



CAMPUS INFRASTRUCTURE AND UTILISATION PLAN 2015-2020

Facilities Services Division

Deakin University CRICOS Provider Code: 00113B



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Acknowledgement of traditional land owners

Deakin University would like to acknowledge that the present site of the Melbourne Burwood Campus is located on the land of the Wurundjeri people, the Geelong Wauron Ponds Campus and Geelong Waterfront Campus are located on the land of the Wathaurong people, and the Warrnambool Campus is located on the land of the Gunditjmara people. They belong to these lands, have walked on them for thousands of years, and continue to care for them and nurture them

Document history

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1. Achievements over the past year

A number of significant projects included in the 'Campus Infrastructure and Utilisation Plan 2013-2020' have been delivered over the past twelve months. The projects and initiatives are summarised below:

Completed Projects

- Burwood Highway Frontage Building, Building BC, Melbourne Burwood
- Central Campus Spine, Melbourne Burwood
- Food Science Laboratory, Melbourne Burwood
- Development and installation of the Deakin 'Cube' signage at Geelong Waterfront and Melbourne Burwood
- Student residences; Warrnambool, Geelong Wauron Ponds
- Acquisition of Moorabool Street property
- The accessibility audit, looking at DDA compliance, for all external areas and the majority of internal space has been completed
- A review of University land holdings has been completed.

Projects Underway

- The CADET building, Geelong Wauron Ponds - completion by T2 2015
- Carbon Revolution, Geelong Wauron Ponds – completion by Dec. 31 2014
- Warrnambool Library works - completion by Dec. 31 2014
- Coordinated Timetabling project has been endorsed and is currently being implemented
- A new integrated maintenance model has been developed and being implemented
- The overall backlog maintenance liability target for the University remains below 3% of Asset Replacement Value (ARV)
- The planned vacating of Greenwood Park is well advanced

2. The Way Forward – direction and deliverables in the 2015-2020 CIUP

The Campus Infrastructure and Utilisation Plan 2015-2020 continues to deliver on its prime objective: 'providing a delightful campus through developing, renewing and maintaining facilities and spaces that are accessible, safe, functional, connected engaging and stylish'. With Deakin currently sitting as Victoria's fourth largest University (using gross floor area as the measure), over four geographically and economically disparate campuses, the challenges and opportunities are significant. While the three non-Melbourne campuses present considerable opportunities for load growth, Burwood has challenges for growth into the future.

A key element of the Plan is to improve space utilisation through increased use of *existing buildings* rather than *new buildings* as well as other 'non asset' initiatives. Each of the five pillars within the Plan contain projects that contribute to overall improvement and the delivery of a physical environment that supports the University's strategic vision.

Sustainable Development

“Triple bottom line” considerations are addressed within the Plan to ensure delivery of a sustainable and competitive enterprise.

- **Economic:** In line with the strategy to improve the efficiency of existing assets, significant refurbishment works are proposed in CIUP 2015-2020. These include:
 - Burwood Campus Renewal Works. Business Cases for many of these works have been submitted and approved.
 - Refurbishment of Building IC, Geelong Waurin Ponds.

New assets include the new CADET building and Carbon Revolution facility at Geelong Waurin Ponds.

- **Environmental:** Major refurbishments have a continued target to achieve a sustainability outcome equal to a 5 star green star rating.
- **Social:** The provision of a sustainable, enriched social experience for students and staff through projects that support a unique Deakin experience. These include:
 - Development of high quality staff spaces, designed to provide modern, enticing, collaborative work environments, across a number of projects across the University. These include Building IC at Geelong Waurin Ponds and Buildings HE, F and G at Melbourne Burwood.
 - Improvements to the Central Plaza space at Melbourne Burwood
 - Planning for the proposed redevelopment of Building M, Melbourne Burwood, including informal learning spaces

Space Use Efficiency

The key to increasing efficiency in the current space occupied by the University is to improve overall utilisation of these areas. Considerable work is underway to ensure space optimisation across all areas. This involves the development of more efficient, effective physical space as well as the implementation of an improved timetabling system across the University.

- Located learning space utilisation is on-track to achieve its original target of 50% by 2020. The current forecast is slightly in excess of this at 50.7%.
- The target for greater efficiency in the allocation of space for staff, currently 14.2m² per EFT staff member, is 12.0 m² in 2020. This will be achieved through delivery of new and refurbished spaces across the University
- While the target for improved space efficiency for student support involves a reduction in space allocated, from 1.4m² per EFTSL to 1.2m² in 2020, the focus will be on improved quality of the space. Greater effectiveness and efficiency

can be achieved by providing improved, relevant and accessible spaces that support the student experience.

- The utilisation target for Warrnambool has been revised down with only a marginal improvement forecast between 2014 and 2020. This reflects the low forecast growth on the campus and the existing surplus in space capacity.

Learning and Research

The CIUP focuses on re-tasking, improving and redeveloping existing spaces, to enable a realignment of these spaces to support implementation of *LIVE the future* and the *Learning* implementation plan. Existing spaces will be addressed to develop more interactive, flexible space to provide an engaging learning experience.

We plan to ensure that the University can respond to further research developments. Spaces will be developed that maximise collaboration, increase access to key equipment and facilities and allow for interaction with industry and government end users.

- The program for the upgrade of located learning space commenced in the second half of 2014. The Deputy Vice-Chancellor (Education) has taken a leading role in this process to apply a University wide approach to spaces addressed by the program. The first projects under this program will be complete for T1, 2015, involving space for the Faculty of Business and Law in Building LB at Melbourne Burwood. Faculty groups have been established to identify opportunities for improved spaces that support students and staff. Guided by the DVC (Education), these groups will form the basis of the projects to be delivered within this program.
- Research Infrastructure Plans for each campus are now well underway. The Melbourne Burwood plan, being facilitated by Hassell, will be complete by the end of 2014. Plans for each of the other campuses will be addressed in 2015. Under guidance from the Deputy Vice-Chancellor (Research), these plans will provide a longer term program of works that will support the growth and development of research across the University.
- The scope and requirements for refurbishment of the Building L, Melbourne Burwood, and laboratory research space for SEBE is being developed as an addition to the Burwood Research Infrastructure plan. This will provide a robust framework for development of the Business Case for this project.

Framework For Maintenance

- The new maintenance software model will be further developed over 2015. The integration of a number of previously ‘stand-alone’ data sources will ensure more efficient and effective planning.

- The model will significantly improve forecasting and addressing maintenance requirements across the University. Facilities dashboards will integrate high level data and support the management of the University buildings and spaces.
- The backlog maintenance liability target remains below 3% of ARV. This target is widely accepted and used by the Commonwealth. The Warrnambool campus is the only campus where backlog significantly exceeds this target (13.8% of ARV excluding student residencies).
- Priorities have been established following the accessibility audit which looked at DDA compliance, for all external areas and the majority of internal space. For 2015 projects to be delivered include;
 - Geelong Waurin Ponds pathways
 - Burwood frontage link between Buildings A, H, W and Y

Land Use Futures

- Following completion of the review of University land holdings, detailed work has commenced on the options and opportunities on the Waterfront, Geelong Waurin Ponds and Melbourne Burwood Campuses.
- Demolition is planned for a number of older buildings including:
 - Building C, Warrnambool
 - Building DC, Geelong Waurin Ponds
 - Buildings R and S Melbourne Burwood
- The planned vacating of Greenwood Park is well advanced. The Burwood Campus Development Project, Phase 2, will enable the premises to be vacated.
- Planning is well advanced on the Burwood Interconnect, which will provide a DDA compliant connection between the two parts of the Melbourne Burwood campus, over Gardiner’s Creek.
- The CIUP 2015-2020 includes data comparing Deakin to other Victorian universities per the return on assets based on both Gross Floor Area (GFA) and Asset Replacement Value (ARV). In return based on Asset Replacement Value Deakin is well placed, being second. In terms of revenue per m² of Gross Floor Area Deakin is within a close grouping of five universities with two others being well above and one below.

3. Objectives

Our purpose is to enable success for *all* Deakin’s students and staff. To achieve this, we will provide delightful campus environments through developing, renewing and

maintaining facilities and spaces that are accessible, safe, functional, connected, engaging and stylish. The Campus Infrastructure and Utilisation Plan 2015–2020 enables implementation of the vision outlined in *LIVE the future—Agenda 2020*. The Plan will achieve the following objectives.

<p>Sustainable development</p> <p>Maximise the economic, environmental and social benefits of our facilities and spaces through employing these sustainability principles in all our decisions.</p>	<ul style="list-style-type: none"> Plan within the context of financial sustainability while providing for investment in, and improvement of, the property portfolio. Significantly reduce the nominal capital cost of accommodating growth to 2020. Long-term investment decisions to consider non-asset solutions, life-cycle costs and risk mitigation. Refurbishment and realignment of space rather than new building.
<p>Space use efficiency</p> <p>Optimise our campuses through facilitating the design, planning and practice of using and sharing facilities and spaces for most effective and efficient use.</p>	<ul style="list-style-type: none"> Improve efficiency in the use of existing physical assets to enable their use in accommodating growth to 2020. Extend the timetabling week to 65 hours, Monday to Friday 8 am to 9 pm. Increase located learning activities load in Trimester 3. Improve University timetabling processes, procedures and functionality. Target of 11 m² average floor space per effective full-time (EFT) staff member by 2020, from 15 m² in 2013.
<p>Learning and research</p> <p>Reposition located learning spaces so that they are characterised by their support ‘of active learning, human interaction, comfort and excitement’. Develop spaces for research that maximise collaboration, increase access to key equipment and facilities and allow for interaction with industry and government end users.</p>	<ul style="list-style-type: none"> Develop the campus as a holistic learning environment. Provide located learning spaces that are better aligned to the pedagogical requirements of academic delivery. Provide engaging student support spaces that maximise the student learning experience and overall engagement with the University. Provide capacity for research growth and collaboration.
<p>Framework for maintenance</p> <p>Provide a planning and decision framework to facilitate the planning and prioritisation of new and refurbished buildings, lifecycle maintenance programs and provision of a range of infrastructure and services.</p>	<ul style="list-style-type: none"> Implement an integrated and planned management approach to maintaining the physical asset that incorporates both the condition and functionality of the space. Maintain overall backlog maintenance liability at below 3% of asset replacement value (ARV).
<p>Land use futures</p> <p>Deliver broad design principles, identify potential development sites, opportunities for rationalisation and provide a framework for any significant developments.</p>	<ul style="list-style-type: none"> Provide a masterplanning framework for significant campus developments. Optimise the use of surplus assets. Plan for future service and infrastructure needs.

4. Summary of the Plan

Supporting *LIVE the future—Agenda 2020*

The Campus Infrastructure and Utilisation Plan 2015–2020 details the strategic approach being implemented for the management of the built environment across all campuses of the University. The Plan is an integral part of the suite of plans enabling implementation of the vision outlined in *LIVE the future—Agenda 2020*.

Deakin University has developed a strong reputation for the quality of the physical environment it provides in support of the student experience, learning and teaching and the development of research. The period 2015–20 will provide challenges across the four geographically and economically diverse campuses as we build upon this success.

LIVE the future emphasises the need to create innovative environments that will provide the right mix and availability of physical spaces:

- spaces are to offer a rewarding experience for learners
- campus life is to be vibrant
- there is a need to provide for growth in research capability, depth and breadth
- the digital frontier will transform concepts of campus and require major change in how we conceive the physical environment.

The built environment that is provided on each campus must accurately forecast and meet the needs arising from this growth.

The dynamic pedagogical environment will be reflected in the development of new, relevant and engaging learning and research spaces across the University.

Over the past 10 years, Deakin has been one of the fastest growing Universities in Australia. For example, Melbourne Burwood’s on-campus EFTSL was 9,637 in 2003, more than doubling by the end of 2014 with over 19,000 EFTSL. While future growth is not expected to be at these levels, projections are still considerable: an increase of approximately 17.4% from 2015 to 2020, equivalent to an additional 5,275 EFTSL. This growth will not be uniform across all campuses. The built environment provided on each campus must accurately forecast and meet the needs arising from this growth.

The Melbourne Burwood Campus will account for 65.5% of this growth, equivalent to an additional 3,453 EFTSL. The Geelong Waterfront Campus will account for 23.9% (1,259 EFTSL), the Geelong Wauran Ponds Campus 10% (527 EFTSL) and the Warrnambool Campus 0.7% (36 EFTSL).

The impact of the digital/cloud learning environment on growth and the need for physical space, as we currently understand it, has been considered in developing the overall strategy. Given the types of change occurring in this area, ongoing analysis and modelling will be undertaken and adjustments made to the model where required.

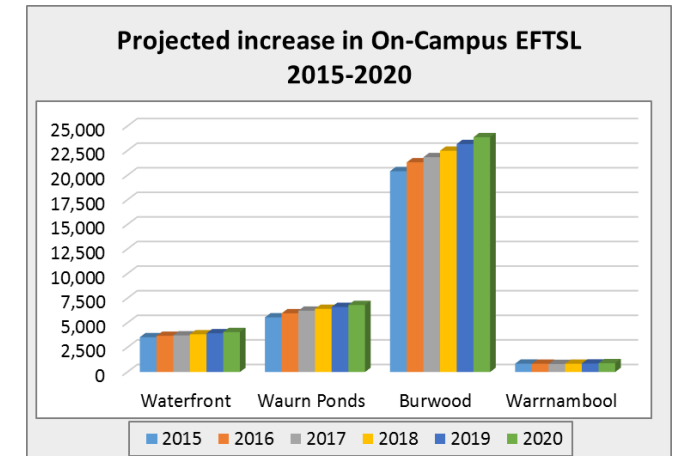


Figure 1: Projected increase in on-campus EFTSL 2015-2020

Within this context the University must progress a sustainable and competitive enterprise, being financially responsible in managing its assets and resources on a disciplined basis. Investment needs to be part of a long-term planning strategy considering non-asset solutions, life-cycle costs and risk mitigation.

The Campus Infrastructure and Utilisation Plan 2015–2020 balances financial responsibility with providing for investment in, and improvement towards, the University’s strategic goals.



Figure 2: Campus Infrastructure and Utilisation Plan Context

The University’s current asset replacement value (ARV) is estimated to be \$1.003 billion, with a gross building area of 490,000 square metres across 268 on-campus buildings, including student residences. Deakin has the freehold title to approximately 450 hectares of land and holds substantial surplus land holdings, particularly in the Geelong Waterfront, Geelong Wauran Ponds and Warrnambool Campuses.

In recent times the University has embarked upon an expansive phase involving considerable capital investment in new buildings. As at September 2014, \$101 million of approved projects were under construction, to be complete

by the end of 2015. This investment will leave the University well placed in overall space.

The Plan accommodates growth within the existing overall space by increasing efficiency in the use of existing assets rather than constructing new space.

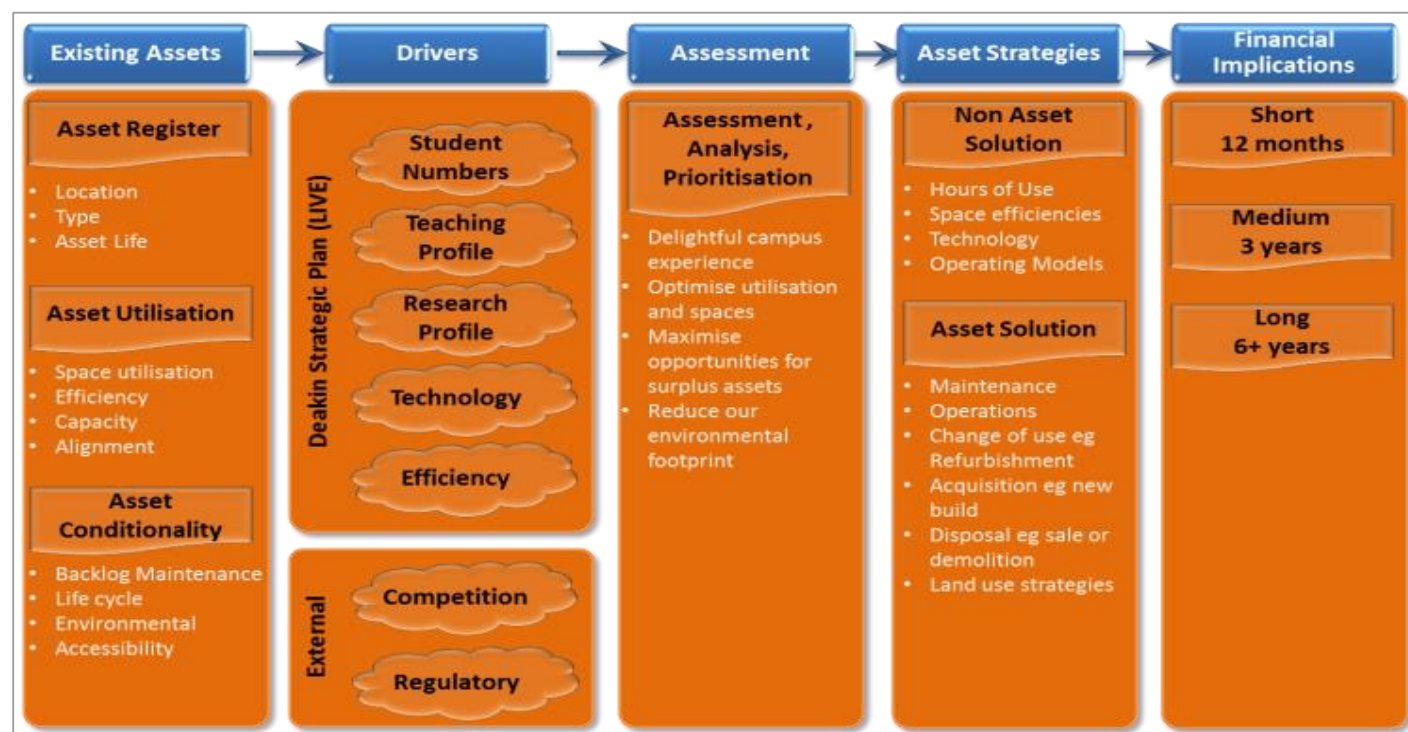
The Campus Infrastructure and Utilisation Plan 2015–2020 adopts a strategy to minimise new building construction and consolidate, rationalise, re-task, improve and develop the University’s existing buildings, assets and spaces.

