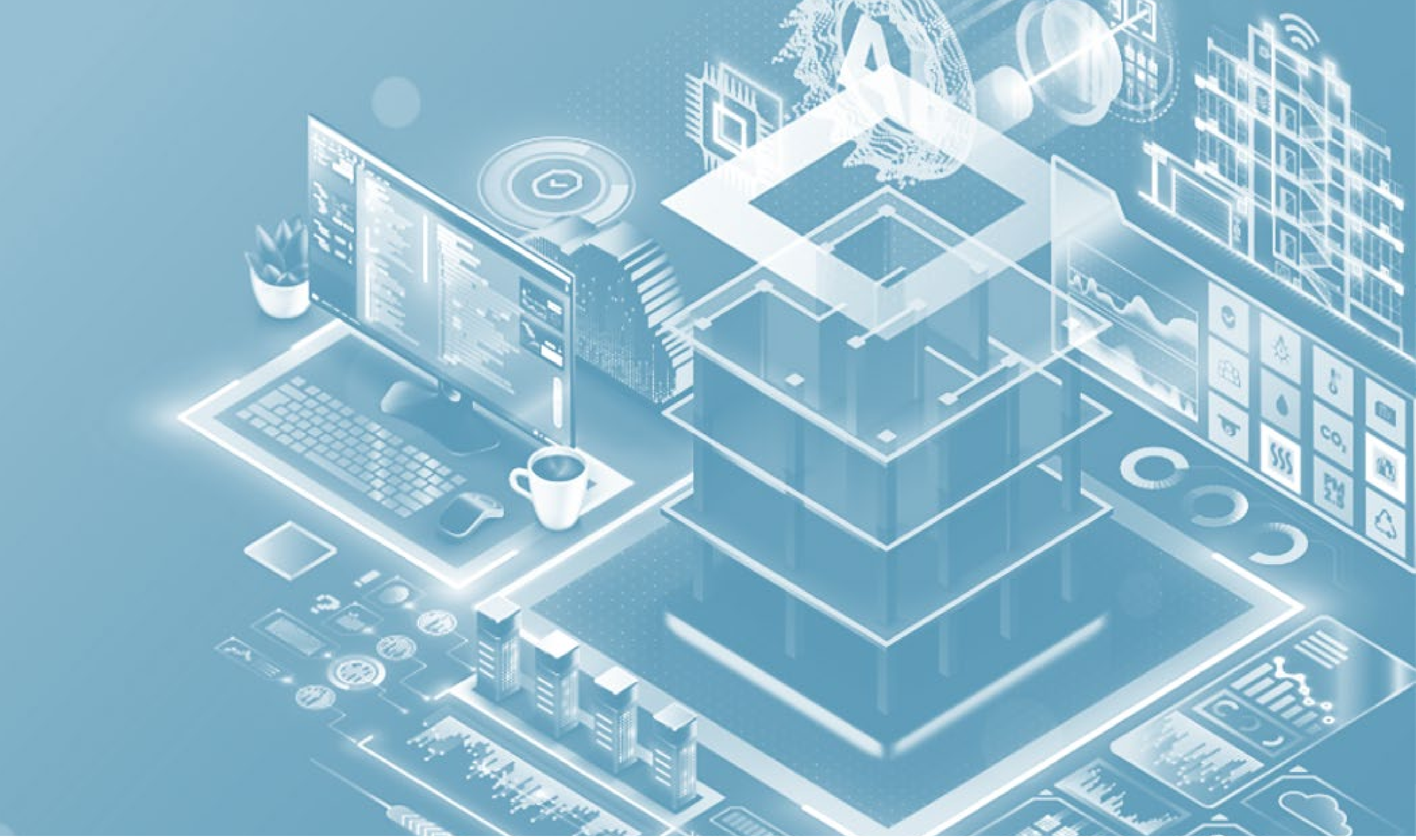

Australasian Health Infrastructure Alliance

AHIA BIM Return on Investment (ROI) Paper – Core Report

February 2026

Version **1**

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Australasian Health Facility Guidelines

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The AusHFG are an initiative of the Australasian Health Infrastructure Alliance (AHIA). AHIA membership is comprised of representatives from government health infrastructure planning and delivery entities in all jurisdictions in Australia and New Zealand.

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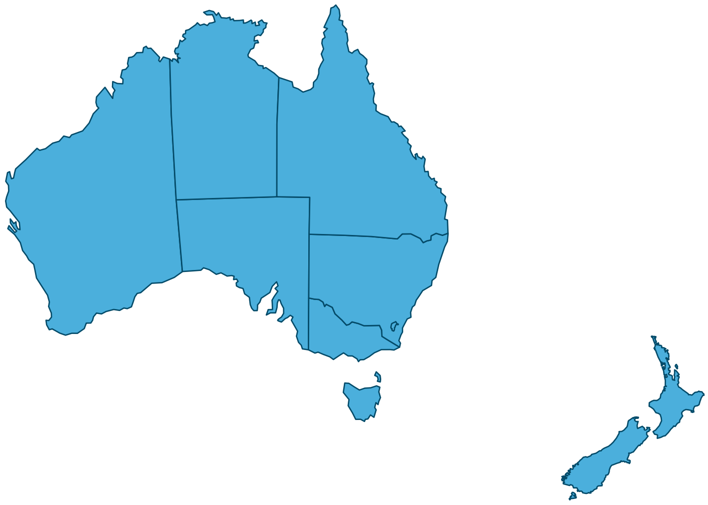
AHIA recommends that those seeking to rely on the information in the AusHFG obtain their own independent expert advice.

Cultural Acknowledgement and Terminology

The Australasian Health Facility Guidelines (AusHFG) are developed in collaboration with stakeholders across Australia and Aotearoa, New Zealand.



Acknowledgement of Country

We acknowledge the Aboriginal people and Torres Strait Islander People as traditional owners and continuing custodians of the land throughout Australia and the Torres Strait Islands.

We acknowledge their connection to land, sea, sky and community and pay respects to Elders past and present.

Acknowledgement of Te Tiriti o Waitangi

We acknowledge Māori as tāngata whenua in Aotearoa New Zealand.

Te Tiriti o Waitangi obligations have been considered when developing the AusHFG resources.

Terminology and Language in the AusHFG

Throughout the AusHFG resources, the term 'Indigenous Peoples' is used to refer to both the Aboriginal and Torres Strait Islander Peoples of Australia and Māori of Aotearoa, New Zealand. Where references to specific cultural requirements or examples are described, the terms 'Aboriginal and Torres Strait Islander Peoples' and 'Māori' are used specifically. The AusHFG respect the right of Indigenous Peoples to describe their own cultural identities which may include these or other terms, including particular sovereign peoples or traditional place names.

