LEETON
SHIRE COUNCIL

SEPARATE ATTACHMENTS FOR ITEM 7.8 & ITEM 7.9

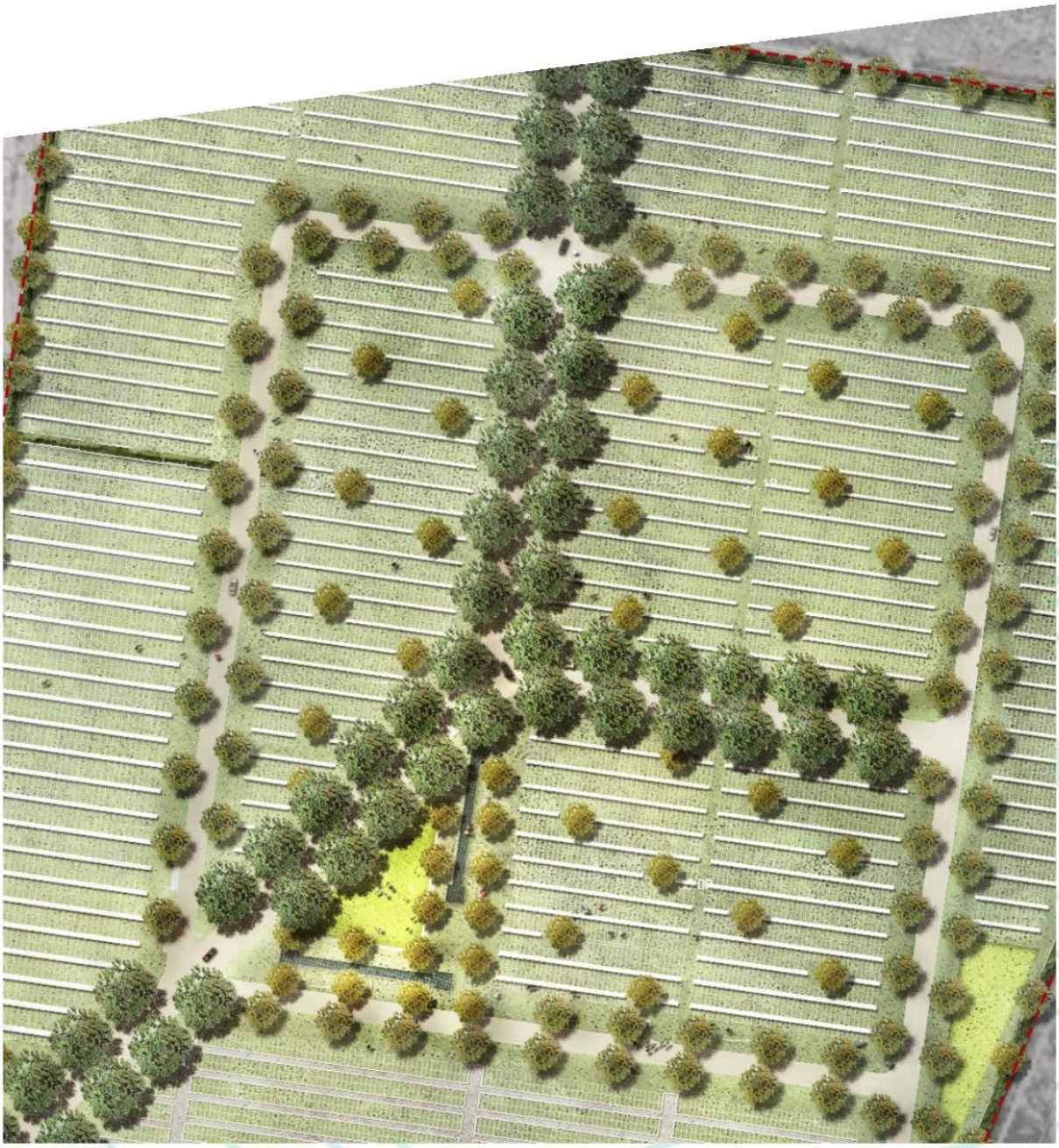
ORDINARY COUNCIL MEETING
26 April 2023
7:00PM

Content Page No

Florence Jaquet
Landscape architect
Cemetery specialist

Leeton Cemetery Masterplan

April 2023



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Prepared for Leeton Shire Council

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Revised:

PARTICIPANTS

We acknowledge the participation of the following trust members, contractors, and sub-consultants:

Russ Allison	Director	Changing Places
Josh Clyne	Manager Open Space & Recreation	Leeton Shire Council
Adrian Edgecome-Lucas	Special Projects Manager	Leeton Shire Council

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INTRODUCTION

BACKGROUND

The existing Leeton cemetery has served the local community since 1912, date of the earliest recorded burial. Between 1914 and 1957, the management of the cemetery was under the control of volunteer representatives of various denominations. Since 1957 Leeton Shire Council (LSH) has been responsible for the considerable improvements to the grounds, including the introduction of the rose garden and lawn cemetery as well as its on-going management.