This will be achieved through: an increased focus on space utilisation; improved management through centralised timetabling; sharing space and eliminating individual ownership; and improving the efficiency of the built environment.

Increased space utilisation enables the University to avoid new construction and instead prioritise enhancing the effectiveness of the existing spaces.

Modelling work within the Portfolio of Enterprise Services has estimated that at 2012 rates of utilisation, an additional 110,000 m² would be required by 2020. This requirement can be eradicated by increasing space utilisation. Therefore, the emphasis will move from constructing new facilities to increasing capacity and effectiveness of existing spaces.

Figure 3: Campus Infrastructure and Utilisation Plan Framework



The improvements to space utilisation will involve three key aspects of University activities: located learning, staff accommodation and student support.

The Campus Infrastructure and Utilisation Plan 2015 –2020:

- facilitates the planning and prioritisation of new and refurbished buildings
- provides a basis for life-cycle maintenance and planned provision of a range of infrastructure and services
- provides a framework for the maintenance of the University’s physical infrastructure, enabling an integrated management approach that incorporates both the condition and functionality of the space.

The Plan will be reviewed annually, in line with the annual refresh of *LIVE the future*, to ensure that it reflects any adjustments to Deakin’s Strategic Plan.

All new building proposals for 2016 and beyond will be expected to reflect building life-cycle decisions, where replacing existing space with a new build makes performance and financial sense. As such, any expenditure is unlikely to increase the overall total floor space of the University.

The Campus Infrastructure and Utilisation Plan provides an integrated, broad-based approach to managing the University’s property portfolio. In doing so it addresses the need to be financially sustainable, provide for growth, support *LIVE the future* and maintain the University’s investment in its physical assets.

The Plan will be reviewed annually, in line with the annual refresh of *LIVE the future*, to ensure that it reflects any adjustments to Deakin’s Strategic Plan, Load Plan, external environmental factors and budgetary considerations.

5. The Physical Asset

Of the University’s 490,000 square metres across 268 on-campus buildings, student residences comprise 12% of total floor area and 48% of buildings. The non-residence asset comprises a total Gross Floor Area (GFA) of 433,000 square metres in 131 buildings.

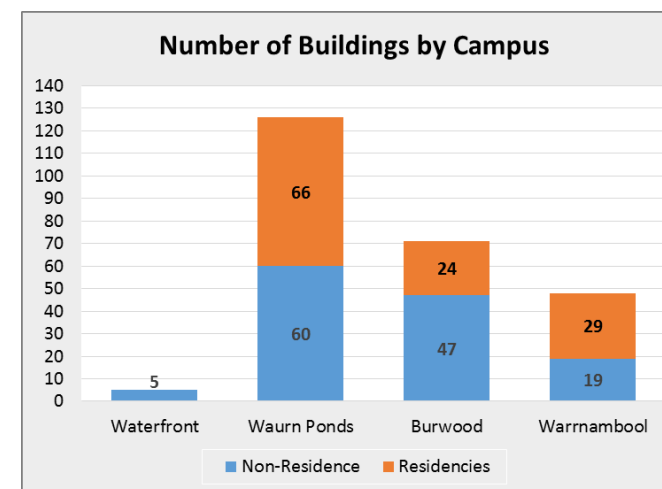


Figure 4: Number of buildings by campus

Deakin has the fourth largest gross floor area of Victorian universities behind Melbourne, Monash and RMIT.

The provision of space to support the student is measured as a ratio of Usable Floor Area (UFA) to EFTSL. Deakin’s provision of space per EFTSL is benchmarked in the chart below.

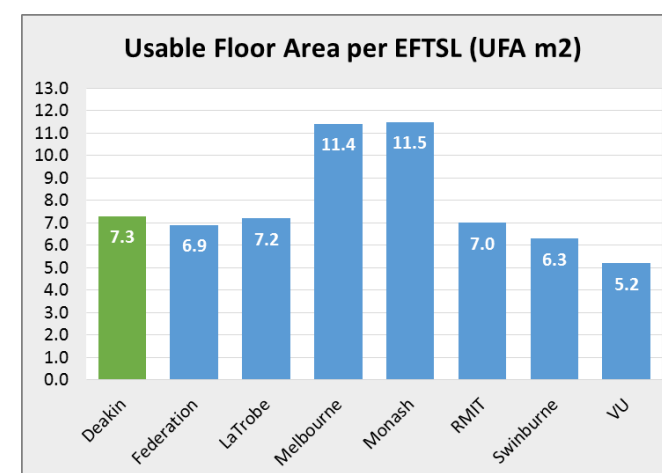


Figure 5: Usable floor area by Victorian University

Most universities are within the range of 5.2 to 7.3 m² of usable floor area per EFTSL. Deakin is at the middle of this grouping; Melbourne and Monash are at the high end, with 11.4-11.5 m². This reflects the research activity undertaken at these institutions. The Australian tertiary institution mean is 8.3m².

When this measure is broken down to the individual Deakin campuses, a wider range of space provision per EFTSL emerges.

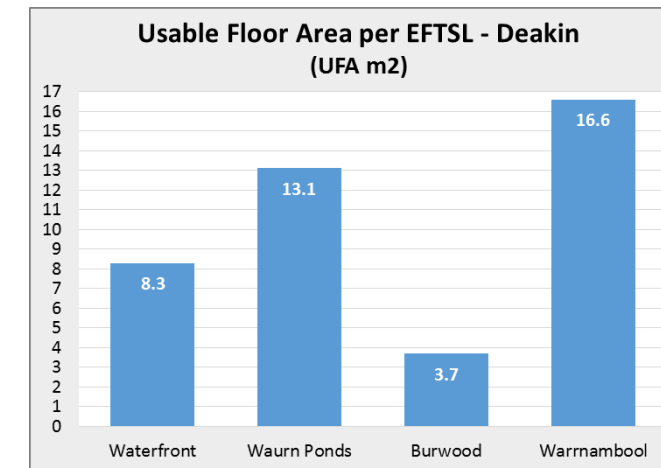


Figure 6: Usable floor area by Deakin campus

6. Sustainable Development

Maximise the economic, environmental and social benefits of our facilities and spaces through employing these sustainability principles in all our decisions.

Sustainability 2020 at Deakin includes the “triple bottom-line” considerations of economic, environmental and social measures.

The University must progress as a sustainable and competitive enterprise, being financially responsible in managing its assets and resources on a disciplined basis while continuing to respond to forecast growth in on-campus load.

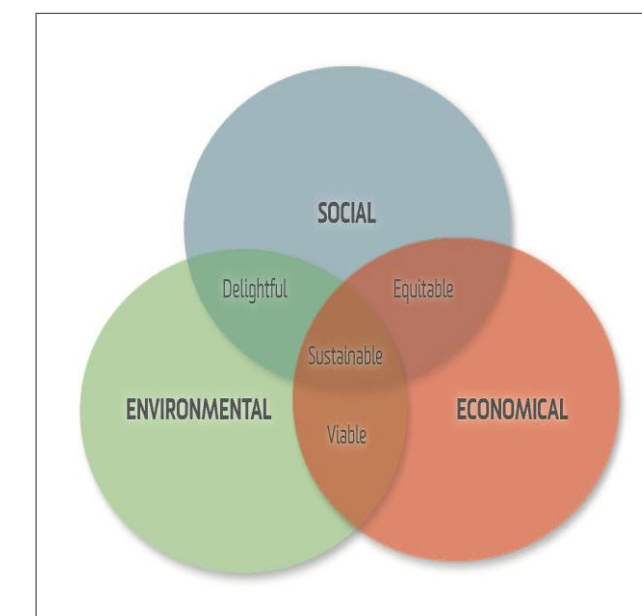


Figure 7: Sustainable development

6.1 Economic sustainability

The development of additional new space to accommodate forecast growth to 2020 is not a financially sustainable strategy. Modelling conducted in 2012 suggests that building new space to accommodate growth would require approximately 110,000 m² of new space to be constructed by 2020.

The CIUP strategy focuses on accommodating forecast growth by improving the efficiency of existing physical assets. Increasing space utilisation across all of the University's space will enable the projected on-campus EFTSL growth to be accommodated, reducing the need for new buildings.

The University must progress a sustainable and competitive enterprise, being financially responsible in managing its assets and resources on a disciplined basis while continuing to respond to forecast growth in on-campus load.

This strategy reduces the overall infrastructure spend to enable a realignment of existing spaces and address backlog maintenance and condition issues.

The Campus Infrastructure and Utilisation Plan proposes a reduced infrastructure expenditure from 2017 as the current approved capital projects are completed. This will be dependent upon the development and approval of business cases and financial prioritisation within the University budget.

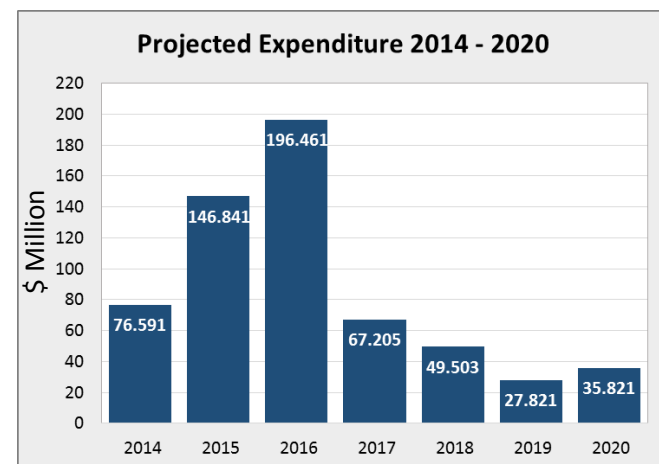


Figure 8: Projected expenditure 2014–2020

The above graph gives the projected levels of infrastructure expenditure and demonstrates the impact of a change in priority from construction of new buildings to refurbishment, improvement of existing spaces and backlog maintenance. This includes the expenditure required to maintain the ratio of backlog maintenance to ARV at or below 3% as defined below.

6.2 Environmental sustainability

Environmentally sustainable design (ESD) principles have been incorporated into all new buildings at Deakin for some years and several of these buildings are considered outstanding in their ESD features. Deakin is committed to reducing its environmental impact and integrating environmental sustainability principles into its strategies, plans, policies, operations, and curricula.

The environmental programs to help achieve these goals include plans to:

- ensure new buildings and significant refurbishments aspire to the five-star (green star or equivalent) standard
- reduce energy consumption and greenhouse gas emissions
- reduce the drinkable water consumed
- reduce waste
- improve storm water management
- conserve and improve biodiversity at campuses.



Building D, Geelong Waterfront campus

6.3 Social sustainability

In developing the University's built environment, the provision of a sustainable, enriched social experience for students and staff is imperative. The unique Deakin experience will be both equitable and delightful.

7. Space Use Efficiency

Optimise our campuses through facilitating the design, planning and practice of using and sharing facilities and spaces for most effective and efficient use.

Almost 60% of the 311 located learning spaces across the four campuses are located on the Melbourne Burwood Campus. The chart below shows that general purpose teaching spaces (classrooms and seminar rooms) dominate the current profile of the located learning spaces; more than two in every five rooms fall into this category. New generation learning spaces (collaborative/interactive) account for only around 5% of total teaching spaces.

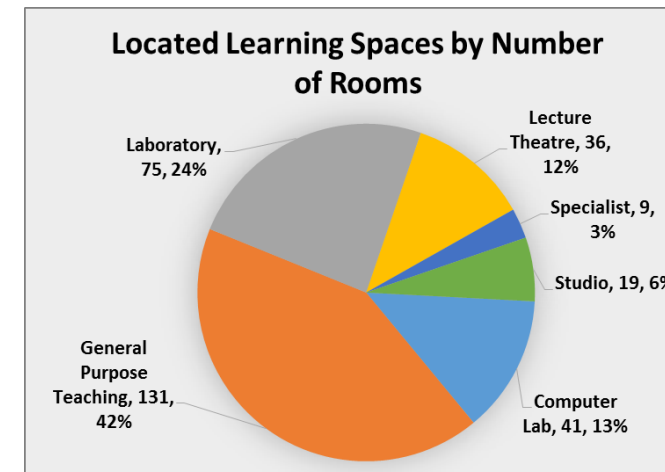


Figure 9: Located learning space room type as a percentage of the total number of rooms

While there may be a greater number of general purpose teaching rooms across the University, when viewed in terms of student seats, lecture theatres provide a greater overall seating capacity.

The chart below shows that, out of a total capacity of 18,890 student seats, 5,400 of the available seats are in lecture theatres, equivalent to 29%.

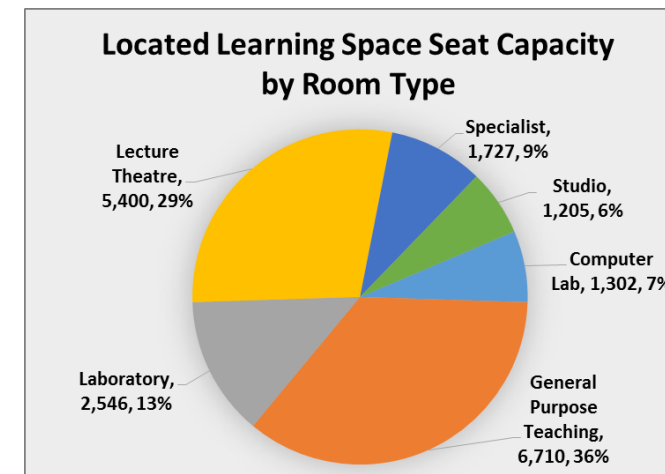


Figure 10: Located learning space room type as a percentage of total seat capacity

In terms of seat capacity, the Melbourne Burwood campus contains 48.6% of total capacity, however the campus

delivers to 67% of total on campus EFTSL. The impact can be clearly seen in the following chart where there is 0.47 seats available per EFTSL on the campus. This ratio represents a clear efficiency of delivery at Melbourne Burwood in comparison to other campuses. There is considerable opportunity for load growth, or space realignment, at Waterfront, Geelong Waurn Ponds and the Warrnambool campuses.

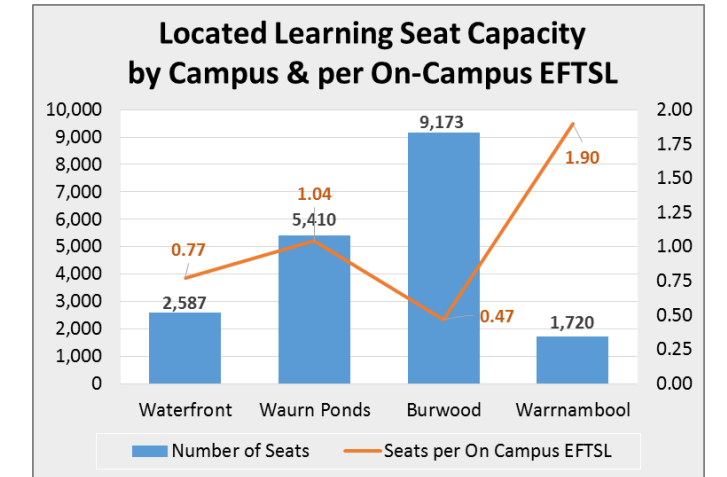


Figure 11: Located Learning Seat Capacity by Campus and On-Campus EFTSL

7.1 Located learning utilisation

Utilisation of located learning space at Deakin varies according to type. Based on a 45-hour week, overall utilisation in 2014, using the Tertiary Education Facilities Management Association (TEFMA) standards, was 33.7% for lecture theatres, 38.1% for teaching spaces, 40.2% for computer laboratories, 19.7% for studios and 26.4% for specialist spaces. These rates vary across the four campuses; Melbourne Burwood Campus tends to have the highest utilisation rate.

There are considerable opportunities for improving the utilisation of current facilities. The TEFMA Space Guidelines provide best practice utilisation targets of 56% for teaching, lecture theatre and studio spaces based on 75% frequency of use and 75% occupancy. The TEFMA specialist space utilisation target is 37.5% based on 50% use and 75% occupancy.

Located learning space utilisation can be increased by adopting strategies from other Australian universities. These include:

- extending the length of the timetabling week to 65 hours, Monday to Friday, 8 am to 9 pm and providing necessary campus infrastructure to support a longer day. Every hour of additional daily timetable use represents an increase in capacity. An increase to 65 hours will support an additional 9,700 EFTSL across all campuses.
- delivering an increased located learning activities load in Trimester 3. Similar to extended teaching days, extending the teaching year has a significant impact on

accessing the capacity of the University's located learning spaces.

- increasing the functionality and application of the timetabling software in driving improvements in space utilisation. This could include a more centralised involvement in deciding where and when particular teaching and learning activities are delivered, ensuring a better match between event size and room size and spreading total activities more evenly across the teaching week.
- developing located learning spaces that are better aligned to the pedagogical requirements of academic delivery. This partnership project would enable increased use of located learning spaces by optimising their flexibility and adaptability to support a wider range of activities.