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Acronyms

Acronym	Definition
ACC	Autodesk Construction Cloud
AHIA	Australasian Health Infrastructure Alliance
AS	Australian Standard
AS/NZS	Australian and New Zealand Standard
AusHFG	Australasian Health Facility Guidelines
BCA	Building Code of Australia – Volume 1 and Volume 2 of the NCC
BIM	Building Information Modelling
CCTV	Closed Circuit Television
CDE	Common Data Environment
CMMS	Computerized Maintenance Management System
DDA	Disability Discrimination Act
DE	Digital Engineering
DfMA	Design for Manufacture and Assembly
ESD	Environmentally Sustainable Development
FF&E	Furniture, Fittings and Equipment
FTE	Full Time Equivalent
GIS	Geographic Information Systems
HPU	Health Planning Unit
HVAC	Heating, Ventilation, and Air Conditioning
IoT	Internet of Things
IP&C	Infection Prevention and Control
ISO	International Standards Organization
MEP	Mechanical, Electrical, Plumbing systems
MME	Major Medical Equipment
NCC	National Construction Code (Australia)
NZBC	New Zealand Building Code
PCG	Project Control Group
PUG	Project User Group
ROI	Return on Investment
SME	Subject Matter Expert
WHS	Workplace Health and Safety

1 How to read this report

This report has been divided into two separate documents to cater for different audiences.

Core Report (this document)

The Core Report is intended for an executive audience. It provides a concise summary of the investigation into BIM ROI and its findings, providing a succinct case for future BIM investment.

Detailed Report

The Detailed Paper is intended for a technical audience. It provides full details of the approach and methodology, assumptions and limitations, detailed analysis, findings and insights, case studies, recommendations, stakeholder engagement, references and supporting documents.

2 Executive Summary

2.1 What is BIM?

Building Information Modelling (BIM) is a collaborative and integrated approach to digital and data-driven infrastructure planning, delivery and operations. It encompasses governance, people, processes, technology, and data to enable more efficient and effective decision-making across the design, construction, and operational phases of infrastructure assets. This approach is supported by a suite of enabling technologies, including intelligent 3D modelling, computer-aided design (CAD), geographic information systems (GIS), Internet of Things (IoT), reality capture, and asset management systems, which work together to enhance data integrity, transparency, and collaboration across stakeholders. By emphasising these interconnected elements and focusing on connected, structured asset information, BIM aims to deliver higher-performing infrastructure, optimise resource utilisation, and achieve better long-term value and outcomes across the asset lifecycle.

2.2 The Opportunity

The adoption of BIM represents a transformative opportunity for the health infrastructure sector in Australia and New Zealand, enabling national-scale innovation and modernisation of public assets. As both a digital and operational enabler, BIM facilitates seamless integration across the planning, design, construction, and operational phases of health infrastructure projects.

The Potential Return on Investment (ROI)

This BIM Return on Investment (ROI) Paper identifies a significant and rapid return on investment from uplifting BIM capability. Financial benefits achievable for small, medium and large health jurisdictions are summarised in Figure 1 below.

Figure 1: BIM Return on Investment

	Potential BIM Benefits over the next 5 years	Potential ROI from BIM Investment	Positive return after
Small Health Jurisdiction	**$10.4M**	**38%**	**3.5 years**
Medium Health Jurisdiction	**$45.6M**	**86%**	**3 years**
Large Health Jurisdiction	**$308M**	**113%**	**2.5 years**

Figure 2 (next page) shows the financial benefits achievable for small, medium and large health jurisdiction over a typical 5-year capital works program and further demonstrates the return on investment for BIM.

Figure 2: Financial benefits achievable over a 5-year capital works program

Unlocking Value Across the Lifecycle

The implementation of BIM presents significant benefits:

- **Financial Impact:** Tangible cost savings through reduced rework, improved design coordination, and enhanced procurement efficiency. BIM can save 16–20% in change and rework costs, reduce estimation effort by up to 18%, and cut annual maintenance costs by 9–10%.
- **Operational Excellence:** Digital twins and structured asset handovers ensure data-driven decision-making, streamlined facilities management, and improved lifecycle cost-efficiency.
- **Sustainability:** BIM enables carbon accounting, energy performance analysis, and prefabrication, advancing environmental goals and delivering resilient infrastructure.
- **Community Outcomes:** Optimised patient-centric spaces, improved safety, and enhanced user experience.

National BIM maturity uplift represents not just a "better way to build" but also a smarter, more integrated approach to sustaining critical healthcare assets.

2.3 The Investment Needed

Recommended Investment Roadmap:

This BIM ROI Paper outlines three stages of BIM investment, with each stage enabling additional BIM uses and unlocking additional BIM benefits. These recommended stages are summarised in Figure 3 below:

Figure 3: Recommended Investment Roadmap

	Investment includes:	Estimated investment required: (per jurisdiction)	Estimated investment timeframe:
Zero to Basic	Governance frameworks, standardised contracts, foundational training, clash detection tools, common data environments and BIM data standards.	$5-11M	2 years
Basic to Intermediate	Object libraries, design reuse, 4D sequencing & scheduling, 5D cost estimation, and asset performance data standards.	$2-4M	12-18 months
Intermediate to Advanced	Advanced enablers such as offsite construction,DfMA enabled workflows, carbon accounting and digital twin readiness.	$3-5M	12-18 months

It should be noted that these estimated investments assume that an organisation is starting from a zero-base – this is not the case for all AHIA jurisdictions. Several AHIA jurisdictions have already made significant inroads on these investments, and so their level of investment would be far less than the figures shown above.

It should also be noted that a collaborative approach to share this investment – and to share frameworks, requirements, standards, tools and processes – has the potential to significantly reduce the investment required from each stakeholder.

Resourcing Needs

To sustain BIM capability within health infrastructure organisations, it is also recommended that each jurisdiction invest in dedicated and ongoing BIM and Digital Engineering capability:

- **Small jurisdictions:** 2–3 FTE digital engineering staff.
- **Medium jurisdictions:** 4–5 FTE digital engineering staff.
- **Large jurisdictions:** 6–8 FTE digital engineering staff.

2.4 Why Now?

Failing to act decisively risks leaving health infrastructure projects mired in inefficiencies, fragmented systems, and underdelivering for communities. This inaction carries measurable and intangible costs:

Risks Associated with Failing to Act

1. **Fragmentation and Duplication Across Jurisdictions:** Without a unified approach, inconsistent data, processes, and standards will perpetuate inefficiencies, erode project value and create barriers to cross-jurisdictional collaboration.
2. **Rising Project Costs and Delays:** Costly rework and inefficient coordination processes jeopardise hospital delivery schedules, diverting funds from critical community services.
3. **Lost Opportunities in Operational Excellence:** The lack of structured data and digital workflows hinders preventive maintenance, operational readiness, and carbon-neutral infrastructure goals.
4. **Missed Economic and Industry Growth Potential:** BIM's adoption catalyses local digital capability, upskilling the construction workforce, fostering innovation, and supporting industry competitiveness. In the absence of investment, opportunities to align with wider government technology and sustainability priorities are significantly constrained.

Why Now is the Time to Act

1. **Catalysing National Resilience:** Transformative investments in BIM modernise infrastructure networks and create strong digital foundations for the future.
2. **Unlocking Portfolio-Cost Efficiencies:** A robust pipeline of upcoming projects accelerates cumulative benefits, ensuring rapid ROI on investments.
3. **Seizing "First-Mover" Advantage:** Establishing national BIM standards now cements AHIA’s leadership role, enabling standardised data protocols, cross-sector collaboration, and streamlined scaling of capabilities.