PURPOSE OF THIS MASTERPLAN

LSH is now seeking a Masterplan to:

- Understand existing conditions, local demographics and current trends,
- Engage with stakeholders and the local community,
- Be accessible by vehicle and pedestrians to create a positive visiting experience,
- Cater for the living, recognising that a high level of amenity and excellent facilities are important to volunteers, workers and visiting families. Offer peace, comfort, and tranquillity for community members,
- Incorporate a variety of interment options, including new ones,
- Estimate the burial yield.

OBJECTIVES

The Masterplan shall deliver the above aims by:

- Guiding the Cemetery Trust in the future development of the cemetery site,
- Ensuring the natural beauty of the site is enhanced and accessible for future generations without compromising its historical values,
- Providing facilities that are inter-generationally sustainable,
- Opening the site up to a wider range of the community and enabling access for less-able persons of all ages,
- Improving revenue potential,
- Provide an affordable and staged way forward.

METHODOLOGY

Briefing meeting and site visit (10-11th August 2022): An initial site meeting for a detailed briefing to discuss the scope of the services and the issues at hand.

Data Gathering (August – September 2022): additional survey, photographic records, stakeholder lists.

Analysis: Planning controls, geotechnical information, climate, water availability, current accessibility, topography and surface run-offs, together with a visual analysis conducted on site.

No information was available on existing vegetation.

The typical agricultural patterns of the region together with the influence of Walter Burley Griffin on the town's layout were also noted and considered as part of the research into what makes Leeton a unique town.

An Analysis document was produced accordingly (Appendix 1).

Stakeholder Consultation:

Approached the following organisations for feedback on their experience as users/stakeholders for the cemetery.

Their anonymous feedback is recorded in Appendix 2

- Leeton & District Aboriginal Land Council
- Leeton Family & Local History Society
- Leeton Multicultural Support Group
- Presbyterian Church
- St John's Lutheran Church
- St Joseph's Catholic Church
- St Peter's Anglican Church
- Uniting Church
- Watkins Funeral Directors & Monumental Masons.

Preliminary Masterplan Workshop: The site analysis, preliminary Masterplan and "Way forward" were tabled at two (2) meetings attended by Josh Clyne and Adrian Edgecombe-Lucas, on 29th September and 6th October 2022.

Draft Masterplan: Following feedback from the above workshop, the draft Masterplan and report were prepared for consideration by Council.

Public Consultation: Following approval of the plans by Council, the Draft Masterplan was exhibited for public comments between 28th February and 28th March 2023.

Final Masterplan: Feedback was collated and incorporated into the final plan when and where appropriate, for LSC's endorsement (Refer Appendix 3).

ANALYSIS

CONTEXT

The town of Leeton was designed by noted architect Walter Burley Griffin in the early 20th Century (c.1914) , as part of the Murrumbidgee Irrigation Scheme. Some of its original design is still visible today, although not fully realised as intended.

The town of Leeton, situated in one of the most productive regions in the state, benefiting from the MIS and the plentiful water supply it offers, to grow citrus, rice, cotton and wheat.

The cemetery is located on Boronia Rd, 3km North of the centre of Leeton. It is therefore quite remote from the town centre and generally accessed by car by the majority of mourners.

The "extension site", currently not used for cemetery activities, is also accessible from Lonnie Rd.

Both roads are rural roads with no public footpath and a speed limit of 80 km/hr, making it unconducive to pedestrian access.

Issues for consideration:

- Ensure sufficient onsite parking for large funerals.
- Consider the agricultural heritage and the legacy of Walter Burley Griffin, in the design interpretation.

Fig.1. *Zoning map*

Fig.2. *Cultural map*

PLANNING CONTROLS

The site is currently zoned "Special Activities".

The LSC LEP does not have any requirements for "landscaped cemetery buffers". However, the Voluntary Code of Practice (Issued by Cemeteries and Crematoria NSW, in collaboration with NSW Planning, Industry & Environment in February 2020) suggest that buffer zones be considered, in particular against residential areas. No specific dimensions are given.