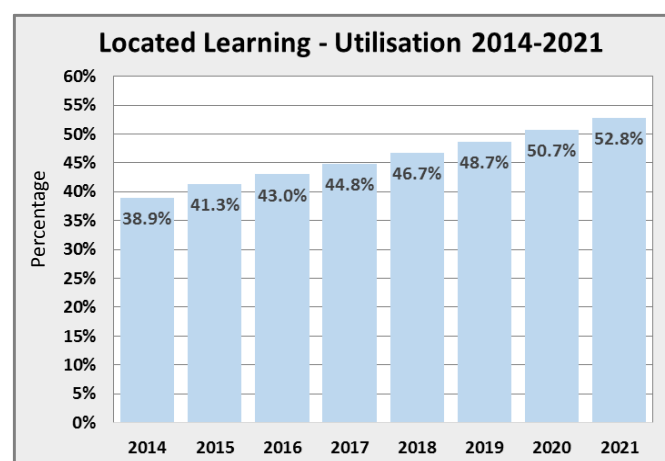


Figure 12: Located learning space utilisation 2014 - 2021

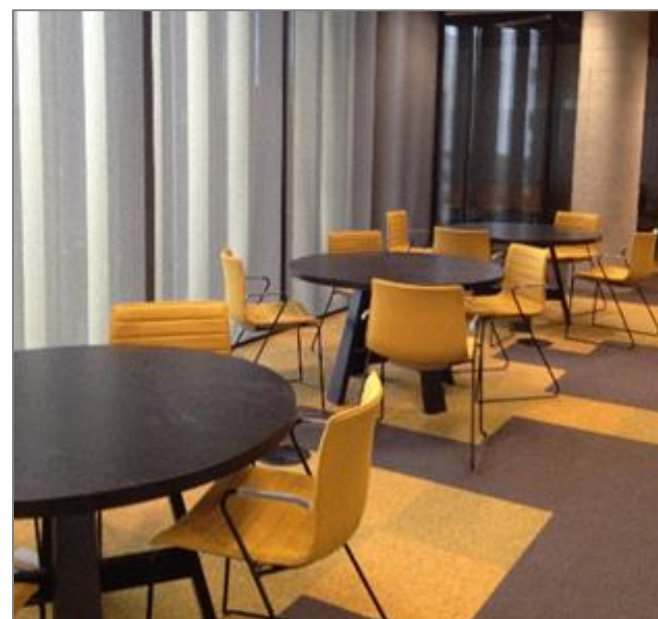
Increasing the utilisation of existing spaces enables the forecast growth to 2020 to be accommodated, avoiding significant new construction costs.

The chart above (Figure 12) shows the projected impact of improved practices on the overall utilisation of located learning spaces.

The overall target utilisation rate for located learning space, across the University, will be at least 50% by 2020 with continuous improvement in use of space.

7.2 Staff accommodation

Increasing space use in staff accommodation is more challenging than increasing located learning utilisation. With located learning spaces there is a temporal aspect to room use, meaning it is possible to increase the use of space across the week by increasing the activity that takes place within the room. However, staff accommodation is traditionally a one-to-one relationship—one work station to one staff member — whereas located learning accommodation is a one room to many activities relationship.



Informal area for staff in Building BC, Burwood

Strategies to increase staff accommodation therefore need to revolve around increasing physical capacity in existing spaces. Specific strategies include:

- refurbishing existing staff accommodation to achieve an increase in the number of staff workstations, including refurbishing enclosed offices to provide open-plan workstations
- exploring strategies for workstation sharing, including hot-desking based on a booking process
- converting currently underutilised space to staff accommodation
- reviewing the space policy for HDR use to reduce the 1:1 required ratio to 0.8.

To be effective, these strategies will need to reflect the operational requirements of staff.

The following chart shows the impact of increasing the projected utilisation of staff accommodation.

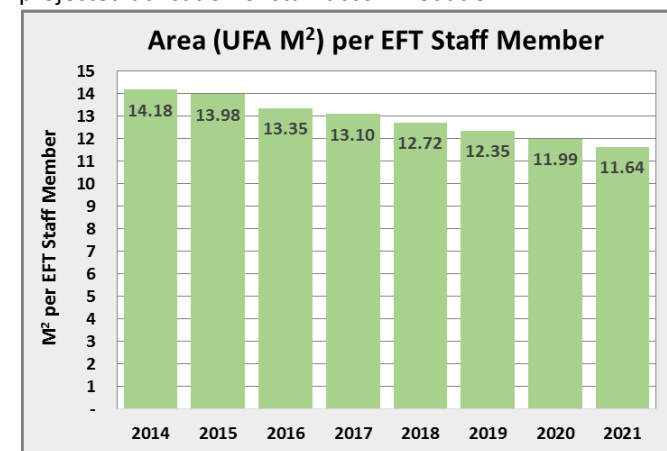


Figure 13: Improving staff accommodation space efficiency

The increased efficiency in space usage will result in the average floor space required to accommodate each EFT staff member projected to reduce from 14.18 m² to less than 12.0 m² by 2020 with continuing improvement in following years.

7.3 Student support space

Student support spaces include Library, student catering and lounge facilities, sports and recreational facilities and student association spaces. The dictates of *Learning 2013* focus on creating an environment that encourages students to remain on campus (the notion of the 'sticky' campus). This requires facilities and services that are highly relevant and highly accessible for students. Support spaces are crucial in maximising the student learning experience and overall engagement with the University. Capital resources will therefore be targeted to improve the functioning of existing spaces, creating comfortable, exciting and engaging physical spaces.

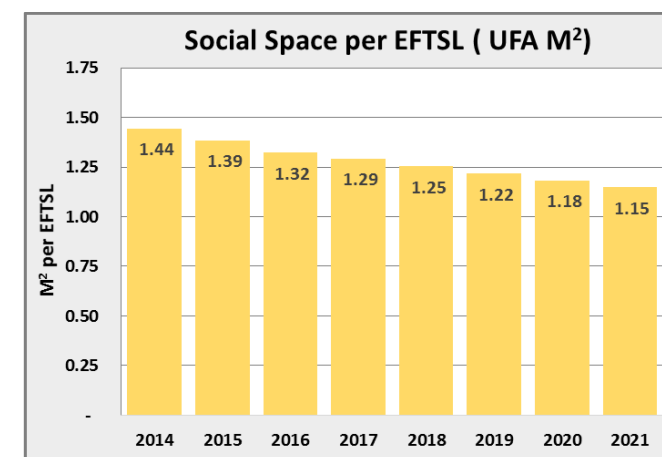
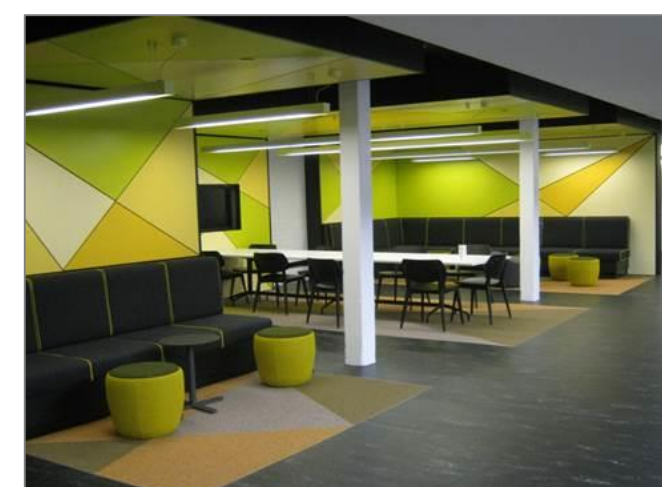


Figure 14: Improving student support space efficiency

While considerable space is currently allocated for student support, the quality of much of this space does not meet the University's aspiration in providing a high-quality learning environment. Renewing these spaces will achieve greater effectiveness and efficiency while providing improved, relevant and accessible spaces that support the student experience.



Building D, Geelong Waterfront Campus

8. Learning and Research

Reposition located learning spaces so that they are characterised by their support of 'active learning', human interaction, comfort and excitement'. Develop spaces for research that maximise collaboration, increase access to key equipment and facilities and allow for interaction with industry and government end users.

8.1 Learning environments

Of the *LIVE the Future* implementation plans, *Learning 2013* will have the most significant impact on planning for the spaces within the University required to deliver learning. The concept of the campus as a holistic learning environment is explicitly addressed. Spaces are to be designed for:

- active learning
- providing human interaction
- comfort and excitement
- support of informal learning and interaction by creation of multiple small 'eddy' spaces
- retaining students on campus, making the campus 'sticky', by creating an environment that supports their learning.

The notion of the 'flipped classroom', where the key concept is about repurposing rather than reducing class time, will impact upon the nature and use of space within the University. Space will be repurposed for interactive learning, place the focus on problem-solving (previously seen as homework elements), with learning information (previously seen to be the focus of lectures) made available using tools such as cloud resources.

The focus will be on the re-tasking, improvement and redevelopment of existing spaces, enabling a realignment of these spaces to support the implementation of *LIVE the future*.

The repurposing of existing facilities has implications for the design and operation of learning spaces, requiring them to accommodate more interactive activity, support flexibility and provide a more engaging learning experience.

Under this evolving model, the traditional lecture theatre, while continuing to be in use beyond 2015, will need upgrading and refurbishment to provide the sort of learning environments required to fully support *Learning 2013*. A new model of space is evolving that can be expected to lead to an overall reduction in lecture theatre capacity. This will occur as space to support interaction and collaboration is developed.

The typical Deakin learning space of 2020 will be a collaborative space, designed to facilitate learning with moveable chairs, accessible writing surfaces and providing for interaction between learners, rather than a traditional lecture theatre.

The number of hours a student spends in a typical lecture theatre, currently 6.9 hours per week, is expected to reduce as content is accessed online. This reduction will be compensated for, to some extent, by an increase in the use of new learning spaces.

The typical Deakin learning space of 2020 will be a collaborative space designed to facilitate learning, rather than a traditional lecture theatre.

It is projected that the overall average weekly contact hours for these new learning spaces, with their smaller capacity and more flexible learning environments, will increase as the interactive, active learning focus will demand spaces that are flexible and engaging.

The refocusing of infrastructure expenditure in the Campus Infrastructure and Utilisation Plan 2015–2020 towards the re-tasking, improvement and redevelopment of existing buildings, assets and spaces will enable a realignment of these spaces to support the implementation of *LIVE the future*. Existing located learning spaces will be progressively developed to be characterised by their support of active learning, human interaction, comfort and excitement.

8.2 Research

The other significant physical space driver is the research conducted by the University. The key priorities for research under *LIVE the future* are to:

- grow research capability, depth and quality
- make innovation and collaboration core business
- develop an impressive international research footprint.

The funding arrangements, grant timeframes and the particular specialisations of key research staff means that planning for the quantum, location and specialist facilities can change relatively quickly. Whilst there are still some utilisation improvements that can be achieved in existing research spaces, the capital costs to support research activities have not been factored into the overall efficiency gains attributable to improved space utilisation.



Building NJ Carbon Nexus, Geelong Warrnambool Campus

Research Infrastructure Plans are being prepared for each campus to guide future capital investment in facilities. These plans provide detail on existing research infrastructure and capacity, opportunities for accommodating growth and preferred research models.

The Research Infrastructure Plan for the Burwood Campus is expected to be complete in November 2014. This Plan will take a strategic and consultative approach to the development of Deakin University's research assets on the campus. The alignment of research directions and organisational strategies with campus and research infrastructure planning will allow for managed growth and the qualitative improvement in facilities and research outcomes. The Burwood Research Infrastructure Plan will also document the requirement for new laboratory-focused research space on the Melbourne Burwood Campus, for SEBE, in Building L.

The need for Research Infrastructure Plans for the Geelong Warrnambool, Waterfront and Warrnambool campuses will be addressed in 2015.

A significant project is underway, in association with Barwon Health, at the University Hospital, Geelong, following a Commonwealth Government grant. The project will see the establishment of the Geelong Centre for Emerging Infectious Disease on level 3 of the TTR Building. An associated project will see the consolidation of Deakin research staff, from a number of disparate areas within the hospital, to space on level 2 and 3 of the TTR building.

8.3 Strategic Drivers

Discussions surrounding continued development of the Campus Infrastructure and Utilisation Plan were held with executive staff from the Faculties and Portfolios across the University in mid-2014.



Optometry, Building DD, Geelong Warrnambool Campus

These discussions considered higher education environmental trends, specific requirements relating to each area and the development of strategic drivers relevant to the campus infrastructure planning. The strategic drivers, their impact on the built environment and the response provided within the Campus Infrastructure and Utilisation Plan are shown in Figure 15 below.

	Faculty of Arts and Education	Faculty of Business and Law	Faculty of Health	Faculty of SEBE	Research	Student Experience
Strategic Drivers Relevant to the CIUP	<ul style="list-style-type: none"> Continued improvement on inclusive communication Significant improvement of spaces at all campuses to support activities Emerging programs at Waterfront Contemporary facilities 	<ul style="list-style-type: none"> Image and presence New School of Law building Consolidation at Elgar Road Enhanced Graduate space Increased student load 	<ul style="list-style-type: none"> Research growth NDIS - new disability focus ENS & Nursing growth at Burwood (HDR & Psychology growth capacity in BC) Enhancing Nursing & Midwifery facilities at Waterfront 	<ul style="list-style-type: none"> Acquisition of targeted research teams Increase capacity of undergraduate teaching labs Engineering at Burwood 1st year Lack of staff accommodation at Burwood Colocation of HDR's with supervisors 	<ul style="list-style-type: none"> Research growth Increased partnerships and liaison with industry Epworth development Sharing of big equipment across the university and universities 	<ul style="list-style-type: none"> Space to meet and engage Contestability Ability to attract and retain Connected space Learning outcomes Student satisfaction Convergent experience Residential population
Impacts On Built Environment	<ul style="list-style-type: none"> Prioritising space use Innovative use of space Need to retrofit space to accommodate needs Ensure fit for purpose spaces 	<ul style="list-style-type: none"> Increased located learning space Improved visual appeal Prominent location 	<ul style="list-style-type: none"> Increased research staff accommodation Prioritising space use Potential requirement for disability focussed facility 	<ul style="list-style-type: none"> Developing flexible spaces to accommodate teams Need to retrofit space to accommodate needs Optimising space use 	<ul style="list-style-type: none"> Accommodating industry on campus Need for more niche orientated spaces will grow Provision of quality HDR space More precinct activity 	<ul style="list-style-type: none"> Quality of facilities Fit for purpose Technology rich spaces Flexible Social and collaborative Sticky campus Improved student amenity
Response in CIUP	<ul style="list-style-type: none"> Burwood Development Phase 2 Renewal Works - 2015/16 Building IC refurbishment - 2015/16 Lighting Studio works - 2014/15 Build B/P upgrade for School Communication & Creative Arts - 2015/16 	<ul style="list-style-type: none"> Proposed new School of Law building, Elgar Rd - 2017 	<ul style="list-style-type: none"> Burwood Development Phase 2 Renewal Works - 2015 Refurbish Building D, Waterfront - 2015 Extension of KD Stewart Centre (dependent upon Health move to Warrnambool) 	<ul style="list-style-type: none"> Burwood Development Phase 2 Renewal Works - 2016/17 Refurbish Build L at Burwood - 2017 Refurbish G3 at Burwood Refurbish KA.5 at Warrnambool; E (Rexel) & D.4 at Waterfront; T.2 & 3 at Burwood - 2015/16 Manufactures (tbd) 	<ul style="list-style-type: none"> Building L, Burwood, research laboratory refurbishment - 2015/16 Development of HDR space - ongoing Informal learning spaces, all campuses - ongoing Manufactures (tbd) Potential need for a rodent facility at Warrnambool - 2020+ 	<ul style="list-style-type: none"> Student Hubs (OSSS) - 2015/17 Increased recreation at Warrnambool - 2015 Informal learning spaces - all campuses, on going Located learning space upgrade - all campuses, ongoing Clubs and society space, Build A, Burwood - 2015 Student accommodation

Figure 15. Strategic Drivers, Impact and Response

9. Framework For Maintenance

Provide a planning and decision framework to facilitate the planning and prioritization of new and refurbished buildings, lifecycle maintenance programs and provision of a range of infrastructure and services.

The key maintenance target relating to the University's physical infrastructure is to maintain backlog maintenance to less than 3% of asset replacement value (ARV). This benchmark has been adopted by the Federal Government as part of assessing the University's annual Institutional Performance Portfolio Report and represents good practice in managing the University's physical assets.

As buildings age, maintenance liabilities progressively increase, starting at approximately 0.5% of ARV and rising to 3% of ARV after 30 years. Overall maintenance liabilities will accrue at an increasing rate over the next seven years. In particular, over the next three years, as new building projects are completed, the ARV of buildings in the <5-year category will significantly increase. This will add to the maintenance expenditure requirement.

If this maintenance liability is not adequately addressed, it will contribute significantly to the deferred backlog maintenance liability and adversely impact upon the student and staff experience as the quality of facilities declines.

The key maintenance target is to maintain backlog maintenance to less than 3% of ARV.

To provide a more accurate assessment of maintenance liabilities, a new integrated maintenance software model has been developed.

The principal elements supporting the model include:

- Condition based maintenance audits—conducted by external auditors to provide an objective technical assessment of the University assets (building fabric, services, roofing, walls, paint, ceilings, fixtures, floor coverings etc.), the assessment records the level of deterioration or other issues, and the lifecycle, infrastructure and operational expenses. It determines the extent of maintenance liability. This audit was complete in 2014.
- Plant Asset Management System on plant life-cycle costing—initially developed through external audit information in 2009, this is now integrated into one software system.
- Essential Services Measures audit—under the Victorian Building Regulations 2006, it is a statutory requirement that all Deakin-owned buildings must have a maintenance schedule for essential safety measures prepared by a qualified building surveyor. This audit was completed in 2009, and works to rectify compliance issues have all been completed. Maintenance, to ensure compliance, is ongoing.

- Road Assets Management Plan—developed several years ago, Deakin is responsible under the plan for maintaining the road infrastructure and traffic on its campuses. This information is now integrated into the management system.
- Service Infrastructure Audits and Identification (gas, water, fire, electrical, etc.) — progressive auditing is undertaken by external consultants to provide an accurate assessment and record of the location and capacity of existing infrastructure.

In addition, a number of specialist audits have been, or are planned to be, conducted throughout the University. These include:

- Asbestos Register—a general register is kept on all known buildings that contain asbestos or other hazardous materials. This has been completed by external consultants and a works program for removal is being programmed with the Human Resources Division.
- Building Energy Audits—energy audits have been completed on all buildings and have provided a detailed assessment of energy usage. Works are now being prioritised based on reduction of carbon emissions as well as payback of investment. These works have been grouped into three categories: maintenance, construction and initiatives.
- Accessibility Audits—audits have been completed to all external areas and approximately 100 buildings. The works have been costed and are being prioritised in preparation of a Business Case. It is proposed that an allowance is set aside on an annual basis for these works.