3 Purpose of this Report

Inconsistent adoption of BIM across health jurisdictions is limiting the sector's ability to realise infrastructure planning, delivery, and operational efficiencies. The value of BIM adoption extends beyond infrastructure design and construction and provides a strategic enabler of long-term organisational intelligence. When implemented effectively, BIM supports portfolio-wide visualisation of assets, consistent data attributes for integration with interfacing and downstream systems, and reliable models that can inform digital twins, post-occupancy evaluations, and cross-project benchmarking. It enables standardised delivery approaches and establishes repeatable expectations for modelling standards and workflows across the supply chain. Unlocking this value requires coordinated investment and policy alignment across jurisdictions.

This paper aims to fill existing knowledge gaps around BIM investment costs and benefits and provides quantitative analysis on BIM costs and benefits to support business cases for BIM investment. By focusing on the specific needs and conditions of Australia and New Zealand, this paper seeks to equip decision-makers with the evidence they need to advocate for broader BIM adoption. Ultimately, these insights will support optimised funding strategies and promote enhanced project performance through evidence-based practises, enabling jurisdictions to achieve more sustainable and effective outcomes in health infrastructure delivery and operations.

Figure 4 summarises the objectives and goals of this study, and the key questions that this report seeks to answer.

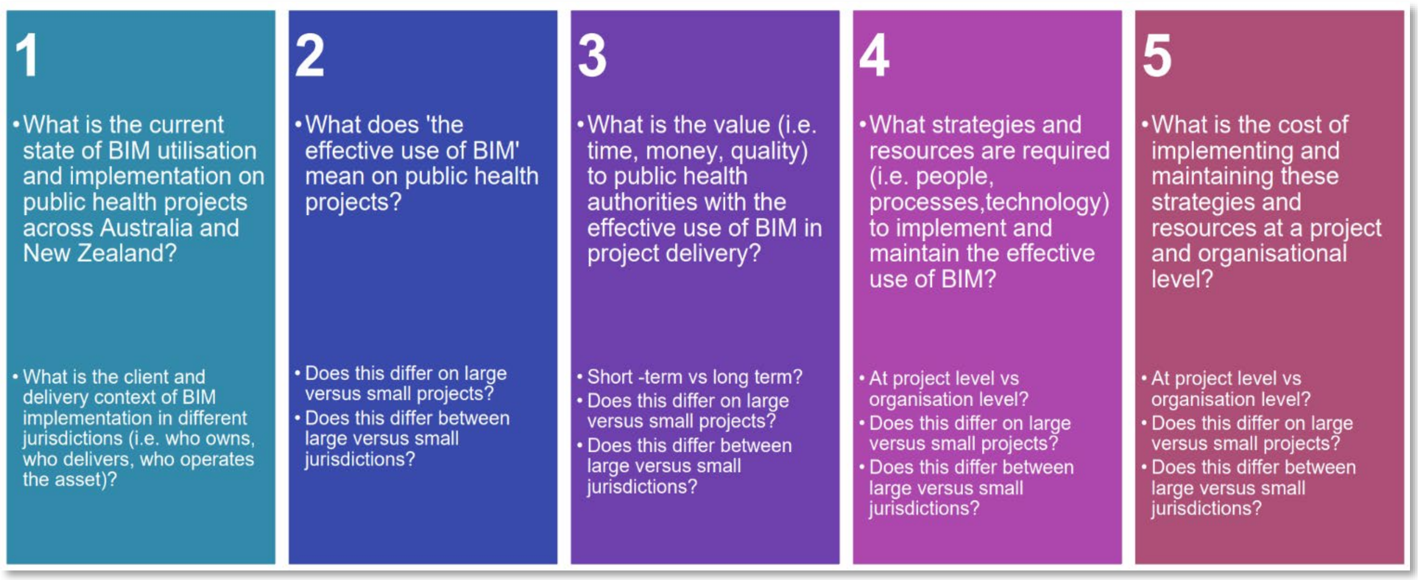


Figure 4: Objectives and Goals of this Study

4 Financial ROI Highlights

The financial ROI for this paper focuses on representative costs and benefits for three hypothetical case studies:

- A **"small project"** – represented by a Community Health Hub – focusing on the basic BIM investments recommended for an organisation with limited BIM maturity.
- A **"medium project"** – represented by an Integrated Health Campus – focusing on the intermediate-level BIM investments recommended for an organisation seeking to build on its BIM foundations.
- A **"large project"** – represented by an Integrated Health and Research Centre – focusing on the advanced-level BIM investments that may be considered by an organisation with high levels of existing BIM maturity.

The below table Illustrates the project level investment and resulting cost avoidance benefit for various project sizes and organisation BIM maturity levels.

Table 1: Project Level Cost Benefit

Case Study 1	Case Study 2	Case Study 3
Community Health Hub (<$50M)	Integrated Health Campus ($50-250M)	Integrated Health & Research Centre (>$250M)
		
Organisational BIM Maturity		
Basic	**Intermediate**	**Advanced**
Project Level Investment (% of Total Project Value)		
0.5%	**2.39%**	**2.41%**
Project Cost Avoidance Benefit (% of Total Project Value)		
7%	**8%**	**11%**

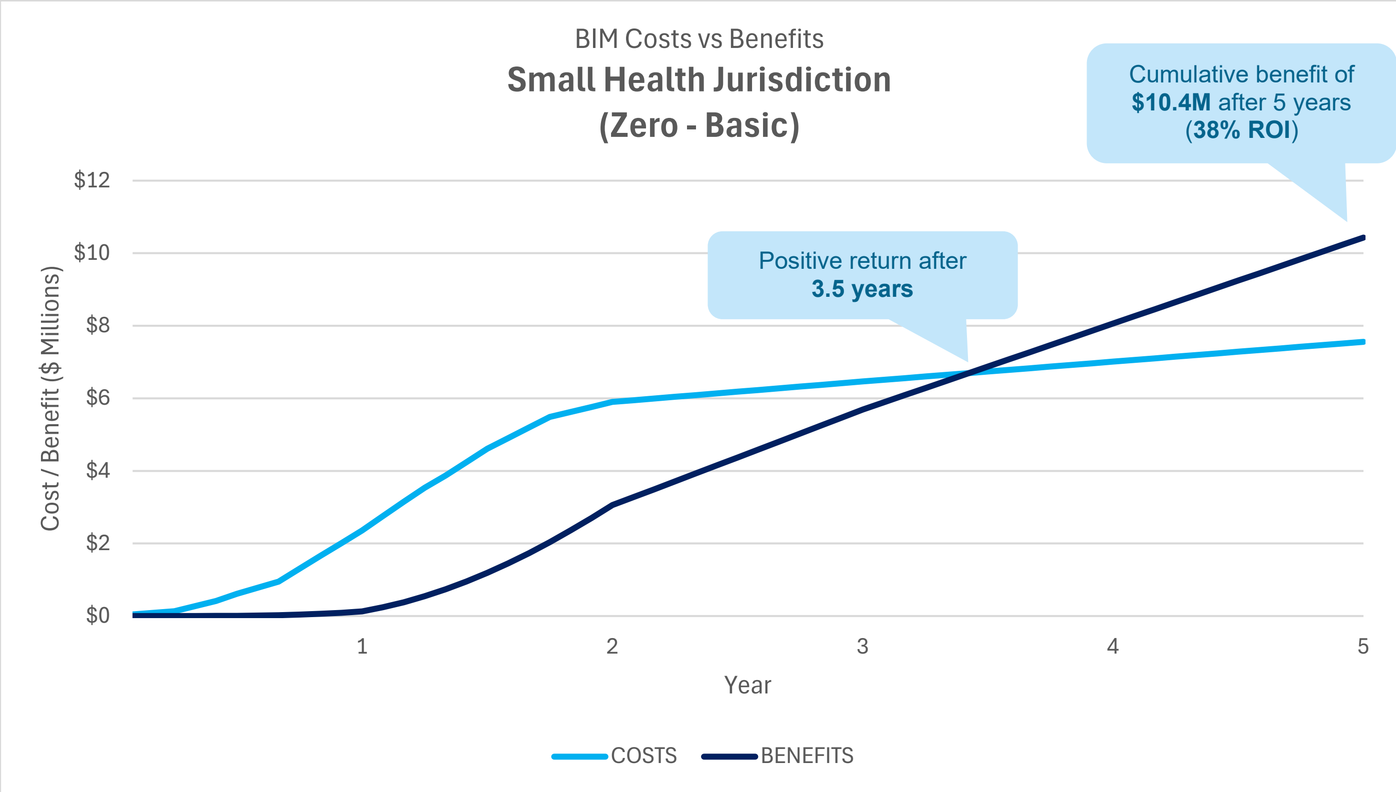
Whilst the cost of BIM grows marginally with the size and complexity of the project, the benefits achievable increase significantly. For a small project, an extra 0.5% investment can deliver 7% savings. For a medium project, an additional 2.4% investment can achieve approximately 8% savings. For a large project, the extra investment remains about 2.4%, but the potential savings increase significantly to up to 11%.

