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UNIVERSITY of TASMANIA

STEM Precinct Detailed Business Case

University of Tasmania

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Glossary

AAD	Australian Antarctic Division
ABS	Australian Bureau of Statistics
ALCT	Aboriginal Land Council of Tasmania
AWOTE	Average Weekly Ordinary Time Earnings
BAU	Business as Usual
BCR	Benefit Cost Ratio
CAGR	Constant Annual Growth Rate
CBA	Cost Benefit Analysis
CBD	Central Business District
COSE	College of Sciences and Engineering
CSIRO	Commonwealth Scientific and Industrial Research Organisation
D&C	Design and Construct
DC&M	Design Construct & Maintain
DD&C	Design Development & Construct
DFSI	Department of Finance, Services and Innovation
ECI	Early Contractor Involvement
EFTSL	Equivalent Full Time Student Load
GDP	Gross Domestic Product
GOS	Gross Operating Surplus
GSP	Gross State Product
IA	Infrastructure Australia
IAP2	International Association for Public Participation
ILM	Investment Logic Map
IT	Information Technology
KPI	Key Performance Indicators
MCA	Multi-Criteria Assessment
NAPLAN	National Assessment Program – Literacy and Numeracy
N/A	Not Applicable
NPV	Net Present Value

SEWB	Social and Emotional Well-Being
STEM	Science, Technology, Engineering and Mathematics
TEAL	Technology-Enabled Active Learning
TRA	Tourism Research Australia
UTAS	University of Tasmania

1 Executive summary

The University of Tasmania (UTAS) seeks to transform Tasmania's economic and social future through the development of a state-of-the-art STEM Precinct at its Sandy Bay Campus. To realise these outcomes, UTAS is seeking supplementary government funding of $401.5 million over seven years and initial funding envelope of $50 million to complete Stage 1, enabling this transformative initiative to deliver enduring benefits for education, housing, and economic development in Tasmania.

This visionary project aspires to enhance STEM education and research, enabling Tasmanians to address evolving technological, environmental, and workforce challenges. By creating world-class facilities that foster innovation and collaboration, the STEM Precinct will support the upskilling of Tasmanians, attract high-quality students and researchers, and provide the critical infrastructure required to drive economic diversification and productivity.

In addition to advancing education, the Project will unlock surplus UTAS-owned land for alternative uses, including the delivery of significant housing stock to address Hobart's housing shortfall. It will also facilitate the return of land to the Aboriginal Land Council of Tasmania (ALCT), supporting reconciliation efforts and creating public open spaces for the community.

1.1 The role of STEM in Tasmania's economy

Tasmania's economic landscape is characterised by unique geographic and demographic characteristics. As an island state with a relatively small population compared to the Australian mainland, Tasmania faces obstacles such as scale limitations, geographic isolation, and regionalisation, which collectively impact its economic outlook. The State's productivity rate is 26% lower than the national average, leading to lower average incomes, reduced economic competitiveness, and slower long-term economic growth.[1] This disparity stems from the smaller scale of enterprises, higher transportation and logistics costs, and limited access to larger markets.

To address these statewide economic challenges, increasing Tasmania's focus on Science, Technology, Engineering and Mathematics (STEM) related sectors could be pivotal to overall economic prosperity. As Tasmania and Australia respond to a climate emergency and adapt to the ongoing technological revolution, demand for the skills, expertise and ideas of people trained in STEM fields has never been greater. STEM skills are vital for the productivity, economic development and workforce needs of Tasmania, however, engagement in STEM education in the state is concerningly low and has been in decline in recent years. This is having significant flow-on effects to workforce needs and will worsen the shortage of specialist skills needed for Tasmania's strategic sectors.

Increasing opportunities for Tasmanian STEM professionals will be critical for increasing the overall states workforce productivity, especially fostering innovation and driving economic diversification. A European study shows that a 1% increase in high-skilled STEM workers can generate up to double the productivity gain,[2] highlighting the value of STEM skills to drive economic productivity. Shifting even just 1% of Tasmania's current and future workforce into STEM roles could have a substantially positive impact on Tasmania's Gross State Product (GSP), equivalent to $1.2 billion over the next 20 years.[3]

More Tasmanians need to be educated in STEM, for a skilled workforce to address evolving technological, environmental, and social challenges. UTAS is the only place in the state with the critical mass of STEM capability to enable this change, however the ageing and inaccessible infrastructure in Southern Tasmania is not well positioned to achieve this.

1. Australian Bureau of Statistics, "Australian National Accounts: State Accounts", (2024)
2. OECD Publishing, "The Return on Human (STEM) Capital in Belgium", Gert Bijnens (2021)
3. World Bank for Australia and ABS, 2021 Census

1.2 Current UTAS STEM facilities lack the critical technical infrastructure required to stop its STEM educational pathways declining

To grow Tasmania's STEM educational pathways, modern and accessible facilities and specialised STEM infrastructure are required to support teaching, learning and research at all levels. While facilities in North and North-West Tasmania have been upgraded in the past decade, UTAS STEM infrastructure at its major southern campus is in urgent need of renewal. Most buildings at the Sandy Bay campus are over 48 years old, in poor condition, with low utilisation rates, high running costs and substandard accessibility.

UTAS Sandy Bay's current STEM facilities lack the critical technical infrastructure required to foster collaboration and innovation effectively. The existing STEM facilities on the Sandy Bay campus, dating back to the 1960s, are outdated and regarded as unfit-for-purpose, resulting in higher maintenance costs and inefficiencies that hinder the quality of education and research. These outdated designs not only hinder interdisciplinary collaboration and fail to support the modern technical infrastructure needs of STEM education, but also disincentivise Tasmanians from pursuing STEM educational pathways. Therefore, the absence of STEM critical technical infrastructure investment across southern Tasmania has impeded STEM workforce growth, limiting the State's development of a strong talent pipeline. This disconnect threatens Tasmania's ability to nurture and retain the skilled workforce necessary for future economic growth.

Failure to invest into a new modernised STEM Precinct will inhibit progress across key target sectors such as renewable energy, technology, agriculture, and manufacturing, by limiting the ability to produce quality, skilled graduates, upskill qualified industry practitioners, and drive applied productivity-improving innovations essential for economic growth and competitiveness.

Ancillary sectors which support Tasmania's overall economic prosperity, including education, housing, and commercial infrastructure, will be additionally impacted. Skills gaps will impede economic development, reduce job opportunities and career progression and hence present ongoing challenges in attracting and retaining essential workers. Retention is further compounded by the lack of affordable, accessible and well-located housing (especially for key workers), which the land proposed to be released through this project can support.

1.3 Options to deliver the STEM Precinct leverage existing UTAS owned land and builds on extensive analysis undertaken over the past 15 years

Developing a specialised UTAS STEM Precinct will enable innovative, contemporary learning and teaching and cutting-edge research, attract and retain high quality students, educators and researchers, and provide access to critical equipment and emerging technologies. Anchoring UTAS STEM facilities within the context of a broader Precinct would realise the full potential of this investment and further engage industry and the Tasmanian community in STEM education.

The development of the STEM precinct has been contemplated and planned for 15 years. An earlier business case was formulated under different market conditions, with distinct priorities and identified on Infrastructure Australia's priority list but it did not progress due to specific reasons. This current business case revisits these options from the original business case for addressing significant skill and economic gaps. The options include developing state-of-the-art facilities, fostering partnerships with industry leaders, and integrating advanced technology to enhance STEM education and research capabilities.

Table 1.1: Summary of short-listed Options

Option	Description
Option 1 Base Case	The Base Case assumes that the current STEM facilities at Sandy Bay Campus are retained as per the current configuration and only urgent repairs and maintenance works are completed. The STEM facilities at Sandy Bay, are in a

	state of continual technical decline, limiting their potential to support future growth and innovation. The poor condition of these facilities impacts the expansion of the STEM curriculum, as the College of Science and Engineering (COSE) faculties lack the necessary technical equipment to meet modern educational and research demands.
Option 2 Develop new STEM Precinct at Sandy Bay Campus	Option 2 will create a new STEM Precinct on the Sandy Bay Campus, consolidated below Churchill Avenue, that will offer contemporary teaching and research facilities. The development plan retains key mid-century buildings for re-lifting that contribute to the heritage precinct, while enabling a significant new build footprint, a new campus entry sequence, and further greening of the campus. The precinct also has space reserved to accommodate the large research projects undertaken by STEM disciplines and to enable future innovation and enterprise collaboration and colocation opportunities with government, industry or other education providers.
Option 3 Develop new STEM Precinct at Hobart CBD Campus	Option 3 utilises existing UTAS owned sites and buildings within the Hobart CBD to develop STEM teaching and research facilities throughout the city. These facilities would be closely connected to key social and economic infrastructure, such as transport hubs, government offices, and industry headquarters. Additionally, the physical colocation of STEM with the city-based Medical, Creative Industries, and Marine and Antarctic Precincts would foster interdisciplinary collaboration.

Source: Deloitte (2025)

1.4 Both Options deliver positive economic benefits to a broad range of stakeholders

Options 2 and 3 deliver a wide range of benefits to various stakeholders. Both Options have a positive Benefit Cost Ratio (BCR), delivering an overall positive impact in comparison to the Base Case. Option 2 provides the strongest return, with a BCR of 1.46 and Net Present Value (NPV) of $149.4 million. Option 3 also provides a positive return compared to the Base Case, with a BCR of 1.09 and NPV of $34.0 million.

A key driver of the increased benefits arising in Option 2 and 3, are the higher student enrolments that are expected to occur. Under Option 2, industry partnerships within the Sandy Bay STEM Precinct and increased engagement of school students in STEM, contribute to higher student enrolments. Under Option 3, higher enrolments are driven by the increased accessibility of a CBD campus to a wider range of potential students.

These increased enrolments flow through to a range of quantified benefits in the cost benefit analysis (CBA), including higher lifetime earnings, international student revenue, income tax revenue, improved research and innovation, productivity spillovers, long-term health, and social benefits as well as net student revenue.

A range of further benefits also arise under Option 2 and 3 that could not be quantified but are discussed qualitatively. These include enhanced learning experiences for students, enhanced attraction, and retention of students and high-quality workers to the university, increased retention of university-educated workers in the state, improved public amenity outcomes, reduced inequality arising due to more educational and occupation opportunities and improved community and cultural outcomes for First Nations people through a return of land to the ALCT under Option 2.

1.5 Option 2, developing a new STEM Precinct at Sandy Bay, demonstrates the strongest alignment to Project objectives, the best value for money and lowest relative risk

Table 1.2 below outlines a summary of the qualitative and quantitative analysis of Option 2 and 3.

Table 1.2: Summary of analysis of Option 2 and 3

	Option 2 – New Sandy Bay	Option 3 – New Hobart CBD
Economic Appraisal Results *(millions, real, incremental to Base Case, PV, 30 year appraisal period)*		
Net Present Value	149.4	34.0
Benefit Cost Ratio	1.46	1.09
Financial Appraisal Results *(millions, nominal, escalated at 3% annually, 30 year appraisal period)*		
Total Capital Cost	501.5	595.8
Total Operating Cost	123.2	102.5
Stage 1 Funding Required	50.0	N/A
Total Funding Required	401.5	595.8
Qualitative Measures		
Alignment to Project Objectives	●	◕
Relative Risk Rating	**Medium**	**Medium-High**
Recommendation	**Recommended for funding**	Not recommended for funding

Source: Deloitte (2025)

Following a review of the cost benefit analysis, financial appraisal, key risks and objective alignment for the short-listed Options, Option 2 is recommended as the preferred Option. The preferred Option 2 which delivers a new STEM Precinct at the UTAS Sandy Bay Campus was selected due to its strongest alignment to project objectives, lowest relative risk profile and strongest value for money with the highest economic Net Present Value of $149.4 million, highest Benefit Cost Ratio of 1.46 and lowest total funding requirement of $401.5 million.

Developing a specialised STEM campus at Sandy Bay will enable innovative, contemporary learning and teaching and cutting-edge research, attract, and retain high quality students, educators, and researchers, and provide access to critical equipment for emerging technologies. The Sandy Bay location provides the greatest potential for fostering local and industry partnerships through the ecosystem-based approach to STEM facilities and equipment providing a co-located and integrated precinct with a balance of learning, research, and innovation spaces.

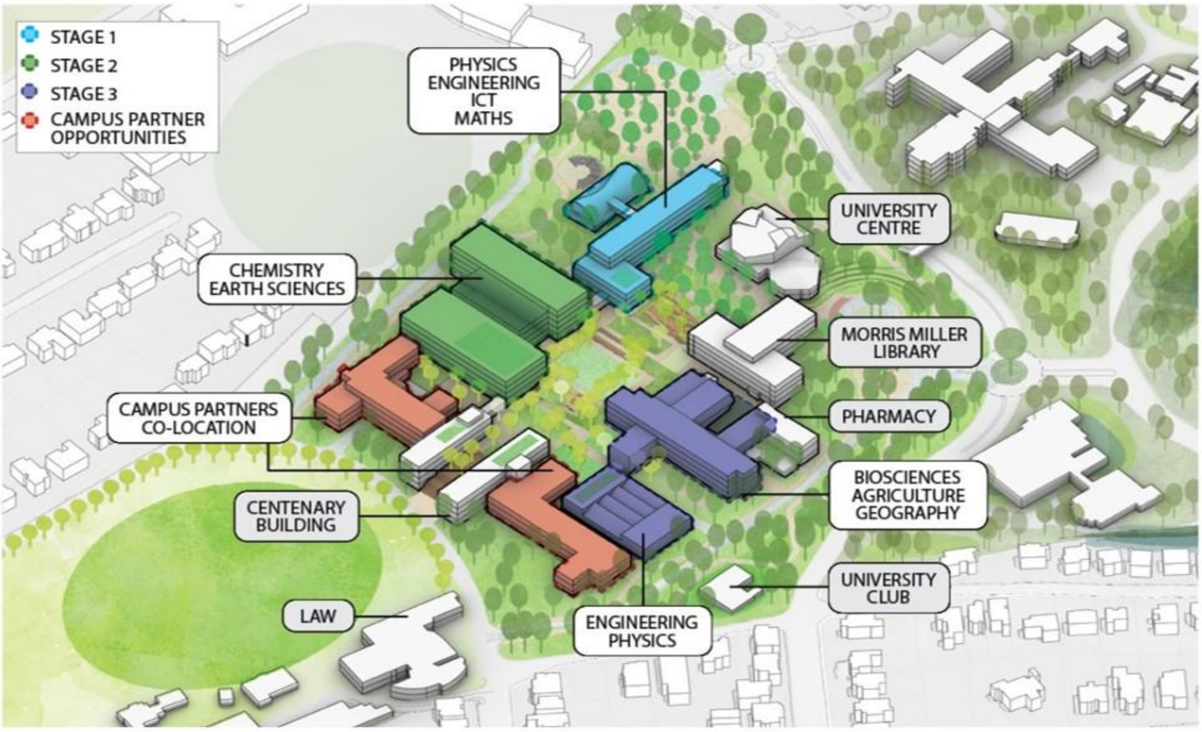
In addition to the core operations of the STEM Precinct, the preferred Option 2 will also generate key benefits to a broader range of stakeholders by:

- Unlocking surplus UTAS-owned for alternative uses including the delivery of significant housing supply and public and open space.
- Enabling the return of land to ALCT to continue reconciliation efforts.

1.6 Supplementary government funding is required to deliver the STEM Precinct

Recognising the significant benefit that the UTAS STEM Precinct will provide to a broader range of stakeholders beyond UTAS, a government funding request is required to deliver the Precinct and realise these benefits. The initial funding envelope for $50 million to complete Stage 1 works, and the proposed Australian Government funding request of $401.5 million over seven years represents the total capital cost to deliver the new Sandy Bay STEM precinct less a proposed $100 million land sale or transfer to the Tasmanian Government, subject to Tasmanian Parliamentary approval for rezoning. Should the Tasmanian Parliament not approve the rezoning and/or sale, the Australian Government funding request would revert back to the total capital cost of $501.5 million. Figure 1.1 outlines the proposed staged approach to deliver the Project.

Figure 1.1: Indicative timelines and staging for Sandy Bay STEM co-design and construction



STAGE 1 ($50 million)	Detailed site planning and extensive retrofit of an existing building to create new spaces for Information and Communication Technology, Mathematics, Physics and Engineering	2025 - 2026
STAGE 2 ($300 million)	A major new build featuring a range of teaching, workshop and research lab spaces and the home of Chemistry and Earth Sciences, and a public STEM engagement centre	2025 - 2029
STAGE 3 ($150 million)	Extensive retrofit of existing buildings to create new facilities for Biosciences, Agriculture, Geography and a renewed Engineering Workshop and Central Science Laboratory	2028 - 2031
CAMPUS PARTNER OPPORTUNITIES	Potential to establish an innovation precinct, with co-location opportunities for education and industry partners	

Source: UTAS (2025)

Whilst options to fund the Project from internal UTAS sources were explored during UTAS' Long List Assessment (see Table 4.1), legislative restrictions on borrowing mean that a wholly internal funded Project is not financially feasible. With UTAS' $400 million borrowing limit which was approved by the Treasurer of Tasmania, $350 million has already been allocated to issue green bonds while the remaining $50 million has been allocated to an overdraft facility.

Upon completion of the Project, the STEM Precinct will deliver the following outcomes:

- Enhance the skills and capabilities of the Tasmanian people through STEM educational uplift.
- Improved community and public outcomes.
- Increased STEM support for Tasmania's economy.
- Increased STEM research and industry collaboration.
- Development of a Precinct area for recreation and student collaboration.
- Enable the delivery of housing stock, supporting Hobart's housing shortfall.
- Return of land to ALCT, supporting First Nations people.

2 Background and Strategic Context

2.1 The University of Tasmania

UTAS established in 1890, is one of Australia's oldest tertiary learning institutions. With a mission to provide transformative education and research that benefits communities locally and globally, UTAS has consistently demonstrated a commitment to excellence and innovation. As the only higher education provider in Tasmania, the University has expanded its reach and influence over the years, evolving into a comprehensive institution offering a wide range of undergraduate, postgraduate, and research programs across various disciplines.

UTAS's notable achievements include significant contributions to research in areas such as Antarctic studies, agriculture, maritime, terrestrial and forestry. Through these efforts, UTAS plays a pivotal role in driving economic growth and addressing complex challenges within the Tasmanian community and beyond.

2.2 Tasmania's Economic Landscape

Tasmania's economic landscape is characterised by unique geographic and demographic characteristics. As an island state with a relatively small population compared to the Australian mainland, Tasmania faces obstacles such as scale limitations, geographic isolation, and regionalisation, which collectively impact its economic outlook. This disparity stems from the smaller scale of enterprises, higher transportation and logistics costs, and limited access to larger markets.

Geographic isolation further restricts Tasmania's ability to attract large-scale investments and hinders the competitiveness of local businesses against national and international counterparts. Economic activity is often concentrated within established urban centres like Hobart and Launceston, leaving other regions less developed and economically active.

Tasmania's reliance on traditional primary industries such as agriculture, forestry, tourism, and commodities, while beneficial, does not fully align with the transforming national and global economy, which increasingly focuses on high-growth sectors like technology and advanced manufacturing. However, the application of technology to these traditional sectors presents significant opportunities for innovation, operational efficiency, and commercial sustainability, enabling Tasmania to enhance its existing strengths while also fostering alignment with broader economic trends.

2.3 The Role of STEM in Tasmania's Economy

To address these statewide economic challenges, increasing Tasmania's focus on STEM related sectors is pivotal to overall economic prosperity. Increasing opportunities for STEM professionals in Tasmania will be critical for fostering innovation, enhancing productivity, and driving economic diversification. A recent study reveals that a 1% increase in high-skilled STEM workers can result in up to twice the productivity gain, underscoring the importance of STEM skills in boosting economic productivity.[4] Moreover, STEM jobs offer higher earning potential and are expected to grow at twice the rate of non-STEM jobs.[5]

To position Tasmania's economic transformation to high-value STEM related sectors, local STEM education pathways are required to effectively upskill Tasmanians at the required scale, retain these newly qualified STEM professionals within Tasmania while also attracting interstate and international student enrolments, collaborations and partnerships. Establishing and growing

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[4]. OECD Publishing, "The Return on Human (STEM) Capital in Belgium", Gert Bijnens (2021)
[5]. PWC, "A Smart Move", (2015)

productive relationships with industry is equally critical to supporting local job creation, driving innovation, and creating opportunities for collaboration. Shifting just 1% of Tasmania's projected workforce into STEM roles can have a substantial positive impact on Tasmania's Gross State Product (GSP); equivalent to $1.2 billion new economic value over the next 20 years.[6] By applying these skills to the below strategic sectors, Tasmania can accelerate economic growth and build unique competitive advantages, ensuring a sustainable and prosperous economic future.

Renewable Energy
Tasmania's competitive advantage in renewable energy is underpinned by its geographic proximity to renewable energy sources and has been anchored by foundational investments signalling the Government's intent to position Tasmania as a national leader in the industry. This includes the $16 million Energising Tasmania commitment from the Australian Government recognising the need for Tasmania to develop a workforce equipped to deliver the State's Infrastructure Project Pipeline. An example of this includes the Green Hydrogen Hub, which is projected to add $1.2 billion to the economy, and create over 700 jobs and contribute to achieve the Tasmanian Government's Renewable Energy Target of increasing Tasmania's renewable energy output by 200% by 2040.[7] Any constraints on the successful recruitment of STEM professionals will place considerable strain on the growth of the Tasmanian renewable energy sector and to realise Tasmania's identified competitive advantage.

Technology
The technology sector is growing at 16% per year and is projected to make a significant contribution to the Australian economy of $250 billion by 2030. Various researchers have also found positive relationships between technology adoption and productivity or GDP growth across the economy.[8] The rapid growth of the technology sector and the increased need for digital literacy emphasises the significance of prioritising STEM skills development at all levels.

The critical need for technology professionals is also constraining the growth and productivity of Tasmania's industries. Jobs and Skills Australia has reported that nationally, IT Managers and Software Applications Programmers have some of the highest occupation growth, with 8,400 employment increase for each month since May 2022.[9] In Tasmania, 11,000 people were employed in the Tasmanian technology workforce in 2022 with forecasts suggesting an additional 3,000 workers will be required by 2030 to keep up with sector growth.[10] Therefore there is a significant need to boost IT STEM professionals to support the growth of technology within Tasmania.

Agriculture
Technological progress has been a key driver of long-term productivity growth in Tasmania's agriculture sector, with the gross value of primary production at the farm gate or beach of $3.65 billion in 2021-22. Achieving the Tasmanian Government's goal of growing the farm-gate value of Tasmanian agriculture to $10 billion by 2050 will depend on fostering high productivity levels. This will require a highly skilled workforce that is proficient with and innovating new technologies, including automation, remote sensing, and drones to support and maintain this goal.[11]

Manufacturing
STEM is crucial to the future of the manufacturing sector, driving development of advanced manufacturing environments and adaptation to modern workplace requirements. The Advance Manufacturing Action Plan highlights that STEM plays a vital role in product and service design

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[6]. World Bank for Australia and ABS, 2021 Census
[7]. Tasmanian Government: Renewables, Climate and Future Industries Tasmania, "Tasmanian Green Hydrogen Hub", (2024)
[8]. Australian Government: Productivity Commission, "5-year Productivity Inquiry: Australia's data and digital dividend", (2023)
[9]. Australian Government: National Skills Commission, "Skills Priority List Findings: ICT Professionals", (2021)
[10]. Australia's Digital Pulse
[11]. Tasmanian Government, "Skills Tasmania", 2023

alongside production and downstream processes.[12] With all aspects of the manufacturing workplace undergoing transformation, increasing the skills of the advanced manufacturing workforce in Tasmania is a key dependency for the industry and the 18,000 people that it directly employs including in many high paying and skilled jobs.[13]

2.4 Tasmania's Housing Shortage

Compounding these economic challenges, the Greater Hobart area is experiencing significant housing pressures. Strong population growth coupled with a lack of corresponding housing supply has driven up property prices and rents, exacerbating affordability issues for residents. The Tasmanian Government has acknowledged these challenges and is actively working to grow the housing supply to meet demand.[14] However, the current imbalance between demand and supply continues to place strain on the housing market, impacting the cost of living and overall economic stability in the region.

Rising housing costs have transformed Tasmania from one of Australia's most affordable markets to one of the most expensive, with skyrocketing rents and low vacancy rates contributing to widespread housing stress.[15] Simultaneously the proliferation of short-term rental platforms like Airbnb, which have diverted long-term rental properties into short-stay accommodations, further reducing housing availability for local residents.[16] Adding to the strain is a 30% drop in building approvals over the last two years, which has hindered the construction of new homes. This decline is attributed to various factors, including labour shortages and supply chain disruptions that have affected the construction industry's ability to deliver projects on time and within budget.[17]

Figure 2.1 below showcases the rental growth over a 10-year period of Australian housing.

Figure 2.1 10 Years of Australian Housing

Source: Rents- SQM Research. Incomes: ABS Average Weekly Earnings, Table 11, Total Earnings. Note: Income figures are state/territory-wide, rents are city-specific.

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[12]. Tasmanian Government Department of State Growth, "Tasmanian Advanced Manufacturing Action Plan 2024", (2024)

[13]. Tasmanian Government Department of State Growth, "Tasmanian Advanced Manufacturing Action Plan", (2024)

[14]. Tasmanian Government "Growing Our Housing Supply", Premier of Tasmania,https://www.premier.tas.gov.au/our-plan/taking-action-on-the-cost-of-living-and-providing-more-housing-options-for-tasmanians/growing-our-housing-supply

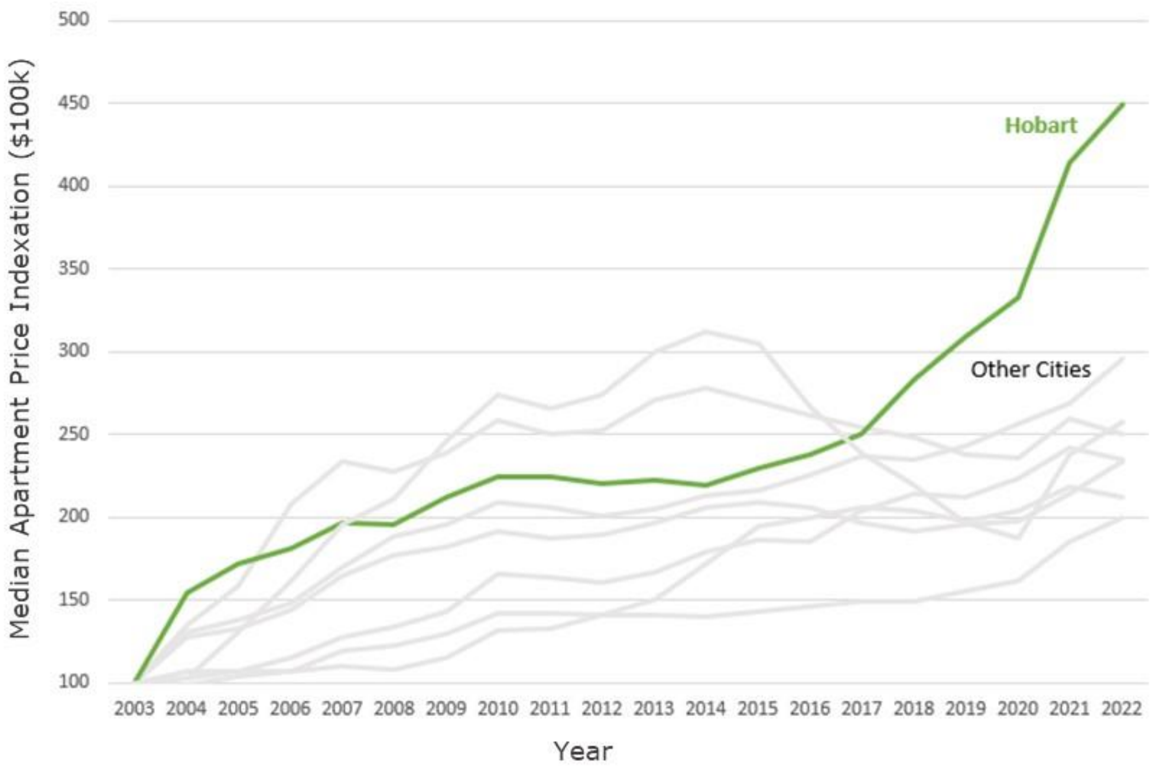
[15] Tasmanian Government, "Tasmanian Housing Strategy", (2023)

[16] Tasmanian Labor, "More Affordable Housing"

[17] The Mercury, "Statistics Reveal Depth of Housing Tasmania's Housing Crisis", (2024)

Figure 2.2 below illustrates the rapid increase in median apartment prices in Hobart compared to other capital cities.

Figure 2.2 Median apartment prices, Hobart and other capital cities (nominal price indices)



Source: Abelson & Joyeux (2023), Table A.6

The Federal and Tasmanian Governments are actively tackling Tasmania's housing shortage through a range of targeted strategies and initiatives. At the state level, the Tasmanian Government's Housing Strategy and Action Plan for 2023–2027 outlines a comprehensive approach to addressing the crisis. Central to this plan is the construction of 10,000 social and affordable homes by 2032,[18] alongside efforts to streamline planning processes to accelerate development and implement legislative reforms to improve private market affordability. The strategy emphasises collaboration with local governments, private developers, and community stakeholders to ensure sustainable, effective housing solutions that address the state's growing needs.

At the national level, the Federal Government's National Housing Accord 2022 complements Tasmania's efforts with a broader strategy to unlock sustainable and affordable housing supply across Australia. The Accord unites all levels of government, investors, and the residential development sector to deliver one million well-located homes over five years, starting in 2024.[19] Immediate actions include supporting the development of affordable dwellings, enhancing financing for social housing projects, and improving zoning, planning, and land release processes. The Accord also underscores the importance of collaboration with local governments and the community housing sector, ensuring a unified approach to addressing housing challenges nationwide.

