

Department of Planning and Environment

Dubbo Health Education & Well Being
Precinct Master Plan Report

November 2019



Acknowledgements

This study has been prepared by Destravis. The study has been prepared under the direction of the Department of Planning and Environment (DPE) New South Wales. Various other key project team members worked on this study. The time, interest, care and comment of all parties involved in this study is greatly appreciated.

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1. EXECUTIVE SUMMARY

The New South Wales (NSW) Department of Planning and Environment (DPE), Charles Sturt University (CSU), the Western NSW Local Health District (LHD) and the Dubbo Regional Council engaged Destraavis to facilitate the Dubbo Health Education and Well Being Precinct (the Precinct) Master Plan. The Precinct Master Plan was developed using a collaborative approach, engaging with major entities within the Precinct

The Precinct is located approximately 2.5km from the Dubbo CBD and is bounded by Charles Sturt University in the North, Macquarie Homestay in the East, Dubbo TAFE in the South and the Coonamble railway line in the West. The Precinct area is shown below.

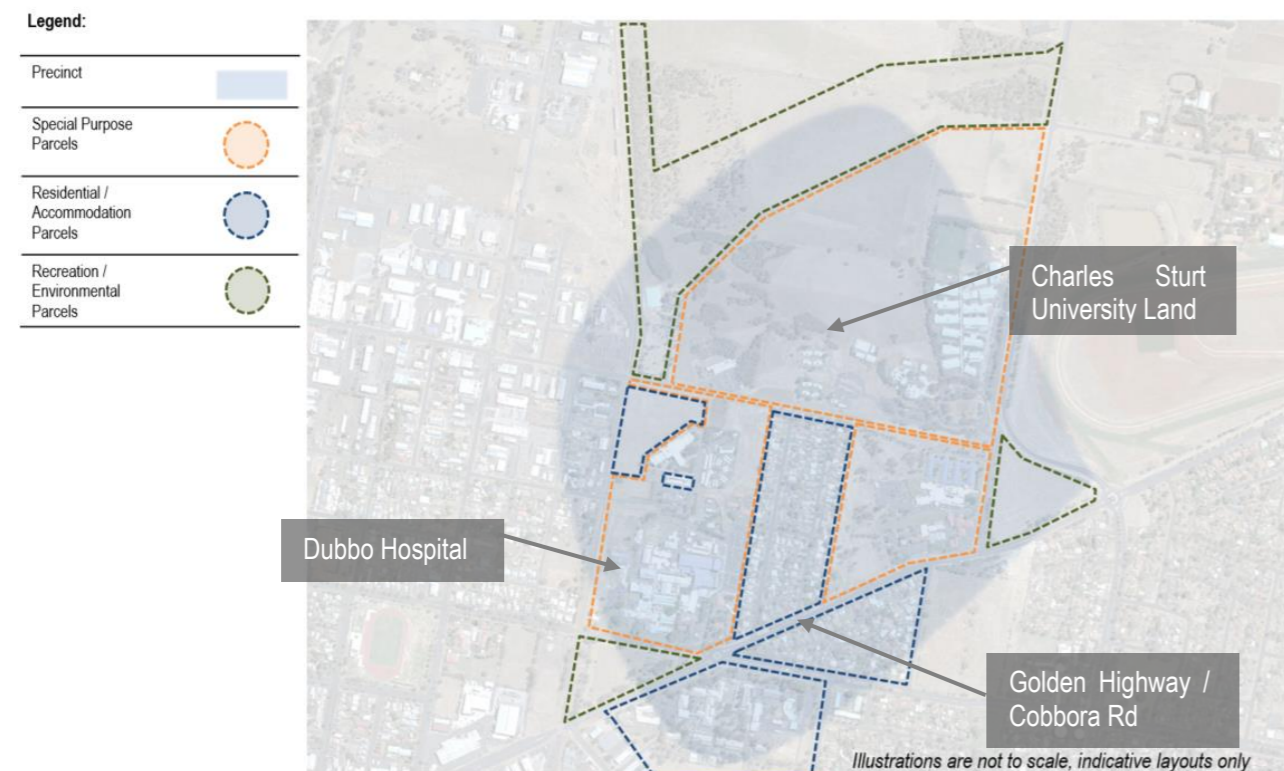


Figure 1 Dubbo Health Education & Well Being Precinct Area

Dubbo faces a number of key strategic drivers which will influence its economic and population growth over the next 20 years and beyond. Firstly, similar to National, State and regional trends, Dubbo's population is aging and the proportion of older working aged persons (50-64 years) is high indicating there will be an increase in persons leaving the workforce over the coming decade. This will place increasing pressure on the working age population, with the proportion of working aged persons to aged persons growing from 0.26 in 2016 to 0.41 in 2031. Coupling this with an already low unemployment rate (2.5% as of June 2018), means Dubbo will need to come up with strategies to attract and retain workers to serve its economy and population.

The trend of an increasingly ageing population is also reflected in Dubbo's key employment industries. Health care and social assistance is Dubbo's largest employer (16.6%), with the sector growing by 39% from 2006 to 2016. Further growth of 42% is expected to 2036, maintaining health care and social assistance as Dubbo's largest employment sector.

Catering for the increased need of health care and social assistance services is therefore a priority for Dubbo and is a factor that will drive continued investment in the Precinct.

Providing housing to meet the needs of household types and an ageing population is also key focus for Dubbo. Currently Dubbo is primarily served by dwellings with 3 or more bedrooms. With the proportion of lone person, couple only and single parent households set to increase substantially out to 2031, an increase in one and two bedroom dwellings will be required to cater for these households. Increasing the stock of 1 and 2 bedroom dwellings may also improve affordability for these household types. Further to the provision of housing for residents, short-term accommodation for families of hospital patients and for staff will continue to be a need within the Precinct. The provision of additional 1 and 2 bedroom dwellings may assist in meeting these needs.

Moving beyond ageing and health care related issues, Dubbo is also a central hub for education and training throughout the region. Education and training is the third largest employment industry (9.2%), experiencing sustained growth from 2006 to 2016 (21%). With education being a primary focus of the Precinct, this sustained growth and its coupling with health care related industries will continue to drive investment in the Precinct.

Arts and Recreation Services are also experiencing significant growth in Dubbo, albeit from a low base (1.6% of all jobs). While a small employer, investment in recreation and sports related activities is an important focus for Dubbo, with the future growth of this sector approximated at 73% to 2036. With the investment in cycle facilities and a new sports hub, arts and recreational services will also be a key employer within the precinct, representing a significant opportunity for new connections and growth between health, education and recreation services.

Dubbo's ageing population, the pressure on its workforce and the growth highlighted across the health, education and recreation sectors demonstrate there is a projected need for expansions and new facilities in Dubbo and there is an opportunity to cater for targeted and shared growth of these sectors within the Precinct.

The Precinct is already growing with current and planned investment representing significant economic drivers for Dubbo. Key investments in the Precinct include:

- Dubbo Hospital upgrades: The Dubbo Hospital has been undergoing significant refurbishment and expansion, supporting improvements to models of care, facility expansions to cater for a growing regional population and new services that will allow residents to stay in the region to receive health care. Stage 1, 2 and 3 works are complete and work has commenced on Stage 4, including the construction of a new cancer centre. The total project investment exceeds \$250M.
- Velodrome / Cycle facility: Investment in a new indoor velodrome and outdoor criterium track on Council land at 88 Dubbo Street has been announced, with Development consent gained (D18-316: Outdoor Recreation Facility (Cycling Facility)). The facility is budgeted at \$4.4 million.
- 'Sports Hub' located on Charles Sturt University land: The sports hub will house a 10 court multi-sport facility for netball basketball, gymnastics, indoor hockey and cricket training with the potential for outdoor field expansion as funding eventuates. The centre will also include administrative areas for sporting associations and institutes and will include a wellness centre for users. The total budgeted announcement is for \$44.5M, with investment potentially commencing in mid-2019.
- Short-term accommodation at Macquarie Homestay: Macquarie Homestay have recently complete 14 short-term accommodation units, provided for families of hospital patients in a not for profit arrangement. Macquarie Homestay have sufficient land to accommodate up to 100 short-term accommodation units on the site, to be constructed as demand and funding allow.

- Sydney University: Planned expansion to a full Medical degree at Dubbo, focusing on Rural Medicine. Potential for 70 additional students on campus and a 50% growth in staff, along with significant investment in campus teaching facilities.

These investments show the Precinct is a key attractor for growth in Dubbo, highlighting the importance of planning the Precinct.

Consultation with 16 different organisations either within or representing interests in the Precinct was undertaken both individually (one on one meetings) and collectively (facilitated Design Charrette). This consultation built the picture of needs, constraints and opportunities within the Precinct, identifying the Precinct Vision, Principles and overall Precinct Map.

Precinct VISION

To be a premier centre for regional health, sporting activity and well being, focusing on research, education and a vibrant built environment that supports the prosperity of the region and the people of western NSW.

Precinct PRINCIPLES

Principle 1 – Share Governance

- Formally through a governance body charged with precinct planning and driving investment
- Informally through research and advocacy network for health and sports related fields

Principle 2 – Collaborate

- By sharing infrastructure (e.g. tele health, function / education theatre) and through workforce planning
- Through attracting and growing participation in the precinct via networks – key persons / groups for sports and health related fields
- Informally through an education and networking group

Principle 3 – Integrate Economies

- By expanding export industries – supporting the export of health and education services to Regional NSW
- Through expanding industry for rural medicine and sports related research and education
- By attracting public and private investment for niche services to professionals, seniors and the aboriginal community

Principle 4 – Co-locate

- Accommodation – for key workers, students and visitors between all organisations
- Commercial space for health related uses
- Community health services

Principle 5 – Plan an Integrated Precinct

- By increasing housing diversity of residential dwellings through mix of dwelling types, sizes and increased density
- Through improving cycle and pedestrian connections via use of waterways and environmental assets
- Utilising landscaping to improve climate responsiveness (e.g. pathways shaded with deciduous trees)
- Catering for cross generational needs (e.g. child, aged care, worker needs) – both in mix of uses within the precinct and through appropriate and supporting infrastructure (e.g. appropriately graded pathways, park and play areas)

Principle 6 – Enhance Infrastructure

- Transport access – Improve connections into and through the precinct
- By improving public and active transport connections through the precinct to better connect users and to wider networks across Dubbo

Precinct Map

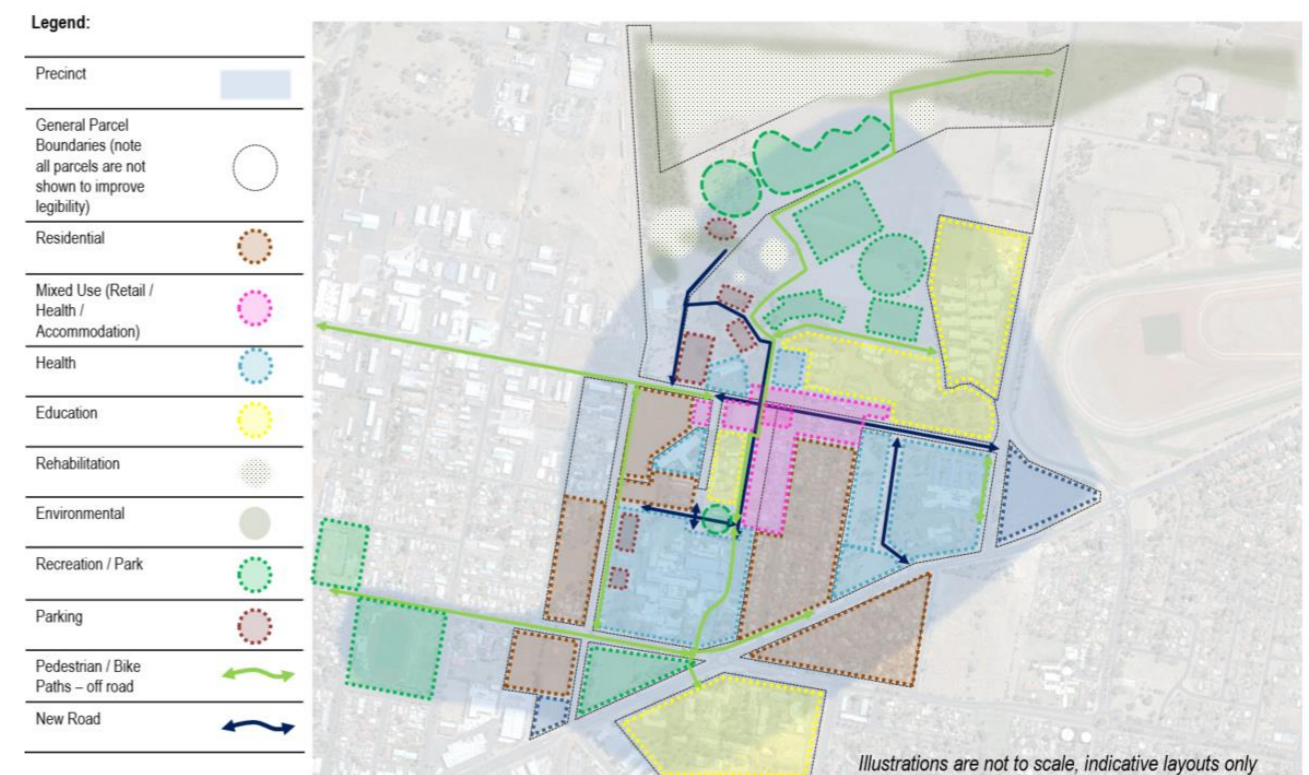


Figure 2 Dubbo Health Education & Well Being Precinct Master Plan Map

The Dubbo Health Education and Well Being Precinct aims to connect key organisations in the area through infrastructure and activity centres that will serve to support and connect people across the Precinct. To this end, a mixed use core is proposed at the heart of the precinct, running east-west along an extended River Street, and north-south connecting the Dubbo Hospital, the new Sports Hub and Charles Sturt University. This mixed use core is supported by anticipated enhanced activity at the Dubbo Hospital, Catholic Health Care (Lourdes Hospital and aged care services), TAFE NSW Dubbo Campus, Sydney University and supporting private development. The Precinct facilitates supporting health related development through identifying areas of mixed use and health focused commercial development for primary health and aged care providers. Targeted retail and commercial development focusing on servicing the demand of the Precincts residential population and workforce is situated in the Precinct heart, improving accessibility for all users, building activity in the core of the precinct. Increases in residential accommodation is facilitated across the precinct, focused on supporting short-term accommodation, affordable housing, increased diversity in housing types and a general increase in population for the precinct.

Targeted transport and community infrastructure will connect key users and developing areas. The precinct includes measures to re-connect blocked roads, extend roads to improve precinct connectivity, to facilitate multiple entrances and exits to sites and to allow the potential for public transport connections through the precinct. Active transport pathways for walking and cycling are a prime focus for the precinct, with the aim of reducing reliance on private motor vehicles for short trips and to improve the amenity of the precinct.

To support the development of this precinct, 7 key strategies and 37 actions are recommended. The 7 strategies are:

- Strategy 1 – Provide joint decision making, and research and investment attraction.
- Strategy 2 – Facilitate collaboration between organisations
- Strategy 3 – Expand economic opportunities
- Strategy 4 – Improve housing affordability, diversity & accommodation options
- Strategy 5 – Promote and guide appropriate development that supports the health, education and well being focus of the Precinct
- Strategy 6 – Improve recreational space and active transport
- Strategy 7 – Improve transport infrastructure connections and links through the Precinct

A section of the 37 actions for the Precinct are included below:

1. Undertake community consultation on the Dubbo Health Education and Well Being Master Plan.
2. Conduct an economic analysis to investigate the quantum of retail, commercial and health related GBA that the precinct may be able to generate in the short, medium and long-term. This analysis should investigate in particular the areas of the precinct to be converted to B1 – Neighbourhood Centre and B4 – Mixed Use given their ability to accommodate increases in retail and commercial floor space. The economic analysis should also focus on the viability of unlocking land for private development to stimulate development in the precinct.
3. Lobby for 'Special Activation Precinct' or 'Local Activation Precinct' identification of the Dubbo Health Education and Well Being Precinct through the Department of Premier and Cabinet. Utilise Government funding opportunities for infrastructure – Growing Local Economies.
4. Provide a tax incentive framework to fast track business investment within the precinct. Tax incentives may include, payroll, land and transfer duty exemptions or concessions. The appropriateness and quantum of such exemptions or concessions should be investigated in an economic benefit analysis before proceeding to decision.
5. Define and prepare a clear site to establish a catalyst project for sports and health research on the Dubbo Hospital site. Site preparation may include undertaking detailed studies to support traffic and infrastructure analysis, and connecting trunk infrastructure to a site where not presently available.

6. Establish a research network between key precinct organisations to identify key research areas, opportunities and programs that forward Dubbo as a centre for rural health for NSW.
7. Increase incentives for aged care related development, research and education through development incentives (e.g. commit to fast-track approvals, allow increased density (i.e. yield), and waive contributions).
8. Define and prepare a clear site to establish affordable housing within the Precinct. Site preparation may include undertaking detailed studies to support traffic and infrastructure analysis, and connecting trunk infrastructure to a site where not presently available.
9. Make amendments to the Dubbo LEP to enact the land zoning changes identified in the Precinct map.
10. Fund and commence works on the velodrome and sports hub, works to include road and pathway connections as indicated on master plan map. Additional funds may be able to be sought via the Regional Sports Infrastructure Fund.
11. Undertake a detailed investigation of how to fund and construct the central public space to unlock interest in the area and proceed to decision on timing the commencement of this project based on this investigation. Utilise pop up markets to support the ultimate function of this space as the precinct develops. Funds may be able to be sought from the Stronger Country Communities Fund.
12. Construct the North-South cycle path / walkway connections from the River Street extension to the central park. Seek funding via the Growing Local Economies Fund.
13. Construct the River Street extension link, timed to coincide with finalisation of the sports hub and velodrome. Seek funding via the Growing Local Economies Fund and via RMS funding linked to the River Street Bridge, should it be progressed.
14. Construct / connect the east/west & north/south connections through the Dubbo Hospital site, noting the need to maintain access restrictions for hospital operational safety, particularly in proximity to logistics and the helipad area. Seek funding via the Growing Local Economies Fund.
15. Conduct a public transport study to analyse the viability of re-routing public transport to go through the precinct, connecting the hospitals, sports hub and universities to the network.
16. Fund one of the two identified locations for car parking on the Dubbo Hospital site as designated day time staff car parking, freeing up spaces in the front of hospital car park for patients and families.

The Dubbo Health Education and Well Being Precinct Master Plan identifies a clear picture for the Precinct, resolving the land use, planning and infrastructure required to support Precinct growth into the future. The Precinct Master Plan helps build the Precinct as a key employment generator for Dubbo, servicing Western NSW for health, education and sports. Importantly, it does this in a way that will both build and grow the institutions in the Precinct and harness the new sport and recreation investments planned for Dubbo. It will also do so in a way that will enhance Dubbo's ability to manage and plan for its ageing population, will improve health and well being for residents and will improve housing diversity and affordability.

With sustained planning, governance and investment, the Dubbo Health Education and Well Being Precinct will be a transformative project for Dubbo and the people of Western NSW.

2. INTRODUCTION

The New South Wales (NSW) Department of Planning and Environment (DPE), Charles Sturt University (CSU), the Western NSW Local Health District (LHD) and the Dubbo Regional Council engaged Destravis to facilitate the Dubbo Health Education and Well Being Precinct (the Precinct) Master Plan. The Precinct is focused on the Dubbo Hospital and Charles Stuart University and surrounds.

2.1. Scope of the engagement

The Dubbo Health Well Being and Education Precinct Master Plan specifically included:

1. Desktop & Gap Analysis – including a site visit and desktop analysis.
2. Opportunities and Constraints Analysis – visual outputs by overlay / key issue or factor following on from outcomes of Desktop and Gap Analysis.
3. Economic Growth Analysis – Opportunities and Constraints – identification of key factors for economic and health cluster growth, followed by targeted telephone consultations with key stakeholders involved in the precinct and surrounds to determine opportunities and constraints for precinct growth by stakeholder. Results summarised with a demand assessment.
4. Design Charrette – Facilitated workshop with key precinct stakeholders determining precinct principles, discussing opportunities and constraints and developing key strategies and actions to realise the potential of the precinct.
5. Draft Precinct Master Plan Report & Review Presentation – Collaborative findings workshop to review and develop the Draft Precinct Master Plan Report, followed by a Dubbo Regional Councillor collaborative workshop, leading to the Draft Precinct Master Plan Report.
6. Final Precinct Maser Plan & Presentation – Client review and finalisation of the Precinct Master Plan Report, and final presentation of Precinct Master Plan.

2.2. Limitations and exclusions

This report has been undertaken using visual surveys, desk top reviews of available documentation and single site inspection noting the following limitations and exclusions:

- Provision for a single but comprehensive site visit.
- Review of information supplied by desk top analysis only.
- Consultation with key stakeholders limited to the time frames and allowances contractually specified.
- No new technical studies (such as surveys, technical reports or an economic analysis) were commissioned for the purpose of this project.

2.3. Project Team

The Client: New South Wales Department of Planning and Environment, the Western New South Wales Local Health District, Charles Sturt University, Dubbo Regional Council.

The Project Director: Damien Pfeiffer, Director Regions, Western, NSW Department of Planning and Environment

The Consultant Team: Destravis – Gunther De Graeve, Director; Anthony Colwell, Senior Project Associate; John Williams, Master Plan Architect.

2.4. Stakeholder Engagement

The following organisations and personnel were consulted with throughout the duration of the project:

- Charles Sturt University
- Dubbo Regional Council
- Western NSW Local Health District
- Western Primary Health Network
- Sydney University – School of Rural Health
- TAFE NSW – Dubbo Campus
- NSW Office of Sport – Western Region
- Western Region Academy of Sport
- Far West Academy of Sport
- Dubbo Private Hospital
- Lourdes Hospital (Catholic Health Care)
- Pefasie (local landholder)
- Macquarie Homestay (local short-term accommodation provider)
- PCYC – Dubbo
- Dubbo Local Aboriginal Land Council (LALC)
- Lourdes Hospital (Catholic Healthcare)

Destravis thanks all stakeholders for their contribution to the project.

3. SITE CONTEXT & LAND CHARACTERISTICS

3.1. Precinct & Surrounds

The Dubbo Health Well Being and Education Precinct (the Precinct) is broadly situated around the Dubbo Hospital and Charles Sturt University (CSU) in East Dubbo. **Error! Reference source not found.** identifies the broad precinct area and significant land parcels at the commencement of the study.

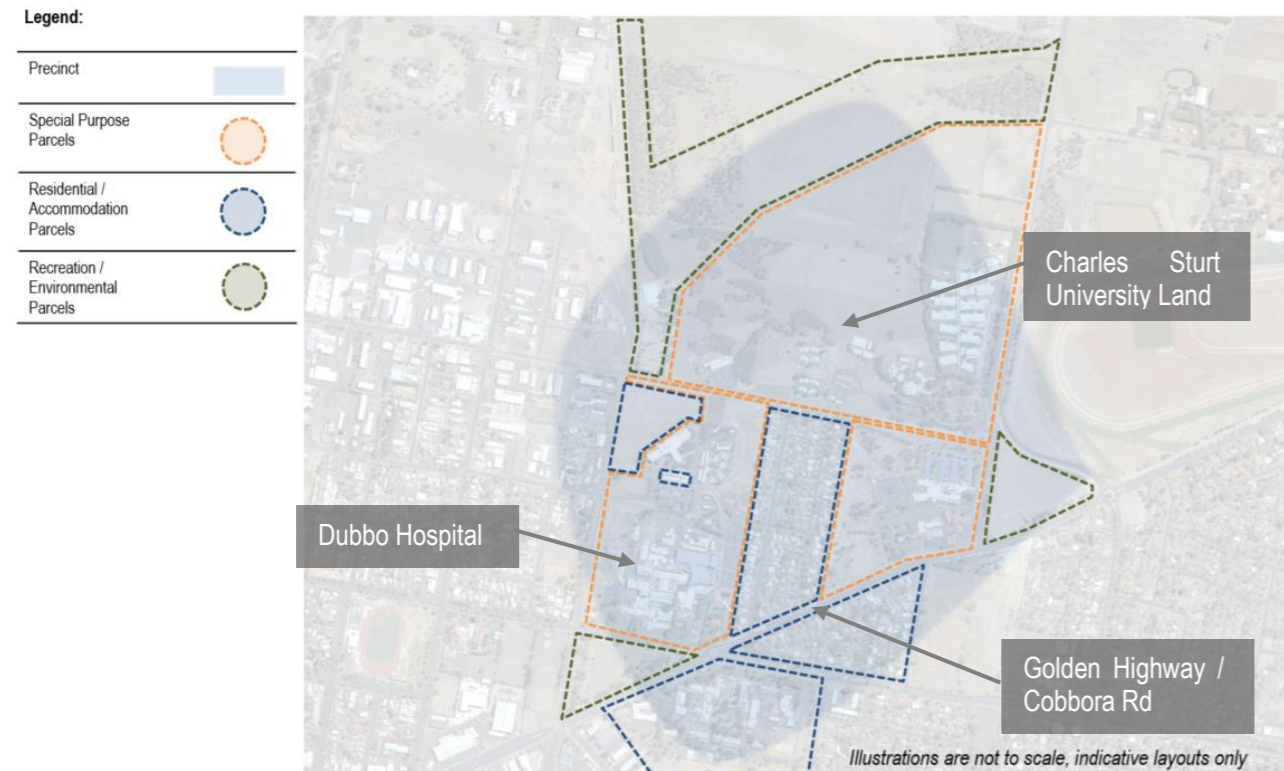


Figure 3 Dubbo Health Education & Well Being Precinct Area

A number of other institutional and private developments surround the Dubbo Hospital and Charles Sturt University with some organisational connections and dependencies already present. For example, both the Dubbo Private Hospital and Lourdes Hospital are located nearby, providing opportunities for doctors to easily travel between each facility. Aged care providers are located in close proximity to the hospital, allowing for peace of mind and ease of travel for patients and health care professionals when hospital facilities are required. Accommodation providers are also located in close proximity, providing for staff and families of patients to all hospitals. The Sydney University School of Rural Health is located on Dubbo Hospital land, with students from this university placed in the Dubbo Hospital.

These broad range of interdependent uses provide an opportunity for a precinct led approach to governance, investment and planning that may provide opportunities that benefit all.

¹ Dubbo Regional Council, Draft Employment Lands Strategy, November 2018, pg.10

On top of the existing facilities in the area, new investment on lands within the precinct boundaries or nearby continues to occur. Recently, the Dubbo Hospital has undergone and continues to undergo a major refurbishment that will see the hospital increase in size to approximately 200 beds with a new Cancer Centre. Moving into the near future, a velodrome and outdoor cycle track has been announced and approved on the Northern side of the precinct, and a Sport Hub has been announced on CSU land, nearby the Velodrome. These significant investments will bring more people to the precinct, providing an opportunity to improve local infrastructure, expand uses and improve connections between organisations. This Precinct Master Plan will assist in achieving these ends.