The integrated maintenance software model will provide a more reliable and planned way forward, on a building-by-building basis, for the long-term management of the University's built infrastructure. The outcome from the integrated model will be:

- improved holistic approach addressing space, amenity, condition and energy usage—allowing for more informed decision making and planning
- long-term modelling of life-cycle costs
- more efficient and systematic approach to maintenance
- improved asset performance and service levels
- subsequent optimisation of asset life
- ability to model scenarios based on budgeting information and utilisation.

This will ensure there is an aggregated scope of work being developed for buildings, minimising the inefficient re-work of areas for individual purposes.

A 'rolling' five-year integrated maintenance model for facilities is being implemented.

9.1 Backlog maintenance liability

Good practice within universities is to have a total backlog maintenance liability of facilities to within the 3.0% tolerance

of their ARV. Benchmarking reveals that universities comparable to Deakin are below the 3% threshold; Curtin being 1.4% and Griffith 1.1% (2013 data).

In 2010, Sinclair Knight Merz (SKM) estimated backlog maintenance liability to be \$26.1 million, or 3.4% of ARV. The University has embarked on an active program to address its backlog maintenance liability. The current backlog liability, as of June 2014, is 2.9%. The University has been striving to achieve a good condition for all its facilities and to be below 3% of ARV through funding over and above the annual maintenance budget.

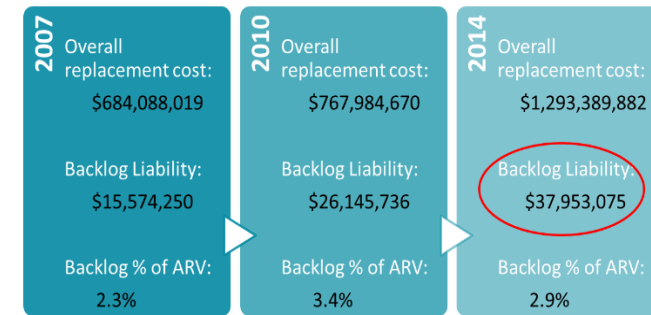


Figure 16: Backlog liability history

In 2014 the University allocated \$10,500,000 to undertake backlog maintenance works, equivalent to 0.81% of ARV.

ARV 2014	Backlog Maintenance Allocation	% of ARV
\$1,293,389,889	\$10,500,000	0.81%

Figure 17: Backlog funding 2014

With the additional building stock coming online with the completion of the current construction program, and 2014 levels of maintenance expenditure, the backlog maintenance liability is estimated to increase at an accelerating rate.

In 2015 the backlog funding required to achieve the University's aspiration of maintaining backlog at below 3% of ARV will require funds equivalent to 2.8% of ARV. Over the next ten years the required backlog maintenance funding averages 2.2% of ARV per year. The forecast of required funding is shown in the chart below (Figure 18).

Under this model, to maintain a backlog maintenance level below the stated target of 3% of ARV, the funding of backlog maintenance is estimated to equate to a liability of \$117.5 million to 2020 (see figure 18 above).

If we maintain 2014 funding levels it is estimated that the overall building condition will decline from 92.4% of the University's space being graded at good or better, to 67% good or better. This represents a decline of 27.5% over the period to 2020.

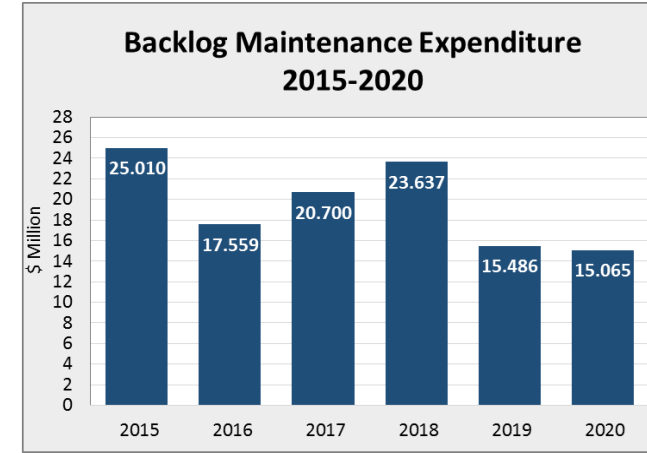


Figure 18: Backlog maintenance required funding forecast

The following assumptions have been made in developing the model:

- indexation of 4% per annum applied to ARV, reflecting building costs increasing at a faster rate than CPI
- no additional buildings beyond the current forecast construction program.

Increased backlog maintenance funding, above the level of funds allocated in 2014, will be required (see Figure 18 above) in order to maintain the University's assets in a good condition.

Targeted asset demolition programs, for those assets that have poor functionality and are at the end of the building's useful life, will also contribute to the backlog reduction.

9.2 Accessibility

The University has a strong commitment to supporting students with disabilities. Legislative requirements for the *Disability Discrimination Act 1992* (Cwlth) (DDA) compliance



CADET building, Geelong Waurn Ponds Campus, opening 2015

have increased significantly over the years and now form a key component of building codes. All of Deakin's campuses include ageing building stock built on land with significant grade changes.

An audit of all external areas and the internal areas of the majority of buildings on all campuses has been completed. The information gathered from the audit has been costed and priorities set for a retrofit program of works. The priorities will focus on ensuring all building entrances are accessible as well as the key circulation route within the building. The information will also inform the scope of works where planned refurbishments or backlog maintenance works are planned.

Significant aspects of the external landscaping and connections between buildings are unsatisfactory for people with mobility and / or visual impairments. A number of projects at Melbourne Burwood and Geelong Waurn Ponds will address several high priority items.

The most significant access issue to be addressed at Deakin is the lack of a fully accessible link between the two sides of the Melbourne Burwood Campus. Other projects include:

Melbourne Burwood

- student residence precinct accessibility pathway
- frontage link between Buildings A, H, W and Y
- Central Precinct accessible paths

Geelong Waurn Ponds

- student residence precinct accessibility pathway
- new pedestrian pathways

Upgrading the existing infrastructure, and creating new infrastructure, to achieve a reasonable level of accessibility represents a significant ongoing financial commitment.

10. Land Use Futures

Deliver future campus plans, identify potential development sites, opportunities for rationalisation and provide a framework for any significant developments.

The University's ARV as at the end of 2013 was estimated to be \$1.003 billion, with a gross building area of 490,000 square metres across 268 on-campus buildings, including student residences. There are substantial land holdings across the University totalling 450 Ha, particularly at Geelong Waurnd Ponds and Warrnambool. The large Western Beach car park at the Waterfront Campus is identified as a unique and valuable asset; it currently provides necessary car parking for the University.

A review of the University's land holdings by an external consultant focussed on commercial options and opportunities to optimise the land holdings. Further detailed work is being undertaken at Melbourne Burwood, Geelong Waterfront and Geelong Waurnd Ponds.

Campus masterplans have been approved by University Council for the Melbourne Burwood Campus (2009), Geelong Waurnd Ponds Campus (2008 and reviewed in 2012) and the Geelong Waterfront Campus (2004). There is currently no campus masterplan for Warrnambool, but a land use strategy is in preparation.

Campus masterplans set the broad design principles and provide the framework for:

- potential development sites for each campus
- significant development including transport paths, environmental catchment zones, general service and infrastructure planning and car parking locations

	Land area (hectares)	Land value (\$m)	No. of buildings	Gross floor area (sqm)	Useable floor area (sqm)	Asset replacement value (\$m) ²	Car spaces	Student housing beds ³
Melbourne Burwood ¹	27.0	68.4	71	236,353	141,014	426.3	3,441	600
Geelong Waterfront	4.4	49.4	5	68,656	34,157	145.0	840	-
Geelong Waurnd Ponds	325.0	28.9	126	152,504	85,248	393.3	2,894	802
Warrnambool	94.0	10.5	48	32,405	20,361	68.7	748	343
Off-campus	-	1.9	18	3,140	-	4.1	-	-
Total	450.4	159.1	268	493,058	280,780	1,037.4	7,923	1,755

1. Floor area and parking includes Greenwood office park

2. Asset Replacement Valuation (ARV) and Land Value is as at the end of 2013 and is derived from the University accounts

Figure 19: Property holding summary (all buildings)

- potential built capacity of each campus.
- general volume, height and location for new buildings

The masterplans are reference documents and do not represent approved development plans.

The University and its associated entities have leasing agreements from external parties for six premises (e.g. MCC and Greenwood Office Park) at a total annual cost of \$3.634 million per annum, representing rent, car parking and outgoings.

The University's revenue lease portfolio comprises more than 50 leases, licences and management agreements occupied by associated entities and external individuals/bodies. These cover a range of business activities including agriculture, residential housing, telecommunication installations, offices and retail. These leases are anticipated to generate income for Deakin of \$1.087 million in 2014.

Each of the three non-Melbourne campuses has significant capacity to expand in the future.

10.1 Building age

Building age is measured by the original construction date. The construction date does not correlate with the condition of the facilities, as buildings may have undergone refurbishment(s) since the original construction date. For example, several of the Waterfront buildings are close to or over 100 years old (i.e. in the 35+ category), but it has undergone significant refurbishments to create a contemporary learning and office environment.

The Melbourne Burwood Campus profile depicts two major construction cycles; the first during the mid-1970's prior to merger with Deakin; and during 2000 with replacement buildings for the closure of the Rusden and Toorak Campuses and general expansion including multi-deck car parks and student residences.



Warrnambool City Centre

While building age is a significant factor in the requirement for backlog maintenance and renewal, the building lifecycle, impacted on by refurbishment, renewal and maintenance is the major determinant in asset cost.

10.2 Surplus assets

As part of the ongoing review of existing assets, surplus assets have been identified. With the assumption that refurbishment will not provide alternative use and depending upon their inherent residual value and location, individual buildings will be recommended for sale or demolition. Based on their location and lack of strategic relevance, the following two assets should be considered for disposal.

Surplus assets for sale	Rationale
125 Thornhill Rd, Highton	Off-site residential property located about 1.3km from the campus. Currently utilised as student housing.
6-8 Church St, Camperdown	Office Building. Original Medical School needs have changed and this building is currently not utilised. Property is currently listed for sale. <i>Note: Any funds realised will need to serve the purpose of the original grant provided for purchase.</i>

Figure 20: Surplus assets identified for sale

Based on an overall building assessment, in particular the functionality, experience, condition and cost benefit analysis,

the buildings listed in the table below (Figure 21) have been identified within current planning for demolition.

Proposed demolition	Description and rationale
Buildings R & S, Melbourne Burwood	1950s single-storey light timber construction. Formerly Burwood Teachers College student residences. Current health occupants will move to Burwood Highway Frontage in 2014. Once alternative childcare negotiations (in progress with City of Whitehorse) are finalised, the building can be demolished and a new signalled Entrance 2 established to improve access to the campus. The building is currently past its useful life.
Building dc Waurnd Ponds	Previous student residence supervisor house on Nicol Drive North. As the campus has developed, the current location and siting of this function is not optimal.
Portable Buildings ie-io Geelong Waurnd Ponds	Second-hand portables already on the campus for nearly 30 years. Provide poor amenity and inefficient building use. Proposed to demolish portables ie, if, ig and ih in 2015 when temporary occupants are relocated to their new building.
Building fi, fe, Geelong Waurnd Ponds	This complex is currently used as a childcare centre and is an old, converted house. This use will become redundant if childcare services are provided elsewhere on campus.
Part of Building C, Warrnambool	Building constructed approx. 1980 but structural issues were identified in components of the building. In 2012 these were temporarily addressed. Space is not required at the campus and conversion and repair costs for alternative uses represents poor value for money.

Figure 21: Surplus assets planned for demolition

The buildings earmarked for future demolition are safe to continue occupation although they may offer poor amenity/functionality. Apart from issues requiring immediate attention, backlog maintenance works are kept to a minimum or in line with the anticipated lifespan of the building.

A number of surplus assets are under investigation for potential demolition. A current building assessment, considering functionality, experience, condition and cost

benefit, is underway for each building identified in the following table (Figure 22).

Proposed demolition	Description and rationale
Building BA, Melbourne Burwood	1950s single-storey light timber construction. Formerly Bennettswood Primary School. Previously slated for demolition, but refurbishment works and relatively extensive backlog maintenance works undertaken. Currently accommodates postgraduate students. Demolition can be deferred until the University develops the site.
Buildings EA, EB, ED, EE, EF, Melbourne Burwood	Former Allambie buildings built in the 1960s. Provide future development site. Alternative location for occupants is required prior to demolition.
Building ha, Geelong Waurn Ponds	Collins/Laird student residence constructed approximately 40 years ago. Significant works required to address compliance issues and high backlog maintenance in an overall poor-quality building.
Building ib, Geelong Waurn Ponds	Constructed in 1985, the majority of the building has been vacated by Business and Law. High refurbishment costs to bring it to a modern standard and the building configuration will compromise future efficiency and functionality.
Building E (Rexel Building), Waterfront	Retail warehouse built in the early 1980s. Poor-quality building with low visual amenity, currently being upgraded to house architectural workshop functions.

Figure 22: Surplus assets under investigation for potential demolition

Planning for the demolition of these buildings usually takes a number of years, as arrangements for the existing occupants need to be made. However, many of these buildings are past their useful life, provide very inefficient use of space and detract from the overall amenity of the campuses.

10.3 Asset acquisition

While all the campuses have enough land and development sites to cater for growth to 2020 and the foreseeable future, there are a number of properties that the University should consider acquiring if the opportunity arises.

Waterfront

While a number of properties adjoining the University's landholdings have become available, most of the asking prices for the properties are significantly above market value.

Properties for consideration have been detailed in the 'Waterfront Land Use Strategy'.

Geelong Waurn Ponds

Despite extensive landholding at the Geelong Waurn Ponds Campus, appropriate vehicular access presents a limitation to future development: currently all traffic must enter and leave through the core of the campus. Continued dialogue between Marcus Oldham and Deakin on masterplanning issues is likely to result in a win-win situation for both landholders. Other properties along the Waurn Ponds valley and Cochranes Road may also facilitate alternative access in the long term.

Melbourne Burwood

Possible acquisitions near the Melbourne Burwood Campus are residential properties bordering the University's landholdings and parts of Mt Scopus, particularly as redevelopment of the site is undertaken, resulting in potential surplus land holdings.

Warrnambool

The Warrnambool Campus already has an excess of land for its core requirements. No properties are currently under consideration.

10.4 Future plans for existing buildings

As the strategic imperative is to minimise the development of new building stock and utilise space more efficiently, a number of buildings have been identified for future refurbishment. This is being informed by Deakin Learning Futures through the Learning 2013 Implementation Plan and advisory workgroups, audit information on functionality of existing spaces by Facilities Services and eSolutions as well as building audits. This work is still in progress, but a series of major building refurbishments will be the focus of future capital works.

The refurbishment program will consider full refurbishment of the building or entire floors.

The current list of priority buildings under investigation are:

- Geelong Waurn Ponds Campus: Buildings IB, IC, JB, KA (teaching wing)
- Melbourne Burwood Campus: Buildings B, M.

At the Melbourne Burwood Campus, minor refurbishments are also being planned for a number of buildings to optimise the flow-on impact from the completion of the Burwood Highway Frontage Building, Building BC, in 2014.

10.5 Return on assets

The ability of the physical infrastructure of the University to generate revenue is of interest. The flowing chart gives the total revenue per m2 of Gross Floor Area (GFA). The data has been sourced from the annual TEFMA benchmarking

exercise. Revenue is the total income derived from continuing operations.

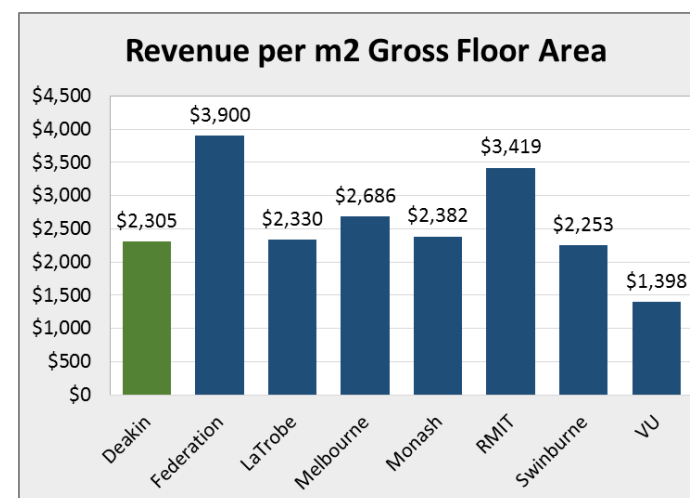


Figure 23: Victorian universities revenue per m² Gross Floor Area

Revenue values are consistent within the grouping of Deakin, LaTrobe, Melbourne, Monash and Swinburne Universities; around the \$2,300 - \$2,500 per m2 GFA range.

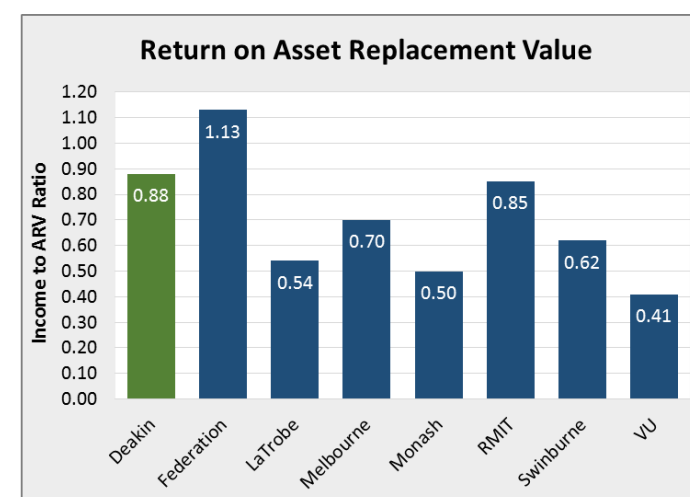


Figure 24: Victorian universities return on asset replacement value

The return on asset replacement value, shown above, is used as an indicator of the relative performance of the physical infrastructure in generating income. It shows the ratio of total University income against the Asset Replacement Value (ARV) of the University's buildings. Deakin is performing well in this metric with only Federation University generating a greater return as a ratio of ARV. The performance of Federation University may reflect its particular profile, with a high proportion of international students generating high revenues relative to space.