Issues for consideration:

- Ensure a minimum 5m deep landscape buffer along boundaries in new areas to be developed, especially adjacent to residential properties.

CULTURAL HERITAGE

The site sits on the traditional lands of the Wiradjuri nation. The Goanna is the overarching totem for its people.

It is unknown if Aboriginal artefacts are likely to be encountered on the site, but none have been reported to date.

The site is thought to have been managed as an orchard in more recent history, although there are no visible signs left on site from such activity.

Issues for consideration:

- There will be reporting requirements under NSW Legislation, should artefacts be found as part of grave digging activities.
- The site layout could incorporate an orchard-like pattern to commemorate its past.
- Interpretation materials and/or detailed design could incorporate references to the Goanna, subject to permission from the Traditional Owners.

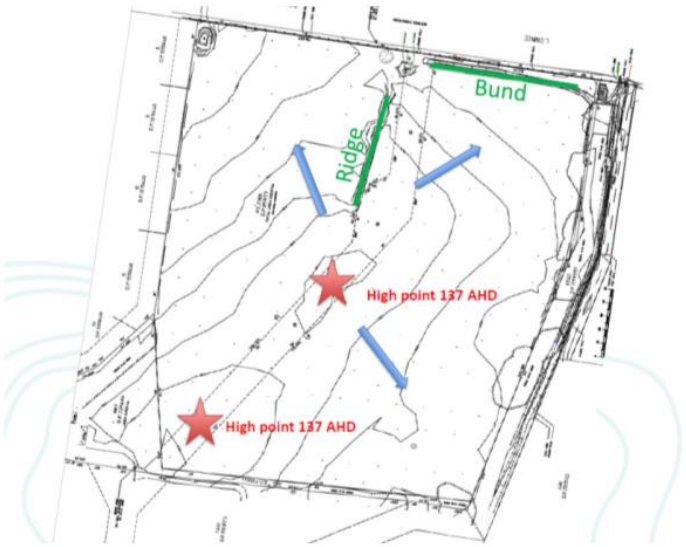


Fig.3. *Slope analysis and contours map*

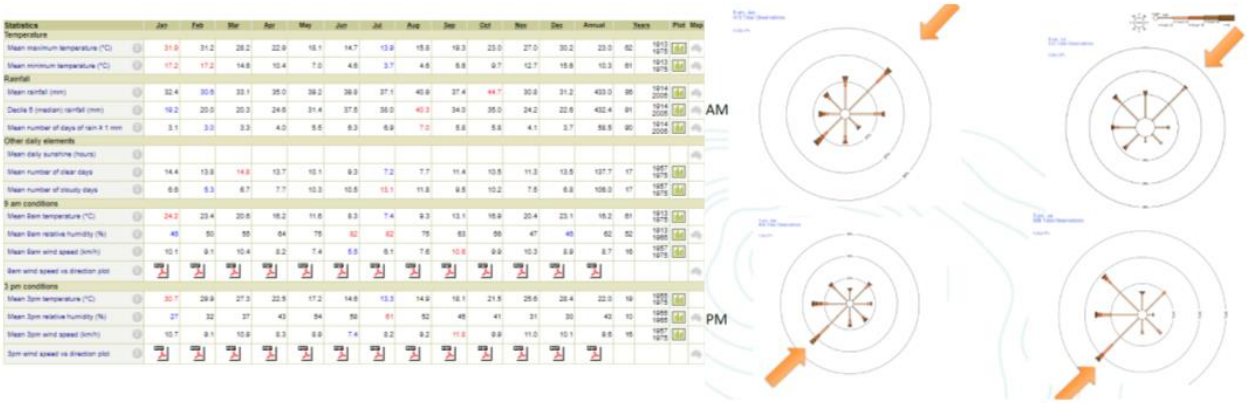


Fig.4. *Rain map/wind rose*

#	Depth/type
BH1	4.5m-silty sand
BH2	3m – silty sand
BH3	3m – silty sand
BH4	3m – silty sand
BH5	3m –Silty sand
BH6	3m –Silty sand
BH7	3m –Silty sand
BH8	3m –Silty sand
BH9	3m –Silty sand

No groundwater intersected

No constraints

Fig.5. *Soil map*

TOPOGRAPHY & CLIMATE

The site is extremely flat with average gradients of only 1(V):50(H) or 2%.

Prevailing winds come from the North-East in the morning and from the South-West in the afternoon throughout the year. The majority are below 10 km/hr and therefore not uncomfortable to mourners visiting the site.