Moving beyond the immediate area, the Precinct is located approximately 2-2.5km to the North-east of the Dubbo CBD (Figure 4) with primary road access being from the Golden Highway / Cobbora Road. A significant area dedicated to light industrial and service industry uses is located directly to the West of the Precinct, with vacant land and heavier industrial uses to the North. The Dubbo Turf Club (race track) and associated training facilities are located to the East of the Precinct, with residential land making up the majority of uses to the South / South-east.



Figure 4 Dubbo Health Education & Well Being Precinct Surrounds

Moving beyond physical and spatial considerations, investigating key demographic and employment data for the broader Dubbo Local Government Area (LGA) assists in identifying the drivers for growth within the Precinct. Similar to National, State and regional trends, Dubbo's population is aging. As of the 2016 census, the proportion of persons aged over 65 is 15%, an increase from 12% in 2006¹. In addition to this, the proportion of older working aged persons (50-64 years) is

16.1%, indicating there will be an increase in persons leaving the workforce over the coming decade. This will place increasing pressure on the working age population, with the proportion of working aged persons to aged persons growing from 0.26 in 2016 to 0.41 in 2031². With an unemployment rate of 2.5% as of June 2018³, there is effectively no spare capacity in the labour market. The low rate of unemployment coupled with increasing numbers of persons leaving the workforce will put pressure on Dubbo's employment industries. Strategies to attract and retain workers to Dubbo will therefore be required.

The trend of an increasingly ageing population is also reflected in Dubbo's key employment industries. Health care and social assistance is Dubbo's largest employer (16.6%), with the sector growing by 39% from 2006 to 2016. Further growth of 42% is expected to 2036⁴, maintaining health care and social assistance as Dubbo's largest employment sector. Catering for the increased need of health care and social assistance services is therefore a priority for Dubbo and is a factor that will drive continued investment in the Precinct. This focus is also specifically reflected in the Central West and Orana Regional Plan's Direction 5 (Improve access to health and aged care services) and Direction 26 (Increase housing choice for seniors), reflecting government priority in addressing this demographic trend.

Providing housing to meet the needs of household types and an ageing population is also a key focus for Dubbo. Currently Dubbo is primarily served by dwellings with 3 or more bedrooms. These dwellings make up 78.1% of the housing stock, while 1 bedroom dwellings account for 3% and 2 bedroom dwellings account for 16.2% of all dwellings in Dubbo⁵. With the proportion of lone person, couple only and single parent households set to increase substantially out to 2031⁶, an increase in one and two bedroom dwellings will be required to cater for these households. Increasing the stock of 1 and 2 bedroom dwellings may also improve affordability for these household types. There may be opportunity within the Precinct to help increase the stock of 1 and 2 bedroom dwellings, an opportunity that will be further investigated in later sections of this report. Further to the provision of housing for residents, Short-term accommodation for families of hospital patients and for staff will continue to be a need within the Precinct. The provision of additional 1 and 2 bedroom dwellings may also assist in meeting these needs.

Moving beyond ageing and health care related issues, Dubbo is also a central hub for education and training throughout the region. Education and training is the third largest employment industry (9.2%), experiencing sustained growth from 2006 to 2016 (21%)⁷. Steady growth to 2036 is expected, at which point education and training is projected to drop from the 3rd to 5th largest employer in Dubbo. With education being a primary focus of the Precinct, this sustained growth and its coupling with health care related industries will continue to drive investment in the Precinct.

Arts and Recreation Services are also experiencing significant growth in Dubbo, albeit from a low base (1.6% of all jobs). While a small employer, investment in recreation and sports related activities is an important focus for Dubbo, with the future growth of this sector approximated at 73% to 2036. With the investment in cycle facilities and a new sports hub within the precinct, arts and recreational services will also be a key employer within the precinct, representing a significant opportunity for new connections and growth between health, education and recreation services in the precinct.

Dubbo's ageing population, the pressure on its workforce and the growth highlighted across the health, education and recreation sectors demonstrate there is a projected need for expansions and new facilities in Dubbo. There is an opportunity to cater for targeted and shared growth of these sectors within the precinct. This study will undertake analysis and will liaise with precinct stakeholders to seek to identify how and where these facilities may eventuate.

² Household and Dwelling Projections Data (Dubbo LGA) <https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections>, accessed 8 November 2018.

³ Economy Profile – Dubbo Region, Unemployment, <https://www.economyprofile.com.au/dubbo/council/trends/unemployment>, accessed 15 November 2018.

⁴ Dubbo Regional Council, Draft Employment Lands Strategy, November 2018, pg.27

3.2. Key Organisations

The following list identifies the key organisations (note: not listed in order of importance / priority) present within the Precinct. Consultation with these organisations will be sought to inform the investigations and outcomes of the Precinct Master Plan.

- Department of Planning and Environment
- Charles Sturt University (Dubbo Campus)
- Western NSW Local Health District
- Western Primary Health Network
- Health Infrastructure
- Dubbo Regional Council
- Property NSW
- Sydney University - School of Rural Health (Dubbo Campus)
- TAFE Western NSW – Dubbo-Myall Street Campus
- PCYC NSW - Dubbo
- NSW Office of Sport - Western Region
- Western Region Academy of Sport
- Far West Academy of Sport
- Lourdes Hospital
- Dubbo Private Hospital
- Holy Spirit Aged Care
- Opal Aged Care
- Dubbo College (High School)
- Regional Development Australia - Orana
- Troy Gully Environmental Group
- Pefasie Pty Ltd (local landholder)
- Macquarie Homestay (short-term accommodation provider)
- Moran Lodge (short-term accommodation provider)

⁵ Census Quick Stats, Western Plains Regional LGA (Dubbo), http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/1011?opendocument, accessed 8 November 2018.

⁶ Household and Dwelling Projections Data (Dubbo LGA), <https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections>, accessed 8 November 2018

⁷ Dubbo Regional Council, Draft Employment Lands Strategy, November 2018, pg.14

3.3. Key Legislation and Planning Scheme Links

Notwithstanding the overarching legislation governing land use planning in NSW (*Environmental Planning and Assessment Act 1979*), the Central West and Orana Regional Plan, the Dubbo Local Environmental Plan and the Dubbo Development Control Plan are the most relevant documents under which the Precinct will be guided from a planning and development perspective. A summary of the key linkages for the Precinct by document is undertaken below.

Central West and Orana Regional Plan - key directives and actions:

- *Direction 5: Improve access to health and aged care services:*
 - o 5.1 Establish health precincts around hospitals in regional cities and strategic centres.
 - o 5.2 Promote mixed-use facilities and research and accommodation precincts for the health and aged care service sectors.
 - o 5.3 Facilitate the development of multipurpose, flexible and adaptable health and education infrastructure.
 - o 5.4 Minimise the encroachment of inappropriate and incompatible land uses near existing and proposed health facilities.

There is strong potential for Precinct alignment with these actions. In particular, the Precinct Master Plan directly support Action 5.1, effectively the Precinct Master Plan will realise this action. The Precinct Master Plan also has the ability to support Actions 5.2 through 5.4. Given this, the promotion of mixed use facilities, research, accommodation, aged care flexible, adaptable infrastructure and minimising encroachment / incompatible land uses near health facilities will all be key inputs to the Precinct Principles and Opportunities and Constraints analysis.

- *Direction 6: Expand education and training opportunities:*
 - o 6.2 Promote the development of education precincts around universities and other educational facilities to allow people to specialise in rural studies and to cater for international students.
 - o 6.3 Facilitate joint-venture opportunities for shared community and school facilities on school sites, including sporting fields, amenities, parking, community halls, child care, arts and library facilities.

Again, there is strong potential for Precinct alignment with these actions. The Precinct includes two universities, a school, a TAFE campus and announced investment in sporting and recreational uses. These connections provide opportunity to further Actions 6.2 and 6.3. Given this, the promotion of development and joint education, recreation and community facilities will be a key input into the Precinct Principles and Opportunities and Constraints analysis.

- *Direction 25: Increase housing diversity and choice*
 - o 25.1 Prepare local housing strategies that increase housing choice, including affordable housing options.
 - o 25.2 Increase housing choice in regional cities and strategic centres at locations near or accessible to services and jobs.

As noted in Section 3.1 above, improving housing choice, in particular the provision of one and two bedroom and non-house dwellings, is important for Dubbo. The Precinct has an opportunity to facilitate housing choice and affordability in close proximity to jobs and services, in direct alignment with Action 25.1 and 25.2. Again, these factors will be a key input into the Precinct Principles and Opportunities and Constraints analysis.

- *Direction 26: Increase housing choice for seniors*
 - o 26.1 Promote ageing-in-place by adopting elements of *Livable Housing Australia's Livable Housing Design Guidelines* in development controls for housing, where possible.
 - o 26.2 Promote opportunities for retirement villages, nursing homes and other senior's housing in local housing strategies.
 - o 26.3 Remove planning barriers to provide a range of low-care and independent seniors' accommodation options in appropriate locations.
 - o 26.5 Locate new housing for seniors close to existing services and facilities, and on land free from hazards.

The Precinct includes aged care providers that are situated alongside health services. Growth in the provision of aged care services alongside a diverse range of seniors housing options are both aspects which could be facilitated within the Precinct, furthering Actions 26.1 to 26.3 and 26.5. These will be included as key inputs to the Precinct Principles and Opportunities and Constraints analysis.

- *Direction 29: Deliver health built environments and better urban design*
 - o 29.2: Enhance the quality of neighbourhoods by integrating recreational walking and cycling networks.

There is opportunity to make improvements to walking and cycling networks within the Precinct, furthering Action 29.2. Given this, improving walking and cycling networks will be included as key inputs to the Precinct Principles and Opportunities and Constraints analysis.

Dubbo Local Environmental Plan (LEP) 2011

The Dubbo LEP is the primary legislative document controlling land use planning for Dubbo. The Dubbo LEP provides the zoning and permitted use intents by zone alongside key constraints mapping and controls where relevant. It is noted that provisions such as building height and floor space ratios have not been adopted within the Dubbo LEP. Specific standards relating to these matters may be found within the Dubbo Development Control Plan.

The key land uses within the Precinct are: SP2 (health related and education), SP3 (tourist), R2 (low density residential), R1 (general residential) and RE1 (public recreation). Typical uses and critical information for each zone are noted below:

- SP2 (Health) – broad range of hospital and health uses allowed, including uses such as food and drink and accommodation where they are ancillary to the primary use of land (hospital).
- SP2 (Educational Establishment) – schools and tertiary institutions.
- SP3 (Tourist) – tourist related development along transport corridors. Uses allowed include food and drink, tourist accommodation, shop top housing, medical centres, health consulting, wineries.
- R2 (Low Density Residential) – 600sqm minimum lot size. Typical range of residential uses with the exception of more dense uses such as multi-unit dwellings, attached dwellings. Some non-residential uses allowed, such as medical centre, neighbourhood shops, child care, recreation uses.
- R1 (General Residential) – 300sqm minimum lot size. More intense residential uses allowed, such as multi-unit dwelling, seniors housing, shop top housing. Some non-residential uses allowed, such as child care, restaurant, café.

Other zones of note to the further development of the Precinct include:

- B4 (Mixed Use) – Generally non-residential uses allowed such as child care, education, commercial facilities, medical centres, recreation (indoor), seniors housing, short-term accommodation. Limitation of 200sqm for business premises and 150sqm for retail premises.
- B1 (Neighbourhood Centre) – Non-residential service focus for local community. Uses include range of retail, commercial and community facility types. Some residential allowed such as shop top housing.

Overlay mapping is applicable under the Dubbo LEP, including:

- Urban land area releases – no urban land release areas apply to land within the precinct area.
- Additional permitted uses – no additional permitted uses apply to land within the precinct area.
- Biodiversity – no land subject to the biodiversity mapping applies to land within the precinct.
- Heritage – the Hospital site is noted as including a Heritage Building. The Heritage building is to the front of the site (Southern side) facing Myall Street.
- Flooding – land subject to flooding impacts is noted on the Northern portions of the Charles Sturt University land, and within the Council owned recreational land parcel. Land subject to flooding is coloured blue within Figure 5 below.

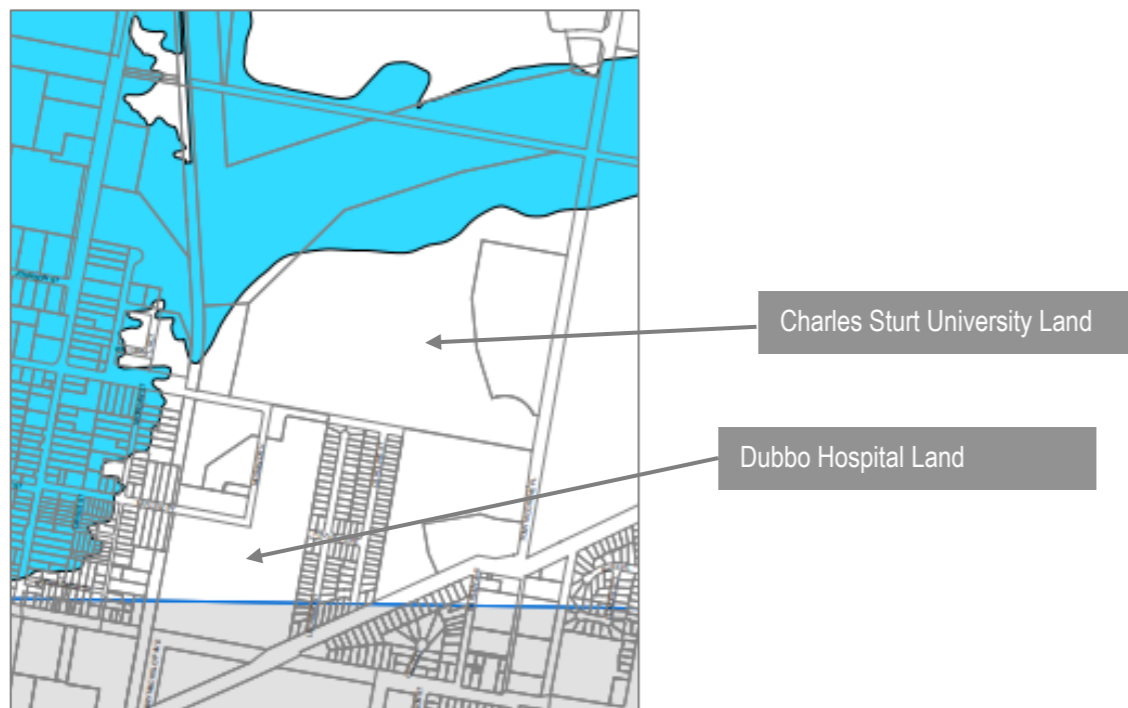


Figure 5 Land subject to Flooding

The planning framework and key zoning and overlay information noted above will be used to help frame the analysis contained within this report. Any key strategies or actions that result from the analysis and stakeholder consultation will need to take into consideration this information, or will need to propose any specific changes to the provisions of the Dubbo LEP where applicable.

Dubbo Development Control Plan (DCP) 2013

The Dubbo DCP is the key document under which specific development standards are identified for any assessable development within Dubbo. It sets minimum standards (Acceptable Solutions) or, where these are not met, Performance Criteria are required to be met for development to be allowed. A brief assessment of the key Dubbo DCP requirements for development within the Precinct has been undertaken for health, education, commercial and accommodation related uses. Key information from this assessment is as follows:

- Residential Subdivision: Lot sizes to comply with lot size mapping. Minimise cul de sac and battle-axe lot arrangements.
- Commercial Subdivision: Nil relevant.
- Car parking:
 - o Multi-unit dwelling: 1 / 1 bedroom and 2/2+ bedroom
 - o Shop top housing: 1 / 1 bedroom, 1.3 / 2 bedroom and 1.5 / 3+ bedroom + 1/4 units for visitors
 - o Residential care: 1/10 beds + 1/2 employees
 - o Seniors housing where self-contained: 1 / 5 dwellings (social housing only).
 - o Tourist apartments: 1/1 bedroom, 2/2+ bedroom
 - o Business uses: 1/40sqm Net Lettable Area (NLA)
 - o Restaurant/café: 1/25sqm NLA
 - o Retail (small): 1/25sqm NLA
 - o Health consulting, medical centre: 1/25sqm NLA
 - o Education tertiary: 1/1.5 staff + 1/5 students
 - o Child care: 1/4 children
 - o Recreation: 3/court or for major facilities 1/10 seats.
- Site cover / Gross Floor Area (GFA):
 - o Residential shop top: 80% GFA
 - o Note: no other reference to GFA / site cover limitations in the DCP.
- Bicycle:
 - o No specific provisions apply to any of the uses listed.
- Landscaping / open space:
 - o Residential multiple dwelling: 25sqm / dwelling and 5% site area per dwelling.
 - o Residential shop-top: 10sqm/dwelling and communal space of 10sqm/dwelling (min. 50sqm), plus 5sqm/dwelling for clothes drying above 12 dwellings.
 - o Commercial: Provision of landscaping along frontage + one landscaped bay per 10-12 cars.
 - o Education: Nil provided.
 - o Health: Nil provided.
- Set-backs:
 - o Residential multi-unit dwelling & shop-top housing: 4.5m front OR average of neighbouring dwellings.
 - o Commercial B1 – 0m, front boundary, 3m second storey.
 - o Commercial B4 – same as neighbour, 10m for rear
 - o SP3 Tourist – 5m front, 10m rear

- Building height:
 - o Commercial B1, B4 and SP3: generally 2 storeys

Where specific standards have not been noted Building Code of Australia standards generally apply.

The information noted above will frame the types of development that could be achieved throughout the Precinct, both under existing zoning and use rights, or under any proposed changes. In particular, this information will assist in determining yield in sqm or dwellings for land parcels, allowing general yield assumptions for the Precinct to be identified. As with the Dubbo LEP provisions, any key strategies or actions that result from the analysis and stakeholder consultation will need to take into consideration this information, or will need to propose any specific changes to the provisions of the Dubbo DRC where applicable.

3.4. Dubbo Regional Council Policies / Strategies

The Dubbo Regional Council holds a number of key policies and strategies that relate to its management of land and strategic direction that ultimately guides infrastructure investment and service provision for the community of Dubbo. The following key policies and strategies were provided for review by the Dubbo Regional Council:

- Community Strategic Plan
- Draft Employment Lands Strategy
- Open Space Master Plan
- Transport Strategy 2012

These policies and strategies have been reviewed to ascertain their level of influence and guidance for the Precinct Master Plan. Please note that assessment of the Transport Strategy 2012 is contained within Section 3.5 (Movement and Transport Networks), below.

Community Strategic Plan

The Community Strategic Plan seeks to outline the key strategies and actions that the Dubbo Regional Council will take to improve the wellbeing of the community of Dubbo. The plan has a strong community focus and seeks to improve:

- Housing choice and affordability
- Access to education and training
- Open spaces and recreational opportunities
- Availability of health services
- Access to education and community services across the community.

The plan focuses on key areas, seeking to deliver actions to realise its focus. An analysis of the key actions within the plan was undertaken, seeking to relate these actions back to the Precinct. This analysis shows the Precinct may be able to support or assist in the realisation of the following actions:

Housing

- Housing 1.1.1 – A variety of residential housing types are located close to appropriate services and facilities.
- Housing: 1.1.2 – Residential accommodation is designed to meet the needs of our ageing population.
- Housing 1.1.4 – New public and social housing is integrated into existing residential areas.
- Housing 1.6.1 – Short term and visitor accommodation is provided to support existing business, industry and tourist activities.
- Housing 1.6.2 Short term accommodation associated with significant infrastructure and other projects is planned in existing urban areas.

Infrastructure

- Infrastructure – 2.1.4 – use of alternative modes of transport, including electric vehicles is encouraged.
- Infrastructure 2.2.3 – Council’s road network meets the transport needs of users in terms of traffic capacity, functionality and economic and social connectivity.
- Infrastructure 2.5.5 – A network of cycle ways and pedestrian facilities is provided and maintained.

Economy

- Economy 3.5.3 – Government funding opportunities are strategically and proactively pursued.
- Economy 3.5.5. – Business and industry are encouraged to grow, diversify and upskill workers.
- Economy 3.7.2 – Planning controls ensure adequate and suitable land is available for new development opportunities.

Liveability

- Liveability 5.2.1 – The health of the community is maintained through the availability of effective medical services and facilities.
- Liveability 5.2.2 – The needs of older people and people with a disability are monitored to ensure appropriate services and facilities are available in the region.
- Liveability 5.4.1 – An expanded tertiary education offer is available that provides additional opportunities for education within the region.
- Liveability 5.4.2 – Access to a variety of high quality education facilities, opportunity and choice is available.
- Liveability 5.5.1 – Access to recreation and cultural facilities for young people is improved.
- Liveability 5.5.2 – Quality passive and active open space is located to maximise access and use by the community.
- Liveability 5.5.3 – Unique recreational facilities and opportunity are available.
- Liveability 5.5.4 – Our sporting facilities are recognised as catering for a wide range of local, regional and state sporting events and opportunity.

The Dubbo Community Strategic Plan has a clear focus on improving housing affordability and diversity, in particular to support an ageing population, in alignment with the demographic challenges Dubbo faces. Improvements to short-term accommodation are also of note, particularly with respect to supporting business and industry. Planning for economic growth seeks to put in place the right land use controls to support growth and there is a desire to see businesses growth and upskill workers in Dubbo. Alignment with business growth and upskilling workers is desired to improve the range of educational offerings in Dubbo, particularly for tertiary institutions.

Community health is a primary focus for Dubbo, with access to facilities and improving services for older person’s key aspects of the plan. Improving recreational facilities seeks to improve health and lifestyle outcomes, with Dubbo seeking

to improve outdoor open spaces and facilities particularly for young people. Similarly, active travel is promoted, with a desire to provide a network of bike and pedestrian paths to support these modes of transport, helping to support the health of the community.

The strategic focus noted above will be used to help frame the analysis contained within this report.

Draft Employment Land Strategy

The Draft Employment Land Strategy was released on 7 November 2018 for public consultation until 21 December 2018. The strategy provides the key economic information about Dubbo's industries, their projected growth and the availability or otherwise of building stock and land to support this growth. Commentary and strategies for specific economic clusters are made, including for the 'Health, Well-being and Education Precinct', centring on the Dubbo Hospital.

An analysis of the strategy was undertaken, seeking to relate key principles and recommendations to the Precinct. Matters of note from the strategy include:

- The strategy encourages colocation / clustering to improve efficiency, a situation which may be able to be capitalised upon within the Precinct given the existing facilities are located in close proximity to each other (*'Principle 7 – Co-location should be encouraged, where appropriate, to maximise opportunities for co-efficiency and decreased supply chain costs, pg. 8', Principle 11 – Encourage the clustering of industries which share similar synergies pg. 33'*).
- Item 12.7 expands up on the 'Health, Well-being and Education Precinct', noting a number of opportunities to realise this precinct. Key opportunities include:
 - o Creation of synergies between the various health, aged care, education and recreational uses.
 - o Facilitate the expansion of more private health and education related development within the precinct.
 - o Development of sporting facilities within the large undeveloped areas integrating with existing health and education facilities.
 - o Ensure the transportation network is appropriate to encourage efficiency and ease of linkage within precinct.
 - o Encourage non-private transportation methods such as pedestrian, cycling and public transportation systems.
 - o Encourage provision of services to support existing and future users of the Health, Well-being and Education Precinct such as accommodation and food services.
 - o Ensure an attractive and distinctive environment for tourists and tourist operations.
 - o Activation of the area through onsite village style living which could include accommodation and support services including convenience shopping, food and drink.
 - o Resolve amenity conflicts with adjoining uses.

These opportunities generally align with the strategic focus established within Dubbo Community Strategic Plan as well as the key directives and actions of the Central West and Orana Regional Plan as outlines above. To support these opportunities, the strategy recommends changing the residential zoning to the B4 Mixed Use Zone, with a focus on health, aged care, well-being, education and accommodation uses to be promoted.

These opportunities and the recommended zoning change will be used to help guide the analysis contained within this report.

Open Space Master Plan

Dubbo's Open Space Master Plan sets the open space provision standards by population, sets the distances residential dwellings should be from each type of open space and identifies key actions to improve open space provision across Dubbo. Key information from this plan is as follows:

- Design Standards of Service:
 - o Local park 1.5ha / 1000 persons
 - o District 3ha / 1000 persons
 - o Regional 0.5ha / 1000 persons
 - o Total 5ha / 1000 persons
 - o Sport 2.8ha / 1000 persons
- A deficiency in the provision of local parks (more than 500m from residential properties) is noted nearby the Dubbo Hospital for existing residents.
- A recreational corridor is noted to north of the Precinct / Charles Sturt University land.
- A recreational corridor is noted along the Golden Highway / Cobbora Rd.
- Seeks to strategically connect park areas to lessen defragmentation, noting key connection areas across Dubbo to meet this aim. Some connection through the Precinct is sought to connect existing parks and corridor to areas in the North.

While some deficiency for local parkland is noted within the Precinct area, generally the plan focuses on issues across other growth areas in Dubbo. Regardless, the information on standards is an important factor that will be included in the analysis contained within this report.

3.5. Movement and Transport Networks

Dubbo's Transportation Strategy 2012 provides an overarching plan to guide transport investment in Dubbo. The Plan's key aim is for Dubbo to be a '10 minute city', whereby you can get anywhere (by motor vehicle) in Dubbo within 10 minutes. Complementing this is a focus on facilitating freight movement in a ring around the city, to help reduce truck movements along key corridors, improving safety and creating an improved pedestrian and business environment for city streets.

From an active travel perspective connecting the city via a network of shared bike and pedestrian paths that are segregated from the road network is sought. The prime strategy to help achieve this is the creation of a 'green ring' around the city, providing a continuous circuit of pathways for active transport users. Public transport is provided in a hub (CBD) and spoke ethos and this is not set to change.

Within the Precinct areas, suggestions to improve local connectivity are made, including extending Myall Street over the railway corridor by 2036, to be funded as a rail crossing project. There are notations that extending River Street through precinct would assist in improving traffic linkages, but expressed this may not be able to occur.

The key information and directions within the Dubbo Transportation Strategy 2012 will be included in the analysis contained in this report.

Identification of the existing transport linkages in and around the Precinct is contained within Figure 6, below.