By working with the three levels of Government to enable new housing developments above Churchill Ave, UTAS can contribute to the state's efforts to deliver much-needed housing solutions.

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[18] Tasmanian Government, "Tasmanian Housing Strategy: Action Plan 2023-2027", (2023)
[19] Australian Government, "National Housing Accord", (2022)

2.5 Aboriginal Reconciliation

In late 2021, ALCT initiated discussions with UTAS regarding the return of land at the Sandy Bay campus. This followed UTAS's formal apology to the Tasmanian Aboriginal people, which acknowledged historical injustices, including the dispossession of Aboriginal lands. The ALCT sought a tangible gesture of reconciliation through land return. While discussions were initially paused after UTAS withdrew its planning scheme amendment, they were reactivated in 2024, driven by new legislative developments and renewed focus on the campus.

The ALCT emphasises that the return of land serves as a meaningful act of reconciliation, reflecting cultural and spiritual significance. Key aspirations include the return of substantial land, the establishment of a place-keeping building for cultural artifacts, and the promotion of Aboriginal employment, community engagement, and cultural knowledge sharing. These priorities align with the ALCT's statutory mandate to manage land for the benefit of Tasmanian Aboriginal people.

For UTAS, working with the ALCT represents an opportunity to strengthen community ties while supporting its educational mission. UTAS is committed to ensuring continued community access to the land and aligning the land return with its broader Sandy Bay campus consolidation goals. The collaboration highlights the importance of community consultation and adherence to legal frameworks, with the *Aboriginal Lands Act 1995* (Tas) providing the mechanism for land transfer.

This initiative has garnered widespread support for its commitment to reconciliation and for addressing past injustices. The return of the Sandy Bay land not only acknowledges the cultural heritage of the Palawa People but also sets a precedent for furthering reconciliation and fostering an inclusive society in Tasmania. This pivotal step signifies a growing recognition of Aboriginal land rights and underscores the transformative potential of institutional partnerships in achieving social justice.

2.6 Strategic and Policy Alignment

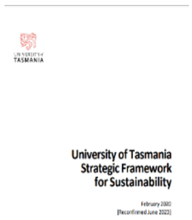
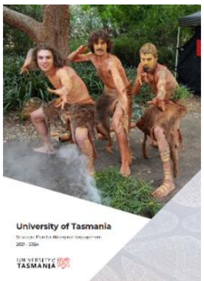
A commitment to capability development, job creation, industry sustainability, equity and justice drives much of UTAS actions and collaborations. The STEM precinct project, anchored in these principles, seeks to address a significant deficiency in STEM skills through the development of modern STEM learning, research and industry collaboration facilities. Through the activation of the precinct UTAS is able to release land to government for the development of much needed housing and community amenity. The projects alignment with policies and strategies of broader local, state and federal government priorities are outlined in the tables that follow.

2.6.1 Alignment with UTAS policies and strategies

Table 2.1 summarises key strategic policies and plans of UTAS and their alignment to this business case.

Table 2.1: Alignment with UTAS Policy and Strategy

UTAS Policy and Strategy	Alignment
Strategic Plan 2019-2024 and 2025 Refresh 	The 2025 Strategic Refresh guides UTAS in achieving its mission of making a positive impact on Tasmanians' lives, fostering sustainability, and becoming a model for the world, from Tasmania. The Project aligns with the University's strategic objective to be regionally networked with and in the community, through improved access to campuses and courses, close proximity to partners and above average student experience. Central to the Strategic refresh is collaboration with partners to achieve the transitions Tasmania needs to make in education, health, productivity, climate and Tasmanian stories. The STEM Precinct Project will enable action towards many of these transitions, and will be particularly critical for achieving the education, productivity and climate transitions.

Strategic Framework for Sustainability 	This framework aims to embed sustainability principles into all aspects of the University. The framework focuses on leadership and governance, learning, teaching, and research, facilities and operations, and partnerships and engagement. The new STEM precinct development will provide an opportunity to better integrate these values by incorporating the sustainability framework into the foundation of the building design and technology implementation. This contrasts with the current outdated buildings, which were not originally built with sustainability in mind.
Strategic Plan of Aboriginal Engagement 	This plan highlights UTAS's commitment to acknowledging traditional custodians, advancing Indigenous education and research, promoting self-determination, and fostering cultural safety, inclusivity, and collaboration across all areas of the university, with a focus on supporting Aboriginal and Torres Strait Islander students and communities. The development in Sandy Bay will allow a land hand-back to ALCT, supporting this plan's initiatives in recognising the cultural significance of their land to the First Nations people.
UTAS STEM Business Case Student Enrolment Projections Model Workshop	Consultations with UTAS personnel have been crucial in developing strategies to increase student enrolments, particularly within STEM fields. According to the 'UTAS STEM Business Case Student Enrolment Projections Model Workshop,' the introduction of advanced facilities is expected to boost STEM enrolments by 20% over the next five years. This projection is grounded in data from similar institutions where upgraded facilities have significantly increased student interest and enrolment figures. Specific examples from the workshop underscore a positive relationship between new facilities and student outcomes; for instance, a lecturer observed a 25% improvement in student project completion rates following the installation of new lab equipment.
UTAS Case Study: Enhancing School Engagement through a STEM Centre	From the 'UTAS Case Study: Enhancing School Engagement through a STEM Centre,' it is evident that these new facilities are poised to enhance student engagement and attainment rates. The case study reports a 15% increase in student retention and a 10% rise in graduation rates, attributed to better resource accessibility and a more stimulating learning environment. Additionally, schools with access to the STEM Centre experienced a 30% higher rate of student participation in extracurricular STEM activities, correlating with improved academic performance and heightened interest in STEM careers.

Source: Deloitte (2025)

2.6.2 Alignment with local government policies and strategies

Table 2.2 summarises key strategic policies and plans of Hobart's local government and their alignment to this business case.

Table 2.2: Alignment with Local Government Policy and Strategy

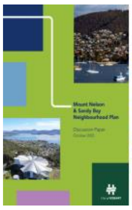
Local Government Policy and Strategy	Alignment

Hobart City Deal

The Hobart City Deal is a 10-year partnership between the Australian and Tasmanian Governments and the Clarence, Glenorchy, Hobart, and Kingborough councils. The deal aims to address key strategic and infrastructure challenges in Hobart while embracing opportunities for growth.

The Project will address the key areas of transforming Hobart into a 'Smart, Liveable, and Investment-Ready City' by stimulating partnership opportunities, innovation and infrastructure advancements in Hobart's STEM industry.

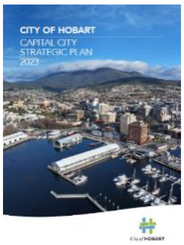
Mt Nelson and Sandy Bay Neighbourhood Plan



These consultation documents from City of Hobart outline the council's role and responsibility as a planning authority to lead community consultation and develop a strategic land use plan for the area.

Within the October 2023 Discussion Paper, a callout was made about the developable land on the Sandy Bay campus, stating "There is also an opportunity to consider the aging building stock at the UTAS Campus and the future use of the land for a diverse mix of land uses in a way that recognises local values and character." This was one of the options posed to the community for their consideration and to provide feedback on.

City of Hobart: Capital City Strategic Plan



This plan outlines a vision for the city's future, focusing on eight key pillars—Sense of Place, Inclusion, Creativity, City Economics, Connectivity, Natural Environment, Built Environment, and Governance—to enhance the city's identity, growth, and community well-being while addressing challenges and embracing opportunities.

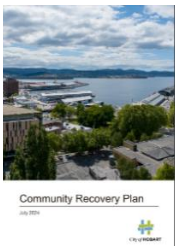
The construction of this Project aligns with the plan's connectivity and built environment pillars by revitalising current STEM engagements to promote collaboration and build greater opportunities to establish industry partners.

City Economy Strategy

This Strategy aims to foster a vibrant local economy in Hobart by leveraging its competitive advantages, attracting responsible investment, and addressing challenges such as cost of living, population growth, and sustainability, while promoting the city's uniqueness and liveability.

The Project will reinforce Hobart's unique attributes with a world-class STEM facility that will attract students and academics; generating higher retention rates in the field to bolster not only the economy but the recruitment potential of residents.

Community Recovery Plan



The Community Recovery Plan outlines the governance, resources, and collaborative efforts necessary to support and guide a community's self-managed recovery after an emergency or disaster. Its primary goal is to establish the structures and services required for effective emergency response and recovery.

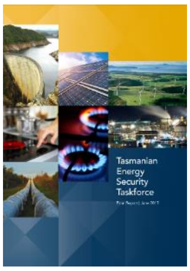
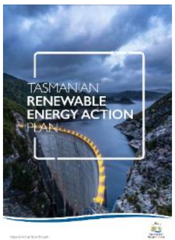
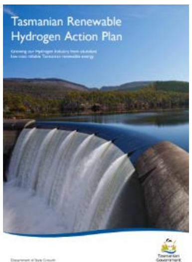
The plan is supported by the economic benefits of the Project's construction, which increases local incomes and provides citizens with higher qualifications for better-paying jobs, thereby alleviating financial burdens during disaster and promote quicker recovery.

Source: Deloitte (2025)

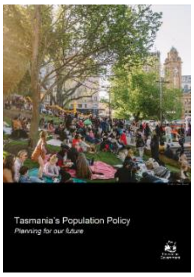
2.6.3 Alignment with Tasmanian Government policies and strategies

Table 2.3 summarises key strategic policies and plans of the State Government and their alignment to this business case.

Table 2.3: Alignment with Tasmanian Government Policy and Strategy

Tasmanian Gov. Policy and Strategy	Alignment
Tasmanian Energy Security Taskforce 	This Taskforce engages stakeholders to provide expertise and insights for developing recommendations to improve Tasmania's energy security, focusing on ensuring a reliable, low-carbon energy supply for the short, medium, and long term. The Project development will generate carbon savings while also reducing the energy demands associated with transportation to an alternate campus, supporting the Taskforce initiatives.
Tasmanian Renewable Energy Action Plan 	This action plan is a strategic initiative aimed at transforming Tasmania into a global leader in renewable energy, prioritising the growth of the renewable energy sector, boosting the local economy, creating jobs, and ensuring that energy benefits the Tasmanian community while supporting large-scale projects and sustainable developments. This couples with the Project's aim to carbon-save and boost the local STEM community by creating a new space for innovative learning and job potential.
Tasmanian Renewable Hydrogen Action Plan 	This action plan aims to position Tasmania as a global leader in renewable hydrogen production by 2030, leveraging its renewable energy resources, competitive advantages, and infrastructure, while providing financial support, workforce training, and fostering research, innovation, and community engagement. The establishment of a new STEM precinct will support this initiative by providing a dedicated space and cutting-edge technology to drive further advancements and breakthroughs for renewable hydrogen technology.
Youth Jobs Strategy 	This strategy aims to support young people in transitioning from school to employment by providing education, training, and employment opportunities, while also helping employers attract and retain skilled young workers through a collaborative approach across six key action areas: Pathways, Employers and Industry, Support and Services, Education and Training, Health and Wellbeing, and System Sustainability and Success. The new STEM precinct will enrich learning experiences for students and foster greater engagement through the Science Museum, creating

<table>
<tr><td></td><td>exposure and equipping students for better employment outcomes, especially within STEM fields.</td></tr>
<tr><td>TasICT Submission to the Tasmanian Independent Education Review
</td><td>This joint submission advocates for enhancing Tasmania's education system by promoting STEM subjects, fostering technology skills, and addresses the decline in technology enrolments to encourage building a skilled workforce that supports innovation, economic growth, and the state's technology sector.

The Project strongly aligns with the goals outlined in this submission by creating a new and distinctive precinct that will help remedy the low rates of engagement and equip a new generation of highly STEM skilled individuals with the technology needed to advance their knowledge.</td></tr>
<tr><td>Tasmania's Population Policy
</td><td>Tasmania's Population Policy seeks to manage and prepare for population growth, targeting 650,000 by 2050, with a focus on job creation, infrastructure, migration, and sustainability to maintain economic, social, and environmental balance.

The Project aligns with this vision by providing opportunities for new housing development on surplus land, creating additional job opportunities, and offering upskilling initiatives that equip the population with the skills needed for higher-income roles to support growing families.</td></tr>
<tr><td>Tasmanian Global Education Growth Strategy
</td><td>This Growth Strategy aims to establish Tasmania as a top study destination by enhancing the student experience, strengthening global connections, and fostering industry partnerships, while supporting economic growth and aligning with broader state strategies.

This aligns seamlessly with the Project as a new STEM space will facilitate new partnership opportunities with renowned academics, establishing valuable connections and restoring the STEM educational experience for Southern Tasmanian students.</td></tr>
<tr><td>Independent Review of Education in Tasmania
</td><td>The Independent Review of Education in Tasmania calls for strategic reforms focusing on early childhood education, teacher quality, technology integration, and student well-being. Key recommendations include investing in educator development, prioritising STEM, enhancing community partnerships, supporting disadvantaged students, and adopting evidence-based teaching to ensure equitable, high-quality education for all.</td></tr>
<tr><td>Tasmanian Visitor Engagement Strategy</td><td>This strategy focuses on engaging new personalised visitor experiences, protecting and promoting Tasmania's authentic brand, and fostering collaboration across sectors to attract global travellers, while leveraging</td></tr>
</table>

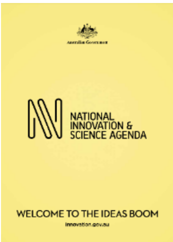
	digital platforms and local storytelling to enhance visitor engagement and drive sustainable tourism growth. This initiative is supported through the enhanced public amenity outcomes from the Project including green infrastructure and new green open space for public use, a Science Museum, and increased attraction to the University due to its world-class STEM facilities.

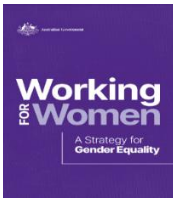
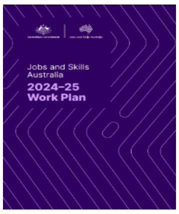
Source: Deloitte (2025)

2.6.4 Alignment with Australian Government policies and strategies

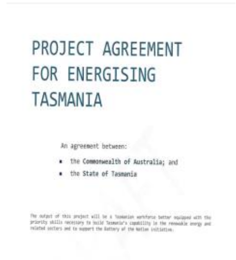
Table 2.4 summarises key strategic policies and plans of the Federal Government and their alignment to this business case.

Table 2.4: Alignment with Australian Government Policy and Strategy

Australian Government Policy and Strategy	Alignment
National Science and Research Priorities 	Australia's National Science and Research Priorities focuses on achieving a net-zero emissions future, improving health and well-being, elevating Indigenous knowledge, protecting the environment, and building a secure and resilient nation through research and policy development. The Project significantly supports these goals by advancing geographic, environmental, technological and heath care outcomes that will drive advancements in emission-reducing technologies, enhancing well-being through a greener campus, creating improved employment opportunities, and fostering stronger relationships with ALCT through the land hand-back initiative.
National Innovation and Science Agenda 	This Agenda is a strategic Australian government plan focused on fostering innovation, creating jobs, and boosting economic growth through initiatives in investment, collaboration, talent development, and digital transformation. The Project will support this Agenda by fostering a culture of innovation with new cutting-edge technology, enhancing collaboration between researchers and industry by providing a distinct and refreshing space, develop a skilled workforce, and promoting digital literacy, all of which contribute to driving economic growth and positioning Tasmania as a leader in STEM fields.
Higher Education Infrastructure Growth Fund 	The report commissioned by the Minister for Education and Training examines policy frameworks and financing options for higher education infrastructure, recommending expanded funding sources, increased philanthropy, stable funding environments, and collaborative efforts to support transformative infrastructure and address challenges faced by regional universities. This aligns with UTAS's objectives to enhance its STEM precinct, fostering greater STEM productivity and retention; the Project's development will also provide broader indirect benefits to the surrounding communities.

Australian Universities Accord 	The Australian Universities Accord Final Report contains 47 recommendations for Government consideration and aims to create a long-term reform plan for the higher education sector to meet Australia's future skills needs. The report notes that UTAS specifically "services a community facing high levels of disadvantage, including lower levels of educational attainment," reflecting Tasmania having the highest percentage of people from low SES backgrounds in the nation (42.5%). The report also states, "Australia will be unable to meet its skills needs without increasing attainment of historically under-represented cohorts in tertiary education," highlighting the need for Tasmania to be supported to meet these skills needs and improve productivity, growth and equity.
Working For Women: A Strategy for Gender Equality 	This strategy highlights the Australian government's commitment to achieving gender equality by tackling key areas such as gender-based violence, economic security, health, and leadership, with a strong emphasis on inclusive efforts and accountability, particularly for First Nations women and girls. The Project's focus on enhancing the STEM industry in Tasmania aligns with this vision by providing a more attractive opportunity for women to upskill and gain confidence in traditionally male-dominated fields.
National STEM School Education Strategy 	This Strategy aims to strengthen STEM education in Australia by enhancing student engagement, teacher capacity, and industry partnerships, with a focus on ensuring all students develop strong STEM foundations and are inspired to pursue advanced STEM subjects and careers. This campaign will be promoted with the new Project development by reinforcing the STEM capabilities in Southern Tasmania and fostering a refreshed attitude towards the field with new technology and facilities with potential way beyond current states.
Job and Skills Australia 2024-25 Work Plan 	This work plan outlines key priorities for workforce and skills development, focusing on inclusive participation, understanding workforce trends, shaping future skills needs, optimising pathways, and fostering collaboration to meet Australia's current and future workforce demands. Some key initiatives within this plan include improving literacy, numeracy, and digital skills for adults which will be sustained and backed by the development of the Project.
National Reconstruction Fund Corporation	The National Reconstruction Fund Corporation (NRFC) is Australia's sovereign investor in manufacturing, with a $15 billion fund aimed at transforming and diversifying industries such as agriculture, renewables, defence, and medical science, by investing in priority sectors through debt, equity, and guarantees, while collaborating with stakeholders to drive economic growth, job creation, and regional development. This type of investment into the Project will bolster the Tasmanian economy, cultivating a new generation of highly educated STEM professionals through

	the world-class facility and positioning the University as a hub for skilled talent to be grown.
2022-2026 Corporate Plan 	This Corporate Plan for 2022-2026 focuses on building a strong, inclusive economy, promoting a healthy and resilient society, and strengthening Australia's global position while fostering unity at home. Key priorities include economic growth, gender equality, healthcare improvement, climate action, and enhancing strategic partnerships. This aligns with the project's vision of creating an inclusive economy by helping under-engaged states update their facilities to boost student involvement and retention. The development of a new STEM precinct further supports the Corporate Plan by attracting top academics and fostering a collaborative environment for STEM innovation.
2021 Australian Infrastructure Plan 	The 2021 Australian Infrastructure Plan provides a roadmap for reforming the country's infrastructure to enhance resilience, sustainability, and economic growth by 2036, addressing key areas like transport, energy, water, and digital connectivity. It emphasises adapting to change, leveraging technology, and investing in place-based solutions to ensure quality infrastructure for all Australians. The Project aligns with the 2021 Australian Infrastructure Plan by fostering innovation, enhancing industry productivity, and supporting place-based outcomes. It will drive economic growth through cutting-edge research, promote sustainability, and create a resilient, future-ready workforce to meet emerging technological and environmental challenges.
Infrastructure Policy Statement 	The Australian Government's Infrastructure Policy Statement focuses on delivering nationally significant land transport projects in partnership with stakeholders, prioritising investments that improve productivity, resilience, liveability, and sustainability. It emphasises collaboration, evidence-based decision-making, and long-term planning to support projects that enhance connectivity, equity, and safety across the nation. The proposed Project at UTAS aims to support critical sectors like agriculture, renewable energy, and mining, while fostering a skilled STEM workforce in Tasmania. By addressing outdated infrastructure, the precinct will enhance educational outcomes, promote sustainable urban development, and improve the quality of life in Southern Tasmania, ultimately driving innovation and economic resilience, thus aligning itself with this Government policy.
Energising Tasmania	The Energising Tasmania project agreement between the Commonwealth of Australia and the State of Tasmania aims to develop a skilled workforce in renewable energy to support the Battery of the Nation initiative. The project will focus on equipping Tasmanians with essential skills for the renewable energy sector, with the Commonwealth providing $16.14 million in funding. Tasmania will be responsible for delivering the project and reporting on progress, while the Commonwealth will oversee performance and provide financial support.


PROJECT AGREEMENT FOR ENERGISING TASMANIA

An agreement between:

- the Commonwealth of Australia; and
- the State of Tasmania

Energising Tasmania aligns with the values of a STEM precinct revitalisation in UTAS as our project directly supports the development of a skilled workforce in renewable energy. By equipping students and academics with world-class technology and intentional space for industry collaboration, enhanced research and education will be fostered in step with the Commonwealth's goals.

Whilst Energising Tasmania has recently expired as of June 2023, it showcases the Tasmanian and Australian Government's ongoing commitment to STEM Infrastructure, aligning with the objectives of the UTAS business case.

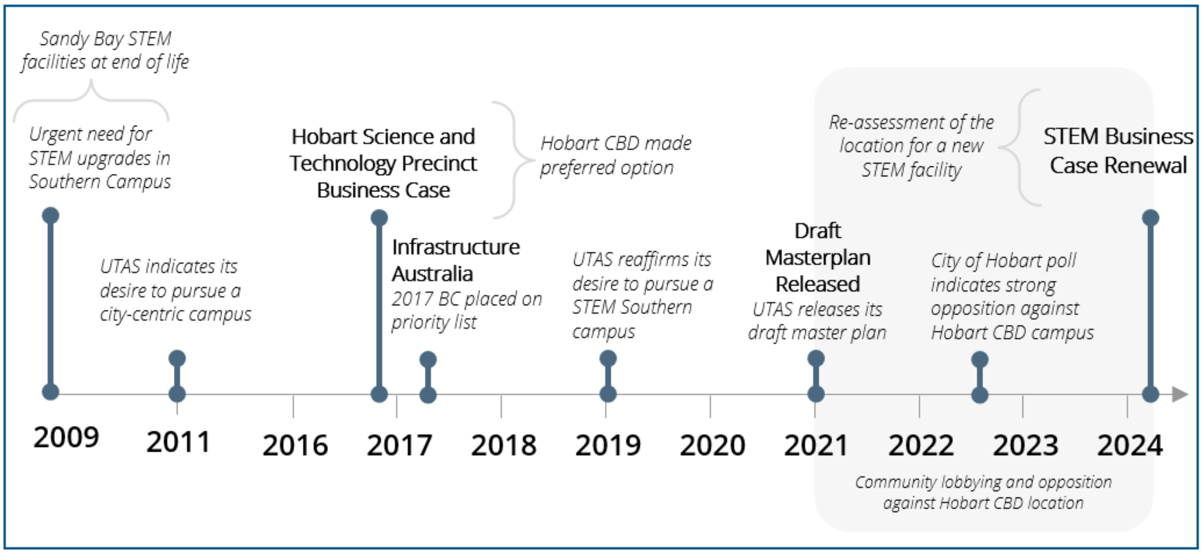
Source: Deloitte (2025)

2.7 Project Background

Current STEM facilities at UTAS' Sandy Bay Campus date back to the early 1960s, with ageing and poorly connected facilities now limiting collaboration, across academic disciplines and with industry collaborators. The age and nature of the facilities makes retrofitting and modernising these buildings with technical infrastructure required for modern high end research cost and design prohibitive.

A new STEM precinct has long been contemplated, with planning stretching back over the past 15 years. A business case was originally developed in 2016 seeking funding for the development of new facilities, with the Project assessed at the time as one of the States key projects and placed on Infrastructure Australia's (IA) priority list as a result. An outline of the key activities that have occurred over this time is outlined in Figure 2.3 below.

Figure 2.3: Project history to date



Source: Deloitte (2025)

Since the 2016 business case was developed, market and university dynamics have changed resulting in the reshaping of the optimal STEM solution to meet today's exacerbated unmet needs. Some of the key changes that have driven this change are summarised below:

- UTAS has shifted away from its Hobart CBD centralisation strategy to a distributed southern campus model - a multi-site southern campus including a STEM focused precinct at Sandy Bay. This decision followed extensive community feedback including around the 2022 elector poll conducted during the City of Hobart elections. Concerns about the impact on the local area, including changes to traffic, infrastructure, and the character of the neighbourhood were raised.

- The national higher education sector is navigating major reforms which is creating a complex financial environment as UTAS moves between the growth focused, market driven system and a managed system. Recent Australian Government new policy and ministerial directions have influenced the reduction of the number of international students enrolling at UTAS. Future Australian Government higher education policy and funding and immigration policies are expected to rebalance international students between metro and regional universities, benefitting UTAS.
- UTAS and Tasmania continues to see a decline in STEM enrolments and completion rates, now below 2010 levels, which contributes to the state's productivity remaining 26% below the national average due to insufficient educational attainment.

An outline of the Project’s case for change and urgent need for investment is explored in further detail in Section 3.

3 Case for Change

3.1 Investment Logic Map

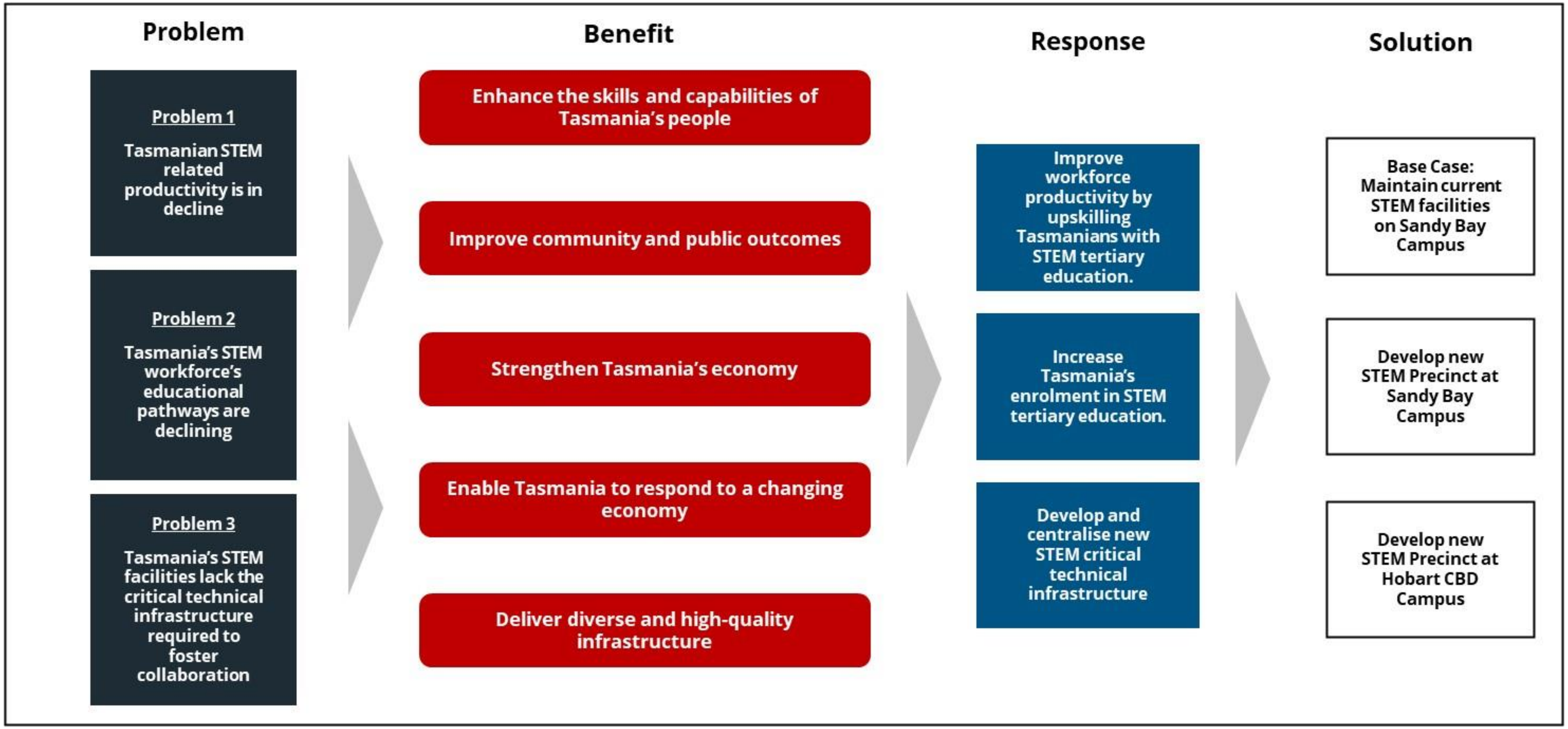
To guide the development of the case for change, an Investment Logic Map (ILM) was created to demonstrate the alignment between the problems, benefits, responses and proposed solutions.

The ILM's problem statements relate to the challenges being faced by UTAS and Tasmania more broadly, which could be addressed through the development of the STEM Precinct. These problem statements are described in further detail in Section 3.2.

The ILM also identifies key benefit categories which would be realised if the problem statements are addressed. These benefit categories are summarised in Section 3.3 and are explained in further detail and quantified in Section 5.

The ILM's responses have guided the development of the objectives for the Project, which are described in further detail in Section 3.4.

