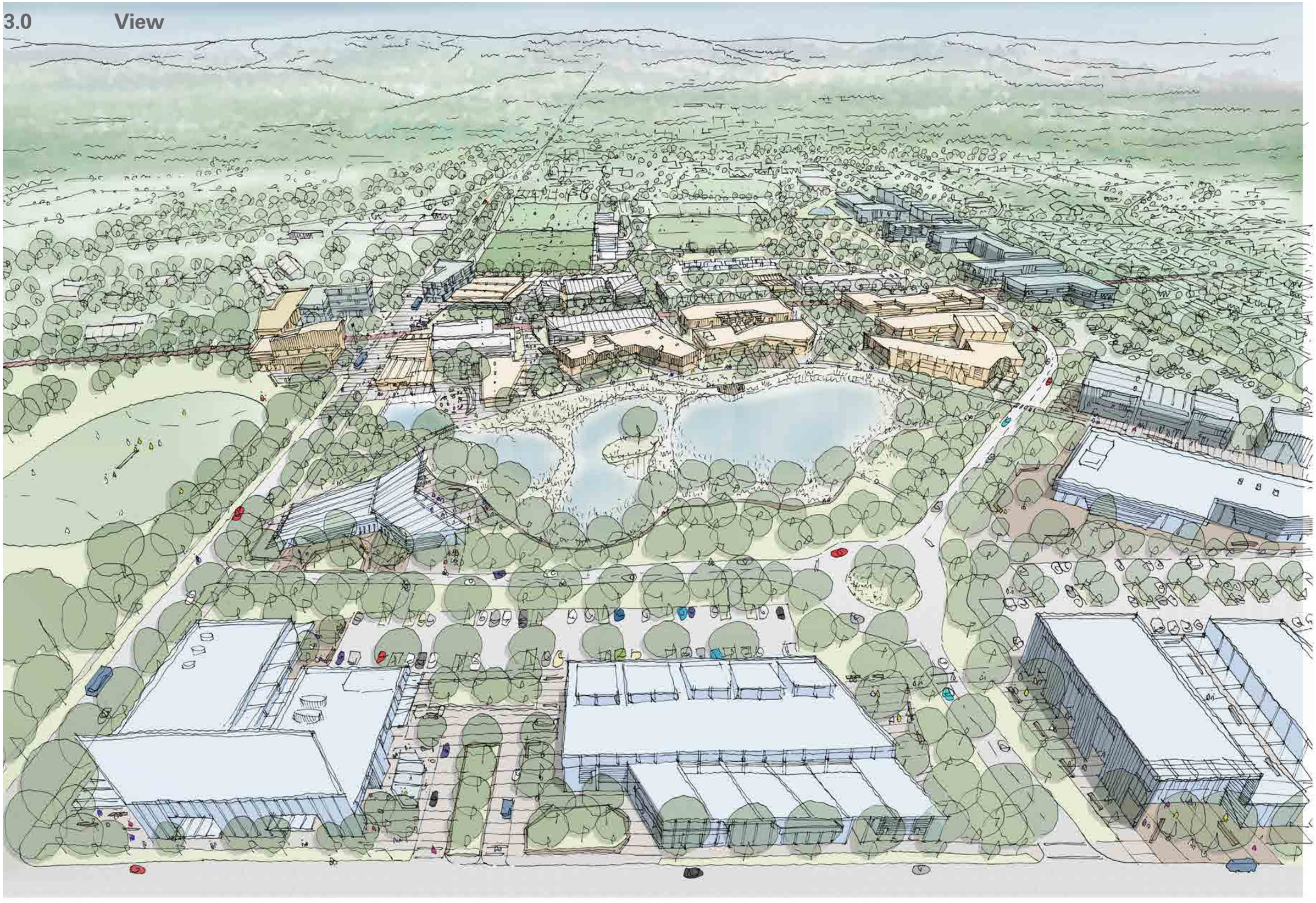
Strategies

3

3.0 View



3.1 Strategies

INTRODUCTION

The Master Plan Strategies provide a campus-wide approach to resolving existing issues and aligning future development to demonstrate that people are our starting point, as well as best achieving the institutional and campus vision.

Each Master Plan Strategy consists of the following elements:

Context

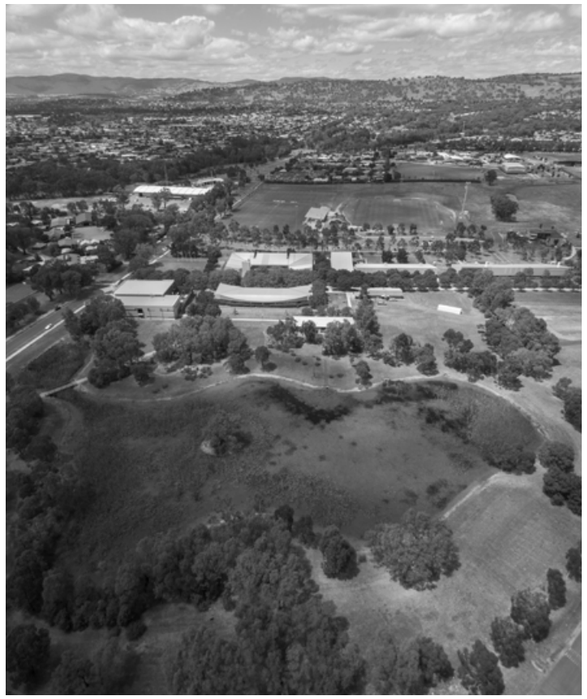
Details the context, including discussion on current issues affecting the campus.

Vision

Outlines the vision of the Strategy – an ambitious statement of intent.

Directions

Provides a list of directions, or actions, that could over time combine to realise the vision.



ALIGNMENT WITH RFAs

All campus Development Strategies will be viewed through the distinctive lens of the Research Focus Areas (RFAs) to ensure that the physical development of the campus is aligned with the University's core teaching and research agenda.

EARLY WINS

Early Wins are listed for each Strategy and align with the following categories:

— A project that can be delivered in the early stages of the Master Plan.

— An inexpensive project or initiative.

— A project with considerable support from the University and broader community.

— Processes or behaviour-change projects that can be delivered with limited resources.

1 THE KNOWLEDGE VILLAGE

- Partnerships and community engagement
- Teaching, learning and research
- Sports and recreation
- Campus life
- Housing
- Built form and development controls

2 ACCESS AND WAYFINDING

- Part 1: Access to the campus including cyclist, public transport and vehicular access strategy.
- Part 2: Access on campus
- Car parking and service access

3 LANDSCAPE AND PUBLIC REALM

- Landscape - spaces
- Landscape - walks
- Landscape - ecology and biodiversity
- Landscape palette

4 SUSTAINABILITY AND SERVICES

- Environmentally Sustainable Design (ESD)
- Energy, technology and Co2 emissions
- Water and waste

3.2 Partnerships and community engagement strategy

CONTEXT

There is a great opportunity to ensure the campus is designed for people by connecting with and supporting the needs of the local community. La Trobe University, together with Wodonga TAFE and Victory Lutheran College, could together create a regional employment and education precinct. Partnerships with private, public and community sectors have the potential to implement mutually beneficial projects with gains for the education precinct and the region as a whole.

Growth forecasts suggest that the core academic and research space requirements of the University can be accommodated in the core campus, within the ring road. This enables the sharing of additional space outside of University Drive for partnership lease agreements. This has the potential to diversify and strengthen the education precinct, and help the campus integrate with its surroundings.

Existing campus GFA: 11,085m²

Future campus core GFA 38,500m2

Future campus with partnership GFA: 163,500m²

Refer to 5.5 Yield for details.

VISION

Over the next 20 years, the University could maximise partnership opportunities and shared facilities on campus in order to establish a vibrant precinct of learning, research, community resources and employment. In order to achieve this, the campus could share its assets and engage with the needs of the community.

Research partnership projects that are closely related and which contribute to the University's core Research Focus Areas (RFA's) could be located in the core of the campus, inside the loop of Discovery Way. Partnership projects that foster a sense of community between the University, TAFE and West Wodonga could be located along University Drive. Outside of the core campus, there is potential for a wider spectrum of partnership projects, relating to sport, housing, aged care and innovation for industry and commerce enterprise partnerships.

DIRECTIONS

Research partnerships in the campus core

Multifunctional and multidisciplinary research spaces could be developed through partnerships with key institutions, in order to bolster research facilities on campus.

To align research undertaken with the regional sectors, the following research and regional partnership opportunities could also be explored:

- Agri-bio and entrepreneurial agriculture businesses
- Agri-science
- Ecology and economics innovation
- Business innovation
- Management research
- Logistics
- Emergency management and resilience.

Existing and potential regional research partners include:

- The Murray-Darling Freshwater Research Centre (MDFRC).
- North East Catchment Management Authority (NECMA).
- The Centre for the Study of the Inland (CSI).

Community partnerships

There are a variety of community centres in and around Wodonga, providing programmes for the community. The growing community in West Wodonga may develop a need for a range of services in the nearby area. City of Wodonga currently have community centres in Birallee, East Wodonga and Baranduda, which could be complemented by a centre near or on the campus. A community hub on campus could provide the community with a hall for corporate functions, social occasions and weddings, linked to nearby sporting facilities. It would help the University and Wodonga TAFE connect to the local community, creating pathways to further study.

Stronger connections to the Wodonga library could be formed, opening up the university library to community users. The proposed extension to the library could accommodate these uses.

Sports partnerships

The University could build on its existing connections to local sporting teams, through extensions to the existing pavilion, introduction of an all-weather field and construction of a new multi-purpose space that accommodates indoor sports and sports testing. Sports science, related research and coaching could also be explored in partnership with the La Trobe University Melbourne campus and Wodonga TAFE. There is a potential to connect to research currently undertaken at the Centre for Sports and Social impact Centre (CSSI).

Housing and aged care partnerships

Along the interface with Daintree Estate, housing and aged care projects that either support the University community or connect to research projects could be introduced. Several options could be considered, such as intergenerational housing, a healthy ageing centre or affordable housing.

Intergenerational living on campus could enable early childhood education, child and maternal health services and training opportunities on campus, and align well with the La Trobe University 'Building healthy communities' RFA. The centre could be linked to a variety of partners including The Wodonga LEAP Centre (currently offering Early Childhood Intervention Services for children with a disability or developmental delay), and possibly The Olga Tennison Autism Research Centre (OTARC) for research into children on the autism spectrum.

Through a partnership between the University and the John Richards Initiative (JRI), a research centre for ageing communities could be established. The University could provide commercial long term lease of land, and have research, clinical placements and student internships linked to the aged care facility. Wodonga TAFE could take part in this initiative through nursing training placements.

A variety of specialist housing could be accommodated on the campus, responding to short-term accommodation, staff and students as well as community challenges linked to affordability, healthy ageing, vulnerable families and domestic violence.

Innovation and enterprise partnerships

Innovation and enterprise partnerships could be targeted for key sites and along the highway to the north. These enterprises could be attracted by existing capability and investment in digital technologies and access to the existing AARNET connection, and could create mutually beneficial opportunities for research and commercialisation. The University could provide long-term lease arrangements to selected companies that have synergies with the Research Focus Areas of the University and the focuses of the region.

For further information on research, community, sport and housing partnerships is available in each respective strategy.

ALIGNMENT WITH RFAs

Building healthy communities

Pursue partnerships with research institutes and housing providers to introduce intergenerational living or a healthy ageing centre on campus.

Securing food, water and the environment

Pursue partnerships with research institutes regarding water and food security, and resilience.

Sport, exercise and rehabilitation

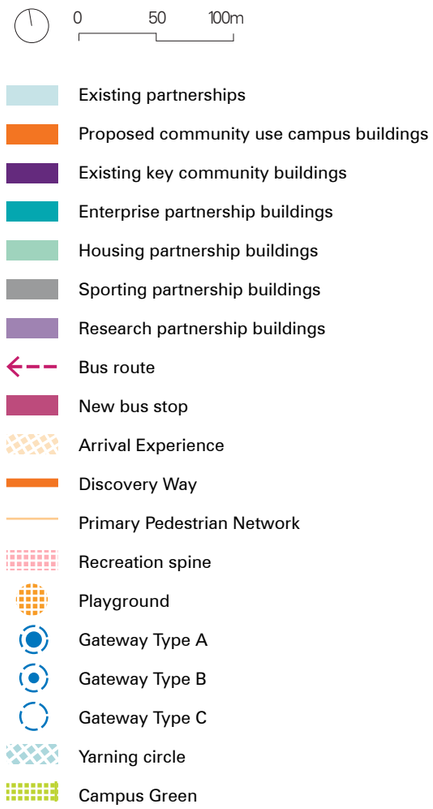
Pursue partnerships with the City of Wodonga and local sporting teams to introduce new and upgraded sports facilities.