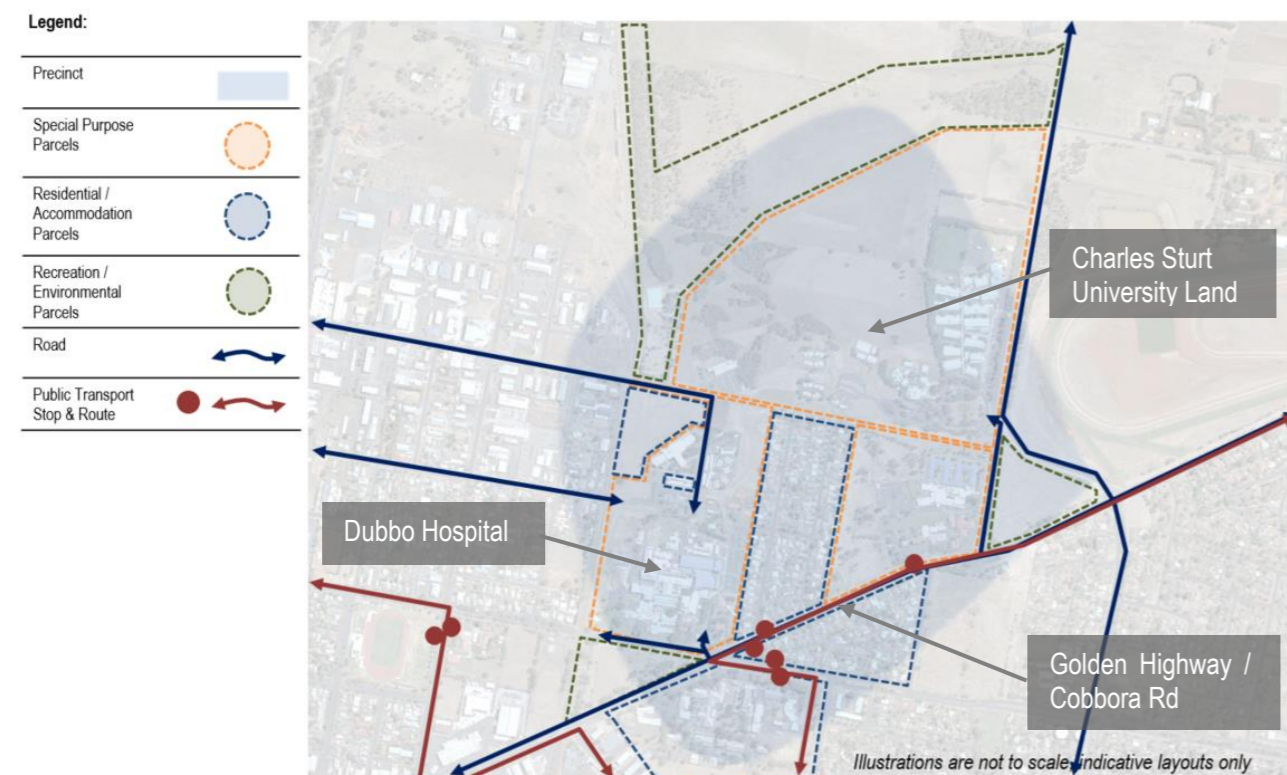


Figure 6 Existing Transport Network

As can be seen from the information noted on Figure 6, access throughout the precinct is fragmented, with each main facility generally having its own access point. There are no through connections from north to south or east to west either through the absence of links (e.g. River Street running along the southern side of the CSU land) or through blockages to other links (e.g. gates at edge of Hospital ring road as they interface with public streets). Further, Public Transport only services the southern edge of the Precinct, primarily the TAFE on the southern side of Cobbora Rd and Lourdes Hospital on the eastern side of the precinct. No direct public transport accessibility is provided for the Dubbo Hospital, the Dubbo Private Hospital, CSU, Sydney University or other uses through the centre and North of the precinct.

While this is the case, the road connections into each facility generally provide the required access for each user in and of themselves, meeting current needs.

The active transport network in the locality is also fragmented, with on and off road paths running generally along the alignment of Cobbora Road, as shown in Figure 7, below.

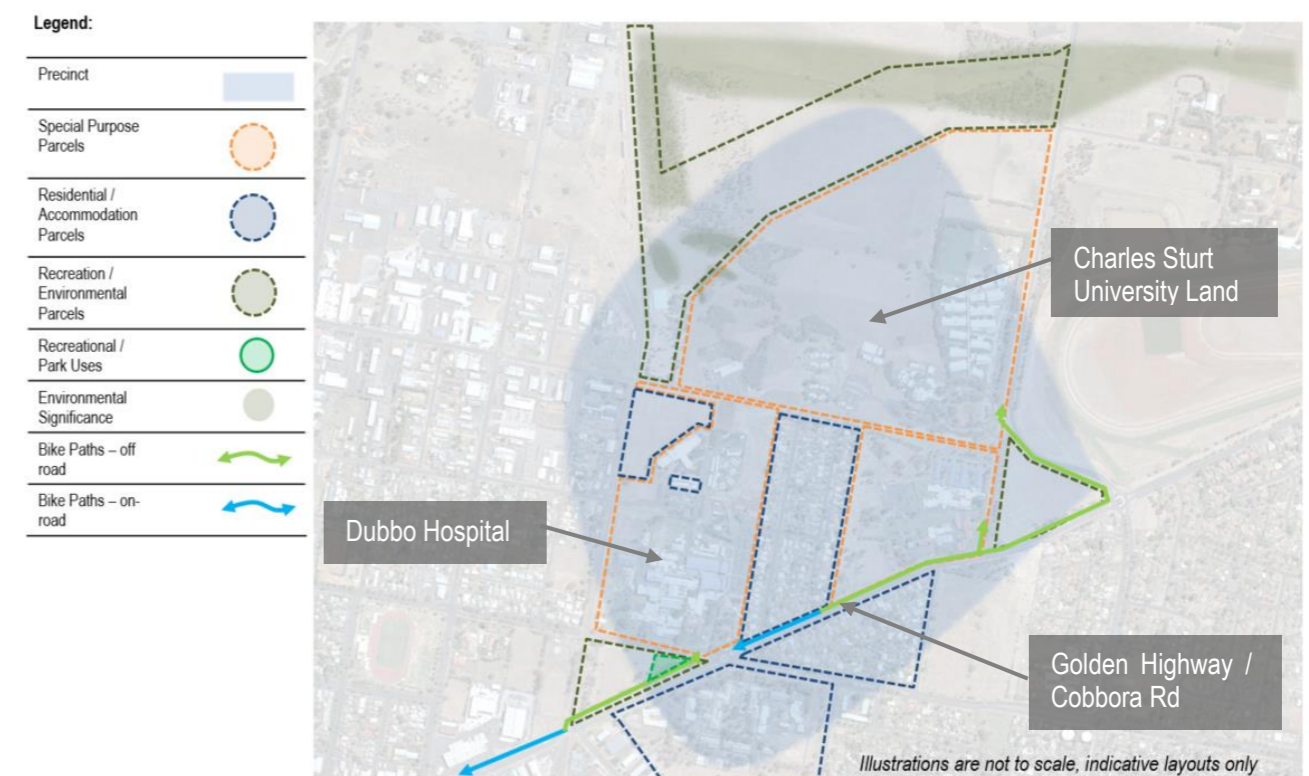


Figure 7 Existing Active Transport Network

While connections do lead into the CBD, they are incomplete (e.g. Tony McGrane Place) and include unsafe barriers (e.g. Cobbora Street, / Hospital entrance roundabout) that limit incentives to use this infrastructure. Accessibility through the centre and north of the precinct is also limited.

The existing movement and active transport networks connections will be further analysed for constraints and opportunities within Section 5, below.

3.6. Key Investments

A number of key investment within the boundaries of the Precinct have either been undertaken, are ongoing or have recently been announced. Key known investments include:

- Dubbo Hospital upgrades: The Dubbo Hospital has been undergoing significant refurbishment and expansion, supporting improvements to models of care, facility expansions to cater for a growing regional population and new services that will allow residents to stay in the region to receive health care. Stage 1, 2 and 3 works are complete and work has commenced on Stage 4, including the construction of a new cancer centre. The total project investment exceeds \$250M.
- Velodrome / Cycle facility: Investment in a new indoor velodrome and outdoor criterium track on Council land at 88 Dubbo Street has been announced, with Development consent gained (D18-316: Outdoor Recreation Facility (Cycling Facility)). The facility is budgeted at \$4.4 million with final part funding (\$0.5M) being sought before a construction start date is announced.
- 'Sports Hub' located on Charles Sturt University land: The sports hub will house a 10 court multi-sport facility for netball basketball, gymnastics, indoor hockey and cricket training with the potential for outdoor field expansion as funding eventuates. The centre will also include administrative areas for sporting associations and institutes and will include a wellness centre for users. The total budgeted announcement is for \$44.5M, with investment potentially commencing in mid-2019.
- Short-term accommodation at Macquarie Homestay: Macquarie Homestay have recently complete 14 short-term accommodation units, provided for families of hospital patients in a not for profit arrangement. Macquarie Homestay have sufficient land to accommodate up to 100 short-term accommodation units on the site, to be constructed if demand and funding allow.
- Sydney University: Planned expansion to a full Medical degree at Dubbo, focusing on Rural Medicine. Potential for 70 additional students on campus and a 50% growth in staff, along with significant investment in campus teaching facilities.

These investments will be key considerations in the opportunities and constraints analysis

3.7. Summary

The background information analysis undertaken identifies a number of common themes regarding Dubbo and the Precincts strategic direction. These themes arise from the demographic challenges Dubbo, and the rest of NSW and Australia, will face into the future from an ageing population, as well as from its history and position as a regional city servicing a very large agricultural area. The key themes from the background analysis are:

- Improve housing diversity through increasing the stock of 1 and 2 bedroom dwellings, and attached dwellings.
- Accommodate an ageing population through providing appropriate housing stock and facilities to accommodate ageing in place.
- Facilitate an increase in short-term accommodation to support businesses and tourism
- Support business and industry to grow through targeted land use planning controls.
- Increase access to health facilities and improve health services for older persons.
- Improve outdoor passive and active recreational opportunities, particularly for younger persons.
- Increase access to tertiary education and upskilling of workers by business in Dubbo.

- Acknowledge and plan for increased employment in the health care and education sectors, noting recreational services is a small but fast growing industry.
- Improve co-location and precinct development around health, education and recreational facilities.
- Limit the encroachment of incompatible land uses.
- Improve pedestrian and bike path connections and increase active travel.
- Improve pedestrian safety and connectivity on main city streets – assisting in improving the business environment.

These themes will be carried through to the opportunities and constraints analysis and subsequent strategy and action development, outlined in Sections 5 and 6 of this report.

4. CONSULTATION

Consultation for the Precinct Master Plan was undertaken through individual one on one consultations and a collaborative Design Charrette involving all stakeholders. To guide this consultation, best practice precinct principles and information was provided. This section will provide this best practice precinct principles, before detailing the individual and collaborative consultation undertaken, including the outcomes of this consultation for the Precinct.

4.1. Best Practice Principles

An analysis of best practice health related precincts has been previously undertaken by Destravis⁸. This analysis concluded that there are a number of common themes across health related precincts that are able to be condensed into 6 Best Practice Principles that can be used to guide planning on health related precincts. These Best Practice Principles, and their sub-principles, are shown in Figure 8, below.

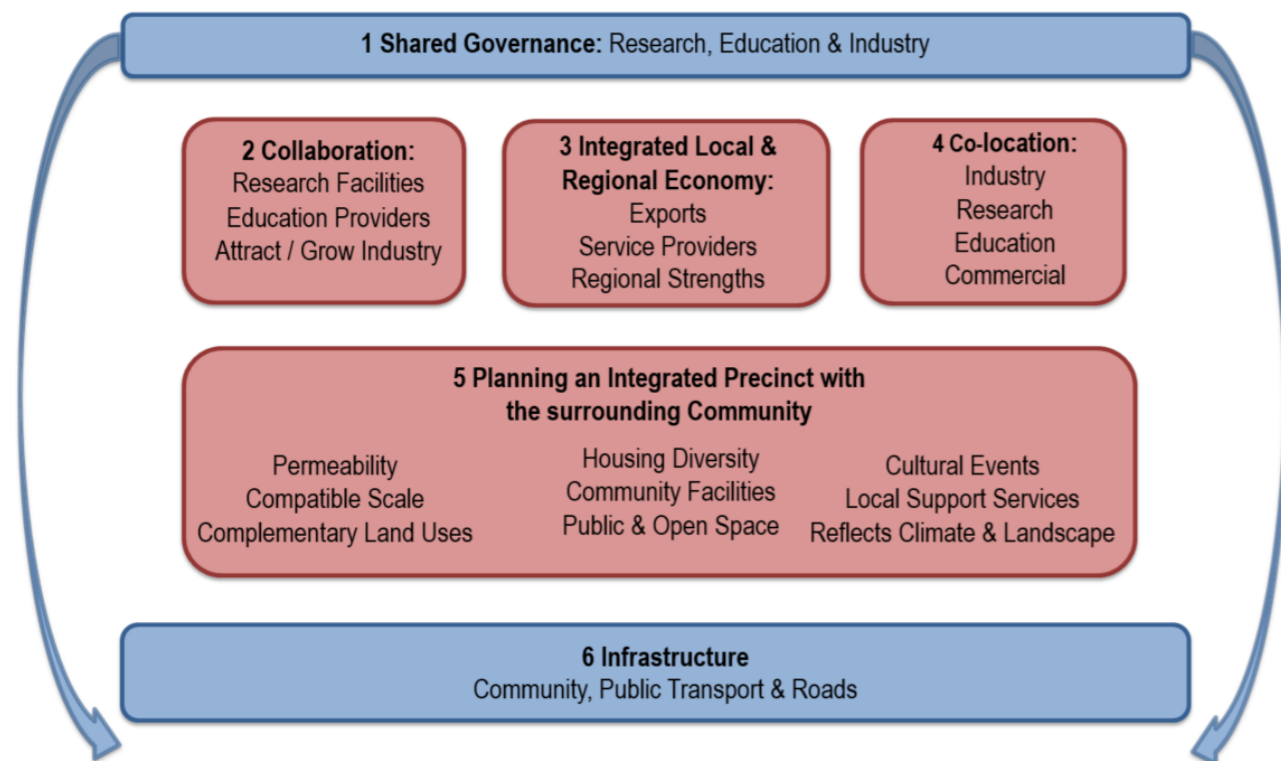


Figure 8 Best Practice Health Precinct Principles

It should be noted that the realisation of each principle dependent on the scale or focus of the hospital in question. For example, a smaller regional hospital may focus more on education than industry, while a larger facility may collaborate more with research and industry. Each principle and sub-principle is explained in further detail below.

⁸ Destravis Pty Ltd, Tweed Health Precinct Background and Scenario Analysis Report, October 2018.

1. **Shared Governance Model** – Shared Governance is an integral part of the health precinct. A collaborative decision making model where all parties are involved in decisions about the activities and direction of the precinct is a critical part of achieving success for all organisations. Shared governance facilitates the success of co-location ensuring the different organisations and places surrounding the precinct work together on mutually beneficial outcomes. Shared governance will differ depending on the focus of the precinct, be it on education, research or on the commercial development and implementation of new health technology. The sub-principles focus on each of these areas of collaboration:

- 1) **Education:** Every hospital requires a well trained workforce of doctors, nurses, allied health professionals, administrative workers and support services (e.g. maintenance, ICT) to function and all of these professions require continued professional development for the hospital to operate efficiently. As such, a level of collaborative governance with education providers is beneficial for the operation of the hospital. Education programs can focus on the strengths of the health precinct, for example cancer care, with the precinct then providing broader benefits by educating workers who can work at facilities across the country, thus enhancing export industries.
- 2) **Research:** Health related research requires strong links to hospitals particularly to support clinical trials. Research activities benefit from strong collaborative governance arrangements and rely on scale, access to patients and facilities and a willingness to collaborate over the long term given the significant investment in research facilities and personnel.
- 3) **Industry:** Links to industry arise when the commercialisation of health related research is the focus of commercial enterprise within a health precinct. Industry will seek to partner with research and the hospital to identify how a new piece of technology, pharmacological or health practice can be replicated for commercial sale / distribution, ensuring research and development activities can be realised. Collaborative governance is necessary to ensure the activities undertaken at the hospital, by research and by industry can be focused to mutually beneficial ends. These links may be small in scale through allowances to test new technology or practices, or could be major collaborations heavily focused on research, development and export to other health facilities through the industrial partner.

2. **Co-located** – Co-location is critical to enable easy movement between complementary services for workers and visitors of the precinct. Co-location enhances efficiency and improves sustainability and amenity, providing the critical mass that will enhance strategic relationships and the economic output from the site.

- 1) **Research institutions:** The co-location of research institutions is critical to facilitate research activity, enhancing employment and improving health outcomes in the locality.
- 2) **Education providers:** Co-locating with education providers facilitates and streamlines student and higher order learning, both activities undertaken within a hospital on an on-going basis. Co-location also potentially provides opportunities for shared facilities such as meeting and training rooms, improving resource and funding efficiency.
- 3) **Industry:** Businesses who partner with research and development rely on close relationships and access to the health precinct for these activities, and for sharing human capital between organisations. Co-location with industry, primarily high tech manufacturing and pharmaceutical, can help improve linkages between research and development and the scaling up of new technology or innovations for establishment across the broader market.
- 4) **Commercial and retail services:** Commercial services such as shops, café's, restaurants, offices and child care centres located within the health precinct provide direct support services to workers and visitors. These services also provide opportunity for private consulting rooms, surgeries, legal services and the like.

3. **Collaboration between organisations** – Every health precinct requires ongoing education and training for staff in order to facilitate the operation of a hospital and medical facilities on site. Additionally, all health precincts

have the ability to facilitate research, either passively through provision of health statistics, or directly through on site clinical trials. Translating this research into commercially viable opportunities is the focus of industry. Collaboration between education, research and industry organisations is necessary to ensure the success of a health precinct.

- 1) **Research:** The provision of research facilities on site, along with the collaborative arrangements to support the integration of research and hospital activity, allows for ongoing research and development that can enhance health outcomes for patients both on site and where replicated at other facilities. These facilities can lead to increased employment, building the strength of the precinct.
 - 2) **Education Providers:** Links to education providers are critical to the operation of a hospital or health facility, with physical facilities for education highly desirable within the precinct due to the ease of integration and access to students. Collaboration with education providers to include education facilities on site are important for any health precinct, no matter the scale.
 - 3) **Attract and grow industry:** Attraction and retention of industry on site helps grow the health precinct, solidifying its ongoing operational capacity and specialisations. Collaboration on research and development, intellectual property and clinical trials provides an environment for industry to be attracted to the precinct, and to grow existing health industries in the locality. This focus enhances employment, export capacity and the overall economic health of the precinct and region.
4. **Integration with the Local and Regional economy** – Regional and local economic integration seeks to build on the relative strengths of the area, identifying those sectors of the economy that have a competitive advantage in the locality in order to expand upon their successes.
- 1) **Regional strengths:** Integration may take the form of fostering collaboration on research and development that relates to the strength of the region (e.g. aged care or pharmaceutical manufacturing), builds on the existing success of this area to help improve services on site and to expand the regional economy.
 - 2) **Expand exports:** A focus on expanding exports seeks to grow the economy and strength of the health precinct beyond local borders, providing funding back into the health precinct and growing employment and related services.
 - 3) **Links to local health and service providers:** Integrating with local service providers for supply and health care services will build those local businesses who provide an existing and scalable service to patients and members of the community. Links to local providers assists the health precinct through not having to establish these services themselves, and limits any impact the health precinct may have by ensuring services are not duplicated.
5. **Planning an integrated precinct with the surrounding community** – Planning a precinct that is integrated with the urban form and landscape ensures the health precinct is seen as a part of the community. Embracing the surrounding environment will ensure the precinct is not just a place to go when you are ill, but is a destination in its own right that the public are familiar with and can utilise at any time.
- 1) **Permeability:** The ability to walk through the site, linking the health precinct into the existing movement network, ensures the site is a part of the surrounding built form and is not blocked from it.
 - 2) **Compatible scale:** Wherever possible, the scale of the precinct should reflect the surrounding urban and natural environment, or its desired scale and density, to provide for a visually amenable outcome. Where higher density is sought, the edges of the precinct should step down to the same or similar scale to the surrounding built form or landscape (e.g. height of trees) to improve compatibility.
 - 3) **Complementary land uses:** Similar to providing a compatible scale, land uses should integrate well with the surrounding uses of land by ensuring the same or complementary land uses are established at the borders of the precinct. For example, providing for service related and residential uses as they abut residential land, or park and open space as they abut natural features.
- 4) **Community facilities:** Providing community facilities, such as libraries, pools or other publicly accessible places, assists with broadening the activity on the site and with linking the health precinct with the existing community in the area. The facilities help normalise the health precinct, improving the social interactions between patients, visitors, workers and members of the community, making the health precinct a destination that is not solely based around illness.
 - 5) **Promotes Housing diversity:** The provision of housing is critical to the success of the precinct. Some housing is required to be in close proximity to the site to allow for long-term visitors, family and staff. Housing is needed across the broader locality, with a mix of housing types (e.g. detached dwellings, townhouses, apartments) preferred to allow for the range of needs of workers across the income scale. A range of housing types also provides for long-term visitors and members of society who may seek to locate themselves close to a hospital precinct, for example aged care providers and seniors housing.
 - 6) **Public open space:** Open space, including parks and play equipment, is critical for the amenity and wellness of patients, visitors and workers on the site, and can provide for local community needs. Open space can form the centrepiece of the precinct and can be linked to existing open space and natural landscapes to enhance and build off the features of these areas.
 - 7) **Reflects surrounding climate and landscape:** Design that reflects the local climate and surrounding landscape, including its vegetation and physical features, helps to blend the precinct with the natural environment of the area, improving sustainable outcomes and visual amenity.
 - 8) **Provides local support services (commercial):** Providing local support services such as shops, café's, restaurants and child care centre/s directly supports workers and visitors by helping them meet their day to day needs without having to travel off the precinct. Providing these services at the ground floor plane assists in providing a normative commercial environment, ensuring the hospital is welcoming at its edges and through the ground floor public spaces that link buildings and sections of the precinct. This directly improves amenity for workers and visitors, improving their wellbeing.
 - 9) **Links with local cultural events:** Providing space for and links to local cultural events will help to enhance the connection the precinct has with the local community, broadening the use of the precinct and improving the connection patients and visitors have with community celebrations and the localities identity.
6. **Connects with Infrastructure** – Connections to infrastructure are critical to the success of the hospital and health precinct. This principle does not focus on services such water, sewer, electricity, but on those pieces of infrastructure that enhance the functionality of the precinct, and supports all of the health precinct principles. Connections into the broader urban fabric and economy are enhanced by movement connections ensuring the facility is not isolated. Links to community facilities help enhance connectivity to the surrounding community and urban fabric while providing opportunities for amenity and wellness for workers, visitors and the surrounding community.
- 1) **Community facilities:** The provision of community facilities such as parks, open space, recreation facilities (e.g. pool), libraries or community meeting rooms enhance connections with the local community provide a broader public benefit. The facilities enhance the role of the hospital as a part of general day to day life by provide services to workers, visitors and patients and can potentially be used by multiple agencies – for example a pool may be used for rehabilitation purposes as well as recreational or sporting uses, or community meeting rooms can be used as meeting rooms for hospital workers – serving to improve asset use and value for money.
 - 2) **Public transport:** Strong links to public transport provide access to the health precinct for all members of society and improve the sustainability of transport access to the precinct. High frequency public transport that is connected to key city hubs and housing areas will help reduce the number of car spaces and land required for parking. This will improve the efficiency of the precinct while providing or strong connections between housing and economic areas in the locality.

- 3) **Road network:** Easy connections to regional road networks are required to facilitate movement of workers, patients and visitors to the precinct, many of whom come from afar. Strong links to regional road networks also facilitate appropriate emergency and disaster response activities by allowing emergency vehicles to efficiently travel to the site.

These principles were used as a basis for consultation on the Dubbo Health, Education and Well Being Precinct Master Plan principles during the Design Charrette of 12 December 2018. The consultation undertaken during the Design Charrette is detailed in section 4.3 below.

4.2. Consultation – Individual Stakeholders

To assist in understanding specific opportunities and constraints for economic growth and more generally within the precinct, consultations with key precinct stakeholders were undertaken. The aim of this consultation was to better understand existing and future planned investments and to better identify opportunities and constraints to future growth within precinct for infrastructure and with respect to relationships between stakeholders. Consultation included the following stakeholders:

- Charles Sturt University
- Dubbo Regional Council
- Western NSW Local Health District
- Western Primary Health Network
- Sydney University – School of Rural Health
- TAFE NSW – Dubbo Campus
- NSW Office of Sport – Western Region
- Western Region Academy of Sport
- Far West Academy of Sport
- Dubbo Private Hospital
- Pefasie (local landholder)
- Macquarie Homestay (local short-term accommodation provider)
- PCYC – Dubbo
- Dubbo Local Aboriginal Land Council (LALC)
- Lourdes Hospital (Catholic Healthcare)

Minutes from each meeting are included in Appendix A: Stakeholder Consultation Minutes.

Meetings were sought with the following organisations but were not able to be organised:

- NSW Health Infrastructure
- Dubbo College Senior Campus
- Property NSW
- Holy Spirit Aged Care
- Opal Aged Care
- Moran Lodge (Local short-term accommodation provider)

Multiple email and phone contact was made with all of these organisations, however representative contacts were not able to confirm times for meetings or the suitable personnel for a meeting, leading to consultation not occurring. In the case of the Dubbo College, a representative was able to attend the Design Charrette, ensuring consultation was able to occur with this party. While these organisations were not able to be formally independently engaged at this stage of the project, any future consultation on the Precinct Master Plan should seek to make further contact with these organisations, or more broadly with the sectors they represent.

A number of key issues and opportunities arose across stakeholder groups, highlighting key points for the opportunities and constraints analysis. Key common constraints included:

1. Access (road, public transport and bicycle / pedestrian) throughout the precinct is disjointed, resulting in fewer opportunities for incidental and formal collaboration and making it more difficult for patients, visitors, students and workers to move throughout and to the precinct.
2. Accommodation, in particular short-term accommodation, is lacking within the precinct, causing issues in meeting key worker, visitor, student and patient accommodation needs.
3. There is a lack of supporting retail / commercial development within the precinct. Workers, patients, visitors and students need to leave the precinct to meet their daily needs.
4. Primary health services and supporting health uses are spread throughout Dubbo, making it difficult for patients, visitors and families to access coordinated health care, especially for families travelling from across Western NSW.
5. Public space is inadequate – there is a lack of park or plaza spaces for people to recreate or take breaks.
6. There is a lack of coordinated collaboration between the majority of uses across the precinct. Specific individual connections are occurring on an as needs or topic specific basis; however broader collaborative opportunities may not be realised.
7. There is some uncertainty about how and when the sports hub will be realised, and whether broader opportunities for precinct uses will be able to be realised.

Key common opportunities included:

1. Most organisations see opportunity for growth in their field, with a number of organisations actively planning for or undertaking growth in their services within the precinct. This demonstrates that there is significant committed and potential investment within the precinct.
2. The sport hub provides opportunities not only for enhancing sports training, events and participation in Dubbo and for Western NSW, but also for related sports science, research and allied health services to co-locate and collaborate within the precinct. Significant opportunities arise from formally collaborating between precinct organisations for these purposes, and for allocating space for development of sports related health, education and research services.
3. While constraints on access are acknowledged, the majority of stakeholders noted the ease of opportunity in improving access for roads, public transport and bicycle / pedestrian pathways. Breaking down barriers, formalising through roads and creating shared pathways between uses are a common opportunity. Particular connections noted by the majority of stakeholders included extending River Street to Tony McGrane Place and bringing a through connection from the Dubbo Hospital North to River Street and the Sports Hub.
4. Collaboration between key precinct uses for education, training, research opportunities and to explore opportunities for shared use of facilities (e.g. lecture, accommodation, teaching space) was a common opportunity.
5. Facilitating the growth of the precinct, enhancing small scale retail and commercial service and allowing for expanded health and accommodation throughout the precinct was seen as a key opportunity. A variety of mechanisms were put forward by stakeholders, with most supportive of increased density and renewal through the core of the precinct.
6. Enhancing public space, through creating more space for parks and / or urban plazas/space, was seen as a key opportunity for the precinct to supporting workers, visitors, patients and students needs. Park / urban plaza space in the precinct core was seen as a key opportunity.
7. Improving climate responsive landscaping (e.g. shade in summer, open in winter) and improving passive and active environmental outcomes (e.g. landscaped stormwater treatment, targeted rehabilitation) was seen as a key opportunity to support the overall precinct design.