The financial ROI from BIM is strengthened even further when viewed in the context of a longer-term project pipeline.

For the purpose of this analysis, the hypothetical ROI for each case study over a 5-year period was analysed, including consideration of the typical project pipelines for small, medium and large jurisdictions. The yield curves below illustrate forecast return on investment and payback-period for each of the hypothetical case studies.

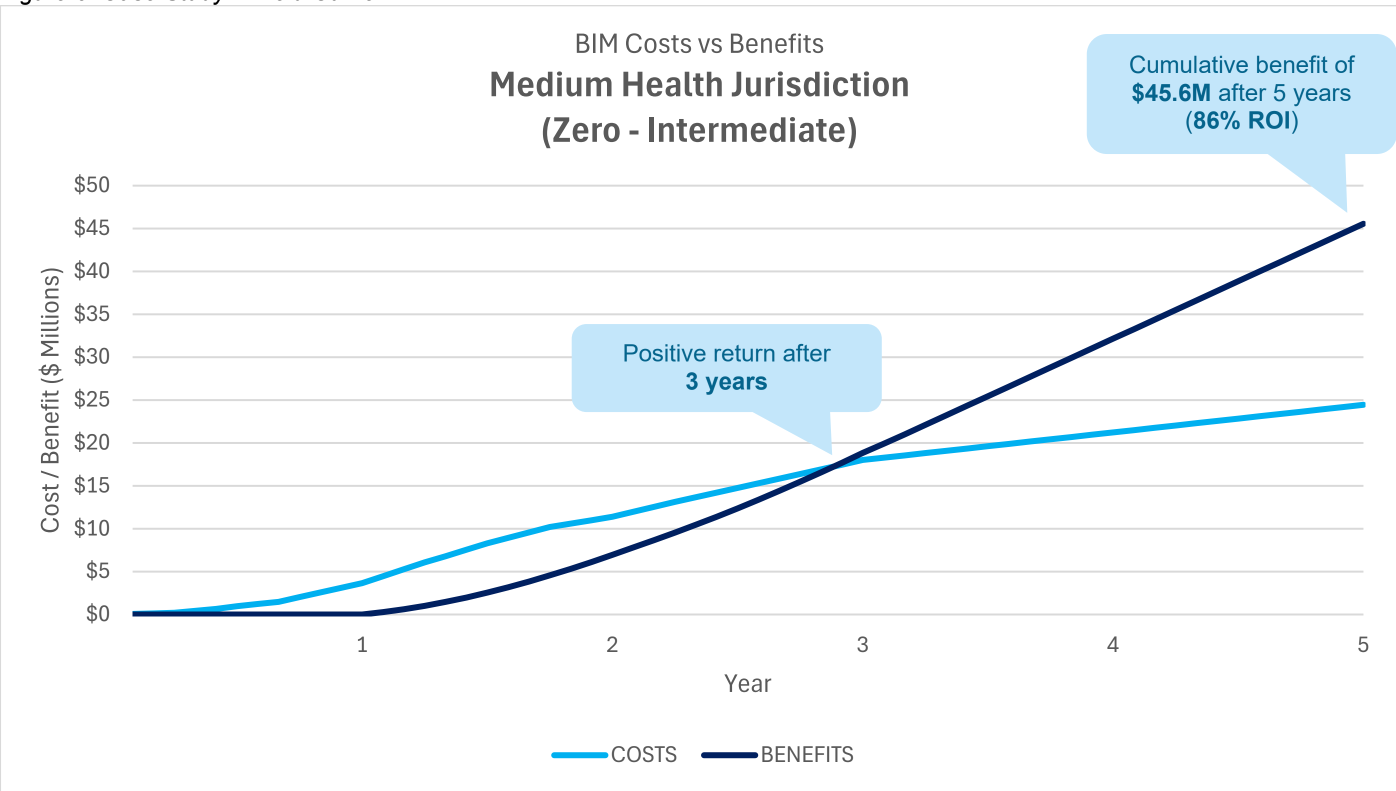
For Case Study 1, a smaller project pipeline is assumed, with a forecast 5-year capital delivery program of **$185M**. The yield curve shows that a small health jurisdiction with a relatively small project pipeline can achieve a positive return on BIM investment after approximately **3.5 years**, and a cumulative benefit of **$10.4M** over 5 years. This represents a **38% ROI**.