Issues for consideration:

- Provide "accessible/DDA-compliant" footpaths where possible.
- Wind breaks are unlikely to be necessary.

GROUND CONDITIONS

The site's soil profile was tested by Aitken Rowe Testing Laboratories in February 2020.

All boreholes indicate a highly permeable silty sand profile of depths between 3-4.5m.

No groundwater was intersected. Although the test was carried out in summer, it is not expected that groundwater would be present in winter either. In fact, anecdotal evidence from the gravediggers suggest it has never been an issue.

Issues for consideration:

- No constraints on layout

STORMWATER

The Trust supplied a plan of the current stormwater management initiatives on site. These have been develop over the years to manage high rainfalls on a steep site, which has led to high run-off velocity and erosion.

Stormwater management and its impact on this site is outside of a landscape architect's expertise, therefore specialist advice was sought to supplement our knowledge.(Refer proposal section)

Issues for consideration:

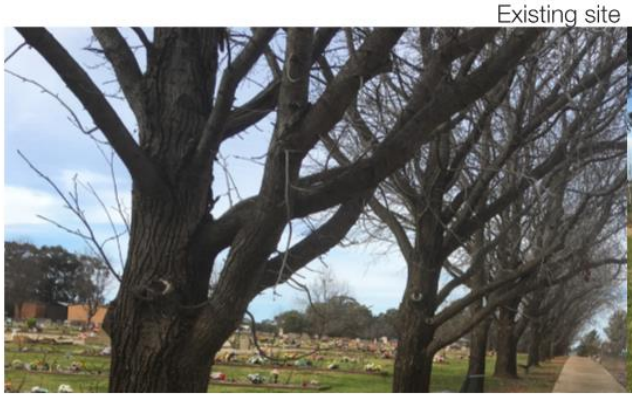
- Velocity of run-offs on the roads when and if sealed? Would modifications to the current stormwater system be required as a result?
- Collection/retardation on site required?
- Drainage of burial areas to capture run-offs which render the lawns too soggy for traffic and grave digging?

Exotic avenue planting

Native perimeter planting

Fig.6. *Vegetation & Fauna*

Existing site



Proposed site

Fig.7. *Landscape character and views*

VEGETATION & FAUNA

With the exception of a few trees along the southern boundary of the new extension site and one tree at the northern entry point, the parcel of land under consideration for the Masterplan is almost devoid of trees.

An arborist assessment of the health of these trees is still to be carried out.

Within the existing cemetery, the majority of the boundary/buffer plantings are natives, whilst the internal paths and roads are lined with deciduous exotic trees.

The cemetery contains a large number of rose bushes, both integrated into the lawn beams and in memorial gardens. Although roses grow well in the region, their maintenance regime is very high.

All grassed areas are regularly mown.

Issues for consideration:

- Continue the theme of exotics along roads and paths for summer shade and winter warmth.
- Continue the main avenue planting into the new site, using same species, for consistency.
- Continue the theme of native buffer plantings for integration into the surrounding landscape and visual protection from adjacent residential properties.
- Limit further rose planting.

LANDSCAPE CHARACTER AND VIEWS

As previous mentioned the existing cemetery and the new extension site are flat.

The existing cemetery is divided into smaller sections by deciduous tree rows.

Generally, the cemetery is well maintained. The lawns are green and the monumental sections are left as bare-earth for ease of maintenance.

There are no trees within the burial areas and shade is limited to avenue trees bordering selected roads and paths.

There are very few garden beds on site, except for two rose gardens.

The most outstanding feature on site is the grand entrance, flanked with large deciduous trees, although a portion of the avenue is missing where the temporary central carpark/toilet is.

The community values the “neat” character of the existing cemetery.

The main loop road is sealed (bitumen) with kerb and channel.

Issues for consideration:

- The retention and extension of the main treed avenue for a sense of arrival and destination.

Fig.8. *Vehicular accessibility*

Fig.9. *Buildings and structures*

VEHICULAR ACCESSIBILITY

To and Into the site

Although distant from the centre of the township, the site is easily accessible by sealed roads.

The entrance is clearly visible, yet set back to allow for car to stop in front of the gates when closed.

The current cemetery entrance is located opposite Cassia Rd and has good sightlines.

The site gated and closed between dusk and dawn.

There has been no report of vandalism.

Main internal roads are sealed and wide (5.5 to 7.93 m wide) with an expectation that cars may park on the grassed verge, leaving enough width for one car to go past.

This practice has the potential to offer 253 parking spaces throughout its network of access roads.