Figure 3.1: Investment Logic Map



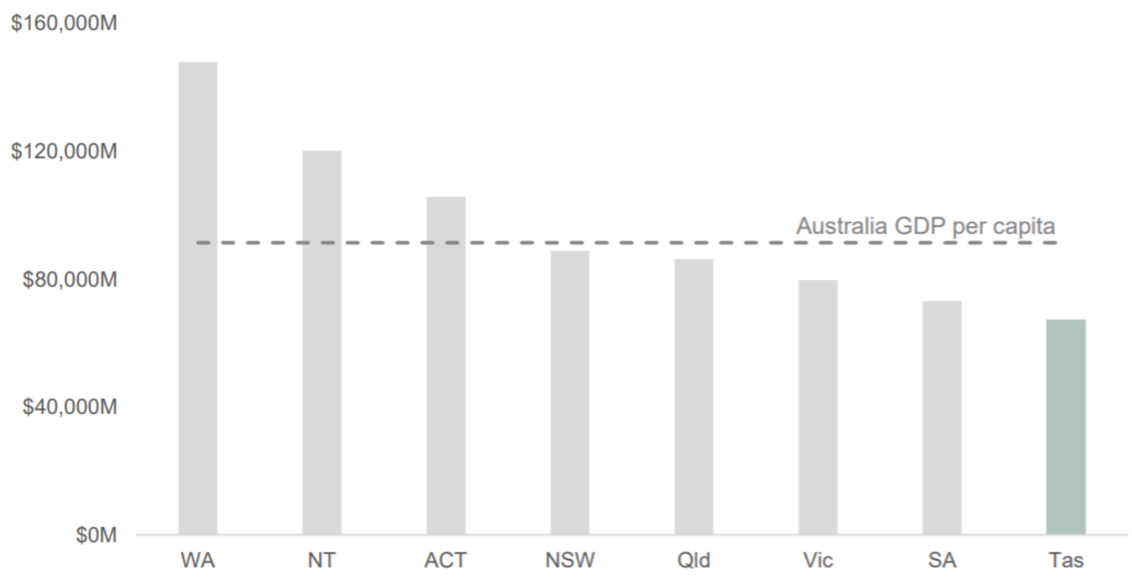
Source: Deloitte (2025)

3.2 Problem Statements

3.2.1 Tasmanian STEM related productivity is in decline

Tasmania's productivity rate is 26% lower than the national average and is expecting slower growth than the rest of the nation.[20] This lower productivity rate has contributed to lower average income, reduced economic competitiveness, and slower long-term economic growth, which limits the government's ability to provide essential services[21]. The Reserve Bank of Australia reports that building STEM capacity across the population is critical for supporting innovation and productivity, regardless of occupation. Productivity growth is the key driver of real wage growth and rising living standards over the long term.[22] Figure 3.2 below outlines Tasmania's GSP per capita in relation to the other states and territories and the national average.

Figure 3.2: Australian States and Territories GSP per capita



Source: ABS (2023)

Failure to invest in the UTAS STEM Precinct puts Tasmania at serious risk of falling further behind in STEM-related sectors as well as economic growth compared to the rest of Australia and the world. Without the industry research and collaborative spaces that a STEM Precinct would provide, Tasmania will find it difficult to develop the talent and ideas required, to drive economic growth and new job creation.

In 2023, sectors with strong STEM capability raised the greatest proportion of venture capital funding in Australia. When comparing Tasmania's estimated venture capital funding as a proportion of its working population, Tasmania has secured approximately half of the national average which is outlined in Figure 3.3 below.

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[20]. Australian Bureau of Statistics, "Australian National Accounts: State Accounts", (2024)
[21]. Reserve Bank of Australia, "Recent Trends in Australia Productivity", (2023), https://www.rba.gov.au/publications/bulletin/2023/sep/recent-trends-in-australian-productivity.html
[22]. Reserve Bank of Australia, "Recent Trends in Australia Productivity", (2023), https://www.rba.gov.au/publications/bulletin/2023/sep/recent-trends-in-australian-productivity.html

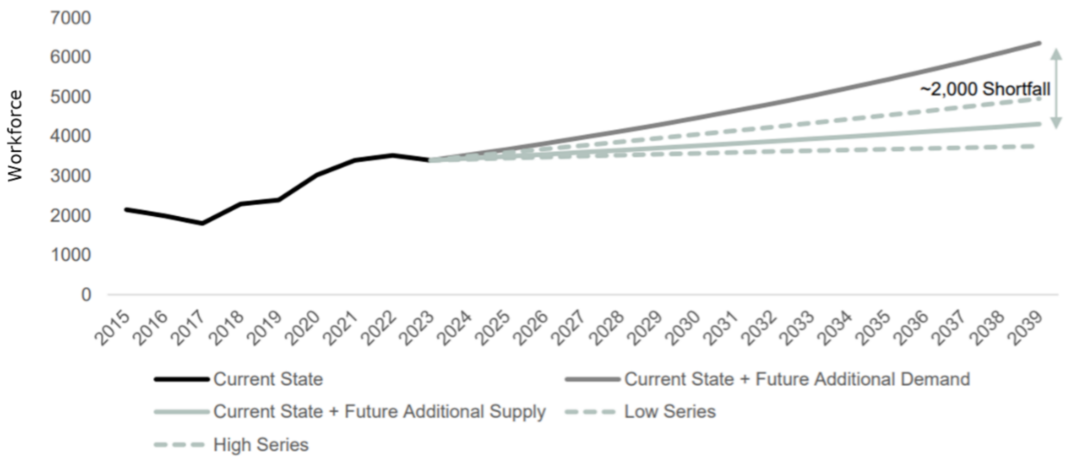
Figure 3.3: Venture capital funding of Tasmania compared to Australia

Source: UTAS (2024)

The difference between Tasmania and the national average equates to a lost opportunity of approximately $35 million annual growth in venture capital funding, equivalent to an overall uplift of $135 million annual economic activity[23].

In addition to sectors directly related to STEM, Tasmania's other strategic industry sectors are heavily reliant on STEM capability to maintain growth and deliver on state and nationally significant major projects. There is already an identified shortfall in engineering workforce supply of up to 2,000 within the next 15 years as shown in Figure 3.4 below.[24]

Figure 3.4: Tasmanian engineering workforce supply



Source: UTAS (2024)

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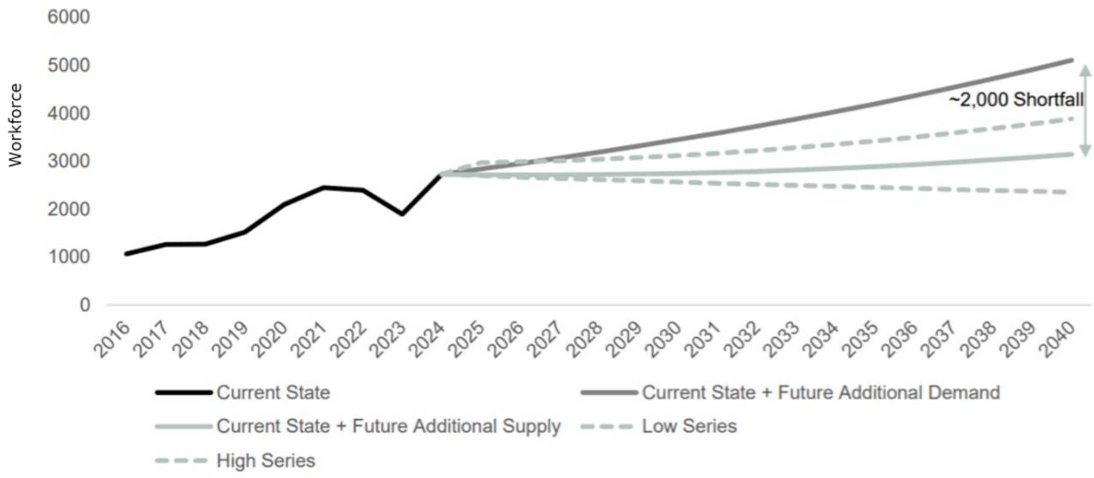
[23] Australian Bureau of Statistics, "2021 Census", (2021)
[24] The Insight Centre, "Engineering a Better Future", (2023)

Similarly, technology and IT capability is also essential to enable digital transformation in almost all of Tasmania's sectors. Similarly, there is a forecast shortfall of approximately 2,000 specialist IT professionals by 2040 as outlined in Figure 3.5 below.

Figure 3.5: Tasmanian Technology and IT workforce supply



Source: UTAS (2024)

Failure to bridge this shortfall of engineering and IT workforce supply is expected to have a detrimental impact on the timeliness and cost of the digital transformation of Tasmania's core industries and delivery of nationally significant projects, including:

- **Tasmanian Green Hydrogen Hub** – The provision of open access infrastructure covering electricity transmission, water and ports to help realise Australia's green hydrogen future.
- **Marinus Link** – A proposed 750-megawatt capacity high voltage direct current electricity interconnector to strengthen the connection between Tasmania and Victoria on the National Electricity Market.
- **Battery of the Nation** – A series of Hydro Tasmania projects that are investigating and building our capacity as a hydro battery, to ensure safe, reliable, low-cost energy supply for all Tasmanians, and thousands of megawatts of clean power to the mainland.
- **Agriculture** – The Tasmanian Government's target to grow the farm-gate value of the Tasmanian agriculture sector $10 billion by 2050.

The market skills failure requires urgent government intervention, to provide the facilities and infrastructure needed to support the development of local STEM capability and industry collaborations needed to drive the economic growth of the State and enable Tasmania to respond and adapt to the rapidly changing global economy.

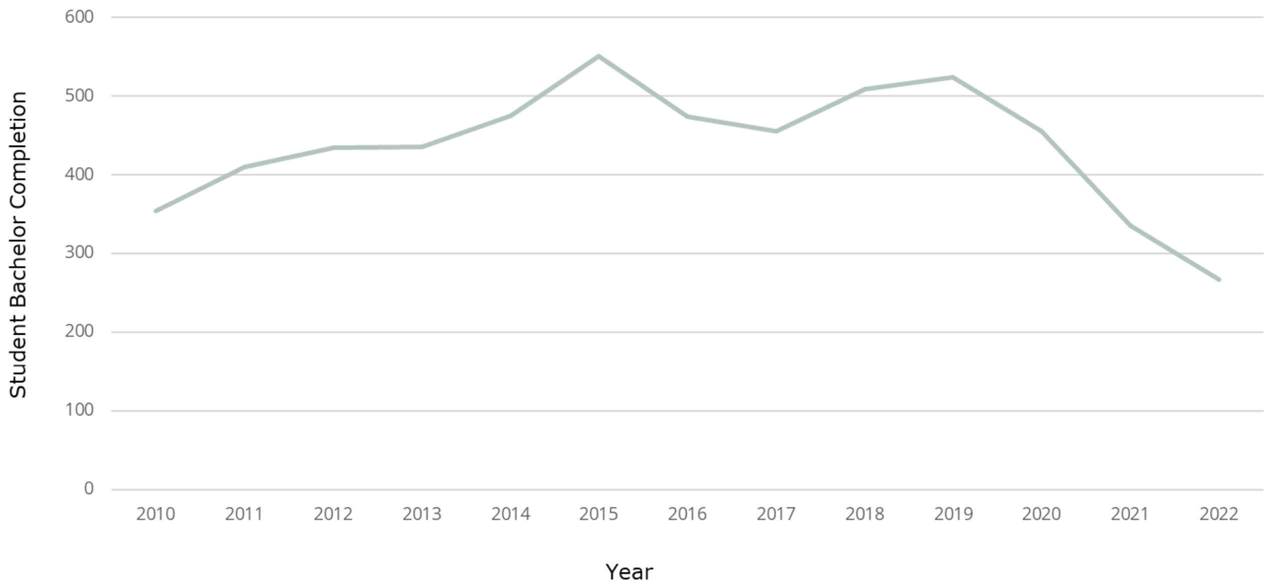
Failing to address the ongoing decline in STEM productivity in Tasmania poses significant risks and negative consequences for the state's economic growth, innovation capacity, and overall competitiveness. Without a robust STEM workforce, Tasmania will struggle to drive economic diversification and enhance productivity, leading to stagnation and reduced economic resilience. The lack of qualified STEM professionals will hinder innovation, preventing the state from capitalising on emerging technologies and high-value sectors. Consequently, Tasmania could fall behind other regions, losing its competitive edge and attractiveness to businesses and investors. In the long term, this decline threatens to create a cycle of underperformance, limiting job creation, reducing earning potential, and impairing the overall quality of life for residents. Immediate action is crucial to reverse this trend and secure a prosperous future for Tasmania.

3.2.2 Tasmania's STEM workforce's educational pathways are declining

Tasmania is experiencing an ongoing decline in STEM workforce capability which puts the Tasmanian and Australian Government at serious risk of not being able to deliver on nationally significant projects within renewable energy, technology, agriculture and manufacturing. The shortage is particularly acute in engineering and IT fields. Tasmania's engineering workforce is less than half the national average, with only 60% of trained engineers working in engineering roles.[25]

With interstate and international talent attraction becoming increasingly difficult, Tasmania must have the ability to develop their own STEM workforce capability. However, Tasmania's engagement and retention in STEM education is the lowest in the nation, exacerbating the shortfall in the STEM workforce. This decline severely impacts the state's workforce capabilities and supply, with the proportion of Tasmanians holding a STEM bachelor's degree 25% below the national rate. [26] Additionally, the number of students completing these degrees continues to decline, as experienced by UTAS in Figure 3.6 below,[27] further shrinking the pool of Tasmanian qualified STEM professionals. This trend undermines Tasmania's ability to foster innovation, enhance productivity, and drive economic diversification, underscoring an urgent need for strategic investment in STEM education to reverse this decline and strengthen the state's workforce capabilities.

Figure 3.6: UTAS Bachelor STEM completions



Source: Deloitte (2025)

This challenge is also evident in primary and secondary education, where declining enrolment in pre-tertiary STEM subjects and lower NAPLAN numeracy scores point to deeper system issues. Tasmania has historically had lower-than-average Year 12 attainment rates, with only 53% of students completing Year 12 in 2022, compared to the national average of 76%. This trend is particularly pronounced in STEM fields, where enrolment in pre-tertiary STEM subjects have declined by 14% since 2018. In 2023, UTAS graduated just over 1,200 STEM students,[28] 250 students short of the number needed to align with the national attainment rate.

This, in turn, has a cyclical and compounding effect resulting in the shortage of qualified STEM teachers in Tasmania. Only 45% of maths teachers and 70% of science teachers in Tasmanian schools are appropriately qualified, and with this lack of pursuit in STEM teaching qualifications, the declining STEM engagement and retention rates are further deepened.

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[25]. University of Tasmania, "Workforce Development Plan", (2016)
[26]. Australian Bureau of Statistics "2021 Census", (2021)
[27]. University of Tasmania, "Independent Review of Education in Tasmania", (2024), https://www.utas.edu.au/__data/assets/pdf_file/0010/1750573/University-of-Tasmania-Tasmania-Education-Review-submission-Oct-2024.pdf
[28]. University of Tasmania, "Independent Review of Education in Tasmania", (2024), https://www.utas.edu.au/__data/assets/pdf_file/0010/1750573/University-of-Tasmania-Tasmania-Education-Review-submission-Oct-2024.pdf

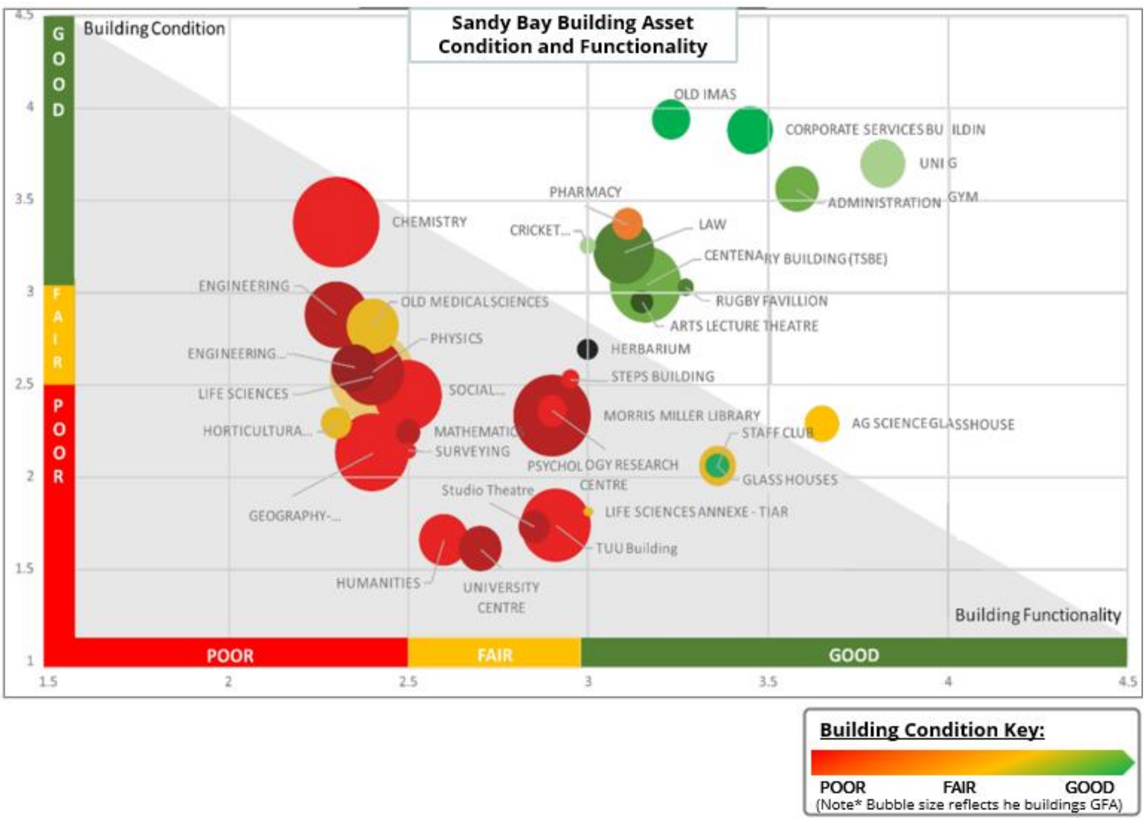
Without an urgent investment into STEM educational facilities, Tasmania stands to further deepen its divide from the rest of the nation in its STEM education pathways and workforce capability and supply. Focusing on STEM-related sectors is vital for Tasmania's economic prosperity, as it drives innovation and enhances productivity. Immediate action is crucial to avoid falling behind and to capitalise on the transformative potential of STEM.

3.2.3 Tasmania’s STEM facilities lack the critical technical infrastructure required to foster collaboration

UTAS’ current STEM facilities lack the critical technical infrastructure required to foster collaboration and innovation effectively. The existing STEM facilities on the Sandy Bay campus, dating back to the 1960s, are outdated and regarded as unfit-for-purpose, resulting in higher maintenance costs and inefficiencies that hinder the quality of education and research. These antiquated designs hinder interdisciplinary collaboration and fail to support the modern technical infrastructure needs of STEM education.

A detailed building condition and functionality report was completed in 2018 which identified common concerns across many buildings include a lack of temperature control, inadequate, unreliable power supply, inadequate internet connections, lack of modern technology including crucial teleconferencing facilities, faulty elevators, tired and broken fittings and furniture, toilets that are in a poor condition, and teaching, workshop and laboratory spaces that are makeshift or outdated. A summary of the report’s findings by building is outlined in Figure 3.7 below.

Figure 3.7: Sandy Bay building asset condition and functionality



Source: UTAS (2018)

In particular, the condition and functionality report highlighted the poor condition of all six science buildings. These current STEM facilities are poorly connected, inefficient, significantly limiting collaboration both within academic disciplines and across industry sectors. The outdated design of the existing STEM facilities lacks the technical capacity for connected learning and is not configured for growth, restricting rapid advancements, and limiting learning opportunities for both students and academic staff. Additionally, the facilities are missing the modern technical infrastructure essential for a high-end research environment, which negatively affects students' university experiences in their abilities to contribute to research and development. Specific examples of modern technical infrastructure missing include:

- Advanced laboratory facilities (including dry and wet laboratories)
- STEM-specific laboratory equipment (modern microscopes, spectrometers, gene sequencers, etc)
- Computational resources / equipment (to perform complex calculations and process large datasets).

Lacking critical technical infrastructure in Tasmania's STEM facilities poses significant risks to the state's economic growth, innovation capacity, and long-term competitiveness. Without modern infrastructure, Tasmania will struggle to attract and retain top talent, limiting its ability to foster collaboration and drive technological advancements. This deficiency directly impacts the quality of STEM education and research at UTAS, where outdated designs and the absence of advanced laboratory facilities, STEM-specific equipment, and computational resources hinder effective teaching and research.

3.3 Benefits

By addressing the above- problem statements five high-level benefit categories have been identified.

- Enhance the skills and capabilities of Tasmania's people
- Improve community and public outcomes
- Strengthen Tasmania's economy
- Enable Tasmania to respond to a change economy
- Delivery diverse and high-quality infrastructure.

These benefit categories form the basis of a detailed benefits framework which provides further detail on where the Project will deliver benefits. These benefits are expected to be realised by a broad range of beneficiaries across the country:

- University of Tasmania
- UTAS students and staff
- Government and economy
- Broader community.

An outline of the five high-level benefit categories and the detailed benefits that sit under each is outlined in Figure 3.8 below. Further analysis on the benefit quantification is explored in section 5 Cost Benefit Analysis.

Figure 3.8: Benefit Framework

Enhance the skills and capabilities of Tasmania's people

***B1.** Increase in STEM graduates, leading to greater lifetime earnings and improved employment outcomes*

***B2.** Access to the ecosystem of university offerings in Sandy Bay, including interdisciplinary learning opportunities and expanded industry partnerships (Sandy Bay only)*

***B3.** Enhanced learning experiences for students*

***B4.** Enhanced attraction and retention of high-quality workers to the university*

***B5.** Enhanced attraction and retention of university educated workers in the state*

Improve community and public outcomes

***B6.** Enhanced long-term benefits for individuals from greater engagement in university education, such as improved health and other social outcomes*

***B7.** Transport cost and time savings (CBD only)*

***B8.** Opportunities for school students and community members to engage in STEM and increase scientific literacy, including through the Science Museum (Sandy Bay only)*

***B9.** Enhanced public amenity outcomes including green infrastructure and green open space for public use, with social and wellbeing benefits (Sandy Bay only)*

***B10.** Reduced inequality due to more educational and occupational opportunities*

***B11.** Carbon savings from the new infrastructure*

***B12.** Recognition of First Nations People and improved community / cultural outcomes through land hand back to Aboriginal Land Council (Sandy Bay only)*

Strengthen Tasmania's economy

***B13.** Increase in net revenue from increased STEM enrolments**

***B14.** Increase in research output / funding**

***B15.** STEM research facilities attracting research dollars to Tasmania*

***B16.** Increased income tax and reduced welfare payments due to improved income and employment outcomes from STEM students*

***B17.** Spillover productivity effects for other workers and businesses*

***B18.** Higher expenditure in the state due to increase in international student enrolments*

Enable Tasmania to respond to a changing economy

***B19.** Greater opportunities to establish industry partnerships**

***B20.** Innovation and technological advancement within the STEM industry*

Deliver diverse and high-quality infrastructure

***B21.** Reduced maintenance costs of existing STEM facility*

***B22.** Increased availability of diverse and affordable housing options for essential workers and low-income individuals (Sandy Bay only)*

***B23.** Increased producer surplus through profits from infrastructure development*

Beneficiaries key

- Students and staff: B1, B2, B3, B6, B7
- Institution (UTAS): B4, B11, B13, B14, B19, B21
- Government and economy: B5, B15, B16, B17, B18, B20, B23
- Community: B8, B9, B10, B12, B22

Source: Deloitte (2025)

3.3.2 Enhance the skills and capabilities of Tasmania’s people

Modern STEM education facilities and programs are pivotal in supporting secondary students' study of STEM subjects and increasing the pipeline of local talent pursuing STEM-related career paths. By providing state-of-the-art resources, these facilities offer hands-on experiences and exposure to cutting-edge technology, making STEM subjects more engaging and accessible. School outreach initiatives utilise these advanced resources to inspire and educate students about the vast opportunities within STEM fields. Additionally, targeted programs cater to diverse student needs, ensuring equitable access to STEM education and fostering a continuous learning environment. This emphasis on professional development helps students stay abreast of the latest advancements and trends, preparing them for successful careers in STEM industries. Ultimately, leveraging modern STEM education facilities for outreach and specialised programs cultivates a robust pipeline of skilled local talent ready to excel in future STEM roles.

The presence of advanced STEM facilities at UTAS would also support interdisciplinary collaboration and innovation, providing students and professionals with access to cutting-edge resources and research opportunities. These facilities would act as hubs for industry partnerships, enabling the co-creation of solutions to real-world problems and driving economic diversification.

Moreover, targeted initiatives to enhance STEM capabilities across the population would ensure that more Tasmanians are prepared for high-demand roles in technology, renewable energy, health sciences, and other critical fields. This would not only improve individual employment prospects but also strengthen the overall economic resilience of the state. By focusing on upskilling and enhancing capabilities, Tasmania can position itself as a leader in STEM education and innovation, attracting investment and fostering sustainable growth.

3.3.3 Improve community and public outcomes

A Tasmanian STEM Precinct would provide opportunity for a science museum-type space that makes STEM exciting and interesting for the general public, especially young children. This interactive environment would inspire curiosity and encourage future generations to pursue STEM education and careers. The Precinct would also offer a strong outreach program to schools and communities, bringing science to every corner of Tasmania. This program could draw on resources from the UTAS, TAFE, and the school sector, ensuring that STEM education is accessible and engaging for all students.

In addition to making STEM more appealing, the facility would enhance long-term benefits for individuals by fostering greater engagement in university education, which is linked to improved health and other social outcomes. Opportunities for school students and community members to engage in STEM would increase scientific literacy across the population. The presence of a science museum would serve as a community hub, promoting lifelong learning and public engagement with science.

The Precinct would also improve public amenities by incorporating green infrastructure and open spaces for public use, providing social and wellbeing benefits. Recognition of First Nations people through the return of land to the ALCT would further enhance community and cultural outcomes, fostering a sense of inclusivity and respect for Indigenous heritage.

Moreover, the STEM Precinct would attract educational professionals and visitors, boosting local tourism and economic activity. It would host special exhibitions and events, drawing significant attendance and promoting Tasmania as a destination for educational tourism. Overall, a Tasmanian STEM education facility would not only elevate interest and engagement in STEM subjects but also create broader community benefits. Through interactive exhibits, outreach programs, and enhanced public amenities, it would support equitable access to STEM education, promote scientific literacy, improve social and wellbeing outcomes, and foster cultural recognition and inclusivity.

3.3.4 Strengthen Tasmania’s economy

A higher proportion of STEM graduates in Tasmania would positively influence economic growth through several key channels. Boosting STEM enrolment rates would lead to increased tuition revenue for educational institutions. Higher student numbers would also enhance funding opportunities and financial stability for these institutions, supporting further investment in educational facilities and resources. Additionally, more STEM graduates would bolster Tasmania's research capacity, leading to advancements in technology, innovation, and knowledge creation. Enhanced research activities attract grants, partnerships, and collaboration opportunities with industries, contributing to the state's economic development and tax revenue.

The adoption of digital tools and technologies would enable businesses to reduce production costs through lower search, replication, transportation, tracking, and verification costs. Improved digital literacy and technology adoption drive productivity gains across various sectors, enhancing local business efficiency and competitiveness. STEM skills underpin the technology sector, which is growing at 16% per year and is projected to contribute significantly to the Australian economy, with an estimated $250 billion by 2030. The federal government estimates that 87% of today's jobs across every sector and industry in Australia now require digital literacy.[29] However, Tasmania has the lowest digital literacy and skills scores in Australia, creating fundamental barriers to economic growth. Embracing digital technology and data can drive economic growth by enhancing local businesses' efficiency and competitiveness, but this requires a concerted effort to improve STEM education and digital literacy across the state.

Attracting international students for STEM courses increases expenditure on housing, food, transport, and other services, providing a significant boost to the local economy. International students contribute to cultural diversity and global networking opportunities, enriching the academic and social environment. The median salary of a tertiary qualified STEM worker is higher than that of a tertiary qualified non-STEM worker, with the benefit (Net Present Value over 20 years) of a STEM worker equating to $475,000 more than that of a non-STEM worker. Based on this, shifting just 1% of the state's workforce into STEM roles would lead to a $1.2 billion increase in Gross State Product (GSP) over the next 20 years.[30]

By prioritising STEM skills development at all levels, Tasmania can unlock significant economic benefits, from higher student enrolment and research output to increased productivity and international student expenditure, ultimately strengthening the state's economy.

3.3.5 Enable Tasmania to respond to a changing economy

Modernising current STEM facilities would create greater opportunities to establish industry partnerships. For example, UTAS could partner more extensively with Tasmanian agencies such as Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Australian Antarctic Division (AAD). These partnerships would facilitate collaborative research and development projects, driving innovation and technological advancements within the STEM industry.

Enhanced infrastructure would provide the necessary resources and environment for cutting-edge research, enabling interdisciplinary teams to work together on complex problems. This would not only elevate the quality of education and research but also attract top talent and funding to the state. Additionally, upgraded STEM facilities would support the commercialisation of new technologies and solutions, further integrating academic achievements with industry needs. By addressing the current deficiencies in technical infrastructure, Tasmania can leverage its educational institutions to become a hub of innovation and collaboration, significantly contributing to the state's economic and social development.

3.3.6 Deliver diverse and high-quality infrastructure

Modernising current STEM facilities, would reduce excessive maintenance costs, but it would also create an environment conducive to creating cutting-edge research and interdisciplinary collaboration. An enhanced STEM Precinct would serve as a catalyst for growth across multiple sectors, comparable to the success the new Centre of Arts and IMAS buildings have achieved.

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[29]. Australian Government: Productivity Commission, "5-year Productivity Inquiry: Australia's data and digital dividend", (2023)
[30]. *[Assuming 7% discount rate – UTAS NTP Business case, 2019] [Assuming 25% marginal propensity to save, based on 75% final consumption rate, 2017 – 2021 World Bank for Australia]. ABS Census, (2021)*

Modern facilities would enable UTAS to form stronger industry partnerships, driving innovation and technological advancements within the STEM industry.