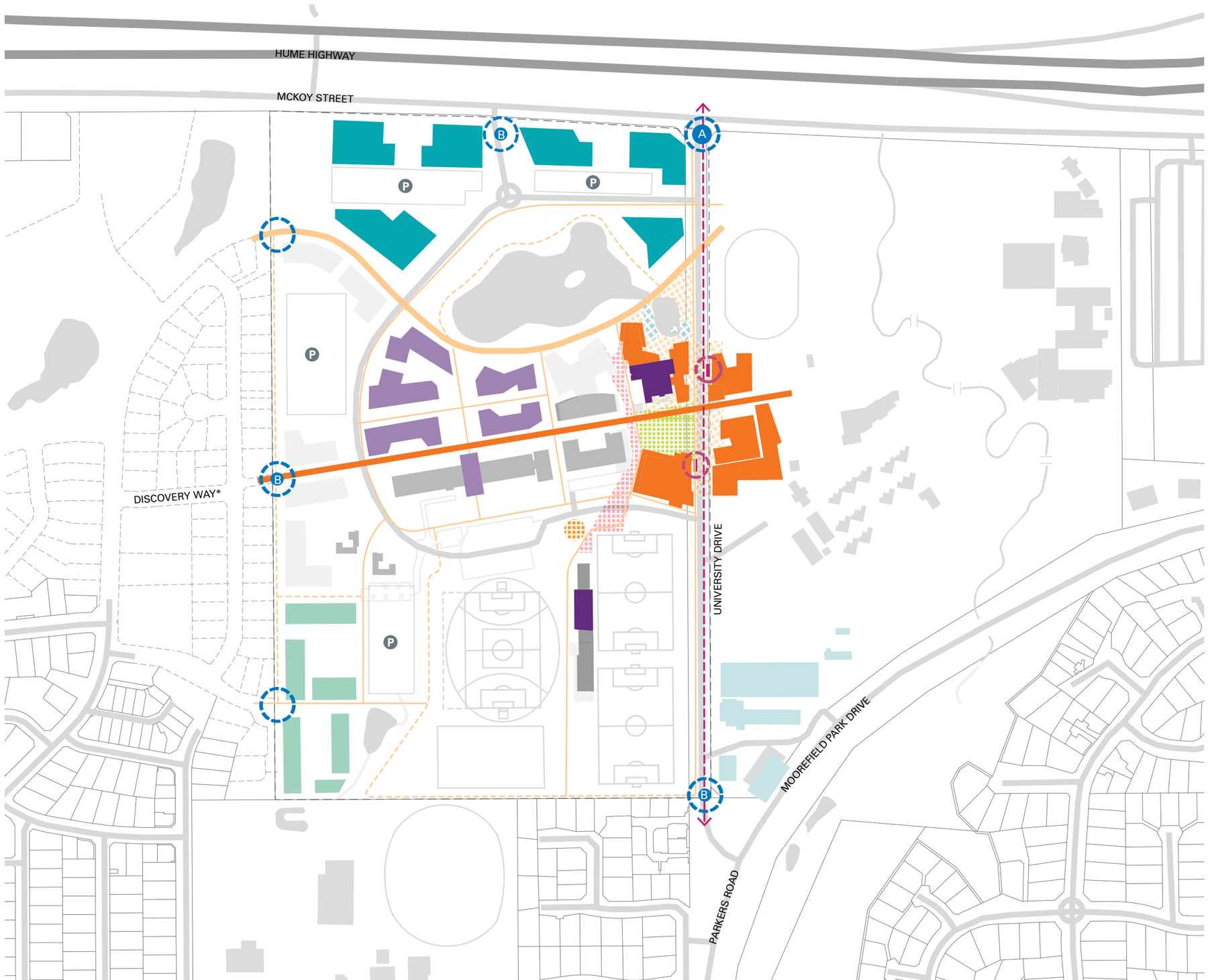
EARLY WINS

Extend Discovery Way into Daintree Estate.

Refer to 5.1 Early Wins 0-2 years - Built form and facilities

Partnerships and community engagement





*Street name as suggestion only

3.3 Teaching, learning and research strategy

TEACHING AND LEARNING

CONTEXT

The changing landscape of modern pedagogy and education styles highlight the need for this campus to adapt and remain relevant in order to retain and attract students. Consultations have indicated that the campus environment is appreciated but that many of the facilities do not meet expectations of service availability and spatial relevance.

Vibrant learning environments facilitate opportunities for dialogue between students and teachers and provide fewer limitations than formal classroom. The campus could provide informal indoor and outdoor spaces that allow for spontaneous interactions and are complementary to digital learning.

A range of best practice approaches and progress towards adaptable, technology-enabled and informal classroom typologies could be introduced while supporting the various specialised subjects taught on campus.

VISION

The campus could become a Knowledge Village by combining the distinctive vibrancy of a small University Town with the support and activity of an inclusive village community. The diversity of the campus student population could be supported by providing modern teaching and learning methods, and spaces that respond to the real needs of the community.

DIRECTIONS

TAFE partnership buildings

New buildings could be located along University Drive, in partnership with Wodonga TAFE. Centrally located, they could act as a bridge between both campuses and service the needs of both student groups.

The Student Hub could be one of these buildings, acting as a one-stop-shop for students and visitors. Prospective students can receive information about courses from each institution, along with dual institution learning options. This space could be open extended hours and include informal learning, a student kitchen and student recreational spaces. The proposed accelerator space could also be located in this building.

Accelerator space

An accelerator space could be introduced to the campus, providing support for up-and-coming enterprises. It could run programmes that help 'accelerate' start-ups, providing mentorship to help develop successful companies. This space could be collocated with the Student Hub, or be introduced into Building 4 (AW4) facing the Campus Green.

Library extension

Extending the existing library towards University Drive and the wetlands to the north would provide further formal and informal learning spaces for both students and the community. A cafe could be included, providing a high-quality hospitality offer with views of the wetlands and/or the Campus Green. The extension could be open extended hours and include bookable study rooms.

Refer to 5.2 Short to medium term 3-8 years - Built form and facilities.

Upgrade and extension of Building 3 (AW3) and Building 4 (AW4)

The ground floor in Building 4 could be upgraded, introducing bookable, digitally connected and collaborative spaces in addition to providing more flexible office space and admin solutions for staff.

Refer to 5.1 Early Wins 0-2 years - Built form and facilities.

The extensions of Buildings 3 and 4 could provide large, flexible and multi-functional teaching and learning spaces, incorporating folding walls which divide for individual work and open up for group work. Upgrades to Building 4 eastern facade, could improve visual and physical connections to the Campus Green and help activate this space.

Refer to 5.3 Medium to long-term 9-15years - Built form and facilities.

Informal learning

By providing improved indoor and outdoor informal teaching and learning environments group work and informal student activities can be better accommodated on campus. Flexible and bookable spaces could further be shared between Wodonga TAFE and La Trobe University.

Discovery Way represents the education spine of the campus connecting the Research precinct with teaching and learning within the Knowledge Village, which should be designed with adaptable gathering and informal learning areas.

RESEARCH

CONTEXT

La Trobe University is one of Australia's leaders in research and the Albury-Wodonga campus has a strong focus on research within health and environment.

Researching solutions to some of the region's most pressing issues is a way for the University to heighten its focus on delivering outcomes specific for Albury-Wodonga. By supporting partnerships locally, the University assists the community to grow in a sustainable way, while furthering the development of wider innovation within health and environment. Providing relevant research and meeting regional needs is a way to offer innovative pathways for scholars and to attract academics.

All research undertaken at La Trobe University is required to align with at least one of the five Research Focus Areas. Specifically, the following apply to the existing and future educational opportunities for research on campus;

- Securing food, water and the environment
- Sport, exercise and rehabilitation
- Building healthy communities

The John Richards Initiative (JRI) is the centre of research into ageing communities at the Albury-Wodonga campus and aims to make a difference to the wellbeing of a diverse range of people living in rural and regional Victoria.

The Murray-Darling Freshwater Research Centre (MDFRC) represents 27 years of collaboration between research, policy and management that has delivered efficient, effective and economical generation of new knowledge to support the sustainable management of the Murray-Darling Basin's water resources.

VISION

The Albury-Wodonga campus could provide some of the best facilities and supervision for research students in Australia. These facilities could meet modern research, meeting, teaching and learning needs in a highly connected environment.

DIRECTIONS

Research welcome centre

A collaborative space for research could be created between Buildings 6 and 8. This welcome centre could connect staff and students - flexible breakout spaces for researchers could enable students to share knowledge and interact more informally with staff. Collision spaces and social areas for informal discussion and academic brainstorming could be introduced.

The visibility of research is also a key direction for the campus. The research currently undertaken in Building 8 could be showcased through larger windows in the science labs. This could increase interest in campus research and attract further collaboration with secondary school classes and other local community groups.

Refer to 5.2 Short to medium term 3-8 years - Built form and facilities.

Research partnerships

Research partnerships relating to the Research Focus Areas, sport, healthy ageing and innovation could be investigated on key sites outside the campus core. These are explored further in Section 3.2 'Partnerships and community engagement strategy'.

ALIGNMENT WITH RFAs

The University's research ambitions will be prominent throughout all University precincts.

Interactive research elements will be installed throughout the campus to provide students, staff and visitors with the opportunity to learn about the University's RFAs.

EARLY WINS

Renovating Building 4 (AW4)
By providing a range of flexible learning and teaching spaces as well as informal social areas, this upgrade can quickly provide the community with more efficient utilisation of spaces and increased amenity.

Refer to 5.1 Early Wins 0-2 years - Built form and facilities and 4.7 Building 4 reconfiguration and informal learning.

Teaching, learning and research

0 50 100m

- Library and lecture hall
- Existing teaching, learning and research
- Proposed research built form
- Proposed teaching and learning built form
- Campus Green
- Pop-up plaza
- Discovery Way
- Pedestrian Boardwalk
- Yarning circle
- Existing built form
- Data connection (e.g AARNet, NBN)
- Services Hub (e.g. substation, communications)

*Street name as suggestion only

3.4 Sports and recreation strategy

CONTEXT

The Wodonga community has a strong interest in sports, in particular soccer, netball and AFL. The Albury-Wodonga Football Association, which organises soccer events and competitions, has affiliations with 12 soccer teams in the region, of which many come to play on campus.

The campus playing fields are made available to the community under a lease agreement with the local Council until 2023. The lease arrangement currently includes approximately 4 hectares (ha) of the campus will need to be considered with the growth of the sport precinct up to approximately 6 ha.

La Trobe University Albury-Wodonga campus is home to Wodonga Diamonds Football Club (WDFC) and Murray United Football Club (MUFC) who currently operate on the campus pitches. There are also well established links with A-league Melbourne City Football Club and the Australian Football League, who organise competitions on the sports pitches. Many primary and secondary schools also come into the campus to practice sports and other recreational pursuits for example Victory Lutheran College (VLC) use the campus grounds for orienteering.

VISION

Over the next 20 years, the campus will continue to welcome the community on to the campus by supporting sport and recreation, both formal and informal. Ties could be strengthened with local sporting teams, offering the potential to link up with La Trobe University teaching programs, athlete and player testing and research.

DIRECTIONS

Indoor sport facilities

The proposed Community Commons could include multi-purpose space, including two indoor basketball courts that can host indoor sport events. The Community Commons could include sports science and training gyms for both professional sporting and community use.

Refer to 5.2 Short to medium-term 3-8 years - built form and facilities.

Expanded curriculum

There is an opportunity for the Albury-Wodonga campus to expand its curriculum or events to include exercise and sports coaching, and sports research linked to the La Trobe University Sports precinct on the Melbourne campus and Wodonga TAFE.

Recreational spine

A formal landscaped pedestrian connection could encourage community users to venture into the Knowledge Village. This pedestrian spine connecting sport and recreation on campus could continue past the library towards the wetlands to offer a running track and direct visual links with the wetlands asset.

Refer to 3.2 Landscape and urban realm - walks for further information and 5.2 Short to medium-term 3-8 years - urban realm and landscaping.

Extended sporting pavilions

With such a strong existing connection to a variety of soccer clubs, upgraded and extended facilities in the Sports precinct could anchor partnership and community use of the campus into the future.

Refer to 5.2 Short to medium-term 3-8 years - built form and facilities.

Synthetic 3G surface

One or more of the existing sporting pitches could be upgraded into a synthetic 3G surface, in this way the fields could be more effective through all seasons and able to accommodate more use (including multiple sports) providing a venue worthy of major sports which has facility for spectator stands and better ancillary services.

Refer to 5.2 Short to medium-term 3-8 years - urban realm and landscaping.

Sharing facilities between campuses

There is the potential to use the Wodonga TAFE and VLC facilities as part of one sporting resource. There is one oval to the north-west of the TAFE campus that has been used by Wodonga Diamonds Football Club (WDFC) for training. There is an opportunity to partner with VLC to share indoor and outdoor sporting facilities and create more of a link between the three campuses.

Informal sporting and activities

As part of the proposed strategy, car parking areas that are not being used for their primary role should be activated through 'pop-up' events including food truck parking, and flat floor based informal sports such as skating, skateboarding and outdoor ball sports.

Focus on passive recreation

Upgrading cycle and pedestrian paths throughout the campus could both improve options for passive recreation, and promote access to the campus environment, such as the wetlands, ponds and native vegetation assets.

A path for joggers and dog walkers could be introduced along eco-corridors. Linked back to the formal campus paths, an informal track could run from the residential area south of Moorefield Park Drive towards Wodonga TAFE residences, via the Knowledge Village along Discovery Way. Outdoor gyms with exercise equipment, mapped walks, signage and hydration stations could encourage use of these paths.

Refer to 3.12 Landscape and urban realm - walks for further information.

Cycling

With a large network of bicycle trails in the region and an established road bike community that travels along McKoy Street on weekends, there is an opportunity to connect regional trails and bicycle lanes to Wodonga Central Business Area (CBA) with rest and cycling amenity within the Knowledge Village on campus.

Wodonga Diamonds Football Club (WDFC)

ALIGNMENT WITH RFAs

Building healthy communities

Improve the health and wellbeing of University students, staff and the general community.

Sport, exercise and rehabilitation

Ensure that adequate facilities are available that allow for a happy and healthy staff and student population, and community in general.

Provide testing facilities to support elite athletes and the local community.

EARLY WINS

New bicycle link along Lawrence Street to connect to campus

By collaborating with City of Wodonga to facilitate a bicycle link along Lawrence Street greater bicycle accessibility to campus and end-of-trip facilities can be achieved in the short-term.

Refer to 3.8 Access and Wayfinding - Access to campus.

Sports and recreation

Existing lease area Approximately 4 ha

Future Sports precinct: Approximately 6 ha

0 50 100m

- Yarning Circle
- Playground
- Primary recreation spine
- Secondary recreation spine
- Community Commons indoor sports and training
- Pavilion extension
- Existing VLC indoor sports (with associated playing fields)
- Existing Wodonga TAFE and VLC sporting fields
- New pitches and training pitch
- Existing sport pitch lease boundary
- Informal sports
- Sports precinct
- Primary Pedestrian Newtork
- Secondary pedestrian links
- Discovery Way
- Weekend road cyclist route
- Potential cyclist link
- Eco corridor

**Street name as suggestion only*

3.5 Campus life strategy

CONTEXT

It is recognised that students take more away from their University experience than a just a qualification, such as shared experiences, personal growth and community engagement. In order to create a dynamic and 'sticky' campus, conducive to these types of encounters there needs to be a range of accommodation, hospitality offers and student services on offer.

Staff and student services

Staff and student services are currently located in Building 4 (AW4).

Hospitality and retail

The food retail services are dispersed between three locations on campus; the 'Hangar', building 5a and the Wodonga TAFE cafeteria. All three are currently struggling with economic viability due to lack of patrons. This, in combination with limited opening hours, results in many students and staff going off site for meals. Wodonga TAFE hosts several 'pop-up' services, such as massage, hairdressing, coffee and a plant nursery, however they are not well known at the University and exposure to the surrounding community could be improved.

Events

La Trobe University hold a number of events at the Albury-Wodonga campus each year. Partnership events such as the Business Outreach launch, New Beats Journalism event and the Health Careers Expo. There are also secondary school student-focused events, such as the Experience La Trobe Evening and Experience La Trobe Day events annually attracting around 350 people per event, in addition to annual school visits, tertiary information sessions and public lectures.