There is also one large sealed carpark and a central temporary unsealed carpark near the toilets (both potentially accommodating 30-40 cars)

Issues for consideration:

- Permanent carparks should only be provided on land unusable for burial.
- Temporary carparks can be accommodated anywhere on site until they are reclaimed when the cemetery runs out of burial space.

PEDESTRIAN ACCESSIBILITY

As mentioned in the "Context" chapter, the site is isolated from the centre of town with no public footpath, making it unconducive to pedestrian access. Although "suburbia" is slowly encroaching nearby, it is expected that the vast majority of visitors and mourners will come by car.

The cemetery is not well services by public transport.

Internally, the cemetery is very flat and easily trafficable.

In places, the walking distance from a parked car to a burial area can exceed 90 metres which, regardless of weather conditions, will be a long distance to walk for funeral directors and mourners.

The existing toilets are accessible from the unsealed carpark.

Issues for consideration:

- A pedestrian network connecting key areas of interest within the existing and new sites would add to the enjoyment of the cemetery.
- Shorten walking distances in new site, wherever possible.
- Shade and seating
- No need for additional toilet on new site as people travel by car to the cemetery.

BUILDINGS AND STRUCTURES

There is one toilet block on site (existing cemetery) and no public shelter.

All other buildings and structures are private Cappellas, and therefore their maintenance is the responsibility of the families. It should be noted that this does not absolve the Council of any liabilities as these structures may become dangerous to the public if and when they ceased to be adequately maintained.

Issues for consideration:

- The long term risks of private Cappellas on Council.

Fig.10. *Lawn graves*

Fig.11. *Vault*

Fig.12. *Monumental graves*

Fig.13. *Cappella*

Fig.14. *Rose garden*

Fig.15. *Remembrance wall*

INTERMENT TYPES

There are currently 4 (four) types of interment present on site:

Burial

- Lawn graves: with plaques on concrete beams, with a garden inset and a rose bush, double-sided. This is the most popular burial product and also the cheapest. It is a non-denomination section.
- Vaults or above-ground monumental burials
- Cappellas or private above-ground Mausolea. These come in different sizes and orientation, some back to back, some misaligned with their neighbours. The Cappella area is also infilled with vaults. The layout of the area would benefit from stronger guidelines.
- Full Monumental: (only available for reservations and re-openings) Headstone and stone ledger. The majority are single-sided and facing East. These are grouped according to denominations.

Cremated remains

- In-ground in a mulched garden bed with standard roses.

Remembrance

- Remembrance Wall (no interments)

Demand

The amount of land used in the cemetery, each year, for burial gives an indication of when the cemetery may run out of room for burials. As such, we look at the number of first interments in each burial product to establish current demand for each product and map out the rest of the undeveloped land accordingly.

The "lifespan" of the cemetery can only be an estimate and can vary considerably depending on the percentage of second burial, changes in demographics, changes in interment methods and trends.

Over the last 20 years, the average annual demand is 87 bodily interments per year.

Based on recent years (since 2018), the statistics for first interments are as follows:

Burial types	Current unused stock	Demand/year	Year of Stock
Full monumental	0	0	0
Lawn graves	583	77	7.5
Vaults	26	4	6.5
Cappella	29	4	7
Cremated remains	N/A		
In-ground	105 approx.	4	26
Remembrance wall	90+ approx.	n/avail.	n/avail.

Issues for consideration:

- Current trends indicate that lawn graves and cremation are on the rise.
- "Undeveloped land" should be allocated according to current demand, whilst remaining flexible to allow for changes in trends.

PROPOSALS

VISION

Aims

- Guide the development of the Leeton Cemetery for the next 50-100 years,
- Improve accessibility and recreational potential of the site.
- Provide a quality space for reflection and remembrance for all cultures.
- Provide opportunities for a range of interment choices.

Vision

The vision for the site is to provide:

- A respectful cemetery space and scenic environment, open to all,
- A unique cemetery for a unique town,
- A cost effective operation.

Environmentally Sustainable Development (ESD)

The Masterplan promotes ESD through the conservation and ecologically sustainable use of its natural resources by:

- Conserving the Local Ecological Community and the fauna it supports
- Enhancing the vegetated areas with targeted revegetation and removal of noxious weeds.
- Protect any hollow trees and vegetation known to support native or threatened fauna species
- Select species adapted to the site conditions for long term survival.
- Minimise water wastage.
- Provide ample shade to limit the “Heat-Island Effect” on site.

MASTERPLAN

It should be noted that the current cemetery is well maintained, thanks to the effective management by Council staff. The existing cemetery generally satisfies the needs of the Community in terms of its layout, maintenance requirements and products on offer, whilst acknowledging that further improvements can be made.