Moreover, upgraded infrastructure would enhance Tasmania's ability to attract and retain essential workers by increasing the availability of diverse and affordable housing options. These housing options would support low-income individuals and essential workers, contributing to a more stable and vibrant community. Additionally, modernised facilities would facilitate the development of new housing projects and commercial spaces, leading to increased producer surplus through profits from infrastructure development.

Delivering diversified high-quality infrastructure will significantly benefit the UTAS and the wider Tasmanian community. It would enable Tasmania to compete more effectively on a national and global scale, attracting top talent, funding, and students while providing significant economic and social benefits to the broader community.

3.4 Project Objectives

In order to address the problem statements and realise the benefits outlined above, three objectives have been developed and endorsed by UTAS for the Project. These three project objectives are summarised below:

3.4.1 Improve workforce productivity by upskilling Tasmanians with STEM tertiary education

This objective aims to directly address the declining productivity in Tasmania’s STEM sector by strengthening workforce capabilities through high-quality STEM education and industry collaboration. By equipping Tasmanians with critical STEM skills, the project will help drive innovation, improve industry efficiency, and stimulate economic growth. Additionally, fostering stronger university-industry partnerships will ensure that STEM graduates are better aligned with workforce demands, supporting long-term productivity gains. This will be realised by the below:

- Increase in STEM graduates entering the workforce.
- Demonstrated productivity improvements in STEM-related professions.
- Revenue growth among local STEM-focused businesses.
- Expansion of industry collaborations and research partnerships with UTAS.

3.4.2 Increase Tasmanians’ enrolment in STEM tertiary education

This objective aims to reverse the decline in Tasmania’s STEM workforce educational pathways by enhancing accessibility, engagement, and retention in STEM education. The project will foster a supportive and innovative learning environment equipped with world-class technology and industry-aligned curricula to attract and retain students in STEM fields. New and enriched STEM programs will be introduced at both secondary and tertiary levels, ensuring a seamless progression from school to university and into the workforce. This will be realised by the below:

- Increased secondary school enrolments in STEM subjects, creating a stronger pipeline of students for tertiary STEM education.
- Growth in student participation in STEM extracurricular programs and industry engagement activities.
- Improved retention rates in STEM tertiary education, leading to a more robust STEM workforce pipeline.

3.4.3 Develop and centralise new STEM critical technical infrastructure

This objective directly addresses the lack of critical technical infrastructure in Tasmania’s STEM facilities by developing and centralising modern, high-quality resources. By creating state-of-the-art STEM infrastructure, the project will foster a more collaborative and innovative research environment, attracting leading researchers, educators, and industry partners. Centralised facilities will streamline resource sharing, improve efficiency, and support cutting-edge scientific advancements, reinforcing Tasmania’s position as a hub for STEM excellence.

- Development and quality of new STEM infrastructure to support collaboration and innovation.

- Efficiency in consolidating and integrating existing STEM facilities to maximise resource utilisation.
- Effective repurposing of vacated land to support broader institutional or community needs.

3.5 Strategic Solutions

To achieve these objectives, a number of strategic solutions have been considered which address the problem statements, realise the benefits and achieve the objectives to varying degrees. The three strategic solutions are summarised solutions in Table 3.1 below and analysed in further detail as part of the Options assessment.

Table 3.1: Strategic solutions

Strategic Solutions	Description
Maintain current STEM facilities on Sandy Bay Campus	Continue to use STEM facilities at Sandy Bay campus that are regarded as ‘unfit for purpose’.
Develop new STEM Precinct at Sandy Bay Campus	Develop a new world-class STEM precinct on the Sandy Bay campus.
Develop new STEM Precinct at Hobart CBD Campus	Develop a new world-class STEM precinct on UTAS owned sites in the Hobart CBD.

Source: Deloitte (2025)

4 Options

4.1 Longlisted Options

Prior to undertaking a detailed options development process, a range of varying capital and non-capital strategic solutions were considered to assess differing approaches to developing the STEM Precinct. This included various combinations of infrastructure investments, non-infrastructure solutions, and partial-scope alternatives. Table 4.1 below is an outline of the longlisted options, along with a high-level level analysis as to the options project alignment.

Table 4.1: Longlisted Options

Option	Description	Alignment
Smaller-Scale Infrastructure Investment	Refurbishing and modernising key buildings in the existing Sandy Bay campus rather than a full scale development	May not deliver the scale of transformation required; continued operational inefficiencies in outdated buildings.
STEM Talent Recruitment & Development Focus	Redirecting funding from infrastructure to hiring world-class STEM faculty and offering research grants.	May not address infrastructure challenges, limiting research capacity and student experience.
Hybrid Approach: Partial Infrastructure Upgrade and Talent Attraction	Invest only in essential infrastructure upgrades and minor investments in faculty recruitment and student scholarships.	May still require significant ongoing infrastructure investment later; risk of fragmented development.
Public-Private Partnership (PPP) Model	Co-funding development with industry partners or leasing private facilities rather than fully rebuilding.	Loss of control over infrastructure, potential conflicts over long-term priorities.
Decentralised STEM Hubs Across Multiple Locations	Instead of a single centralised campus, establish smaller STEM centres in different locations.	Could dilute the university's brand and make collaboration/logistics more difficult.
Digital-First STEM Expansion	Invest in online STEM education, VR labs, and remote research partnerships rather than physical infrastructure.	Lacks physical lab space for research and student engagement; may not attract top-tier students/researchers.
Industry-Led STEM Incubators	Partnering with tech companies to build R&D spaces instead of constructing university-led infrastructure.	Industry priorities may not fully align with academic goals; potential conflicts over intellectual property.
Modular and Temporary STEM Infrastructure	Using temporary prefabricated buildings while deferring a full infrastructure overhaul.	May not offer long-term sustainability or meet student/staff expectations.

Outsourcing STEM Education to Other Institutions	Partnering with leading STEM universities (e.g., dual-degree programs) rather than expanding infrastructure locally.	Loss of competitive advantage, reduced local student opportunities.
Reducing the Scope of the STEM Redevelopment	Prioritising certain disciplines (e.g., AI, biotech) rather than a full-scale redevelopment.	May limit interdisciplinary collaboration and overall impact.

Source: UTAS (2025)

It is important to note that while many of these options achieve some of the Project's objectives to varying degrees, they did not fully achieve the Project's objectives to the extent that the options considered in the 2016 Hobart Science and Technology Precinct Business Case and subsequent iterations, which were validated and assessed in further detail.

4.2 Shortlisted Options

This business case found that the three conceptual Options continued to remain relevant. They are:

- **Option 1 (Base Case):** Maintain current STEM facilities at Sandy Bay
- **Option 2 (New Sandy Bay):** Develop new STEM Precinct at Sandy Bay Campus
- **Option 3 (New Hobart CBD):** Develop new STEM Precinct at Hobart CBD Campus

These shortlisted Options were then assessed using a Multi-Criteria Assessment (MCA) whereby the above three conceptual Options were mapped against the Project's objectives.

To deliver the strategic solutions outlined in Table 3.1, an analysis of the Options has been undertaken to determine the optimal scope and approach. The overall approach undertaken to develop and assess the Options, using the parameters listed in Figure 4.1 below.

Figure 4.1: Optioneering Framework

	A. SHORTLIST OPTION VALIDATION	B. QUALITATIVE ASSESSMENT	C. SHORTLIST OPTION REFINEMENT	D. ECONOMIC AND FINANCIAL APPRAISAL	E. PREFERRED OPTION
Purpose	Determine potential options based on existing analysis undertaken for the 2017 Business Case and subsequent iterations. Initial conceptual options that have been identified are: • Maintain current STEM facilities at Sandy Bay • Redevelop STEM facilities at Sandy Bay • Develop new precinct in Hobart CBD	Development of a multi criteria analysis (MCA) framework to score and rank all strategic options. The criteria included: • Alignment to Objectives • Relative Operational Risk Profile • Relative Delivery Risk Profile • Relative Change Risk Profile Score and rank the 3 strategic options	Refine the 3 strategic options by determining their detailed scope to allow for quantification of costs and benefits. Key scope elements to consider include: • Site and precinct specific considerations (e.g. site selection, land ownership, teaching space capacity) • Built Form and Fitout (e.g. overall master planning and building heights) • Operations (e.g. interim relocation and forecast uplifts in enrolments and industry collaboration.	Undertake an economic and financial appraisal to assess each shortlisted option's value for money. Cost and benefit quantification methodologies and forecasts will be agreed with UTas to ensure a robust and accurate approach is taken.	Based on the results of the economic and financial appraisal and risk assessment, select 1 preferred option. Develop an implementation plan to outline how the preferred option will be delivered.
Outcome	**3 shortlisted options**	**Initial qualitative assessment of 3 shortlisted options**	**Further scope definition of 3 shortlisted options**	**CBA & FA results of 3 shortlisted options**	**1 preferred option**

Source: Deloitte (2025)

4.2.2 Option 1 (Base Case): Maintain current STEM facilities on Sandy Bay Campus

The Base Case assumes that the current STEM facilities at Sandy Bay Campus are retained as per the current configuration and only urgent repairs and maintenance works are completed. The STEM facilities at Sandy Bay, are in a state of continual technical decline, limiting their potential to support future growth and innovation. The poor condition of these facilities impacts the expansion of the STEM curriculum, as the COSE faculties lack the necessary technical equipment to meet modern educational and research demands.

Inefficient and underutilised lab configurations further restrict the effective use of available space, creating operational challenges. This contributes to difficulties in retaining skilled STEM teaching and research staff with more advanced STEM faculties interstate, impacting the long-term sustainability and competitiveness of the programs offered.

Under Option 1 (Base Case) there are no proposed changes to the current land use of the identified boundary site in Figure 4.2 below.

Figure 4.2: Option 1: Boundary site

Source: Deloitte (2025)

A summary of the advantages and disadvantages are outlined in Table 4.2 below.

Table 4.2: Advantages and disadvantages of Option 1

Advantages	Disadvantages
• No disruption in students due to relocation / redevelopment of STEM facilities.	• STEM assets are in poor technical condition and are not fit for future growth and innovation. • Unable to expand STEM curriculum due to lack of technical equipment within COSE faculties.

	• Existing lab configuration is inefficient and underutilised. • Difficulties in retaining staff due to poor technical condition of facilities.

Source: Deloitte (2025)

4.2.3 Option 2: Develop new STEM Precinct at Sandy Bay campus

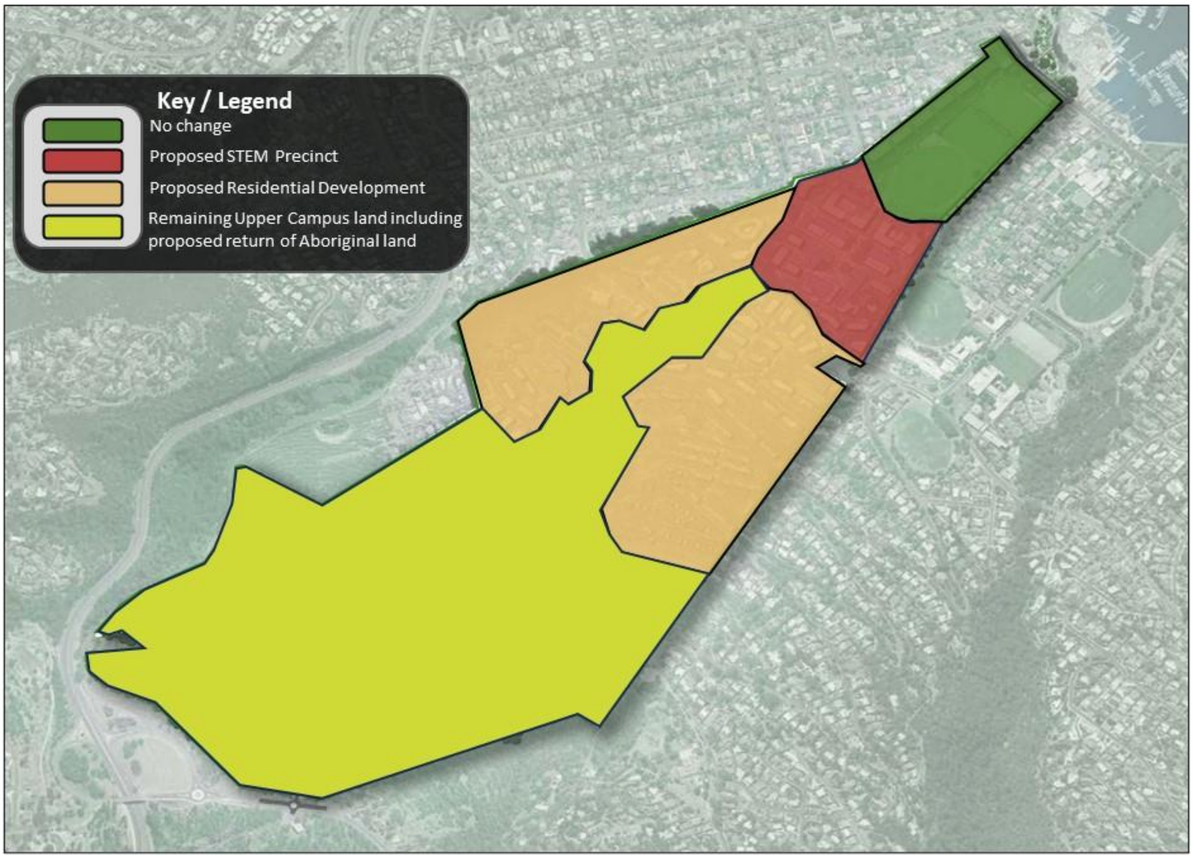
Option 2 will involve the development of a new Sandy Bay STEM Precinct within the red zoned lower campus as shown in Figure 4.3. The lower campus currently holds the majority of Sandy Bay's total assets with a notable concentration of COSE faculty buildings. The lower campus has also been reserved to be a future innovation and enterprise precinct that alongside the STEM precinct will share future synergies. The principals that UTAS have envisioned for this STEM Precinct zone include:

- **Green Campus:** Create Tasmanian suburban campus, surrounded by native landscape with buildings immersed in trees.
- **Central Space:** Reinstate the focus on the original central space, the river and the mountains by removing built form and connecting the campus to its natural context.
- **Consolidating Campus:** Achieve critical mass by consolidating the campus functions and removal of selected buildings to better match spatial requirements.
- **World Leading STEM**: Provide a new state-of-the-art STEM research and teaching building to house the most technically demanding facilities and future proof the campus.
- **Forested Forecourt:** Remove outdated COSE assets to establish a tree covered plaza integrated with the new STEM buildings, enhancing open space and promoting gathering opportunities.
- **Modernist Campus:** Reinstate the modernist character of the campus by removing clutter, refiling buildings of heritage value and balancing landscape with built form.
- **Industry Collaboration:** Retain significant areas in campus for other activities, such as industry collaboration or student housing.

Within this Option UTAS is consulting with the Tasmanian Government to negotiate a sale of land that would involve the middle campus shown in orange in Figure 4.3 being rezoned for residential development. This would result in a significant land payment to UTAS that would be used to offset the STEM Precinct's capital delivery costs.

In Figure 4.3 the upper campus zone, depicted in yellow is currently underutilised land that is used as green space and recreation. In this Option, UTAS is seeking to engage in a culturally respectful process to return the land to ALCT. This aims to create a sense of belonging and ownership for First Nations students, staff, their families and broader community.

Figure 4.3: Option 2: General boundary sites of UTAS Sandy Bay campus



Source: Deloitte (2025)

A summary of the advantages and disadvantages are outlined in Table 4.3 below.

Table 4.3: Advantages and disadvantages of Option 2

Advantages	Disadvantages
• STEM precinct will offer co-located campus facilities with enhanced technical capabilities. • Supports community and industry co-locations. • Significant opportunities to establish industry partnerships. • Large, green site suits hands-on learning/field station and research for terrestrial disciplines. • Green campus adds to student, staff, and community experience. • Supported by community and government sentiment and pathway to STEM funding. • Opportunity to utilise vacated STEM buildings for other purposes due to relocation of STEM facility. • Ability to rezone underutilised land for residential development subject to planning approvals.	• Disruption to staff and students using current facilities due to relocation and noise while construction is being undertaken

Source: Deloitte (2025)

4.2.4 Option 3: Develop new STEM Precinct at Hobart CBD campus.

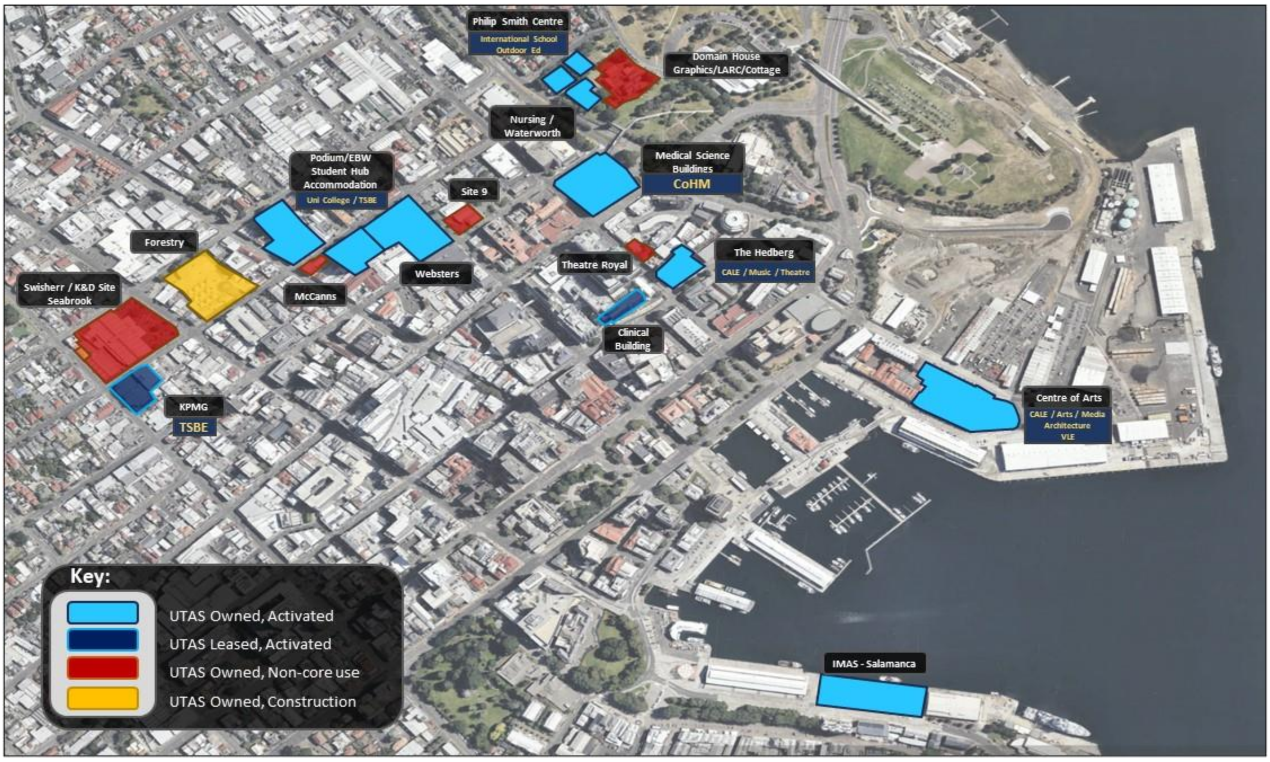
For the purposes of this business case, Option 3 is based off the 2016 Business Case, Hobart Science and Technology Precinct in Hobart CBD (which was also Option 3). This option utilises existing UTAS owned sites and buildings within the Hobart CBD to develop STEM teaching and research facilities throughout the city. These facilities would be closely connected to key social and economic infrastructure, such as transport hubs, government offices, and industry headquarters. Additionally, the physical colocation of STEM with the city-based Medical, Creative Industries, and Marine and Antarctic Precincts would foster interdisciplinary collaboration further contributing to UTAS academic culture.

The desired scope of works for this option include:

- **Construction**: Single build, open space on street frontage in Hobart CBD. Build of greenhouse space to be undertaken as part of construction phase.
- **Duration:** Four-year construction timeframe.
- **Location**: University owned sites in Hobart CBD (see Figure 4.4).
- **Student Experience:** Integrated with city, ready access to all facilities, close to employment, housing and entertainment. Design and landscaping to encourage and facilitate community participation.
- **Quality of Facilities:** New, high-quality fit-for-purpose facilities for modern teaching models of the future and research facilities, incorporating state-of-the-art ICT and sensing technology.
- **Research Opportunities:** Encourage multi-disciplinary research, enabling additional research funding to be generated due to improved high-quality facilities.
- **STEM Advocacy:** A visible and accessible precinct will also raise awareness of the STEM disciplines in Tasmania and promote scientific literacy across the population.

This Option leverages UTAS-owned sites within Hobart’s CBD to establish a dedicated STEM precinct. As illustrated in Figure 4.4, these assets vary significantly in character, offering a range of advantages and challenges that can shape the development of the precinct.

Figure 4.4: CBD Site locations



Source: UTAS (2025)

A summary of the advantages and disadvantages are outlined in Table 4.4 below.

Table 4.4: Advantages and disadvantages of Option 3

Advantages	Disadvantages
• Multiple Precinct locations available, allowing flexible location optioneering for STEM precinct. • Public transport access more accessible for majority of Hobart-centric students. • Can utilise public space for enhanced public amenity outcomes. • Opportunities to establish industry partnerships.	• STEM student services to be duplicated across Hobart CBD and Sandy Bay campuses. • Hobart CBD STEM Facility would be isolated from remaining COSE sites on Sandy Bay campus. • Hobart CBD footprint will inhibit future campus growth and space for industry partners collaboration. • Unable to develop green sites for hands-on learning / field station.

Source: Deloitte (2025)

4.3 Multi-Criteria Assessment

The shortlist of three Options were qualitatively assessed against a multi-criteria assessment (MCA) framework. Four key parameters were included as part of the MCA framework:

1. **Project Objectives Assessment:** A series of qualitative measures have been defined for each of the Project's objectives that were identified in Section 3.4.
2. **Relative Operational Risk Profile:** Key operational risks faced by UTAS have been identified in alignment with the challenges identified. Using the UTAS Risk Management

Policy, the relative risk profile of each Option has been assessed, reflecting the ongoing impact of each Option to the UTAS operational risk profile.

3. **Relative Delivery Risk Profile:** The relative risk associated with delivery of each Option has been estimated. This captures the degree of complexity and associated risk with the delivery and implementation of each Option.
4. **Relative Change Risk Profile:** The relative risk associated with the organisational change required for each Option has been estimated. This captures factors such as the complexity of organisational change required, and the impacts of disruption.

By applying the MCA, the shortlisted Options from the original 2016 Business Case were verified and the scope of each Option further refined against the updated target criteria.

4.3.1 Project Objectives Assessment

From developing the Project's objectives, three key performance indicators (KPI) were assigned to each objective. These KPI's where assessed against the shortlist of Options and are outlined in Table 4.5 below:

Table 4.5: Multi-Criteria assessment framework

Objectives	Criteria	○	◔	◑	◕	●
Improve workforce productivity by upskilling Tasmanians with STEM tertiary education.	1.1 Increase in STEM graduates entering the workforce.	No increase in STEM graduates	10% increase in STEM graduates	25% increase in STEM gradates	50% increase in STEM graduates	75%+ increase in STEM graduates
	1.2 Demonstrated productivity improvements in STEM-related professions.	No productivity improvement	10% increase in workforce productivity	25% increase in workforce productivity	50% increase in workforce productivity	75% increase in workforce productivity
	1.3 Increase in local STEM business revenues	Less than 25% revenue change	25-49% revenue change	50-74% revenue change	75-90% revenue change	90%+ revenue change
	1.4 Expansion of industry collaborations and research partnerships with UTAS.	Reduction in local partnerships	No change in local partnerships	Up to 10% increase in local partnerships	Up to 20% increase in local partnerships	Up to 40% increase in local partnerships
Increase Tasmania's enrolment in STEM tertiary education.	2.1 Increased secondary school enrolments in STEM subjects, creating a stronger pipeline of students for tertiary STEM education.	Zero improvement in enrolments	20% improvement in enrolments	40% improvement in enrolments	60% improvement in enrolments	80%+ improvement in enrolments
	2.2 Growth in student participation in STEM extracurricular programs and industry engagement activities.	Zero increase in participation	20% increase in participation	40% increase in participation	60% increase in participation	80%+ increase in participation
	2.3 Improved retention rates in STEM tertiary education, leading to a more robust STEM workforce pipeline.	Less than 25% STEM student retention	25-49% STEM student retention	50-74% STEM student retention	75-90% STEM student retention	90+% STEM student retention

Develop and centralise new STEM critical technical infrastructure.	3.1 Development and quality of new STEM infrastructure to support collaboration and innovation.	No new STEM facility	New STEM facility with minimal infrastructure	New STEM facility with sound infrastructure	New STEM facility comparable to Aus. states / territories	New world-class STEM facility
	3.2 Efficiency in consolidating and integrating existing STEM facilities to maximise resource utilisation.	No consolidation	Minimal consolidation of STEM facilities	Some consolidation of STEM facilities	Significant consolidation of STEM facilities	Optimal consolidation of STEM facilities
	3.3 Effective repurposing of vacated land to support broader institutional or community needs.	No land utilisation	Minimal land utilisation	Some land utilisation	Significant land utilisation	Optimal land utilisation

Source: Deloitte (2025)

4.3.2 MCA Results

The MCA results are outlined below in Table 4.6 below.

Table 4.6: Multi-Criteria assessment results

Objectives	Criteria	Option 1 (Base Case)	Option 2 (New Sandy Bay)	Option 3 (New Hobart CBD)
Improve workforce productivity by upskilling Tasmanians with STEM tertiary education.	1.1 Increase in STEM graduates entering the workforce.	○	●	●
	1.2 Demonstrated productivity improvements in STEM-related professions.	○	●	◕
	1.3 Increase in local STEM business revenues	○	◕	◕
	1.4 Expansion of industry collaborations and research partnerships with UTAS.	○	●	◕
Increase Tasmania's enrolment in STEM tertiary education.	2.1 Increased secondary school enrolments in STEM subjects, creating a stronger pipeline of students for tertiary STEM education.	○	●	◕
	2.2 Growth in student participation in STEM extracurricular programs and industry engagement activities.	○	◕	◕
	2.3 Improved retention rates in STEM tertiary education, leading to a more robust STEM workforce pipeline.	○	◕	◕
Develop and centralise new STEM critical technical infrastructure.	3.1 Development and quality of new STEM infrastructure to support collaboration and innovation.	○	●	●
	3.2 Efficiency in consolidating and integrating existing STEM facilities to maximise resource utilisation.	◔	●	◑
	3.3 Effective repurposing of vacated land to support broader institutional or community needs.	○	●	◔
Overall Objective Assessment		○	●	◕
Rank		**3**	**1**	**2**

Source: Deloitte (2025)

In summary, both Option 2 and 3 demonstrate the significant upside that a capital investment would provide when compared to the Base Case. Option 2's Sandy Bay location would provide a more efficient use of land and infrastructure contributing to greater productivity and industry collaboration. The assessment results are justified by the following analysis for each objective:

Improve workforce productivity by upskilling Tasmanians with STEM tertiary education:

- Both Option 2 and 3 would improve workforce productivity compared against UTAS' current STEM offerings.
- Both Option 2 and 3 would provide greater revenue synergies with local businesses due precinct attractiveness.
- Option 2's larger site would allow for more specialised and dedicated research and lab spaces with specialised STEM equipment suitable for industry partnerships and collaboration.

Increase Tasmania's enrolment in STEM tertiary education:

- Option 2's higher domestic enrolment rate has enrolments projected to start growing in 2027, compared to Option 3 whereby student enrolment won't start increasing until 2029.
- Both Option 2 and 3 would equally impact secondary student engagement, overall educational attainment and growth in student revenue related to STEM course enrolment.

Develop and centralise new STEM critical technical infrastructure:

- Both Option 2 and 3 would significantly improve UTAS STEM infrastructure against a 'do nothing' Base Case.
- Option 2's Sandy Bay location would better amalgamate COSE assets into a STEM facility compared to Option 3's Hobart CBD location where STEM faculties would still be siloed.
- Option 2's Sandy Bay location would better amalgamate COSE assets into a STEM facility, consolidating these assets for other uses.
- The new STEM facility and enhanced technical infrastructure, as outlined in Options 2 and 3, will significantly boost student learning productivity by integrating / developing new COSE assets. This integration is expected to reduce dropout rates among STEM students, particularly those pursuing bachelor's degrees. Consequently, this will lead to higher enrolment rates and improved student retention. These improvements will address UTAS' plateauing STEM participation rate by enhancing STEM productivity, engagement, retention, and collaboration.

4.4 Relative Initial Risk Profile

Three key risk categories were identified in alignment with the three shortlisted Options. Using the UTAS risk management framework, the relative initial risk profile of each Option was assessed, reflecting the impact before any mitigation measures are implemented. The outcome of the initial risk assessment is outlined in Table 4.7 with further detail supporting the risk ratings provided below.

Table 4.7: Relative initial risk profile for each Option

Risk Category	Option 1 (Base Case)	Option 2 (New Sandy Bay)	Option 3 (New Hobart CBD)
Delivery Risk	High	Medium	High
Change Risk	Low	Medium	High
Operational Risk	Very High	Low	Medium

Overall Relative Initial Risk Rating	**High**	**Medium**	**Medium - High**

Source: Deloitte (2025)

Delivery risk
Delivery risk listed below refers to the potential challenges or uncertainties that could impact the successful completion of a project within the expected scope, timeline, and budget:

- **Option 1** may be complex in nature due to the refurbishment works required to upgrade the existing condition of the aging facilities which may include unforeseen structural defects and/or hazardous materials (e.g. asbestos).
- **Option 2** is relatively less complex as the UTAS owned Sandy Bay campus has an existing footprint and space to accommodate a future proofed functional precinct. The precinct re-lifting of existing buildings and new builds will also have full site planning and scoping, as well as a staged approach to construction and activation, to minimise the risk of encountering latent conditions during construction.
- **Option 3** may require additional time and resources to plan and design a fit-for-purpose STEM facility within a constrained city site. Construction activities may be more complex due to the smaller site footprint and its interface with neighbouring buildings. There is also risk of damage of sensitive and large research equipment and research projects being compromised during relocation from Sandy Bay to the City.