Arts and culture

A partnership between La Trobe University and the Murray Art Museum Albury (MAMA) has recently been initiated and presents opportunities to improve the fairly limited presence of arts and culture on campus.

Indigenous culture

La Trobe University has a diverse and growing indigenous community, from many nations. The community has strong connections to the Albury Wodonga Aboriginal Health Service (AWAHS).

VISION

In order to design a dynamic and 'sticky' campus for people over the next 20 years, a greater range of events and facilities could be made available to staff and students. More students are expected to live on campus, and there could be a greater offering of food and beverage services such as through a cafe and pub. Indigenous culture could be celebrated, and staff and student needs supported.

DIRECTION

Student services

A new one-stop-shop for students could be created, in a central Student Hub on Wodonga TAFE land. This new hub could be the first place for students to arrive on campus, providing information and enabling enrolment for either institution, or in dual institution programmes.

Hospitality and retail

A new cafe could be introduced into an extension of the library, replacing building 5a cafe.

A new licensed venue could be introduced in a new multifunctional building that could replace the 'Hangar'. This new venue could be co-located with a microbrewery and have an informal and contemporary food offering.

'Pop-up' activities such as massage, hairdressing, coffee and a plant nursery could be hosted in one of the new buildings of the campus core such as an upgraded 'Hangar' with external plaza space. By being more visible and accessible, these activities could help bring vibrancy and well needed services to the campus core.

Food trucks could be booked to come to campus during key events and peak times to provide diverse, high-quality food on campus.

Events

A Campus Green, centrally located, landscaped, and flexible outdoor space could be introduced. This space could have the ability to host performing arts, ad-hoc community theatre events and outdoor cinema evenings.

Arts and culture

The partnership with MAMA highlights the potential to develop a number of ad-hoc additional arts and culture partnerships, both local and regional which could include the HotHouse Theatre, the Flying Fruit Fly Circus, Benalla Performing Arts and Convention Centre (GRADA) and GOTAFE Regional Academy of Dramatic Arts.

To increase the presence of art on campus, video art or photo art could be shown on digital screens around campus. The screens could from time to time also display important University related information. A sculpture park and themed walks could be introduced around campus, with the potential for art installations along the Discovery Way.

Indigenous culture

A Yarning circle could be introduced near the lake and north of the library. This could be an important place for meeting, sharing of stories and transferring knowledge for the local indigenous community.

A Cultural and Heritage Management Plan (CHMP) should be undertaken for this campus to establish and record important cultural heritage aspects.

Refer to 5.1 Early Wins 0-2 years - urban realm and landscape and 4.10 Wetlands upgrade.

ALIGNMENT WITH RFAs

Building healthy communities

Ensure that campus environments in which staff, students and visitors live, work and socialise are health enhancing and sustaining.

Transforming human societies

Design the campus as a 24/7 campus precinct for people, transforming the way that students and staff interact together (e.g. not a just a tertiary education experience).

EARLY WINS

Pop-up hospitality, services and retail on campus

In order to create a vibrant campus core that supports the needs of the University community, food and coffee trucks could provide diverse hospitality options, and massage and hairdressing services could be supplied by the adjacent Wodonga TAFE.

Local performance group Flying Fruit Fly Circus

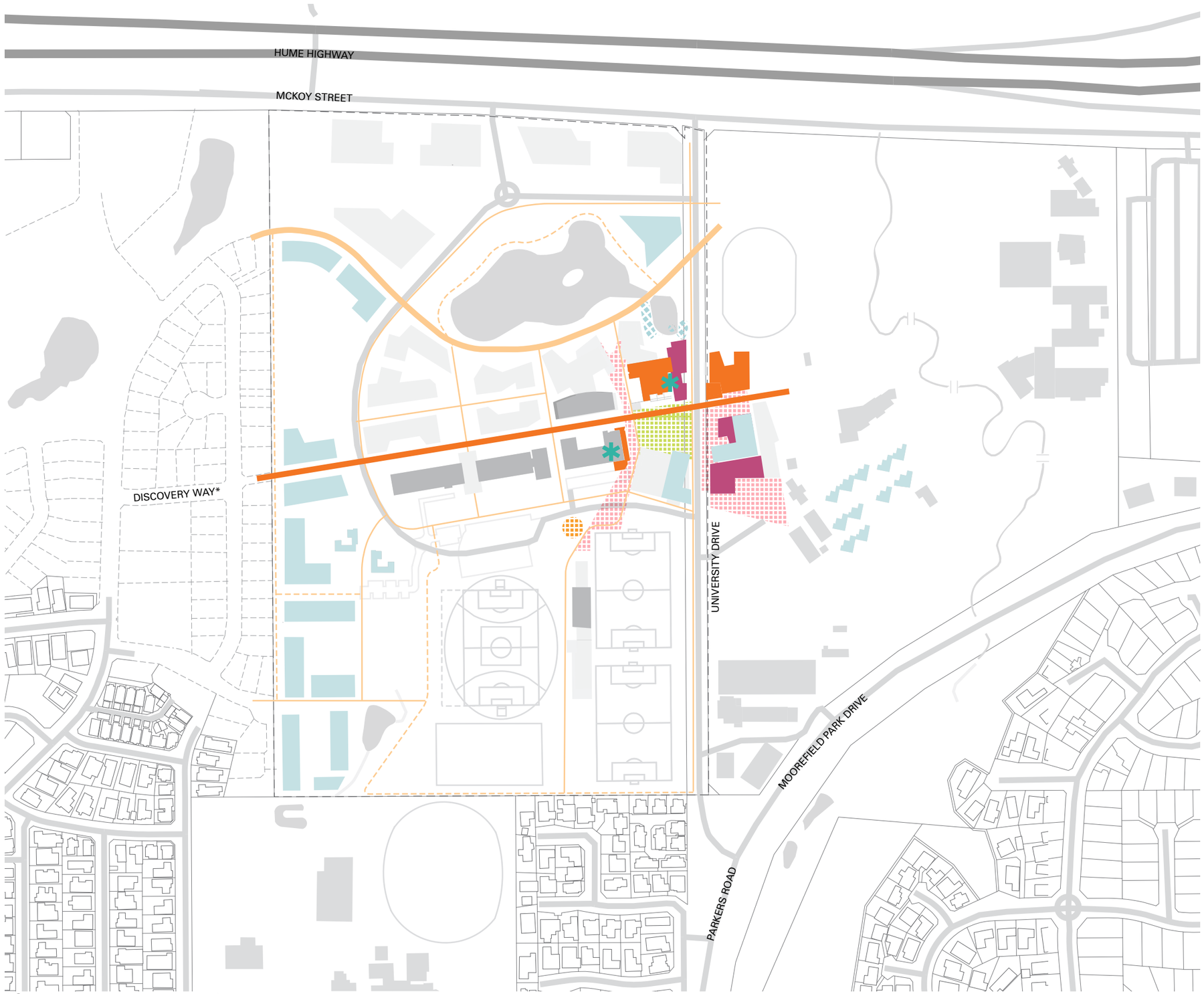
Integrated art at The Centre for Aboriginal Studies (CAS), Curtin University

Market Alley, University of Wollongong

Wodonga Hothouse Theatre drama school students.

Campus life

- Housing
- Recreation spine and pop up plaza
- Campus Green
- Hospitality
- Proposed student services
- Playground
- Primary Pedestrian network
- Secondary pedestrian links
- Yarning circle
- Existing student services
- Discovery Way
- Pedestrian Boardwalk



*Street name as suggestion only

3.6 Housing strategy

CONTEXT

La Trobe University currently provides 28 student beds on campus at McFarlane's Hill residences, a project delivered under the Rural Health School program. The La Trobe University also has access to 43 beds out of 68 available at the East End residences on the Wodonga TAFE campus. All units on both campuses are fully furnished and residents have their own bedroom but share the kitchen, laundry, bathroom, and living area.

With a total of 71 beds available for the University, it provides accommodation for approximately 10%* of students on campus in 2016. 12 of the beds at McFarlane's Hill residences are taken by dental students undertaking three monthly training placements at the dental clinic in the Wodonga Central Business Area (CBA).

VISION

In order to create a vibrant campus over the next 20 years, the campus could provide a 20% ratio of beds on campus, reaching a total of 700 beds. There could be a diversity of accommodation provided on campus, including student housing, short-term accommodation and possibly aged care or intergenerational housing.

DIRECTION

Flexible Student accommodation

The concept of the core campus as a Knowledge Village supports an increase in the number of accommodation options on campus over the coming years. Students travel great distances to the Albury-Wodonga campus and there could be accommodation choices implemented that are more flexible than the accommodation model currently offered.

University housing: Knowledge Village

Around 200 beds could be provided in the Knowledge Village precinct, above key new buildings on University Drive. As these buildings could host multi-level accommodation, there is the possibility to include various housing types in the same building, with the option to change their use as the need arises.

Alongside more traditional student accommodation, flexible, short-term accommodation, suiting both part-time students and casual sporting teams, short course study groups, researchers and staff visiting campus could be included.

Refer to Short to medium-term 3-8 years - Built form and facilities.

University housing: community interface

Additional student housing could be provided along Discovery Way and adjacent to the Daintree Estate. This could create a suitable interface with this neighbourhood, and provide student housing in close proximity to the proposed supermarket and childcare centre.

Partnership housing

Other forms of housing could be delivered in the south-west of the campus, in partnership with housing providers and University programmes. This could create a suitable interface with Daintree Estate, and provide diverse housing options in close proximity to the proposed supermarket and childcare centre.

This housing could be developed to support the University's health related programmes, such nursing and the John Richards Initiative (JRI). Opportunities for types of housing and partnerships could include:

- Co-located aged care training, research and specialised aged care accommodation.
- Co-located intergenerational housing, child care facilities and research.
- Housing for indigenous community members in need or housing for families in financial need or escaping domestic violence.
- Subsidised affordable accommodation options for students in need, while providing pathways to higher education.

Campus accommodation needs

Student population	When	10%	20%
724 EFTSL	2016	**71 beds***	145 beds
1,600 EFTSL	2026	160 beds	320 beds
3,500 EFTSL	2036	350 beds	700 beds

* Current provision of beds, includes 43 beds at Wodonga TAFE.

ALIGNMENT WITH RFAs

Building healthy communities

Providing equity, affordability and quality of life for those living on the campus.

Creating research possibilities with a healthy ageing centre or intergenerational living.

Transforming human societies

Housing for indigenous community members in need or families escaping domestic violence.

Securing food, water and the environment

Creating a thriving and more sustainable on-campus community. Less necessary travel = less carbon emissions.

EARLY WINS

Discovery Way pedestrian link to Daintree Estate

The development of stage 7 at Daintree Estate is expected to begin in 2017 and deliver housing, an IGA supermarket and a child care centre.

Discovery Way could become the vibrant pedestrian an cyclist east-west spine through campus. Paving treatments, lighting upgrades and boulevard tree planting could line this path through campus and follow through on either side of the property boundary to ensure a well-connected interface, easy access and promotion of shared facilities for students, staff and residents.

Refer to 3.12 Landscape and urban realm - walks and 5.1 Early Wins 0-2years - urban realm and landscaping.

McFarlane's Hill residences, La Trobe University campus

East End residences, Wodonga TAFE campus

Campus accommodation at Monash Clayton Campus

Housing

*Street name as suggestion only

3.7 Built form development controls

CONTEXT

The campus buildings have been constructed over the past 20 years, following the founding of the campus in 1991. In line with the 1993 Albury-Wodonga campus Master Plan, the buildings are laid out either side of an east-west pedestrian spine. This provides a good wayfinding experience and high-quality public realm for the teaching, learning and research buildings on campus.

The passive interfaces of some existing buildings do not convey the diversity of activity inside, and would benefit from opening up more towards pedestrian path interfaces, outdoor seating areas and nearby buildings. The southern façades of the buildings facing the southern car park cater for back-of-house services and do not provide a welcoming entrance to the campus.

Surrounding the existing buildings are large underused areas. There is the potential to sustainably grow the existing campus, and create room for partnership activities, which would help integrate the campus into its surroundings.

VISION

Over the next 20 years, the campus could develop into a vibrant neighbourhood, connected to its surroundings. The height and massing of any new buildings could aim to reinforce the sense of a vibrant neighbourhood, but also be moderated to respect the existing character of the campus. Active façades could be encouraged for both existing and proposed buildings, especially when facing on to primary pedestrian walks.

DIRECTIONS

Height

New development on campus could predominately be of two stories, aligning with the scale of the existing campus. There are opportunities for greater height of up to five stories for buildings within the Knowledge Village. This would allow the inclusion of student housing and short-stay accommodation to increase the vitality of this core area.

Alignment and Setback

There must be strict alignment along the primary and secondary pedestrian networks, including Discovery Way, to provide a strong built form edge.

Buildings along the property boundary must also have an equitable and consistent setback to a coherent presentation to these edges.

View corridors

The view corridors along Discovery Way and University Drive should be reinforced and maintained.

The view corridor along Discovery Way should be extended into the adjacent TAFE and Daintree Estate, through continued partnerships with these stakeholders.

Activated frontages

Active façades are encouraged along the primary pedestrian network with priority given to façades facing the Community Commons.

Ground floor / street level permeability could be encouraged in new development to ensure activation of all street and path frontages in the Knowledge Village.

Active façades are also encouraged along University Drive.

Entrances

Primary entrances to buildings should address the primary pedestrian network.

Primary entries could be co-located and align with other adjacent building entries. Secondary entries could be highly visible and located on main pedestrian routes through the campus.

Service entries to buildings could be concealed where possible, located away from primary pedestrian paths.

Interfaces

North: Partnership buildings facing McKoy Street could have an iconic presence towards the highway, with their service access concealed. Their main entrances could face towards shared car parks to the south.

East: Buildings facing University Drive could have active façades facing the street.

West: The campus could engage with Daintree Estate, through a tree lined pedestrian and cylist path running along the edge of the boundary. Buildings facing this interface could be predominantly residential presenting an active facade treatment to this interface. Further discussions with the developer and City of Wodonga could promote a welcoming and high-quality interface with this residential development.

South: There is limited development expected along the southern boundary with Victory Lutheran College (VLC). The residential buildings facing the College do not need to have active façades, but should present a tidy interface to the school.

EARLY WINS

Facade treatments

Activate the frontages of some existing buildings to Discovery Way.

ALIGNMENT WITH RFAS

Building healthy communities

Increased comfort, amenity and usability for students and staff.

