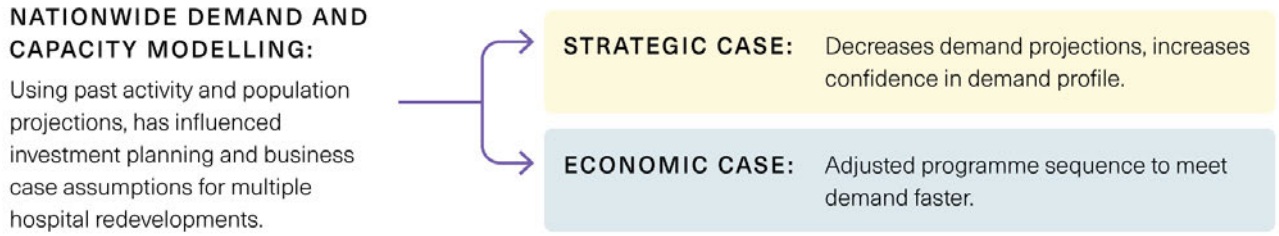
Nelson Hospital's capacity has been exceeded by demand, and this will continue to worsen as the population continues to grow. Nelson Marlborough's population is growing and ageing. Between 2018/19 and 2040/41, the population is projected to grow by 9.6%. To meet existing demand across all services, there is currently a deficit of 16 beds medical/surgical; this is projected to rise to 53 beds to meet 2043 demand.

Current service models of care are unsustainable with workforce constraints, ageing population, and available bed numbers. A key premise of the model of care and bed modelling projections is using a whole-of-system approach, to ensure that Nelson Hospital has the capacity to meet future service needs and, where clinically appropriate, facilitate early supported discharge, hospital level care in-the home and in-reach interdisciplinary working.

Comparison of PBC modelling with revised Health NZ modelling

Initial demand modelling was undertaken by external consultants by the DHB for the 2023 PBC but since then a Health NZ nationally consistent modelling methodology has been developed and implemented, as shown in Figure 17 below.

Figure 17: Changes to demand and capacity modelling since the PBC



This has resulted in demand projections that are:

- underpinned by better quality data and nationally consistent assumptions
- inclusive of a district wide catchment area
- extended beyond the initial demand planning horizon from 2038 to 2043, and
- lower than initially forecasted in the PBC.

A comparison of the PBC base case inpatient modelling with the revised 2024 nationally consistent modelling signals a general reduction in points of care due to the higher occupancy rates applied in the new set of functional benchmarks used to translate projected activity to point of care and the scenario modelling applied.

The revised modelling methodology, in addition to the base case, uses 3 scenarios modelled for future demand.

- **Scenario 1** models to allow for unmet need by adjusting the base case to uplift activity where standard intervention rates for theatre procedures are below the national average. The PBC modelling did not allow for unmet need.
- **Scenario 2** model to improve efficiency adjusts the base year length of stay to the level of New Zealand averages to ensure efficient arrangements are modelled into the future. The reduction in length of stay

is phased over the planning horizon to ensure sufficient time for successful implementation. The PBC previously modelled for an overarching 1% reduction in average length of stay.

- **Scenario 3** model reflects new or expanded models of care in the community and home settings and adjusts for a redistribution of rehabilitation beds into the community and to home based settings. The movement of rehabilitation beds into the community is modelled at a rate of 12.5% in FY2028, 25% in FY2033, 37.5% in FY2038 and 50% in FY2043 to allow sufficient time for successful implementation.

It also models a proportion of virtual care for hospital in the home (HITH). HITH points of care are modelled at a of rate of 5% of relevant bed days in FY2028, 10% in FY2033, 15% in FY2038 and FY2043 again to allow sufficient time for change management and implementation. The previous modelling in the PBC had attributed a significant proportion of outpatient activity to virtual care.

The following table outlines the revisions to demand modelling that are proposed to be revised in the PBC and are applied to the DBC. The table is extracted from the Technical Paper, Demand Modelling and Points of care dated June 2024. The base case activity modelling extrapolates future service activity based on historical activity trends.

These incorporate service utilisation (adjusted for five-year age-group, gender, prioritised ethnicity group [Māori, Pacific, and Other]) and district population during that period, to generate a utilisation rate. These rates are then applied to population projections, in order to ascertain future health need relevant to expected population changes.

Table 8: 2024 Demand modelling and capacity comparison with National Demand modelling methodology applied

Nelson Hospital/Alexandra Home	Current PoC	2027 / 2028	2032 / 2033	2037 / 2038	2042 / 2043	Gap
Overnight Inpatient Beds						
ICU/HDU	7	6	6	7	7	4
CCU		3	4	4	4	
MAPU	10	7	8	9	9	-1
Medical	84	56	65	72	78	53
Surgical		48	52	57	59	
ATR**	20	19	19	18	16	-4
Community-based ATR	0	3	7	12	17	17
Neonates	8	4	4	4	4	-4
Paediatrics	12	5	5	5	5	-7
Maternity	10	8	8	8	7	-3
Total Overnight Inpatient Beds	**151**	**159**	**178**	**196**	**206**	**55**

Nelson Hospital/Alexandra Home	Current PoC	2027 / 2028	2032 / 2033	2037 / 2038	2042 / 2043	Gap
Same Day Inpatient Beds						
Medical	11	4	4	4	4	4
Surgical		7	8	8	8	
Paediatrics		2	2	2	2	
Maternity		1	1	1	1	
Total Same Day Inpatient	**11**	**14**	**15**	**15**	**15**	**4**
Total Inpatient Beds	**162**	**173**	**193**	**211**	**221**	**59**
Older Persons Mental Health*	10	8	9	10	10	0
Outsourced	0	3	3	3	3	3
Hospital in the Home (HITH)	0	2	4	6	6	6
Total inpatient beds (including older persons mental health and outsourced)	**172**	**186**	**209**	**230**	**240**	**68**

*Beds are from Alexandra Home

**Using 2019 as the base year for projection

The new inpatient unit will provide a mix of replacement beds for wards moving from the George Manson building, AT&R and MAPU as well as expansion beds. An increase in the Emergency Department (ED) points of care is accommodated by the approved ED expansion project currently in progress. No additional growth for ED is currently anticipated before 2043.

The demand modelling is used to produce a Schedule of Accommodation (SoA) that has informed the campus mater plan and floor plate sizes. As the design progresses, health planners will use detailed departmental SOA to inform the detailed floor plate design, and controls will be implemented to track these through design development.