Figure 5: Case Study 1 Yield Curve



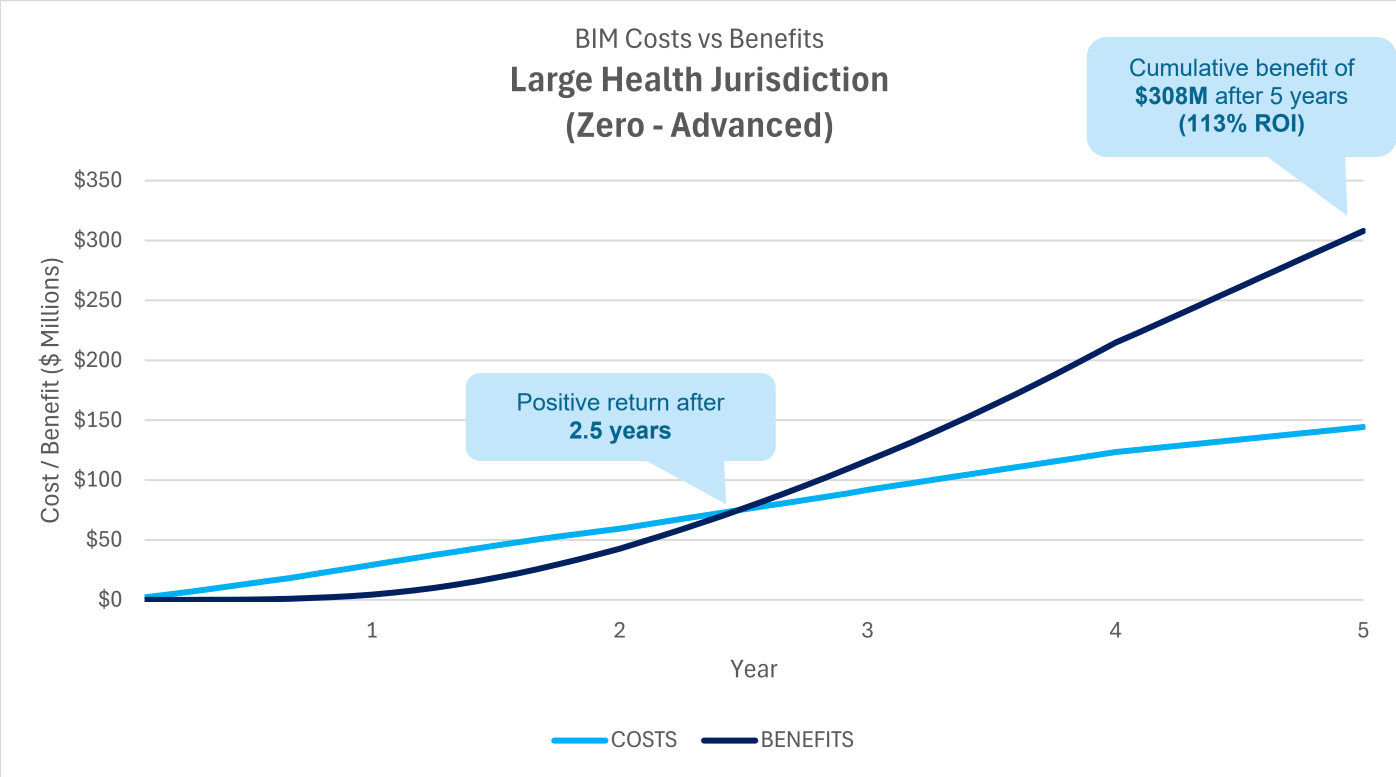
For Case Study 2, a medium project pipeline is assumed, with a forecast 5-year capital delivery program of **$675M**. The yield curve shows that a medium-sized health jurisdiction with a medium-sized project pipeline can achieve a positive return on BIM investment after approximately **3 years**, and a cumulative benefit of **$45.6M** over 5 years. This represents an **86% ROI**.

Figure 6: Case Study 2 Yield Curve



For Case Study 3, a large project pipeline is assumed, with a forecast 5-year capital delivery program of **$6.15B**. The yield curve shows that a large health jurisdiction with a relatively significant project pipeline can achieve a positive return on BIM investment after approximately **2.5 years**, and a cumulative benefit of **$308M** over 5 years. This represents a **113% ROI**.

Figure 7: Large Health Jurisdiction Yield Curve



5 Current State of BIM in Healthcare

5.1 Challenges and Barriers

Health infrastructure delivery authorities face a range of challenges when it comes to BIM adoption and implementation. Key challenges are summarised in Table 3 which highlight the need to improve understanding and integration of BIM throughout the project lifecycle across all health jurisdictions.

Table 2: Health Jurisdiction BIM Adoption Challenges

Health Jurisdiction BIM Adoption Challenges			
Governance	**Fragmented leadership:** Inconsistent adoption of governance frameworks and a lack of BIM leadership limit portfolio-level accountability.	**Projects to operations disconnect:** Disconnection between project team and operation team. Without strong governance, BIM's potential to add value throughout the project lifecycle is undermined.	**Immature reporting tools:** A lack of consolidated portfolio-wide reporting and dashboarding reduces the visibility and utility of BIM at the operational level.
People	**BIM awareness:** Lack of understanding across key stakeholders about the long-term benefits of BIM results in resistance. This includes perceptions that BIM is an "extra" or "optional" task, rather than a core delivery tool.	**Lack of dedicated roles:** Quality and consistency of BIM implementation is impacted in the absence of dedicated BIM resources.	**Lack of defined roles and responsibilities:** Differing interpretations of who owns or is responsible for specific aspects of federated BIM models creates conflict within design teams, slowing implementation and coordination.
Process	**Isolated or discipline-specific adoption of BIM:** Contractors often have the necessary skills but utilize BIM in isolated disciplines realising isolated benefits, rather than as a collective team. BIM is most effective when fully integrated across a project, providing a connection between disciplines and stakeholders.	**Scalability Challenges:** Variance in project sizes and scopes makes it difficult to establish scalable BIM processes and determine clear return-on-investment benchmarks.	**Value Engineering Risks:** Cost-cutting measures during the build phase can compromise BIM implementation, affecting data quality and alignment with long-term asset management needs.
Technology	**Technology fragmentation:** Tools such as dRofus, Revit, and other design software often lack seamless integration, resulting in inefficiencies and increased risk of error during data transfers. Furthermore, there are no consistent client specifications for exactly how these platforms need to be utilised and what data is required from each.	**Integration challenges:** Integrating BIM with operational building management systems raises cybersecurity concerns, adding a layer of hesitation in adopting comprehensive digital threads. Also, IT teams with legacy processes and mindset are not ready fully for cloud-based platform.	**Limited automation:** Workarounds like Excel and unmanaged email chains bypass formal BIM processes, leading to inconsistencies in quality assurance and tracking changes.

Data	**Data Capture Burden:** Increased demands for data collection and documentation lead to push back from consultants, contractors, and project teams who perceive this as extra workload. This often results in insufficient or delayed data entry.	**Lack of Standardisation:** Different health agencies have different requirements and practices.	**Data handover integration:** Incomplete or delayed asset data delivery to operations teams. This undermines the potential to link BIM data with facilities management systems effectively.

5.2 Opportunities for BIM and Digital Engineering

Health jurisdictions acknowledge that there are significant opportunities for BIM adoption across the project lifecycle. Table 4 summarises some key opportunities identified across the asset lifecycle, and emphasizes the existing opportunities to unlock benefits including increasing delivery certainty, reducing risk, improving data accuracy, and facilitating better long-term asset management.