Victoria Grange, Vermont South, Melbourne, Australian Unity

Daintree Interface

SCALE 1:400

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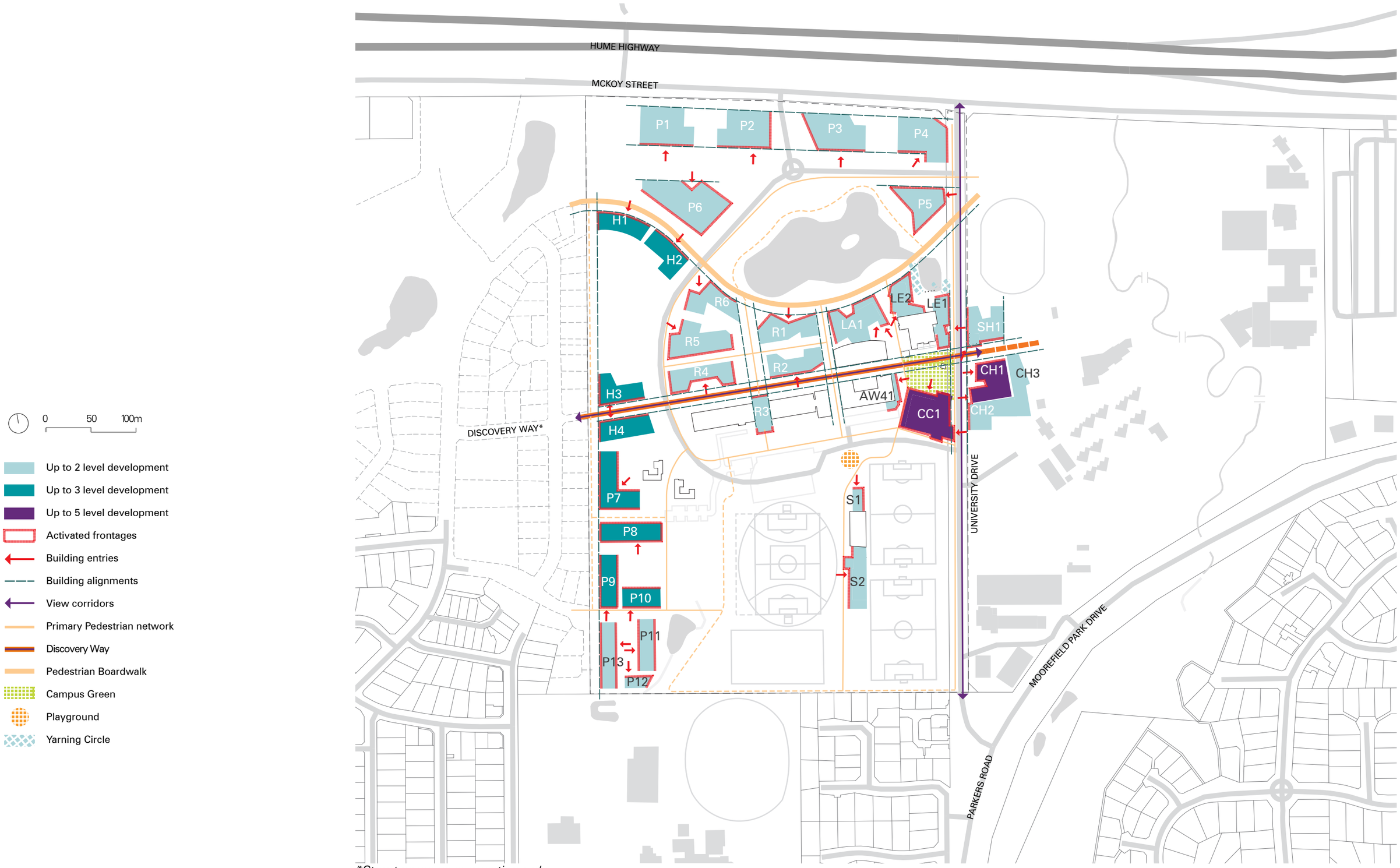
Built form development controls



*Street name as suggestion only

3.8 Access and Wayfinding - Part 1: Access to campus

PART 1: ACCESS TO THE CAMPUS

Access to the Campus strategy including cyclist, public transport and vehicular access strategy.

CONTEXT

Private vehicle accessibility is generally very good in Albury-Wodonga. The campus is located approximately 4km west of the Wodonga Central Business Area (CBA) and approximately 10km southwest of the Albury CBD.

The arrival experience at the campus plays a key role in a first time visitor's perception of the University. It is important that visitors to Albury-Wodonga be welcomed with the knowledge that La Trobe University has a presence in the region and that there is a well-defined, well-signed route from key arrival points such as the Hume Freeway (specifically at McKoy Street and Melrose Drive exits), Wodonga CBA (Water Tower round-a-bout), the southern gateway (Beechworth Road and Yarralumla Drive) and Wodonga Railway Station.

The nearest train station to the Albury-Wodonga Campus is the Wodonga Railway Station. It is located about three and a half kilometres from the campus. Since train services are infrequent and a significant proportion of students live within the Albury-Wodonga region, local bus services are the more likely form of public transport that students and staff would use to commute to campus if by vehicle other than by private car.

The current campus population at the University includes 724 EFTSL and is proposed to grow to 3,500 EFTSL by 2036. A sizeable portion of the student population living within the local area, and population forecasts estimate a 36% increase in the population of the Albury-Wodonga region by 2026.

Increasing on-campus accommodation and improving pedestrian and cycling infrastructure is an easy way to improve travel choices for future students and staff. The existing conditions for active transport within campus boundaries are generally suitable – although they can be improved. The public transport connections between the campus and surrounding communities require significant improvements. Without these improvements, the growth in student numbers could have significant negative impacts in terms of unreliable travel times and parking spaces.

VISION

The University could promote alternatives to single-occupant car travel to the Campus. This could be achieved by creating attractive on-campus accommodation options and improved public transport and cycling links to surrounding neighbourhoods.

DIRECTIONS

Cycling

An early win for the University is to work with the City of Wodonga to improve cycle lanes on Lawrence Street and Mayfair Drive. Combined, these two links could significantly expand the area within Wodonga that has proximity to bike lanes leading to campus.

La Trobe University should decide on a specific cycle infrastructure style for the campus. In particular, a robust and effective style of bicycle hoop should be chosen, so that the same style can be installed around the campus.

Existing cyclist end-of-trip facilities are currently serving staff and student needs, however all future buildings (including residences) need to include cyclist end-of-trip facilities.

Public transport

An early win for the University is to connect to North Park Drive and University Drive for buses, active transport users (eg, cyclists) and emergency vehicles. A new north-south link between the two campuses allows bus services to directly serve the campus heart while being more visible and accessible for both communities.

La Trobe University could advocate for improved service levels and potentially new bus services as existing services are extremely limited (in time of operation, journey times and geographic reach). Providing a north-south link through the campus could enable network restructure opportunities for the local bus services. There may be further opportunities to collaborate with Wodonga TAFE and the City of Wodonga to provide more efficient 'through campus' services for Route T, Route O and an improved standard network that could include further services through the campus.

The University could advocate for quick wins such as two-way routes through the University so that the network becomes a quicker and more viable option for potential users.

Vehicle access

- Business as usual with the proposed growth to 3,500 EFTSL by 2036 could put increasing amounts of stress onto the local road network and car parking capacity. In order to meet the sustainability goals of the University and maintain existing levels of safety and amenities for all road users (including pedestrians), there could be a need to reduce the University's reliance on private vehicle travel. Interventions to reduce vehicular reliance include:
- Improve walking, cycling and public transport (infrastructure, facilities and services).
- Increase the on-campus residential population.
- Encourage car-pooling through La Trobe University facilitated systems and priority parking, particularly for regional and intercampus travellers.
- Improve parking management methods.

Arrival experience and wayfinding

La Trobe University could look to improve the entry feature at the southern University Drive entrance. This could be by way of a second sign on the east side, vegetation, a sculpture, public realm improvements, or an entirely new road alignment and built form. The current sign can be difficult to see when arriving from the east, despite the southern entrance being better positioned for access from students and staff who reside within the local community.

The University could investigate improvements to the northern campus interface along McKoy Street. This side of the campus could continue to be a strong arrival frontage, particularly for visitors coming from the freeway. Any new built developments on this interface should be encouraged to look outwards and provide a sense of presence for local residents.

The University should collaborate with VicRoads and the City of Wodonga to improve signage in neighbourhoods around the University. Signage in the surrounding neighbourhoods should announce and direct visitors to the University and other major destinations. Opportunities should not be limited to road signage, but should also include signs on pedestrian and cycling paths.

Amsterdam, The Netherlands - Cycling on road environment

Two-direction bicycle lane alongside road

ALIGNMENT WITH RFAs

Building healthy communities

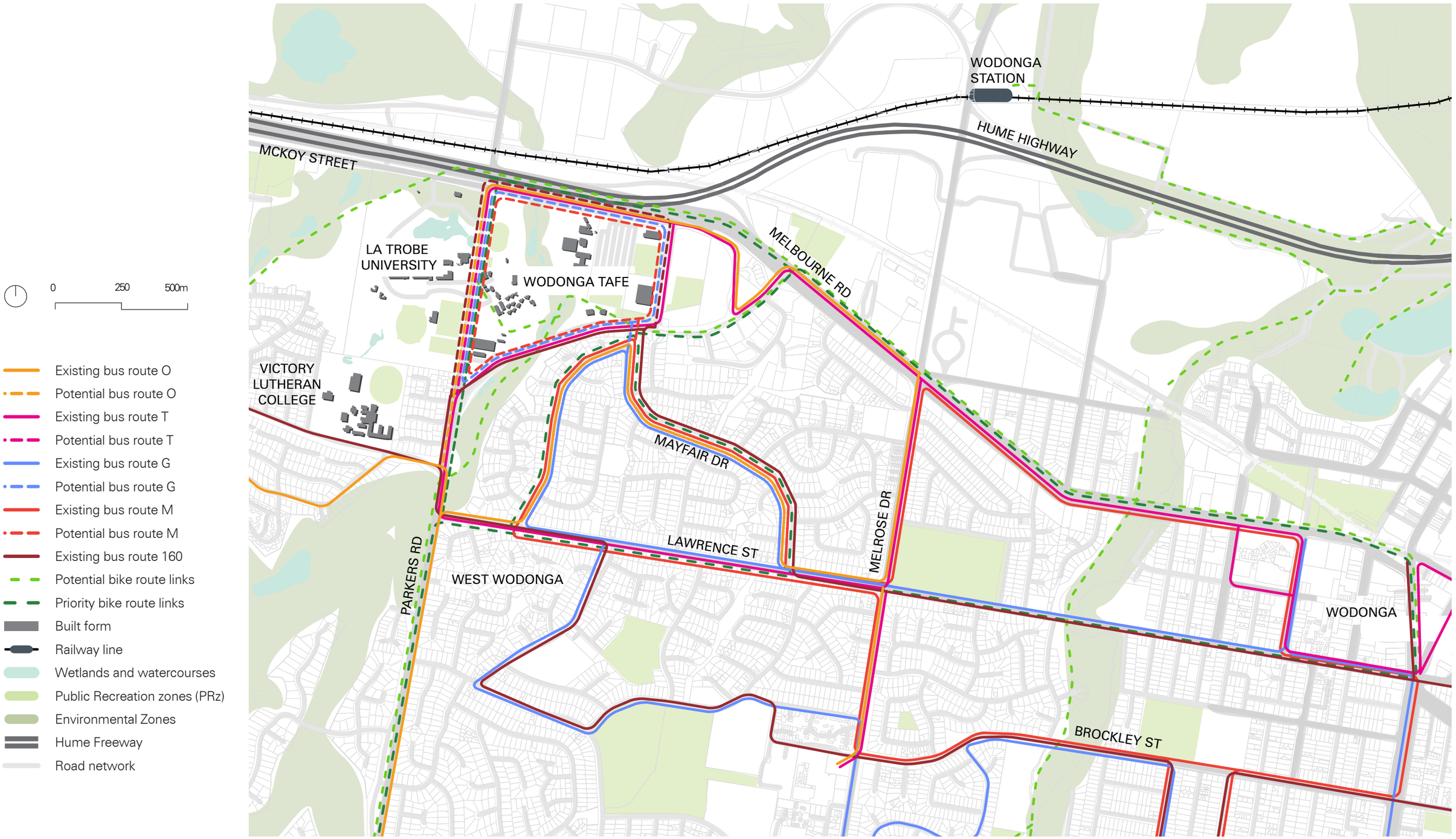
Improve the health and wellbeing of students, staff and the general community by providing sustainable transport, improving choice, and reducing carbon emissions.

EARLY WINS

Bus route simplification
By connecting the currently separate ends of University Drive existing public transport routes can have direct and 'through access' into the Knowledge Village. Additional services could then bring local residents and visitors into campus.

Refer to 5.1 Early Wins - Access and wayfinding.

Access to campus



3.9 Access and Wayfinding - Part 2: Access on campus

CONTEXT

The compact nature of the campus allows students and staff to move quickly by foot between teaching spaces and facilities. Core buildings and facilities are focused along the main central walk that links to Wodonga TAFE. On campus movement is dominated by pedestrians mainly because walking paths provide relatively direct connections that are more convenient than driving between car parks.

There is potential to increase cycling as an option for on-campus travel. The main benefit of this choice would be for travel between La Trobe University and Wodonga TAFE.

There are several bike racks and showering facilities situated around the campus, however, there is a need for high-quality (particularly sheltered) end-of-trip bike facilities. It is important that the facilities are promoted and well-advertised to encourage cycling as a potential mode for the University and TAFE communities.

VISION

Over the next 20 years, pedestrian priority and amenity could be improved on the campus. Private vehicles (and car parking) could be progressively moved away from the campus core as it grows. An intuitive pedestrian network could be expanded upon, creating direct access paths, clear links and strong sight lines that are easy to navigate. High-quality shared zones could be introduced, with a focus on pedestrian safety in these areas.

An active and vibrant new link on University Drive could enable north-south movement of buses and emergency vehicles. The new bus link could also provide a unique place making opportunity and arrival space with a centralised bus stop that serves the core of the University and Wodonga TAFE campuses. The link could be signposted as "NO ENTRY – Buses Excepted".

Cycling may become a more desirable option for La Trobe University's staff, students and visitors as a result of improvements to the cycling infrastructure. A safe and generous shared network could be developed through the campus in addition to improved bicycle end-of-trip facilities.