3.2.3 Nelson Hospital needs more modern design, configuration and digital services

Nelson Hospital comprises older buildings designed to meet outdated models of care, which impedes adoption of contemporary best practice and innovations. Core clinical buildings are over 50 years old; Percy Brunette was built in 1970, and George Manson was built in 1955. These facilities reflect the clinical practice at the time they were built, but models of care have shifted and understanding of clinical best practice has evolved.

The dated key facilities are preventing improvements to health equity, overall patient experience, and time efficiencies via the introduction of modern models of care. The design and configuration of Nelson Hospital

facilities (particularly room sizes and components, ward sizes, corridors, vertical clearances, and data and digital systems) do not allow for contemporary best practice generally, or for Kaupapa Māori and culturally safe care.

These constraints have flow-on effects that reduce hospital efficiencies and adversely affect patients and staff, such as delayed decision-making, prolonged hospital stays, and delayed or cancelled surgeries, as well as for Health NZ's objective of achieving health equity. The lack of data and digital infrastructure prevents virtual health clinics and telehealth capability that would reduce hospital congestion and lower healthcare costs.

Current digital capabilities within the facilities do not support delivery of virtual health clinics – there is limited telehealth capability, and it is challenging to effectively integrate virtual and face-to-face care. This prevents optimising models of care, lowering healthcare costs, and addressing access inequities. It can also lead to poor information sharing, requiring patients to tell their story repeatedly, which negatively impacts patient experience and trust in the health system.

Nelson Hospital have, over several years, worked in conjunction with other healthcare providers and community partners to improve key areas need in the region. Specific projects have made tangible benefits to service delivery, creating a cross functional system that provides improved outcomes for patients and their Whanau. Proposed extension to National models of care such as HITH and Community Rehabilitation will further enhance the services delivered. This proposal includes, for the first time, the implementation of digital tools and technology that will enable remote and proactive patient monitoring, direct clinician-to-patient support, and all-of-service reporting, further enhancing care to patients.

An integrated virtual care approach will support patient interventions and outcomes, reduce hospital admissions, costs associated with inpatient and emergency presentations and further develop the approach of patient centred care. This system wide approach supports all episodes of care, whether short-term, long-term or episodic.

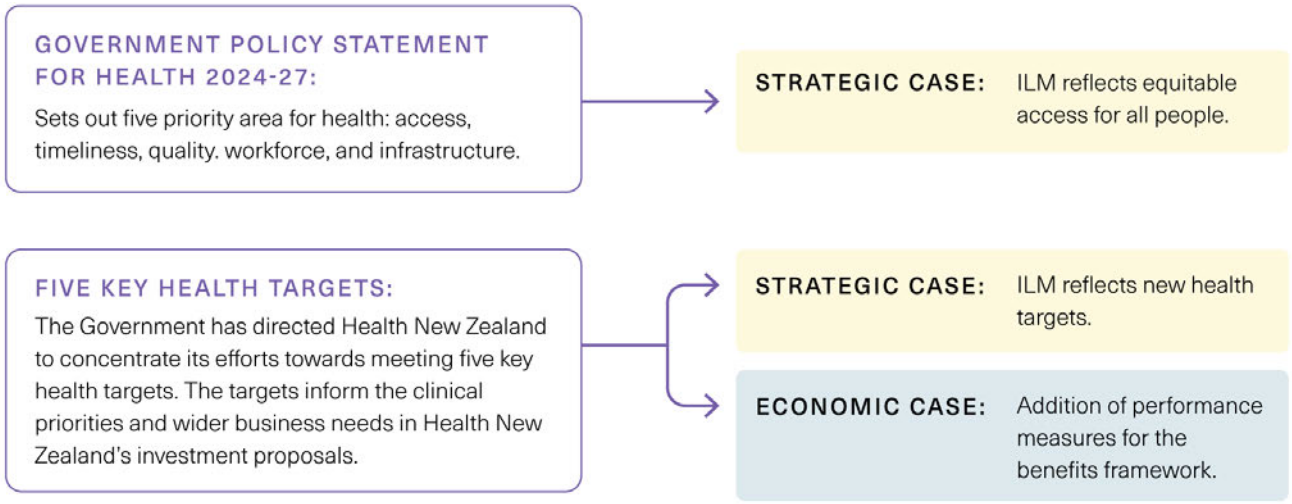
During Project Two, the HSS Workforce Transformation team will develop out and formalise efficient models of care that will establish a fully digital supported Hospital-in-the-Home and Community Care service model aligned to the National Models of Care and Modern digital technologies.

Implementation of the Hospital-in-the-home service will be relevant from point of attendance to the emergency department, during acute hospital flow/pathways and within primary and community settings. Its implementation will avoid unnecessary hospital admissions, reduce hospital bed capacity pressures and enable early supported discharge for patients to their home to recover. Use of digital technology will enable remote patient monitoring using clinical wearables & monitoring devices (e.g. chest patches, Pulse Oximeters, BP cuffs) and the automatic recording and provision of data to Hospital dashboards.