The Masterplans aims to respond to the specific requirements highlighted in the briefing and the stakeholder comments received to date:

- Advice on roads and drainage (future roads and parking)
- Accessibility to the site and internally.(Walking distances to graves)
- Areas for contemplation associated with water features, ample seating and shade.
- Allocation of land for new burial areas and memorial gardens/walls based on current products.
- Recommendations for new products and allocation of land for their trial as well as offer recommendations on general opportunities offered by its unique qualities.

A number of recommendations follow (R1- R27), for consideration by Council.

Roads

The road network needs to respond to the local issues, which at Leeton, revolve around accessibility to gravesites for funeral directors and mourners. This needs to be balanced against the cost of road construction and its perpetual maintenance:

- Too few roads lead to longer walking distances for all.
- Too many roads lead on-going costs as well as taking up valuable land which could otherwise be used for burial, ultimately leading to the cemetery running out of space before it should.

Fig.16. *Road System*

Fig.17. *Parking locations*

The site has the advantage of being flat which reduces constraints and simplifies accessibility for all (cars, hearses, pedestrian and funeral workers).

It is proposed to maintain the main entrance road width (7.5 m approx.) into the extension site to strengthen the visual appeal of this significant avenue.

All secondary roads are proposed as 5.5m wide sealed roads, allowing one car to park on the road verge whilst another can pass it comfortably. These roads are generally marked as one-way to improve traffic flow and minimise traffic congestion. As previously mentioned, minimising road widths and extent results in less costs and more land for burials.

Inspired by the geometry of Walter Burley Griffin, the main road layout is shaped with the "Y" which often characterises his work. The rectangular secondary road network represents the region's agricultural patterns.

Recommendations:

R1 Continue main entrance road into the extension site.

R2 Progressively add secondary roads (where shown) as the cemetery expands.

R3 Consider drainage with each road extension (Also refer Stormwater chapter)

Parking

The parking strategy is to provide:

- Parking on road verges
- Temporary parking where needed to be reclaimed as burial land when the cemetery is full.

The unsealed parking near the toilet facilities can be slowly reclaimed from the North to accommodate a full and expanding Vault section.

Temporary unsealed carparks can be accommodated close to new areas of development in the new site as the cemetery expands.

Recommendations:

R4 Parking is to be provided along road edges.

R5 Overflow unsealed parking may be provided on undeveloped burial land if required but is expected to be eventually removed to make way for burials in the long term.

R6 Permanent parking can also be removed to make way for burials when the cemetery is full.

Paths

Accessibility within the cemetery is an important consideration. It is in the spirit of the Disability Discrimination Act (DDA) which makes it "mandatory for all establishments and service providers, open to the public, to take reasonable steps to provide access for disabled people".

However, it is not practical to expect an accessible path of travel to all graves in any cemetery.

All facilities (shelters, toilets) should accessible (DDA compliant).

Most paths should be made accessible where possible by being sealed and connected to roads or parking zones.

When accessibility is not practical, ie. In burial areas, consideration should be given to an "equitable" access for all, allowing people with limited abilities to participate in the activities from a distance, in line with the spirit of the Act.. It may come in the form of seating on the edge of burial areas (for viewing from a distance) or by providing suitable mats for wheelchair access in grassed areas.(More difficult to manage without a permanent staff on site).

Recommendations

R7 Provide DDA compliant paths to new facilities (Open Air Chapel, shelters, selected respite areas and memorial gardens).

Fig.18. *Burial types*

Stormwater/Drainage swales

Generally, the strategy is to minimise wetness within the burial areas as it impedes vehicular and foot traffic. Therefore, the surface run-offs are to be collected on the roads edge, on top of the hill, prior to the water reaching the burial areas.

This can be done with spoon drains and, in selected places, gravel trenches.

All new infrastructure should be connected to the existing surface and sub-surface drainage system.

Recommendations:

R8 Develop a more detailed drainage solution with a qualified consultant or in-house.

Burial areas

The general trend in cemetery is that of non-denominational allocation, where all are interred together regardless of race and religion. It allows for flexibility in land-use, by avoiding the allocation of land to specific groups as this inevitably is over or under estimated. Plots are allocated based on style (Lawn/Headstone lawn/Monumental , etc…) rather than denomination.

This practice is currently encouraged in lawn sections. As denominational sections already exist and some of which have burial positions left within, these denominations can continue to bury in their own sections. Once these sections are full, new burial sections may become non-denominational.