DIRECTIONS

Vehicular access

The main vehicle access to the campus could continue to be at the southern end of University Drive from Moorefield Park Drive/Parkers Road. The northern entrances to campus (both off McKoy Street) could be retained and improved in terms of the gateway experience.

There are no immediate plans for additional vehicular entrances to the campus (including from the Daintree Estate or Wodonga TAFE campus). As buildings are developed along McKoy Street there is potential for a third entrance from McKoy Street to be developed.

Convenient parking and access next to buildings for service and contractor vehicles should continue to be provided for. These spaces could be accessed from the shared road/path network. Over time bollards may need to be installed to prevent unauthorised access to the shared road/path network.

Other parking areas could progressively be developed away from the campus core (leaving the core available for high amenity and high-value uses).

Cycling

The University could expand end-of-trip bicycle facilities as the campus population grows. People may only consider cycling a viable option once high-quality end-of-trip facilities are provided in convenient locations. These should be located near key destination buildings such as the Library, residential buildings and larger communal spaces.

The University could facilitate excellent bicycle and pedestrian connections along University Drive and the campus pedestrian spine to connect to existing and planned pedestrian and bicycle paths in the neighbourhood. The University Drive spine could instead be a 4m wide shared road/path with cycling separated from the main roadway (and parking). It could be located on the western side of University Drive as an expansion of the existing 2m wide path.

Over time, the University could monitor the need for a signalised crossing to improve access across Parkers Road. Given the location of the existing grade separated link beneath Moorefield Park Drive, the priority for such a signalised crossing could be to the south of the Parkers Road / University Drive intersection.

Public transport - University Drive

It is proposed that the naming of University Drive could be changed to only apply to the north-south street that forms the boundary between the University campus and the Wodonga TAFE campus. This could occur at the same time as the bus link is opened between the two halves of the street.

A key project could be to activate University Drive and surrounding public realm, as a central campus arrival passage and destination. Visitors walking along the main pathways could enjoy a heightened level of activity through a well-designed series of spaces and streetscapes. University Drive could allow improved and additional transport connections from Albury-Wodonga campus to central Wodonga with centrally located bus stops and better bicycle links.

There is further opportunity to create strong landscape gestures along University Drive and through the campus to display the University's native landscape identity.

Traffic calming measures

In order to promote a safe and friendly pedestrian environment, it is important that the design and feel of the University Drive link could clearly indicate a 'shared space' and plaza rather than a traditional road. The following traffic calming options should be considered when designing the new access link:

- The road could 'ramp up' towards the raised plaza zone and 'ramp down' as the bus leaves the plaza.
- Surface treatment of the road such as the colour and material palette should complement the existing east-west pedestrian alignment and reflect the pedestrian priority of the zone.
- Access or private vehicles may be prevented by using 'bus only' signage. Physical restrictions such as boom barriers or rising bollards should be used only if an ongoing compliance issue needs to be addressed.
- Collaboration with PTV and the bus operator on driver education.
- A 10km/h speed limit.

Refer to Early wins 0-2years - public transport, road and car parking.

Lonsdale St, Dandenong

Hargreaves mall, Bendigo

ALIGNMENT WITH RFAs

Understanding Disease

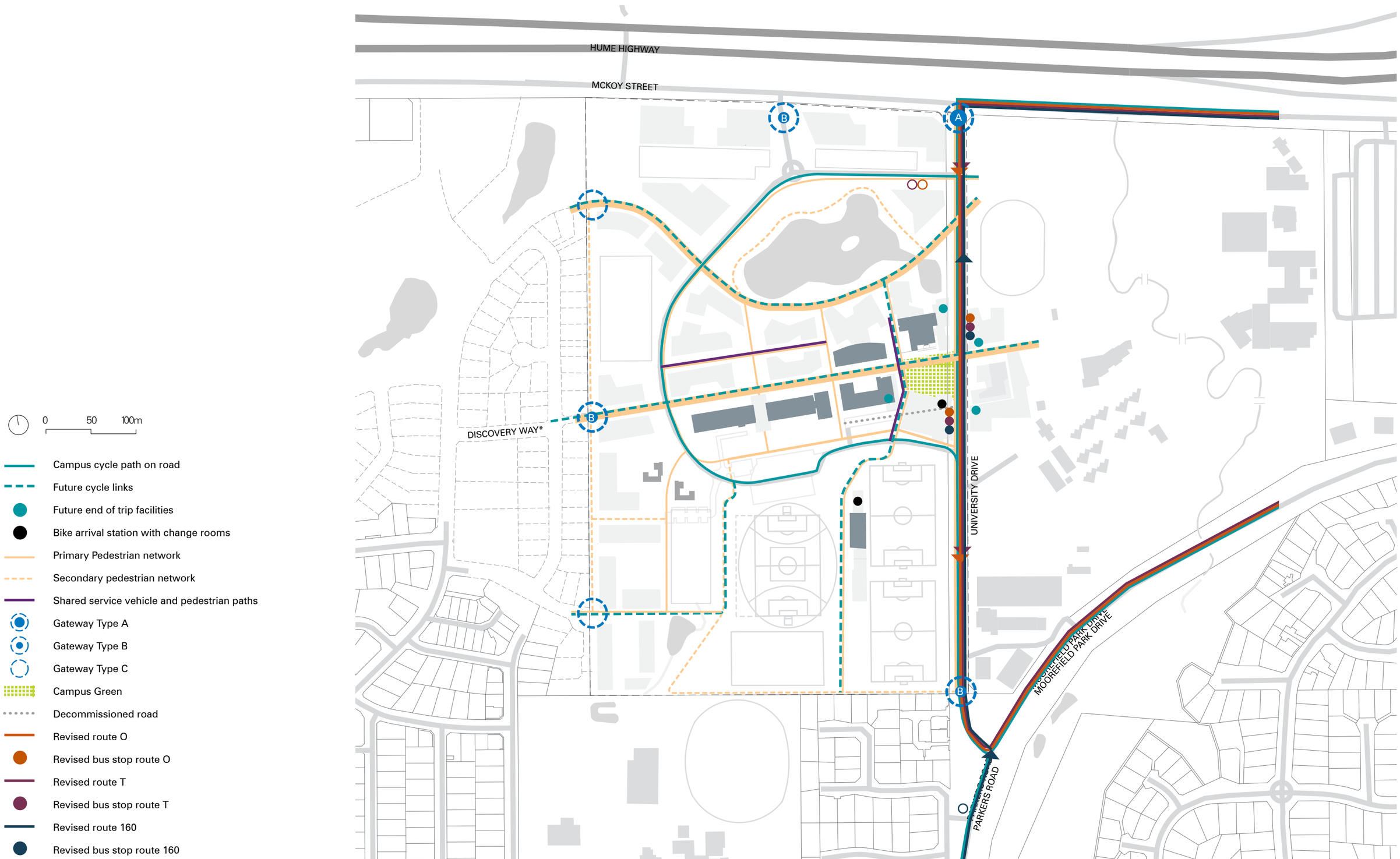
Promote and facilitate walking and cycling to reduce the risk of heart disease.

EARLY WINS

- **Open the road closure between McKoy Street and Moorefield Park Drive**
- **Rename University Drive for the north-south section only with loop section to recieve new name.**
- **Bus stop relocation and pedestrian priority zone on University Drive (Campus Core).** Discovery Way and University Drive intersect at this central axis calling for a high-quality raised paving pedestrian crossing which would ensure the slowing of traffic through this threshold.
- **End-of-trip facilities.** Provide undercover bicycle parking options near key destination buildings such as the library.

Refer to 5.1 Early Wins - Access and wayfinding.

Access on campus



*Street name as suggestion only

3.10 Access and Wayfinding - Car parking

CONTEXT

Currently, the University provides around 440 free car parking spaces on campus, as well as an unpaved overflow lot for the occasions where capacity is exceeded. There are three gateways that provide vehicular access into the University: two along McKoy Street and a southern access gate from Moorefield Park Drive / Parkers Road.

VISION

Suitable levels of car parking provision on a space per EFTSL basis without compromising the amenities of active and public transport users.

Convenient access and car parking for service vehicles and disability parking close to buildings.

DIRECTIONS

Encourage regular tree planting zones in street car parking zones to provide shading and improve pedestrian amenity (noting that all car drivers are pedestrians for the last part of their journey on campus).

Facilitate angled and parallel parking along the new University Drive, and the existing road loop, although not through the bus link between the northern and southern sections.

Managing demand for car parking

While the car may continue to play a significant role for those who have limited mode choices based on their home location, demand for private vehicle travel may need to decrease over time to meet sustainability and environmental goals of La Trobe University. Construction of car parks requires significant investments that not only compromise the pedestrian and vegetative environment of the campus, but also draw resources away from higher order facilities, such as learning and research programs.

There are a number of ways to manage car parking demand, these include:

- Improve walking, cycling and public transport (infrastructure, facilities and services).
- Increase the on-campus residential population.
- Encourage car-pooling through La Trobe University facilitated systems and priority parking, particularly for regional and inter-campus travellers.
- Improve parking management methods.

Provision of car parking on a space per EFTSL basis

To meet the car parking demands of 3,500 students, the University will need to provide suitable levels of car parking provision over the course of the Master Plan. It is envisioned that the long-term goal of the University is to provide no more than one space per every four EFTSL (in line with the rate at other regional Universities in Australia).

It is important to note that parking use at the University is only at its peak for a small period of the year. Rather than investing significant amounts of money into providing for the maximum potential demand, it is proposed that more efficient options are reviewed to accommodate peak demand. Options may include; setting aside open space for overflow parking; or to allow on-street parking along the outer ring of the existing University Drive.

In order to provide a safe and direct pedestrian link between the Sports precinct and the campus core, the existing fleet and staff car park south of Building 4 (AW4) and Building 6 (AW6) may need to be restructured. Service access could continue to be maintained at this location, while spaces should be prioritised for disability parking, fleet vehicles and premium paid parking.

Refer to Short to medium-term 3-8 years - urban realm and landscaping.

ALIGNMENT WITH RFAs

Building healthy communities

Improve the health and wellbeing of students, staff and the general community by improving sustainable transport options and cycle access to campus.

The Primary Pedestrian network on campus encourages walking between satellite carparks rather than parking within the campus core.

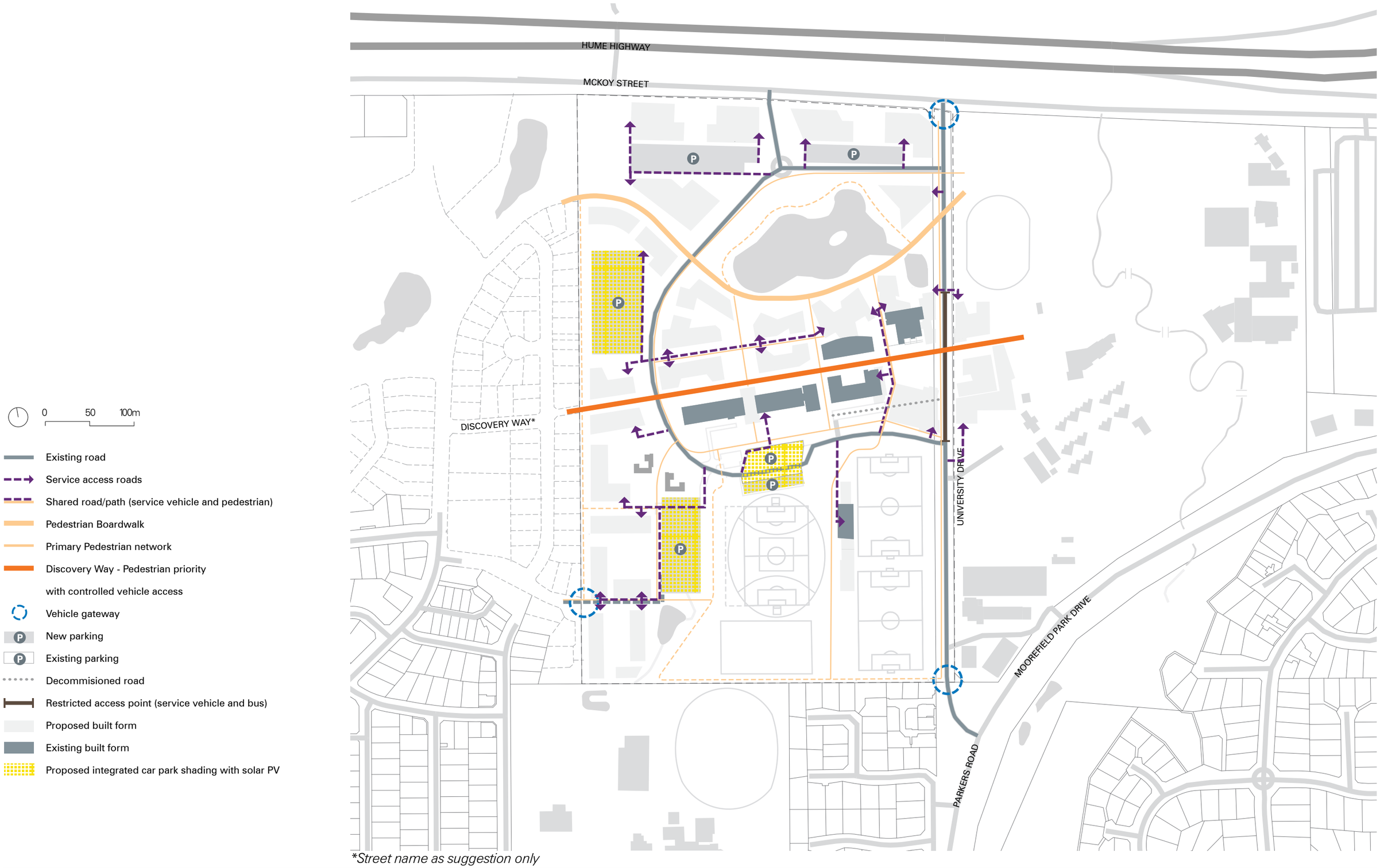
Solar farms
The existing carpark to the south of campus can harness the Albury-Wodonga moderate dry climate for solar energy by way of solar canopies and provision for electric car charging into the future. *Refer to 3.15 Sustainability and services - energy, Co2 emissions and technology.*

Sunshine Coast University Hospital car park and security bollard

Electric vehicle parking - Solar wing

Solar canopies - Plantronics Headquarters, California

Car parking



*Street name as suggestion only

3.11 Landscape and urban realm - places

CONTEXT

La Trobe University Albury-Wodonga campus is situated south of the Murray river on a 28 hectare site in West Wodonga. Established in 1991, the campus caters for 900 students and provides a campus that is relevant to the research specialisations on campus, such as fresh water ecology, resource management and policy, and aging in rural communities.