These factors will be taken into consideration for the opportunities and constraints analysis, and in determining potential residential and non-residential demand for the precinct.

4.3. Consultation – Design Charrette

A design charrette was held on 12 December 2018, the purpose of which was to discuss the principles, opportunities, constraints and potential actions for the Dubbo Health Well Being and Education Precinct. This design charrette followed a shorter briefing on opportunities and constraints on 28 November, held via video conference.

The attendees were as follows:

- Damien Pfeiffer – DPE (Western NSW)
- Steven Jennings – Dubbo Regional Council
- Michael McMahon – Dubbo Regional Council
- Stephen Howlett – Dubbo Regional Council
- Craig Griffin – Dubbo Regional Council
- John Watts – Dubbo Regional Council
- Natasha Comber – Dubbo Regional Council
- Lee Griffith – Dubbo Regional Council
- Josie Howard – Dubbo Regional Council
- Bart Sykes – Charles Sturt University
- Stephen Butt – Charles Sturt University
- Jeff Morrissey – Western NSW LHD
- Suzi Weeks – Western NSW LHD
- Leif Carrol – Western NSW LHD
- Kim O'Connor – Sydney University
- Toby Foster – TAFE NSW – Dubbo
- Mick Bell – Western Region Academy of Sport
- Mark Horton – NSW Office of Sport
- Sophie Plasto – RDA Orana
- Sonya Berryman – Western Primary Health Network
- Glen Braithwaite – Department of Education
- Victoria Daly – Dubbo Private Hospital
- Anthony Colwell – Destravis (Consultant and facilitator)
- Gunther De Graeve – Destravis (Consultant and facilitator)
- John Williams – Destravis (Consultant and facilitator)

Additional organisations were invited but were not able to attend, including:

- Dubbo PCYC
- Department of Premiers and Cabinet
- Health Infrastructure
- Lourdes Hospital (Catholic Health Care)

Attendees were briefed on best practice precinct principles outlined in Section 4.2 above and on the draft opportunities and constraints developed from desktop analysis. Attendees participated in two facilitated workshop sessions – one to clarify and build principles and the other to discuss opportunities and constraints in detail. Facilitated sessions were run as follows:

Principles session:

- Group split into 5 tables – one principle discussed per table (two on one table). Attendees asked:
- Is the principle right for Dubbo?
- What should Dubbo's focus be (e.g. add specifics)?
- What are the top 3 items under this principle for Dubbo?
- Each table fed back top 3 items under the principle for Dubbo to the entire group, providing a focus for the following sessions.

Opportunities and Constraints session:

- Group split into 5 tables, with each table focusing on one or two separate opportunities and constraints layers (outcomes detailed in Section 5 below). Each group was given approximately 15 minutes to discuss opportunities and constraints before moving onto the next table, building upon the work of the previous tables until attendees had worked their way through all 5 tables.
- Materials to visually sketch over the precinct and to write down opportunities and constraints were provided, allowing visual and written outputs to be retained from the Design Charrette.
- Following completion of the facilitated session, all attendees were asked to gather around each table to discuss the outcomes of each discussion, building the picture for the precinct.
- At the end of the session, a single master plan sketch was commenced, bringing together the ideas from each table.

Attendees noted there was a broad consensus amongst the group around the key opportunities for the precinct as a whole, with many of the opportunities layers overlapping each other to create a more definitive picture on the key infrastructure, land use planning and organisational opportunities for the precinct. A selection of the visual outcomes from each opportunities and constraints table is provided below.

The full outcomes of the workshop can be found in Appendix B.

Transport and Parking



Figure 9 *Transport and Parking Design Charrette Outcomes 1*

Discussions on transport and parking resulted in three sketches with similar and slightly different focal points. The first sketch results in a desire to improve bus and road connectivity through the heart of the precinct, improving connectivity between users and facilitated an acidity and green space area within the centre of the precinct. New road connections would assist in moving traffic east-west and north-south in the precinct, with a loop road connecting the new sports hub and CSU, providing improved redundancy and facilitating traffic flows for larger events.



Figure 10 *Transport and Parking Design Charrette Outcomes 2*

The second sketch outcome again focused on improving east-west and north-south connections, but facilitated an activity and parks zone along an extension to River Street on the northern side of the precinct, and from the Dubbo Hospital to this zone alongside existing residential land. Portions of connections were rationalised along existing road locations to improve utilisation of these assets.



Figure 11 *Transport and Parking Design Charrette Outcomes 3*

The third sketch outcome focused on improving road connections to the Dubbo Hospital, with notations on removing the roundabout and to providing an improved connection from Cobbora Road into the Western side of the precinct. North-south and east-west links were also proposed, similar to the prior sketch outcomes.

Environment, Parks & Recreation



Figure 12 *Environment, Parks & Recreation Design Charrette Outcomes*

The discussion around environment, parks and recreation centred on improving the walkability / cycle-ability of the precinct through providing additional walking / cycle tracks with a design features to shade pathways in summer and warm them in winter. The use of deciduous trees and other natural mechanisms assist in creating this environment, as would linking pathways with natural drainage lines and using water sensitive urban design principles.

Using walk and cycle paths to link recreational uses, such as the existing Bancroft Park, BMX park and Macquarie River trails to the West of the precinct was seen as a key opportunity. Pathways to link to a central recreational and activity area around the existing pool and park on the Northern end of the Dubbo Hospital was seen as an opportunity to bring workers together from all of the uses within the precinct.

Natural area improvement surrounding the sports hub and velodrome were also seen as priorities for the precinct, with opportunity to link active uses around these natural features, enhancing their ecological and social value.

Health, Research & Community Facilities



Figure 13 *Health, Research & Community Facilities Design Charrette Outcomes*

The health, research and community facilities opportunities focused largely on opportunities to bring together key education and health facilities in the precinct to enhance formal research and education connections. Connections could be facilitated via improved physical infrastructure access, centralising park and activity generators as a place for personnel to gather and share ideas and through formal agreements between organisations.

Locating or attracting community facilities to the precinct, such as a library and health clinics (private and public), would act as activity generators and facilitate growth in health and community services within the precinct. Centrally locating these between CSU land, the new sports hub and the Dubbo Hospital were seen as a prime opportunity.

Economy



Figure 14 *Economy Design Charrette Outcomes*

The primary economic opportunities were centred on creating a central mixed use hub between CSU, the sports hub and the Dubbo Hospital. The mixed use hub was seen to be a primary activity generator and attractor for the precinct, providing a place for employees and visitors to meet their daily needs, and to allow for the growth of health services.

The location of this hub was seen to best be along River Street (designed to a low speed environment), and along the vacant land running north-south from the Dubbo Hospital up to River Street. Connections into the new sport hub were also seen as beneficial, creating a functional centre running in a cross shape along River Street, up to the sports hub and back down to the Dubbo Hospital.

Increasing residential density was seen as a key opportunity for the precinct and a requirement to support this economic activity.

Housing



Figure 15 *Housing Design Charrette Outcomes*

Key opportunities for housing within the precinct focused around the need to provide more short-term accommodation, to increase housing diversity, opportunities for ageing in place and opportunities for increasing density and mixed use activity within the precinct.

Similar to the economic opportunities, a central area between the Dubbo Hospital, CSU and the sports hub were seen to be the preferred location for mixed use and increased density of development, particularly for residential purposes. This mixed use opportunity could assist in providing more housing choice, with apartments (including shop top apartments) and small-lot housing providing for smaller household sizes and improved affordability. The mixed use hub was also seen as a good opportunity for ageing in place, with opportunity for retail and health related uses that would provide services for seniors in close proximity to their homes.

Opportunities to change zoning to support mixed uses and increased residential density on land within and surrounding the precinct were noted. In particular, bringing other uses within the precinct was seen as a key opportunity, including vacant or lightly developed land to the West along Myall Street and abutting the railway corridor.

4.4. Precinct Vision

Following the Design Charrette, consultation on the outcomes of the Charrette developed the following Vision for the Precinct:



To be a premier centre for regional health, sporting activity and well being, focusing on research, education and a vibrant built environment that supports the prosperity of the region and the people of western NSW.



This vision is used to guide the Principles, Strategies and Actions that will support the long-term growth of the Precinct.

4.5. Dubbo Health Education & Well Being Precinct Principles

Through consultation, the following principles tailored for the Dubbo Health Education and Well Being Precinct drive the focus and priorities for activity and investment in the Precinct.

Principle 1 – Share Governance

- Formally through a governance body charged with precinct planning and driving investment
- Informally through research and advocacy network for health and sports related fields

Principle 2 – Collaborate

- By sharing infrastructure (e.g. tele health, function / education theatre) and through workforce planning
- Through attracting and growing participation in the precinct via networks – key persons / groups for sports and health related fields
- Informally through an education and networking group

Principle 3 – Integrate Economies

- By expanding export industries – supporting the export of health and education services to Regional NSW
- Through expanding industry for rural medicine and sports related research and education
- By attracting public and private investment for niche services to professionals, seniors and the aboriginal community

Principle 4 – Co-locate

- Accommodation – for key workers, students and visitors between all organisations
- Commercial space for health related uses
- Community health services

Principle 5 – Plan an Integrated Precinct

- By increasing housing diversity of residential dwellings through mix of dwelling types, sizes and increased density
- Through improving cycle and pedestrian connections via use of waterways and environmental assets
- Utilising landscaping to improve climate responsiveness (e.g. pathways shaded with deciduous trees)
- Catering for cross generational needs (e.g. child, aged care, worker needs) – both in mix of uses within the precinct and through appropriate and supporting infrastructure (e.g. appropriately graded pathways, park and play areas)

Principle 6 – Enhance Infrastructure

- Transport access – Improve connections into and through the precinct
- By improving public and active transport connections through the precinct to better connect users and to wider networks across Dubbo

5. PRECINCT OPPORTUNITIES & CONSTRAINTS

5.1. Key Factors for Economic & Health Cluster Growth

Fostering economic growth within a Health, Education and Well Being precinct requires more than bringing organisations to the same place – i.e. it is more than just the sum of its parts. Dedicated activity, relationships and planning is required to build upon each organisations strengths and the opportunities. This approach aligns with the Best Practice Principles summarised in Section 4.1 above. 3 key factors of economic and health cluster growth are put forward:

1. Adjacency
2. Appropriate land use connection
3. Partnerships

5.1.1. Adjacency

In line with Best Practice Principle 4, uses that have the potential to collaborate and build off each other's strengths need to be co-located, or nearby each other. Adjacency is critical to allow joint use of facilities, movement of persons between institutes (facilitating collaboration) and to improve attraction and retention of students and workers to the area. This in turn enhances local capability, drives economic growth and assists with achieving local and regional integration.

However, not all adjacency is equal. Certain health cluster uses are preferably located nearby each other, and other uses should be separated. Reflecting on the work contained in the Tweed Health Precinct Background and Scenario Analysis Report⁹, certain land uses are desired within a cluster, and others nearby. These uses have been refined for the particular focus on the Dubbo Health Education and Well Being Precinct and are presented in the tables below.

Core Precinct Activity	Generic Land Uses
Hospital – emergency and elective health care (public or private)	Hospital
Education and Training facilities	Educational Facility / Establishment / Conference Facility
Outpatient clinics – owned by hospital	Health Care Services / Hospital
Clinics and consulting rooms - private / independent of hospital	Health Care Services / Office / Medical Centre
Sub-acute care facilities	Health Care Services / Hospital
Short-term accommodation for visitors, patients undergoing early discharge & onsite workers / students	Short-term Accommodation
Social Services (e.g. community services that relate to health, education and wellbeing)	Community Facility, Office, Medical Centre
Café's, restaurants, small shops and retail	Retail / Shop / Food and Drink / Commercial Services

⁹ Destravis Pty Ltd, Tweed Health Precinct Background and Scenario Analysis Report, October 2018, pg. 30-32

Open space and parks - for hospital rehabilitation, visitors and workers	Park / Open Space / Sport and Recreation / Hospital
Child care for workers	Child Care
Elder Care for workers	Respite Day Care Centre
Utility – Public Transport / Road / Pathway	Public Utility / Utility / Infrastructure
Place of Public Worship	Place of Worship / Church / Mosque / Temple

Table 1 Core Precinct Activities

Secondary Precinct Activity	Generic Land Uses
Housing for Hospital / Education workers – diverse range of sizes and types to accommodate varying incomes of workers	Residential Accommodation - House / Dwelling / Apartment / Multi-unit Dwelling / Townhouse
Housing for students – could be formal student accommodation or lower cost apartments, townhouse and share house arrangements	Residential Accommodation - Student Accommodation / Townhouse / Apartment / Multi-unit Dwelling / House
Housing for professionals (e.g. research / industry) – diverse range of types to accommodate varying incomes	Residential Accommodation - House / Dwelling / Apartment / Multi-unit Dwelling / Townhouse
Housing for visitors – who cannot be accommodated on the hospital / university site/s	Short-term Accommodation / Holiday Accommodation
Affordable housing – including subsidised housing or government owned housing to support persons on lower incomes	Residential Accommodation
Community Health centres – e.g. ambulatory care	Health Care Services
Seniors housing and aged care facilities	Retirement Living / Apartment / Aged Care Facility / Residential Care Facility
Parks and Open space areas – for workers and visitors	Park / Open Space / Sport and Recreation
Recreational and community facilities – public (e.g. sports fields, pool, park) and private (e.g. gym, theatre, bar)	Sport and Recreation / Community Facility / Health Care Services
Cafés and restaurants	Food and Drink / Retail / Restaurant
Shops and commercial premises to support workers, students and visitors	Shop / Office / Retail / Commercial Services

Table 2 Secondary Precinct Activities

The activities and land uses within the tables above are those where adjacency is desired and these uses should be promoted to improve economic and health cluster growth.

Key connections between these land uses are discussed below.

5.1.2. Appropriate Land Use Connection

Every activity listed above could occur in isolation. However, this would not build on the principles of Co-location, Collaboration and Integration with the surrounding build form and landscape, nor would it reflect contemporary land use planning in Australia. The activities identified above are intended to be undertaken in close proximity to each other so a single site may have a mix of uses. While this is the case, certain uses will be better suited to strong co-location (e.g. education facility and hospital), while others may benefit from a degree of separation from busier and noisier activities (e.g. residential accommodation).

Building on the Health Precinct Principles derived above and again building on the work contained in the Tweed Health Precinct Background and Scenario Analysis Report¹⁰, a section of the activities that will benefit from being adjacent to one another are described below.

1. **Education, hospital, research:** The hospital, education and research facilities have a natural synergy, with co-location fostering ease of movement by key workers and students across all facilities, all of which rely on each other for continued education and training, and for research including clinical trials.
2. **Hospital & education, short-term accommodation, retail services:** Both staff and short and long term visitors to a hospital and or university require accommodation and this accommodation is best located in close proximity to the site. Short-term accommodation can be married with retail services to activate the ground floor plane, providing services for persons residing in the accommodation and for hospital/education workers and visitors alike.
3. **Hospital & education, child care, community facilities:** Hospitals typically have a high number of female staff members, many of whom require child care services in close proximity to home or the workplace in order to continue employment through child rearing years. As such, a child care centre is well suited to be in co-located with a hospital or nearby university where strongly co-located. In addition to this, to provide services for the broader community, workers and visitors, community facilities (such as parks, libraries, meeting rooms, pools etc.) benefit from co-location with child care facilities. This allows sharing of facilities (e.g. pool for hospital rehabilitation, swimming lessons and general community use) increasing the benefit of co-locating these facilities.
4. **Open space and parks, hospital, education:** The provision of open space and parks adjacent to a hospital has direct benefits to increased wellbeing and patient recovery, particularly with respect to ambulatory and cancer care patients. Benefits to the educational setting include providing meeting places, contemplative spaces and improved campus attractiveness. These spaces also improve the connection of facilities to the surrounding urban and natural landscape, and provide services for workers and visitors, places to relax away from the workplace and for children to play with families visiting patients. For these reasons open space, parks and hospitals/education display a strong land use synergy.
5. **Seniors Housing, education, hospital, open space and parks:** Seniors housing, from retirement villages to higher care facilities, benefit from a high degree of co-location with amenity such as open space and parks, a close link to hospital and health care facilities and their associated links with education institutes. Education institutes are best linked with aged care facilities that are high care, where direct student learning can occur within the facility, rather than within teaching facilities. Where linked with broader commercial and community

¹⁰ Destravis Pty Ltd, Tweed Health Precinct Background and Scenario Analysis Report, October 2018, pg. 30-32

facilities, seniors housing, education facilities, the hospital and parks and open space take on a town centre feel, enhancing the synergy and multi-use of facilities across these land uses.

6. **Healthcare services, office, retail:** Health care services such as physiotherapy, medical centres, medical consulting services and small scale surgeries link well with office and retail land uses, given these services can occur within small to medium scale standard commercial premises. These uses are typically appointment based, where patients and visitors only need to come for one appointment and then leave. Linking these services with other retail and office services allows patients and visitors to access these other services on their trips, improving convenience and the multi-purpose use between these land uses.

When considering the appropriateness of land use connections to promote adjacency, it is also important to acknowledge where land use conflict may occur to ensure these conflicts do not arise, or are resolved where they exist.

Primary land use conflicts arise between uses that are noisy or are environmentally hazardous, and those that desire a quieter and healthier environment. In addition to this, sensitive environmental areas or areas constrained by a hazard (e.g. bushfire, flooding, steep land) will not benefit from built form encroachment, but may benefit from soft landscape or open space / recreational uses. For the Dubbo Health Education and Well Being Precinct, the key land use conflict arises from proximity to industrial areas.

Separation is required between industrial and hospital uses as the noise and environmental pollutants that are generated within an industrial area negatively impact upon people's health and wellbeing. As the Hospital seeks to provide health care and rehabilitation for patients and residential areas are primarily for the occupation of people, separation of industry is required to limit impacts from pollutants and noise to patients and residents. Separation may be by distance, or could be facilitated by including buffer uses between hospital / residential and industrial areas.

5.1.3. Partnerships

In line with Best Practice Precinct Principles 1 and 2, the fostering of collaboration and shared governance between organisations facilitates direct benefits for organisations across the precinct, allowing shared opportunities and the potential for growth. Partnerships between key organisations are therefore required to jointly develop and work on opportunities, to share resources and to facilitate cluster growth, including of smaller organisations who may be attracted to the area as it grows.

The fostering of partnerships is therefore a key indicator of economic and health cluster growth within the Precinct. Actions to assist in fostering these partnerships, and ongoing governance arrangements to cement their relevance, will assist in facilitating economic and health cluster growth.

The three key factors of Adjacency, Appropriate land use connections and Partnerships should be actively planned for to assist the growth potential of the Precinct. These factors will be considered in the opportunities and constraints analysis, and in the development of strategies and actions to support the development of the Precinct.

5.2. Opportunities & Constraints Visual Analysis

A visual analysis of the opportunities and constraints for the Precinct was undertaken for the following key layers:

- Transport
- Parking
- Environment, Recreation & Active Transport
- Community Facilities & Health
- Education & Research
- Economy
- Housing.

Each analysis showed existing characteristics, and key opportunities and constraints derived from the visual analysis and stakeholder consultation. This analysis is shown below by layer, with commentary under each figure.

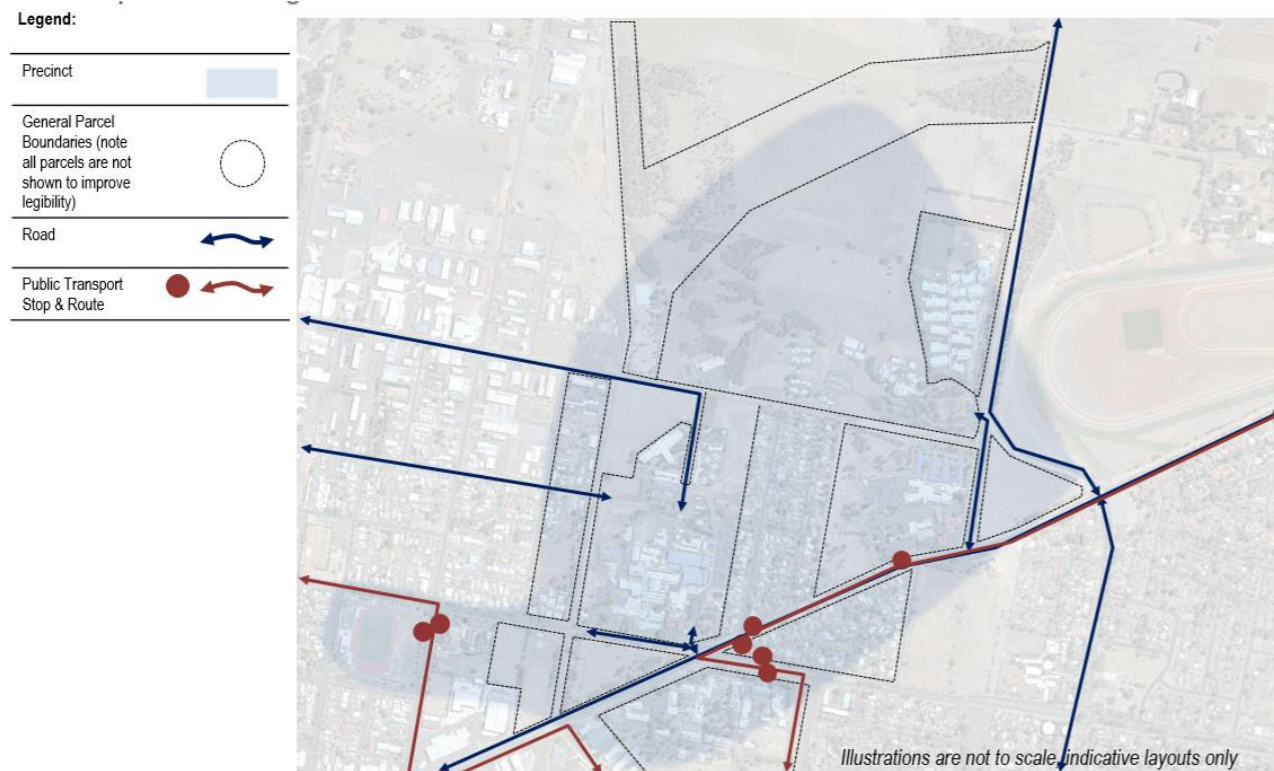


Figure 16 *Transport – Existing*

The existing transport network provides for disconnected and independent access to key users across the precinct. A public transport route is located on the Southern side of the precinct, running along Cobbora Road.



Figure 17 *Transport – Constraints*

Key constraints are noted by number reference on Figure 17 above.

1. Lack of second access into proposed sports hub – traffic congestion.
2. Inadequate PT access.
3. Through traffic and pedestrian access blocked.
4. Roundabout poor entry and traffic flow / pedestrian and cycle safety issues.
5. No through connection, only services one user.
6. No road crossing railway.
7. Perception that PT is not used and services operate for limited hours.



Figure 18 *Transport – Opportunities*

Key opportunities are noted by number reference on Figure 18 above.

1. Cycle Sports hub loop road / access.
2. Extend River Street.
3. Reconnect Hospital to Muller Street, Moran Drive. Create northern connection to River Street.
4. Re-route PT to better service hospital, universities, school and future uses.
5. Amend intersection to improve safety.
6. Formalise western loop around hospital.
7. New road connection.

The opportunities focus on improving formal road and public transport connections and access into and through the precinct. This will facilitate better access for staff, students and visitors, ease of movement between key users on the precinct and improve connection for future development.

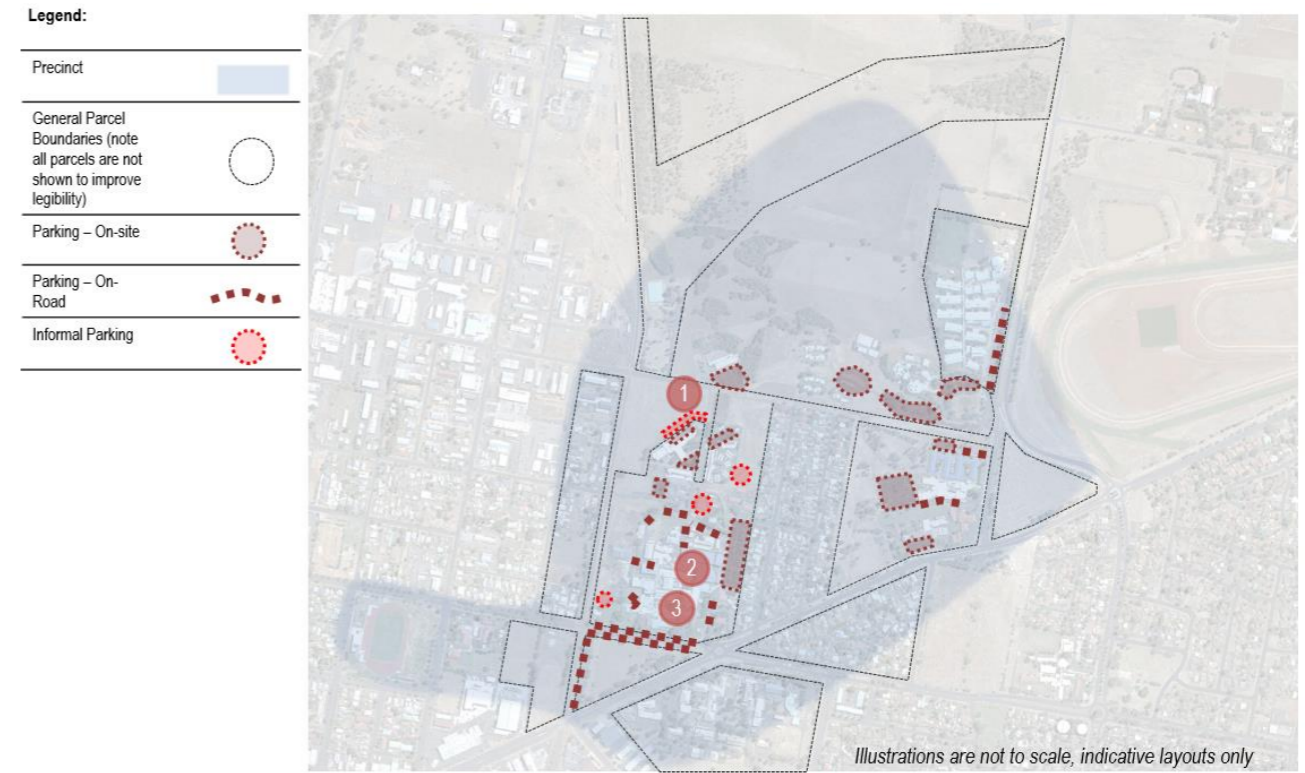


Figure 19 *Parking – Existing & Constraints*

Existing parking is provided for all users via formal on-site parking and via on-street parking. Informal parking is occurring on vacant portions of both hospital and private land across the precinct. Key constraints are noted by number reference on Figure 19 above.