11. University-wide projects

A number of 'University-wide' projects are planned across all campuses of the University. These projects will facilitate space optimisation, enable greater effectiveness and efficiency to be developed within existing space and provide

for the renewal of learning spaces. Significant projects impacting across the University include: *Premium Located Learning*

This project will upgrade located learning spaces across all campuses to align with Learning 2013's requirement for premium located learning spaces. These will be engaging, collaborative and active learning spaces for students and staff.

The upgrade program is being developed in close cooperation with the Office of the Deputy Vice-Chancellor, Education and representatives from each of the Faculties. The first projects arising from the program are expected to be in place for use in Trimester 1, 2015. This includes the renewal of LB2.100 and LB2.101 on the Melbourne Burwood Campus for the Faculty of Business and Law.

Campus Improvements—Informal Learning Spaces

The project will support *LIVE the future* across all campuses through provision of high-quality, supportive spaces that will expand the learning environment beyond formal spaces.

Research Infrastructure Upgrade

This project will support the projected growth in research activity across all campuses by providing appropriate infrastructure, including specialist spaces and accommodation for higher degree by research students and post-doctorate staff. The program is to be guided by the development of Research Infrastructure Plans for each campus. The Melbourne Burwood plan is planned to be complete in late 2014. This plan will guide the proposed development of research laboratory space for the Faculty of Science, Engineering and Built Environment in Building L on the Melbourne Burwood Campus.

Space Optimisation Strategy

To provide growth capacity within existing physical assets, this project will seek to refurbish spaces to accommodate projected increases in staff numbers.

Thermal Comfort

The Thermal Comfort project was a response to widespread complaints about environmental conditions. Facilities Services Division engaged external consultants to conduct an extensive study of the University's physical space in relation to thermal comfort to address these complaints.

An action plan for rectification work to the spaces identified in the initial study will address the areas which were causing the longest running and most severe complaints. The first phase of the project, currently underway, will see works undertaken in Buildings B, C, J, Y and W on the Melbourne Burwood Campus. Further phases have been planned. In addition, thermal comfort works identified within the study are being addressed, where appropriate, as part of standard refurbishments of University space.

12. Geelong Waterfront Campus

The Waterfront Masterplan and analysis of the development capacity on the existing Waterfront sites indicate the landholdings can support new building capacity that would be in excess of foreseeable student load at the Campus. As such, it is highly unlikely that all of the University's existing land holdings will be required to house the University's projected activities within the next 10 years. This provides the opportunity for consideration of commercial activities within the landholdings.



Figure 25: Geelong Waterfront campus title holdings

The current car park sites have a combined area in excess of two hectares (20,000m²). The main car park, fronting Western Beach Road is regarded as a 'signature' development site in Geelong and considered to have significant potential benefits to the city.

The key to unlocking the value of the sites is to provide an appropriate or alternative car parking/transport solution for the Campus.

Whilst the University's built infrastructure capitalises on the Corio Bay aspect, it effectively turns its back on the Geelong CBD. Therefore, future development associated with the University should seek to provide a more permeable linkage with the Geelong CBD and the bay.

Whilst no on-campus student housing is provided at the Waterfront Campus, 33 student apartments are being developed on the corner of Moorabool and Ryrie Streets in the former T&G Building. This accommodation will be available for students from the beginning of T1, 2016.

Accommodation at Geelong Waurn Ponds is also available to Waterfront Campus students. The Geelong CBD has a surplus of space above existing retail shops that has been identified for possible conversion into student accommodation. Student accommodation controlled by the University at or near the Waterfront Campus may help attract international students.

The options for providing student accommodation, either involving Deakin (in contribution of land/funding) or exclusively by the private sector, are being considered.



Figure 26: Geelong Waterfront proposed projects 2015-2017

12.1 Proposed projects 2015-2024

Significant projects considered for the Waterfront Campus are noted in the table below:

Geelong, Waterfront Campus - Planned Projects 2015-2024	Project Timespan	Expenditure 2015-24
Moorabool St	2015	5,284,000
Geelong Accommodation Relocation Strategy - Stage 2	2015	1,961,676
Architecture and Building workshop relocation	2015	392,737
Thermal Comfort Priority 2 - AD, D, Waterfront	2015	2,300,000
Concept Space Waterfront	2015	875,000
Building C Upgrade, Geelong Waterfront Campus	2015-16	3,480,000
Refurbishment of D4 - School of Architecture and Built Environment	2015-16	5,325,000
DUELI & Arts Ed(GARS 3)	2016-17	1,950,000
Consolidation of DUELI - Bld D Level 4	2015	1,195,000
Refurbishment of Nursing and Midwifery	2015	2,958,410
Total:		25,721,823

Figure 27: Geelong Waterfront proposed projects 2015-2024

These projects include:

Moorabool Street

Redevelopment of the T&G Building, purchased by the University in 2014, incorporating 33 beds for student accommodation.

Refurbishment of D4 - School of Architecture and Built Environment

Refurbishment of space currently occupied by the School of Architecture and Built Environment. The overall objective is to increase studio space to enable the school to continue its growth. Staff accommodation will also be significantly refurbished, moving to a more open plan, studio-based model that will increase capacity.

DUELI consolidation

The project involves the refurbishment of space in Building D, Level 4. The space will accommodate DUELI staff, teaching spaces and student support functions.

Architecture and Building workshop relocation

To address OH&S issues by relocating the workspace area in the service area of John Hay Building to an existing building on the Waterfront, Brougham St car park.

GCEID / TTR development at Barwon Health

In partnership with Barwon Health, City of Greater Geelong and CSIRO for the development of the Geelong Centre for Emerging Infectious Disease (GCEID) occupying 1,379 m² on level 3 of the TTR Building. This project is supported by a Commonwealth Government Grant of \$3m towards a total project cost of \$6.1m.

A further partnership between Deakin and Barwon Health will see the development of 1,500 m² of space within the TTR building for research accommodation and space for the School of Nursing and Midwifery. Total project cost is \$4m.

13. Geelong Waurm Ponds Campus

The Geelong Waurm Ponds masterplan demonstrates that the campus has enormous capacity for future expansion. There are extensive landholdings with less than a third of the land currently used for University purposes. Significant land holdings could be developed for non-core University purposes in an expanded Geelong Technology/Innovation Precinct. These areas amount to over 130 hectares. Provision of suitable infrastructure and access will be key determinants of how successfully these areas could be developed. Recent and proposed projects such as AFFRIC, Carbon Revolution and the potential Geelong ManuFutures are able to capitalise on some of the existing service infrastructure.



Figure 28: Geelong Waurm Ponds campus title holdings

Other incubation and partnership developments are being considered. To ensure appropriate and planned development for the 'innovation park' and a financially sustainable development model, a feasibility study and development plan for the northern industry co-location is in progress.

In the interim, current farmland lease arrangements should be maintained for land that is not used by the University. Whilst the lease income is minimal, the holding cost for land is negligible and it minimises the need for the University to expend money on maintaining the land.

There is currently accommodation for 794 students and occupancy rates have been maintained even with 311 new beds available from T1, 2014. Seven townhouses are under construction and will be completed for the start of 2016. A significant backlog maintenance program was completed on a number of the existing accommodation buildings in 2014. The current student accommodation precinct can support at least 78 further beds in a studio configuration, or a larger number once the existing childcare relocates to its new building.

Geelong Waurm Ponds campus has a small retail core consisting of food, hairdresser and bookshop. Refurbishment of the remainder of Building JB plus the external landscape area would significantly improve the retail offerings on campus. One key issue will be to sustain viable operations given the relatively low student population.



Figure 29: Geelong Waurm Ponds proposed projects 2015-2017

Geelong, Waurm Ponds Campus - Planned Projects 2015-2024	Project Timespan	Expenditure 2015-24
CADET	2015	13,926,053
Refurbishment of KA Teaching Block	2015	380,000
Student Residences - Waurm Ponds	2015	1,726,763
Campus Improvements - Waurm Ponds	2015	957,362
Campus Improvements - Alfred Deakin Drive	2015	2,442,181
Carbon Revolution	2015	100,000
AFFRIC	2015	70,000
Child Care Centre Site Preparation and Consequential Works	2015	50,582
Sports and Rec Upgrade	2015-16	5,442,325
Refurbishment of IC for Arts and Ed	2015-16	26,000,000
Epworth Link	2015-16	700,000
Removal and Landscaping of Existing Childcare	2016	150,000
Gas Infrastructure Investigation and Report	2015	120,000
Gas Infrastructure Upgrade Works	2016-17	1,200,000
Fire Tank Upgrade	2016	600,000
ManuFuture	2015-17	29,925,000
Waurm Ponds Technology Infrastructure (relates to Campus Infrastructure Upgrade)	2016	5,000,000
Rail CRC	2015	210,000
Carbon Rev 2	2015-16	5,250,000
Sports and Recreation KD Extension	2019-20	16,000,000
SEBE Building KA Level 5 Refurbishment	2015	3,867,500
Shared Laboratory - Science Building KA (G)	2015	1,158,000
Refurbishment of Bld JB Level 3	2016	1,782,000
Additional Fit-Out - Building NA Level 1	2015	300,000
New Mezzanine Level Building NI	2016	600,000
Student Support Hub Waurm Ponds	2015-16	2,000,000
Total:		66,092,500

Figure 30: Geelong, Waurm Ponds proposed projects 2015-2024

13.1 Proposed projects 2015-2024

Significant projects proposed for Geelong Waurm Ponds are noted in the table above (Figure 30). They include:

CADET

Due for completion in 2015, CADET will be an extension of the engineering precinct. The tri-level building will house a range of laboratories, design studios and interactive learning spaces furnished with Industry-leading technology and equipment. CADET will enable students to explore endless possibilities through desktop manufacture and computer modelling, virtual reality environments, 3D printing and world-leading rapid prototyping capabilities.

Refurbishment of Building IC

The project will refurbish large sections of Building IC, including specialist spaces and staff accommodation for the Faculty of Arts and Education. It is envisaged that the building will be refurbished in stages and that areas impacted will relocate temporarily to Building IB.

ManuFutures

The project, dependent on external grant funding, is to develop a commercially operated facility designed to meet R&D and staff development needs of both established and start-up manufacturing companies.

A key priority is to undertake a feasibility study and development plan for the northern industry co-location zone.

Sports and Recreation Upgrade

The Business Case was approved in 2014 to upgrade the outdoor sporting facilities to include a new synthetic soccer ground, athletics track, coaches boxes, fitness equipment and an outdoor teaching / viewing space. The existing Nicol and Lakeside ovals will also be upgraded. Works are expected to be completed by March 2016.

SEBE Building KA, Level 5 refurbishment

Refurbishment to support increased research capacity and consolidation of space for Schools.

14. Melbourne Burwood Campus

The Melbourne Burwood masterplan identifies the capacity to nearly double the current gross floor area (GFA) through strategic development of existing sites by removing substandard buildings and building at a higher density.

With the completion of the Burwood Highway Frontage (Building BC) works will be starting on the Melbourne Burwood Campus Development Phase 2 Renewal Works. A number of other smaller refurbishments and upgrade to air-conditioning will be coordinated with refurbishment works.

Future expansion at Melbourne Burwood, in the form of new buildings, needs to consider appropriate scale and yield on the site and to address car parking requirements in undercroft and basement structures. This is likely to result in higher capital commitments for major developments at Melbourne Burwood.



Figure 31: Melbourne Burwood campus title holdings

A key concern is the lack of a DDA-compliant pedestrian crossing over Gardiner's Creek to connect the two parts of the Campus.

Consideration is to be given to developing the surrounding landholdings along the Gardiner's Creek reserve to provide a better community asset and for the University users to enjoy an improved outdoor amenity.

A key priority is to provide a compliant pedestrian crossing over Gardiner's Creek to improve the link between the two parts of the campus.

Based on Urbis benchmarking data of 22 Australian universities, Burwood's provision of student accommodation would be in the bottom three or four universities. While significant student housing developments have occurred in surrounding areas, with the continued growth in students it is anticipated that additional on-campus accommodation could easily be supported. Current studies indicate significant unmet demand for on-campus student accommodation. A Business Case is in preparation for an additional 500 on-campus beds to supplement the existing supply of 600 beds.

Brain and Poulter were commissioned in 2013 to devise a Retail Food Strategy for the Melbourne Burwood Campus.



Figure 32: Melbourne Burwood campus proposed Projects 2015-2017

Continued collaboration between Facilities Services and Campus Services will ensure optimal planning, delivery and provision of appropriate food and beverage outlets.

14.1 Proposed projects 2015-2024

Significant projects proposed for Melbourne Burwood are noted in the table below (Figure 33). They include:

Burwood Campus Redevelopment Phase 2 Renewal Works
These works will involve refurbishment of a significant number of existing buildings to support the Faculty of Arts and Education and School of Exercise and Nutrition. Building M will be fully refurbished and a new atrium linking Buildings M and N is proposed. This will create a number of large-

capacity undergraduate teaching laboratories. The labs will be based on the 'super lab' model developed at the London Metropolitan University as well as informal learning spaces. These works will enable Greenwood Park Building GA to be vacated with staff relocating to the main Melbourne Burwood Campus.

Creative Arts Hub—Buildings B and P

The project will bring together the School of Communication and Creative Arts across two buildings, Building P and Building B. Refurbishment works will significantly alter staff accommodation, increasing capacity and improving quality and amenity, and provide engaging student learning spaces.

Building J in space vacated by the Faculty of Health, which has relocated to the Burwood Highway Frontage Building. The project will also address the underutilised courtyard between Building P and Building B.

Central Precinct

This project will increase informal learning and student support spaces on the Melbourne Burwood Campus. The current facilities are open to the elements and rarely used in poor weather conditions. The spaces will be enclosed and additional learning stations will be provided. Individual and group work will be supported by appropriate furniture, and power and wi-fi will be provided.

School of Law Building

The feasibility and Business Case for a new building at Elgar Road is under consideration. This would house the School of Law, the Graduate School as well as enable the remaining functions from Greenwood Park.

Student Residential

A Business Case is in preparation for the provision of an additional 500 on-campus beds to supplement the existing supply of 600 beds.

Building L refurbishment

A study is in progress to review the future research infrastructure requirements for the campus. Part of this outcome may result in refurbishment of the existing laboratories within Building L.

Melbourne, Burwood Campus - Planned Projects 2015-2024	Project Timespan	Expenditure 2015-24
Burwood Highway Frontage (Building BC)	2015	200,000
Campus Improvements - Burwood	2015	525,858
Trading Room	2015	52,551
Einsteins Refurbishment	2015	815,000
Building A Refurbishment	2015	485,000
Stadium and Gym Facilities at Burwood	2015	85,000
Thermal Comfort Priority 1 - Burwood (B,C,J,Y,W)	2015-16	12,601,430
Thermal Comfort Priority 3 - Burwood (D,L,N)	2016-17	4,223,000
School of Education - Creative Arts	2015	3,155,576
School of Education - Maths & Professional Experience Office	2015	953,781
Greenwood Park Relocation (Building GA)	2015	2,936,456
School of Exercise and Nutrition Science - Clinical Research	2015	656,269
School of Nursing and Midwifery - Offices	2015	2,027,001
SEBE/ARTS & Ed Education Science Teaching Labs & Informal Learning	2015-16	21,074,579
Faculty of Arts & Education - Office Space	2015	1,646,538
Gardiners Creek Crossing (Burwood Interconnect)	2015-16	8,296,000
Building L Research Lab Refurbishment	2017-18	12,250,000
New Burwood building - School of Law	2015-16	79,440,000
Student Resi's Burwood	2015-17	60,141,050
Central Precinct Infill	2015-17	19,925,000
Burwood Car Parking	2017-18	10,000,000
Student Support Hub LB Burwood	2015	950,000
Refurbishment of LB2.100 and LB2.101	2015	1,180,000
Refurbishment of Y1.11	2015	812,900
Refurbishment of LB2.207 and LB2.308	2015	2,165,000
Refurbishment Bld L Level 1 - Additional Lab	2015	1,000,000
Refurbishment of Bld B Level 2	2015-16	2,105,000
Refurbishment of HE Level 3 Located Learning	2015	2,701,000
Refurbishment of Bld B Level 4	2016-17	2,958,000
Refurbishment of Bld HE Level 2	2016	2,865,000
Refurbishment of Building B Level 3	2017	2,305,000
Refurbishment of Bld HE Level 1	2017	2,960,000
Refurbishment of MA Level 2	2017	2,503,000
Refurbishment of Bld B Level 1	2016-18	3,701,000
Elgar Road Electrical Substation Upgrade	2016	350,000
Northern Substation Upgrade	2015-16	260,000
Creative Arts Hub - Building B / P	2016-17	3,850,000
Refurbishment of Bld N Level 2 and 3	2016	1,984,000
Refurbishment of Bld Y Level 2	2017	2,440,000
Refurbishment of Bld C Level 4	2017	2,413,000
Replacement Bld A - Student Centre	2018	7,200,000
Refurbishment of Bld T Levels 2 and 3	2019-20	7,000,000
Refurbishment of Bld EA Level 2	2019	2,830,000
Demolition of Buildings R and S	2017-18	6,500,000
SEBE HDR Accom from Elgar Rd	2018	10,000,000
Student Support Hub (Burwood)	2015-16	1,975,000
Total:		316,497,989

Figure.33 Melbourne Burwood proposed projects 2015-2024



Proposed Atrium between Buildings L and M at Melbourne Burwood

15. Warrnambool Campus

The Warrnambool Campus has excess land for its core requirements, using only a relatively small portion of the 94-hectare holding. There is considerable spare teaching capacity at the Campus.