La Trobe University Albury-Wodonga campus provides more accessible tertiary education to those living within the rural area.

VISION

There is an opportunity to both revitalise existing open spaces and create more open spaces for the staff and student population.

DIRECTIONS

Campus Green

The Campus Green is an informal sports lawn with amenity and end-of-trip facilities. Within the Knowledge Village core this space is ideal for gathering and events on-campus, these may include, outdoor cinema, gathering for local food truck events, and graduation ceremonies. The landscaping of this space has topography towards the Community Commons building making this space ideal for performance with staged seating.

Yarning circle

The concept of a Yarning circle brings indigenous culture to the fore and provides a place to share local stories and connect on campus. This could provide a place of exchange between local community and the University community. The key programming of this Yarning circle would be a learning, storytelling and discussion space. The ideal location would be an intimate space near the permanent wetlands lake and the David Mann Library on campus. Further to this report there needs to be a Cultural and Heritage Management Plan undertaken for the Albury-Wodonga campus to establish important cultural heritage which present on the campus.

Refer to Early wins 0-2years - built form and facilities.

Informal outdoor gathering space

Plaza and informal gathering spaces could connect off Discovery Way and the Recreation spines to building entries, student facilities and specifically adjacent to all hospitality outlets.

Paved and asphalted spaces can be activated through outdoor learning and casual sport, including linemarked basketball or netball courts suitable for 'between classes' activities

Along the Primary Pedestrian network, seating areas and urban realm amenity can provide discreet or formal learning landscape initiatives. A range of seating elements could be incorporated into these areas to host both individual learning opportunities and group study.

Provision of shade trees and built outcomes could ensure that the external spaces can be used for prolonged periods of time throughout varying climatic conditions.

Community gardens and farming on campus.

There could be community initiatives to do with horticulture on campus, for example community gardens and vegetation spaces in around the potential housing to the Partnership precinct as well as around the Recreation spines.

If the existing campus vegetation were upgraded with rainwater irrigation, and a wider variety of plants and planter boxes, it could be a greater asset to both staff, students and the community.

The maintenance of community gardening spaces and improved vegetation on campus would require some ongoing oversight from the University, but has the opportunity to enhance the campus for gathering and lingering after-hours for both the growing student and staff population and local community.

Safety and security at night

It is recommended that new technologies could be explored in order to provide subtle lighting and facilitate safety and wayfinding at night, these include:

- Low level LED lighting
- Sensors to activate path lighting
- Provision of artful lighting/sculptural lighting,
- Embedding glowing aggregates into concretes and surfaces.

ALIGNMENT WITH RFAs

Building healthy communities

Provide spaces that encourage students and staff to spend time outdoors, thus improving the health and well-being of the University community.

Provide landscape engagement opportunities with the surrounding community.

Securing food, water and the environment

The development of landscape precincts of native vegetation within the campus could enable the study of local flora, creating a platform for learning and interaction.

Sport, exercise and rehabilitation

Provide spaces, facilities and connections that encourage students and staff to utilise the sports and recreational facilities of the campus.

EARLY WINS

Playground

A children's play ground has been identified as an early win for children of sporting families visiting the Sports precinct on weekends and to further bolster the general residential presence on campus.

Refer to 5.1 Early Wins - Urban realm and landscaping.

Yarning circle - Bremer State High School, Ipswich QLD

Adelaide University Campus

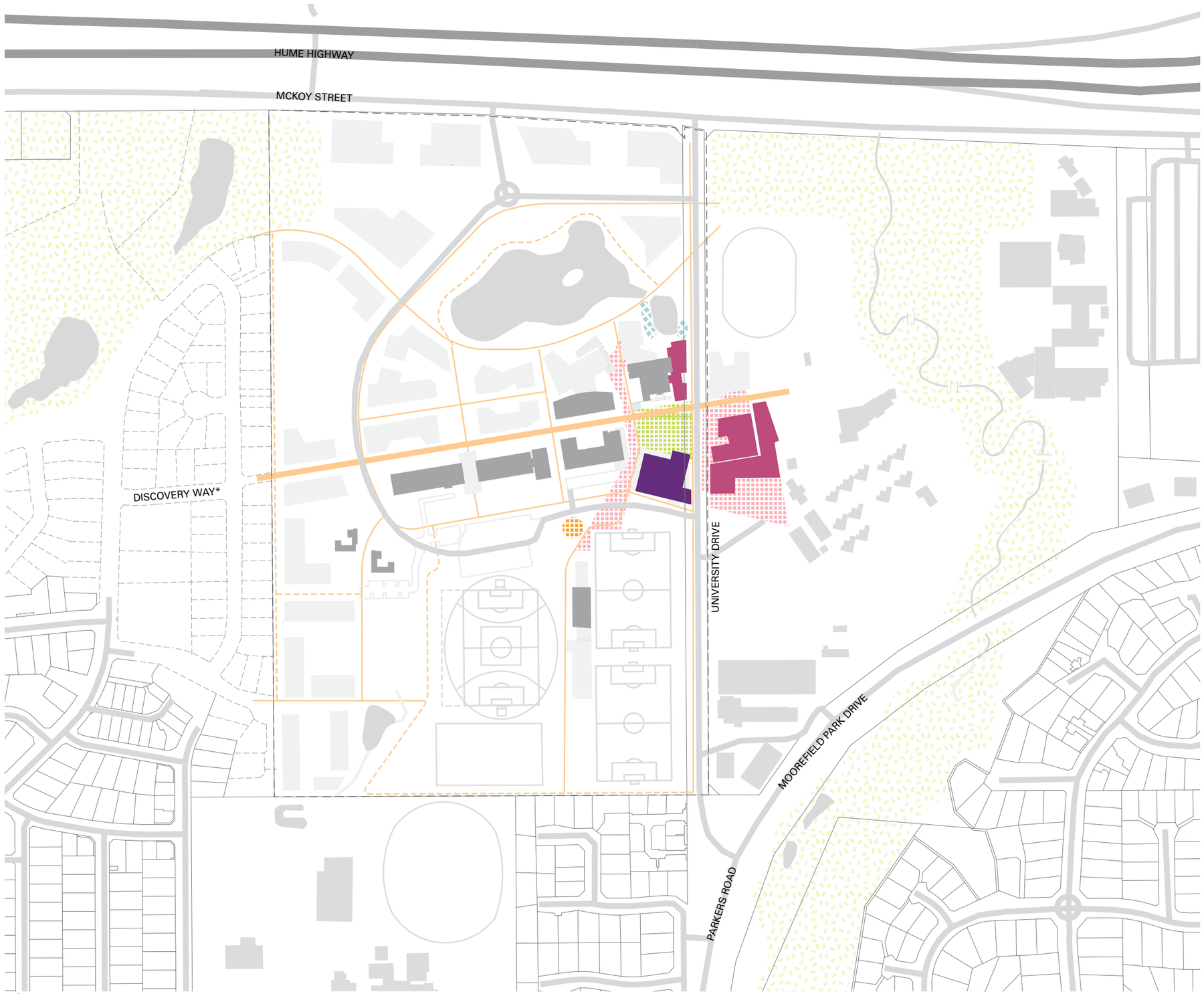
Central Wodonga Playground

Shade structure made from Traffic Yield Signs Tulane City Center

Bank Street by TCL

Landscape and urban realm - places

- Proposed built form
- Existing built form
- Gathering space
- Hospitality
- Community Commons
- Campus Green
- Primary Pedestrian network
- Discovery Way
- Yarning circle
- Playground
- Eco-corridor



*Street name as suggestion only

3.12 Landscape and urban realm - walks

CONTEXT

There is an informal pedestrian path along Fell Timber Creek that joins paths from the residential estate to the south of Moorefield Park Drive, enabling residents access onto the campus and used by dog walkers, hikers and runners. The campus is relatively flat, with the exception of a smaller hill towards the interface with Victory Lutheran College (VLC).

VISION

Over the next 20 years, the enhancement of key walks could activate the campus grounds and improve wayfinding and linkages with surrounding communities.

DIRECTIONS

There are currently limited opportunities on the Albury-Wodonga campus for formal and informal walks. The existing amenity should be upgraded, extended or connected in order to provide for a growing community and campus.

Proposed walks on campus that could enable the campus grounds to be better utilised are listed below in terms of effectiveness in growing an active campus and community population.
These walks are:

- University Drive connection
- Discovery Way extension
- Recreation spines - primary and secondary
- Daintree Interface housing pathways at 'Gateway Type C' and VLC connection to the Recreation spine.

University Drive

University Drive could connect through on its north-south axis in order to allow selected through traffic. This provides for improved access to public transport and activation of the campus core by providing a bus stop at the existing David Mann Library, which is the most heavily used building on campus. A second bus stop could be provided at the Community Commons building.

University Drive could become activated for pedestrian, cyclist and public transport users. A shared pedestrian priority zone with uneven paving to the central corridor could enable the slowing of public transport and awareness of the pedestrian as the priority user.

Recreation spine - primary

The Primary Recreation spine offers north-south access between the Sports precinct and Knowledge Village. The Recreation spine should allow safe and high-quality pedestrian access from the wetlands, past the library over Discovery Way and Campus Green, further past the Community Commons and Building 4 (AW4) into the Sports precinct. At this point, a key playground node could be introduced for younger children. The Recreation spine continues past the sport pavilions and down along the border to Victory Lutheran College (VLC), the intention of which is to facilitate the sharing of indoor and outdoor sporting facilitates between The Education Cluster and also provide more accommodating access for younger students to enter the grounds for learning, sporting and activity.

Recreation spine - secondary

The secondary Recreation spine moves in a similar north-south orientation and facilitates the overflow stormwater by way of the bioswale. This area of the campus has slightly higher topography, allowing this to become a campus asset and educational pathway for students and community members who frequently walk their dogs, hike or run between residential neighbourhoods.

Discovery Way

Discovery Way could become the main pedestrian spine connecting from Daintree Estate, through the centre of the campus, and continuing into in Wodonga TAFE. This spine could offer pedestrians and cyclists better access into campus and connect the campus to local facilities such as the proposed IGA and childcare. There could be consistent landscape treatments along Discovery Way. Existing 'lollipop' lighting should be removed and replaced to improve lighting and safety. Existing boulevard planting lining the path should be continued, and paving upgraded along the length of the spine at 5 meters in width.
Refer to 5.1 Early wins - Access and wayfinding

The Daintree Interface pathway

This pathway is proposed to move in the north-south orientation to integrate the edge of the Daintree residential estate development to the west of campus. The development has proposed backyards onto the campus grounds which could have low fences of 1200mm and gates to provide a more welcoming aspect. This gravel pathway offers access to the residents onto the grounds and boulevard trees which should be mirrored on development land for continuity of native landscape planting.

SCALE 1:400
0 10 20m

University Drive - Arrival experience

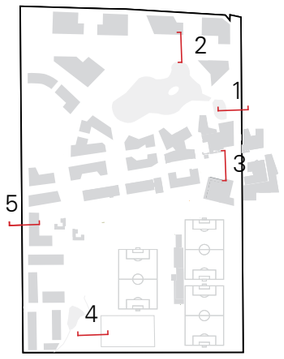
University Drive - Loop road north

Discovery Way and Campus Green

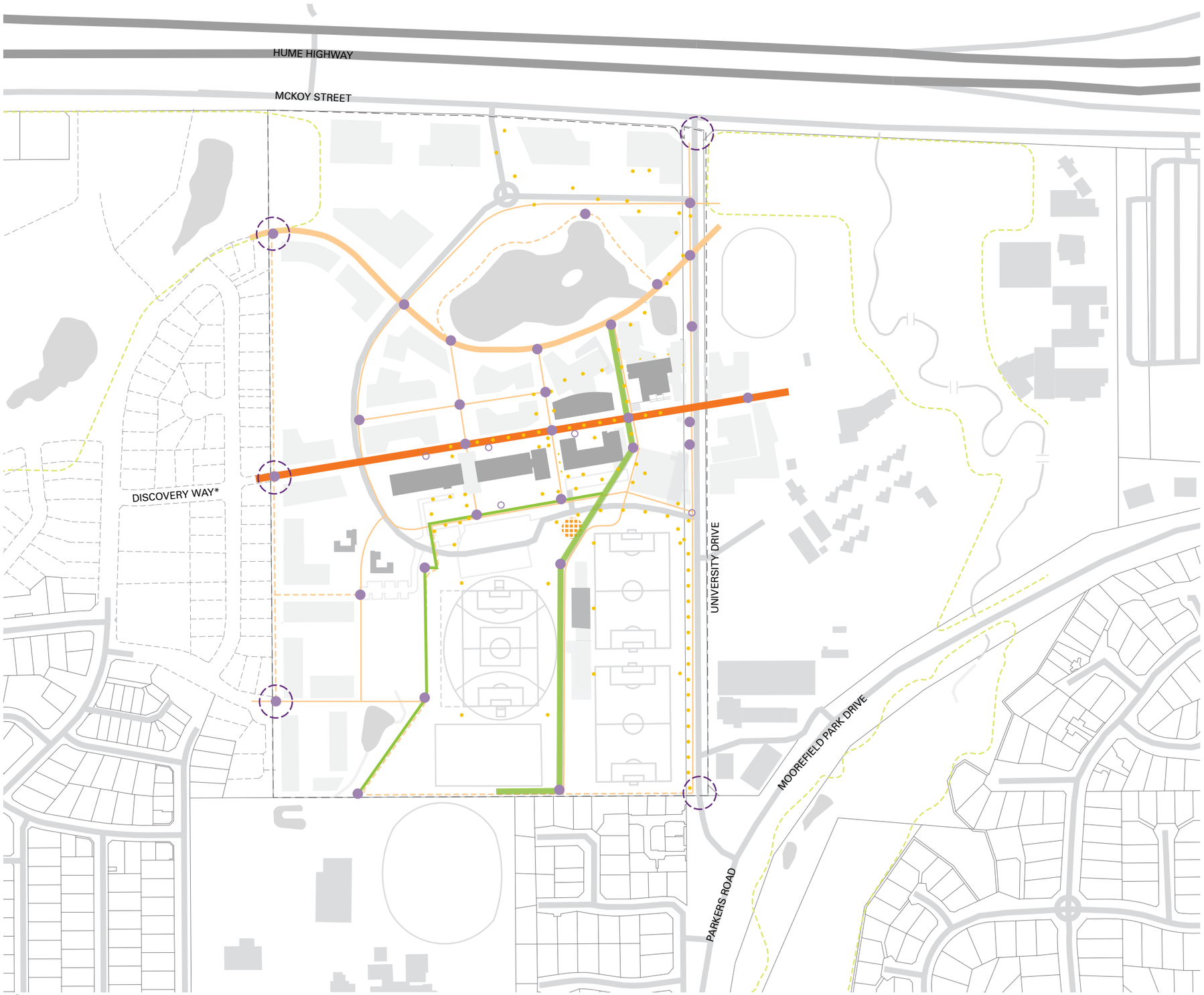
Secondary Recreation spine with open drainage and bioswale for stormwater

Daintree Interface

Landscape and urban realm - walks



- Proposed built form
- Existing built form
- Discovery Way
- University Drive and existing road network
- Recreation Spine
- Secondary recreation spine
- Pedestrian Boardwalk
- Primary Pedestrian network
- Existing signage
- Potential signage node
- Existing lighting
- Eco-corridor
- Playground



*Street name as suggestion only

3.13 Landscape and urban realm - ecology and biodiversity

CONTEXT

The Albury-Wodonga campus forms part of a larger ecological context and connects to various vegetation and wildlife corridors. The Wonga Wetlands in the north feed into the Murray River; and the Wodonga Regional Park towards the north-east divides the towns of Albury and Wodonga.