Change risk
Change risk listed below refers to the potential challenges or resistance that may arise from stakeholders adapting to new processes, systems, or environments introduced by a project or initiative (e.g. disruptions to operations and potential temporary relocations may occur during the development of the new STEM facilities):

- **Option 1** would incur minimal change as it would be a continuation of current state operations within existing facilities. There may be some disruption during the refurbishment process but would be staged to minimise impact to students and staff.
- **Option 2** has not presented any significant stakeholder opposition as part of the engagement undertaken to date. Operations within the current STEM facilities may need to be temporarily relocated during the construction period, which would primarily be managed through a staged approach to construction works.
- **Option 3** has received significant public opposition on the proposed Hobart CBD location which would require significant stakeholder management throughout the planning, design and construction phase. Current COSE students and staff would also experience significant change as they must relocate after construction.

Operational risk
Operational risk refers to the potential for failures in internal processes, systems, or controls, as well as external events, to disrupt an organisation's day-to-day operations.

- **Option 1** minimal capital investment would keep the current STEM facilities not conducive for student satisfaction, learning outcomes and industry partnerships and collaboration, contributing to an anticipated fall in in student enrolments and overall productivity.
- **Option 2** new integrated STEM precinct would co-locate all STEM assets, equipment and activities allowing for an ecosystem-based approach which promotes student satisfaction and industry collaboration.
- **Option 3** would provide new facilities and equipment but may present operational challenges as STEM assets may be dispersed between Hobart CBD and Sandy Bay leading to a duplication of assets and inefficient resource allocation.

4.5 Summary of Qualitative Options Analysis
Option 2's Sandy Bay location provides the greatest potential for fostering local partnerships and industry partnerships through an ecosystem-based approach to STEM facilities and equipment providing a co-located and integrated precinct with a balance of learning, research and innovation

spaces. Option 2 has the lowest risk profile relative to the other Options due to its less complex delivery and overall stakeholder support. The impacts of relocating existing Sandy Bay COSE activities during the construction phase will need to be closely managed to maintain operational continuity without adversely impacting student and research outcomes.

While Option 3 demonstrates a relatively strong alignment to objectives, the Hobart CBD location is not conducive to industry collaboration due to its site constraints and continues to pose significant community opposition.

Table 4.8 below showcases the summary of the qualitative Options analysis.

Table 4.8: Qualitative Options Analysis

	MCA Criteria	Option 1 (Base Case)	Option 2 (New Sandy Bay)	Option 3 (New Hobart CBD)
Objectives	**Improve workforce productivity by upskilling Tasmanians with STEM tertiary education**	○	●	◕
	Increase Tasmania's enrolment in STEM tertiary education	○	◕	◕
	Develop and centralise new STEM critical technical infrastructure	○	●	◕
Risks	**Delivery Risk**	High	Medium	High
	Change Risk	Low	Medium	High
	Operational Risk	Very High	Low	Medium
Summary	**Overall Objective Assessment**	○	●	◕
	Overall Relative Risk Rating	**High**	**Medium**	**Medium - High**
	Rank	**3**	**1**	**2**

Source: Deloitte (2025)

These shortlisted Options will be progressed to a quantitative CBA to validate this qualitative assessment.

5 Cost-Benefit Analysis

5.1 Approach

Cost Benefit Analysis (CBA) identifies, in monetary terms, the expected benefits and costs generated by an investment to a defined community and enables the prioritisation of Options that deliver the best value for money to society.

The CBA has been performed in line with Infrastructure Australia's Guide to Economic Appraisal (2021). The CBA has been used to compare the costs and benefits of the two Options relative to a Base Case. The CBA is based on the impact on the welfare of Australia as a whole. The welfare of international students has not been included in the scope of this CBA as they are not Australian residents at this time.

Table 5.1 outlines the assumptions that were used in the financial appraisal.

Table 5.1: Economic Appraisal Assumptions

Benefit	Assumption	Comments
Price Year	FY25	CBA analysis applies real prices. Escalation is not included in the value of future benefits and costs as per TPG23-08 guidance.
Economic discount rate	7.00%	As per the guidance provided within Infrastructure Australia's Guide to Economic Appraisal (2021). Additional sensitivities are run at 4% and 10%.
Appraisal period	30 years	As per the guidance provided within Infrastructure Australia's Guide to Economic Appraisal (2021) and to match the same horizon of the financial analysis

Source: Deloitte (2025)

5.2 Student Enrolment Projections

Understanding how a new STEM precinct could impact student enrolments is critical to assessing the costs and benefits of developing the precinct. New facilities such as those proposed under Options 2 and 3 can promote industry partnerships, improved accessibility and a better student experience. Under Option 2, there is likely to be more engagement of school students in STEM, with increased potential for co-location. These factors are expected to increase STEM enrolments at UTAS.

Any increases in STEM enrolments above the Base Case then flow through to other benefits for UTAS, students, and the wider community. These flow-on impacts from higher enrolments are quantified in the CBA to capture the benefits arising from a new facility or precinct.

Deloitte and UTAS engaged in a workshop where Deloitte presented three approaches for modelling changes in student enrolments due to the precinct:

1. An econometric approach based on STEM enrolment trends following the opening of new STEM facilities at universities across Australia. The econometric analysis did not find consistent, net positive impacts on STEM enrolments, though there was significant variation across universities. There was some evidence that universities with stronger links to industry benefitted from higher enrolments, however the results were impacted by COVID effects, as many facilities opened just before, during or after COVID.

2. Using evidence of increasing enrolments following other recent UTAS developments such as the Medical Science Precinct and the Institute for Marine and Antarctic Studies (IMAS). The Medical Science Precinct led to an average student growth of 11% per year, with international enrolments growing at 20% annually. Similarly, the opening of the IMAS Precinct saw a 60% increase in student numbers and a tripling of international students.
3. Closing the gap with previous enrolment levels for international students and with the national average for domestic students. This approach followed an assumption that national standard facilities would help enrolments reach a national average level.

Approach 3 was deemed the most appropriate model of student projections and was implemented in the CBA.

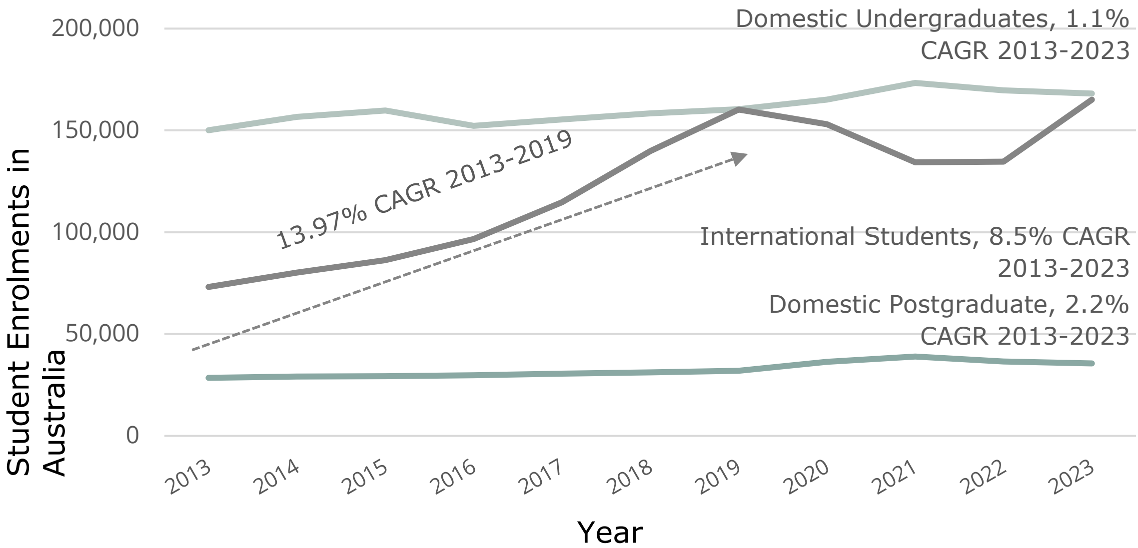
5.2.1 Recent student enrolment trends

Student enrolments in STEM at UTAS have declined over the last 10 years. This decline at UTAS has come against a backdrop of increasing total university enrolments and STEM enrolments across Australia. Overall university enrolments in Australia have grown with a Compound Annual Growth Rate (CAGR) of 2% over the last 10 years, while STEM enrolments have seen a CAGR of 4%.

Prior to the COVID-19 border restrictions on international students arising in 2020, international students were the largest contributors to growth in university enrolments nationally. Recently, international enrolments have returned to pre-pandemic levels, accounting for 33% of all enrolments and 45% of STEM enrolments across Australia (Chart 5.1).

Since 2021, domestic enrolments have been declining both overall and in STEM.

Chart 5.1: STEM Student Enrolments in Australia 2013-2023



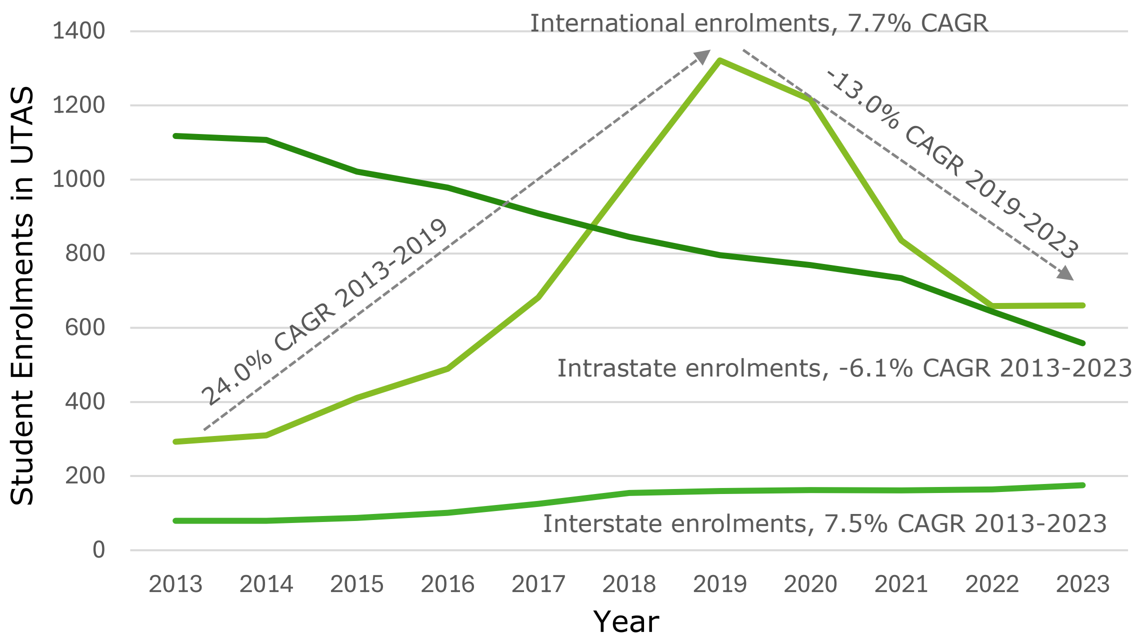
Source: UCube (2023)

STEM enrolments at UTAS increased at a CAGR of 7.3% from 2013-2019, but have since declined at a CAGR of 9.2%. This change is largely driven by fluctuations in international student enrolments. Prior to 2019, international STEM enrolments had been growing rapidly, with a CAGR of 28.6%. Since 2019, however, international STEM enrolments have fallen, with a CAGR of -13.3% (Chart 5.2). International students represent a particularly large portion of STEM enrolments at UTAS, comprising 46% of STEM students at UTAS in 2023,[31] compared with 17% of

[31] Student enrolment data provided by UTAS in EFTSL units.

UTAS' total university enrolments. Intrastate students in STEM have been steadily declining since 2013, with a CAGR of -6.1% until 2024 (Chart 5.2).[32]

Chart 5.2: UTAS STEM Enrolments 2013-2023



Source: UTAS (2024)

5.2.2 Student projection assumptions

The provision of new STEM facilities proposed under Option 2 and 3 is expected to increase enrolments by enhancing the appeal of a STEM tertiary education at UTAS. The following factors will contribute to creating an attractive learning environment for prospective students, driving increased enrolments:

- Modern facilities with world-class technology
- Attracting top researchers and educators, strengthening UTAS's reputation as a centre of excellence in STEM education and research
- Strengthened industry partnerships, providing students with real-world learning opportunities

Additionally, a centralised, visible, and accessible STEM hub will support outreach activities, increasing interest in STEM pathways for senior high school students and influencing future enrolments.

To quantify the extent of increased enrolments, student enrolment projections were developed based on a range of assumptions. General assumptions were used across all three Options, while specific assumptions applied to each Option are also set out below.

General assumptions

- Based on UTAS student completion data, 63% of domestic students and 80% of international students complete their degree. While the factors that contribute to attracting more students are also likely to improve retention, this impact has not been included in the projection due to limited quantifiable evidence.
- Under Options 2 and 3, all additional international and intrastate students are assumed to be new to higher education, compared with the Base Case. This assumption is based on the following considerations:

[32] Australian Government Department of Education, Skills and Employment, "UCube" (2023)

  - Additional international students are likely not to study elsewhere in Australia under the Base Case due to the potential international student caps that would limit enrolments at other Australian universities.
  - Additional intrastate students are unlikely to relocate to another university in Australia under the Base Case.
- Under Options 2 and 3, all additional interstate students are assumed to have studied STEM elsewhere in Australia under the Base Case, as they would have the capacity to study STEM in their home state.

Base case projection assumptions

- International enrolments reduce by 5% for three years due to political uncertainty, then stabilise from 2029, assuming reduced uncertainty around international student visas (based on advice from UTAS).
- Intrastate enrolments continue their 5-year CAGR until 2029, after which they follow Tasmanian population age 15-24 projections.
- Interstate enrolments continue their 5-year CAGR until 2029, after which they follow the Australian population age 15-24 projections.

Sandy Bay projection assumptions

- Enrolment uplift beyond the Base Case begins in 2027 due to the progressive delivery of new buildings on campus.
- Intrastate and interstate enrolments increase at a rate that would align the Tasmanian STEM enrolment to population aged 15-24 with the national average in 10 years. This is based on the assumption that national-standard facilities within the precinct would bring Tasmanian STEM enrolments in line with the national average.
- After the 10 years, intrastate enrolments follow changes in population aged 15-24 in Tasmania. This assumes that enrolments are steady once they reach the national average and follow population trends.
- Additional international enrolments gradually return to 2020 levels over 10 years driven by the new STEM facility's appeal to international students.

CBD projection assumptions

- Enrolment uplift beyond the Base Case begins in 2029 as the whole building opens at once.
- Enrolment increases for intrastate, interstate and international students follow the same assumptions as Option 2 but with the uplift beginning in 2029 instead of 2027.

CBD versus Sandy Bay differentials

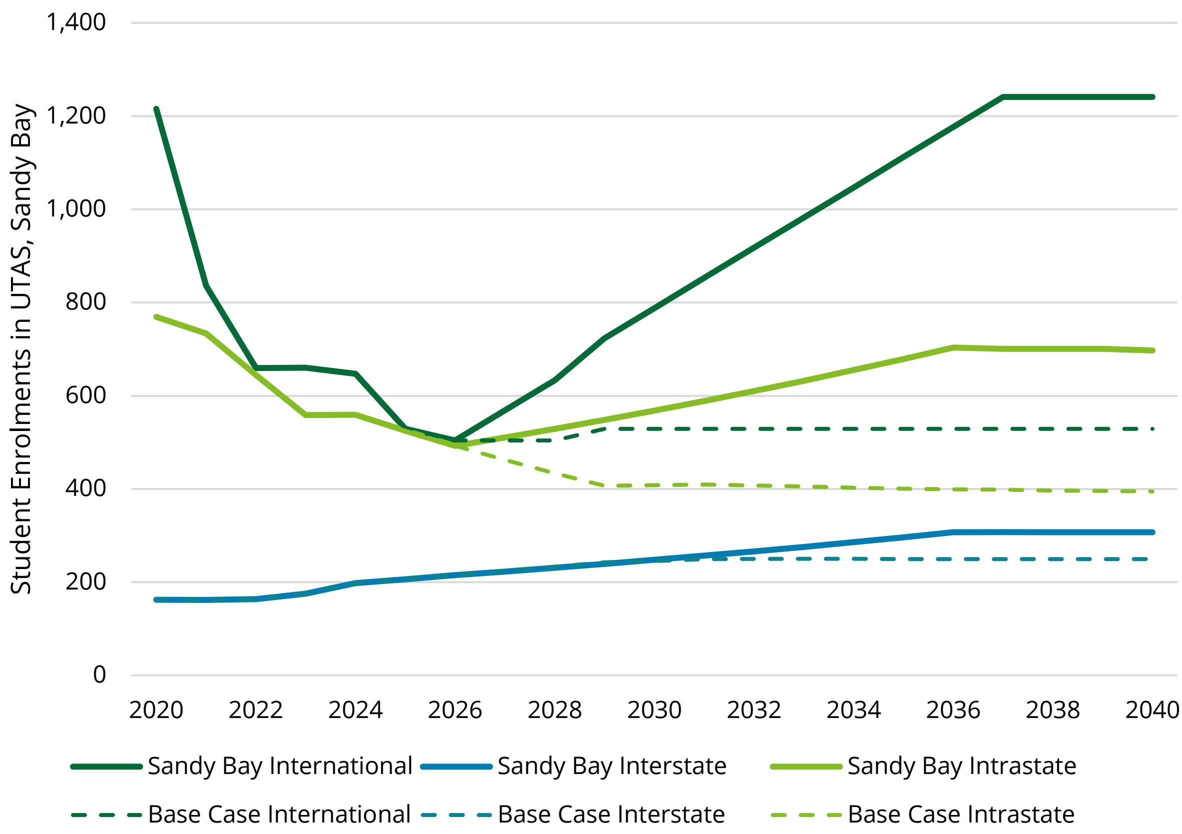
- Evidence from previous Deloitte research indicates that a CBD location would improve accessibility which would increase enrolments by approximately 211 students with 46 studying STEM based on the share of all students studying STEM.[33]
- The Sandy Bay location will also improve accessibility, increasing student and community engagement opportunities with a flow through to enrolments. Additionally, approximately 50 students in Year 11 and 12 are currently based at the Sandy Bay campus through the UTAS and Taroona High partnership. This partnership enables College students to gain their TCE and ATAR, while being based at a university campus. As part of the program, students have access to University facilities and science practical classes are held in university laboratories. A new precinct at Sandy Bay will provide opportunity for continued, and potential expansion, of this type of educational partnership and colocation, which will increase the engagement of high school students.
- Given these opposing effects and the uncertainty around them, enrolment impacts are assumed to be similar across Options 2 and 3, although enrolments in the CBD have a two-year lag.

5.2.3 Enrolment projections

The below charts (charts 5.3 and 5.4) show projected enrolments in the Option 2 compared with the Base Case and Option 3. CBD enrolments are projected to be similar to Sandy Bay enrolments with a two-year lag.

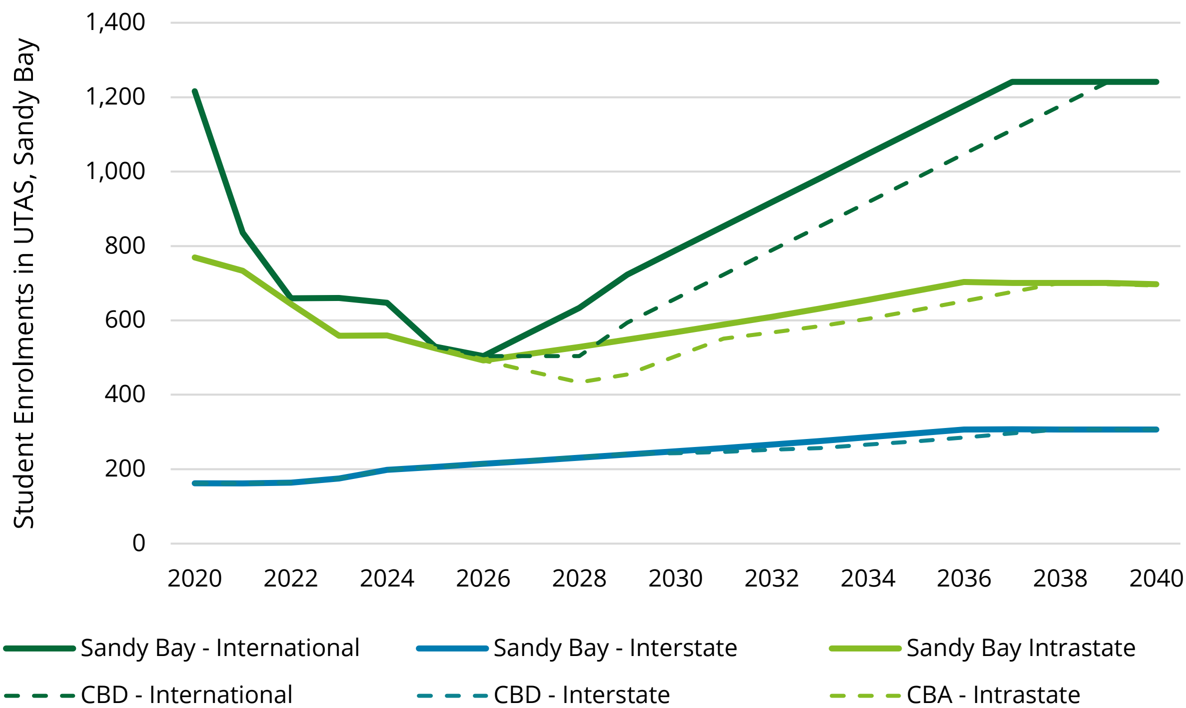
[33] Deloitte Access Economics, Southern Campus Transformation Economic Impact Analysis, prepared for UTAS, 2022

Chart 5.3: Sandy Bay STEM enrolment projections with Base Case comparison, 2020-2040



Source: Deloitte (2025)

Chart 5.4: Sandy Bay STEM enrolment projections with CBD comparison, 2020-2040



Source: Deloitte (2025)

5.3 Benefits

The business case is expected to result in many benefits for a range of stakeholders. These benefits include greater lifetime earnings and improved employment outcomes, carbon savings, increase in research output/funding, increased income tax and reduced welfare payments and innovation and technological advancement within the STEM industry. The overarching benefits framework and the approach to valuing each benefit is outlined in the sections below.

5.3.1 Benefits framework

The business case Options are expected to deliver a range of benefits to the Government and economy, the Tasmanian community, and UTAS along with its staff and students (Figure 5.1).

Where possible, these benefits have been quantified and included in the Cost-Benefit Analysis process. A detailed explanation of the quantitative benefits can be found in Section 5.3.2. Please note that the quantification of benefits is from a nationwide perspective, and the magnitude of benefits will often differ between Option 2 and Option 3.

For benefits that cannot be practically quantified but are supported by established research, a qualitative exploration is provided in Section 5.3.3.

Figure 5.2 below describes the relationship between some of the benefits outlined in the benefits framework. Principally industry partnerships, accessibility and engagement of school student in STEM help support increased enrolments. This impact on enrolments then flows through to a range of benefits including lifetime earnings, tax revenue, productivity spillovers and greater scope for research. However, some benefits are not necessarily impacted by enrolments. While from a modelling perspective, increases in enrolments does impact a number of benefit categories, in practice, relationships are more systematic. For example, industry partnerships can attract enrolments and research funding while some other benefits are likely to be enhanced by greater student enrolments even if they are not quantified.

Figure 5.1: Benefits framework, mapped by benefit type

Enhance the skills and capabilities of Tasmania's people

Benefit	Beneficiary	Benefit type
B1. *Increase in STEM graduates, leading to greater lifetime earnings and improved employment outcomes*	Students and staff	Quantifiable benefit
B2. *Access to the ecosystem of university offerings in Sandy Bay, including interdisciplinary learning opportunities and expanded industry partnerships (Sandy Bay only)*	Students and staff	Quantifiable benefit
B3. *Enhanced learning experiences for students*	Students and staff	Qualitative benefit
B4. *Enhanced attraction and retention of high-quality workers to the university*	Institution (UTAS)	Qualitative benefit
B5. *Enhanced attraction and retention of university educated workers in the state*	Government and economy	Quantifiable benefit

Improve community and public outcomes

Benefit	Beneficiary	Benefit type
B6. *Enhanced long-term benefits for individuals from greater engagement in university education, such as improved health and other social outcomes*	Students and staff	Quantifiable benefit; Qualitative benefit
B7. *Transport cost and time savings (CBD only)*	Students and staff	Quantifiable benefit
B8. *Opportunities for school students and community members to engage in STEM and increase scientific literacy, including through the Science Museum (Sandy Bay only)*	Community	Quantifiable benefit
B9. *Enhanced public amenity outcomes including green infrastructure and green open space for public use, with social and wellbeing benefits (Sandy Bay only)*	Community	Qualitative benefit
B10. *Reduced inequality due to more educational and occupational opportunities*	Community	Qualitative benefit
B11. *Carbon savings from the new infrastructure*	Institution (UTAS)	Qualitative benefit
B12. *Recognition of First Nations People and improved community / cultural outcomes through land hand back to Aboriginal Land Council (Sandy Bay only)*	Community	Quantifiable benefit

Strengthen Tasmania's economy

Benefit	Beneficiary	Benefit type
B13. *Increase in net revenue from increased STEM enrolments**	Institution (UTAS)	Quantifiable benefit
B14. *Increase in research output / funding**	Institution (UTAS)	Quantifiable benefit
B15. *STEM research facilities attracting research dollars to Tasmania*	Government and economy	Quantifiable benefit
B16. *Increased income tax and reduced welfare payments due to improved income and employment outcomes from STEM students*	Government and economy	Quantifiable benefit
B17. *Spillover productivity effects for other workers and businesses*	Government and economy	Quantifiable benefit
B18. *Higher expenditure in the state due to increase in international student enrolments*	Government and economy	Quantifiable benefit

Enable Tasmania to respond to a changing economy

Benefit	Beneficiary	Benefit type
B19. *Greater opportunities to establish industry partnerships**	Institution (UTAS)	Quantifiable benefit
B20. *Innovation and technological advancement within the STEM industry*	Government and economy	Quantifiable benefit

Deliver diverse and high-quality infrastructure

Benefit	Beneficiary	Benefit type
B21. *Reduced maintenance costs of existing STEM facility*	Institution (UTAS)	Quantifiable benefit
B22. *Increased availability of diverse and affordable housing options for essential workers and low-income individuals (Sandy Bay only)*	Community	Qualitative benefit
B23. *Increased producer surplus through profits from infrastructure development*	Government and economy	Quantifiable benefit

Benefit type

- Quantifiable benefit
- Qualitative benefit

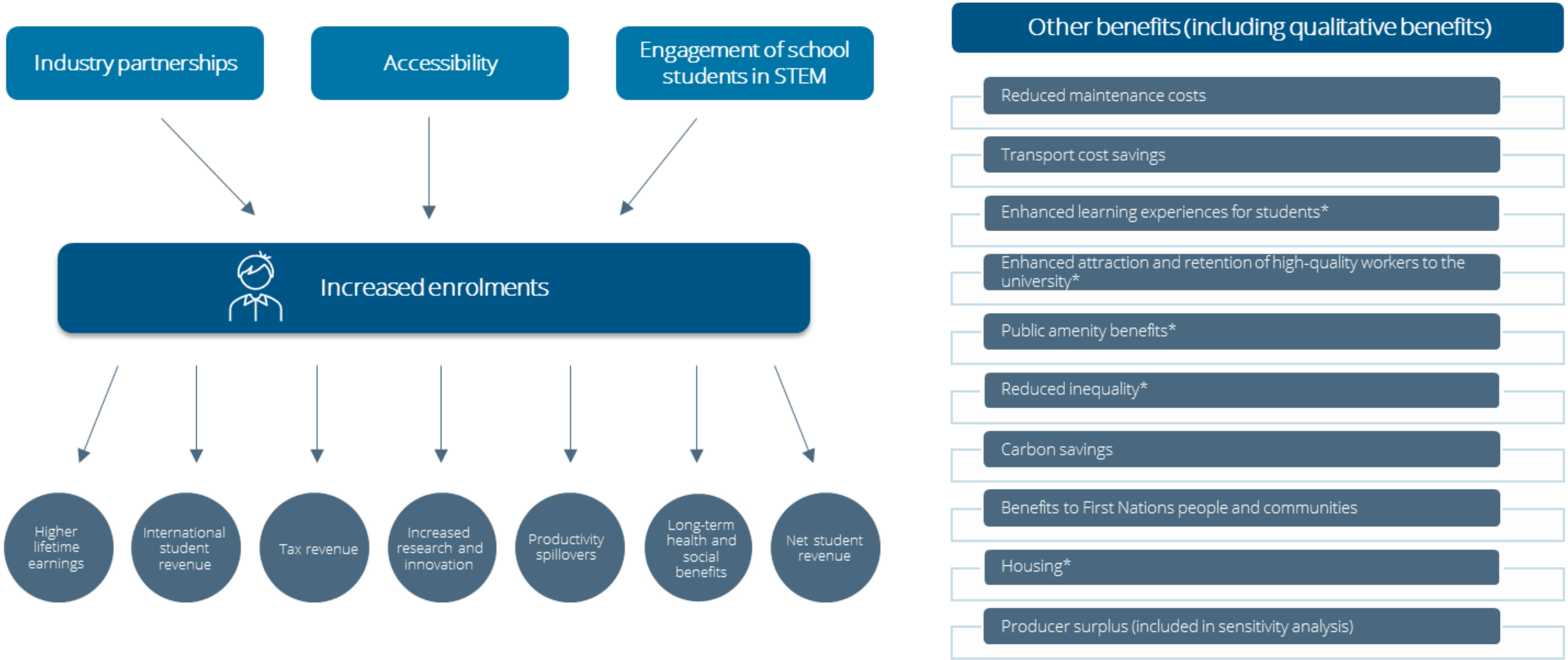
Beneficiaries key

- Students and staff
- Institution (UTAS)
- Government and economy
- Community

Source: Deloitte (2025)

*These specific benefits are anticipated to differ between Option 2 and Option 3. This difference will be factored into the quantification of benefits for the two Options.