In 2010 Urbis prepared a report on the opportunities for the long-term development of surplus land at the Campus. The viable use of this land will depend on a range of factors including the rate of future urban growth and take-up of existing zoned land; the likelihood of securing the necessary planning approvals from Warrnambool Council; and the ability to attract compatible and economically feasible uses.



Figure 34: Warrnambool campus title holdings

The Campus has now been included within the urban growth boundary of Warrnambool.

Part of the campus holdings is currently utilised for a 9-hole community golf course. Whilst the income from the golf course is relatively insignificant, it helps provide an attractive background to the campus and provides positive community benefits.

Student housing is currently available at the Warrnambool Campus with 347 beds available. With the new 102 bed studio complex having become available in 2014, there are significant vacancy rates in the older accommodation. Strategies to occupy the accommodation for alternative uses are currently being investigated.

Detailed future planning for land use at Warrnambool will be driven to a large extent by the strategic plan, currently being developed, but will address:

- Consolidation
- Repurposing
- Consideration of alternative uses within the campus, including aged care accommodation

Significant projects proposed for Warrnambool are noted in the table below (Figure36).



Figure 35: Warrnambool campus

Warrnambool Campus - Proposed Projects 2015-2024	Project Timespan	Expenditure 2015-24
Building C Demolition	2015	1,109,601
Total:		1,109,601

Figure 36: Warrnambool proposed projects 2015-2024

Appendix 1

Campus Infrastructure and Utilisation Plan - Financial Plan 2015-2024

Campus	Project Name	Pre 2015	New 2015	New 2016	New 2017	New 2018	New 2019	New 2020	New 2021	New 2022	New 2023	New 2024	Total Project Budget	Capex/Opex
Waterfront	Moorabool St	3,361,000	5,284,000	-	-	-	-	-	-	-	-	-	8,645,000	Capex
Waterfront	Geelong Accommodation Relocation Strategy - Stage 2	36,078,324	1,961,676	-	-	-	-	-	-	-	-	-	38,780,000	Opex
Waterfront	Architecture and Building workshop relocation	338,263	392,737	-	-	-	-	-	-	-	-	-	731,000	Opex
Waterfront	Thermal Comfort Priority 2 - AD, D, Waterfront	-	2,300,000	-	-	-	-	-	-	-	-	-	2,300,000	Capex
Waterfront	Concept Space Waterfront	-	875,000	-	-	-	-	-	-	-	-	-	875,000	Opex
Waterfront	Building C Upgrade, Geelong Waterfront Campus	15,760	1,880,000	1,600,000	-	-	-	-	-	-	-	-	3,495,760	Capex
Waterfront	Refurbishment of D4 - School of Architecture and Built Environment	-	4,975,000	350,000	-	-	-	-	-	-	-	-	5,325,000	Opex
Waterfront	DUELI & Arts Ed(GARS 3)	-	-	683,000	1,267,000	-	-	-	-	-	-	-	2,000,000	Capex
Waterfront	Consolidation of DUELI - Bld D Level 4	-	1,195,000	-	-	-	-	-	-	-	-	-	1,195,000	Capex
Waterfront	Refurbishment of Nursing and Midwifery	-	2,958,410	-	-	-	-	-	-	-	-	-	2,958,410	Capex
Waurm Ponds	CADET*	31,573,947	13,926,053	-	-	-	-	-	-	-	-	-	45,500,000	Capex
Waurm Ponds	Student Residences - Waurm Ponds	37,104,237	1,726,763	-	-	-	-	-	-	-	-	-	38,831,000	Capex
Waurm Ponds	Campus Improvements - Waurm Ponds	764,640	957,362	-	-	-	-	-	-	-	-	-	1,722,000	Opex
Waurm Ponds	Campus Improvements - Alfred Deakin Drive†	57,820	2,442,181	-	-	-	-	-	-	-	-	-	2,500,000	Opex
Waurm Ponds	Carbon Revolution	5,688,148	100,000	-	-	-	-	-	-	-	-	-	6,500,000	Capex
Waurm Ponds	AFFRIC	72,031,070	70,000	-	-	-	-	-	-	-	-	-	73,110,000	Capex
Waurm Ponds	Child Care Centre Site Preparation and Consequential Works	210,418	50,582	-	-	-	-	-	-	-	-	-	211,500	Opex
Waurm Ponds	Sports and Rec Upgrade	132,675	4,450,700	991,625	-	-	-	-	-	-	-	-	5,575,000	Opex
Waurm Ponds	Refurbishment of IC for Arts and Ed	-	7,500,000	18,500,000	-	-	-	-	-	-	-	-	26,000,000	Capex
Waurm Ponds	Epworth Link	-	350,000	350,000	-	-	-	-	-	-	-	-	700,000	Opex
Waurm Ponds	Removal and Landscaping of Existing Childcare	-	-	150,000	-	-	-	-	-	-	-	-	150,000	Opex
Burwood	Visual Communication Studio	257,446	-	-	-	-	-	-	-	-	-	-	337,000	Opex
Waurm Ponds	Gas Infrastructure Investigation and Report	-	120,000	-	-	-	-	-	-	-	-	-	120,000	Opex
Waurm Ponds	Gas Infrastructure Upgrade Works	-	-	500,000	700,000	-	-	-	-	-	-	-	1,200,000	Capex
Waurm Ponds	Dangerous Goods Store	1,643,392	-	-	-	-	-	-	-	-	-	-	1,955,000	Capex
Waurm Ponds	X-Ray Equipment Installation, Geelong Waurm Ponds	663,000	-	-	-	-	-	-	-	-	-	-	732,000	Capex
Waurm Ponds	Fire Tank Upgrade	-	-	600,000	-	-	-	-	-	-	-	-	600,000	Opex
Waurm Ponds	Upper Animal House Consolidation	1,165,432	-	-	-	-	-	-	-	-	-	-	646,848	Opex
Waurm Ponds	Upgrade of Tennis courts at the Geelong Waurm Ponds Campus*	138,505	-	-	-	-	-	-	-	-	-	-	193,000	Opex
Waurm Ponds	Institute of Koorie Education Academic Building*	12,476,768	-	-	-	-	-	-	-	-	-	-	13,388,000	Capex
Waurm Ponds	Deakin Safe	45,000	-	-	-	-	-	-	-	-	-	-	1,669,000	Opex
Waurm Ponds	ManuFuture*	77,365	3,025,000	17,000,000	9,900,000	-	-	-	-	-	-	-	30,002,365	Capex
Waurm Ponds	(relates to Campus Infrastructure Upgrade)	-	-	5,000,000	-	-	-	-	-	-	-	-	5,000,000	Capex
Waurm Ponds	Rail CRC	490,000	210,000	-	-	-	-	-	-	-	-	-	990,000	Capex
Waurm Ponds	Carbon Rev 2	-	2,625,000	2,625,000	-	-	-	-	-	-	-	-	5,250,000	Capex
Waurm Ponds	Sports and Recreation KD Extension	-	-	-	-	-	4,000,000	12,000,000	-	-	-	-	16,000,000	Capex
Waurm Ponds	SEBE Building KA Level 5 Refurbishment	70,745	3,867,500	-	-	-	-	-	-	-	-	-	3,938,245	Capex
Waurm Ponds	Shared Laboratory - Science Building KA (G)	13,842,000	1,158,000	-	-	-	-	-	-	-	-	-	15,000,000	Capex
Waurm Ponds	Refurbishment of Bld JB Level 3	-	-	1,782,000	-	-	-	-	-	-	-	-	1,782,000	Capex
Waurm Ponds	Additional Fit-Out - Building NA Level 1	-	300,000	-	-	-	-	-	-	-	-	-	300,000	Capex
Waurm Ponds	New Mezzanine Level Building NI	-	-	600,000	-	-	-	-	-	-	-	-	600,000	Capex
Waurm Ponds	Student Support Hub Waurm Ponds	-	1,000,000	1,000,000	-	-	-	-	-	-	-	-	2,000,000	Opex
Waurm Ponds	Refurbishment of KA Teaching Block	-	380,000	-	-	-	-	-	-	-	-	-	380,000	Opex
Burwood	Burwood Highway Frontage (Building BC)	123,323,000	200,000	-	-	-	-	-	-	-	-	-	126,800,000	Capex
Burwood	Campus Improvements - Burwood	1,025,142	525,858	-	-	-	-	-	-	-	-	-	2,731,000	Opex
Burwood	Trading Room	657,449	52,551	-	-	-	-	-	-	-	-	-	710,000	Capex
Burwood	Einsteins Refurbishment	25,000	815,000	-	-	-	-	-	-	-	-	-	840,000	Opex
Burwood	Building A Refurbishment	15,000	485,000	-	-	-	-	-	-	-	-	-	500,000	Opex
Burwood	Stadium and Gym Facilities at Burwood	15,000	85,000	-	-	-	-	-	-	-	-	-	100,000	Opex
Burwood	Thermal Comfort Priority 1 - Burwood (B,C,J,Y,W)	809,715	11,251,430	1,350,000	-	-	-	-	-	-	-	-	14,299,715	Capex
Burwood	Thermal Comfort Priority 3 - Burwood (D,L,N)	-	-	2,323,000	1,000,000	900,000	-	-	-	-	-	-	4,223,000	Capex
Burwood	School of Education - Creative Arts	1,136,424	3,155,576	-	-	-	-	-	-	-	-	-	4,292,000	Capex
Burwood	School of Education - Maths & Professional Experience Office	600,219	953,781	-	-	-	-	-	-	-	-	-	1,554,000	Capex
Burwood	Greenwood Park Relocation (Building GA)	1,540,544	2,936,456	-	-	-	-	-	-	-	-	-	4,477,000	Opex
Burwood	School of Exercise and Nutrition Science - Clinical Research	907,731	656,269	-	-	-	-	-	-	-	-	-	1,564,000	Capex
Burwood	School of Nursing and Midwifery - Offices	495,999	2,027,001	-	-	-	-	-	-	-	-	-	2,523,000	Capex
Burwood	SEBE/ARTS & Ed Education Science Teaching Labs & Informal Learning	889,421	7,663,853	13,410,726	-	-	-	-	-	-	-	-	21,964,000	Capex
Burwood	School of Law Relocation	1,447,000	-	-	-	-	-	-	-	-	-	-	1,447,000	Capex
Burwood	Faculty of Arts & Education - Office Space	90,462	1,646,538	-	-	-	-	-	-	-	-	-	1,737,000	Capex
Burwood	Gardiners Creek Crossing (Burwood Interconnect)	354,858	2,650,000	5,646,000	-	-	-	-	-	-	-	-	12,495,808	Capex
Burwood	Building L Research Lab Refurbishment	150,000	-	-	3,968,000	8,282,000	-	-	-	-	-	-	12,400,000	Capex
Burwood	New Burwood building - School of Law	100,098	9,440,000	70,000,000	-	-	-	-	-	-	-	-	79,540,098	Capex
Burwood	Student Resil's Burwood	275,000	17,825,000	30,000,000	12,316,050	-	-	-	-	-	-	-	60,416,050	Capex
Burwood	Central Precinct Infill	86,000	5,000,000	7,500,000	7,425,000	-	-	-	-	-	-	-	20,011,000	Opex
Burwood	Burwood Car Parking	-	-	-	5,000,000	5,000,000	-	-	-	-	-	-	10,000,000	Opex
Burwood	Student Support Hub LB Burwood	25,000	950,000	-	-	-	-	-	-	-	-	-	1,000,000	Opex
Burwood	Refurbishment of LB2.100 and LB2.101	53,085	1,180,000	-	-	-	-	-	-	-	-	-	1,233,085	Opex
Burwood	Refurbishment of Y1.11	-	812,900	-	-	-	-	-	-	-	-	-	812,900	Opex
Burwood	Refurbishment of LB2.207 and LB2.308	-	2,165,000	-	-	-	-	-	-	-	-	-	2,165,000	Opex
Burwood	Refurbishment Bld L Level 1 - Additional Lab	-	1,000,000	-	-	-	-	-	-	-	-	-	1,000,000	Capex

Campus	Project Name	Pre 2015	New 2015	New 2016	New 2017	New 2018	New 2019	New 2020	New 2021	New 2022	New 2023	New 2024	Total Project Budget	Capex/Opex
Burwood	Refurbishment of Bld B Level 2	-	1,305,000	800,000	-	-	-	-	-	-	-	-	2,105,000	Opex
Burwood	Refurbishment of HE Level 3 Located Learning	-	2,701,000	-	-	-	-	-	-	-	-	-	2,701,000	Opex
Burwood	Refurbishment of Bld B Level 4	-	-	2,700,000	258,000	-	-	-	-	-	-	-	2,958,000	Capex
Burwood	Refurbishment of Bld HE Level 2	-	-	2,865,000	-	-	-	-	-	-	-	-	2,865,000	Capex
Burwood	Refurbishment of Building B Level 3	-	-	-	2,305,000	-	-	-	-	-	-	-	2,305,000	Capex
Burwood	Refurbishment of Bld HE Level 1	-	-	-	2,960,000	-	-	-	-	-	-	-	2,960,000	Capex
Burwood	Refurbishment of MA Level 2	-	-	-	2,503,000	-	-	-	-	-	-	-	2,503,000	Capex
Burwood	Refurbishment of Bld B Level 1	-	-	1,000	-	3,700,000	-	-	-	-	-	-	3,701,000	Capex
Burwood	Elgar Road Electrical Substation Upgrade	-	-	350,000	-	-	-	-	-	-	-	-	350,000	Capex
Burwood	Northern Substation Upgrade	-	60,000	200,000	-	-	-	-	-	-	-	-	260,000	Capex
Burwood	Creative Arts Hub - Building B / P	-	-	350,000	3,500,000	-	-	-	-	-	-	-	3,850,000	Capex
Burwood	Refurbishment of Bld N Level 2 and 3	-	-	1,984,000	-	-	-	-	-	-	-	-	1,984,000	Capex
Burwood	Refurbishment of Bld Y Level 2	-	-	-	2,440,000	-	-	-	-	-	-	-	2,440,000	Capex
Burwood	Refurbishment of Bld C Level 4	-	-	-	2,413,000	-	-	-	-	-	-	-	2,413,000	Capex
Burwood	Replacement Bld A - Student Centre	-	-	-	-	7,200,000	-	-	-	-	-	-	7,200,000	Capex
Burwood	Refurbishment of Bld T Levels 2 and 3	-	-	-	-	-	3,500,000	3,500,000	-	-	-	-	7,000,000	Capex
Burwood	Refurbishment of Bld EA Level 2	-	-	-	-	-	2,830,000	-	-	-	-	-	2,830,000	Capex
Burwood	Demolition of Buildings R and S	-	-	-	5,000,000	1,500,000	-	-	-	-	-	-	6,500,000	Opex
Burwood	SEBE HDR Accom from Elgar Rd	-	-	-	-	10,000,000	-	-	-	-	-	-	10,000,000	Capex
Burwood	Student Support Hub (Burwood)	-	975,000	1,000,000	-	-	-	-	-	-	-	-	2,000,000	Opex
Warmambool	Warmambool Library	406,000	-	-	-	-	-	-	-	-	-	-	406,000	Capex
Warmambool	Warmambool Multipurpose Courts	233,000	-	-	-	-	-	-	-	-	-	-	233,000	Opex
Warmambool	Student Residences - Warmambool	12,709,000	-	-	-	-	-	-	-	-	-	-	12,709,000	Capex
Warmambool	Warmambool Simulation Environment	511,904	-	-	-	-	-	-	-	-	-	-	511,500	Opex
Warmambool	Building C Demolition	60,175	1,109,601	-	-	-	-	-	-	-	-	-	1,184,061	Opex
University Wide	Campus Improvements - Signage	1,311,238	1,132,155	-	-	-	-	-	-	-	-	-	3,014,100	Opex
University Wide	Unspecified Allocation	-	-	4,250,000	4,250,000	12,921,429	17,491,429	20,321,429	23,821,429	23,821,429	23,821,429	23,821,429	154,520,003	Capex
	Grand Total		146,840,933	196,461,351	67,205,050	49,503,429	27,821,429	35,821,429	23,821,429	23,821,429	23,821,429	23,821,429	1,010,730,162	

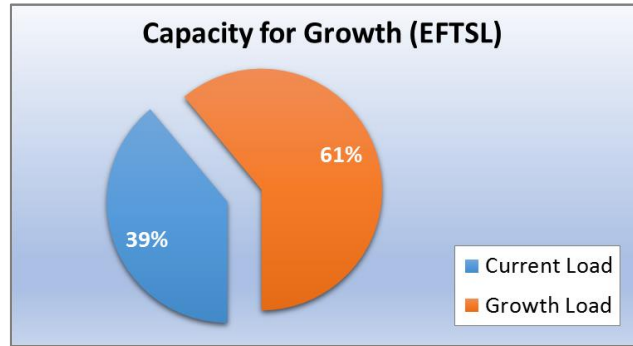
Projects and Capital Allocations subject to
 approval.

Appendix 2 – Campus Dashboards

Geelong Waterfront Campus

Space use

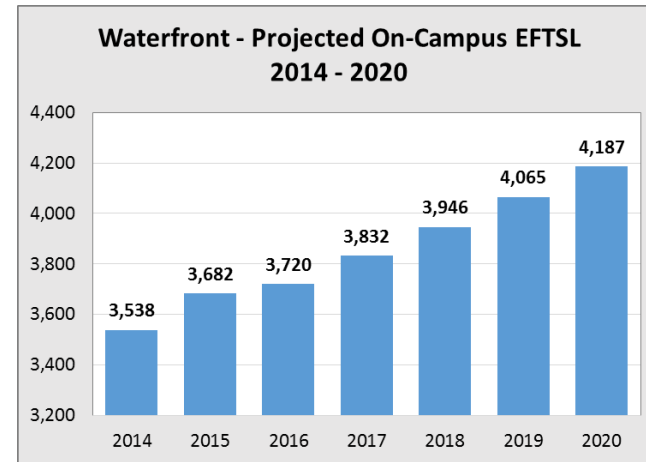
The campus provides a high-quality learning experience, with 68% of existing located learning spaces considered to be both fit for purpose and of good quality.