3.3 Health NZ has updated the problem definitions, investment objectives and benefits

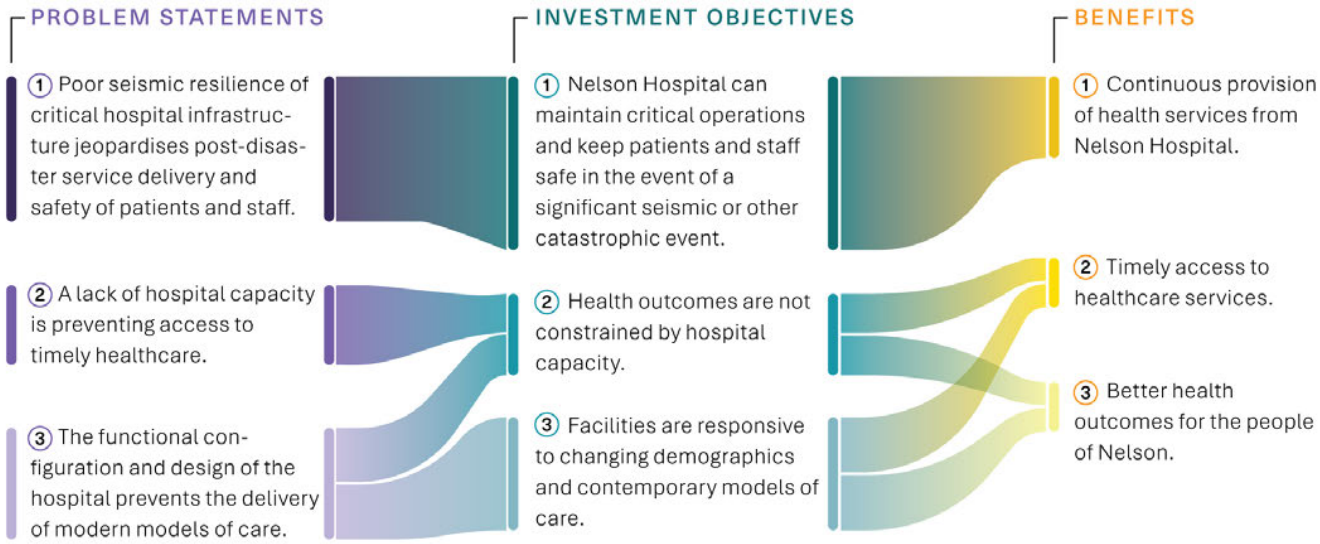
The numerous developments since the PBC have resulted in a revised set of problem statements, investment objectives and benefits which will be included in the revised PBC. It is important that this DBC reflects these changes to ensure the assessment of options and preferred approach reflect this new environment. The following changes have impacted the original investment logic.

Figure 18: Changes in government direction since the PBC



This has resulted in the following investment logic for this DBC, as shown as Figure 19.

Figure 19: Updated problem definition and benefits



3.4 As a result, Health NZ has updated and revised the response to change

3.4.1 Changes have been made at the Programme-level

Section 2 details the preferred approach to delivering the programme and has been updated to reflect significant changes that have taken places at a governmental and Health NZ level over the last 18 months. This progress is covered in the table below.

Table 9: Progress for the Programme

Progress	Cost	Notes
Commenced development of an interim emergency department facility to address immediate capacity constraints	**$10.9m**	This project is a dependency of the Programme but is being funded separately from the previous appropriation. It is being funded from Health NZ's depreciation reserves and is therefore not part of the PBC or this DBC.
Project One has commenced – this includes enabling works and design for subsequent projects within the Programme	**$73m**	Funding for Project One was appropriated on approval of the PBC. The PBC outlined an initial cost of $98m.
Revision to PBC because of Health NZ changes	9(2)(b)(ii)	The signalled costs for the Programme have reduced from $1,098 million. Programme sequencing has changed to improve delivery and right-sizing of Project Two with the delivery of three projects.
Planning for Project Two of the Programme	9(2)(b)(ii)	Subject of this DBC

3.4.2 The facilities plan for the Programme has been changed

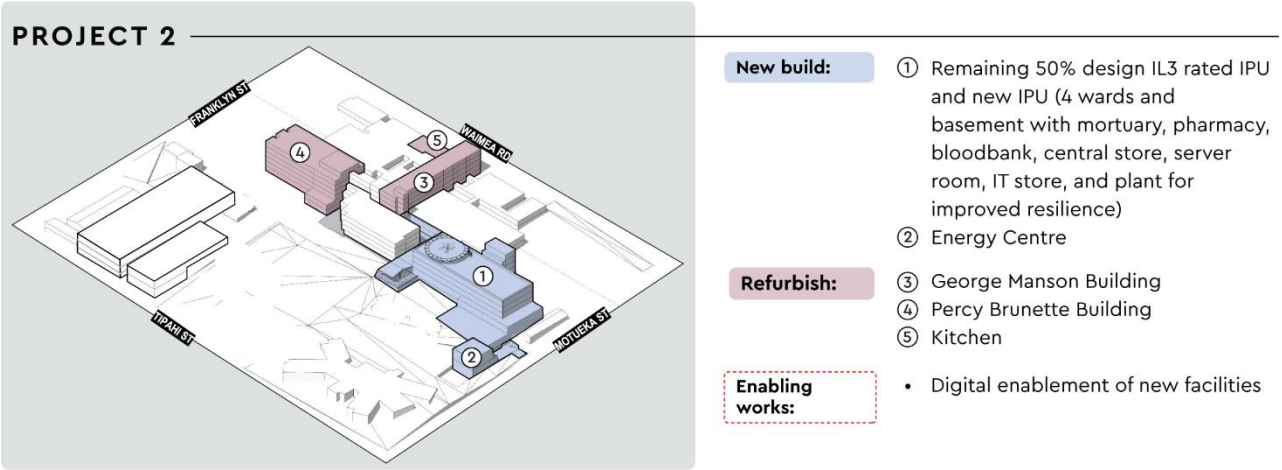
Project Two has been established in alignment with the Programme and is the primary construction project within the Programme. The Project was initially intended to be larger in scale and be one building encompassing inpatient and acute services. However, since the submission of the PBC, many Governmental and Health NZ changes have taken place and the scale of Project Two has been reduced and a greater focus has been put on the refurbishment of facilities.

The establishment of the revised Project Two has been approved by the Programme Steering Group through a feasibility study and an approved Project Initiation Document. It confirms the Project aligns with the with the requirements set out in the revised PBC as outlined in the Background section of this DBC.

This DBC considers various options for the Project Two works to both mitigate seismic risks, and to redevelop part of the campus with sequencing of builds, which then aligned with the additional capacity in alignment with new standardised demand modelling. The recommended redevelopment option consists of the construction of a new Inpatient Building and Energy Centre, followed by refurbishment of the George Manson building. It encompasses new digital capabilities and a managed process towards new operating models within the new built environment. It also remediates the seismic safety and resilience issues across existing buildings. This new recommended option has an estimated cost of 9(2)(b)(ii).

The following diagram outlines the scope of Project Two.

Figure 20: Scope of Project Two - New Inpatient Building and Energy Centre depicted in white. Existing buildings in grey.



3.5 The benefits of the investment are better understood

Investment in the Programme will yield significant benefits to the people of Nelson Marlborough. The benefits of investing in the Programme were identified in the PBC and are:

- continuous provision of health services from Nelson Hospital
- timely access to healthcare services, and
- better health outcomes for the people of Nelson.

Since the development of these benefits for the PBC, the Government has introduced the following health targets:

1. faster cancer treatment
2. improved immunisation of children
3. shorter stays in emergency departments
4. shorter wait times for first specialist appointment, and
5. shorter wait times for elective treatment.