Figure 5.2: Relationship between increases in enrolments and key benefit categories



Source: Deloitte (2025)

5.3.2 Quantitative benefits

The quantitative benefits of the UTAS STEM precinct captured in the Cost-Benefit Analysis model are described below in Table 5.2, including details of the calculations, assumptions, and sources.

Table 5.2: Overview of quantifiable benefits

Justification	Calculation summary	Assumptions	Sources
B1. Increase in STEM graduates, leading to greater lifetime earnings an improved employment outcomes			
On average, individuals with a university education achieve higher lifetime earnings and better employment outcomes compared to those who only complete Year 12. Establishing a STEM precinct at UTAS is expected to deliver these benefits for the additional students it attracts to university.	The benefit is calculated by first determining the difference in effective after-tax wages between individuals with a university degree in a STEM discipline and those who have only completed Year 12. This difference is then multiplied by the number of additional university graduates compared to the baseline scenario. The analysis accounts for both the higher hourly wages and the increased likelihood of employment associated with completing a STEM degree. It also factors in the income foregone during the period of study.	• On average, STEM students who complete their degree study for 4 years, begin university at the age of 19, graduate at 23 years of age, and retire at 65 years of age. • On average, students who enrol in university but do not complete their degree study for one year. This is based on UTAS data, which suggests that approximately half of non-completers drop out before finishing their first year. • All additional Tasmanian enrolments represent students who would not have studied at university otherwise. • Additional interstate students would have studied elsewhere under the baseline scenario. • The private benefits gained by international students are excluded, as they do not	• Student enrolment data (UTAS, 2024) • STEM student completion and attrition rates (UTAS, 2024) • STEM median time to complete (UTAS, 2024) • Uplift in income and probability of employment for a higher education student compared to a Year 12 graduate (Deloitte Access Economics, 2022)[34] • Weekly earnings for university students and those that have only completed Year 12 (ABS, 2021)

[34] Deloitte Access Economics, "The economic contribution of the University of New South Wales", (report commissioned by the University of New South Wales, 2022) https://www.deloitte.com/au/en/services/economics/analysis/economic-contribution-university-of-new-south-wales.html.

		represent a benefit to Australian citizens. However, the income tax revenue from international students who remain working in Australia is captured within B16 and the spillover productivity effects are captured within B17.	
B6. Enhanced long-term benefits for individuals from greater engagement in university education, such as improved health and other social outcomes			
Those with a university education are more likely to adopt healthier lifestyles and habits, leading to an overall increase in life expectancy. Establishing a STEM precinct at UTAS is expected to provide these long-term benefits for the additional students it attracts to university. Other long-term individual benefits are captured qualitatively in Section 5.3.3.	The total expected increase in life expectancy for additional Tasmanian STEM students who would have not otherwise attended university is quantified and then valued using the 'Value of a Statistical Life'.	• The assumptions outlined under B1 also apply to this benefit. • Additional years of education reduce mortality risk by 2.90% for individuals aged 18–49, 2.33% for those aged 50–59, 1.83% for those aged 60–69, and 0.08% for those aged 70 and older. These figures are based on a recent meta-analysis study.	• Student enrolment data (UTAS, 2024) • STEM student completion and attrition rates (UTAS, 2024) • STEM median time to complete (UTAS, 2024) • Reduction in mortality risk per additional year of education by age group (Balaj et al., 2024)[35] • Tasmanian life expectancies (ABS, 2024) • Value of a Statistical Life (Office of Impact Analysis, 2023)
B7. Transport cost and time savings (CBD only)			
Under Option 3, STEM staff and students will benefit from reduced travel times to and from university. Students that work in the CBD will experience additional time savings.	The estimated reduction in travel time for STEM staff and students under Option 3 is totalled and valued at 40% of the Tasmanian Average Weekly Ordinary Time Earnings (AWOTE), in line with the Australian Transport Assessment and Planning (ATAP) Guidelines.	• On average, 3.46 minutes of transport time is saved per trip to the CBD campus compared to the Sandy Bay campus, based on previous Deloitte modelling. • Travel between the Sandy Bay campus and the CBD takes an	• Weighted average decrease in travel time for the UTAS CBD campus compared to the Sandy Bay campus (Deloitte Access Economics reporting for UTAS, 2021)

[35] Balaj, Mirza, Claire A Henson, Amanda Aronsson, Aleksandr Aravkin, Kathryn Beck, Claire Degail, Lorena Donadello, et al., "Effects of Education on Adult Mortality: A Global Systematic Review and Meta-Analysis." *The Lancet. Public Health* 9, no. 3 (2024): e155–65. https://doi.org/10.1016/S2468-2667(23)00306-7.

		average of 15 minutes, according to the same modelling. • Students and staff travel to and from the university five days a week for 26 weeks each year (two 13-week semesters). • Students working in the CBD commute from the university to work four days a week for 26 weeks each year, reflecting the average 24 hours worked per week by students. • Standard work hours are based on a 38-hour work week. • The total number of staff is assumed to remain proportional to the number of students, with a student-to-staff ratio of 4.1:1	• Average time worked per week for students working in the CBD (ABS, 2021) • Proportion of students that work in the CBD (ABS, 2021) • Tasmania AWOTE (ABS, 2024) • STEM Staff FTEs (UTAS, 2023)
B13. Increase in net revenue from increased STEM enrolments			
UTAS will generate additional revenue from increased student enrolments driven by the establishment of a STEM precinct.	The increase in net revenue is calculated by subtracting the additional teaching costs from the additional gross revenue, based on the average revenue and expected costs per EFTSL ($22,459.93 per EFTSL) for the forecasted enrolment growth.		• Average domestic and international student revenue (UTAS, 2024) • Teaching cost per EFTSL (UTAS, 2024)
B16. Increased income tax due to improved income and employment outcomes from STEM students			
The increase in individual earnings from additional university students will lead to higher income tax revenue. Additional income tax will also be generated from the additional international students expected to	The increases in income tax were calculated based on the projected increase in lifetime earnings (see B1 for details on the calculation method) for additional students attracted to university by the STEM precinct who	• 16% of international students remain in Australia as permanent residents following university. • 12% of international students remain in Australia to work for 3 years post-university.	• Proportion of international students who use their post-study work rights in Australia or become

study at UTAS and subsequently remain employed in Australia.	are expected to work in Australia. This includes a portion of international students who remain in Tasmania after completing their studies.		permanent residents (Clare and O'Neil, 2022)[36]
B17. Spillover productivity benefits for other workers and businesses from more educated workers			
Having more STEM-educated university graduates in the Australian labour force will create spillover benefits for the productivity of other workers and businesses through mechanisms such as knowledge sharing and innovation.	The spillover productivity benefits are calculated as a multiplier of the expected post-tax income benefits (see B1 for details on the calculation method) of the additional workers produced by the STEM precinct. This includes a portion of international students who remain in Tasmania after completing their studies. The proportion of market benefits from attending university, split between private and public benefits for STEM disciplines (Engineering, Science, and IT), is sourced from a previous Deloitte report. A weighted average ratio is then calculated based on the enrolment numbers of UTAS students in each discipline, resulting in a public-to-private market benefits ratio of 1.42. Using the findings from B1 and the individual post-tax income benefits of international students who remain	• 16% of international students remain in Australia as permanent residents following university. • 12% of international students remain in Australia to work for 3 years post-university.	• Proportion of international students who use their post-study work rights in Australia or become permanent residents (Universities Australia, 2022)[36] • Relative private and public benefits by discipline (Deloitte Access Economics, 2016)[37] • Proportion of students by FOE (UTAS, 2023)

[36] Clare, J & O'Neil, C, "Post-study work rights for international students to boost skills", *Ministers of the Education Portfolio* (2022). https://ministers.education.gov.au/clare/post-study-work-rights-international-students-boost-skills.
[37] Deloitte Access Economics, "Estimating the public and private benefits of higher education" (report commissioned by the Australian Government Department of Education and Training, November 2016). https://www.education.gov.au/higher-education-reviews-and-consultations/resources/estimating-public-and-private-benefits-higher-education.

	working in Australia after studying, the public market benefits are calculated by applying this ratio. The increases in tax revenue (see B16) are then subtracted to isolate the productivity spillover benefits.		
B18. Higher expenditure in the state due to an increase in international student enrolments			
The STEM precinct is expected to attract more international students to Tasmania, contributing to the local economy by purchasing a variety of goods and services.	The additional international student expenditure is calculated by multiplying the expected increase in the number of international students by the average international student expenditure on goods and services in Australia. Only a proportion of the increase in international student expenditure is counted as a benefit in a CBA. Specifically, the Gross Operating Surplus (GOS) of businesses directly supplying goods and services to consumers is included as well as the GOS of upstream businesses whose activity is associated with international student expenditure on goods and services. The share of GOS is estimated using the Tourism Research Australia (TRA) State Tourism Satellite Accounts and ABS industry data.	• Labour income is not assumed to be additional. This is consistent with recognising that increased international student activity may lead to workers shifting out of other industries to provide goods and services but a conservative assumption.	• International student expenditure (ABS, 2024) • State Tourism Satellite Accounts (TRA, 2023)
B20. Research and innovation spillover effects			
The STEM precinct is expected to support additional research activities within the university. Increased research and innovation will have	The economic benefits deriving from an increase in innovation and technological advancement are calculated using a multiplier applied	• There is a $4 increase in GDP for each dollar of expenditure on university research and development. This is based on	• Higher education Research and Development Income (Australian Government Department of Education, 2024)

productivity spillovers to the economy.	to estimated additional research dollars. Additional research dollars are estimated using the average non-commonwealth government research income per students across 2018, 2020 and 2022 at UTAS. This is multiplied by the number of additional students under each Option.	the expected economic output per dollar invested, as derived from previous Deloitte research, but excludes $1 to separate out the initial investment (which is considered a transfer). • This benefit is realised with a 10-year lag.	• Student Enrolment Numbers (Australian Government Department of Education, 2023) • Economic output per dollar invested into university research and development (Deloitte Access Economics, 2020)[38]
B21. Reduced maintenance costs of existing STEM facility			
Maintenance costs for the current STEM facilities in Sandy Bay would be avoided with the establishment of a new STEM precinct.	The avoided cost of necessary refurbishments to the existing Sandy Bay facility is estimated by UTAS and spread across 10 years.	• Minimal cosmetic capital works to COSE and supporting facilities is $125,000,000 across 10 years.	• Minimal cosmetic capital works to COSE and supporting facilities (UTAS, 2024)
B23. Increased producer surplus through profits from infrastructure development (Option 2 only)			
Under Option 2, proposed rezoning of land would allow for the development of additional housing. This rezoning would not take place under Option 1 or 3. The development of additional housing on the Sandy Bay campus would generate increased producer surplus by providing profits to developers. While one way of categorising this benefit is as a producer surplus in the event that the government delivers social and affordable housing the difference between the market	The increased producer surplus from infrastructure development is calculated by applying an estimates producer surplus per dwelling percentage to the median attached dwelling price in Hobart. This is then multiplied by the anticipated number of dwellings to be constructed.	• Median dwelling price for an attached dwelling in Hobart is $549,000. • 1,000 homes to be constructed under Option 2. • Each additional dwelling constructed creates 17.5% of the property value in producer surplus.	• Median dwelling prices (ABS, 2024) • Number of dwellings to be built (UTAS, 2024) • Producer surplus per dwelling (Rowley et al., 2014)[39]

[38] Deloitte Access Economics, "The importance of universities to Australia's propensity" (report commissioned by Universities Australia, April 2020). https://universitiesaustralia.edu.au/wp-content/uploads/2022/04/Report-The-importance-of-universities-to-Australias-prosperity.pdf.
[39] Australian Housing and Urban Research Institute, "The financing of residential development in Australia" *Curtain University* (2014). https://www.ahuri.edu.au/sites/default/files/migration/documents/AHURI_Final_Report_No219_The-financing-of-residential-development-in-Australia.pdf.

value and cost of delivery can be thought of as a This benefit is contingent on the passage of enabling legislation by the Tasmanian Government, which would allow the land to be used for alternative purposes. Therefore, this benefit is included as a sensitivity analysis given the uncertainty over whether it would be realised.

Source: Deloitte (2025)

In addition to the quantified benefits outlined in Table 5.2, three identified benefits are not individually quantified but are accounted for within the student enrolment projections, which influence the total values of the quantified benefits. These benefits are:

- B2. Access to the ecosystem of university offerings in Sandy Bay, including interdisciplinary learning opportunities and expanded industry partnerships (Sandy Bay only).
- B8. Opportunities for school students and community members to engage with STEM and increase scientific literacy, including through a Science Museum (Sandy Bay only).
- B19. Greater opportunities to establish industry partnerships.

These benefits are expected to be realised under Option 2, with greater student enrolments projected compared to Options 1 and 3, due to the unique opportunities offered by a STEM precinct in Sandy Bay.

The co-location of the STEM precinct with other faculties on the Sandy Bay campus would provide students with greater access to interdisciplinary learning, enhancing the appeal of STEM courses. Additionally, the larger space available at Sandy Bay compared to the CBD campus would allow for the expansion of industry partnerships, further enriching the student experience.

Option 2 also includes the development of a Science Museum within the STEM precinct, creating further opportunities for school students and community members to engage with STEM and UTAS. In particular, a case study conducted by COSE suggests that a precinct in Southern Tasmania would create further opportunities to provide:

- hand-on learning workshops and labs
- competitions and challenge events
- interdisciplinary programs that integrate STEM with other disciplines
- community partnerships and collaborations with local businesses for real-world projects and internships
- promotion of STEM to underrepresented groups to support diversity and inclusion.

This engagement is expected to foster greater interest in STEM education and positively influence student decisions to enrol in STEM courses at UTAS. Further details on how the student enrolment projections are calculated and the underlying assumptions are provided in Section 5.2.

An additional three benefits are not captured within the CBA as they represent a transfer rather than additional benefit to Australia. These benefits and their justification for exclusion are summarised in Table 5.3.

Table 5.3: Benefits excluded from the CBA model

Benefit	**Justification for exclusion**
B5. Enhanced attraction and retention of university educated workers in the state	As the CBA takes a national perspective, the transfer of workers into Tasmania from other states is not quantified. The tax benefit of additional international students who remain in Australia after studying is accounted for in B16 (see Table 5.2).
B14. Increase in research output / funding	Research income is excluded from the CBA because, in most cases, an increase in STEM research dollars for UTAS represents a transfer within Australia. For example, a grant awarded to UTAS from a domestic source reflects a transfer. However, the uplift in economic activity as a result of additional research is an incremental gain (captured in B20)- research and innovation spillover effects.
B15. STEM research facilities attracting research dollars to Tasmania	Like B14, increases in research income is excluded as it typically represents a transfer within Australia (although some international research funding is not a transfer).

Source: Deloitte (2025)

5.3.3 Qualitative benefits

This section provides detail on the other expected benefits of the UTAS STEM precinct which could not be quantitively measured.

B3. Enhanced learning experiences for students

Upgrading the university's STEM facilities to incorporate active, technology-enabled learning environments, as seen at Melbourne Connect, is expected to foster better academic outcomes and increased engagement among students, likely leading to higher retention rates.

Findings from the Technology-Enabled Active Learning (TEAL) project at MIT, which transformed the traditional lecture-based approach in STEM classes into a more interactive, technology-rich, and collaborative learning environment, found that such environments promote a deeper understanding of complex STEM concepts amongst students by making abstract ideas more tangible through simulations, visualisations, and hands-on activities.[40] This active learning environment supports various active learning techniques, such as collaborative problem-solving and interactive experiments, which have been shown to improve students' conceptual understanding significantly.

Upgraded STEM facilities that support active learning can help address issues of high failure rates in STEM courses.[40] In the TEAL setting, failure rates dropped significantly, with only 5% of students in the active learning environment failing, compared to 13% in the traditional lecture-based environment. This substantial reduction highlights the value of interactive and collaborative learning spaces, which encourage deeper understanding and prevent students from falling behind. A similar reduction in failure rates at the university would not only improve individual student outcomes but also increase retention rates, contributing to the university's overall success in guiding students through to graduation.

This study also found that active learning environments lead to increased attendance.[40] TEAL classes maintained an attendance rate of over 80%, while traditional classes saw attendance drop to around 50%. This high engagement rate in the TEAL setup is an outcome of the interactive and collaborative environment fostered by the project.

B4. Enhanced attraction and retention of high-quality workers to the university

UTAS staff engagement survey data shows significant dissatisfaction with the university's facilities, particularly at the Sandy Bay Campus. It is possible this could impact staff retention, as staff retention has been found to be impacted by campus facilities.[41]

B6. Enhanced long-term benefits for individuals from greater engagement in university education, such as improved health and other social outcomes

Research has found that increases in educational attainment has a broad range of additional private benefits above increases in income. These benefits are difficult to capture quantitatively and are therefore summarised qualitatively in the below Table 5.4.

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[40] Dori, Yehudit Judy, and John Belcher. "How Does Technology-Enabled Active Learning Affect Undergraduate Students' Understanding of Electromagnetism Concepts?" *The Journal of the Learning Sciences* 14, no. 2 (2005): 243–79. https://doi.org/10.1207/s15327809jls1402_3.

[42] Raghupathi, Viju, and Wullianallur Raghupathi. "The influence of education on health: an empirical assessment of OECD countries for the period 1995–2015." *Archives of Public Health* 78 (2020): 1-18. https://doi.org/10.1186/s13690-020-00402-5.

Table 5.4: Qualitative descriptions of private benefits

Private benefit	Description
Health	There is extensive literature linking higher education to improved health outcomes, as individuals with higher levels of education are more likely to engage in healthier behaviours, access better healthcare and experience lower rates of chronic diseases.[42,43,44] This is reflected in the expected reduction in mortality risk (i.e. increase in life expectancy) which is captured above. However, health benefits are also known to spillover to some extent to spouses and to children, who are likely to have lower infant mortality and better nutrition through intergenerational effects of education.[45,46,42,43]
Child outcomes	Parents with higher levels of education tend to have the knowledge and resources to foster a strong educational environment for their children, positively influencing their children's academic performance and employment prospects in the long-run. Children of educated parents are more likely to complete higher education and achieve better long-term outcomes in life, reflecting an intergenerational transfer of 'human capital'.[47,43]
Wellbeing	Some literature suggests that education overall fosters greater life satisfaction.[48,44] These benefits can arise from better employment opportunities, greater job satisfaction, reduced financial stress and better health.
Non-wage remuneration	In addition to higher wages, educated individuals are also more likely to receive higher fringe benefits and better working conditions.[49]
Consumption efficiency	Education enhances decision-making skills and consumer knowledge, allowing individuals to make more informed purchasing decisions.[50] This leads to better resource allocation and improved financial outcomes.
Job search efficiency	University education enhances skills and networks, enabling individuals to conduct more efficient and effective job searches.[50] This reduces the costs associated with unemployment periods and increases job mobility, improving labour market outcomes.

[42] Raghupathi, Viju, and Wullianallur Raghupathi. "The influence of education on health: an empirical assessment of OECD countries for the period 1995–2015." *Archives of Public Health* 78 (2020): 1-18. https://doi.org/10.1186/s13690-020-00402-5.
[43] Vorhaus, John, Kathryn Duckworth, David Budge, and Leon Feinstein. "The social and personal benefits of learning: A summary of key research findings." *Institute of Education University of London* (2008). https://discovery.ucl.ac.uk/id/eprint/10003177/1/Feinstein2008thesocialreport.pdf.
[44] Savage, James, and Andrew Norton. "Non-financial benefits of higher education." *Grattan Institute* (2012). https://melbourneinstitute.unimelb.edu.au/assets/documents/hilda-bibliography/other-publications/2012/Savage_etal_graduate_winners_non-financial_benefits.pdf.
[45] Lamu, Admassu N., Gang Chen, and Jan Abel Olsen. "Amplified disparities: The association between spousal education and own health." *Social Science & Medicine* 323 (2023): 115832-115832. https://doi.org/10.1016/j.socscimed.2023.115832.
[46] Martinson, Melissa L., and Kate H. Choi. "Low birth weight and childhood health: the role of maternal education." *Annals of epidemiology* 39 (2019): 39-45. https://doi.org/10.1016/j.annepidem.2019.09.006.
[47] Murray, Joy. "The wider social benefits of higher education: What do we know about them?" *Australian Journal of Education* 53, no. 3 (2009): 230-244. https://doi.org/10.1177/000494410905300303.
[48] Australian Institute of Health and Welfare (AIHW). "Higher Education and Vocational Education." (7 September 2023). https://www.aihw.gov.au/reports/australias-welfare/higher-education-and-vocational-education.
[49] Jimenez, Emmanuel, and Harry Anthony Patrinos. "Can Cost-Benefit Analysis Guide Education Policy in Developing Countries?" *World Bank Policy Research Working Paper* No. 4568 (2008): 1–25. https://ssrn.com/abstract=1112191.
[50] Psacharopoulos, George. "The value of investment in education: Theory, evidence, and policy." *Journal of Education Finance* (2006): 113-136.

Reduction in crime	Increased educational attainment reduces the likelihood of engaging in criminal activity.[51,44] Education also strengthens social values and reduces anti-social behaviour, contributing to safer communities.
Civic participation	Higher education promotes social cohesion by encouraging civic engagement, including volunteering and active participation in community activities.[43,44,47] Educated individuals are also more likely to vote and contribute to policy discussions, fostering inclusive and tolerant societies.[44]

Source: Deloitte (2025)

B8. Opportunities for school students and community members to engage in STEM and increase scientific literacy, including through the Science Museum (Sandy Bay only)

The establishment of a STEM precinct at Sandy Bay, with the inclusion of a Science Museum, would create greater opportunities for local school students and community members to engage with STEM. This is expected to enhance scientific literacy among attendees of the Museum and participants in related school or community events. While the value of increased scientific literacy is challenging to quantify and is therefore excluded from the CBA model, potential attendance figures offer an indication of the Museum's community reach. As an indicative benchmark, the Tasmanian Museum and Art Gallery attracted 148,930 visitors (68,819 interstate and 3,715 international) to its city site in the 2021–2022 financial year.[52] Although this is not a direct forecast of attendance for the Science Museum, it suggests the scale of engagement the facility might achieve within the local community.

The Museum is also expected to encourage greater interest in studying STEM at UTAS, particularly among senior school students. This benefit is captured in the CBA through the projected increase in STEM enrolments at UTAS (see Section 5.2).

B9. Enhanced public amenity outcomes including green infrastructure and green open space for public use, with social and wellbeing benefits (Sandy Bay only)

The Sandy Bay Masterplan sets aside significant surplus land for educational, accommodation, sporting and public open space purposes.

Urban green spaces promote physical activity and health as well as providing critical ecosystem services.[53] Further, public green spaces' biodiversity contributes to human well-being through improvements in health (particularly mental health) and good social relations.[54] These findings suggest that the public green space set aside under the masterplan could contribute to positive social and wellbeing benefits for the local community.

B10. Reduced inequality due to more educational and occupational opportunities

Investments in education, such as upgrading STEM facilities, can lead to a more equitable income distribution. In a meta-regression analysis examining the effect of education on income inequality, education was found to reduce the income share of top earners and increases the share of bottom earners, thereby narrowing the income gap.[55] Specifically, this study looked at how increasing the

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[51] Machin, Stephen, Olivier Marie, and Sunčica Vujić. "The crime reducing effect of education." *The Economic Journal* 121, no. 552 (2011): 463-484. https://doi.org/10.1111/j.1468-0297.2011.02430.x.
[52] Tasmanian Museum and Art Gallery, "Annual Report 2021-22" (2022). https://www.tmag.tas.gov.au/__data/assets/pdf_file/0006/406644/WEB_TMAG_Annual_Report_2021-22.pdf.
[53] Wolch, Jennifer R, Jason Byrne, and Joshua P Newell. "Urban Green Space, Public Health, and Environmental Justice: The Challenge of Making Cities 'Just Green Enough.'" *Landscape and Urban Planning* 125 (2014): 234–44. https://doi.org/10.1016/j.landurbplan.2014.01.017.
[54] Reyes-Riveros, Rosa, Adison Altamirano, Francisco De La Barrera, Daniel Rozas-Vásquez, Lorena Vieli, and Paula Meli. "Linking Public Urban Green Spaces and Human Well-Being: A Systematic Review." *Urban Forestry & Urban Greening* 61 (2021): 127105-. https://doi.org/10.1016/j.ufug.2021.127105.
[55] Abdullah, Abdul, Hristos Doucouliagos, and Elizabeth Manning. "Does education reduce income inequality? A meta-regression analysis." *Journal of Economic Surveys* 29, no. 2 (2015): 301–16. https://doi.org/10.1111/joes.12056.

level of education (e.g., more people completing secondary or tertiary education) and improving access to quality education can impact income inequality.

This finding suggests that the community around UTAS could see a measurable shift in income distribution, with low-income households seeing a potential increase in their overall income share as a result of increased educational access and skill development.

Further, longitudinal research has found that developed countries with higher average levels of education tend to experience less income inequality, as access to education provides individuals with skills and qualifications that improve their earning potential, thus narrowing the income gap.[56]

The upgraded STEM facilities will make cutting-edge education accessible to a broader range of students, including those from lower-income or underrepresented backgrounds. This ties into De Gregorio and Lee's insight that in developed countries, reducing educational inequality has a powerful effect on decreasing income inequality, as it gives more people the skills to access higher-paying jobs. [57]

B11. Carbon savings from the new infrastructure

The new STEM precinct will be built with better energy efficiencies which will result in carbon savings. An allowance of 5% for an Environmentally Sustainable Design (ESD) and ratings tool has been included in the costing estimates to support sustainability initiatives. At this stage, specific design work or targets for the sustainability initiatives have not been finalised, however, sustainability strategies may include:

- Sustainable retrofits
- Using buildings unsuitable for retrofitting as material banks
- Designing new buildings to be fully circular and aiming for zero carbon
- Extensive use of timber
- Integrating food, water, renewable energy, zero waste, and active transport.

This benefit in not included quantitatively in the CBA as the carbon estimates were not provided in time for inclusion.

B12. Recognition of First Nations people and improved community / cultural outcomes through the return of land to Aboriginal Land Council of Tasmania (Sandy Bay only)

The ALCT develop Management Plans, called Healthy Country Plans for Aboriginal Land and crews of Aboriginal rangers are dedicated to managing the natural, cultural and Community values of the land. While there is uncertainty about how the ALCT will specifically use the land handed back in Sandy Bay, "caring for country" has been found to enhance the social and emotional well-being (SEWB) of Indigenous communities in Australia, as found in a recent systematic review.[58] This systematic review found engagement in land-based activities was linked with lower levels of psychological stress among Indigenous participants, underscoring the therapeutic effects of a connection with nature.

The return of the land to the ALCT is expected to occur under all options. However, developing a STEM precinct in Sandy Bay under Option 2 would facilitate this process, making it easier and allowing it to occur earlier than under the other options.

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[56] Gregorio, José De, and Jong-Wha Lee. "Education and Income Inequality: New Evidence From Cross-Country Data." *The Review of Income and Wealth* 48, no. 3 (2002): 395–416. https://doi.org/10.1111/1475-4991.00060.
[57] Gregorio, José De, and Jong-Wha Lee. "Education and Income Inequality: New Evidence From Cross-Country Data." *The Review of Income and Wealth* 48, no. 3 (2002): 395–416. https://doi.org/10.1111/1475-4991.00060.
[58] Fatima, Yaqoot, Yongbo Liu, Anne Cleary, Julie Dean, Valance Smith, Stephanie King, and Shaun Solomon. "Connecting the Health of Country with the Health of People: Application of 'Caring for Country' in Improving the Social and Emotional Well-Being of Indigenous People in Australia and New Zealand." *The Lancet Regional Health. Western Pacific* 31 (2023): 100648–100648. https://doi.org/10.1016/j.lanwpc.2022.100648.

B22. Increased availability of diverse and affordable housing options for essential workers and low-income individuals (Sandy Bay only)

The Sandy Bay Masterplan aims to provide a broad mix of housing types and densities. The plans aim to provide housing opportunities that are affordable for a wider cross-section of the community. The Masterplan seeks to ensure 5-10% of additional housing will be affordable and social housing.

Having greater housing density on a site so close to the CBD will lead to more housing supply in the community and improved affordability in Hobart, with increased choices available as apartments and townhouses offer more affordable options.

5.4 Costs

The CBA quantifies the additional capital and operational expenditure outlay for Options 2 and 3 above the Base Case scenario in Option 1. Additionally other economic costs were considered but were unable to be quantified in the CBA. These are discussed qualitatively below.

5.4.1 Capital costs (C2)

Option 2's capital expenditure profile was informed by the costs for each building, profiled across the staging for that building. Capital costs were forecast by the quantity surveyor, Slattery, while the staging profile was provided by the design advisor, Hassell. The quantity surveyor cost report can be found in Appendix B – Quantity Survey Cost Report while the design report can be found in Appendix A – Design Report.

For Option 3, a detailed costing analysis was conducted during the 2016 Business Case[59] that calculated total project costs. For the purposes of this business case, as the design for the Hobart Science and Technology Precinct has remained consistent, this analysis has been retained and subsequently escalated from $2016 to today's real value.

Option 3's capital expenditure profile is distributed across four years from FY26 to FY29, applying estimates developed in 2021 and subsequently escalated to 2024 dollars. An additional 5% is applied to account for costs relating to fit out, fixtures and equipment.