Table 3: Health Jurisdiction BIM Adoption Opportunities

Health Jurisdiction BIM Adoption Opportunities			
Plan	**Design**	**Build**	**Operate & Maintain**
• **Standardised asset requirements** are defined early using BIM, reducing surprises later in the project. • **Improved space utilisation** through alignment with the AusHFG. • **Structured BIM data** gives tenderers clarity on scope, deliverables, and asset expectations, reducing interpretation risk and improving accountability. • **Reality capture technologies** help contextualise tender documentation, enhancing contractor understanding of site conditions and logistics. • **Tender documents paired with models** enable faster and clearer comprehension of project requirements. • **Rapid asset lookup** reduces time from weeks to seconds, improving operational efficiency. • **Lifecycle planning is improved,** enabling	• **Early BIM coordination** prevents costly variations by catching service clashes and validating layouts against AusHFG. • **Reduced contingency allowances** due to more accurate early cost estimation. • **Faster design and coordination** due to availability of existing digital assets, aiding site logistics like crane and equipment movement. • **Defined and Standardised** digital deliverables received at each project phase. • **Integration of AusHFG, advisory inputs, and kit-of-parts** into a single digital template streamlines design, and provides consistency across BIM Execution Plans, asset registers, information requests, quality checks and inspections. • **Spatial benchmarking** to track variation of brief vs design areas throughout design development.	• **Improved defect tracking and responsibility management** through digital workflows. • **Improved procurement workflows** - BIM and associated data can be utilised to verify quantities and scope for trade packages. • **Enhanced model coordination** leads to fewer clashes and better design outcomes. • **Reduced safety risks** due to better coordination and planning enabled by BIM. • **Improved site staging and logistics management** through early digital planning. • **Asset data alignment with procurement** before installation has reduced risks and improved delivery accuracy. • **Digital deliverables workflow** (e.g. ACC) replaces static paper submissions.	• **Structured and trustworthy as-built information** enables better long-term asset management and reuse. • **BIM data supports maintenance planning**, faster fault response, and lifecycle forecasting not yet fully implemented. • **As-built drawings stored in models** ensure teams have holistic building information which is not isolated project outputs. • **System descriptions in O&M manuals** are improved when lifecycle data from multiple projects is merged. • **Smarter asset registers** can be created when modelling teams assign asset marks directly in the model. • **Seamless integration** with CMMS and procurement systems using clean, structured data. • **Streamlined compliance checks** for fire safety, WHS, and infection control, reducing handover risks.

proactive renewals and reducing "run to failure" scenarios.	• **Faster design and coordination** due to availability of existing digital assets, aiding site logistics like crane and equipment movement.		

6 BIM Uses, Investments and Benefits

Our approach for this engagement centres around the linkage between:

- **BIM Uses** – the effective use of BIM across the health infrastructure lifecycle
- **BIM Benefits** – the value that effective use of BIM can provide for a health infrastructure authority
- **BIM Investments** – the business enablers that a health infrastructure authority needs to invest in so that they can realise BIM benefits.

By identifying, quantifying and mapping uses, benefits and investments, this ROI whitepaper will help health infrastructure authorities to prioritise where to spend their time and money in order achieve the greatest return on BIM investment.

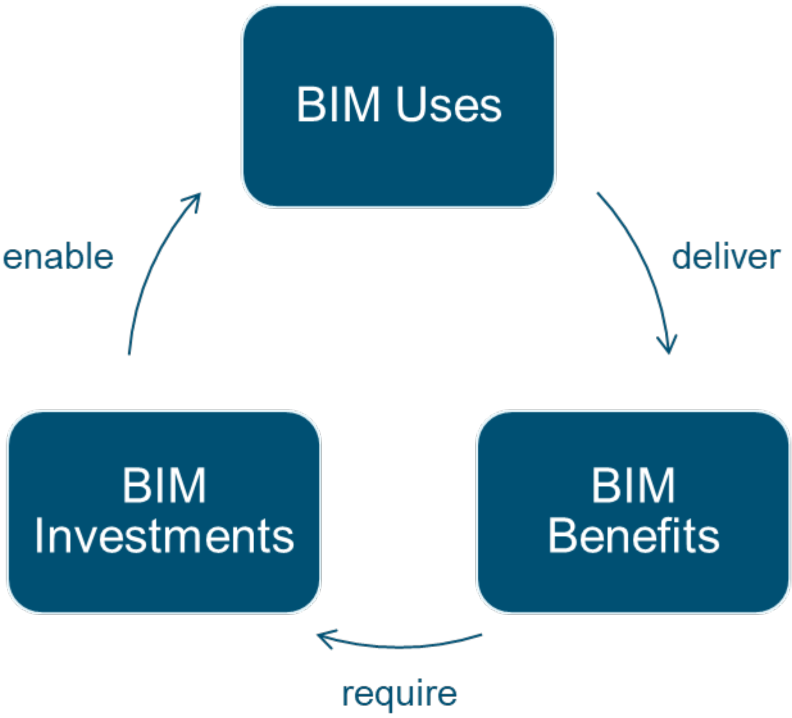


Figure 8: The linkage between BIM Uses, Benefits and Investments

6.1 BIM Uses

Typical uses of BIM across the asset lifecycle include:

Site Analysis	BIM and GIS are used to analyse spatial data, topography, and environmental factors to assess site suitability and optimise health facility locations.
Master Planning	Integrated BIM and GIS tools are employed to develop comprehensive master plans incorporating spatial, demographic, and service delivery needs for health infrastructure.
Concept Design Visualisation	Interactive visualisations generated in BIM allow stakeholders to explore conceptual health facility designs, improving decision-making and collaboration.
Virtual Design Coordination	BIM enhances interdisciplinary design coordination, identifying and resolving clashes between architectural, structural, and MEP (mechanical, electrical, plumbing) systems.
Detailed Design	BIM enables the creation of precise, data-rich 3D models to inform the development of detailed construction documentation and specifications.
Cost Estimation (5D BIM)	BIM integrates cost data with 3D models to perform detailed quantity take offs and cost predictions for construction and lifecycle expenses.
Supply Chain Integration	BIM facilitates supply chain coordination by linking design models with procurement processes and prefabrication workflows.
Construction Sequencing (4D BIM)	BIM integrates time/schedule data with 3D models to enable simulation and optimisation of construction sequences, reducing on-site risks and delays.
360-degree Reality Capture	Laser scanning and photogrammetry (reality capture technologies) generate highly accurate as-built models for verifying construction quality and capturing deviations from design.
Asset Handover	A comprehensive digital twin or as-built BIM model is delivered to the operations team, including asset data, warranties, and maintenance schedules for efficient O&M.
Facility Management (6D BIM)	BIM integrates with facility management systems (FMS) to provide lifecycle data for monitoring, maintaining, and optimising health facility operations.
Emergency and Risk Planning	BIM allows scenario simulations (e.g., fire evacuation, pandemic response) for analysing risks and enhancing disaster preparedness plans in healthcare facilities.
Energy Performance Analysis	BIM tools are used to model and analyse energy consumption, optimising sustainable design in compliance with environmental goals and energy efficiency standards.
Regulatory Compliance Checking	BIM automates compliance with health and building regulations, incorporating codes like BCA/NCC and leveraging standard templates.
Smart Building Integration	BIM enables integration with IoT systems for predictive maintenance, energy monitoring, and indoor environmental quality control in operational healthcare facilities.

6.2 BIM Investments

Strategic investments and organisational capabilities recommended to support BIM-enabled workflows include:

BIM Governance	Establishing policies and frameworks for accountability and streamlined BIM adoption across project phases.
Government Leadership & Strategy	Promoting government-led initiatives to drive BIM adoption through policies, pilots, and capacity building.
BIM Contract Requirements	Adding BIM deliverables and roles into contracts to ensure compliance and alignment across stakeholders.
BIM Communications Framework	Structuring communication plans to clarify BIM roles, workflows, and deliverables for stakeholders.
BIM Maturity Assessments	Evaluating BIM capabilities and readiness to identify gaps and improvement areas.
BIM Training Programs	Providing tailored training on BIM tools, standards, and processes for staff development.
BIM Communities of Practise	Creating forums for knowledge sharing, collaboration, and innovation in BIM and related technologies.
BIM Career Pathways	Defining BIM roles in career frameworks, supporting development of coordinators, managers, and digital engineers.
Object Libraries & Design Reuse	Standardising object libraries and reusing designs to streamline planning, reduce costs, and improve efficiency.
Design Coordination & Clash Detection	Using tools to identify and resolve design conflicts before construction, saving time and costs.
Model-Based Scheduling (4D)	Integrating schedules with 3D models for sequencing, resource allocation, and progress monitoring.
Model-Based Quantity Take-offs & Cost Estimation (5D)	Automating quantity take-offs and linking costs to models for accurate estimates.
Offsite Construction / DfMA	Using BIM for prefabrication and modular construction to improve delivery speed, safety, and quality.
Automated Handover of As-Built Data	Automating as-built data handover for seamless operational integration via digital twins and CDEs.
Common Data Environment (CDE)	Using cloud platforms to manage and share BIM, GIS, and project data collaboratively and in real time.
BIM Technology Platforms	Integrating tools like BIM, CAD, GIS, and laser scanning for comprehensive digital modelling.
Project & Asset Data Standards	Creating metadata and classification standards for consistent data management and interoperability.