There is a large formed wetland to the north of campus. This waterbody is seasonal, normally dry through the summer months, and filling again in the wet season. There is also a second water retention pond between Victory Lutheran College (VLC) and the McFarlane's Hill residences with stormwater run-off from the college campus.

Albury-Wodonga has a hot dry climate in summer, and in the winter is cold with frost conditions. The outdoor space needs to be flexible to handle weather extremes. Vegetation and tree canopies such as eucalypts can be used to mediate the climate and make a more comfortable environment around buildings and outdoor spaces.

VISION

There is an opportunity to work with the local community, Albury City Council, City of Wodonga, and Wodonga TAFE to use La Trobe University Albury-Wodonga campus as an exemplar landscape in this rural environment. The eco-corridor to the direct west of the campus provides native vegetation and a unique opportunity to supplement the ecology and provide additional habitat for wetland fauna and flora.

The formed ephemeral wetlands to the northern centre of the Albury-Wodonga campus could connect into the wider ecological corridors in the region.

DIRECTIONS

Flora and fauna

Proximity to the native eco-corridors feeds into campus ecology by hosting a variety of wetland birds, this could be further bolstered through careful planting palettes.

Proper maintenance of flora and fauna can reduce safety issues regarding falling branches, assist native fauna moving through the campus; and improve aesthetics and legibility of the campus through clear sightlines and wayfinding.

Water and Landscape

Water facilities could communicate research and sustainability initiatives on campus. The campus could:

- Showcase water conservation including capture, treatment and storage of water around the site and relating to buildings and infrastructure.
- Capture, store and treat water on site through the existing wetlands and by enabling a small portion of the wetlands to remain wet all year. In this way the campus can be seen to host a marketable gateway and also have effective site management of water.
- Upgrade the existing wetlands and surrounding landscapes in order to eradicate weed species.
- Revegetate the water body and surrounds in order to improve and bolster the wetlands and dry landscape assets, including biodiversity.

Signage and 'Learning Landscape'

Signage on both formal and informal paths around campus could showcase horticultural studies and research undertaken by partners in The Education Cluster, such as the Wodonga TAFE native planting areas and botanical specimens.

By placing signage around the lake, neighbouring wetlands and on Primary Pedestrian network nodes, the campus could communicate information about local flora and fauna, climatic and environmental change, and seasonal expressions of the environment and biodiversity stories of the area.

Campus elements both inside and external to the buildings could convey energy storage, usage, carbon emissions and offsets. Technology such as solar farms, and ESD initiatives should be celebrated.

A dialogue with campus and community could promote awareness of the existing habitat for local wildlife, and share responsibility to respect and maintain the campus asset.

Sculpture and other activity walks

Using open space around the University to set up art or sculpture walks and showcase research and design within the campus, as well as provide links to Indigenous communities. As an exemplar, there is a 5km sculpture walk through Albury which uses digital interpretive signage (Yindyamarra Sculpture Walk).

Walks could also include barbecue facilities. As an exemplar, there is a pizza oven at Sumsion Gardens, which is used to host events to welcome new families to the area.

Species

Albury-Wodonga campus can showcase plants suited to the climate, add planting of key botanical specimens for use in teaching and share a story of dry climate gardens to contribute to research in this area.

The specific planting of species native to the surrounding ecology allows for the showcasing of:

- Local species, revegetating areas of the site (as appropriate in the wetland context) and dry climate planting appropriate for Albury-Wodonga, can act as wind barriers to the sports fields
- Water sensitive Urban Design (WSUD) planting techniques with species appropriate for Albury-Wodonga, to coincide with open drainage

Specifically, the establishment of avenues of lemon scented gums could serve to provide a feature asset for La Trobe University.

ALIGNMENT WITH RFAs

Securing food, water and the environment

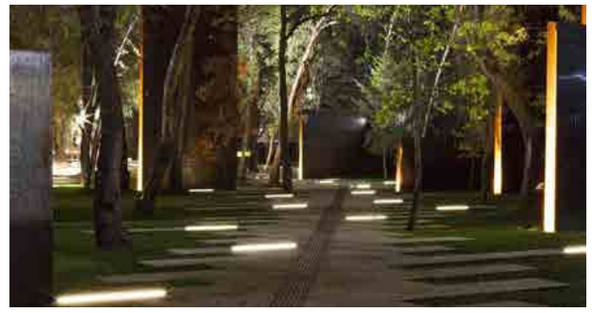
Enhance ecology and biodiversity.
Improve stormwater outcomes.
Improve drought resilience.
Educational and research opportunities.
Student and wider community engagement.

EARLY WINS

Learning Landscapes

'Learning Landscapes' could be integrated into the campus grounds as a way of communicating the campus broader ecological context to the student/ staff population and the community.
Refer to 5.1 Early Wins - Urban realm and landscaping.

Kings Park, Perth - Lemon-Scented Gum Avenue



Australian Garden by TCL

University of California, San Diego

Tianjin Qiaoyuan Wetland Park

Ecology and biodiversity

Landscape and urban realm - palette

CONTEXT

There is an opportunity to define a more legible, people focused campus through landscape treatments. By consolidating surface materials and a renewed materials palette the campus could have a consistent language for paths, plazas, roads creating high quality spaces.

This could facilitate wayfinding on campus, and give a clearer message to pedestrians, cyclists and vehicles.

A unified material palette could guide material selection of roads, activity spines and pathways, that could be implemented over time and continued as new development is done across the campus.

VISION

The materials could have some connection to the La Trobe Bendigo campus in order to provide a continuity between regional campus and a consistency of materials.

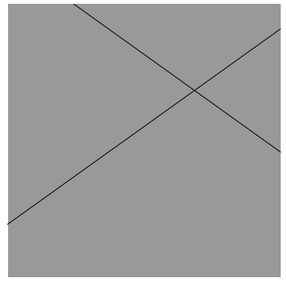
DIRECTIONS

High-quality surfaces and finishes are selected to ensure longevity of treatments.

Darker material colours are selected for their low-reflective properties, desirable during the summer season.

Trafficable granite

Pedestrian granite



Integrally coloured concrete

Granitic gravel

Hot-rolled aggregate

Timber decking

Plexipave

Corten Formboss

Steel Formboss

Irrigated lawn

Native lawn (low irrigation)

Vibrant planting

"The overarching goal of the Master Plan is to create a vibrant campus heart, which puts people first, as part of a broader campus upgrade."

Professor John Dewar,
Vice-Chancellor, La Trobe University 2017

3.14 Sustainability and services - Environmental Sustainable Design (ESD)

CONTEXT

La Trobe University is committed to the sustainable use of available resources and reducing its impact on the natural environment. The Master Plan concepts align with the University's vision for sustainability through:

- Reducing the environmental impact of all existing buildings and future developments;
- Creating a resilient, durable and future enabled campus;
- Reducing the annual operating costs across the campus;
- Improving comfort for building occupants;
- Creating healthy indoor environments for students and staff; and
- Leveraging the University's sustainability performance to achieve marketing advantage.

All futures works should adopt the following hierarchy of sustainability principles to guide resource utilisation:

Avoid | Reduce | Reuse | Recycle | Recover | Treat | Dispose

This should be completed by adoption of a multi-pronged approach, simultaneuously addressing:

IMPROVE		OPTIMISE		IMPROVE
EXISTING BUILDINGS	+	**NEW BUILDINGS**	+	**SUPPLY SIDE**
energy & water conservation		energy efficiency		reduced carbon energy
better amenity		water recycling		renewable energy
operational tuning		healthy workplaces		recycled water

The sustainability concept for the Albury-Wodonga campus goes beyond the University "business as usual" approach, to deliver projects that are tailored specifically to individual needs of the site within the broader Albury-Wodonga environment, and aligns with key Research Focus Areas (RFAs). The campus Master Plan embraces the environmentally- and RFA-specific initiatives as a minimum, with aspirations for key projects to demonstrate leadership in sustainability.

VISION

A vision of what each level of environmental performance entails is set out below and would be subject to further development for each project that arises.

Business as Usual

- Building fabric meets minimum BCA requirements
- Meet LTU 'Sustainability Plan' targets and Design Standards
- Standard water recycling and efficiency requirements
- Limited consideration of how built form affects user wellbeing
- No end-of-life consideration for new buildings

Location Specific Response

- Passive design to achieve maximum benefit from local climate
- Design appropriately for heat wave and flood management
- Target >10% improvement over minimum BCA requirements
- High-efficiency HVAC and lighting systems
- Adoption of water collection, treatment and reuse strategies

Alignment with Research Focus Areas

- Improved campus integration into wider community
- Adopt energy and water security perspective
- Manage quality of stormwater leaving the site
- Adopt strategies to increase usage of the sports facilities
- Sustainability integrated into curriculum
- Improvements in building ieq to support heath/ wellbeing

Leadership in Sustainability

- Attain carbon neutrality on campus
- Wetland revilatisation to maximise ecological significance of site
- Shared precinct systems to achieve maximum efficiencies
- Place-making, community-centric design
- Exemplar building passive design, e.g. Passive House
- Create healthy workplaces and adopt WELL Building Standard

DIRECTIONS

All new buildings should target an equivalent 5 Star Green Star rating in accordance with the La Trobe University Design Standards. As part of all rolling upgrades and proposed new developments, initiatives to improve campus sustainability are summarised as follows:

Management

- Meter and monitor energy and water systems
- Install BMS networked metering for all buildings
- Commission and tune systems as designed
- Adopt Environmental Management System
- Provide infrastructure for waste recycling
- Raise awareness of sustainability initiatives

Indoor environment quality

- Increase outside air rates and reduce CO^2 levels
- Use operable windows and natural ventilation
- Improve daylight and views, and limit glare
- Acoustic treatment within and between spaces
- Improve thermal comfort through building fabric
- Adopt WELL Building Standard principles

Energy

- Reduce greenhouse gass emissions
- Review existing system performance
- Upgrade lighting and HVAC systems and controls
- Improve insulation, glazing and air tightness
- Minimum energy rating for new equipment
- Extensive onsite energy generation with solar PV

Transport

- Encourage cycling and active transport
- Provide end-of-ride facilities for everyone
- Improve access to public transport
- Provide low-emission transport infrastructure
- Encourage car-sharing initiatives

Water

- Install water efficient fixtures and fittings
- Install rainwater harvesting systems
- Collect fire test water for reuse
- Water efficient landscaping and irrigation
- Minimum water rating for new equipment

Materials

- Reduce and reuse material use in design
- Choose sustainable concrete, steel, timber, PVC
- Choose sustainable products and furniture
- Reduce construction waste going to landfill
- Reduce operational material waste

Land-use & ecology

- Restructure and revitalise wetland
- Increase ecological value with native species
- Reduce heat island effect
- Rehabilitate damaged or contaminated sites
- Recycle organic waste into horticulture fertiliser

Emissions

- Reduce GHG emissions (see Energy)
- Improve quality of all stormwater leaving the site
- Eliminate all light directed at the night sky
- Design for low-impact refrigerants
- Manage any future risk of legionella
- Reduce waste to landfill (see Materials)

Innovation

- ESD hero building (Community Commons & Student Hub)
- Enhance relationship with local communities
- Create partneships that foster sustainability
- Exceed international environmental benchmarks
- Foster environmental leadership in curriculum

Refer to Site Services and Sustainability Technical Report Appendix 1. 3.2 Sustainability Concepts for further details.

ALIGNMENT WITH RFAs

Building healthy communities

- Improved campus integration into wider community
- Create healthy workplaces

Securing food, water and the environment

- Adopt energy and water security perspective
- Manage quality of stormwater leaving the site
- Sustainability integrated into curriculum

EARLY WINS

- Adopt passive design features suitable to the local environment.
- Maximise equipment efficiencies; focusing on greenhouse gas emission rather than energy consumption.
- Assess the lifecycle environmental impact from resource extraction to end-of-life treatment.
- Determine the financial viability including capital expenditure, and operational and maintenance costs.

Refer to 5.1 Early Wins - Sustainability and services.

Environmental Sustainable Design (ESD)

*Street name as suggestion only

3.15 Sustainability and services - Energy, CO_2 Emissions and technology

CONTEXT

The largest change to the Albury-Wodonga campus was the addition of the two new student residential buildings (McFarlane's Hill Residences 1 and 2) in 2013. Albury-Wodonga energy data demonstrates approximately 5% reduction in 2016 compared to preceding years.

VISION

The Energy and CO^2 Emissions strategy for the Albury-Wodonga Campus is underpinned by objectives to serve the future needs of the campus, improve energy efficiency, and establish a resilient low CO^2 energy supply. As the University reduces its reliance on fossil fuels, campus development should respond by implementation of exemplar passive design standards for new and existing buildings, and investment in zero carbon energy technologies.

DIRECTIONS

Actions to improve energy efficiency are prioritised to reduce energy demand before implementing supply-side initiatives. To improve energy efficiency, and therefore reduce CO^2 emissions, the following strategy is adopted and focus largely on lighting, and heating / cooling systems:

- Identify high energy use areas through extensive metering and monitoring systems connected to centralised BMS.
- Improve system controls and automation based on space use and occupancy profiles.
- Achieve highest standard in passive design, e.g. facade thermal performance with added insulation, improved glazing, building sealing and optimised external shading.
- Audit system conditions and performance, and provide rolling upgrades to high efficiency shared systems.
- Provide onsite renewable energy generation to establish resilient low CO^2 energy supply, in particular solar utilisation.