1. Informal parking on edge of site, no room for expansion of private hospital parking.
2. Perceived Deficit of Car Parks, particularly for patients, no funding for new car park.
3. Perception that paid parking (to manage demand) is not an option.

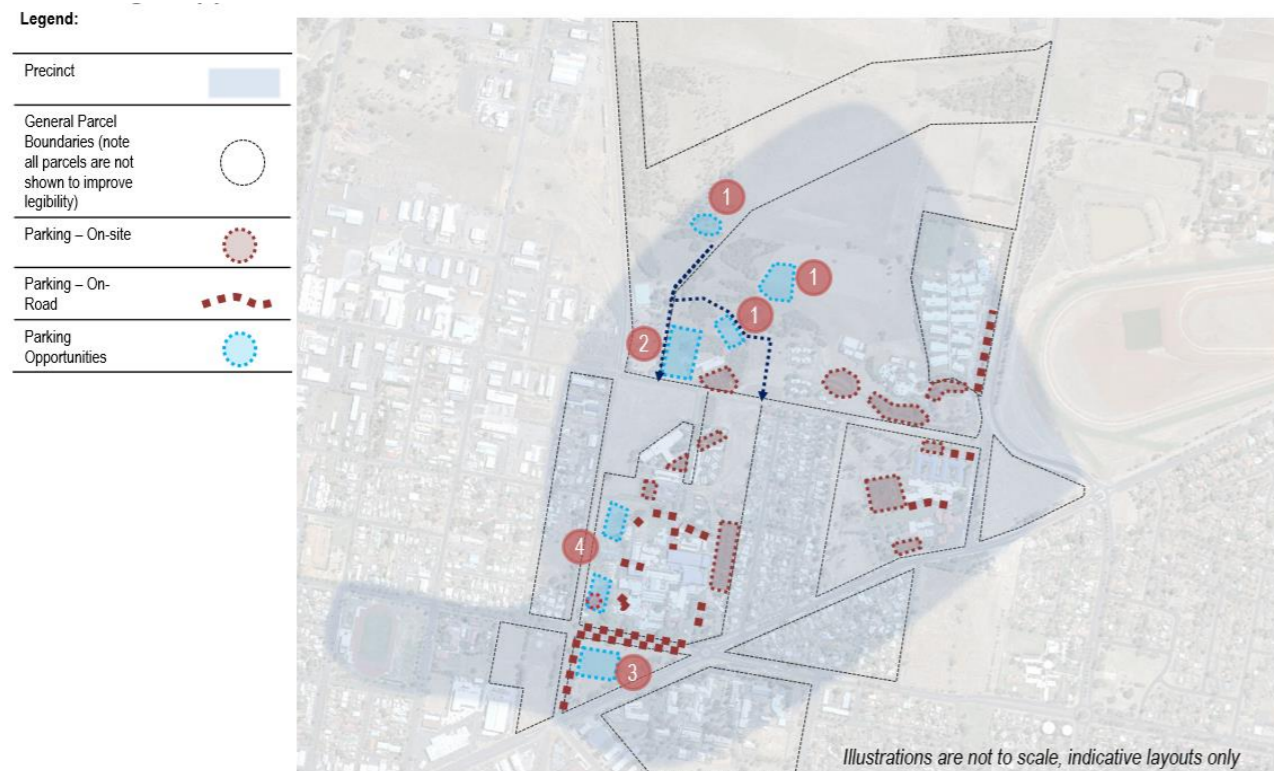


Figure 20 **Parking – Opportunities**

Key opportunities are noted by number reference on Figure 20 above.

1. Velodrome and sports hub parking.
2. Overflow large event parking – grass, open to public at all times. Potential formal parking to support Sydney University, Dubbo Hospital staff (day users), Dubbo private (staff, day users).
3. Potential short term overflow staff parking until Stage 4 is finalised.
4. Potential Long-term Hospital Staff Park.

It is noted that Stage 4 of the Dubbo Hospital redevelopment includes 750 car parks for a 200 bed hospital –with appropriate management of easily accessible patient spaces this may be considered sufficient. However, Item 2 and 4 would allow opportunity for additional staff parking.

The opportunities focus on providing appropriate parking for the sports hub and velodrome that would cater for normal and event uses, with overflow parking available for other users to facilitate development of the precinct. Hospital parking opportunities would be subject to funding, but are possible on the Dubbo Hospital site.

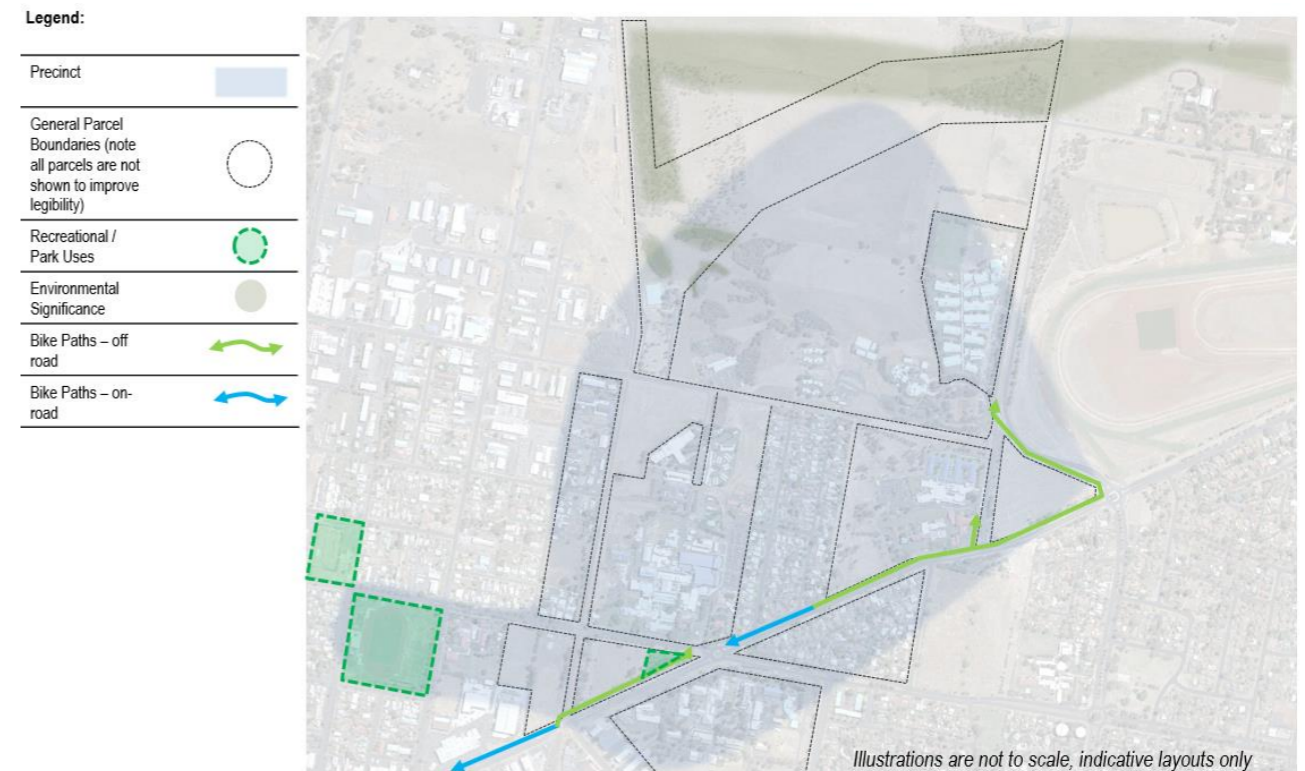


Figure 21 **Environment, Recreation & Active Transport – Existing**

Limited active transport, parks and environmental areas are located within the precinct. A mixed on and off road bike path is provided along Cobbora Road and a small fenced park is located to the South of the Dubbo Hospital. Barden Park, an athletics field, and a BMX track is located to the West of the main precinct area. Troy Gully, a low flow waterway / dry gully, is located to the North of the precinct and is largely degraded from its natural state.

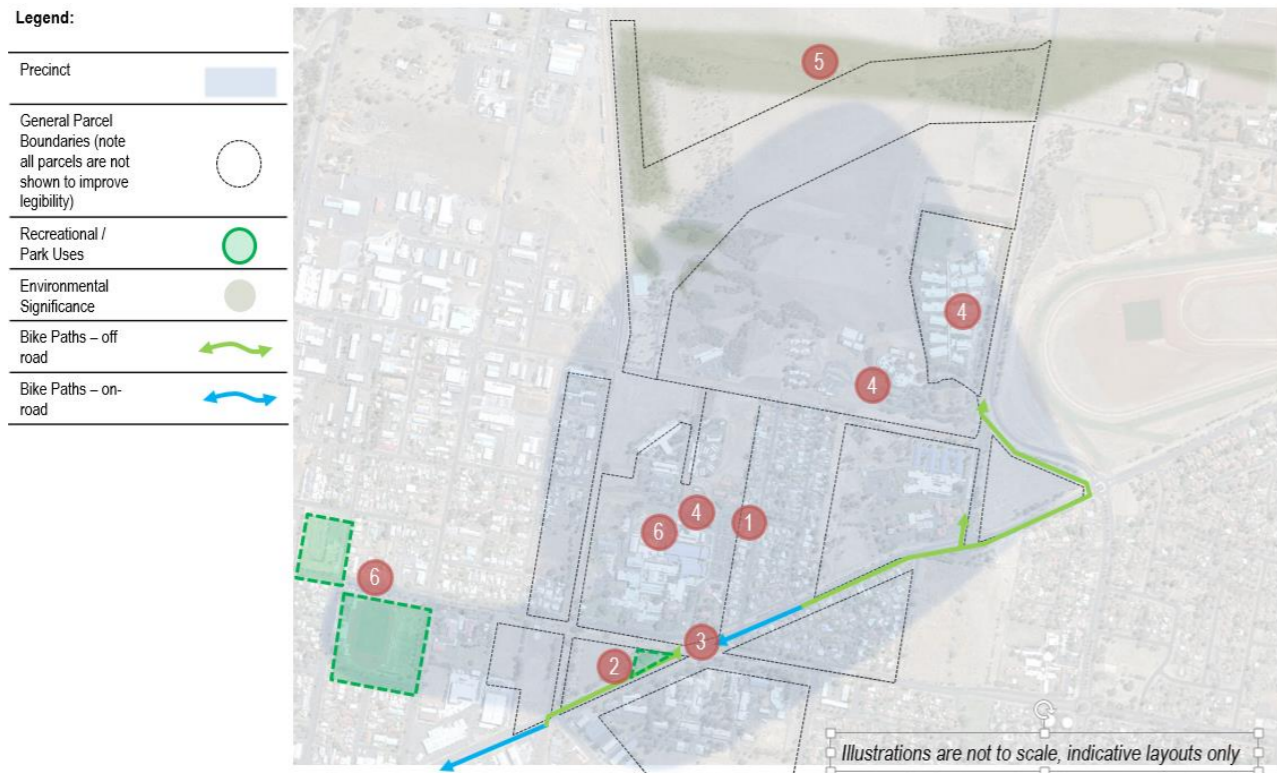


Figure 22 *Environment, Recreation & Active Transport – Constraints*

Key constraints are noted by number reference on Figure 22 above.

1. No pedestrian throughput – residents want to limit access due to security perception, but creates barriers.
2. Under utilised parkland.
3. Unsafe intersection.
4. Inadequate bike and pedestrian connections, lack of shade / cover, poor landscaping, blocked movement by large fences.
5. Degraded vegetation and creek corridor, lack of vision for improvement, issues with ongoing maintenance costs.
6. Lack of recreational facilities.

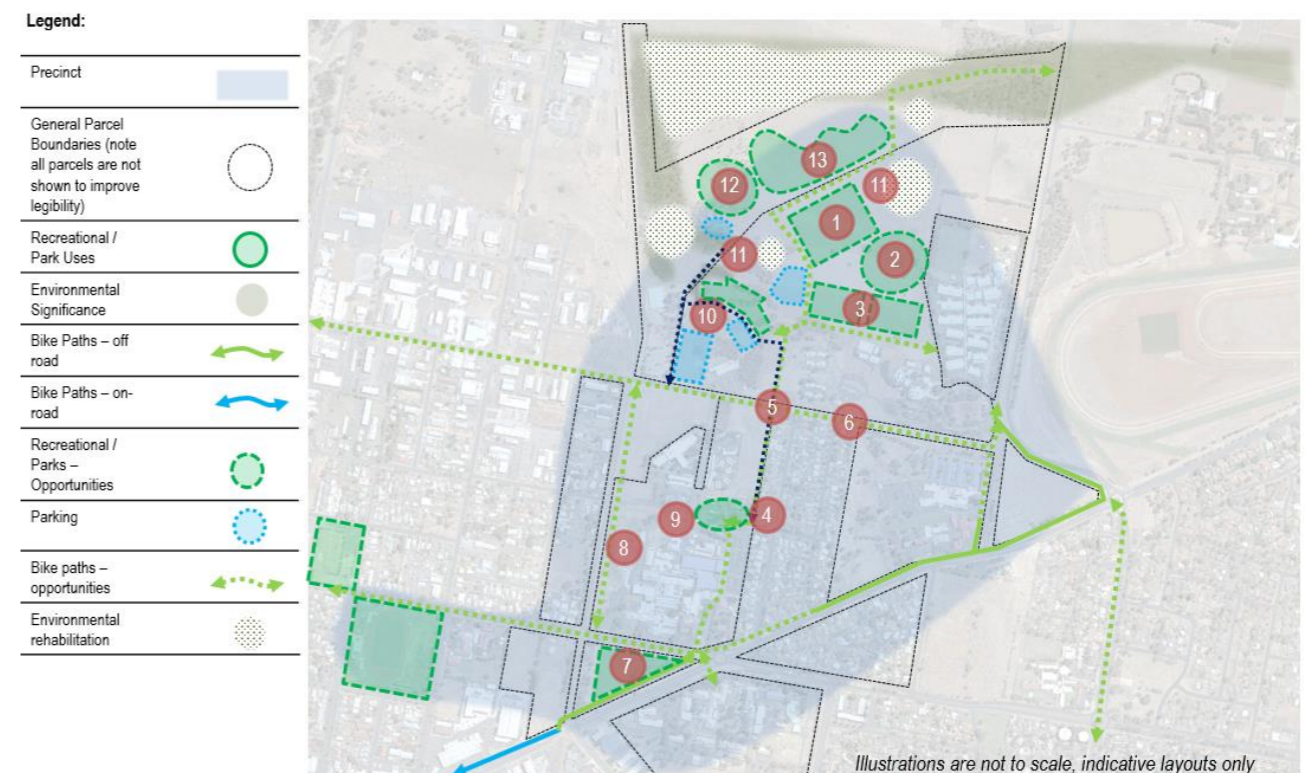


Figure 23 *Environment, Recreation & Active Transport – Opportunities*

Key opportunities are noted by number reference on Figure 23 above.

1. Outdoor netball.
2. Cricket / football.
3. Soccer.
4. Use of smart lighting to improve security.
5. Use pedestrian paths / cycleway for electric cart transport – for elderly and quick transport between uses.
6. Green web - Pedestrian paths & cycleway to be well planted with deciduous trees and landscaping, natural drainage to improve cooling in summer and warmth in winter.
7. Expanded park.
8. Green corridor along train line.
9. Park / Common
10. Indoor sports hub.
11. Environmental / play area.
12. Velodrome.
13. Joint cycle & athletic track with stormwater harvesting, wetland and walkways.

The opportunities focus on the new sports hub and velodrome facilities, along with ancillary sporting fields that could be potentially located here as the precinct grows into the future. The provision of an environmental play area to support the activation of this space beyond sporting events is seen as a positive for the local area, supporting an increasing population and visitors to the area. A central park / common area near the centre of the precinct will provide support for visitors, workers and future residents, supported by its proximity to potential future commercial and health related development. Connection of pathways for walking and cycling that respond to the climate of Dubbo (shade in summer, clear in winter) will improve the ability to travel between organisations without the need for a car.

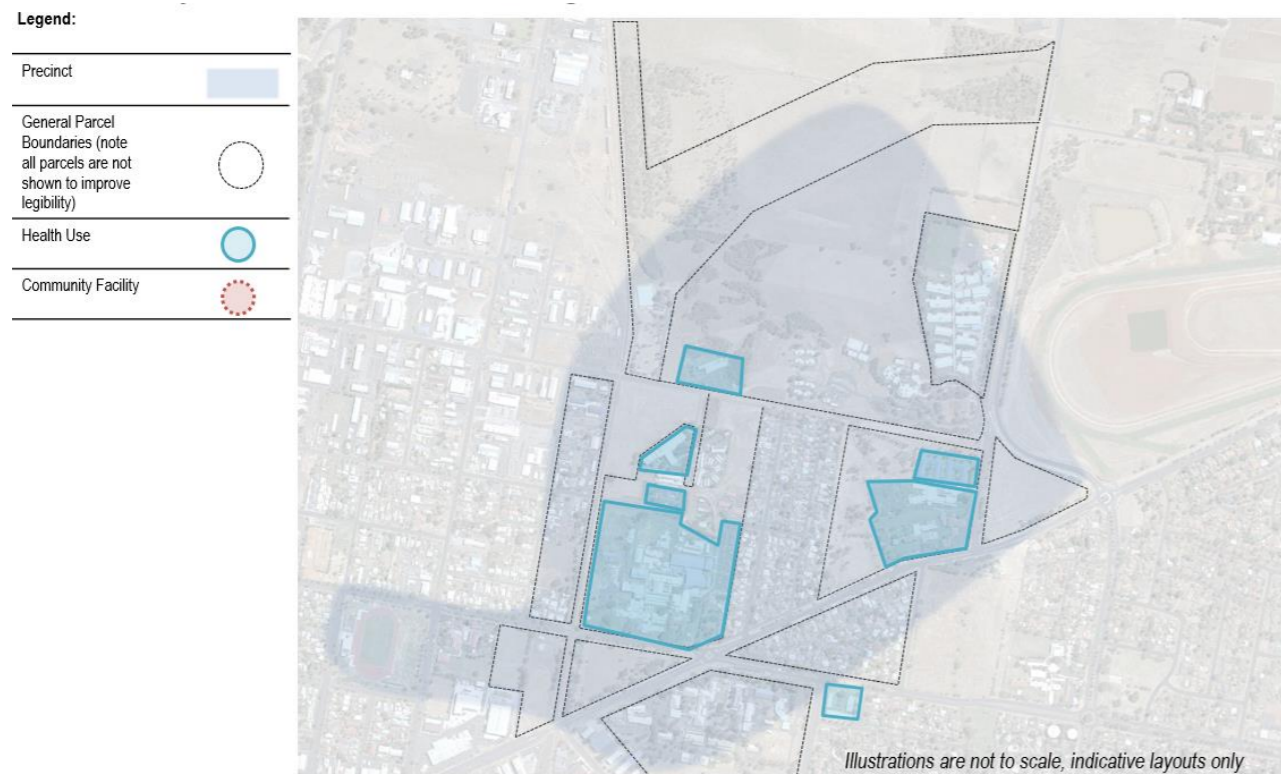


Figure 24 *Community Facilities & Health – Existing*

No specific local community facilities are present within the precinct (e.g. library, community centre). However, a significant number of health uses are present in the locality, including the Dubbo Hospital, the Dubbo Private Hospital, Lourdes Hospital, a small specialist medical facility, a dental clinic and two aged care facilities.

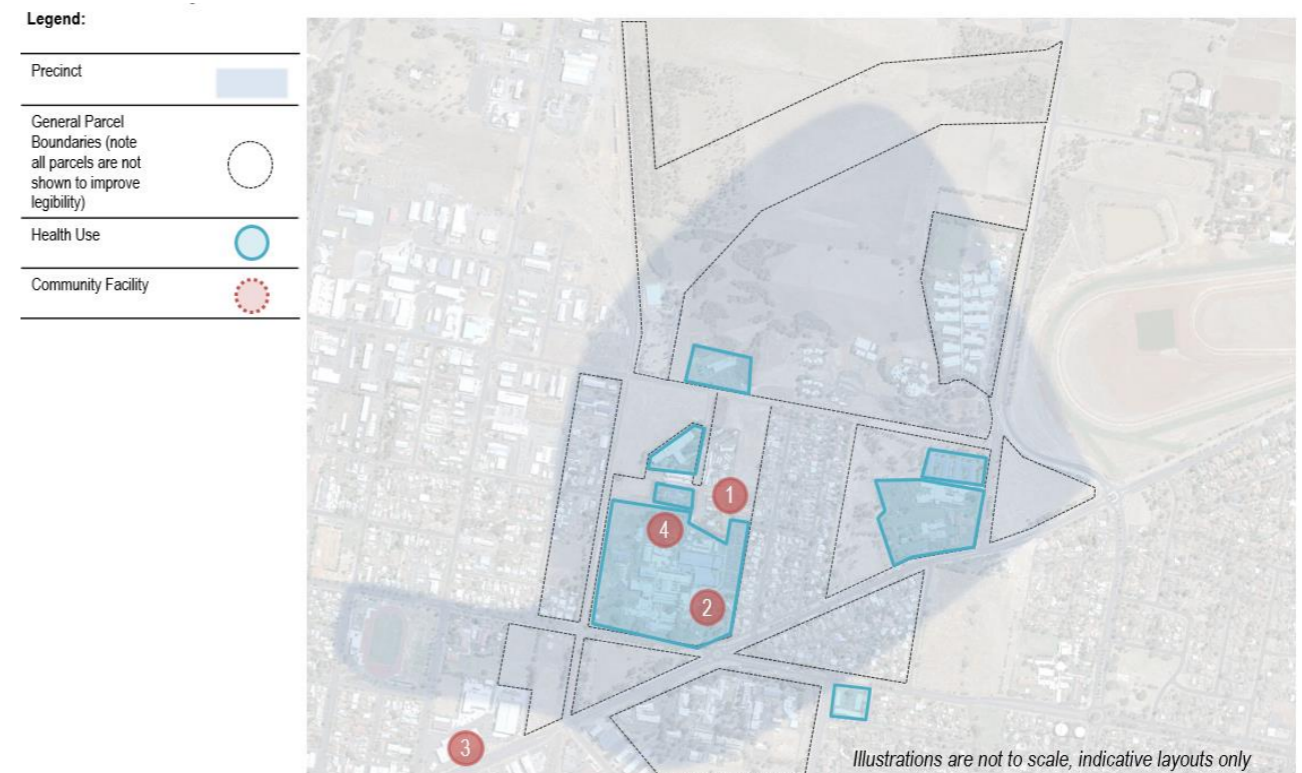


Figure 25 *Community Facilities & Health – Constraints*

Key constraints are noted by number reference on Figure 25 above.

1. Perceived lack of connectivity between services.
2. Limited to no opportunity for commercial health providers.
3. Community services dispersed throughout Dubbo – inefficiencies for both provider and patients.
4. No Council community facilities on precinct.

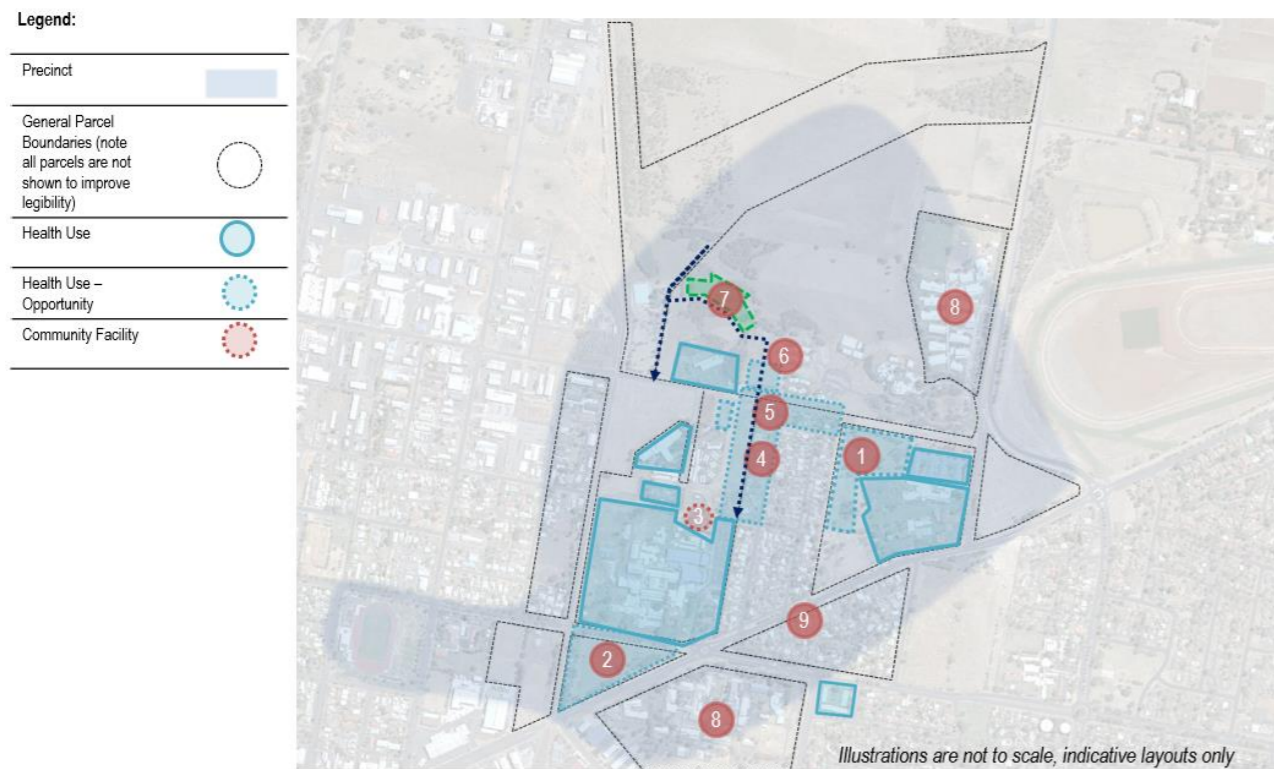


Figure 26 **Community Facilities & Health – Opportunities**

Key opportunities are noted by number reference on Figure 26 above.

1. Aged care and hospital expansion.
2. Hospital redevelopment (future proof) potential.
3. Park / Common and pool access (in heart of precinct).
4. Mixed Use – Health Consulting, Medical, Housing, Retail, Respite Day Care, Child Care.
5. Council Facility (e.g. Library).
6. Allied Health and Education
7. Sport Hub – supports health and retail uses – day and evening economy.
8. Link with schools and TAFE to provide training pathways.
9. Improve amenity on precinct to increase passive health outcomes.

The opportunities focus increasing the number and type of health service providers on the precinct through attracting private services to the area that both support the function of the Hospitals on the precinct as well as the new sports hub. Expansion opportunities for aged care and other senior's related services will also be beneficial for the precinct and can occur on free land available in close proximity to existing tertiary services, as well as primary services that could relocate to the precinct. Opportunities for community facilities in the form of a local pool or small Council library enhance the broader appeal of the precinct, supporting residents, workers and visitors.