Targets 1, 3, 4 and 5 relate directly to the Programme benefits of timely access to healthcare services and indirectly to better health outcomes for the people of Nelson Marlborough. Detailed measures and the process for managing and measuring these benefits is outlined in the Management Case of this DBC.

3.6 Risks have been updated and are better understood and some have been mitigated

The strategic risks associated with the Programme were identified in the PBC. The changes since the approval of the PBC means the risk profile of the Programme has evolved and changed; these updates are reflected in the table below along with the further defined risks for Project Two. The approach to managing, measuring and mitigating risks, along with a more detailed risk assessment, are included in the management case of this DBC.

Table 10: Strategic risks associated with the PBC and DBC

Risk	Description	Rating	Comments / Mitigation
Clinical and operating requirements	Funding constraints focus on cost, rather than clinical and/or ongoing operational requirements, reducing the ability to realise clinical and efficiency benefits	High	• Programme changes have been prepared in partnership with clinical leadership, to confirm that clinical requirements can be met • Programme uses a staged redevelopment approach to ensure operational continuity
9(2)(g)(i)			
Future proofing	Funding fails to allow for growth beyond the 20-year planning horizon, thereby restricting capacity of facilities to respond to changing demand	Medium	• The need for future flexibility / future proofing has been used as a key criterion in decision analysis, and future flexibility was an integral component within all redevelopment options
Roles and responsibilities	Allocation of responsibilities and risks between Health NZ. Health NZ stakeholders are not clearly defined	Medium	• Roles and responsibilities are clearly articulated in the programme charter and risk allocation is clearly outlined in the risk register
Workforce	Failure to appropriately plan for the redevelopment transition, including recruiting the required workforce	Medium	• A workforce plan is being developed but commitment to resourcing the Programme is required for success
9(2)(g)(i)			

Risk	Description	Rating	Comments / Mitigation
Commissioning	Regional community-based models of care are reliant on commissioning to procure services. This is outside of the scope of the project	Medium	• The new Regional Deputy Chief Executive role holds delegation for both H&SS and Commission, which will enable a single point of contact to manage the interdependencies between the services.
Digital readiness	Nationalisation of digital applications such as Electronic Medical Records (EMR) does not occur, leading to delays in implementation of digital solutions in Nelson hospital	High	• Develop a contingency plan to account for potential changes and delays • Provide project resources as standalone or coupled with other RHEP projects and NDH for leveraging design collateral. • Establish clear communication channels and agree dependencies with national digital stakeholders
Operating costs	Operating costs (for example, workforce, energy and maintenance) of the redeveloped facilities are greater than estimated	Medium	• Use of operating and maintenance cost benchmarks from other hospital redevelopments • Inclusion of contingency to cover additional operating costs. • Resourcing plans and costs are developed sufficiently early to inform and align with Concept and Preliminary Design and add milestones to the Programme • Data and digital resourcing and licensing to be considered and factored into costing where applicable
Delivery	Undertaking refurbishment works in the live operational environment may have impacts on hospital operations, planning care and cause disruption to staff and patients.	Medium	• Lesson learned from other regional projects to be applied. Careful planning for disruption to commence in design and be a key consideration and noted risk through design and construction.

3.7 There are key assumptions, constraints and dependencies associated with this Project

The assumptions, constraints and dependencies associated with the Programme were identified in the PBC. The changes since the approval of the PBC means these have evolved and these changes are reflected in the table below along with those further defined for Project Two. The approach to managing, measuring and mitigating these, along with a more detailed table, are included in the management case of this DBC.

Table 11: Assumptions, constraints and dependencies

Assumptions	Description
Governance	The governance structure and SRO will continue for Project Two
Additions to the PBC are adopted	Project Two proceeds in alignment with the proposed changes to the PBC.
Resourcing	Appropriate resourcing is provided, particularly where the Project Director requires support to scale up for Project Two's delivery.
Te Wai Pounamu region will be able to afford to operating costs	The region has its own Interim Deputy Chief Executive for the region, who holds financial delegations and a specific budget. This will ensure the DCE will own the project in the community and derisk the process.
Constraints	**Description**
Working in the live operating environment	Health NZ needs access to the buildings to carry out refurbishments and seismic upgrades which are still a live operating environment to progress the work.
9(2)(i)	
Earthquake prone buildings	Both George Manson and Percy Brunette have been served EPB notices by Nelson City Council; Health NZ is required by statute to remediate or vacate these buildings by November 2028
Campus layout	The sequencing and delivering of the programme and individual projects is constrained by the need to continue to operate Nelson Hospital throughout the redevelopment programme
Capacity constraints	Current capacity does not allow flexibility to increase patient throughput during the programme
Dependencies	**Description**
National digital facilities portfolio Blueprint	The Nelson Digital Blueprint for Project Two is aligned to the National Digital Facilities Portfolio Blueprint. Any changes to the National Facilities Portfolio

	Blueprint will need to be reviewed and assessed for impact to the Nelson Digital Blueprint for Project Two. These may be changes to scope as a result.
Interim emergency department	Additional points of care provided by the interim Emergency Department expansion
Project One	Project Two is dependent on the enabling works scheduled in Project One being completed, including decanting of services to facilitate demolition of buildings within the footprint of the new build

4 The Economic Case – Identifying the preferred option

The outcome of this Economic Case will be a preferred option to carry forward to developed design and the Implementation Business Case (IBC). It covers:

- changes since the PBC
- Project Two overview
- critical success factors to assess the options and dimensions of choice
- dimensions of choice for Project Two
- assessment of options against critical success factors
- cost effectiveness analysis of each option
- recommendation for preferred option, and
- capital and whole of life costs.