BIM Performance Data Standards	Standardising formats for performance data to support lifecycle assessments and sustainability reporting.
Improved Analytics & Reporting	Using analytics tools for real-time monitoring of metrics like time, cost, energy, and carbon.
Model-Based Carbon Accounting	Tracking and reporting carbon footprints using BIM for meeting sustainability goals.

6.3 BIM Benefits

BIM offers both quantifiable and non-quantifiable benefits. Quantifiable financial benefits that have been considered for this paper include:

Benefit Name	Benefit Description	Project cost item that savings apply to	Potential savings on cost item
Reduce estimation effort through model-based quantity take offs	By using the BIM model to automatically calculate quantities, effort and time spent on manual estimations are reduced.	Quantity estimation costs	6-18%
Reduce materials through model-based quantity take offs	Accurate quantity calculations through BIM minimise material waste and ensure optimal use of resources.	Materials contingency costs	6-12%
Reduce program management overheads through improved delivery planning	Improved project planning and coordination enabled by BIM reduces the overall time and cost required for program management.	Program management costs	3-5%
Reduce changes & rework through more reliable and accessible data	Centralised and reliable data in a BIM model reduces the likelihood of errors, resulting in fewer changes and rework.	Cost of changes / rework / variations during construction	16-20%
Decreased cost of design labour	Automated tools and processes within BIM streamline design tasks, reducing the effort and cost of design labour.	Design labour costs	4-5%
Reduced construction time	Enhanced planning and precise execution enabled by BIM shorten the overall construction timeline.	Construction labour costs	6-7%
Reduced construction & materials costs through offsite construction	Prefabrication facilitated by BIM reduces material wastage, construction costs, and on-site labour requirements.	Construction costs	4-7%
Reduced effort to prepare asset registers	BIM allows asset registers to be generated automatically, significantly decreasing the manual effort required.	Asset register preparation costs	52-63%
Reduced effort in clash detection	Advanced BIM features detect clashes early during design, reducing the manual effort needed to resolve conflicts.	Clash detection costs	81-90%

Reduced effort to capture existing site conditions	Technologies like laser scanning integrated with BIM simplify the process of capturing and modelling existing site conditions.	Existing site conditions capture costs	25-70%
Decreased cost of maintenance	Detailed asset data captured in the BIM model enables efficient long-term maintenance and lower upkeep costs.	Annual maintenance costs	9-10%

Non-quantifiable benefits that have been considered for this paper include:

Short Term Benefits for Project Delivery				
Enhanced Stakeholder Engagement and Communication	**Improved Change Management and Transparency**	**Knowledge Transfer and Learning Culture**	**Enhanced Safety and Risk Management**	**Improved Quality and Reduced Rework**

Long Term Benefits for Asset Operations and Maintenance			
Better Asset Information and Decision-Making	**Enhanced Staff Experience and Retention**	**Improved Safety and Compliance**	**Resilience and Adaptability**

Indirect Benefits for Industry and the Community			
Improved Patient and Community Outcomes	**Social Value and Public Trust**	**Sustainability and Environmental Stewardship**	**Economic and Industry Development**

7 Investment Roadmap

The BIM Maturity Investment Roadmap outlines a series of BIM enabling initiatives designed to achieve basic, intermediate, and advanced levels of BIM maturity. The Roadmap is a useful reference for health jurisdictions to plan budgets, scheduling and resource requirements to enhance their BIM capabilities.

The **Zero to Basic** BIM Maturity Roadmap focuses on establishing the foundational enablers required for consistent and scalable BIM application across project lifecycle phases. Investments are focussed on core capabilities such as governance frameworks, standard processes, and essential technology infrastructure to support key use cases including Concept Design Visualization, Virtual Design Coordination, Detailed Design, and Asset Handover. By building these fundamentals, organizations create a stable platform for future maturity growth while ensuring immediate improvements in design quality, coordination efficiency, and data integrity.

Table 4: Zero to Basic Roadmap

Zero to Basic - BIM Maturity Investment Roadmap (2 years)			
Enabler Name	Category	Estimated Investment Low (AUD)	Estimated Investment High (AUD)
BIM Governance	Governance	$200,000	$600,000
BIM Contract Requirements	Governance	$150,000	$250,000
BIM Training Programs	People	$75,000	$125,000
BIM Communities of Practise	People	$50,000	$100,000
Design Coordination & Clash Detection	Processes	$600,000	$1,500,000
Automated Handover of As-Built Data	Processes	$600,000	$1,500,000
Common Data Environment (CDE)	Technology	$600,000	$1,500,000
BIM Technology Platforms	Technology	$2,000,000	$4,000,000
Project & Asset Data Standards	Data	$500,000	$1,000,000
Improved Analytics & Reporting	Data	$300,000	$500,000
	Total	**$5,075,500**	**$11,075,000**

The **Basic to Intermediate** BIM Maturity Roadmap builds on foundational capabilities to enable broader integration and collaboration across the project lifecycle. At this stage, investments focus on enhancing workflows and systems to support advanced coordination and data exchange, enabling use cases such as Integrated site analysis, Model-Based Quantity Take-Offs, Construction Sequencing, and Enhanced As-built Information Capture. These initiatives aim to improve efficiency, reduce rework, and strengthen interoperability between design, construction, and operations teams, positioning the organisation for greater efficiency gains and improved project delivery and operational outcomes.