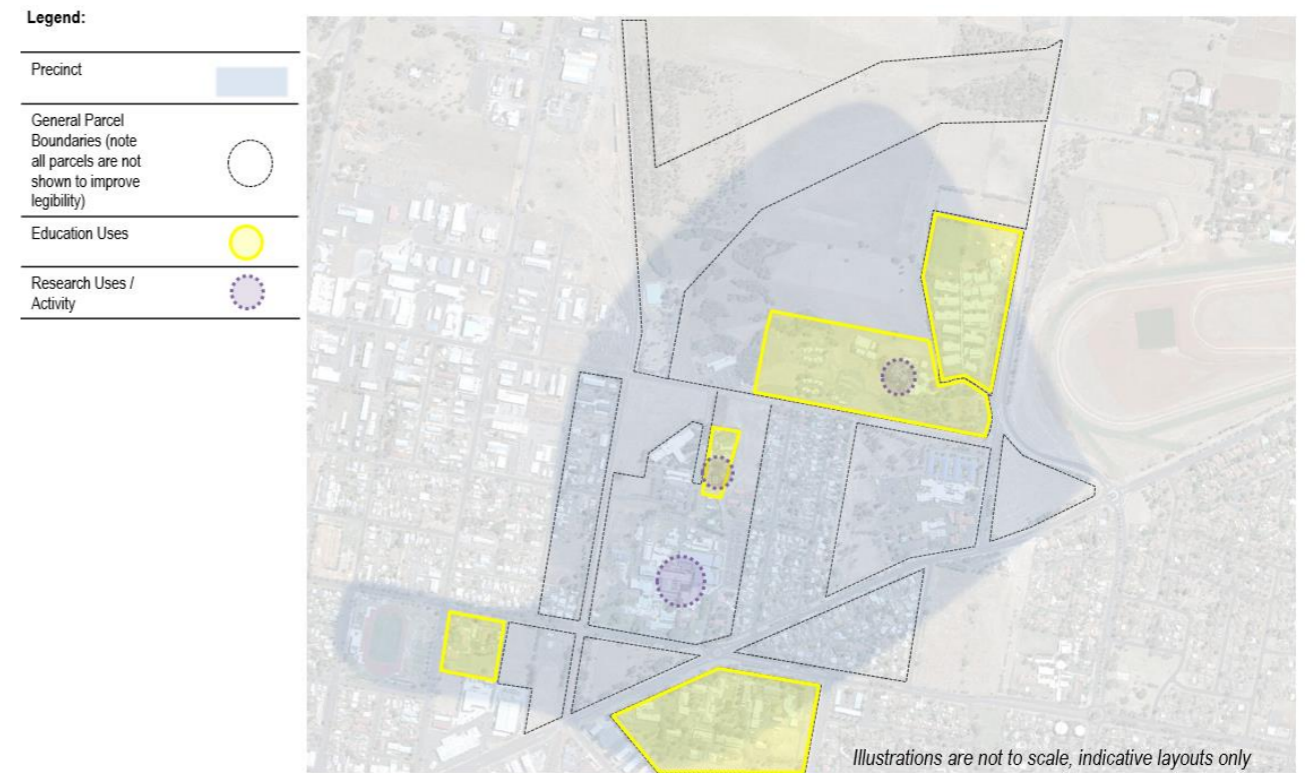


Figure 27 **Education & Research – Existing**

A number of education provides are present within the Precinct, including Charles Sturt University, Sydney University (School of Rural Health), Dubbo TAFE, Dubbo Senior College and the Dubbo North Public school (primary).

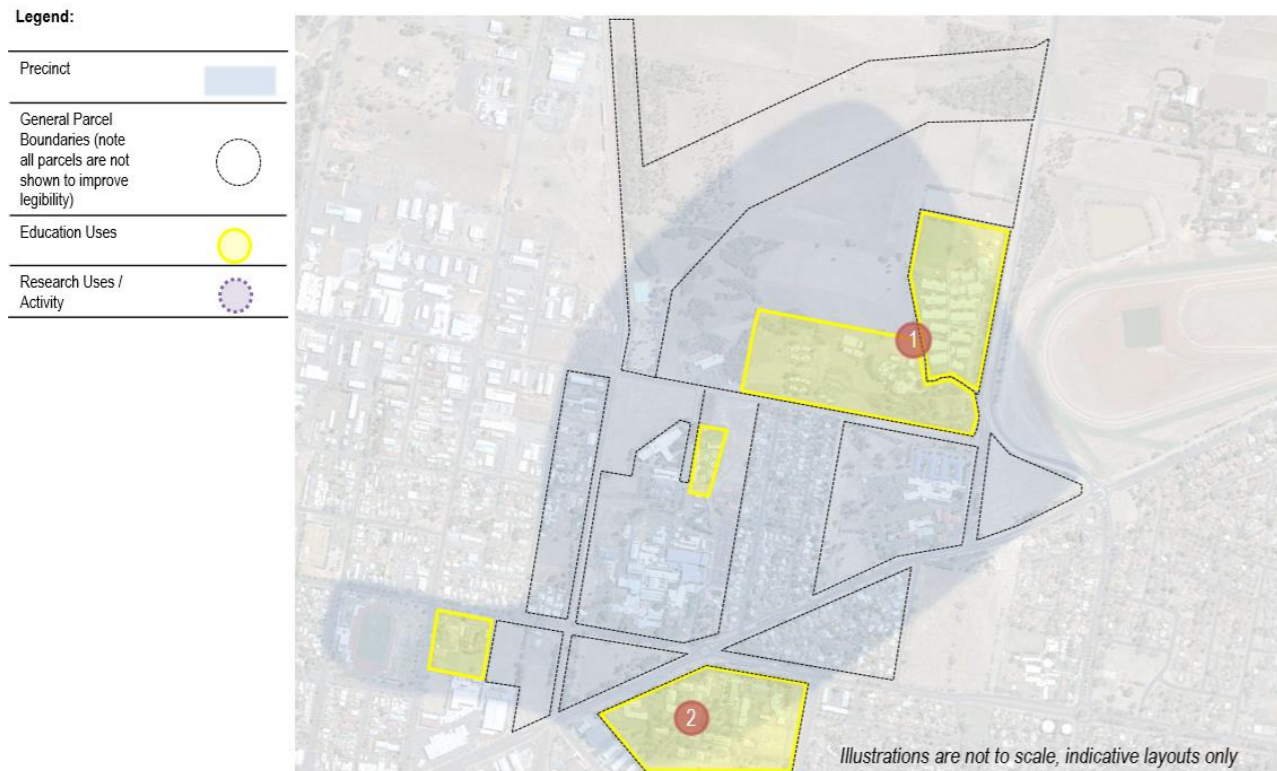


Figure 28 *Education & Research – Constraints*

Key constraints are noted by number reference on Figure 28 above.

1. Limited integration and connection between Dubbo Secondary College and Charles Sturt.
2. Limited connection between TAFE and Hospital / Universities.

It is also noted that there is a perception that limited cross fertilisation of research activities between organisations is occurring. This is an issue that is seen to be largely due to separate governance between organisations.

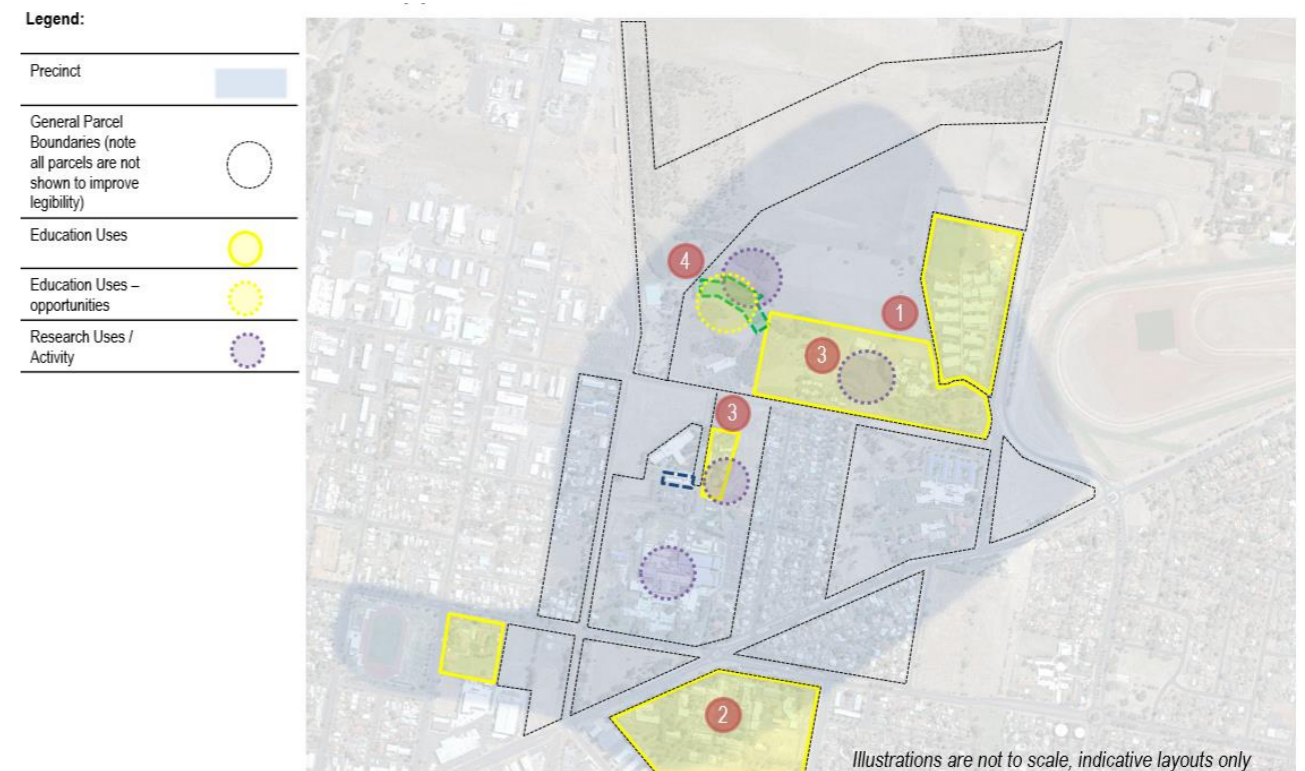


Figure 29 *Education & Research – Opportunities*

Key opportunities are noted by number reference on Figure 29 above.

1. Enhance education connections between School, CSU and new sports facility.
2. Enhance connections between TAFE, Hospital, Aged Care and Universities.
3. Enhance learning and research connections between Universities & Hospitals – facilitated through shared infrastructure, leadership forum.
4. Sports and Exercise Science, Physiology, Physiotherapy Education & Research – replicate dental clinic model.

Key opportunities arise through improving collaboration between precinct organisations with respect to research and education pathways and through opportunities in sports science and related allied health fields that arise from the sports hub development. These opportunities are best realised through creating or connecting with key / peak bodies that facilitate research and funding partnerships, with joint governance between precinct partners facilitating these arrangements.

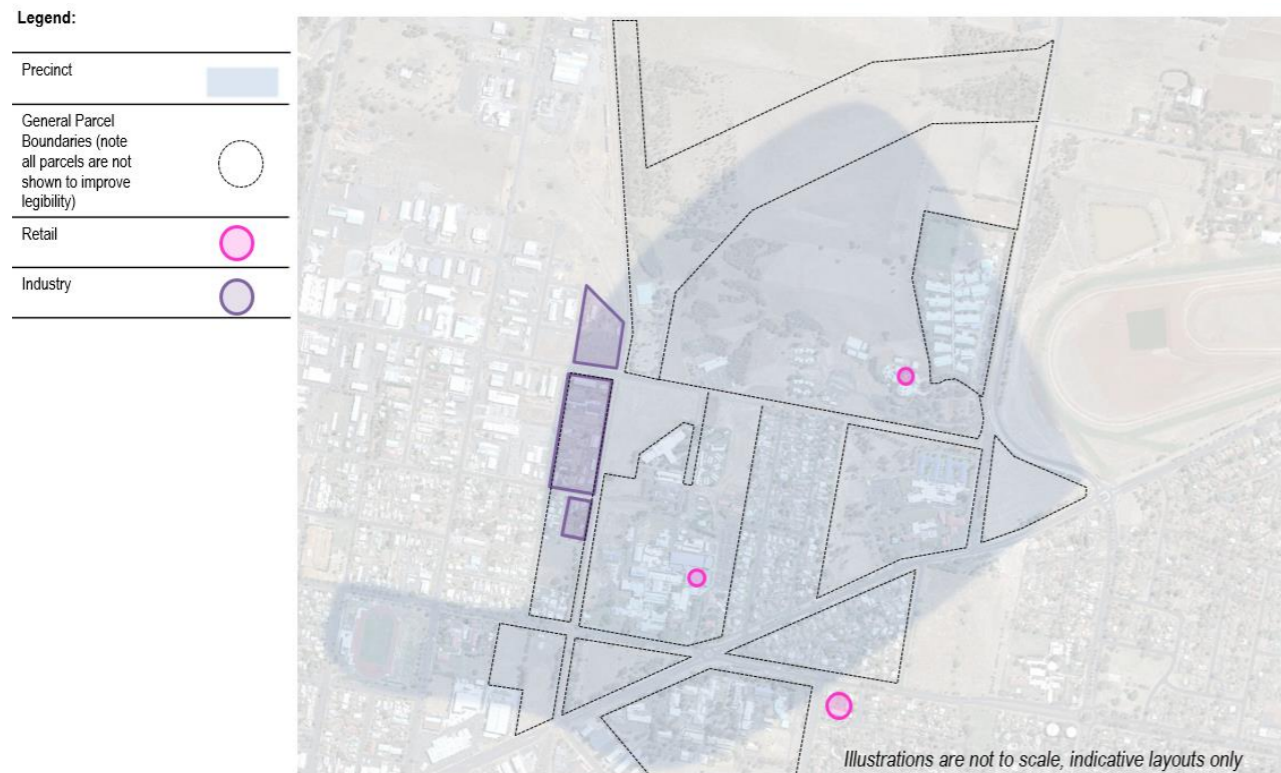


Figure 30 **Economy – Existing**

A small number of commercial entities are located within the precinct. A small kiosk is located in the Dubbo Hospital, a small café is located on the CSU campus and small shops are located to the South-East. A variety of service industry and storage yard uses are located to the West of the precinct, over the railway line.



Figure 31 **Economy – Constraints**

Key constraints are noted by number reference on Figure 31 above.

1. Very limited existing retail / services offering.
2. River Street Bridge will direct traffic through the precinct – heavy vehicles will impact area.
3. Limited existing retail / services offering.
4. Very limited existing retail / services offering.
5. Noise and amenity impacts.

It is also noted that there is a perception that limited cross fertilisation of research activities between organisations is occurring. This is an issue that is seen to be largely due to separate governance between organisations.

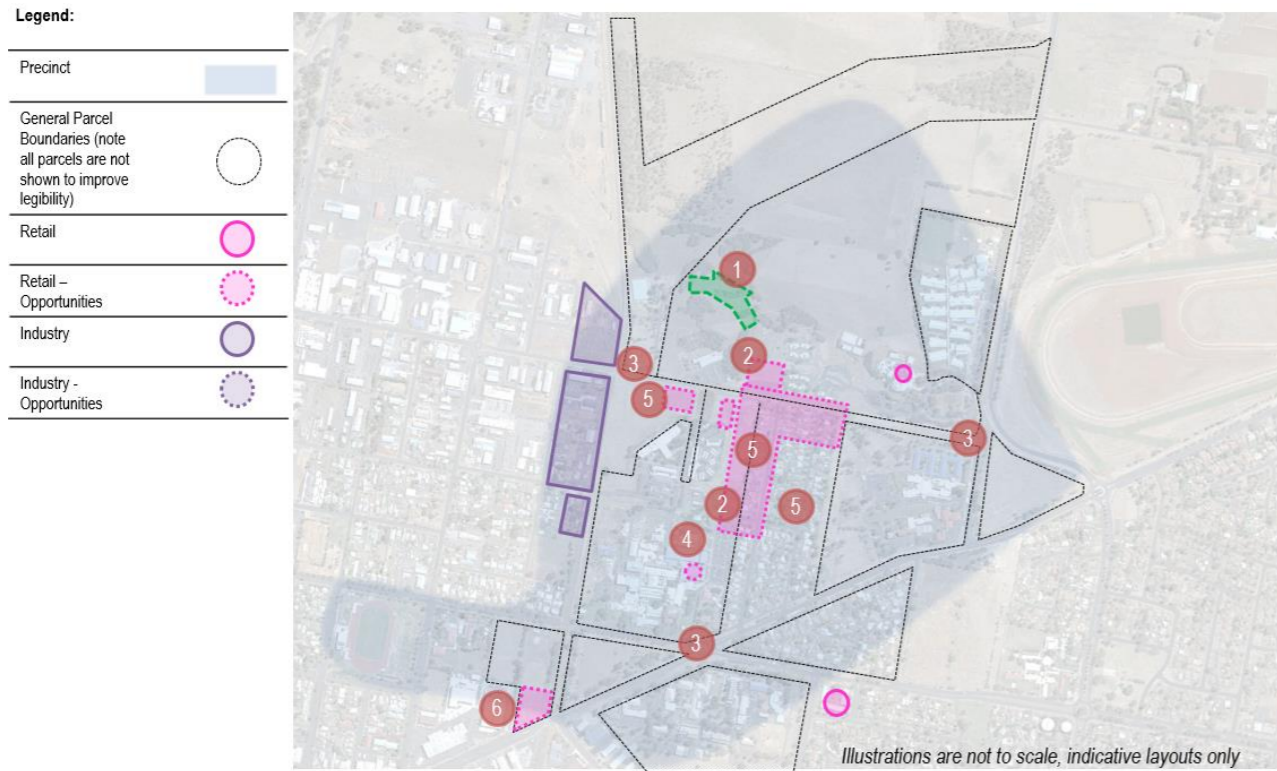


Figure 32 **Economy – Opportunities**

Key opportunities are noted by number reference on Figure 32 above.

1. Deliver new sports excellence and related health and education services out of sports hub.
2. Use pop-up markets / shops in public spaces and future commercial / sports hub spaces to help activate and attract interest in the precinct.
3. Improve entry statements to precinct – increase legibility and attractiveness.
4. Limited expansion of retail / services.
5. Mixed Use – Health Consulting / Medical / Housing / Retail / Respite Day Care / Child Care.
6. Key focus will be medical centres to bring associated uses with them (anchor use). Commercial use focused at ground, residential above and set-back from street.
7. Focus on accommodation for key workers and students – attractor for the day/evening economy, improving night time safety.
8. Logical expansion of commercial along Cobbora Rd.

Key opportunities for the precinct arise through attracting additional commercial development to the precinct that will support health related uses and an increase in residents within the precinct boundaries. Locating this development along the proposed extension of River Street, and linking to the Dubbo Hospital in a North-South connection, creates a mixed use health to the precinct, linking and supporting all users. The use of pop up markets to facilitate the activation of these spaces while development proceeds will be a useful tool in gaining interest for the precinct, and in supporting workers and visitor's needs. The development will largely be facilitated by the new sports hub, providing a welcome boost to economic activity in the area.

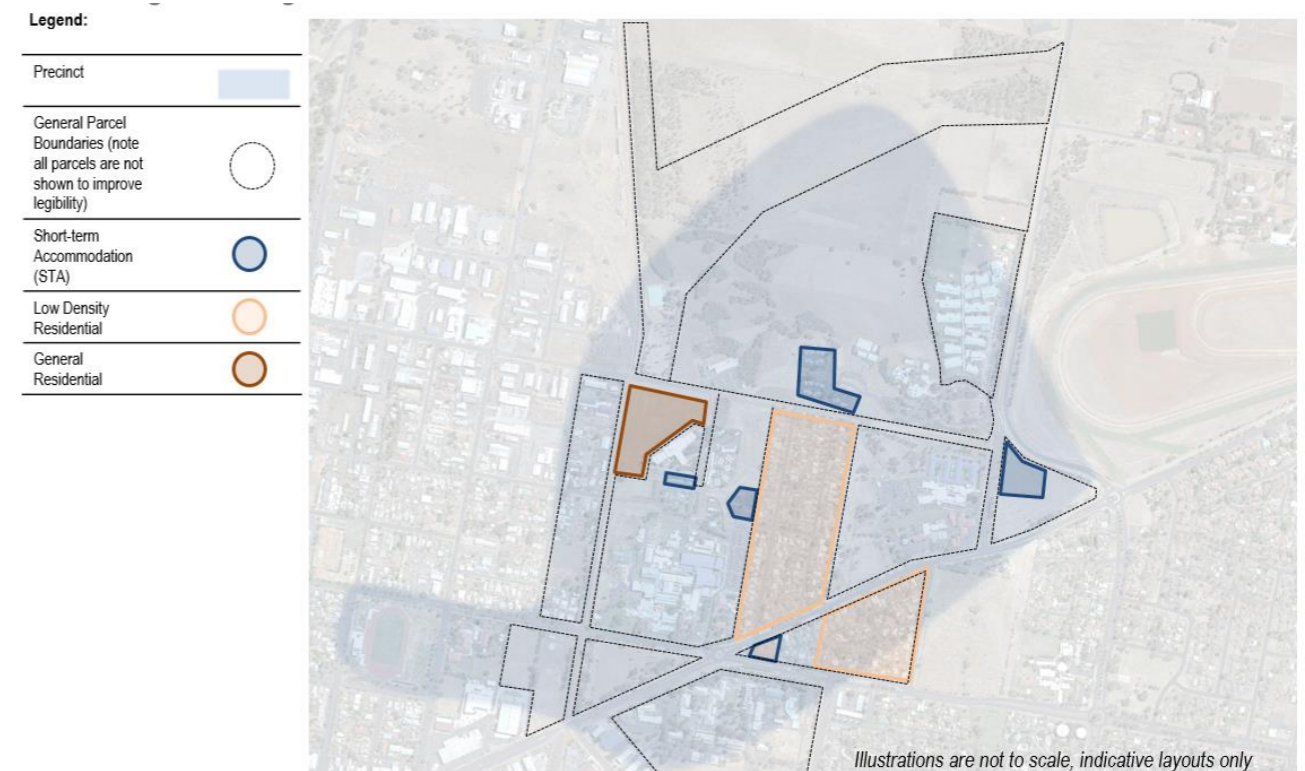


Figure 33 **Housing – Existing**

Housing within the precinct includes larger blocks of low density residential land (light orange colour) and a vacant site that is categorised for 'general residential' development. A number of short-term accommodation uses are located on various locations around the precinct, including private operators supporting key workers and patients of the hospital, student accommodation on CSU land and worker accommodation supporting the Dubbo Hospital.

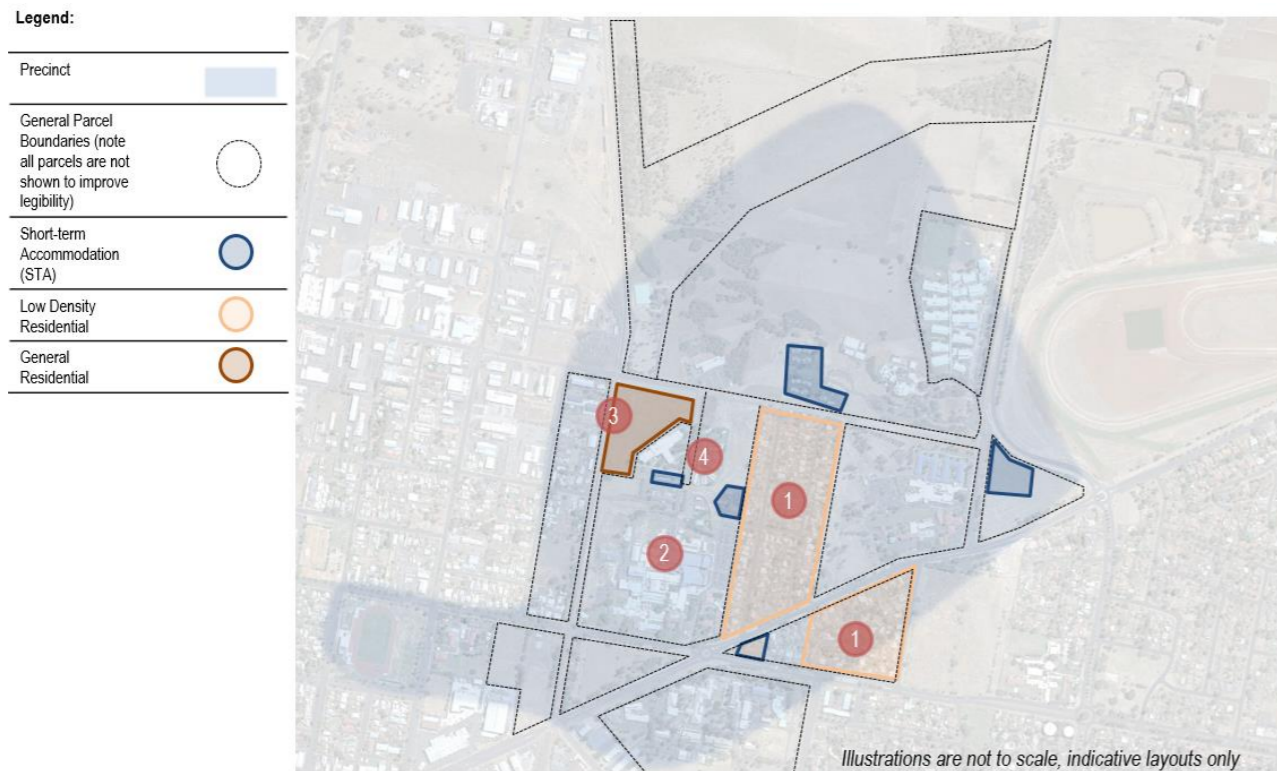


Figure 34 **Housing – Constraints**

Key constraints are noted by number reference on Figure 34 above.

1. No opportunity for increased population & limited diversity of housing stock (all standard houses), barriers to movements via fencing road connections.
2. Lack of short-term accommodation for key workers.
3. Poor amenity interface along rail line and over from light industry.
4. Lack of accommodation for increasing student numbers, lack of university campus culture due to lack of ancillary services, leads to difficulty keeping residents in Dubbo (students are attracted to campus' with that have the perception of a better campus culture, i.e. larger city campuses).