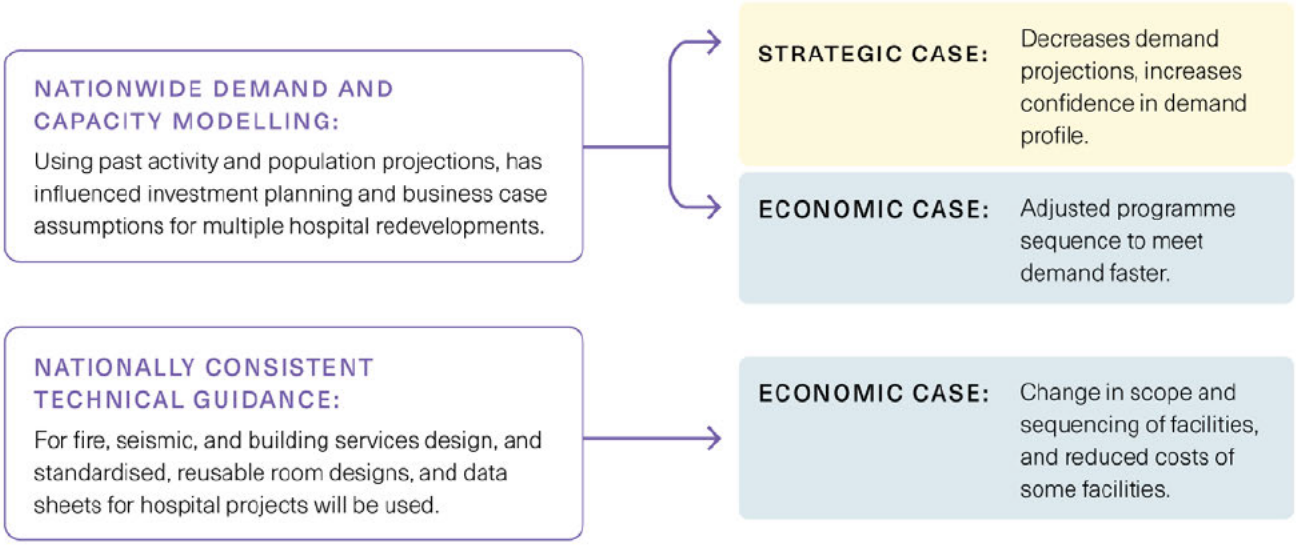
Economic Case summary

- The preferred approach for Project Two of the Nelson Hospital Redevelopment Programme will meet patient demand until at least 2034; undertake seismic strengthening of buildings, including the removal of all Earthquake Prone Building Notices; and include workforce and system transformation to identify and implement contemporary models of care.
- The Project will be delivered on the current Nelson Hospital site in alignment with the master plan. It will include construction of a new inpatient building; refurbishment of the George Manson and Percy Brunette buildings; construction of an energy centre with critical hospital infrastructure; and implementation of the required digital infrastructure, existing system expansion and new digital technology and system upgrades to support functionality of new facilities.
- The development of new facilities will be based on standardised hospital design guidelines that have been developed by Health NZ, design teams and engineers and use proven methodologies in efficient and effective hospital developments internationally.
- The Project will be delivered across five phases (Civils, Inpatient building, Energy Centre and critical infrastructure, George Manson and Percy Brunette refurbishments, and Kitchen refurbishments) from 2026-2031 with minimal disruption to the ongoing operation of Nelson Hospital and the delivery of Hospital and Health Services.
- The capital cost of Project Two will be 9(2)(b)(ii) which will be funded by The Crown. All associated operating costs will be funded by Nelson Marlborough Hospital and Health Services via Health NZ.

4.1 There have been changes since the PBC

The PBC outlined a recommended approach for the redevelopment of Nelson Hospital. Since the development of the PBC significant changes has taken place within government and Health NZ. These changes will be reflected in a revised PBC to be submitted mid-2025. This economic case is based on the proposed revisions to the PBC as outlined in the background section of this DBC.

Figure 21: Key changes to the Economic Case since the PBC in 2023



Based on the changes since the PBC, the options analysis was revisited. The changes resulted in a significant change in approach to the delivery of the Programme with a new delivery option being proposed. This option resulted in a simpler and lower cost approach to deliver the Programme. This option has been called Option 5 and the table below shows the differences between it and the initial options analysis. Table 12 compares the differences between the initial options and the revised PBC option.

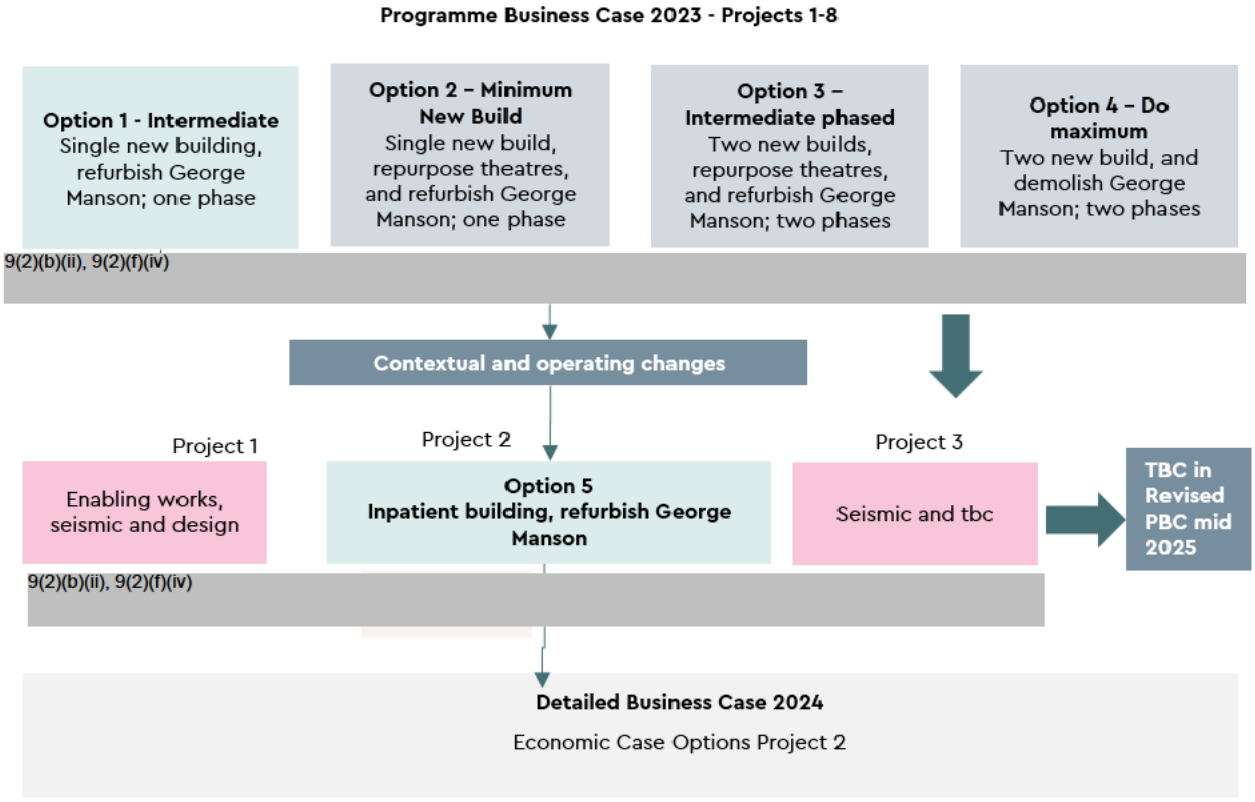
Table 12: Key options for the Economic Case