Geelong Waterfront capacity for growth

There is a significant capacity to accommodate planned growth within the existing campus.

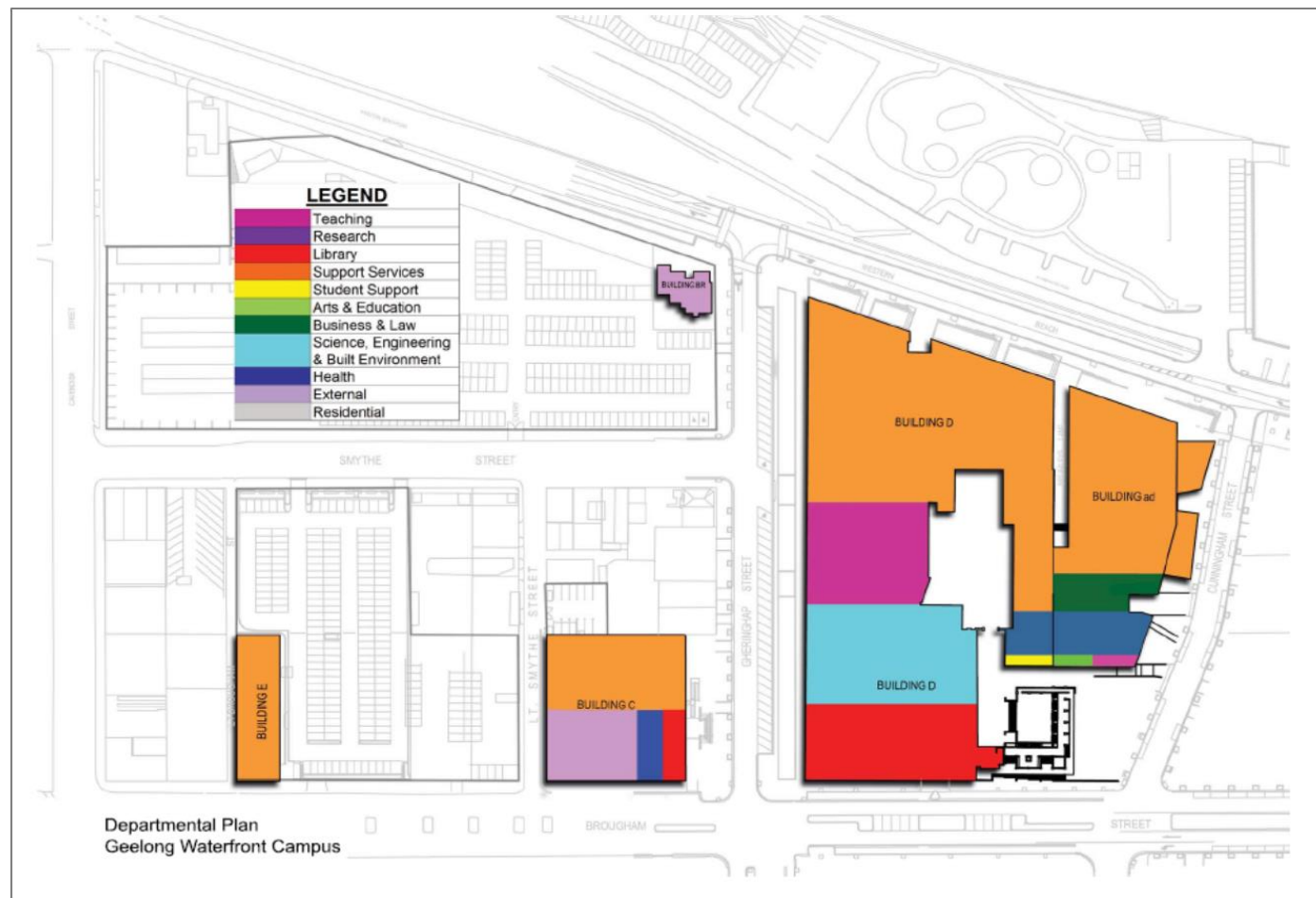
This growth will be accommodated by increasing the existing use of located learning spaces from 22% in 2014 to 26.3% by 2020. Further significant opportunities for accommodating



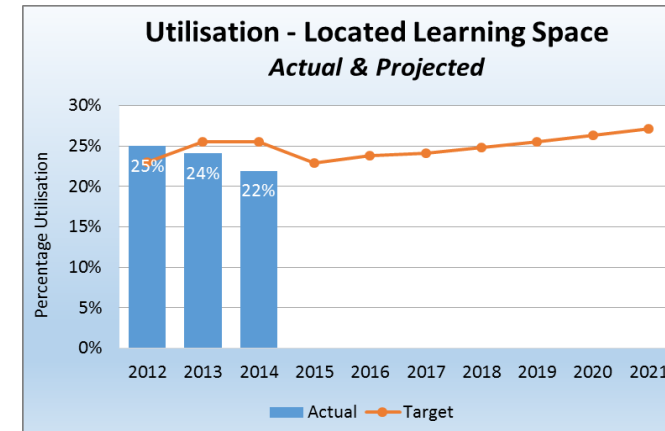
Geelong Waterfront projected EFTSL growth

growth on the campus can be realised by greater use of facilities after 5 pm, currently at 7% utilisation, and in Trimester 3. Current use in these times is negligible.

Current moderate utilisation of new generation learning spaces (23.1%) provides an opportunity to support new directions in learning and delivery. This may in particular reduce growth in the future use of lecture theatres. This is in line with overall University targets and reflects the vision for this campus of being an active, urban campus integrated with the surrounding Geelong CBD.

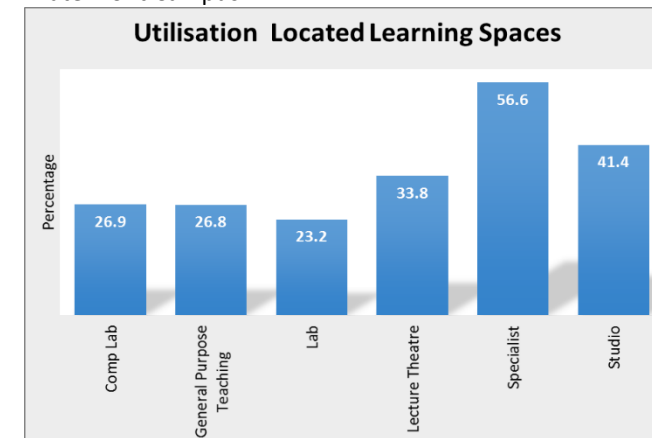


Geelong Waterfront departmental locations



Geelong Waterfront located learning utilisation 2012-2021

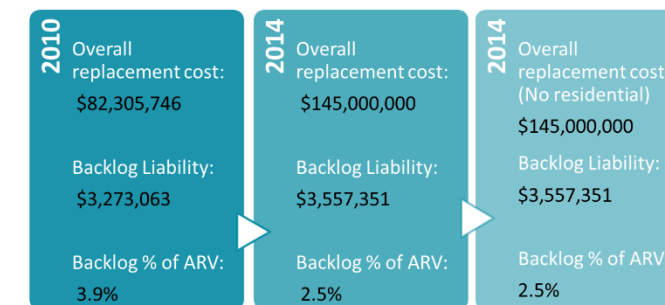
An increase in capacity through the GARS project has resulted in a slight reduction in utilisation rates for located learning spaces as a whole in 2013/14. The increase in space is part of the planned response to accommodating the shift in student load from Geelong Waurn Ponds to the Geelong Waterfront Campus.



Geelong Waterfront located learning utilisation by space type

All spaces, with the exception of specialist space, are well below the TEFMA Space Guideline benchmarks for utilisation. There is considerable scope for improvement.

Backlog maintenance

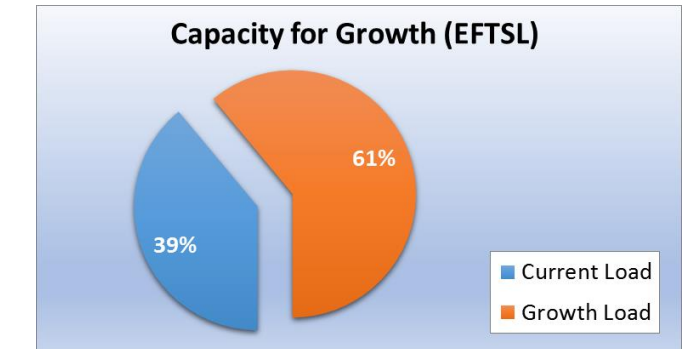


Geelong Waterfront backlog liability status

The backlog maintenance liability is below the 3% of ARV target.

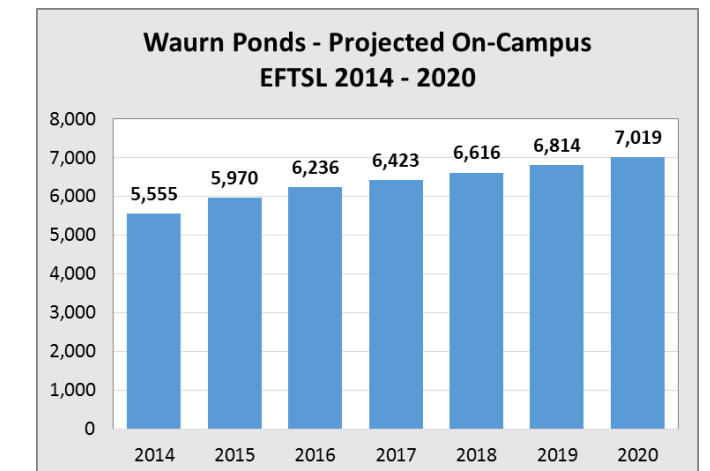
Geelong Waurn Ponds Campus

There is significant capacity to accommodate planned growth within the existing campus. A moderate increase in located learning space utilisation, from 22% in 2014 to 28.4% by 2020, is planned for the campus.

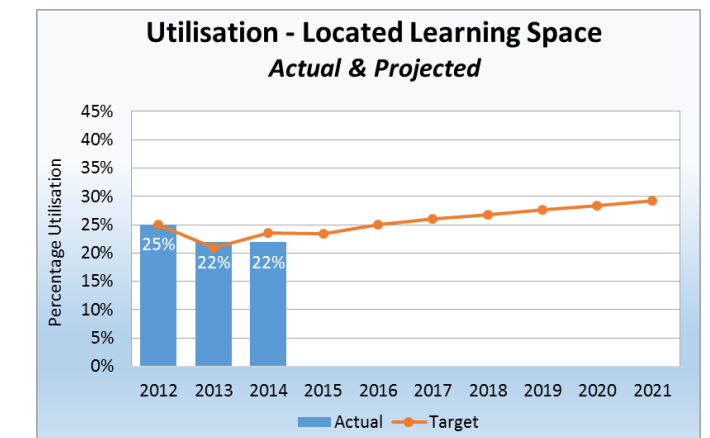


Geelong Waurn Ponds capacity for growth

The relocation of load from Geelong Waurn Ponds to the Geelong Waterfront Campus at the commencement of Trimester 1, 2013 resulted in a slight reduction in utilisation rates for located learning spaces as a whole in 2013. All room types on the campus were timetabled for less than 50% of the available hours in the teaching week.

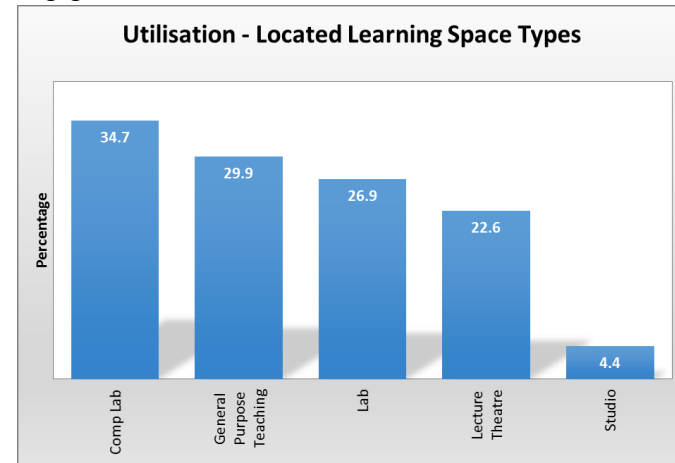


Geelong Waurn Ponds campus projected EFTSL growth



Geelong Waterfront located learning utilisation 2012-2021

Further significant opportunities for accommodating growth on the campus can be realised by greater use of facilities after 5 pm and in Trimester 3. Current use in these times is negligible.

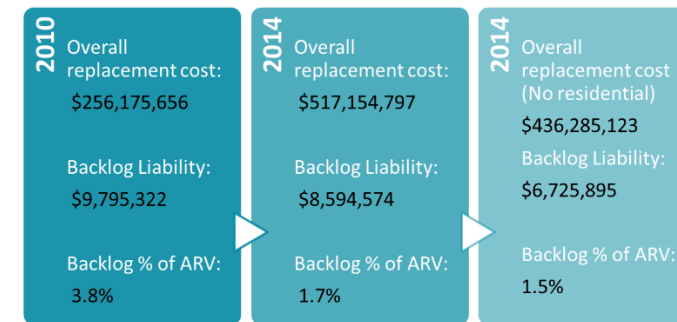


Geelong Waterfront located learning utilisation by space type

The space per EFTSL of 13.1 m2 UFA is still relatively high and reflects an ongoing opportunity to accommodate further growth on the campus.

The average age of the existing building infrastructure on the campus is approximately 23 years, as measured by asset replacement value (ARV). This indicates that significant building renewal/refurbishment is required on the campus over the coming years to prevent aged infrastructure

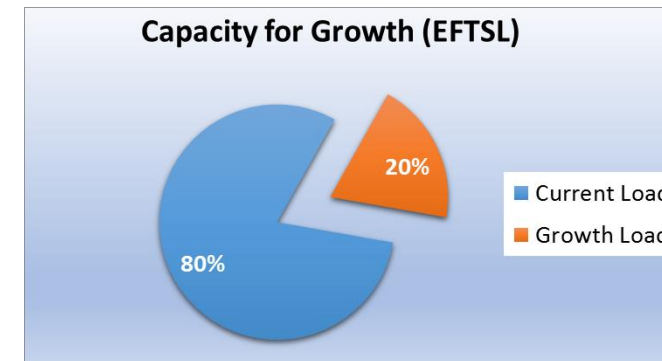
impinging upon both the student/staff experience and ongoing maintenance costs.



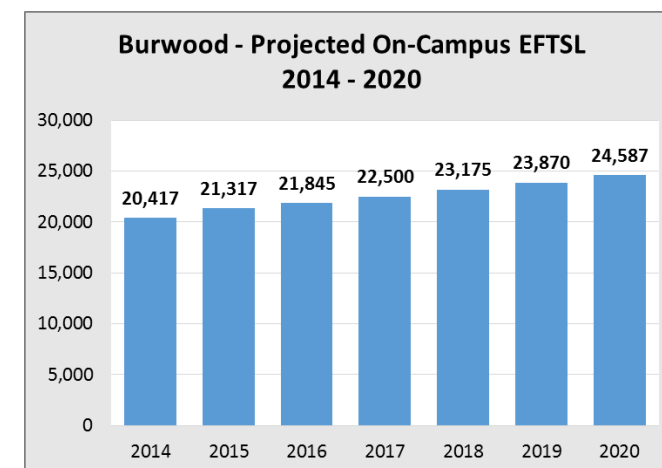
The backlog maintenance liability is below the 3% of ARV target.

Melbourne Burwood Campus

There is spare capacity (20%) to accommodate growth at the Melbourne Burwood Campus.

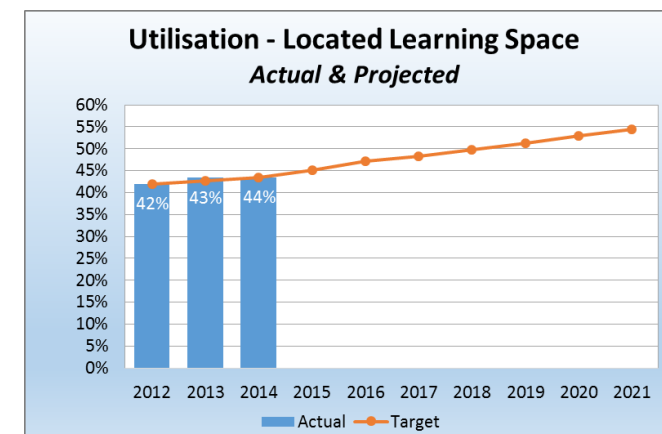


Melbourne Burwood capacity for growth



Melbourne Burwood projected EFTSL growth

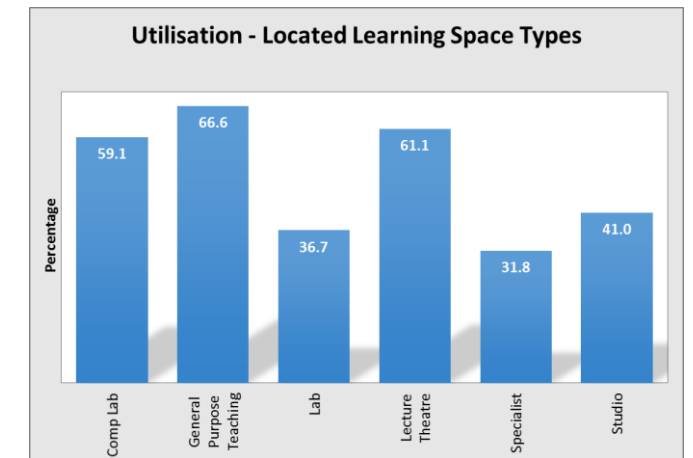
Existing utilisation of located learning spaces will increase from 44% in 2014 to 52.86% by 2020.