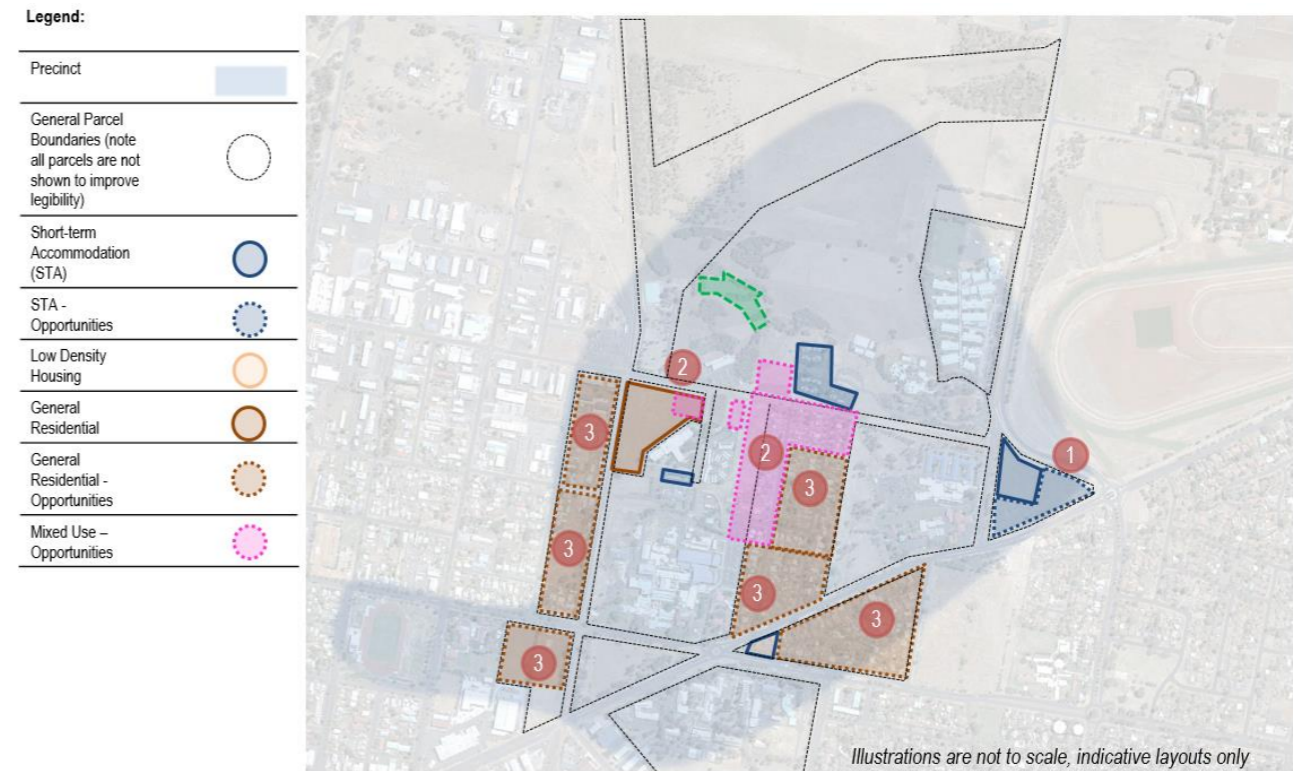


Figure 35 **Housing – Opportunities**

Key opportunities are noted by number reference on Figure 35 above.

1. STA – expansion, continuation of use.
2. Convert to general residential – allow increased densities – preference mix of dwelling types to attract key users – seniors for ageing in place, students, key worker accommodation, social housing, mixed through to higher quality housing. Preference shop top housing adjacent to retail. Allow child care and respite day care in key locations – e.g. nearby primary school, close to heart of precinct (Eden principles of care).
3. Mixed use – Health Consulting / Medical / Housing / Retail / Respite Day Care / Child Care. Key focus will be medical centres to bring associated uses with them (anchor use). Commercial use focused at ground, residential above and set-back from street. Focus on accommodation for key workers and students – attractor for the day/evening economy, improving night time safety.

Key opportunities for housing within the precinct arise through linking apartment style or shop top housing within the mixed use area, and in increasing residential density throughout the precinct. Increasing residential densities and providing a mix of dwelling types will cater for key workers, improve affordability and allow for improved options for ageing in place. Increased allowances for short-term accommodation will support the needs of families of patients to the hospital, sporting events and students of CSU and Sydney University (School of Rural Health).

5.3. Key Constraints Summary

Generally speaking, the users within the Precinct have developed and evolved by themselves on their own parcels of land, with separate accesses and no real connections between each user from a physical perspective. Some organisation linkages have occurred for education and training and by way of service agreements, but the perception is that these have been limited to individual agreements between parties, meeting basic needs.

This focus on developing separately is not unusual, but it does create constraints to the opportunities that can arise from organisations working together across the Precinct. Some of the key physical constraints include a lack of through connections for road transport with disjointed single road accesses for each user. This makes it difficult to traverse the precinct by car. For example, a worker of the Dubbo Hospital needs to drive 2.7km from the child care to the hospital car park. If there was a through connection this would be a 400m drive / walk. A perceived lack of car parking for patients and illegal parking exacerbates parking and access issues throughout the precinct.

Similarly to road connections, blocked pedestrian connections and lack of or unsafe pathways network (including a lack of shade cover and poor landscaping) mean it is difficult for people to walk or cycle between accommodation and uses in the precinct. This results in additional car movements, or in people foregoing trips which they may be able to benefit from. The lack of integration and disjointed nature of uses leads to perceived and real security risks, particularly at night, from vandalism, theft and drug use.

A lack of recreational and park facilities, and community facilities for workers and visitors/families to the precinct reduces overall precinct amenity, making it less attractive as a place to work while limiting options for families who are supporting patients of the hospital (e.g. birthing mothers with other children have no nearby or suitable park and amenities for supporting family to use for the often long stays in the area). Very limited retail or support services across entire precinct reduces amenity and increase car movements to and from the precinct.

A lack of appropriately regulated land for commercial opportunities limits the ability for commercial health providers, particularly primary health providers and supporting allied health / support services, to provide services which support patient cohorts and the users on the precinct. On top of this, there is limited connection between existing key organisations for research and partnership, largely due to separate governance mechanisms, which limits collaborative opportunities.

A lack of accommodation to support students and key workers is present on the precinct, increasing costs and reducing attractiveness to workers and students. This - coupled with the fact that there is no opportunity for increased population and improvements to housing diversity to support key workers, lower income families and ageing in place - makes the precinct a less desirable place to work and live.

The sum of these issues does not mean each individual organisation cannot continue operating as they do to meet their base service outcomes. However, these constraints serve to make the precinct a less desirable place to work, live and visit, makes connecting key organisations difficult and presents challenges to attracting new health providers and supporting services to the area. While this is the case, none of these constraints are difficult to overcome.

5.4. Key Opportunities Summary

A wide variety of opportunities exist within the precinct area to enhance connections, amenity, sport, business, education, research and health outcomes.

Improvements to road connections and access across the precinct by way of extending River Street, implementing a dual access loop to the sport hub, and connecting Muller Street and Moran Drive to allow through connections would improve integration and access for all users. Creating these connections would need to occur in such a manner that the operation of the Dubbo Hospital was not compromised. This may also allow re-routing of public transport to support access for all precinct users. Parking improvements could be made for the precinct as a whole, piggybacking on the sport hub development to open up over flow parking areas to other uses as they grow in the precinct. Options to support car parking on the Dubbo Hospital site are available, should funding be made available.

Significant opportunities arise from the development of the indoor sports hub and velodrome, with options to allow further outdoor sporting fields around this infrastructure as the precinct grows. The provision of an environmental play area to support the activation of this space beyond sporting events is seen as a positive for the local area, supporting an increasing population and visitors to the area. A central park / common area near the centre of the precinct will provide support for visitors, workers and future residents, supported by its proximity to potential future commercial and health related development.

Connecting uses and new recreation areas, a network of pathways for walking and cycling that respond to the climate of Dubbo (shade in summer, clear in winter) will improve the ability to travel between organisations without the need for a car.

Increasing the number and type of health service providers on the precinct through attracting private services to the area that support the function of the Hospitals on the precinct as well as the new sports hub will improve patient accessibility and precinct growth. Expansion opportunities for aged care and other senior's related services will also be beneficial for the precinct and can occur on free land available in close proximity to existing tertiary services, as well as primary services that could relocate to the precinct. Opportunities for community facilities (e.g. a small Council library / community space) enhance the broader appeal of the precinct, supporting residents, workers and visitors.

To support physical development in the precinct, opportunity arises through improving collaboration between precinct organisations with respect to research and education pathways and through opportunities in sports science and related allied health fields. These opportunities are best realised through creating or connecting with key / peak bodies that facilitate research and funding partnerships, with joint governance (not replacing existing legal decision making processes) between precinct partners facilitating these arrangements.

As the precinct grows, there is opportunity to attract additional commercial development to the precinct that will support health related uses and an increase in residents within the precinct boundaries. Locating this development along the proposed extension of River Street, and linking to the Dubbo Hospital in a north-south connection, creates a mixed use heart to the precinct, linking and supporting all users. The use of pop up markets to facilitate the activation of these spaces while development proceeds will be a useful tool in gaining interest for the precinct, and in supporting workers and visitor needs.

Increasing residential densities and providing a mix of dwelling types will cater for key workers, improve affordability and allow for improved options for ageing in place. This will also support business sustainability in the area with the added benefit of improving security through the provision of 'eyes on the street'. Increased allowances for short-term accommodation will support the needs of families of patients to the hospital, sporting events and students of CSU and Sydney University (School of Rural Health).

The range of opportunities present within the precinct support the growth of the precinct as a whole, integrating uses and providing opportunities for organisations to partner and grow over time, supporting collaborative development and further economic, education, sporting and health outcomes for Dubbo.

5.5. Overall Precinct Picture

Development of the precinct is proposed in line with the following figures and commentary.

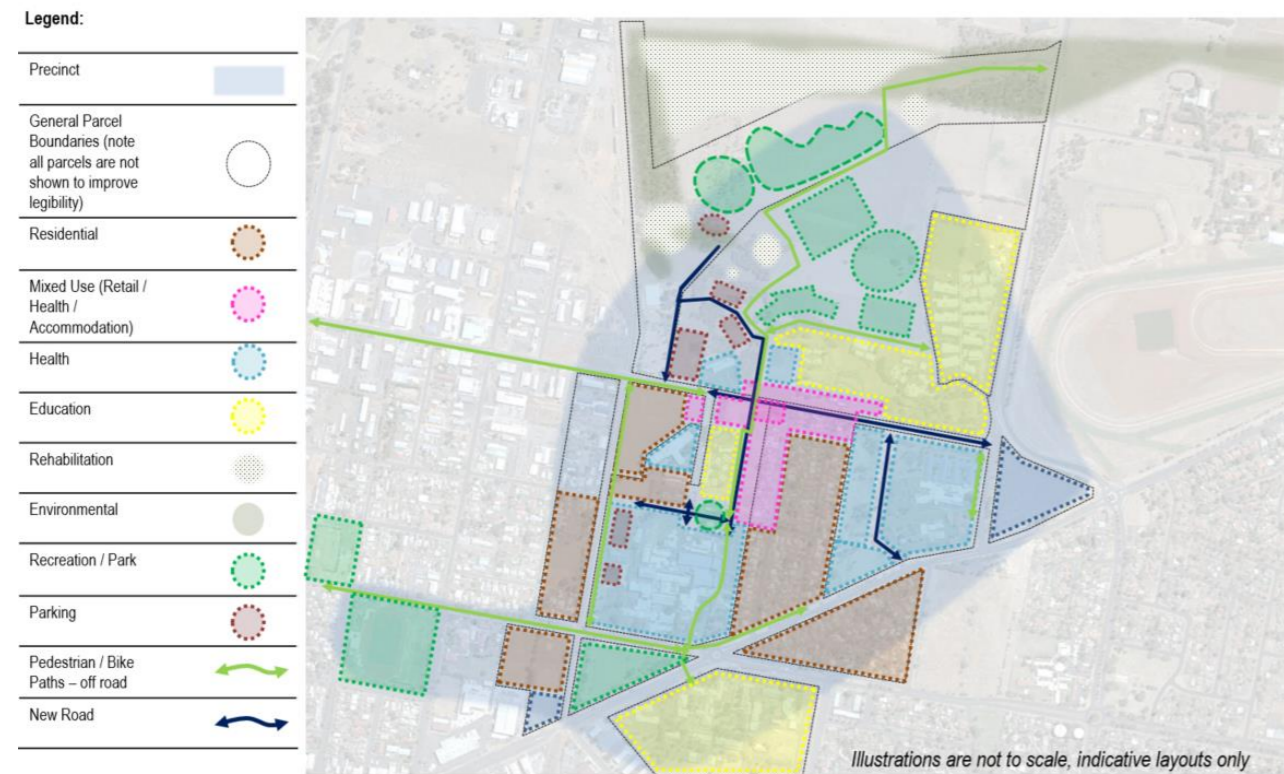


Figure 36 Dubbo Health Education & Well Being Precinct Master Plan

The Dubbo Health Education and Well Being Precinct aims to connect key organisations in the area through infrastructure and activity centres that will serve to support and connect people across the Precinct. To this end, a mixed use core is proposed at the heart of the precinct, running east-west along an extended River Street, and north-south connecting the Dubbo Hospital, the new Sports Hub and Charles Sturt University. This mixed use core is supported by anticipated enhanced activity at the Dubbo Hospital, Catholic Health Care (Lourdes Hospital and aged care services), TAFE NSW Dubbo Campus, Sydney University and supporting private development. The Precinct facilitates supporting health related development through identifying areas of mixed use and health focused commercial development for primary health and aged care providers. Targeted retail and commercial development focusing on servicing the demand of the Precincts residential population and workforce is situated in the Precinct heart, improving accessibility for all users, building activity in the core of the precinct. Increases in residential accommodation is facilitated across the precinct focused on supporting short-term accommodation, affordable housing, increased diversity in housing types and a general increase in population for the precinct.

Targeted transport and community infrastructure will connect key users and developing areas. The precinct includes measures to re-connect blocked roads, extend roads to improve precinct connectivity, to facilitate multiple entrances and exits to sites and to allow the potential for public transport connections through the precinct. Active transport pathways for walking and cycling are a prime focus for the precinct, with the aim of reducing reliance on private motor vehicles for short trips and to improve the amenity of the precinct.

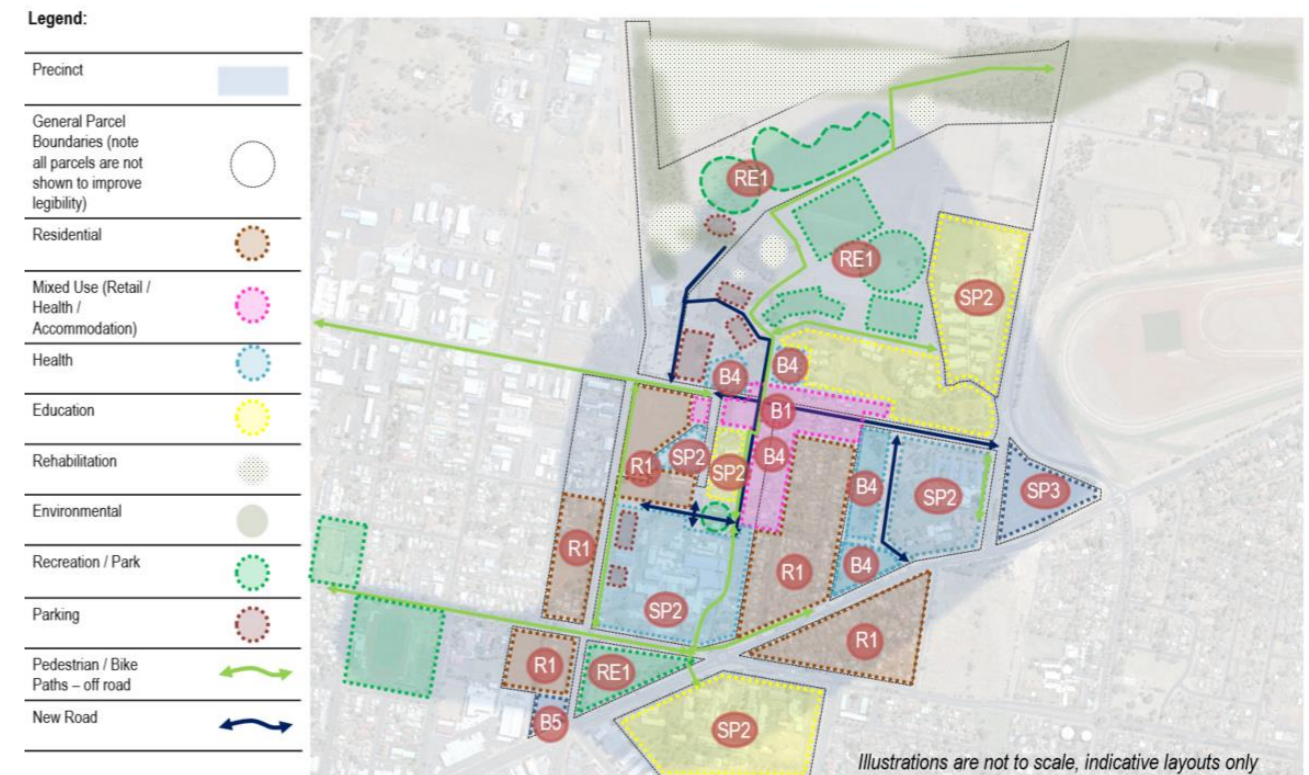


Figure 37 Dubbo Health Education & Well Being Precinct Master Plan – Proposed Zoning

Supporting the overall Precinct intent, a number of zoning allowances are recommended within specific portions of the Precinct. The primary changes within the precinct are to zone the precinct heart as B1 – Neighbourhood Centre and B4 – Mixed Use, refine the SP2 zoning of CSU, Western NSW LHD and Catholic Health Care land and to increase the intensity of residential development in the area from R2 Low Density Residential to R1 General Residential.

Additional changes are proposed to rationalise existing or proposed uses to an appropriate zone, with the Macquarie Homestay land (Eastern edge of Precinct) modified from RE1 to SP3 – Tourist. The Sport Hub and surrounds to be changed from SP2 to RE1 and a logical portion of 40 Cobbora Road is to be changed to B5, matching the zoning of adjacent uses.

It is noted that Investigations should be undertaken into the economic feasibility of allowing a neighbourhood centre in a consolidated area within the precinct to provide convenience shopping for visitors, residents and student population, noting the intended growth of this precinct over the next decade, a neighbourhood centre would provide support and assist with the appropriate growth management of this precinct. Such a study should be extended to encompass the sum of all changes proposed within the precinct, in particular with respect to understanding the quantum of commercial space and residential population increase that is economically viable within the precinct.



Illustrations are not to scale, indicative layouts only

Figure 38 Dubbo Health Education & Well Being Precinct – Northern section key areas

For the northern section of the Precinct, the following key aspects are noted (note: numbers referenced on the image above).

1. Criterion & walking track, rehabilitation

The location of the criterium matches the second stage intent for the approved development of the velodrome on Council owned land. Improving the criterium with a walking track and environmental rehabilitation will turn the criterium into a multi-use investment that will improve the amenity within the area.

2. Velodrome

The velodrome investment reflects the development approval for this facility, including the ancillary car parking on the Southern side of the facility. The access road for this facility is maintained in its approved location, although it is anticipated that there may be changes to the ultimate design of the road to combine it with the sports hub loop road.

3. Rehabilitation

Reflecting the need to address the degradation of Troy Gully and surrounds, rehabilitation is proposed around the sports hub and velodrome. The aim of this rehabilitation would be to improve ecological values, and to increase the amenity of the area.

4. Outdoor netball, soccer, football

Significant space is available to allow for a number of outdoor fields around the sports hub development, providing new and expanded fields for netball, football and soccer, or for other sports as required in the future. The intent is to set aside this land for recreation purposes to allow for the growth of the sports hub.

5. Environmental adventure park

Building on the sports hub and velodrome as major attractors to the area, coupling environmental rehabilitation with a children's play focus will help provide a broader offering to the area. This investment will serve the needs of families visiting sporting events, providing an area for younger children, and will provide for increases in residential population nearby by effectively providing a local / district level park for the community.

6. Sports Hub

The indoor sports hub reflects the announced 10 indoor sports playing fields, offices, café and supporting spaces, to be run by the NSW Office of Sport and Dubbo PCYC. While final funding and a construction time frame for this project is not year announced, there is an expectation that this project will commence relatively soon, providing a kick-start to investment in the Precinct.

7. Event parking & monthly markets

To cater for the large scale multi-day events that the sports hub will attract, an overflow parking area is nominated in close proximity to the sports hub and other activity areas. This parking area could be used for general purposes, in particular to support uses such as staff parking for Sydney University and the Dubbo Private Hospital and the space could be used for markets to help activate the area as it develops. A porous pavement treatment over the area is preferred, allowing some level of greening while affording physical integrity to the surface.

8. Allied Health hub

Building on the sports hub and velodrome development, an allied health hub focused on sports related health and learning could be established in a similar manner to the dental clinic (shared CSU and private operator). This would build opportunities for enhanced education and health for Dubbo and is directly aligned with the sports hub development.

9. Connection into school

Improving connectivity throughout the Precinct is an important factor. Directly supporting this principle is a proposed link to the school, sports hub and CSU, also allowing a more direct link for students to the sports hub and potential transition to university programs. This linkage would provide a better connection to the precinct as a whole, opening up a more amenable and safer route down through the Dubbo Hospital and to the TAFE site where students undertake courses on a weekly basis.

10. River Street extension, includes off-road cycleway

An extension of River Street through to Yarrandale Road provides a necessary second in and out point for the sports hub and future development through the core of the Precinct. This extension will improve access and traffic safety through the precinct, and will also allow the potential for improved public transport connections for users. The expected design of the road will be such that it will support a slow traffic, high street style environment inclusive of a dedicated cycle lane, with the ability to be converted in emergencies to take heavy vehicle traffic should the River Street crossing of the Macquarie River go ahead. To support this conversion, 45 degree parking will be provided on either side of the road. This parking could be restricted and traffic controlled during a flood event to open up more capacity on the road to accommodate heavy vehicle traffic seeking flood free access over the Macquarie River.

11. Mixed Use centre

A mixed use, commercial, retail, health consulting and residential accommodation focused area will be at the core of the precinct. This precinct will deliver an activated ground floor of small scale retail, commercial and health development, supported by residential apartment development above. It is anticipated that this precinct will be of the dense heart of the precinct, presenting a medium density built form that is slowly developed over the long-term.

12. Small scale service retail

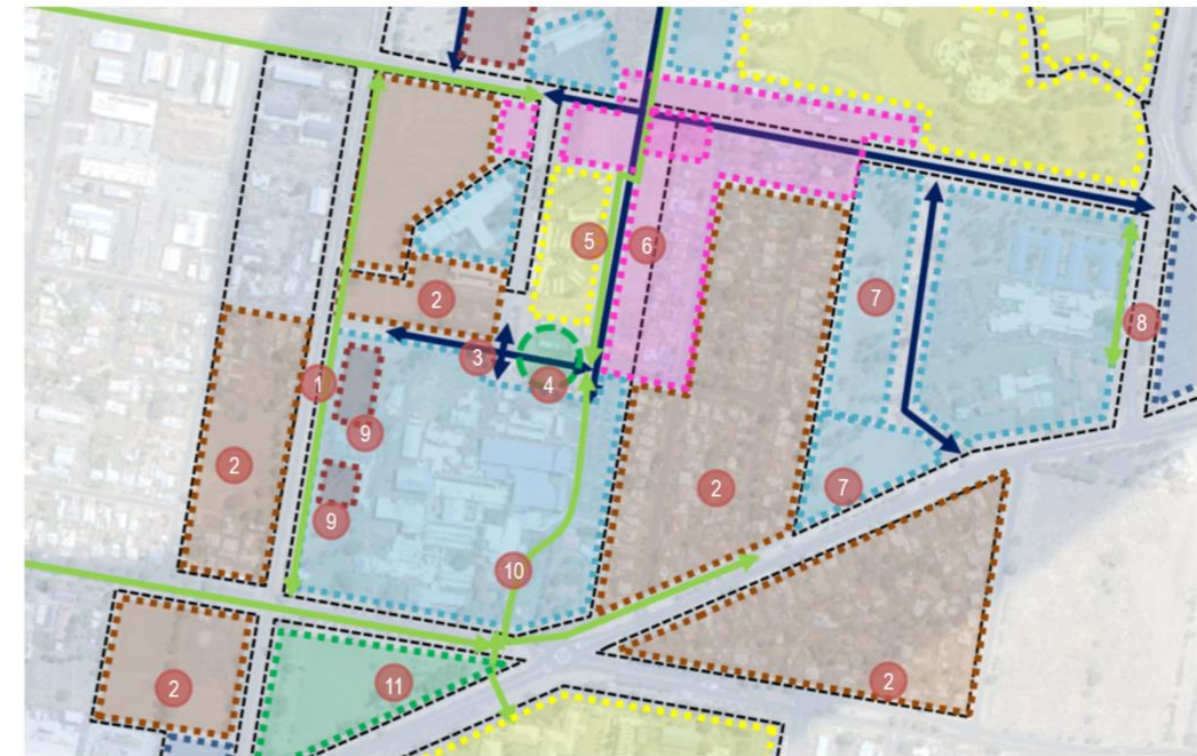
A small scale corner store style retail offering, acting as the end of the mixed use precinct, is proposed at the north-eastern corner of the private land holding adjacent to the Dubbo Private Hospital. This offering is seen as small scale service oriented development that could be the first mover in the precinct, given the site is generally development ready.

13. Residential expansion

As a development ready privately owned lot, there is prime opportunity for residential expansion in the Precinct on this lot. It is envisaged that this lot would provide significant residential expansion with the opportunity for short-term accommodation to be provided, supporting key worker and visitor needs. A pathway connection along the railway line on the Western side of the site is proposed, helping to build future pedestrian connectivity throughout the Precinct.

14. On-road lane marked cycle connection to River, coupled with Bridge and link to River pathways

Providing for improved cycle safety will be an important factor in the success of the Velodrome, and of the Precinct as a whole. There is opportunity for providing on or off road bicycle lanes and marking along the entirety of River Street down to the Macquarie River, allowing future connection to the Macquarie River pedestrian and cycle paths. This investment directly align with Council's Open Space Master Plan.



Illustrations are not to scale, indicative layouts only

Figure 39 Dubbo Health Education & Well Being Precinct – Southern section key areas

For the centre / southern section of the Precinct, the following key aspects are noted (note: numbers referenced on the image above).

1. Shaded cycle / walk-way

Providing a buffer and opportunity for improved pedestrian movement through potential parking and active areas of the precinct, a shaded pedestrian/cycle path along the railway line is proposed. This pathway will help provide a visual buffer to the railway and development to the West, and could be supported by an acoustic barrier where required, which would assist in buffering noise and amenity impacts from light industrial development to the West.

2. Residential expansion – aged care and affordable accommodation focus

Supporting the overall development of the precinct, residential expansion with a focus on aged care and affordable housing could be located on land adjacent to existing aged care and accommodation uses, connecting into extended road networks.

3. Formally Connect Moran Drive

To improve connections for workers and visitors and to allow the opportunity for public transport connections through the precinct, it is proposed that Moran Drive is formally connecting to the Hospital drive. This will improve accessibility within the Precinct. Further, with respect to key hospital functionality and safety matters, there is opportunity to provide access restrictions along the western loop of the hospital road to ensure the safe operation of logistics and the helipad area. Access restrictions may include boom gates with staff able to use access cards to traverse these areas, allowing future accessibility to staff car parks, and for maintenance staff. This will ensure public areas along the eastern side of the hospital are able to be opened up to the broader road network and new road and pathway networks, while maintaining safety of key hospital functional areas along the western/north-western side of the Hospital. A review of this connection may be required once other connections are made given it may become redundant depending on alignment and integration with the central plaza.