5.4.2 Operating costs (C4)

The operating costs are calculated as the reduction in operational costs and facility management costs as compared with the Base Case. An estimate of $75 per m2 of GFA is assumed under both Option 2 and 3.

In Option 1, $12.5 million per year for 10 years is assumed for light touch refurbishments (this is captured as avoided maintenance costs under B21 so not included separately here).

5.4.3 Other economic costs

Other costs could not be quantified in the CBA but were considered. These costs are noted qualitatively below:

Table 5.5: Non-quantified economic costs

Cost	Assumption
C1. Opportunity costs of time due to disruptions from upgrading STEM facilities.	• Under Option 1 and 3 there is no impact. • Under Option 2, plans to manage staff and students and construction staging will seek to minimise disruptions.
C3. Temporary relocation costs.	• Under Option 2, the staged process will result in no material temporary costs of relocation. • Under Option 3, costs of permanent relocation to the CBD are already included within C2.

[59]. University of Tasmania, "Hobart Science and Technology Precinct Business Case"

C5. Public awareness and/or marketing campaigns and community outreach (including further community consultation, if needed).	• Marketing and community outreach campaigns will be ongoing regardless of build and not directly attributable to the capital building. Any costs related to the build is included in C2. • Any external or theoretical cost to develop partnerships is not directly related to STEM.
C6. Capex funding provided to UTAS.	• This cost is captured within C2. • To help offset the project's capital costs, UTAS will provide an in-kind contribution of residentially rezoned land, with an estimated value of $100 million. This figure reflects the State Government's potential financial assistance in unlocking the development potential of the land to help offset the project's capital costs. It is important to note that this is contingent on the passage of the rezoning legislation by the Tasmanian Government.
C7. Temporary disruptions to local businesses.	• Construction will be conducted with all regulatory practices followed. • A communications strategy will be in place to ensure local business feel supported with any change of wayfinding needed. • No additional cost to C2 expected.
C8. Opportunity costs of disruptions to the community from upgrading STEM facilities.	• Regulatory practices and communication strategies will be followed, and road closures communicated. Road closures would be brief and not material to cost. • No additional cost to C2 expected.

Source: Deloitte (2025)

5.5 CBA Results

5.5.1 Economic analysis methodology

A CBA has been undertaken to determine the investment attractiveness of each of the Project's Options. The analysis considers the economic impacts of the Options on the Government and economy, the Tasmanian community, and UTAS and its staff and students. All costs and benefits of the Options have been measured incrementally relative to the Base Case (a 'do minimal' scenario).

This economic analysis has been undertaken in line with the IA's Cost Benefit Analysis Guidance Note. The key assumptions supporting the analysis have been outlined in Table 5.2 above.

5.5.2 Results

Table 5.5 contains results from the CBA. These results are relative to Option 1, the base case scenario. Based on the CBA results, Option 2 provides a higher return, with an NPV of $149.4 million and BCR of 1.46. Option 3 has an NPV of $34.0 million and a BCR of 1.09.

Table 5.6: CBA results

	Option 2 (New Sandy Bay)	Option 3 (New Hobart CBD)
Benefits		
Students and Staff		
Increase in lifetime earnings	78.7	64.9
Enhanced long-term individual benefits	0.3	0.2
Transport cost and time savings	0.0	2.3

Institution (UTAS)		
Increase in net revenue from increased STEM enrolments	38.2	31.9
Reduced maintenance costs of existing STEM facilities	82.1	82.1
Government and Economy		
Increased income tax revenue and reduced welfare payments	61.0	50.3
Research and innovation	49.4	41.3
Spillover productivity benefits	122.2	100.8
Higher expenditure in the state from increased international student enrolments	39.8	33.3
Producer surplus from construction of additional housing	0.0	0.0
Total Benefits	**471.5**	**407.1**
Costs		
Capital expenditure	330.5	384.1
Operational expenditure	-8.4	-11.0
Total Costs	**322.1**	**373.2**
NPV	**149.4**	**34.0**
BCR	**1.46**	**1.09**

Source: Deloitte (2025)

5.6 Sensitivity analysis

A sensitivity analysis has been conducted to understand how responsive the project outputs are to changes in the project costs, benefits, and discount rates and other selected scenarios (Table 5.6). The results from the sensitivity analysis are outlined in Table 5.7 below.

The sensitivity analysis reveals that by varying the discount rate and making +/- 20% adjustments to the costs and benefits, the NPV remains higher in Option 2 than Option 3 across all scenarios.

Table 5.7: Sensitivity analysis

	Option 2 (New Sandy Bay)		**Option 3 (New Hobart CBD)**	
Scenario	**NPV ($m)**	**BCR**	**NPV ($m)**	**BCR**
Central case	149.4	1.46	34.0	1.09
4% discount rate	719.9	2.98	528.7	2.26
10% discount rate	-41.9	0.85	-121.8	0.63
Costs +20%	85.0	1.22	-40.7	0.91
Costs -20%	213.8	1.83	108.6	1.36
Best case scenario (Costs -20%, Benefits +20%)	308.1	2.20	190.0	1.64
Worst case scenario	-9.3	0.98	-122.1	0.73

(Costs +20%, Benefits -20%)				
Producer surplus from additional housing is included	186.8	1.58	34.0	1.09
International enrolments only return halfway to their 2020 levels	60.9	1.19	-39.6	0.89
Income uplift from completing higher education is 20% lower	62.2	1.31	-8.0	0.98

Source: Deloitte (2025)

6 Financial Analysis

6.1 Approach

The detailed financial appraisal was undertaken in line with Infrastructure Australia's Developing a Business Case Stage 3 Assessment Framework (2021). Values reported in this section are based on nominal dollar terms, meaning costs have been adjusted to include inflation. For that reason, figures differ from those presented in the economic analysis.

Table 6.1 outlines the assumptions that were used in the financial appraisal.

Table 6.1: Financial Appraisal Assumptions

Benefit	Assumption	Comments
Escalation	3.00%	An escalation rate of 3.00% has been applied. This is the High Range of the Reserve Bank of Australia's target range of 2-3% for inflation, which is applied to escalate all project costs.
Financial discount rate	4.42%	This is the 10-year historical average of the Australian Government Bond rate.
Appraisal period	30 years	A 30-year appraisal period to match the same horizon of the economic analysis.

Source: Deloitte (2025)

6.2 Costs

Capital and operating costs for the financial appraisal are in accordance with the same cost inputs used for the economic appraisal in Section 5, with the addition of escalation to present as nominal values. These delivery and operating costs are Table 6.2.

Table 6.2: Capital and operating costs (non-discounted, millions, FY25 – FY59)

	Option 1 (Base Case)	Option 2 (New Sandy Bay)	Option 3 (New Hobart CBD)
Non-escalated costs			
Capital Expenditure	125.0	434.2	519.4
Operating Expenditure	114.1	74.8	62.2
Total cost (non-escalated)	**239.1**	**509.1**	**581.6**
Escalated costs			
Capital Expenditure	155.9	501.5	595.8
Operating Expenditure	191.1	123.2	102.5

Total cost (escalated)	**347.0**	**624.8**	**698.3**

Source: Deloitte (2025)

Under the Base Case, Option 1 requires significant upfront capital expenditure over 10 years in order to undertake necessary refurbishments to the existing Sandy Bay facilities. Option 1 also will require higher ongoing operating expenditure due to the less efficient configuration of facilities, equivalent to approximately $3.6 million (real) of annual repairs and maintenance.

Option 2 optimises the capital expenditure by selectively refurbishing existing facilities where they can be repurposed for the new STEM precinct and rebuilding new facilities where existing facilities are not fit for purpose. In turn, this optimises the ongoing operating expenditure required to maintain the STEM precinct, equivalent to approximately $2.8 million (real) of annual repairs and maintenance.

Option 3 requires the highest upfront capital expenditure. As the STEM Precinct would be dispersed across multiple CBD locations, it would not be able to realise potential capital efficiencies with design and construction. It would also be approximately 6,000 m2 smaller than Option 2 due to the site constraints of the multiple CBD locations, which in turn would require less ongoing operating expenditure, equivalent to approximately $2.3 million (real) of annual repairs and maintenance.

6.3 Revenue

Delivery and operations of the STEM Precinct is forecast to generate significant revenues consistent with the CBA undertaken in Section 5. A summary of these forecast revenues is outlined in Table 6.3 below.

Table 6.3: Revenues (non-discounted, millions, FY25 – FY59)

Revenue	Option 1 (Base Case)	Option 2 (New Sandy Bay)	Option 3 (New Hobart CBD)
Non-escalated revenue			
Transfer of UTAS owned land (one-off)	0.0	100.0	0.0
Net student enrolment revenue (operational)	0.0	125.0	113.4
Total revenue (non-escalated)	**0.0**	**225.0**	**113.4**
Escalated revenue			
Transfer of UTAS owned land (one-off)	0.0	100.0	0.0
Net student enrolment revenue (operational)	0.0	217.6	196.7
Total revenue (escalated)	**0.0**	**317.6**	**196.7**

Source: Deloitte (2025)

Under the Base Case, Option 1 is not forecast to generate any additional revenue as the necessary refurbishments neither unlocks land for future sale nor is it expected to increase student enrolments.

Under Option 2, the co-location and optimisation of STEM facilities at Sandy Bay would allow for surplus land to be rezoned and sold for the development of additional housing. This rezoning would not take place under Option 1 or 3. Preliminary land valuation estimates this land to be worth approximately $100 million and is subject to Tasmanian parliamentary approval prior to the land scale occurring.

Consistent with the CBA, both Option 2 and 3 would generate a net increase in student enrolment (labelled B13 within the benefits framework).

6.4 Results

Table 6.4 below presents the financial costs and revenues for the shortlisted Options and have been discounted at a rate of 4.42% to be shown in present values. A financial impact statement showing the 10 year annualised budget impact has been provided in Appendix C – Financial Impact Statement.

Table 6.4: Financial cost and NPV

	Option 1 (Base Case)	Option 2 (New Sandy Bay)	Option 3 (New Hobart CBD)
Capital costs	116.9	409.5	490.0
Operating costs	87.6	57.9	48.1
Total costs	**204.5**	**467.4**	**538.1**
Revenues	0.0	189.6	85.1
Financial NPV	**-204.5**	**-277.7**	**-453.0**

Source: Deloitte (2025)

6.5 Sensitivities

Given that the assumptions and parameters underpinning this financial appraisal are subject to change, sensitivity analysis has been undertaken to investigate the impacts of these potential changes on the conclusions drawn from the analysis. Table 6.5 presents the sensitivity results from the financial analysis.

Table 6.5: Sensitivity results from financial analysis

Sensitivity	Option 1 (Base Case)	Option 2 (New Sandy Bay)	Option 3 (New Hobart CBD)
Core	-204.5	-277.7	-453.0
+10.0% Total Cost	-225.0	-324.5	-506.8
-10.0% Total Cost	-184.1	-231.0	-399.2
+20.0% Total Cost	-245.4	-371.2	-560.6
-20.0% Total Cost	-163.6	-184.3	-345.4
10.0% Revenue	-204.5	-258.8	-444.5

-10.0% Revenue	-204.5	-296.7	-461.5
20.0% Revenue	-204.5	-239.8	-436.0
-20.0% Revenue	-204.5	-315.7	-470.0
Best Case Scenario (-20.0% Cost, 20.0% Revenue)	-163.6	-146.3	-328.4
Worst Case Scenario (20.0% Cost, -20.0% Revenue)	-245.4	-409.1	-577.7
3% Discount Rate	-238.6	-290.5	-471.5
5% Discount Rate	-192.7	-272.1	-445.1
7% Discount Rate	-159.4	-251.8	-417.5
10% Discount Rate	-124.2	-221.4	-376.7

Source: Deloitte (2025)

6.6 Selection of Preferred Option

Table 6.6 below outlines a summary of the analysis of short listed Options

Table 6.6: Summary of analysis of Option 2 and 3

	Option 1 (Base Case)	Option 2 (New Sandy Bay)	Option 3 (New Hobart CBD)
Economic Appraisal Results *(millions, real, incremental to Base Case, PV, 30 year appraisal period)*			
Net Present Value	N/A	277.7	453.0
Benefit Cost Ratio	N/A	1.46	1.09
Financial Appraisal Results *(millions, nominal, escalated at 3% annually, 30 year appraisal period)*			
Total Capital Cost	155.9	501.5	595.8
Total Operating Cost	191.1	123.2	102.5
Total Revenue	0.0	317.6	196.7
Total Net Position	-347.0	-307.2	-501.6
Stage 1 Funding Required	N/A	50.0	N/A
Total Funding Required	155.9	401.5	595.8
Qualitative Measures			
Alignment to Project Objectives	○	●	◕
Relative Risk Rating	**High**	**Medium**	**Medium-High**
Recommendation	Not recommended for funding	**Recommended for funding**	Not recommended for funding

Source: Deloitte (2025)

Following a review of the cost benefit analysis, financial appraisal, key risks and objective alignment for the short-listed Options, Option 2 is recommended as the preferred Option. The preferred Option 2 which delivers a new STEM Precinct at the UTAS Sandy Bay Campus was selected due to its strongest alignment to project objectives, lowest relative risk profile and strongest value for money with the highest economic Net Present Value of $149.4 million, highest Benefit Cost Ratio of 1.46 and lowest funding requirement of $401.5 million.

Developing a specialised STEM campus at Sandy Bay will enable innovative, contemporary learning and teaching and cutting-edge research, attract and retain high quality students, educators and researchers, and provide access to critical equipment for emerging technologies. The Sandy Bay location provides the greatest potential for fostering local and industry partnerships through the ecosystem-based approach to STEM facilities and equipment providing a co-located and integrated precinct with a balance of learning, research, and innovation spaces.

In addition to the core operations of the STEM Precinct, the preferred Option 2 will also generate key benefits to a broader range of stakeholders by:

- Unlocking surplus UTAS-owned land for alternative uses including the delivery of significant housing supply and public and open space
- Enabling the return of land to ALCT, recognising the enduring Aboriginal connection to the campus land and UTAS' commitment to revitalising and embedding its relationship with Aboriginal people, communities, culture and knowledges from across Australia

6.7 Funding Request

Recognising the significant benefit that the UTAS STEM Precinct will provide to a broader range of stakeholders beyond UTAS, a government funding request is required to deliver the Precinct and realise these benefits. The initial funding envelope for $50 million to complete Stage 1 works, and the proposed Australian Government funding request of $401.5 million over seven years represents the total capital cost to deliver the new Sandy Bay STEM precinct less a proposed $100 million land sale or transfer to the Tasmanian Government, subject to Tasmanian Parliamentary approval for rezoning. Should the Tasmanian Parliament not approve the rezoning and/or sale, the Australian Government funding request would revert back to the total capital cost of $501.5 million.

Whilst options to fund the Project from internal UTAS sources were explored, legislative restrictions on borrowing mean that a wholly internal funded Project is not financially feasible. With UTAS' $400 million borrowing limit which was approved by the Treasurer of Tasmania, $350 million has already been allocated to issue green bonds[60] while the remaining $50 million has been allocated to an overdraft facility.

Upon completion of the Project, the STEM Precinct will deliver the following outcomes:

- Enhance the skills and capabilities of the Tasmanian people through STEM educational. uplift.
- Improved community and public outcomes.
- Increased STEM support for Tasmania's economy.
- Increased STEM research and industry collaboration.
- Development of a Precinct area for recreation and student collaboration.
- Enable the delivery of housing stock, supporting Hobart's housing shortfall.
- Return of land to ALCT, supporting First Nations people.

[60] https://www.utas.edu.au/about/sustainability/highlights/green-bond

7 Commercial Analysis

7.1 Procurement Strategy

The UTAS STEM Precinct procurement strategy provides a framework and roadmap that outlines how UTAS will deliver, support and maintain the proposed STEM Precinct throughout its operational lifecycle. This includes the work needed by UTAS to ensure that all expenditure is managed in compliance with applicable UTAS and Tasmania Government Procurement Policy Guidelines.

7.1.1 Packaging

Central to ensuring successful delivery is to organise the procurement of the scope of works into distinct work packages that can be combined to effectively manage risk across a range of procurement and delivery considerations. Table 7.1 below outlines these work packages that span across precinct, facility and equipment related work.

Table 7.1: Procurement packages

Stream	Package	Package Description
1. Precinct	1A. Demolition	Existing building demolition
	1B. Precinct works	Enabling infrastructure Non-building related public domain works
2. Facility	2A. Facility build	Building construction Base fit out
	2B. Facility specialist fit out	Specialist Fit out and preparation for advanced equipment
	2C. Facility maintenance	Property management and maintenance
3. Equipment	3A. Simple Equipment Supply	Supply of simple equipment to be provided in basic student learning spaces that do not require installation and commissioning
	3B. Advanced Equipment Supply	Supply of specialist equipment to be provided in research and lab spaces
	3C. Advanced Equipment Installation and Commissioning	Install and commission of specialist equipment to be provided in research and lab spaces
	3D. Advanced Equipment Maintenance	Maintenance of specialist equipment to be provided in research and lab spaces

These work packages were combined in different ways to create different procurement packaging options which vary UTAS level of involvement and risk exposure as per Table 7.2 below.

Table 7.2: Procurement packaging options

Packaging Option	Total number of packages
1. All separate packages	9
2. Combine each work package stream	3
3. Combine precinct and facility capital works and combine advanced equipment supply install and maintenance	4
4. Combine precinct and facility capital works and combine advanced equipment supply and install	5
5. Combine precinct and facility and combine equipment	2
6. Combine all packages	1

7.1.2 Assessment of packaging options

The six procurement packaging options were qualitatively assessed against a procurement and delivery assessment criteria which considered:

- Delivery timeframe and the ability to perform to agreed milestones
- Planning and regulatory environment risk
- Financial impact, cost, and budget certainty
- Optimised market capacity and appetite
- Construction and market risk transfer
- Flexibility and control
- Leveraging existing vendor relations

An outline of the procurement and delivery scoring assessment criteria is provided in Table 7.3 below with scores provided in Table 8.4 below.

Table 7.3: Procurement and delivery criteria

Criteria	Guidance for 1/3	Guidance for 2/3	Guidance for 3/3
Delivery timeframe (ability to perform to milestones)	• Risks not delivering the STEM Precinct by the target completion date • Relies on a singular delivery partner to deliver on time	• Risks not delivering the STEM Precinct by the target completion date • Relies on 1-2 delivery partners to deliver on time	• Risks not delivering the STEM Precinct by the target completion date • Accommodates multiple partners to deliver on time
Planning & regulatory environment	Option fully retains planning & regulatory risks on UTAS	Option partially retains planning & regulatory risks on UTAS	Option fully transfers planning risks to private sector
Financial impact, cost & budget certainty	Option delivers <u>neither</u>: • Budget certainty and positive financial outcomes for UTAS • Self-sustaining delivery and operating model	Option delivers <u>one of</u>: • Budget certainty and positive financial outcomes for UTAS • Self-sustaining delivery and operating model	Option delivers <u>both</u>: • Budget certainty and positive financial outcomes for UTAS • Self-sustaining delivery and operating model
Optimised market capacity & appetite	• Relies on private parties to deliver in areas they are not market leaders • Limited local developer market could / would be willing to participate	• Harnesses the capacity & capability of the private sector. Maximises the ability to leverage networks to attract target businesses, <u>**OR**</u> • Appeals to the supplier market & provides the ability for specialist providers to be selected for unique requirements	• Harnesses the capacity & capability of the private sector. Maximises the ability to leverage networks to attract target businesses; <u>**AND**</u> • Appeals to the supplier market & provides the ability for specialist providers to be selected for unique requirements
Construction & market risk transfer	Option fully retains delivery, design and market risks on UTAS	Partially transfers delivery, design and market risks on UTAS	Fully transfers delivery, design and market risks on UTAS
Flexibility & control	UTAS retains <u>**NEITHER**</u>: • Control over STEM Precinct vision and interface with broader University campus and objectives; <u>**AND**</u> • Flexibility to adapt to market needs over time & encourage innovation	UTAS retains: • Control over STEM Precinct vision and interface with broader University campus and objectives; <u>**OR**</u> • Flexibility to adapt to market needs over time & encourage innovation	UTAS retains <u>**BOTH**</u>: • Control over STEM Precinct vision and interface with broader University campus and objectives; <u>**AND**</u> • Flexibility to adapt to market needs over time & encourage innovation
Leveraging existing vendor relationships	UTAS does not have the option to utilise pre-approved providers	UTAS utilises some pre-approved providers	UTAS maximises the opportunity to use of pre-approved providers

Source: Deloitte (2025)

Table 7.4 Procurement packaging options analysis

Procurement Considerations	**Option 1:** All separate packages	**Option 2:** Combine each work package stream	**Option 3:** Combine precinct and facility capital works and combine advanced equipment supply install and maintenance	**Option 4:** Combine precinct and facility capital works and combine advanced equipment supply and install	**Option 5:** Combine precinct and facility and combine equipment	**Option 6:** Combine all packages
Delivery timeframe (ability to perform to milestones)	1	3	3	3	3	3
Planning & regulatory environment	1	2	2	2	2	2
Financial impact, cost & budget certainty	1	2	2	2	2	3
Optimised market capacity & appetite	2	3	3	3	3	1
Construction & market risk transfer	1	2	2	2	2	3
Flexibility & control	3	2	3	3	2	1
Interface risk	1	2	2	2	2	3
Leveraging existing vendor relationships	3	1	3	3	1	1
Score (out of 24)	**13**	**17**	**20**	**20**	**17**	**17**
Rank	**6**	**3**	**1**	**1**	**3**	**3**

Source: Deloitte (2025)

When assessing the procurement package options (as seen above in Table 7.4) against key procurement considerations, Option 3 and 4 demonstrate the strongest ability to achieve Project outcomes. Option 3 and 4 combine all aspects of precinct and facility capital development in order to increase the available pool of suppliers beyond Tier 1 contractors.

Option 3 and 4's separation of facility maintenance and simple equipment supply allows UTAS to leverage existing vendor contracts and relationships to streamline procurement and negotiate a competitive price.

Both Option 3 and 4 combines the supply, installation and commissioning of advanced equipment. While Option 4 inclusion of advanced equipment maintenance would theoretically streamline the end-to-end equipment lifecycle process, the bespoke and specialised nature of the advanced equipment coupled with Tasmania's geographic isolation would make it difficult to find a suitable single provider to provide these end-to-end services at a competitive price. This is also reflective of current arrangements with a preference to engage local contractors to promote local participation and knowledge retention.

Based on this, Option 3 was selected as the preferred procurement packaging option with further market consultation as part of the procurement process required to validate this selection.

7.2 Delivery Models

Based on the work streams and packages, there are a range of delivery models to consider for UTAS STEM Precincts. Aligning with the procurement packaging streams in Table 7.1, precinct and facility and equipment packages should be separated into two different delivery models (see Table 7.5 below)

Table 7.5: Available delivery models – precinct and delivery

Delivery Model	Description
Construct only	• Designs are prepared by consultants engaged by or on behalf of the construction agency. Until the entire work is designed, tenders for construction contract are not invited
Early contractor involvement (ECI)	• Where contractor participates in the design development stage and allows design team to better understand constructability and cost impacts early on.
Design and construct (D&C)	• The construction agency provides a project brief containing some concept design and specifies the performance and quality requirements. The contractor engages consultants to prepare and develop the design and the construction documents
Design Development & Construct (DD&C)	• Here the contractor is required to engage its own consultants to develop a preliminary design of the construction specifications provided by the construction agency, the construction documents and asset construction
Design Construct & Maintain (DC&M)	• The contractor is provided with a project brief including concept design and the quality and performance requirements of the asset. The contractor is responsible for preparing and developing the concept design, construction documents, asset construction and maintenance for a specified period
Alliance	• These types of contracts require the involvement of owners, designers, builders, and key stakeholders on a project at the conceptual stage. Both risk and reward are shared by the parties to the contract.
Public private partnerships	• A Special Purpose Vehicle (SPV) is formed that designs, finances, delivers and operates the asset.

Source: Deloitte (2025)

7.2.2 Assessment of delivery models

To deliver the procurement packages, seven delivery models outlined in Table 7.5 above were qualitatively assessed against the same procurement and delivery assessment criteria outlined in Table 7.3. A summary of the assessment is outlined in Table 7.6 below.

Table 7.6: Early Contractor Involvement delivery model structure

Delivery Considerations	Construct only	ECI	D & C	DD & C	DC & M	Alliance	Public private partnerships
Delivery timeframe (ability to perform to milestones)	2	2	3	3	3	1	1
Planning & regulatory environment	2	2	2	2	2	2	2
Financial impact, cost & budget certainty	3	3	2	3	2	1	2
Optimised market capacity & appetite	2	2	3	2	2	1	1
Construction & market risk transfer	1	2	3	3	3	2	2
Flexibility & control	3	3	2	2	2	3	2
Interface risk	2	2	2	1	1	1	1
Leveraging existing vendor relationships	3	3	1	1	1	1	1
Score (out of 24)	**18**	**19**	**18**	**17**	**16**	**12**	**12**
Rank	**2**	**1**	**2**	**4**	**5**	**6**	**6**

Source: Deloitte (2025)

For technically complex projects, such as the refurbishment of the Chemistry and Life Sciences buildings or the construction of new glasshouses, ECI offers significant advantages. It enables contractors to provide input during the design phase, addressing constructability, cost-effectiveness, and risk mitigation early in the process. ECI is particularly beneficial for projects with potential risks tied to existing conditions, such as stair-lift upgrades in Stage 1B or renovations of heritage or operationally sensitive spaces.

The key benefit of ECI lies in its ability to enhance collaboration between key stakeholders. By involving contractors early in the design phase, ECI ensures that constructability and technical challenges are integrated into design decisions, reducing the likelihood of rework, delays, and cost overruns. This approach is particularly suited to laboratory refurbishments, specialised facilities, and projects with unique operational or technical demands.

In comparison, the Design and Construct (D&C) delivery model, which was also considered, is more appropriate for straightforward projects with clearly defined scopes. While D&C consolidates design and construction responsibilities under a single contractor, streamlining delivery and providing cost certainty, it lacks the flexibility needed for complex, iterative design processes. For technically challenging projects, D&C can limit opportunities for collaboration and innovation, potentially prioritising cost and speed at the expense of functionality, quality, and sustainability.

Ultimately, ECI was selected as the preferred delivery model for UTAS' project due to its ability to provide a collaborative, flexible, and adaptive framework. This approach ensures that each stage of the phased delivery project addresses the specific technical, operational, and stakeholder requirements effectively, aligning with UTAS' broader goals for innovation and excellence in project delivery.

UTAS has adopted ECI for a number of previous major projects which has allowed them to take a dynamic partnership approach, leveraging Tasmanian skills and knowledge from within the construction industry to drive innovation and deliver projects which consider local market capacity.

This process fosters an innovative working environment, bringing together building contractors with the design team and the University to share knowledge, experience and industry contacts as building designs are finalised. The ECI procurement strategy makes early contractor advice on project design and build possible, leveraging skills and knowledge from within the local construction industry. ECI processes adopted for previous and current projects have resulted in increased procurement of local materials, maximising local labour, and ensuring sustainability goals are achieved through materials selection and innovative design.

8 Management Analysis

8.1 Delivery Schedule

The Delivery Schedule section provides an overview of the pre-initiation activities which set the foundation for the Project by establishing initial objectives, securing resources, and identifying key stakeholders. Following this, the section presents the high-level project schedule, detailing the major stages, blocks and workstream activities that will guide the project from start to finish.

8.1.1 Pre-initiation activities

Key pre-initiation activities have been identified to help shape the project environment and are recommended to be completed to accelerate delivery of the project (see Table 8.1 below).

Table 8.1: Pre-initiation activity descriptions

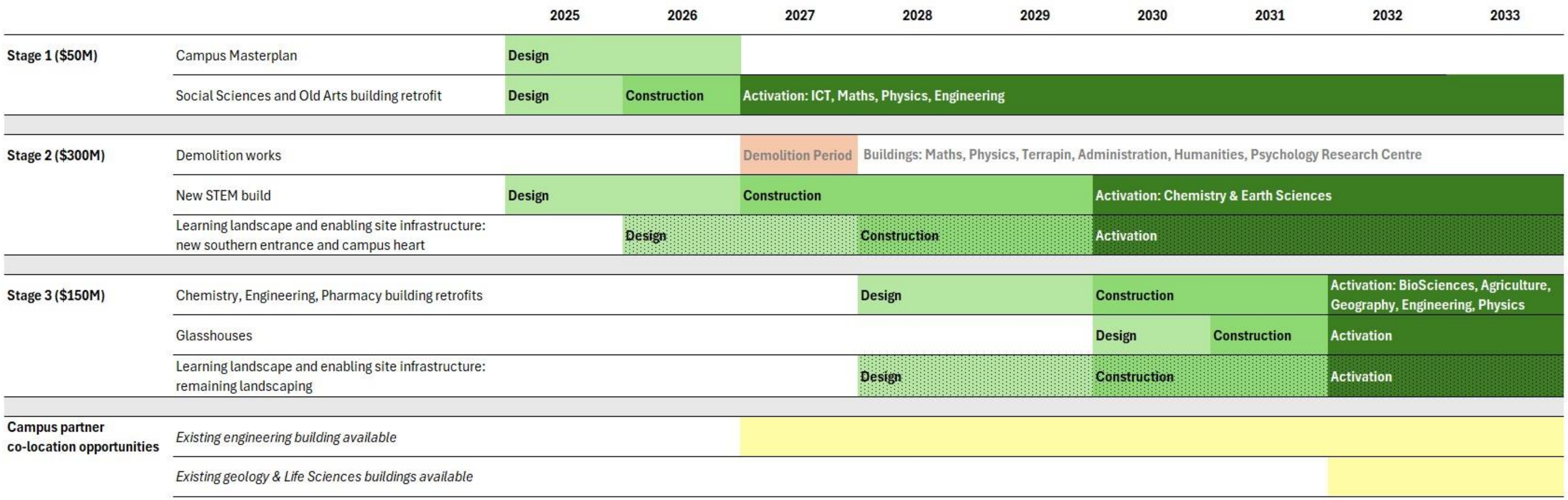
Pre-initiation Activities	Description
Executive Communications	Engaging and informing the organisation's executive leadership about the upcoming Project. This activity ensures that the leadership team is aligned with the Project's goals, aware of the strategic importance, and prepared to provide the necessary support and resources.
Communications with suppliers	The delivery of the STEM Precinct is reliant on the capacity of external suppliers to deliver the required services. Engaging early in the STEM Precinct planning phase is crucial to achieving the proposed delivery roadmap. The activities include: • Raising awareness of the vendor panel members to the upcoming procurement schedule and volume of services required. • Raising awareness on the requirement for vendors to demonstrate compliance with regulation requirements, specialist equipment and other items that will be required for each procurement request.
Financial Delegation and Procurement approval workflow preparation	To facilitate the financial delegation and approvals for the expected volume of procurements for the STEM Precinct, activities to identify and implement opportunities to accelerate the existing approvals workflow are to be initiated prior to the start of the Design phase.
Communications with other stakeholders	Effective communications with stakeholders are essential to ensure all relevant parties are informed, aligned, and prepared for the STEM Precinct. This involves establishing clear and open lines of communication with key agencies that will be involved or impacted by the rollout and 'signposting' the upcoming change ahead of further engagement during the design phase.
Clarify collaboration ways of working	It is essential to clarify the ways of working with suppliers. UTAS could pre-define a collaboration framework, communication protocols, roles, and responsibilities to ensure seamless integration and sustained coordination throughout the Project's duration.
Identify UTAS personnel to onboard onto Project	Identify dedicated UTAS personnel to be dedicated to the Project and ensure that they have capacity to be part of the Project and contribute to key decisions as required.