Melbourne Burwood located learning utilisation 2012-2021

Significant opportunities for accommodating growth on the campus can be realised by greater use of facilities after 5 pm, when currently only 4% of space that is available is in use.

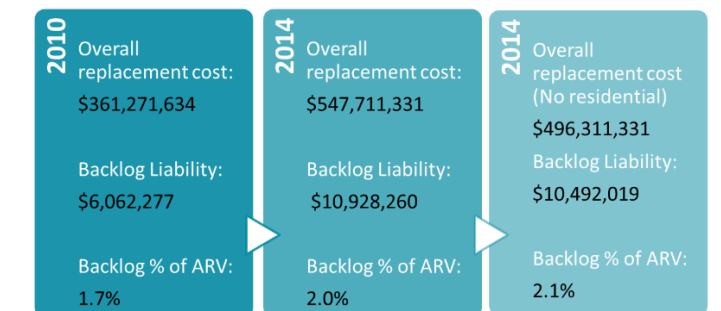
Trimester 3 is moderately used at Melbourne Burwood. This provides an opportunity to build upon the existing base, developing increased use, providing improved utilisation and the efficient delivery of allied services.



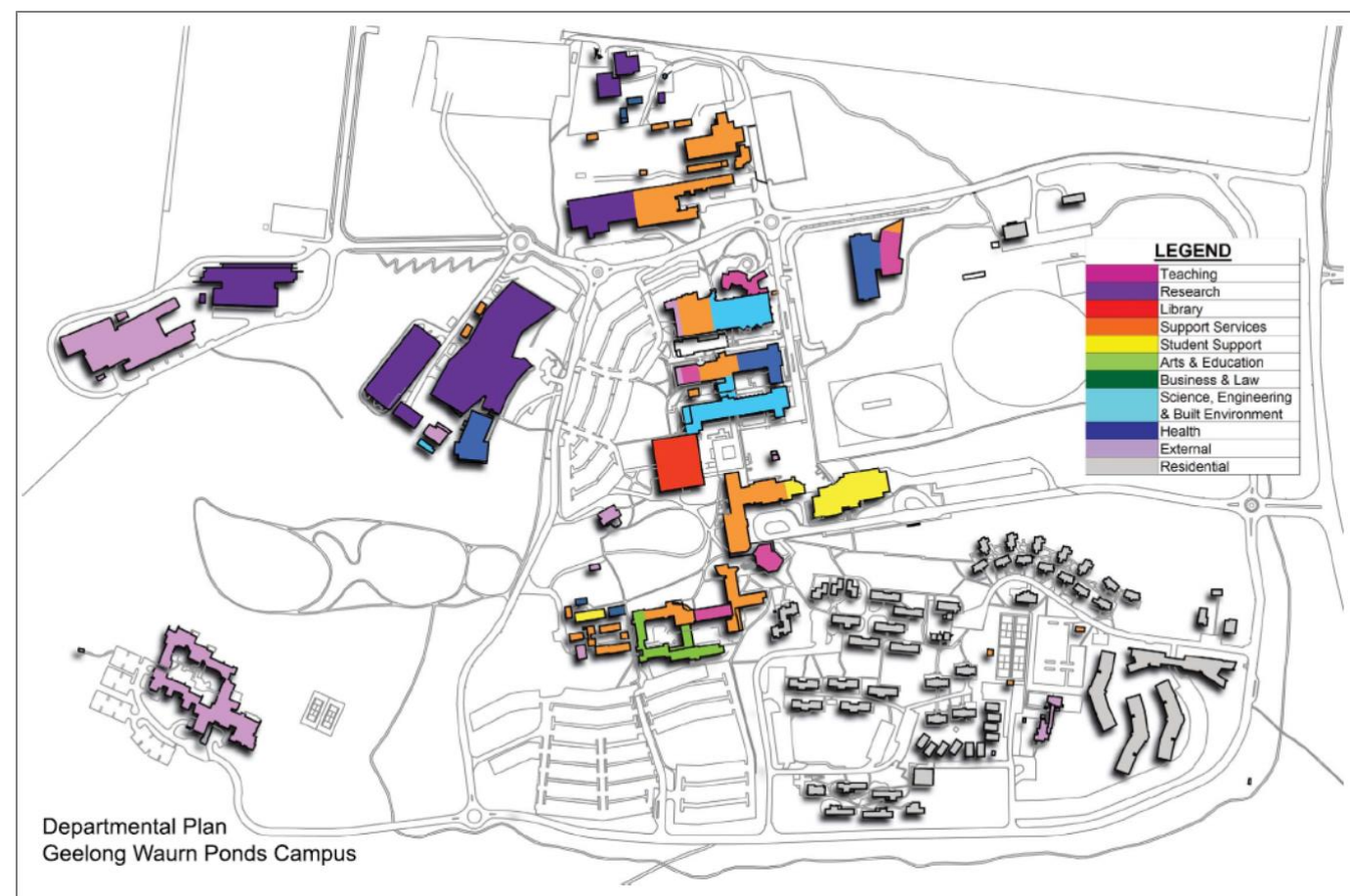
Geelong Waterfront located learning utilisation by space type

The space per EFTSL is relatively efficient, at 3.7 m2 per EFTSL, particularly when compared with other Deakin campuses. A moderate improvement is planned to reduce the space per EFTSL to a level of 3.0 m2 (UFA) by 2020.

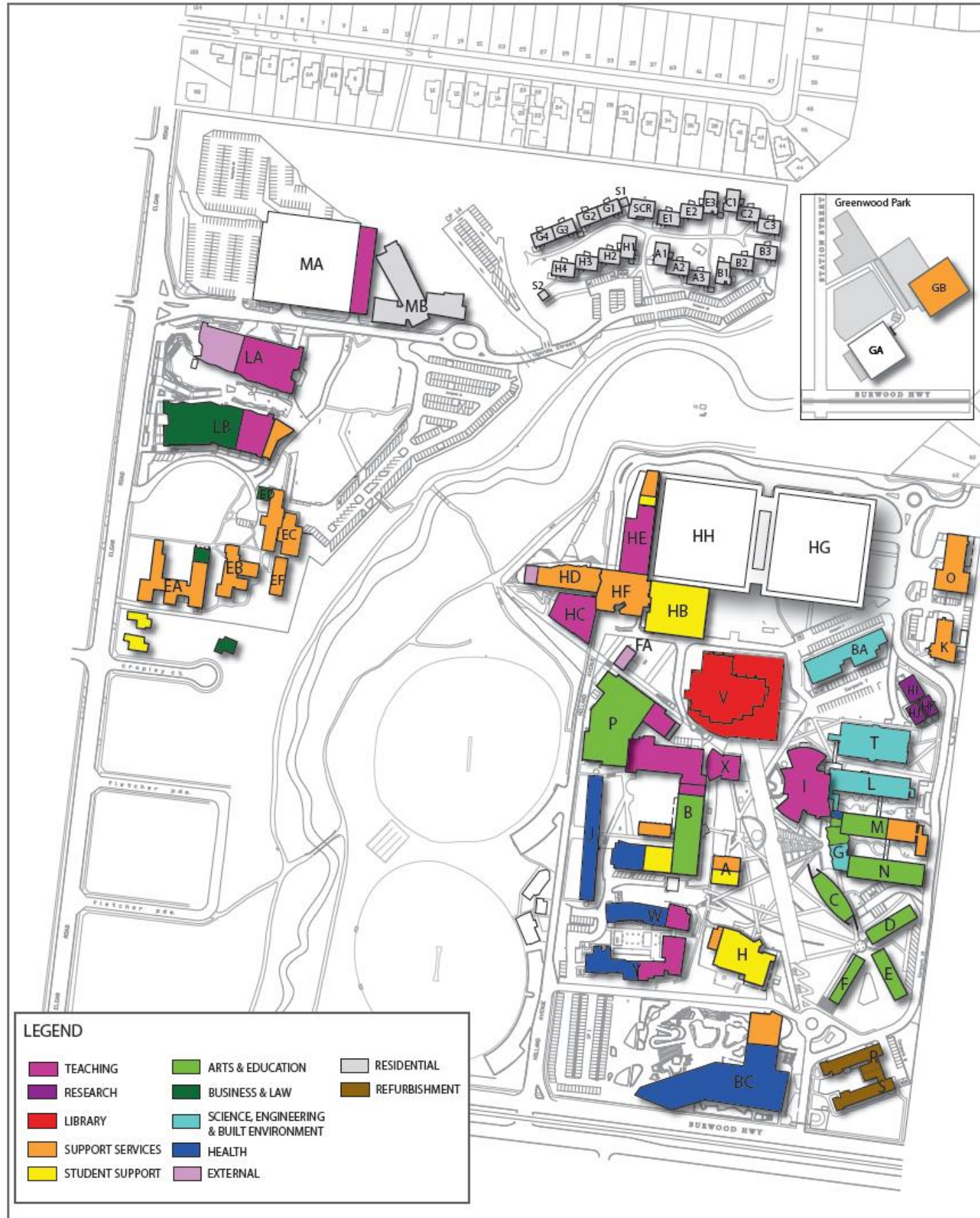
The average age of the existing building infrastructure on the campus is approximately eight years, as measured by ARV. This indicates the level of infrastructure expenditure made on the Melbourne Burwood Campus over the past 10 years. There are a number of aged buildings, greater than 30 years old, whose future needs to be addressed. Some of these buildings are proposed for demolition once they are no longer occupied.



The backlog maintenance liability is below the 3% of ARV target.



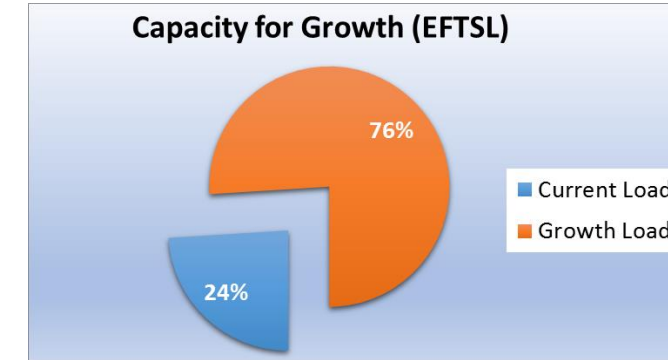
Geelong Waurm Ponds departmental locations



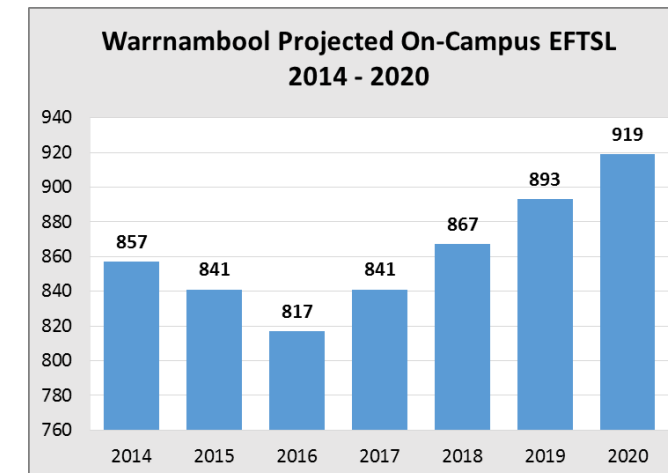
Melbourne Burwood departmental locations

Warrnambool Campus

There is a significant capacity to accommodate planned growth within the existing campus.

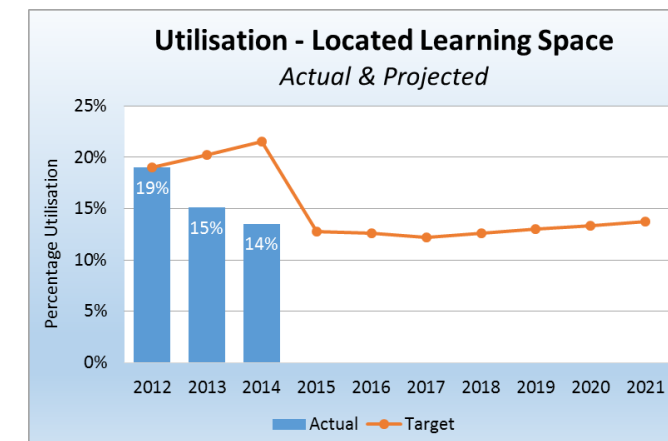


Warrnambool capacity for growth



Melbourne Burwood projected EFTSL growth

This growth will be largely accommodated by the excess capacity on the campus. Given the projected EFTSL growth to 2020 only a marginal increase in the existing utilisation of located learning spaces from 14% in 2014, can be expected.



Further significant opportunities for accommodating growth on the campus can be realised by greater use of facilities. Given the current poor use of facilities during 'daytime' hours it is unlikely that a need for extending services after 5 pm could be justified in the short term. However, there is

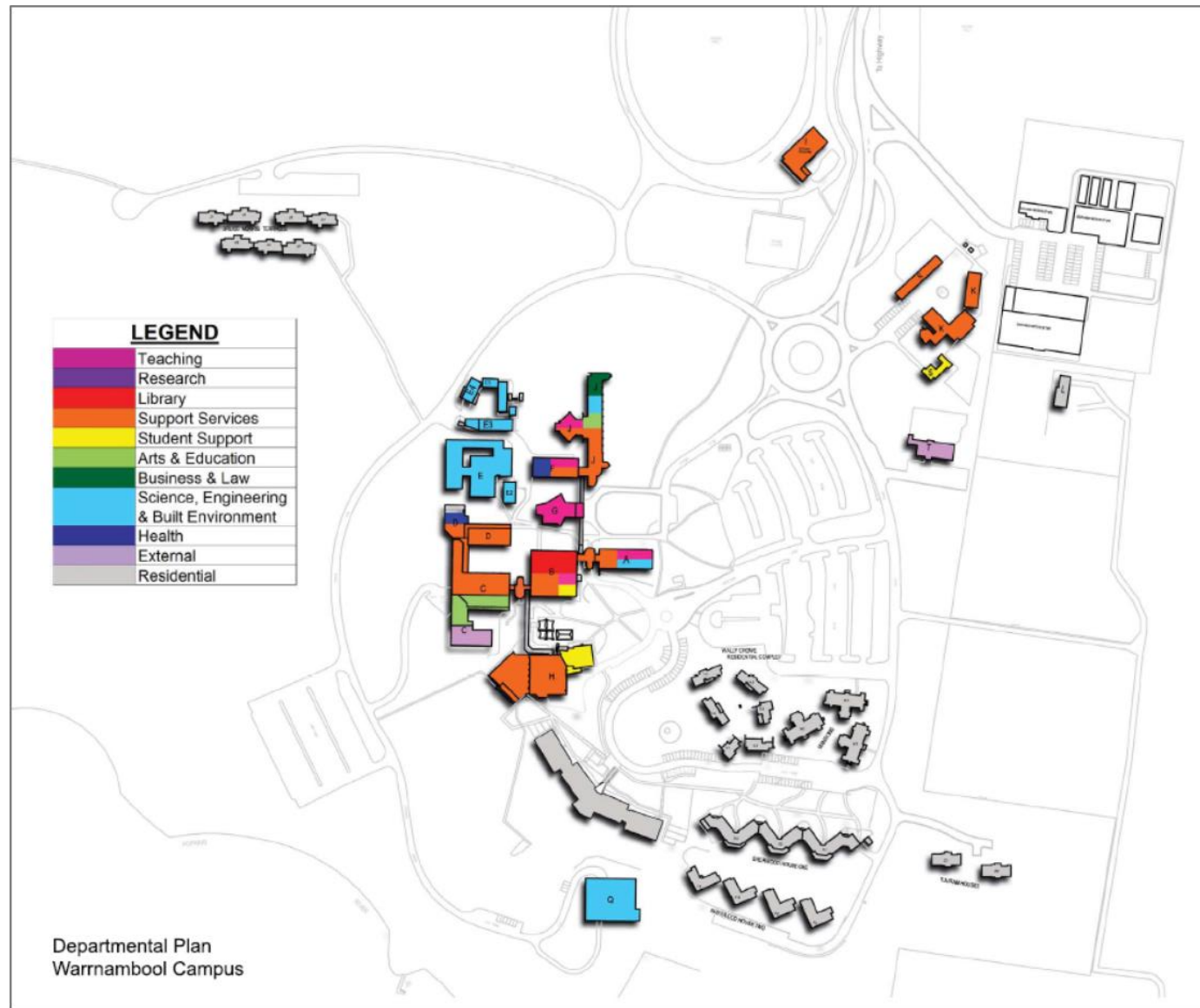
considerable potential for utilising space for delivery of programs in Trimester 3, where currently there is no appreciable use.

The space per EFTSL is currently well above both the Australian average and those of the other Deakin campuses at 16.6 m². In line with increasing student load within existing infrastructure, it is planned to reduce the space per EFTSL to a more sustainable level of 8.4 m². (UFA) by 2020.

The average age of the existing building infrastructure on the campus is approximately 29 years, as measured by ARV. This indicates that significant building renewal/refurbishment is required on the campus over the coming years, as well as potential removal of poor-quality assets, to prevent aged infrastructure impinging upon both the student/staff experience and ongoing maintenance costs.

Year	Overall replacement cost:	Backlog Liability:	Backlog % of ARV:
2010	\$68,231,643	\$4,114,974	6%
2014	\$83,523,754	\$14,872,490	17.8%
2014	Overall replacement cost (No residential): \$55,496,258	Backlog Liability: \$7,369,222	Backlog % of ARV: 13.3%

The backlog maintenance liability is well above the 3% of ARV target. It should be noted that \$2m of this liability is associated with Building C, equivalent to 27% of non-residential backlog maintenance liability on the campus. Building C has been identified as requiring demolition.



Warrnambool departmental locations