Table 5: Basic to Intermediate Roadmap

Basic to Intermediate - BIM Maturity Investment Roadmap (1-2 years)			
Enabler Name	Category	Estimated Investment Low (AUD)	Estimated Investment High (AUD)
BIM Maturity Assessments	People	$75,000	$125,000
Object Libraries & Design Reuse	Processes	$500,000	$1,000,000
Model-Based Scheduling (4D)	Processes	$300,000	$800,000
Model-Based Quantity Takeoffs & Cost Estimation (5D)	Processes	$600,000	$900,000
BIM Performance Data Standards	Data	$800,000	$1,500,000
	Total	**$2,275,000**	**$4,325,000**

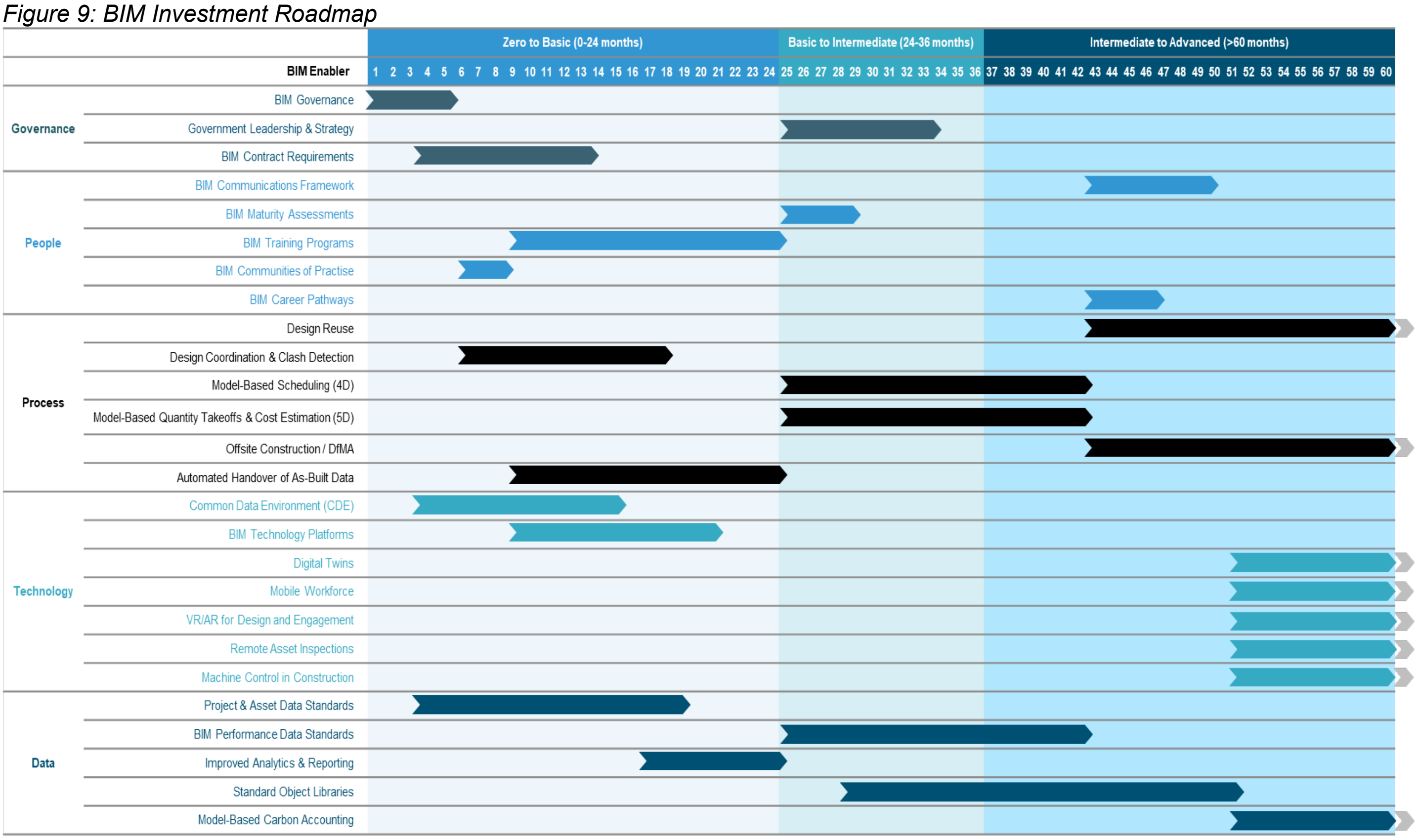
The **Intermediate to Advanced** BIM Maturity Roadmap focuses on achieving full lifecycle integration and data-driven decision-making across design, construction, and operations. Investments at this stage enable sophisticated capabilities such as Digital Twins, Predictive Analytics, Automated Compliance Checking, and Integrated Asset Performance Management. These initiatives leverage high-quality data and advanced technologies to optimize facility operations, enhance sustainability, and deliver continuous improvement. An advanced level of BIM maturity allows organisations to unlock maximum value from BIM, transforming it into a key strategic enabler for long-term portfolio performance and asset intelligence.

Table 6: Intermediate to Advanced Roadmap

Intermediate to Advanced - BIM Maturity Investment Roadmap (1-2 years)			
Enabler Name	Category	Estimated Investment Low (AUD)	Estimated Investment High (AUD)
Government Leadership & Strategy	Governance	$100,000	$200,000
BIM Communications Framework	People	$100,000	$200,000
BIM Career Pathways	People	$100,000	$200,000
Offsite Construction / DfMA	Processes	$2,000,000	$3,000,000
Model-Based Carbon Accounting	Data	$800,000	$1,500,000
	Total	**$3,100,000**	**$5,100,000**

The below Roadmap Gantt Chart provides a visual representation of the indicative timeframes and sequencing for BIM enablement initiatives across maturity stages. It illustrates how foundational activities progress into intermediate and advanced capabilities, ensuring a structured and scalable approach to implementation. By mapping initiatives over time, stakeholders can better understand dependencies, prioritise investments, and align resources to achieve targeted BIM maturity milestones efficiently.

Figure 9: BIM Investment Roadmap



8 Funding Models

There are various approaches to secure the funding needed to properly implement BIM and realise its benefits. Health infrastructure program authorities can consider various funding models to meet these needs. Table 8: Funding Models outlines a range of possible funding approaches, including their advantages, and potential challenges. These models, individually or in combination, can help authorities effectively support the adoption of BIM while addressing stakeholder expectations and budget constraints.

Table 7: Funding Models

Funding Model	Pros	Cons
State Budget Business Case Submissions	Comprehensive and well-justified cases can secure significant funding. Aligns BIM with public priorities.	Requires detailed analysis, long lead times, and alignment with broader government decision-making cycles.
Percentage Allocation from Capital Funds	Incremental and scalable funding; spreads costs across multiple projects.	Potential resistance from stakeholders if project costs increase, requiring careful communication.
Percentage Derived from Enterprise Cost	Incremental and scalable funding; spreads costs across the enterprise.	Potential resistance from stakeholders lacking in BIM awareness, requiring careful communication.
Cost-Sharing Models with Industry	Fosters innovation and broader adoption of BIM across stakeholders.	Requires careful negotiation to balance public and private interests; dependent on willingness to partner.
Cross-Jurisdictional Cost Sharing	Reduces duplication of effort and costs across jurisdictions; enhances interoperability and collaboration.	Requires complex inter-governmental agreements and alignment on standards, priorities, and timelines.
Cross-Sectoral Cost Sharing	Reduces duplication of investments and enhances cross-sector consistency in BIM standards.	Requires inter-departmental coordination and alignment of sector priorities, which can be complex.
Value Capture Models	Creates a self-sustaining funding model tied directly to BIM outcomes.	Requires clear evidence of BIM's financial or societal benefits; success may be difficult to quantify.
Health-Sector Specific Funding Grants	Opportunity to align BIM with health system goals and access additional funding sources.	Grants are highly competitive and may require extensive justification with measurable outcomes.
BIM Innovation Fund	Promotes sustainable innovation ecosystems and attracts diverse expertise.	Requires consistent funding streams and long-term collaboration across multiple sectors.
Lifecycle-Based Funding Justification	Positions BIM as integral to facility operations and long-term cost efficiencies.	Requires credible data on lifecycle benefits and a long-term view of funding.