Source: Deloitte (2025)

8.1.2 Project Timeline

Recognising the live operating environment of the Sandy Bay Campus, the Project timeline has been structured into distinct delivery stages to effectively manage scope and minimise disruption to students and staff. Early stages prioritise the refurbishment of critical infrastructure while later stages include new builds and specialty facilities. This phased approach allows UTAS to align project timelines with operational needs and funding availability, while addressing the unique challenges of each stage. Figure 8.1 below provides a high-level overview of the proposed staging approach to deliver the STEM Precinct.

Figure 8.1: Option 2 (new Sandy Bay) project schedule

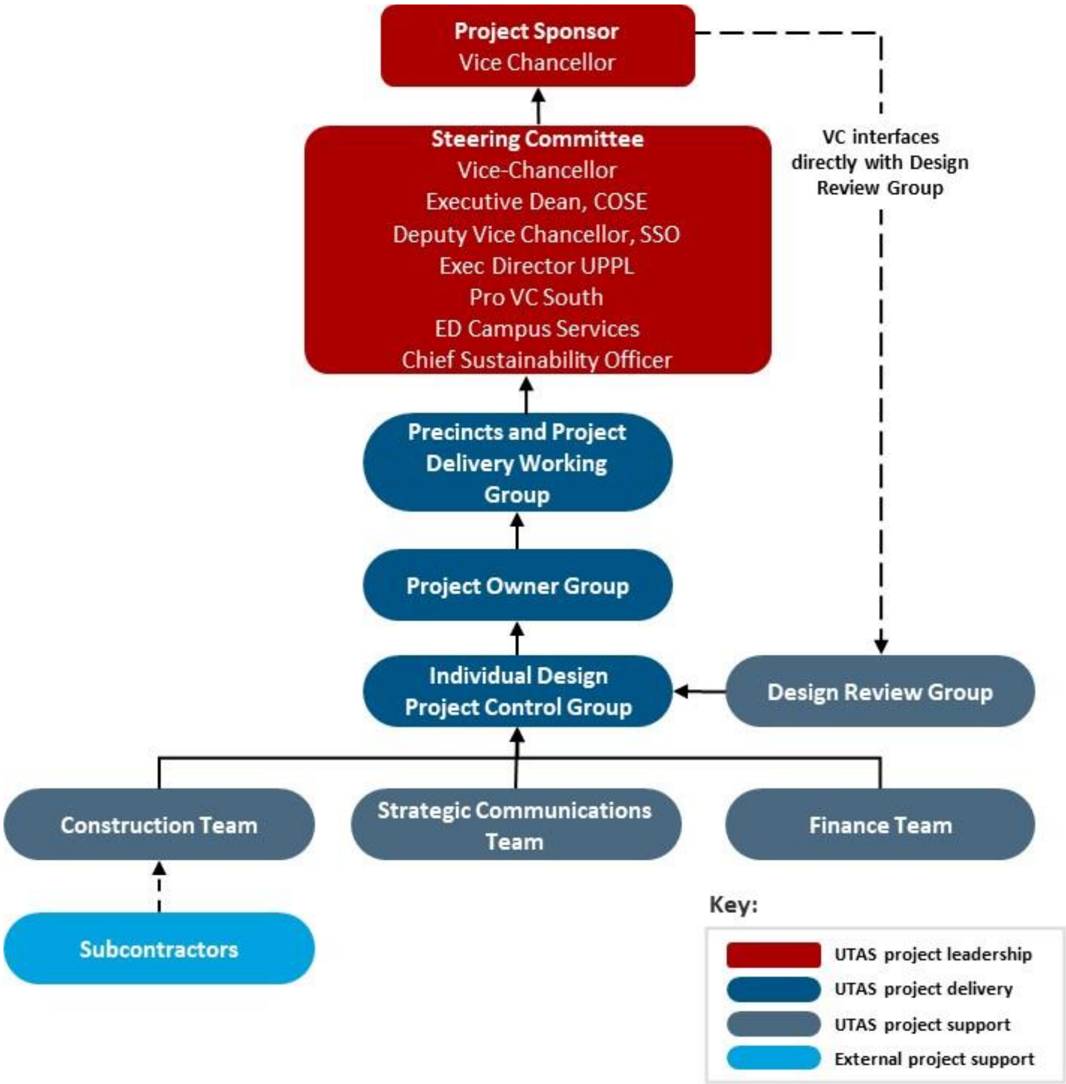


Source: UTAS (2025)

8.2 Governance

Governance arrangements will ensure the Project is able to deliver the Preferred Option to standard, within timeframes, budget and minimise risks. The Governance Arrangements section outlines the roles and responsibilities of essential governance bodies such as the Project Sponsor, Steering Committee, Precincts and Project Delivery Working Group, the Project Owner Group, Individual Design Project Group, the Design Review Group and the Business and Technical Working Groups. The structure of the key governance arrangements is outlined in Figure 8.2 below.

Figure 8.2: UTAS project governance arrangements



Source: Deloitte (2025)

8.2.2 Governance stakeholders

The structure below outlines the proposed governance structure for the delivery of the STEM Precinct based off UTAS' governance structure in Table 8.2.

Table 8.2: Governance structure in accordance with UTAS' Governance Structure

Governance Group	Role Description	Meeting Cadence
Project Leadership		
Project Sponsor	Provides executive-level oversight and accountability for the project. They champion the initiative within the organisation, secure funding and resources, and ensure alignment with strategic objectives. The Project Sponsor makes key decisions, resolves high-level risks and issues, and acts as the ultimate authority for project approvals.	N/A
Steering Committee	SteerCo provides high-level governance by offering strategic direction, ensuring alignment with organisational goals, making key decisions, and addressing risks or issues to support project success.	Fortnightly or as required
Project Delivery		
Precincts and Project Delivery Working Group	Oversees and coordinates all aspects of project delivery across precincts. Responsibilities include managing project milestones to ensure on-time and on-budget completion, facilitating technical inputs for design and decision-making, supporting relocations, and addressing operational challenges. The group also identifies additional project needs, such as change management and communications, and ensures that all aspects of the project are effectively briefed and reported.	Fortnightly or as required
Project Owner Group	Takes overall responsibility for the successful delivery of the project, ensuring it meets its objectives and aligns with organisational priorities. This group provides leadership across all project phases, coordinates technical inputs to inform design and decision-making, and manages relocation processes. It identifies resource needs, oversees change management and communications strategies, and ensures effective reporting and stakeholder engagement to maintain project momentum and transparency.	Weekly
Individual Design Project Control Group	Focuses on the detailed management and execution of specific project design elements. This group ensures that each design project aligns with the broader goals of sustainability, accessibility, and functionality. It reviews design progress, manages technical requirements, and provides recommendations to resolve design-related challenges during project development.	Weekly
Project Support		
Design Review Group	Reviews and provides feedback on the architectural direction of designs, including how they meet our sustainability and accessibility mission.	Fortnightly

Construction Team	Directly responsible for executing the construction phase of the Project. This team monitors daily progress, ensures adherence to the project's technical and safety standards, and resolves on-site issues. They also collaborate with subcontractors, provide regular updates to the project leadership, and maintain quality control throughout the construction process.	Weekly
Strategic Communications Team	Responsibility for monitoring the project as it progresses and preparing and executing supporting engagement and communications as required throughout all project phases.	Fortnightly
Finance Team	Manages the financial aspects of the project, including budgeting, cost tracking, and forecasting. The team ensures financial compliance, oversees expenditures, and provides regular financial reports to the governance group. They also identify funding gaps and develop strategies to address financial risks.	Fortnightly
External Project Support		
Subcontractors	Deliver specific, specialised work packages as defined in the project scope. Subcontractors work under the direction of the Construction Team to execute their tasks efficiently and in line with project timelines and standards. They provide technical expertise, ensure quality workmanship, and attend regular coordination meetings to align their work with overall project objectives.	Weekly (will attend construction team weekly meeting)

Source: Deloitte (2025)

8.3 Risk Management

Risk management will be a critical success factor in the delivery of the STEM Precinct, and for the implementation and realisation of expected Project benefits and overall outcomes. This section details how relevant risks will be managed throughout Project delivery and operation.

This section details how relevant risks will be managed throughout the duration of the Project. Proposed Project risk management will provide confidence that UTAS has the capability to manage potential impacts to the Project.

The UTAS Risk Management Framework as depicted below in Table 8.3 ensures the effective monitoring and management of risks, with appropriate mitigation and management measures in place. The identification, assessment, and monitoring plan for STEM Precinct risks were based on this Framework. Risk identification considered key risk categories outlined in the Framework.

The Framework requires UTAS to foster a risk management and learning culture, embedding risk management in accountabilities and expectations in structures and systems. The Project Sponsors is ultimately responsible for risk management relating to the STEM Precinct.

Table 8.3: UTAS Risk management framework

			Consequence				
		Definition	The impact would pose some obstacles for the University to achieve current year objective (within 12 months)	The impact would threaten the ability of the university to meet its strategic objectives in the short term (12 – 18 months)	The impact would threaten the ability of the University to achieve its strategic objectives in the medium term (18–36 months)	The impact would threaten the ability of the University to achieve its strategic objectives, value and ability in the long term (3–5 years)	An impact which prevents the University from continuing to operate.
Likelihood	Frequency	Rating	Minor	Moderate	Major	Severe	Catastrophic
	Likely to occur at least once a year (Grater than 50% chance of occurring in any year)	Likely	Med	High	High	Ext.	Ext.
	Likely to occur at least 2-5 years (between 25% – 50% chance occurring in any year)	Possible	Med	Med.	High	Ext.	Ext.
	Likely to occur at least 5-10 years (between 10% – 25% chance occurring in any year)	Unlikely	Med	Med.	High	High	Ext.
	Likely to occur at least 10-50 years (between 2% – 10% chance occurring in any year)	Rare	Low	Med.	Med.	High	Ext.
	Greater than 50-year event (less than 2% chance of occurring in any year)	Extremely Rate	Low	Low	Med.	High	Ext.

Residual Risk	Response rate required	Management action required
Extreme	Immediate attention and response needed	Dedicated risk mitigation and resource plan with active escalated monitoring in place to Council
High	Given appropriate attention and demonstrably	Dedicated risk mitigation plan in place with active escalated monitoring to University Executive Team
Moderate	Assess and determine whether further controls are required	Risk mitigation plan managed at Colleges / Divisions
Low	Monitor and review as needed	Risk mitigation managed through business as usual

Source: UTAS (2024)

The risk register was developed in a risk workshop with key stakeholders, including UTAS, design and technical advisors. 27 risks were identified in the risk workshop and were grouped across three key categories:

- **Delivery risks:** These are risks faced during the Project delivery of the STEM Precinct. These risks are not applicable to the Base Case.
- **Change risks:** These are the risks associated with the organisational change resulting from the delivery of the STEM Precinct.
- **Systemic risks:** These are key, high-level risks either currently or expected to be faced by UTAS. This includes both risks that will be mitigated by, and exacerbated by, the delivery of the STEM Precinct.

Of the 27 total risks identified, 7 risks were rated as 'High' or 'Extreme' prior to any mitigation measures. Post mitigation measures, only 1 of these risks retained a 'High' rating.

Table 8.4 below provides a summary of these key risks for the preferred Option 2, and the current mitigation strategies. The Project team will continue to monitor and report on all risks in accordance with the Risk Management Framework to ensure that mitigation strategies are effectively implemented, and any residual risk is effectively managed. The detailed risk register can be found in Appendix D – Risk Register.

Table 8.4: Key risks associated with preferred option 2

Risk ID and Description	Initial Risk Rating	Mitigation Strategies	Post Mitigation Risk Rating
Delivery			
1.1 STEM facility not delivered within agreed budget	High	• Budget to include adequate allowance for contingency and escalation costs • Selection of suitably qualified and resourced architects and construction company • Ensure timed delivery of agreed milestones	Medium
1.2 STEM facility not delivered within agreed timeframe	High	• Selection of suitably qualified and resourced architects and construction company • Ensure timed delivery of agreed milestones • Creation of a contingency plan for potential delay to the establishment of new facilities	Medium
1.8 Additional government imposed conditions on the project	High	• Engage proactively and consistently with government agencies (local, state and federal) to understand competing priorities.	Medium
Change			
2.5 Students and staff would be disrupted in the short-term due to the need to relocate during construction.	High	• Develop a detailed relocation plan with clear communication to affected students and staff. • Identify and prepare temporary facilities that are easily accessible and minimise disruption. • Implement a phased construction approach to limit the extent of relocations required at any given time. • Provide additional support services (e.g., transport, study spaces) to ease the transition.	Low
2.6 Land acquisition and transfer arrangements not confirmed impacting financing for the STEM Precinct	Extreme	• Develop alternative financing plans to ensure the Project can proceed without relying solely on the buy-back. • Engage with multiple stakeholders and potential buyers early to increase the chances of a successful transaction. • Establish a contingency fund or seek additional government or private sector funding to cover any potential shortfall. • Explore partnerships or leasing options for alternative revenue sources if the buy-back falls through.	High
Operational			
3.5 COSE and auxiliary assets being regarded as not fit-for-purpose affecting student satisfaction and learning outcomes.	High	• Conduct a comprehensive needs assessment with input from students, faculty, and industry experts to define requirements for COSE and auxiliary assets. • Invest in high-quality, flexible facilities and equipment that meet the latest educational and industry standards. • Implement regular feedback mechanisms (such as surveys and focus groups) to monitor satisfaction and make adjustments as needed. • Ensure that spaces are designed to be adaptable for future technological and pedagogical changes.	Medium

Source: Deloitte (2025)

8.4 Stakeholder Engagement

Stakeholder engagement and communication activities will deliver consistent messages and updates to stakeholder groups through different channels, encouraging a collaborative environment to understand and address the needs and perspectives of stakeholders throughout the project. Key deliverables include:

- Stakeholder Engagement Strategy
- Stakeholder Analysis and Engagement Plan

UTAS has already developed templates for the above materials for large scale transformation projects of this nature which will be completed for each major stage of the STEM Precinct once funded. See Appendix F – Stakeholder Engagement Strategy and Appendix H – Benefits Register for these templates

8.4.1 Stakeholder engagement framework

UTAS' stakeholder engagement framework uses the International Association for Public Participation (IAP2) spectrum for participation, an internationally recognised model for guiding the best modes of engagement. The engagement framework as seen below in Table 8.5 is divided into five stakeholder engagement strategies. Key characteristics of this framework include:

- There will be varying levels of engagement that will be most effective and appropriate throughout the life cycle of any project, change or decision. It is important to reflect and revisit these needs regularly and tailor the mode and style of engagement to achieve the best result for people.
- We recognise that individuals, team, and projects may draw upon a range of tools and methodologies, often in conjunction with IAP2's public participation spectrum, to ensure their engagement activities are fit for purpose and meet participants needs.
- We encourage staff to consult the spectrum to decide which level of engagement is most suitable depending on the impact of the activity/decision on people, stakeholder needs, and the outcomes intended.

The engagement framework model is a continuum that is meant to reflect how UTAS' decisions impact differing stakeholder groups, the goal of this engagement sought, and the promise that needs to be delivered to the stakeholder group (see Table 8.5 below).

Table 8.5: Engagement framework stakeholder impact matrix

	Goal Desired stakeholder relationship	**Promise** Assurance made to stakeholder group
Inform	To provide the stakeholder with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or Solutions.	We will keep the stakeholder/s informed.
Consult	To obtain feedback on analysis, proposals, and/or alternatives.	We will keep stakeholder/s informed, listen to and acknowledge concerns and aspirations, and provide feedback on how their input influenced the decision.
Involve	To work directly with the stakeholder throughout the process to ensure that concerns and aspirations are consistently understood and considered.	We will work with stakeholder/s to ensure that their concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how their input influenced the decision.
Collaborate	To partner with the stakeholder in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	We will look to stakeholder/s for advice and innovation in formulating solutions and incorporate their advice and

		recommendations into the decisions to the maximum extent possible.
Empower	To place final decision making in the hands of the stakeholder.	We will implement what the stakeholder/s decide.

Source: UTAS (2024)

This matrix in Table 8.5 represents how UTAS engages with relevant stakeholders, acknowledging the need to engage in a way that reflects the impact of the decision or change on them. Depending on what level the stakeholder group is classified as (as per Table 8.6 below) will inform UTAS' engagement approach.

Table 8.6 UTAS stakeholder engagement method

Key Stakeholders	**Relationship**	**Stakeholder Engagement Method**				
		Inform	**Consult**	**Involve**	**Collaborate**	**Empower**
UTAS Workforce	Providers of UTAS services					✓
UTAS Students	Users / customers of UTAS services				✓	
Greater-Hobart Community	Community groups		✓			
Australian Government	Federal sponsor of business case	✓				
Tasmanian Political Participants	State sponsor of business case		✓			
Local Council	Key local council stakeholder (e.g. City of Hobart)		✓			
STEM Industry	Partners of UTAS services			✓		

Source: Deloitte (2025)

8.5 Change Management

A Change Management plan is essential to ensuring adequate implementation of proposed UTAS initiatives, as significant changes are required internally.

This plan will support successful implementation of the proposed initiatives through:

- Project delivery on time and within budget
- Opportunities for stakeholders to maximise benefits

- Minimisation of adverse transitional impacts on stakeholders and clients
- Minimisation of implementation failure arising from changes

The establishment of a STEM Facility and surrounding Precinct will ensure the undertaking of effective change management, project assurance and stakeholder engagement, which will also be supported by an additional role that's primary role is to oversee change.

The objective of the change adoption activities is to positively contribute to the following:

- Promote a shared vision of STEM academia within UTAS.
- Promote and raise increased awareness of the Project horizons and outcomes.
- Establish and maintain a compelling case for change throughout UTAS and related external stakeholders (e.g., government, state and private partners).
- Promote teamwork and collaboration with UTAS Workforce and Students to help them move through the change and adoption of Digital Modernisation Initiatives.
- Support champions in promoting, educating, and distributing key messages throughout the change.
- Open communication channels to enable opportunities for cross-collaboration and feedback.

Table 8.7 below outlines an indicative list of key change management activities to be undertaken.

Table 8.7: UTAS change management activities

Project Phase	Key Activity	Impacted Stakeholder
Initiation	Stakeholder analysis and engagement planning	**UTAS Workforce:** Conduct early engagement to understand concerns and expectations. Ensure communication about project goals and address impacts on staff roles.
	Initial communication with key stakeholders	**UTAS Students:** Communicate project benefits and impacts on learning environment. Establish feedback channels to gauge student sentiment.
	Community impact assessment	**Greater Hobart Community:** Engage community leaders and representatives to highlight benefits and address concerns about construction impacts.
Planning	Design development with stakeholder input	**STEM Industry People:** Involve industry representatives to align design with industry standards and future workforce needs.
	Funding applications and alignment with strategic goals	**Infrastructure Australia:** Maintain alignment with national infrastructure priorities, focusing on STEM capacity building and job creation.
	Political stakeholder alignment	**Tasmanian Political Participants:** Regular updates to state politicians to ensure alignment with local development priorities and political support.
Execution	Regular updates and engagement during construction	**UTAS Workforce:** Keep staff informed about timeline, potential disruptions, and new development opportunities.

	Minimise disruption to ongoing student activities	**UTAS Students:** Provide alternative arrangements to minimise impact on learning. Regular updates on progress and benefits.
	Ongoing community engagement	**Greater Hobart Community:** Hold public forums and provide regular project updates to maintain community support and transparency.
	Compliance monitoring and reporting	**Infrastructure Australia:** Submit progress reports and compliance updates to ensure project adheres to federal standards.
	Maintain political goodwill and manage perceptions	**Tasmanian Political Participants:** Continue engagement with political stakeholders to manage expectations and address emerging concerns.
	Foster collaboration with industry partners	**STEM Industry People:** Strengthen industry relationships by promoting research and internship opportunities within the precinct.
Closeout	Transition planning and handover	**UTAS Workforce:** Develop transition plans for staff, including professional development to adapt to new technologies and spaces.
	Student engagement for utilisation of new facilities	**UTAS Students:** Communicate available resources and opportunities within the new precinct to encourage utilisation.
	Community acknowledgement and project closure	**Greater Hobart Community:** Host community events to showcase the completed project, emphasising long-term benefits.
	Final reporting outcome assessment	**Infrastructure Australia:** Deliver comprehensive project evaluation to showcase alignment with strategic goals and outcomes.
	Political briefing and project review	**Tasmanian Political Participants:** Provide project summary and impact report to maintain support for future initiatives.
	Industry feedback and future collaboration planning	**STEM Industry People:** Gather industry feedback on new facilities to enhance future collaboration and partnership opportunities.

Source: Deloitte (2025)

Broad insights gained from change management activities across UTAS have informed several valuable recommendations and lessons learned which have been leveraged to inform this change strategy. These are:

- Leverage dedicated support from SMEs to provide assistance with design, testing, and change delivery, in order to maximise user adoption. This is especially important during the delivery of specialist STEM equipment to the STEM facility.
- Ensure individuals nominated to be change champions have an active and meaningful role, with influential people who can dedicate their time appointed across locations and roles.

- Offer dedicated post-delivery support to key UTAS stakeholders (e.g. students and staff) in order to provide continued support during the transition to the new STEM Facility.

8.6 Sustainability

The STEM Precinct exemplifies UTAS's commitment to environmental sustainability and social impact. The initiative will include new builds with a 6 Star Green Star rating, innovative construction methods, sustainable transport promotion, and waste minimisation strategies. These measures aim to enhance civic and urban rejuvenation, boost higher education participation, and support population growth. The project will attract a diverse demographic, enriching cultural diversity and enhancing public amenities. Integrating First Nations cultural values and land stewardship will strengthen community ties. Benefits anticipated include improved student retention, increased STEM productivity, and the creation of a vibrant, inclusive community. Collectively, these efforts will reduce the University's environmental footprint while fostering regional development and innovation.

8.6.1 Innovative STEM precinct design will enable more sustainable use of natural resources

The new STEM Precinct will be built to a 6 Star Green Star rating. This is the highest possible rating for buildings in Australia and reflects world leadership in sustainable building design. Analysis conducted by the Green Building Council of Australia,[61] found that on average these buildings:

- Use 66% less electricity than average Australian buildings and 50% less than if built to meet minimum industry requirements.
- Produce 62% fewer greenhouse emissions than average Australian buildings and 45% fewer than if built to meet minimum industry requirements.
- Use 51% less potable water than average buildings.
- Recycle 96% of their waste, compared with 58% for the average new construction project.

8.7 Social Impact

The transformation of the Sandy Bay campus into a cutting-edge STEM Precinct is poised to significantly enhance the social fabric of the greater-Hobart area. Upgrading from outdated facilities to a world-class learning environment will support the transformation of the UTAS campus, fostering higher education participation and stimulating population growth. This initiative will attract a diverse cohort of students and professionals, enriching cultural diversity and enhancing public amenities. Anticipated benefits include improved student retention rates and increased STEM productivity, contributing to the creation of a vibrant, inclusive community. Collectively, these changes will bolster community well-being and position the precinct as a cornerstone of regional development and innovation.

8.7.1 Transition from outdated learning facilities to world-class learning Precinct

Integrating mid-century COSE assets into a new learning facility at the Sandy Bay campus will significantly impact civic and urban rejuvenation, higher education participation, population growth, and cultural diversity. The new STEM Precinct will create a modern, engaging environment that increases student retention rates for bachelor’s and STEM-related degrees, leading to higher enrolment rates and sustained improved retention. These enhancements will boost STEM productivity, engagement, retention, and collaboration, directly addressing UTAS’ plateauing STEM participation rate.

The Precinct will also improve public amenities by incorporating green infrastructure and open spaces for public use, providing social and wellbeing benefits. This development will attract a diverse population, fostering a culture of innovation and transforming Tasmania into a hub of technological advancement and cultural richness. Overall, the new STEM Precinct will play a pivotal

[61]. Green building Council of Australia., 2013

role in enhancing the quality of education and research, driving economic and social development, and creating a vibrant, inclusive community.

8.7.2 First Nations Continued Learning

UTAS's commitment to acknowledging traditional custodians and advancing First Nations education and research is exemplified by the return of land to the ALCT under Option 2. This initiative recognises the cultural significance of the land, supports First Nations self-determination, and fosters cultural safety, inclusivity, and collaboration across the university. By sharing in First Nations culture and history, UTAS aims to deepen understanding of their ancient learning and traditions.

The development in Sandy Bay will see the ALCT managing the land, promoting "caring for country," which is expected to enhance the social and emotional well-being (SEWB) of Indigenous communities. This stewardship will connect people to their heritage, providing profound SEWB benefits. Additionally, the project will improve public amenities by incorporating green infrastructure and open spaces, offering social and wellbeing benefits to the broader UTAS and Hobart communities.

Recognising First Nations people through this return of land will enhance community and cultural outcomes, creating a space where Indigenous culture is celebrated and integrated into the fabric of university life. This initiative not only honours the past but also paves the way for a collaborative and inclusive future, enriching the educational experience for all students and fostering a united community.

8.8 Benefits Realisation

This benefits realisation plan has been developed in line with the NSW Government Department of Finance, Services and Innovation (DFSI) Benefit Realisation Management Framework, which represents industry best practice for major infrastructure projects.

8.8.1 Benefits realisation management

The objectives of Benefit Realisation Management are to complete the following:

- Ensure benefits are identified and defined clearly at the outset of the Project and linked to strategic outcomes.
- Ensure business areas are committed to realising their defined benefits with assigned ownership and responsibility.
- Drive the process of realising benefits, including benefit measurement, tracking and recording benefits as they are realised.
- Use the defined, expected benefits as a roadmap for the Project, providing a focus for delivering change.
- Provide alignment and clear links between the Project (its vision and desired benefits) and the strategic objectives of UTAS.

Benefit realisation management is embedded in the Project governance arrangements, with the Project Management workstream responsible for the tracking and realisation of benefits as outlined in Table 8.2.

8.8.2 Project benefits

Realisation of benefits will be a critical focus for the Project. A total of 24 benefits have been identified, which includes 6 quantitative and 18 qualitative benefits. Quantifiable benefits will be measured and monitored as appropriate throughout Project delivery and post-implementation. A detailed breakdown of the benefits realisation plan and benefits register can be found in Appendix G – Benefits Realisation Plan and Appendix D – Risk Register.

9 Appendices

9.1 Appendix A – Design Report

9.2 Appendix B – Quantity Survey Cost Report

9.3 Appendix C – Financial Impact Statement

9.4 Appendix D – Risk Register

9.5 Appendix E – Stakeholder Analysis and Engagement Plan Template

9.6 Appendix F – Stakeholder Engagement Strategy Template

9.7 Appendix G – Benefits Realisation Plan

9.8 Appendix H – Benefits Register

Limitations of our work

This document and the information contained herein are intended solely for the use of UTAS and should not be used or relied upon by any other party. Deloitte accepts no responsibility or liability for any loss or damage that may arise from reliance by any third party on this document. The report has been prepared for the purpose of the "University of Tasmania STEM Business Case Refresh" set out in the engagement letter dated 13 September 2024.

This business case relies on data and information supplied by UTAS and their engaged consultants. According to the assumptions outlined in our engagement letter, we have assumed this information to be true, correct, complete, and not misleading. Deloitte has not independently verified the accuracy or completeness of this information.

- The capital cost inputs for Option 2 Sandy Bay have been developed and provided by an external quantity surveying consultant, Slattery, based on design and staging advice from an external design advisor, Hassell.
- The capital cost inputs for Option 3 Hobart CBD were sourced from the analysis originally completed for the 2016 Business Case. As per UTAS direction, Deloitte has used these historical inputs as provided, assuming their continued relevance and accuracy, and subsequently escalated to account for inflation since 2016.
- Operational cost inputs and assumptions have been directly provided by UTAS stakeholders.
- Assessments of the impact of the options on enrolments have been based on assumptions provided by the University of Tasmania following a workshop on Student Enrolment Projections.
- Estimates of net revenue per student are based on estimates provided by the University of Tasmania based on historical costs of delivery and fee revenue.