In order to provide more interment and price choices for the community, it is proposed to offer the following products:

- Lawn plaques on beams, Currently using a perforated beams in rose bushes infill planting. Consider changing to a lawn grave with a flat concrete strip with 3 plaque options (direct fix, on granite base, on granite desk), in double-sided rows. Right of burial size 1.2m x 2.4m
- Lawn Headstone on beams, a lawn grave with a flat concrete beam onto which a headstone is built. Double-sided rows. We recommend setting a maximum headstone height of 700mm. Right of burial size 1.2m x 2.4m . As this is a new product, we recommend testing the market with a small area, ideally with a sample installed on site.
- Lawn Headstone in garden bed, a lawn grave adjacent to a garden bed into which a low headstone is set. We recommend setting a maximum headstone height of 700mm. Right of burial size 1.2m x 2.4m . As this is a new product, we recommend testing the market with a small area, ideally with a sample installed on site.
- Monumental, in ground grave with stone headstone and ledger, double-sided rows. Right of burial size 1.2m x 2.4m. Although this option has not been available for sometime, there is an opportunity to re-offer this option in the existing cemetery and the new site. We recommend re-testing the market with a small area, in infill areas within the existing cemetery, before allocating further areas in the new site.
- Vaults, above-ground, monumental grave, double-sided rows. Right of burial size 1.2m x 2.4m.
- Cappellas, above-ground burial in private Mausolea-type structures. We recommend strict guidelines around the sizes and orientation to minimise land wastage:
    - o Right of burial size 1.8m x 3.2m + 0.5m spacing between back to back structures.
    - o Families are able to purchase multiple rights of burial.
    - o Back-to back rows.
    - o Laid out in a pre-determined “village-square” pattern, with seating and shade plazas.
    - o With ample access for vehicles and lifting equipment.
    - o Be mindful of Council liabilities when these structures are no longer adequately maintained by families.

Fig.19. *Memorial gardens*

Fig.20. *Good, better, best*

Generally the cost of the burial plot and each individual placement will drive its classification as a "Good, Better, Best" product.

- Low capital cost and maintenance will be "Good".
- A mix of high and low capital cost/maintenance will be "Better".
- High capital cost and high maintenance, views, proximity to water features will be "Best".

Recommendations:

R9 Continue developing the cemetery as a predominantly non-denominational lawn cemetery.

R10 Change lawn graves to a simple concrete beam with no roses, to minimise maintenance.

R11 Establish new Headstone Lawn, Headstone in garden beds and Monumental sections on the periphery of the site, to limit visual impact.

R12 Consider offering different price levels based on location (subject to further advice from specialist consultant)

Memorial gardens (cremated remains)

In response to the brief, a series of water features link the proposed new Memorial gardens areas to the Capella "Village" with a tree-lined and paved promenade, flanking water reels and memorial gardens.

The potential for memorialisation of cremated remains is limitless on the site. The remains can be placed:

- Along the edge of the any garden beds, whether ornamental or for screening purposes (Along all boundary buffer zones in the Masterplan).
- In dedicated memorial gardens where space is not large enough for burials. (In the three triangular spaces earmarked on the Masterplan)
- In dedicated memorial gardens associated with water features. (Along the promenade area associated with the proposed water features/reels on the Masterplan)
- In niche walls (although these are becoming less popular).

It is preferable to develop the memorial gardens based on aesthetics, sound garden design, strong planting theme, minimal maintenance and with a layout that appeal to the general public.

Generally the cost of the Memorial Garden and each individual placement will drive its classification as a "Good, Better, Best" product.

- Low capital cost and maintenance will be "Good", including niche walls (due to their high density and lack of popularity in general)
- A mix of high and low capital cost/maintenance will be "Better"
- High capital cost, high maintenance and with good views will be "Best"

Recommendations:

R13 Develop new memorial gardens associated with the water features.

R14 Consider alternative ornamental plant species, other than roses which require pruning.