	Option 1. Intermediate – one building	Option 2. Minimum – one building	Option 3. Intermediate – two buildings	Option 4 Aspirational – two buildings	Option 5.
Inpatient	New build 1	New build 1	New build 2	New build 1	**New build 1**
Acute services	New build	New Build	New build 1	New build 2	**Refurbish**
Theatres	New Build	Repurpose	Repurpose	Repurpose	**Refurbish**
Phasing	1	1	2	2	**1**
PBC Cost estimate	9(2)(b)(ii), 9(2)(f)(iv)				

	Option 1. Intermediate – one building	Option 2. Minimum – one building	Option 3. Intermediate – two buildings	Option 4 Aspirational – two buildings	Option 5.
Reassessed cost 2024	9(2)(b)(ii), 9(2)(f)(iv)				
Critical success factor ranking	3	4	3	5	**1**
Multi criteria analysis ranking	3	Non assessed	2	4	**1**
Preferred option	**Dismissed**	**Dismissed**	**Dismissed**	**Dismissed**	**Revised PBC preferred**

The following diagram outlines the process from progressing from the original PBC to the Option 5, the subject of this economic case (assessed in further detail in section 4.4).

The PBC options has been reassessed in terms of programme and cost and reassessed cost estimates provided in Table 12: Key options for the Economic Case.



9(2)(b)(ii)

9(2)(b)(ii)

[redacted]

[redacted]

Programme Options development and analysis

Option 1 – Preferred

The preferred option from the PBC, proposed a large single IL4 acute services building with wards on top of a podium, similar in scaler and design to the Christchurch Acute Services Building and proposed Dunedin Inpatient Building. Whilst suited to an urban setting with a constrained site, this design in the Nelson setting presented challenges with the District Plan, being 20 metres above the approved planning height limit. The peer review of the design noted concerns with the flow and connectivity across the campus between the new and existing buildings as well as the adjacencies and configuration within it. It also reduced options for future proofing the site. The updated demand modelling has influenced the reassessment of this option which now would provide significant capacity above the projected demand modelling.

Option 2 – Dismissed

Option 2 from the PBC was dismissed as marginally smaller than Option 1 and did not address the similar concerns of Option 1.

Option 3 – Considered

Option 3 from the PBC proposes a large Acute Services Building as a first stage and a separate In-Patient Unit to follow. With the new information from the 2024 demand modelling, along with the approval of the ED expansion project the need for the acute services additional capacity is no longer justified and inpatient beds has been confirmed as a priority from both the demand modelling and local clinical leadership. The separation of acute building and inpatient ward clock has influenced the new DBC preferred option, but a new location and sequencing has been applied.

Option 4 – Dismissed

Option 4 from the PBC was dismissed as being significantly in excess of the capacity demand.

Option 5 – New option

New options were developed for this DBC informed by the updated Masterplan which considered:

- Risk – Seismic.
- Opportunities – Large campus for long term redevelopment, existing buildings with efficient flows.
- Priorities – Informed by clinicians.

Option 5 which was assessed against the PBC options provides a balance of addressing key priorities, in line with approved capacity demand, which allowing for future flexibility within a revised master plan, future proofed to add capacity as required, which maintaining good clinical and patient flow.

It meets the critical success factor of ensuring each project within the programme can be undertaken independent of others, and that the campus can function without being dependent upon future stages.

With the new energy centre provided in the option along with the new inpatient unit, capacity and appropriate resilience are services infrastructure secured.

This option scored well in terms of delivering benefits sooner with a short construction duration compared to other options. It also met the critical success factors better than the initially proposed options.

Table 13: Critical success factor analysis

Critical success factors	Option 1	Option 3	Option 4	Option 5
Strategic fit	Partially meets	Partially meets	Meets	Meets
Business needs	Meets	Meets	Meets	Meets
Value for money	Low	Low	Low	High
Supplier capacity and capability	Low	Med	Low	High
Achievability	Low	Med	Low	High
Affordability	Low	Low	Low	High
Outcome	Dismissed	Possible	Dismissed	**Preferred**

Updating the Programme Business Case

In accordance with advice from the 2024 Gateway review, a revised PBC, with Option 5 confirmed as the new preferred option, will be developed to update the long-term vision and programme, and presented along with the Implementation Business Case mid-2025.

Implementing lessons learned from other RHRP programmes, the updated PBC will consider all proposed redevelopment activities identified across the campus, providing decision makers with a holistic view of all projects to be delivered by the IIG major projects team, regional project team, H&SS and Digital teams, in a single document.

The aspiration to develop a Linear Accelerator in the regional is an example of a project that has been signalled and will now be further developed with HSS to determine if it should be added to the programme.

The revised PBC option is the preferred Programme approach that this DBC will be based on. The sequencing and costs of the preferred approach are outlined below.

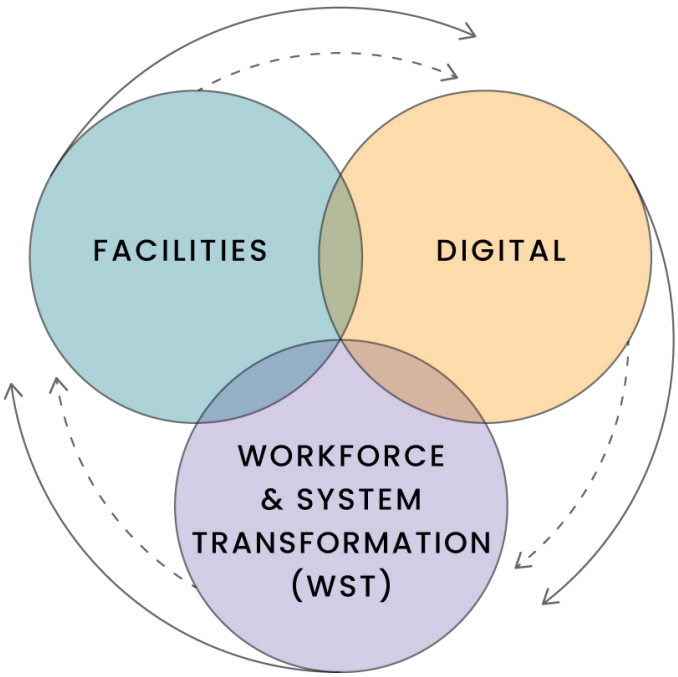
Figure 22: Timelines for the revised Programme

9(2)(f)(iv)

4.2 Project Two has three workstreams

Project Two is delivered through three workstreams, which are interdependent on each other for the realisation of benefits.