4. Central park / plaza

The centre of the precinct will be activated through the provision of high quality public space. This public space will act as a destination, supported by adjacent retail, commercial and health development, for workers, visitors and students. Central public space is seen as critical for the success of the precinct, providing a place for people to relax out of the hospital which is seen as particularly important for the many regional families who utilise the health services within the Precinct.

5. North-South narrow road and shared cycle / walk-way spine

Connecting the sports hub, CSU, Sydney University and the Hospital, a north-south small-scale road and shared pathway is proposed. This pathway will open up and activate the mixed use core of the precinct, improving services for workers, students, residents and visitors.

6. Mixed use health, retail, commercial and accommodation precinct

A mixed use, commercial, retail, health consulting and residential accommodation focused area will be at the core of the precinct. This precinct will deliver an activated ground floor of small scale retail, commercial and health development, supported by residential apartment development above. It is anticipated that this precinct will be of the dense heart of the precinct, presenting a medium density built form that is slowly developed over the long-term.

7. Health and aged care focus

Health and aged care services are planned to expand on land owned by Catholic Health Care with development focused on 3 blocks to help separate and improve connectivity between uses on this land. The splitting of this lot into large blocks will help improve options for development, allowing opportunity for private development. It is envisaged that Catholic Health Care land will continue to provide a strong aged care and rehabilitation focus, enhancing this focus through the provision of retirement village style development and potential health consulting / allied health uses.

8. Finish missing cycle link to new River Street links

Finishing a missing cycle link to the extended River Street cycle connection will enhance legibility for cyclists and cycle safety around the Precinct.

9. Hospital car park (potential)

A recognised short-fall in hospital parking may be addressed through at grade or structured car parks on land in close proximity to back of house Hospital entrances. It is proposed that these parks would be used for day time staff, allowing the front entrance car park to be used for visitors and patients of the hospital.

10. On-road cycle markings for cycle safety

To improve cycle safety through increasing awareness of bicycles traversing the centre of the precinct (to gain access to the sports hub and velodrome, as well as for staff), on-road bicycle safety markings are proposed. While these markings do not afford the same safety as an off-road or on-road lane, due to space considerations and reflecting the lower speed environment of this road, on-road markings are proposed. Final design should be informed by a traffic safety analysis.

11. Finish missing cycle links for off-road pathways, link to rec areas to West

Improvements to cycle safety are proposed through providing off-road bike lanes along Cobbora road and improving the crossing network between the Hospital, TAFE and over road crossings.

5.6. Residential & Non-Residential Demand Estimates

To assist in understanding the quantum of change that may eventuate from the proposed land use and density for the Precinct, a 'demand' model was created. The results of this demand model are intended only as a guide to the potential development of the precinct. This model does not act as an economic analysis, nor does it replace the need to undertake an economic needs and potential analysis, supported by an infrastructure analysis, for the Precinct.

The model is derived from measuring the area of each 'developable parcel', reducing this parcel to allow for roads where large enough. Each parcel is then reduced by a site cover allowance and is broken down into use types, how much of each use is within each parcel, and the assumed height for each type. This gives us an area that each parcel has available to develop within, which is called the 'Gross Building Area' (GBA).

Note that this does not equate to 'Gross Floor Area' and should not be used to guide commercial or retail yield analysis. GBA includes items like plant, travel, foyers and servicing areas, which is always larger than the available Gross Floor Area.

Each floor area then either equate to a GBA for a commercial or health use, or is then broken into the number of residential dwellings that may be accommodated in this location, dependent on a mix of house, townhouse or apartment types. The number of persons within the precinct can then be calculated using the average persons per dwelling for Dubbo, as can park and sporting needs, using the Design Standards of Service for open space for Dubbo. These figures are noted below:

- House GBA: 300sqm
- Townhouse GBA: 200sqm
- Apartment GBA: 150sqm
- Dubbo avg. persons / dwelling (2016 census): 2.5
- Local Park ha / 1000 persons: 1.5
- Sport Playing Field ha / 1000 persons: 2.8
- District & Regional Park ha / 1000 persons: 3.5

For reference, outcomes are also expressed in a maximum Dwellings / Ha for each parcel and the precinct as a whole, allowing comparison to typical strategic planning analysis.

The following developable parcels were used for the model:

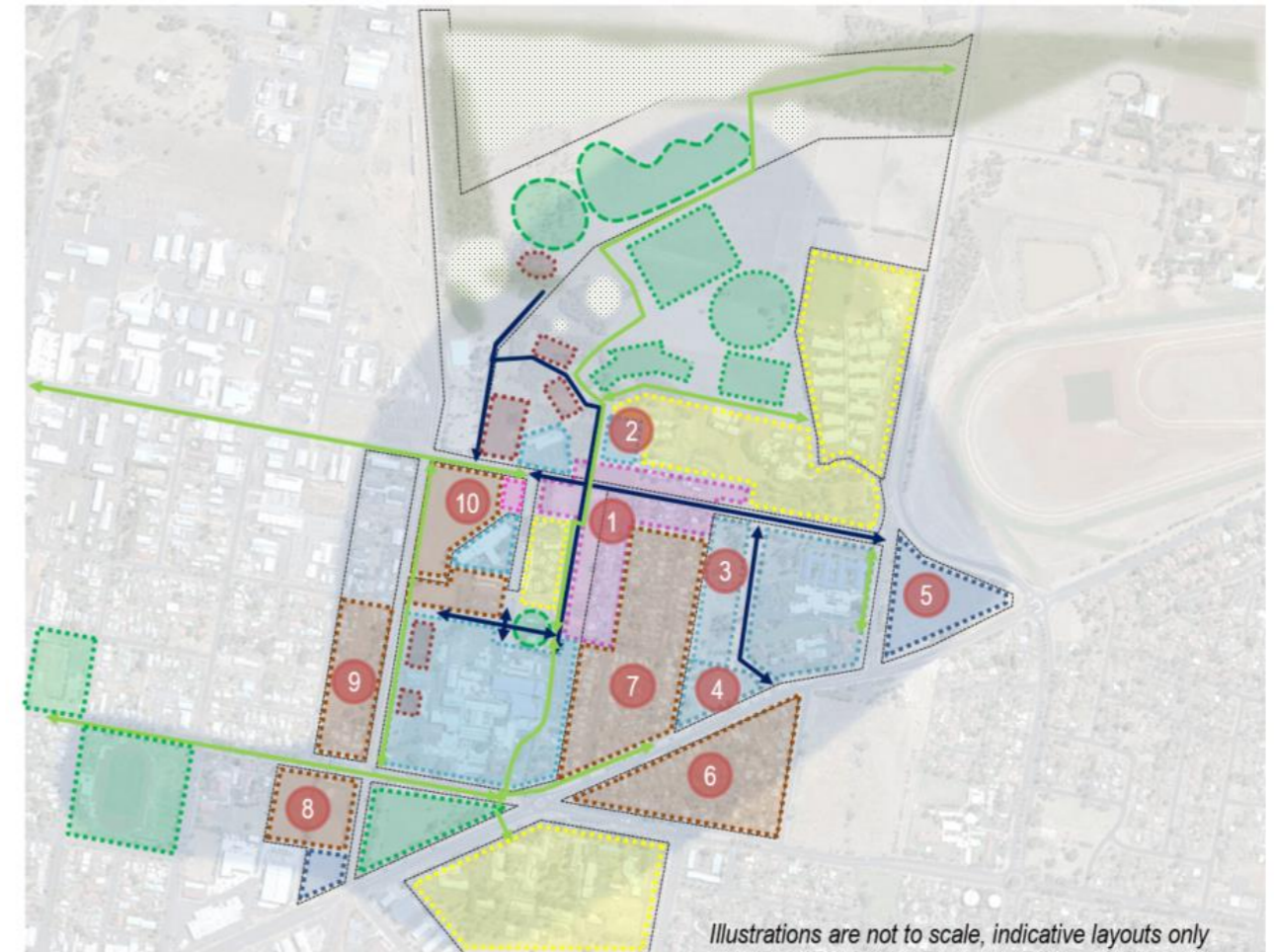


Figure 40 *Developable Parcels for Demand Model*

Note this does not include the Dubbo Hospital, CSU, TAFE, Sydney University or Catholic Healthcare main sites. This is due to these sites already having significant development over the site either existing or ongoing, and given these sites will not accommodate private development that the Precinct is encouraging. Further development on these parcels would enhance the health and education offering of the Precinct beyond the model assumptions and outcomes shown and these sites should be included in any future economic and infrastructure analysis of the site.

The following detailed assumptions by precinct were used for the demand model:

Precinct	Use	Percentage	Height	Housing Mix
1 - Mixed Use Core (Site Cover 40%)	Commercial / Retail	12.5%	1	-
	Health	12.5%	1	-
	Residential	80%	2.5	Apartment
	Short-term accommodation	30%	2.5	Apartment
2 - Health (Site Cover 40%)	Health	100.0%	1	-
3 & 4 - Health & Aged Care (Site Cover 40%)	Residential	75%	2	50% Townhouse / 50% Apartment
	Health	25%	2	
5 - STA (Site Cover 45%)	Residential	100%	1	Apartment
6, 8 & 9 - Residential 1 (Site Cover 40%)	Residential	100%	3	50% House (small-lot) / 50% Apartment
7 - Residential 2 (Site Cover 40%)	Residential	85%	3	50% House (small-lot) / 50% Apartment
	Short-term accommodation	15%	3	Apartment
10 - Residential 3 (Site Cover 40%)	Residential	75%	2	
	Short-term accommodation	25%	2	50% House (small-lot) / 50% Apartment

Figure 41 Demand Model Input Assumptions

The results of the demand model are shown below using key figures (Figure 42) and the dwelling / ha by precinct reference (Figure 43).

Use	GBA / Units / Persons	Unit
Health	8,940	sqm
Residential	2,574	Persons
STA	232	Dwellings
Casual Park	3.9	Ha
Sport Playing Field	7.2	Ha
Commercial / Retail	1,540	sqm
Total GBA's	10,480	sqm

Figure 42 Demand Model Results

The results of the demand show that the Precinct may be able to accommodate approximately 2500 people and more than 230 Short-term accommodation dwellings, should the use split in the assumptions be maintained. Further, more than 1,500sqm GBA for commercial and retail use and almost 9,000sqm GBA for health related uses (e.g. primary health including GP's, community health centres, allied health facilities such as physio, mental health, medical imaging etc.) could be accommodated, primarily in the Mixed Use Core and Catholic Health Care land.

The potential population of the precinct would require approximately 4Ha of casual park allowances and more than 7Ha of sports playing fields, all of which could be accommodated in the sport and recreation land adjacent to the sports hub and velodrome, and in the central park in the centre of the Precinct.

Against Dubbo's expected growth of up to 10,000 persons to 2036, the potential population in the precinct accommodates almost 25% of this growth. While this is the case, the growth of the Precinct may occur over a longer time period, which would result in the population growth being a smaller percentage of Dubbo's overall growth. Further, there is the potential for the Precinct to accelerate jobs growth in Dubbo, which may in turn increase population growth. As shown in the figures above, an acceleration of the population growth rate could be accommodated within the Precinct.

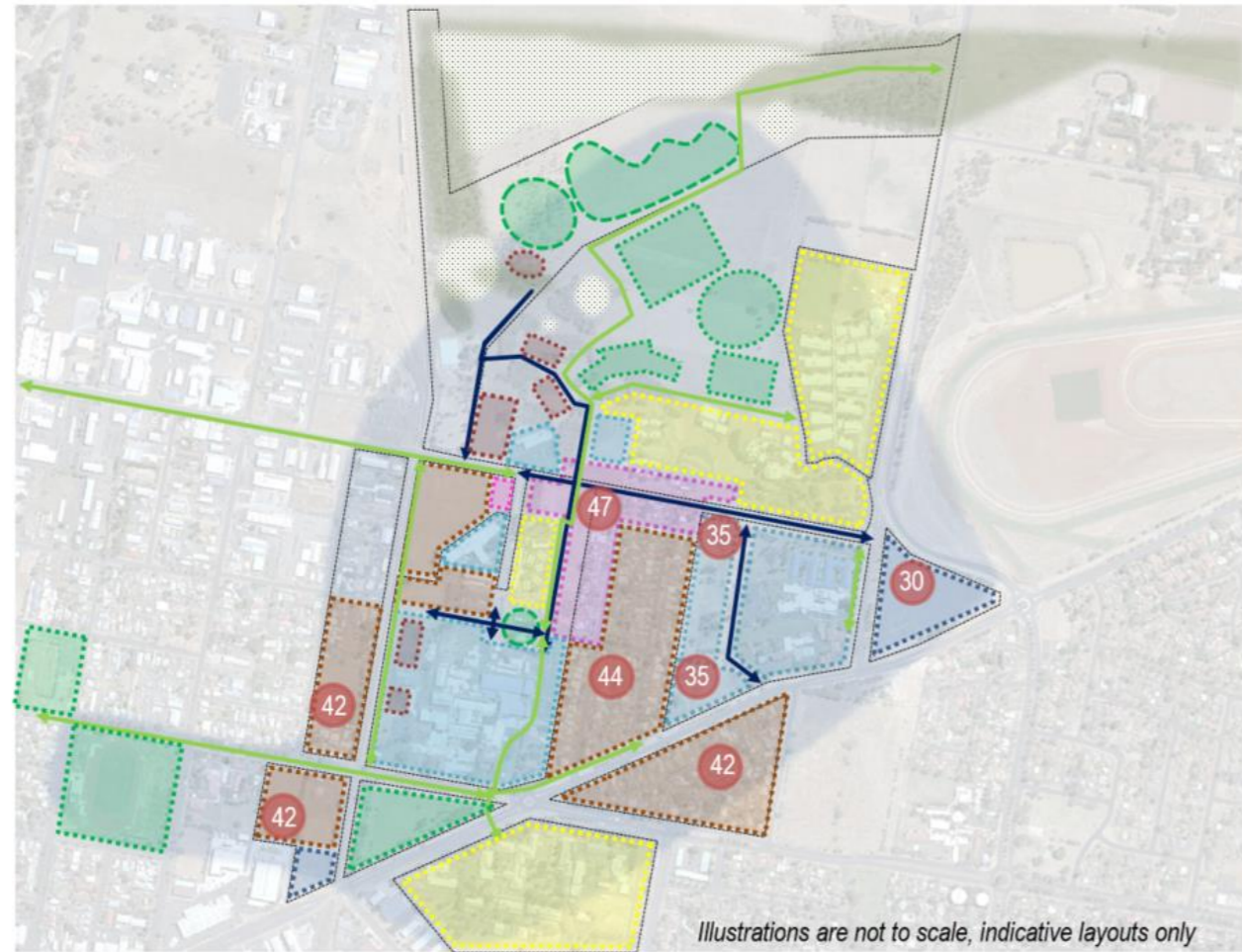


Figure 43 Demand Model – Dwelling / Ha Reference by Precinct

In addition to the figures above, the overall density for the Precinct equates to 40 dwellings per hectare, which can be considered to be a medium density built form. This dwelling density is largely supported by the 3-4 storey outcome sought in the precinct core, and the 3 storey outcome sought in the residential areas. While this dwelling density may appear high in the context of Dubbo, it should be noted that a 15 unit development over 3 storeys on a 1500sqm site yields approximately 100 dwellings per hectare in a building that effectively has 5 dwellings per floor, on a building that occupies only half the site. In effect, a medium density outcome does not have to look like a fully developed city block. With the appropriate design criteria, a medium density built form can look and feel open and amenable, limiting impacts on adjoining areas.

Further, the dwelling density is what could be generally considered a maximum and that this development would be sought over the long term. The changes would occur incrementally.

6. RECOMMENDED PRECINCT STRATEGIES AND ACTIONS

To progressing the intent of the Precinct Master Plan a series of strategies and actions are recommended. These strategies and actions are grouped as precinct wide actions, and actions that support the Precinct Principles and Vision. The actions proposed in this section are designed to support the overall precinct vision developed in consultation with Precinct Stakeholders.

The following precinct wide actions are recommended:

1. Undertake community consultation on the Dubbo Health Education and Well Being Master Plan.
2. Undertake a precinct infrastructure analysis to identify whether the precinct can be supported with existing road, water, sewerage and energy infrastructure.
3. Conduct an economic analysis to investigate the quantum of retail, commercial and health related GBA that the precinct may be able to generate in the short, medium and long-term. This analysis should investigate in particular the areas of the precinct to be converted to B1 – Neighbourhood Centre and B4 – Mixed Use given their ability to accommodate increases in retail and commercial floor space. The economic analysis should also focus on the viability of unlocking land for private development to stimulate development in the precinct.

6.1. Strategy 1 – Provide joint decision making, and research and investment attraction.

Strategy 1 aligns directly with Principle 1 and 3 of the Precinct Master Plan, focusing on improving precinct governance and utilising this to promote and attract research and investment to the Precinct. This strategy recognises the importance of collaborative decision making in the success of the Precinct and the recommended actions which will further this. The following actions are recommended:

1. Convene a precinct steering committee to guide development (providing an advice role to development applications, with Council remaining as the statutory body for development application assessment and approval) and to attract public and private research and investment to the precinct.
2. Provide tax incentive framework to fast track business investment within the precinct. Tax incentives may include, payroll, land and transfer duty exemptions or concessions. The appropriateness and quantum of such exemptions or concessions should be investigated in an economic benefit analysis before proceeding to decision.
3. Define and prepare a clear site to establish a catalyst project for sports and health research on the Dubbo Hospital site. Site preparation may include undertaking detailed studies to support traffic and infrastructure analysis, and connecting trunk infrastructure to a site where not presently available.

6.2. Strategy 2 – Facilitate collaboration between organisations

Strategy 2 directly aligns with Principle 2 of the Precinct Master Plan, recognising the need for organisations within the Precinct to work together to harness opportunities and growth in the Precinct. The following actions are recommended:

1. Establish MOU's between precinct organisations for the joint use of function, teaching and lecture theatre space to meet all organisation needs.
2. Establish a research network between key precinct organisations to identify key research areas, opportunities and programs that forward Dubbo as a centre for rural health for NSW.
3. Establish a workforce planning network between key precinct organisations to identify key workforce needs, and to prioritise education and training pathways between users and providers.

6.3. Strategy 3 – Expand economic opportunities

Strategy 3 directly aligns with Principles 3 and 5 of the Precinct Master Plan. Strategy 3 aims to build the strength of the Precinct as the primary health, education, research and future sporting Precinct of Dubbo, and more broadly for Western NSW. The following actions are recommended:

1. Lobby for 'Special Activation Precinct' or 'Local Activation Precinct' identification of the Dubbo Health Education and Well Being Precinct through the Department of Premier and Cabinet. Utilise Government funding opportunities for infrastructure – Growing Local Economies.
2. Conduct an economic analysis to investigate the quantum of retail, commercial and health related GBA that the precinct may be able to generate in the short, medium and long-term (linked to precinct wide action 3).
3. Support export of services to regional NSW through increasing health service providers' capabilities in tele-health and e-health solutions, providing training and access to facilities for regional health providers.
4. Expand industry for rural medicine and sports related research and education through tax and development incentives for organisations undertaking these activities (tax incentives (exemptions / concessions for payroll, land and transfer taxes) for specific education and health related business who established in this geographic area).
5. Increase incentives for aged care related development, research and education through development incentives (e.g. commit to fast-track approvals, allow increased density (i.e. yield), and waive contributions).

6.4. Strategy 4 – Improve housing affordability, diversity & accommodation options

Strategy 4 directly aligns with Principle 5 of the Precinct Master Plan, with a focus on delivering on the needs and opportunities related to accommodation options within the Precinct, and in support of Dubbo's growing population. The following actions are recommended:

1. Provide development incentives – i.e. density or height relaxations, waive contributions for developments providing a set mix of housing options, commitment to fast track assessment, fee reductions.
2. Define and prepare a clear site to establish affordable housing within the Precinct. Site preparation may include undertaking detailed studies to support traffic and infrastructure analysis, and connecting trunk infrastructure to a site where not presently available.
3. Proactively seek out affordable housing providers to locate within the precinct – consider offering incentives such as gifting land to gain interest, or providing technical information on preferred site.
4. Define and prepare a site and proactively seek out interest from providers for a mixed child care, respite day care and aged care development, operating under the 'Eden' principles of mixing children's play and aged care recreation areas to improve health and well being outcomes. Site preparation may include undertaking detailed studies to support traffic and infrastructure analysis, and connecting trunk infrastructure to a site where not presently available.
5. Conduct a study to determine if market based or government owned accommodation for health workers would provide the highest benefit to the LHD. Subject to the results of this study, either seek funding for accommodation OR test market to attract accommodation providers to preferred sites in the precinct.

6.5. Strategy 5 – Promote and guide appropriate development that supports the health, education and well being focus of the Precinct

Strategy 5 directly aligns with Principle 4 and 5 of the Precinct Master Plan, with a focus on delivering the overall precinct map with respect to preferred land uses, adjacencies, densities and infrastructure to support the long-term development of the Precinct. The following actions are recommended:

1. Lobby for 'Special Activation Precinct' or 'Local Activation Precinct' identification of the Dubbo Health Education and Well Being Precinct through the Department of Premier and Cabinet. Utilise Government funding opportunities for infrastructure – Growing Local Economies (Linked to Strategy 3, action 1).
2. Conduct an economic analysis to investigate the quantum of retail, commercial and health related GBA that the precinct may be able to generate in the short, medium and long-term. The economic analysis should also focus on the viability of unlocking public land for private development to stimulate development in the precinct (linked to precinct wide action 3).
3. Within Dubbo's Strategic Local Planning Statement, define the land use mix, development density and infrastructure requirements of the precinct, either as a specific sub-set 'theme' or via specific intentions for the Dubbo East Ward.
4. Make amendments to the Dubbo LEP to enact the land zoning changes identified in the Precinct map.
5. Make amendments to the Dubbo LEP to allow 'residential flat buildings' as a use that is 'permitted with consent' within the B1 – Neighbourhood Centre and B4 Mixed Use Zone.
6. Make amendments to the Dubbo DCP & CP to identify and require the specific supporting road, active transport pathway and parks infrastructure identified in the Precinct map be contributed or constructed as development proceeds.
7. Remove commercial, retail and health use allowances in the R1 Zone within the precinct.
8. Make amendment to the Dubbo DCP to create a development principle and standards set for development within the 'Dubbo Health, Education and Well Being Precinct'. Standards may include, but are not limited to:
 - a) Average density provisions as per Precinct map
 - b) Land use mix requirements as per Precinct map
 - c) Requirement for health and commercial development to be located on the ground floor and to be facing the street / public realm
 - d) Minimum height 2 storeys, maximum height 4 storeys for core precinct (1)
 - e) Minimum lot size of 1,200sqm for apartment and commercial development types, minimum frontage 30m
 - f) Minimum lot size of 300sqm, maximum lot size 400sqm for house development types, minimum frontage 7.5m, mandatory built to boundary garage on one side, shared with neighbour
 - g) Communal open space 10% site area for apartment development types
 - h) Deep planting landscaped areas minimum 10% site area
 - i) Provision of end of trip facilities for bicycles in commercial/health uses
 - j) Health / commercial development to address the street by way of 0m front lot boundary and awning treatments, active frontage treatments including paving, landscaping, street furniture
 - k) Hours of operation allowance for health and commercial development (except Hospital) of 6am to 10pm
 - l) Developments of more than 2,400sqm site area will receive additional development allowances, inclusive of increased height (one storey, set-back at least 10m from all boundaries), and a reduced car parking requirement of 20%
 - m) Development shall not isolate adjoining lots that can be developed for commercial purposes (minimum lot size 1,200sqm).

6.6. Strategy 6 – Improve space for recreation and active transport

Strategy 6 directly aligns with Principle 5 and 6 of the Precinct Master Plan, focusing on supporting the amenity and active transport options within and to the Precinct that will improve worker, visitor and resident well being, while enhancing the sporting focus Precinct and Dubbo. The following actions are recommended:

1. Fund and commence works on the velodrome and sports hub, works to include road and pathway connections as indicated on master plan map. Additional funds may be able to be sought via the Regional Sports Infrastructure Fund.
2. Undertake a detailed investigation of how to fund and construct the central public space to unlock interest in the area and proceed to decision on timing the commencement of this project based on this investigation. Utilise pop up markets to support the ultimate function of this space as the precinct develops. Funds may be able to be sought from the Stronger Country Communities Fund.
3. Construct and line mark active transport linkages on current public land/roads. Other linkages to be provided as development proceeds.
4. Construct the North-South cycle path / walkway connections from the River Street extension to the central park. Seek funding via the Growing Local Economies Fund.
5. Undertake an active travel program for staff and students of key precinct organisations.

6.7. Strategy 7 – Improve transport infrastructure connections and links

Strategy 7 directly aligns with Principle 6 of the Precinct Master Plan, directly identifying the need for improved transport connections to enhance connectivity within the precinct, supporting precinct development and growth. It is noted that aspects of this strategy will provide broader benefits for the city of Dubbo, in particular the potential River Street extension. The following actions are recommended:

1. Construct the River Street extension link, timed to coincide with finalisation of the sports hub and velodrome. Seek funding via the Growing Local Economies Fund and via RMS funding linked to the River Street Bridge, should it be progressed.
2. Construct / connect the east/west & north/south connections through the Dubbo Hospital site, noting the need to maintain access restrictions for hospital operational safety, particularly in proximity to logistics and the helipad area. Detailed investigations to support the sequencing and to maintain the operational safety and efficiency of the hospital should be undertaken prior to these works being designed. Seek funding via the Growing Local Economies Fund.
3. Remove fence barriers from strategic link locations across the precinct.
4. Conduct a public transport study to analyse the viability of re-routing public transport to go through the precinct, connecting the hospitals, sports hub and universities to the network.
5. Fund one of the two identified locations for car parking on the Dubbo Hospital site as designated day time staff car parking, freeing up spaces in the front of hospital car park for patients and families.

7. LIST OF REFERENCES

The following is a list of references, provided by order of appearance.

1. Dubbo Regional Council, Draft Employment Lands Strategy, November 2018, pg.10
2. Household and Dwelling Projections Data (Dubbo LGA) <https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections>, accessed 8 November 2018.
3. Economy Profile – Dubbo Region, Unemployment, <https://www.economyprofile.com.au/dubbo/regionalcouncil/trends/unemployment>, accessed 15 November 2018.
4. Dubbo Regional Council, Draft Employment Lands Strategy, November 2018, pg.27
5. Census Quick Stats, Western Plains Regional LGA (Dubbo), http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/1011?opendocument, accessed 8 November 2018.
6. Household and Dwelling Projections Data (Dubbo LGA), <https://www.planning.nsw.gov.au/Research-and-Demography/Demography/Population-projections>, accessed 8 November 2018
7. Dubbo Regional Council, Draft Employment Lands Strategy, November 2018, pg.14
8. Destravis Pty Ltd, Tweed Health Precinct Background and Scenario Analysis Report, October 2018.
9. Destravis Pty Ltd, Tweed Health Precinct Background and Scenario Analysis Report, October 2018, pg. 30-32
10. Destravis Pty Ltd, Tweed Health Precinct Background and Scenario Analysis Report, October 2018, pg. 30-32

APPENDIX A: STAKEHOLDER CONSULTATION MINUTES

APPENDIX B: DESIGN CHARRETTE – TRANSCRIPT OF OUTPUTS