Future Options and Discussion

In response to energy issues, the short-medium term focus is on reducing the energy demand across the campus, which will involve major upgrades to existing buildings and commitment to build new buildings to achieve the highest standards in passive design. In addition installation of significant solar PV capacity is proposed, given its current market viability.

In the mid-to-long term there can be expected to be significant changes in campus energy profiles and available technologies; in addition the drive to achieve carbon neutrality can be expected to become increasingly pressing. As these factors play out they will influence the business case for introduction of various supply side technologies.

At this time we anticipate the following should be under consideration for the Albury-Wodonga Campus:

- Further installation of solar photovoltaics on a precinct scale, which may include Building Integrated Photovoltaics (BIPV).
- Adoption of battery storage solutions to reduce peak energy demand and increase solar contribution.
- Solar cogeneration systems (electricity and heat).
- Waste to energy technologies including gasification and anaerobic digestion, which may supplement the site natural gas supply.
- Hydrogen fuel-cells subject to better commercialisation of this technology.

Within this Master Plan, large-scale central energy systems such as gas-fired co-generation and tri-generation have not been proposed. This is in response to the University's commitment to move away from its reliance on fossil fuels. Viability would also be limited given the current size of the campus and mix of loads across the buildings, but may improve as the campus energy demand mix develops.

Market forces change continually. Newly available technologies will need to be implemented based on rigorous feasibility studies undertaken at the time of project inception.

Solar Photovoltaics

Historically, the cost of renewable energy technologies has been higher than the price of fossil fuel based grid energy. Over the life of the Master Plan, onsite solar photovoltaics are likely to become more attractive due to the convergence of decreasing capital cost and increasing grid energy costs.

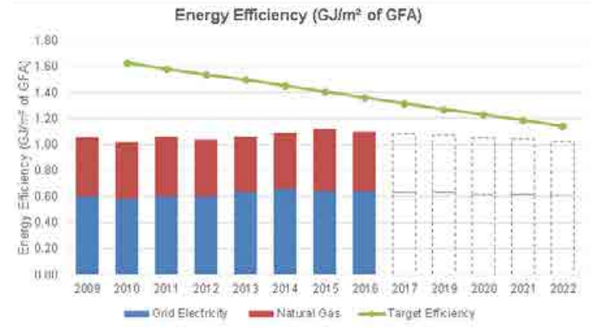
Solar photovoltaics are scalable, meaning arrays may be added to existing and new buildings over time as funds become available.

The high solar availability in Albury-Wodonga presents a significant opportunity to reduce reliance on grid electricity and transition into a low carbon emission campus. For this reason and the availability of large unobstructed roof areas, onsite solar photovoltaics are central to the vision for a resilient, low carbon campus.

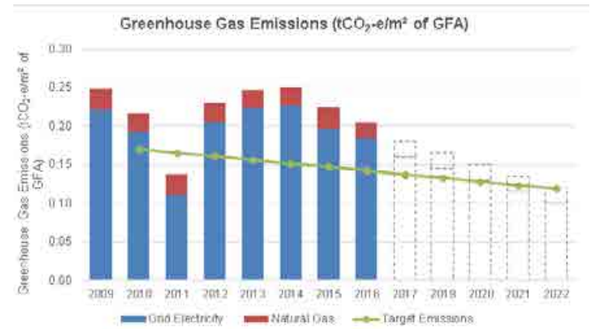
From existing layout and orientations, the campus can currently accommodate at least 4000m² for roof-mounted and awning solar PV arrays. This area can support a combined 470kW system which will contribute approximately 650MWh of electricity per year, or about 35% of the current campus electricity consumption. Solar PV contribution can be increased further with battery storage, increased array density and extensive integration of solar PV into car park, walkway and facade shading structures. The car park PV arrays indicated in the diagram shows a combined spatial allowance for a 1.4MW system that can potentially generate up to 2000kWh per year.

Over the next 15 years as new buildings become developed, the inclusion of PV arrays should be considered as part of the sustainability design process, with roofs oriented to maximise solar access.

Refer to Site Services and Sustainability Technical Report Appendix 1. 2.4 Electrical and Lighting for further details.



Current and projected energy efficiency for Albury-Wodonga campus to achieve 2022 targets.



Current and projected CO2 emissions for Albury-Wodonga campus to achieve 2022 targets.

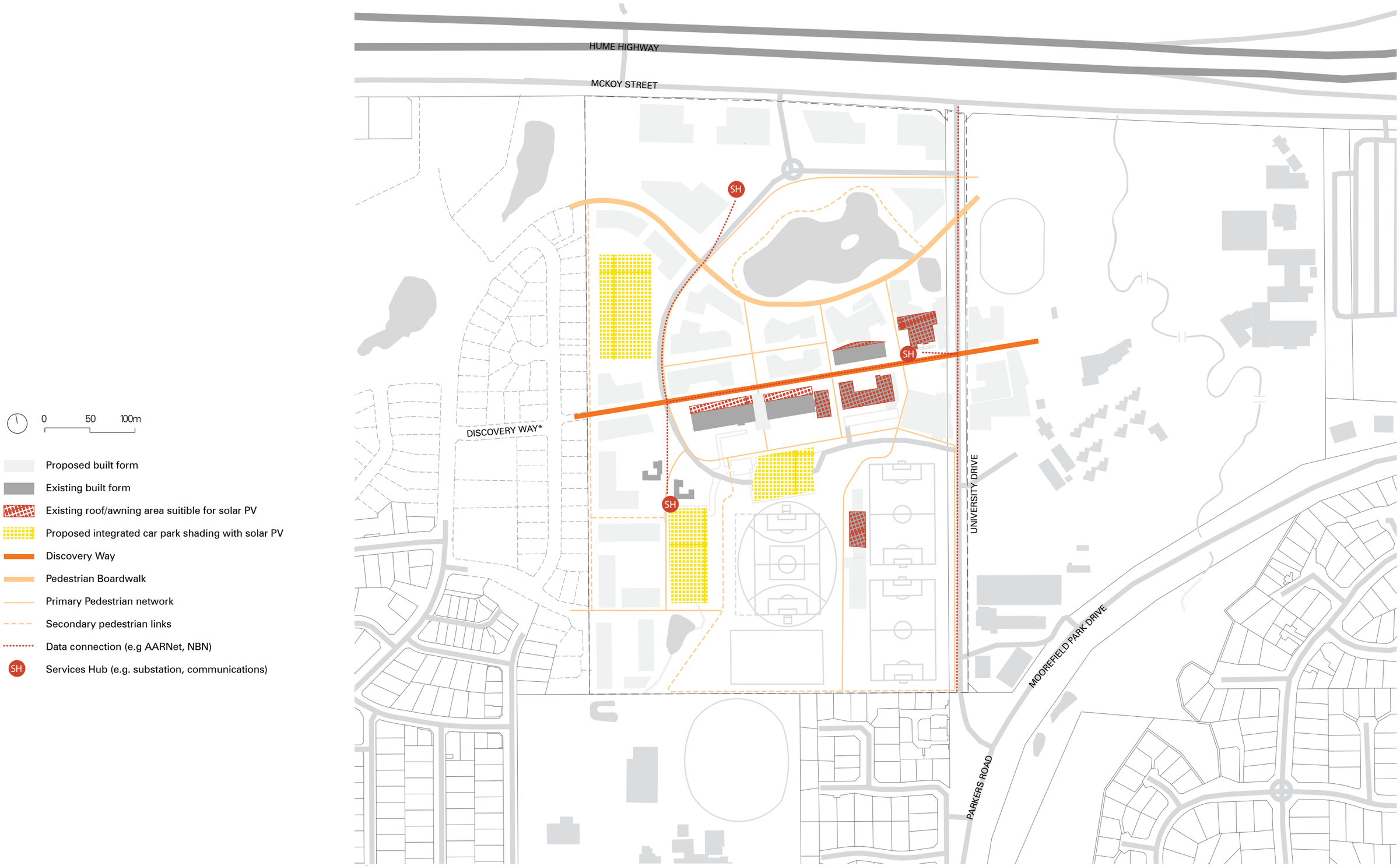
Photovoltaic parking lot - Onyx Solar

EARLY WINS

- Analyse available energy sub-metering data to establish high energy and water consumption buildings.
- Upgrade external lighting systems to improve energy efficiency and reduce energy wastage.
- Install energy metering and monitoring systems for each building.
- Install solar photovoltaic (PV) systems for onsite generation (ongoing initiative for all existing and new buildings).

Refer to 5.1 Early Wins - Sustainability and services.

Energy and CO_2 Emissions



*Street name as suggestion only

3.16 Sustainability and services - Water and Waste

CONTEXT

Water management is a significant focus at the Albury-Wodonga campus; housing both the Murray-Darling Freshwater Research Centre and the Centre for Water Policy and Management.

The Albury-Wodonga campus has access to sewer authority recycled water, which is both cheap and reliable and serves all landscape irrigation. As such, potable water consumption for the campus is generally low and has only been rising slowly in line with the steady increase in student numbers. While potable water usage has been increasing, recycled water has been decreasing; resulting in a steady net reduction in overall water usage (potable and recycled mains) since 2013. The campus stormwater network largely feeds into the wetland (except drainage towards University Drive). Currently, the wetland does not function as a true stormwater filtration and treatment system, and overflows to McKoy Street during peak wet seasons.

VISION

The water strategy for the Albury-Wodonga campus aims to make significant and ongoing reductions in the potable water use of the whole campus by continually increasing water efficiency measures and harvesting water to serve non-potable demands.

DIRECTIONS

Actions to improve water efficiency are prioritised to reduce water demand before implementing supply-side initiatives. The following strategy is adopted and focuses largely on maximising potable water and stormwater utilisation:

- Identify high water use areas through simple metering and monitoring systems connected to centralised BMS.
- Reduce potable water demand by upgrading to low-flow fixtures and fittings.
- Harvest rainwater from existing roofs to supplement irrigation demand.
- New buildings to incorporate WSUD principles, including rain gardens, porous pavements, rainwater toilet flushing, and green roofs.
- Restructure and revitalise wetland to improve stormwater retention and treatment capabilities, and increase campus amenity and ecological value.

Refer to Site Services and Sustainability Technical Report Appendix 1. 3.5 Water and Sewer for further details.

Future Options and Discussion

Use of stormwater for other end uses may be investigated for future stages of the Master Plan:

- Firefighting
- Laundry
- Dust suppression during construction

Within this Master Plan, the following initiatives are not proposed:

- Grey water harvesting
- Black water harvesting
- Bore water

This is due to the relatively small scale of the campus and the availability of sewer authority recycled water which is considered to be cheap, sustainable and reliable. These systems would require significant capital cost, require ongoing maintenance and would require high annual utilisation rates to provide reasonable payback.

Nonetheless, market forces change continually and newly available technologies will need to be considered based on rigorous feasibility studies undertaken at the time of project inception.

Stormwater

The Master Plan concept is to create an integrated water cycle using best practice sustainable urban design water management. The stormwater concept centres on maximising flows into the wetland and revitalising this wetland to improve its function, amenity and long-term ecological value.

The University should work in partnership with the surrounding neighbours to this end, particularly with neighbours upstream (Victory College) and downstream (Daintree Estate) of the broader stormwater system.

Stormwater Diversion

The proposed concept for stormwater infrastructure focuses on maximising flows into the wetland, reducing stormwater leaving the site, and utilising the existing network where possible. The key proposals are to:

- Capture and direct stormwater flows from enterprise partnership precinct to wetland or north-west "nature pocket".
- Redirect all flows from the South Reservoir to the existing underground stormwater network.
- Consolidate stormwater outlets into the wetland into a single discharge point at the eastern end of the wetland outside the library to create a focal amenity.
- Realign wetland overflow to accommodate new building footprints.
- Stormwater runoff is expected to increase with building density, therefore grassed swales can be maintained until transition to underground systems is required.

Wetland Revitalisation

The campus wetland is a simple man-made depression that does not function to its full potential. This Master Plan includes the restoration and revitalisation to improve its stormwater treatment function while improving its long-term ecological value. The key proposals are to:

- Deepen the eastern end of the wetland to maintain minimum water levels throughout the year.
- Introduce a tiered filtration system using the right combination of substrate and aquatic plants to maximise its effectiveness in reducing pollutants.
- Ensure the outlet to the west of the wetland can accommodate seasonal overflows.
- Maintain the existing island within the centre of the wetland as a wildlife refuge and to add further amenity to the wetland.

In implementation of the above, stormwater flows leaving site will be reduced and the quality of water that does leave site will be improved.

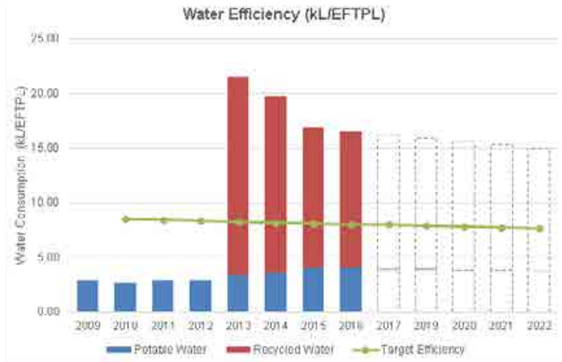
Prior to any works to the wetland, a qualified ecologist must be consulted to determine its existing ecological significance and prepare an environmental impact assessment based on the proposed revitalisation works.

Royal Park constructed wetland, Urban Water, City of Melbourne

Waste Directions

Improve and expand campus central waste management facilities to include:

- Clean paper and cardboard recycling
- Electronic waste, fluorescent tubes, batteries and printer cartridges
- Organic waste from food outlets and residential buildings
- Increase staff and student awareness and education of existing recycling facilities and schemes.
- Introduce organic waste collection and composting with an accelerated fermentation and dehydration process such as GaiaRecycle, ORCA, or similar.
- Collaboration with TAFE horticulture department to maximise by-product generated from organic waste.
- Retain green waste on campus for use as compost/ mulch.
- Engage a specialist waste management consultant to complete a holistic assessment and recommendations for the campus waste management systems systems, processes and spatial planning requirements.



Current and projected potable water consumption for Albury-Wodonga campus to achieve 2022 targets.

EARLY WINS

- Install water metering and monitoring systems for each building.
- Install rainwater tanks to supplement irrigation demands.
- Install water-saving devices, such as low-flow fixtures and fittings, and irrigation timers.

Refer to 5.1 Early Wins - Sustainability and services.

Water and Waste

*Street name as suggestion only