Figure 23. Workstreams with the Programme



4.2.1 Facilities

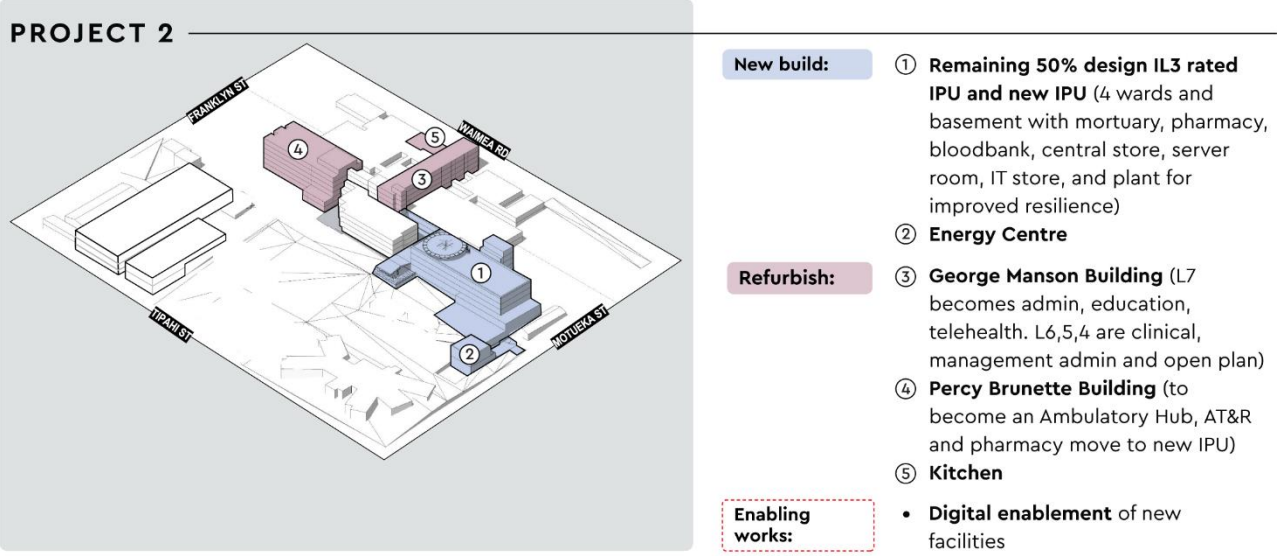
As identified in the Background and Strategic Cases, significant progress has been made in standardising the design and construction of hospital development in New Zealand. In addition, Project Two proposes to reuse existing hospital buildings through refurbishment and reallocation of services and support functions to different facilities across the hospital following site master planning activity.

Where new buildings are constructed, they are done so to appropriate levels to support the functionality of the hospital. Operational and patient flows are a key consideration with the principle that the campus must function at every stage, not just at the end. New facilities can be constructed with minimal disruption to existing operational facilities – a key consideration in a phased development.

A decanting strategy has been developed with the clinical and digital workstreams to relocate services and algin with the masterplan and objectives of the functional Design Briefs for modern models of care, to provide efficiency, particularly in the ambulatory care.

The key facility features of Project Two are summarised in the following diagram in Figure 24.

Figure 24: Key facilities work packages of Project Two



Work packages are broken down as follows:

1. New IL4 Energy Centre to house resilient services infrastructure for:
    a. Electrical supply – new 11 KVA ring main and transformers
    b. Backup generators
    c. Medical gases
    d. Water storage
    e. Steam boiler – TBC dependent on design

Energy Centre to be sized to future proof the main Waimea campus to enable incremental addition of plant when existing, such as the current boilers are at the end of life.

2. Inpatient Building and links to contain:
    f. Helipad
    g. Four inpatient wards with expansion of 41 beds (two wards migrated from George Manson)
    h. Assessment, Treatment and Rehab

i. Acute Assessment Unit
j. Mortuary
k. Pharmacy
l. Share equipment store
m. ICT hub
n. Biomedical workroom

3. George Manson refurbishment and conversion to admin and telehealth space

4. Percy Brunette refurbishment to accommodate campus moves in line with decanting plans.

The scope of the facilities workstream has been confirmed within the revised PBC and aligns with the Nelson Hospital master plan and is therefore not further assessed in the dimensions of choice within this economic case.

4.2.2 Digital

Health NZ's National Digital Framework for Major Facility Redevelopments and New Health Facility Programmes ("Digital Framework") outlines the process by which the digital scope for new hospital developments is defined, delivered and managed across all health capital infrastructure projects. The digital workstream will use the Digital Framework for the delivery of digital infrastructure and systems, leveraging the knowledge of other hospital digital programmes. In particular, delivery for the Nelson Hospital Redevelopment will be closely aligned to the digital delivery for New Dunedin Hospital, leveraging their processes, lessons learned and re-use, where possible, of digital capability architecture and solution design. The Nelson Hospital digital team works closely with both the digital teams of New Dunedin Hospital and Project Pihi Kaha in Whangarei due to the similarity of delivery (digital components) and timeframes.

The digital infrastructure and systems supporting Project Two will be delivered as necessary to ensure that the redeveloped and refurbished Nelson Hospital is adequately equipped on open day. It is expected that other digital projects will be implemented at Nelson Hospital including upgrades and major new projects, by Health NZ during the timeframe of Project Two. These changes will occur in parallel but occur in coordination with Project digital team to minimise risk to delivery of the digital workstream and also to ensure any change takes into consideration digital land ape changes as a result of Project Two.

The scope of the digital workstreams includes delivery to the following digital categories:

- **Wider / hospital digital solutions** – Hospital based solutions that are widely used to support community level care, such as hospital in the home and care in the community solutions.
- **Core digital infrastructure** –Digital infrastructure such as active networks, unified communication systems and real-time location systems. Delivered to Health NZ national standards.
- **Passive digital infrastructure** – Digital infrastructure implemented during the construction of buildings such as cabling, networks, radio, engineering and building management systems. Delivered to Health NZ national standards.
- **Existing solutions** – these solutions require extensions, upgrades or uplifts to ensure continued functionality within the new facilities. It includes telehealth solutions and critical priority software solutions used in the new facility
- **Facility solutions** – these solutions supplement and replace current manual processes or physical solutions that support facilities and include observation and monitoring systems, digital signage.

- **Health technology management** – these solutions supplement and replace current manual processes or physical solutions that support patent care and health management and include solutions such as automated medication dispensers.
- **Digital devices** – these solutions are the devices used in delivering health and facility services and include solutions such as desktops, printers and audiovisual components.

A Digital Blueprint has been developed to detail the agreed scope for delivery from each of these digital categories for project Two.

The agreed scope considered the appropriate digital change required for Nelson Hospital which would;

- Implement minimum **Baseline Digital Facility** level of change; which would enable Nelson Hospital digital infrastructure to it to meet minimum Health NZ standards for modern digital technology and address key areas of digital risk concerns

OR

- Implement **Standardised Enabling Digital Facility** for Health Capital Infrastructure projects, which includes the Baseline level of change (as described above) but also the digital capability required to support modern in-hospital Models of Care, real-time hospital flow reporting and enable digitally supported community level care, such as Hospital-in-the-Home.

OR

- Implement both Baseline and Standard Digital Facility (as above) as well as advanced digital technology, such as an automated Pharmacy & medication dispensing and that would enable the In-Patients unit of Nelson Hospital to open as a high efficiency **Enhanced digital Facility.**

9(2)(g)(i)

The **Standard Digital Facility** preferred option, does future proof the In-Patients Unit and the hospital digital network to be "digital infrastructure ready", which means, as an outcome of Project Two, it will be is ready to support implementation of a full smart digital hospital, and an EMR when available.

4.2.3 Workforce and systems transformation

The WST workstream supports change management, services migration, and will support staff and consumers in the new delivery of care. As such, models of care are a key focus of the WST workstream. Models of care are the ways in which Health New Zealand provides healthcare to the community.

By working collaboratively with clinicians, non-clinical staff, healthcare providers, and consumers and their whānau, projects are undertaken that will lead to changes that create a cross-functional system with the best outcomes for people. These initiatives include integrated service plans, and locality planning. Overall, these projects focus on making healthcare more proactive and accessible, with people placed at the centre.

The strategic focus of the Nationwide Services and Campus Planning is driven by several assumptions that will be realised due to changes in models of care. Managing clinical demand is essential to the successful

delivery of the Nelson Hospital Redevelopment Programme. Many procedures can be better (more safely, more effectively) undertaken in community settings, reducing demand on hospital services.

Delivering on these assumptions is an essential part of investing in a right-sized, efficient, modern hospital facility through Project Two. Implementing the new national models of care projects and portfolios will manage demand for beds and is essential to meeting future bed demand projections. In this sense, it is critical to achieving the Nelson Hospital Redevelopment Programme benefits.

The scope of the workforce and system transformation workstream has been confirmed within the revised PBC and is therefore not further assessed in the dimensions of choice within this economic case.

4.3 The critical success factors are essential for successful delivery

Critical Success Factors (CSFs) are elements that are essential for successful delivery of Project Two. They are intended to complement the investment objectives: investment objectives describe what the investment intends to achieve, whereas CSFs describe how best to achieve it. They have been updated since the PBC to reflect standard critical success factors and make options analysis consistent across all hospital redevelopment programmes by Health New Zealand. The revised CSFs (with accompanying descriptions) provided in Table 14 below.

Table 14: Revised Critical Success Factors

Critical success factor	How well the option:
Strategic fit and business needs	• Aligns with the Health NZ Infrastructure Investment Plan • Meets statutory or regulatory requirements e.g. seismic requirements • Patient and Staff Flows • Disruption Minimisation • Future Models of Care • Future Programme Optionality • Speed of Delivering Benefits • Alignment with demand modelling
Potential value for money	• Optimises value for money (i.e., the optimal mix of potential benefits, costs and risks).
Supplier capacity and capability	• Matches the capacity and/or capability of potential suppliers to deliver the required services; and • Is likely to result in a sustainable arrangement that optimises value for money over the term of the contract
Potential affordability	• Can be met from signalled funding in the revised PBC • Responds to cost pressure across the health system, and • Ongoing operating costs for service delivery can be met by Hospital and Health Services

Critical success factor	How well the option:
Potential achievability	• Is aligned with Health NZ's ability to manage delivery of the option and respond to the changes required; and • Minimises disruption to hospital services

4.4 Further optionality analysis determines the best approach to deliver Project Two

The purpose of this section is to identify and assess a range of options that achieve the investment objectives and are aligned to the scope, parameters and critical success factors identified above. The options analysis uses dimensions of choice to identify alternative options for the delivery of Project Two. Some of these dimensions of choice have been confirmed via the revised PBC and some will be assessed within this Economic Case. This options analysis section sets out to determine scope, scale and standards preferred options. The dimensions of choice are outlined in the table below.

Table 15: Updated dimensions of choice

Dimension of choice	DBC options		
Service delivery	As outlined in the PBC – services delivered in the hospital by Health NZ		
Scope	Facilities with **baseline** digital	Facilities with **standardised enabling** digital	Facilities with **enhanced** digital
Scale	Meets 2029 demand	Meets 2034 demand	Meets 2043 demand
Standard	IL standard	Greenstar	Design
Location	As outlined in the PBC – defined in the Nelson Hospital master plan		
Implementation	As outlined in the PBC – facilities and services delivered as part of Project Two		
Funding	As outlined in the PBC – Project Two capital costs funded by the Crown		

The outcomes of this analysis will then be used to determine three options for Project Two (in addition to the preferred approach established in the revised PBC). Each of these options will be assessed using multi criteria analysis and then a preferred option identified.

Scoring	Does not meet the assessment criteria	Somewhat meets the assessment criteria	Meets the assessment criteria