R15 Consider offering different price levels based on location (subject to further advice from specialist consultant)

Fig.21. *Traditional vs natural burial*

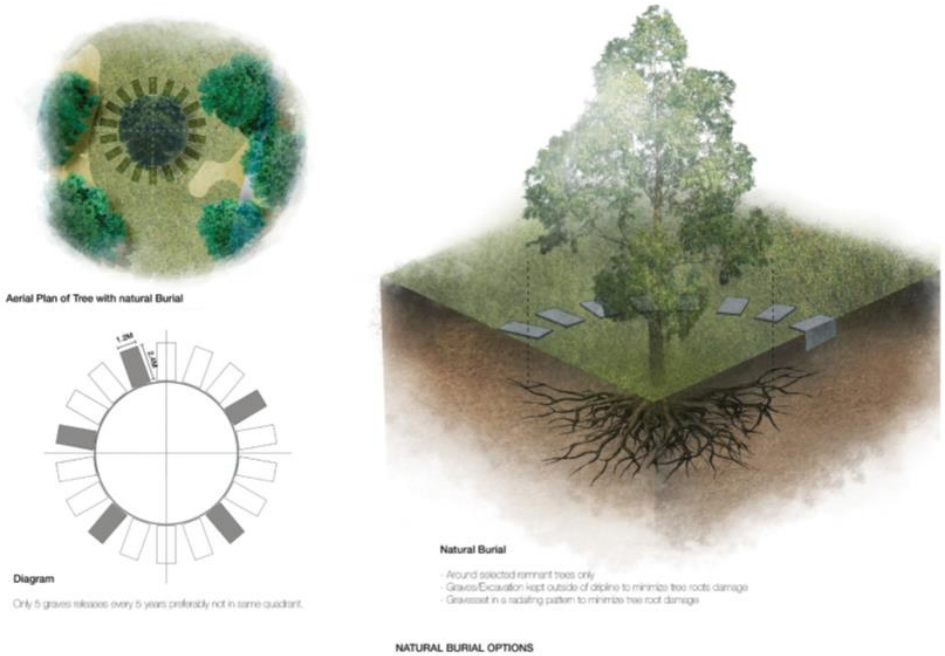


Fig.22. *Natural burial diagram*

Natural/Green Interments

Natural Interments consists of interments which are respectful of the environment and minimise their carbon and chemical footprint throughout the funeral process, from the body's preparation to the interment. It involves:

- No embalming
- No synthetic, metal, plastic materials, varnish or handles (Clothing/casket)
- Preference for bio-degradable coffins (cardboard, wicker basket, untreated wood, shroud)
- In a natural environment which does not require use of petrol driven equipment (e.g., mowers)
- Where the local ecology is encouraged to re-establish (tree planting, ground cover)
- With only bio-degradable markers or none. (then memorialisation can be done centrally).
- There are no paths, just understorey planting or mulch, in keeping with a natural forest.

It is gaining popularity overseas and in some parts of Australia and should be considered on a small scale as another option for the "environmentally conscious" individuals. (Refer Fig. 21)

Grave plots are to be set out radiating around trees, to minimise impact on roots. This could accommodate approximately 15 graves around one tree (See Fig. 22)

After burial has taken place, lower storey species should be encouraged by seeding or viro-cell planting to repair the damage caused by excavation and to minimise weed invasion.

Memorial positions are usually located close to the tree trunk, within the inner circle.

There is also a "greener" option for urns, called the "eco-friendly ash pod" from 'Living Legacy', which are chemical-free and are used for revegetation of ecologically degraded bushland (www.livinglegacyforest.com). It is based on the principle that the ashes support the growth of the vegetation above, contributing to the cycle of Life, where dead material contributes to the growth of new life.

In all cases, memorialisation should be encouraged as made of wood or other biodegradable and renewable materials.

Recommendations:

R16 *Test the market for interest in "Natural interments".*

R17 *If interest is there, develop a small portion of the site as a specific "Natural Interment Area", together with a clear memorialisation policy.*

Vegetation

General planting – New site:

It is proposed to continue the significant avenue planting flanking the main entrance drive into the new site, with similar planting buffers and species.

All secondary roads are be planted with smaller ornamental trees to provide shade to cars.

A grid of smaller ornamental trees is also proposed in the central "square" formed by the secondary roads, in a "orchard-like" fashion, as a commemoration of the site's past history and symbol of the region's role in food production in Australia. This tree grid is integrated into the burial layout, allowing for their selected or total removal when the cemetery reaches capacity and seeks more grave spaces.

A 5m wide landscape zone against residential properties is recommended as a buffer zone. This buffer zone should be devoid of burials but could accommodate ash interments.

Fig.23. *Proposed trees*

Fig.24. *Open air chapel*

In keeping with the character of the site, the planting selection should be:

- Mostly native and indigenous for the boundary planting. It will offer the best chance of survival as the species are already adapted to the environment, require minimal maintenance and will offer added habitat to local fauna.
- Mostly exotic for the streetscape, to mark the changing of the seasons and as a symbol of the Circle of Life. The establishment of these species will require some form of irrigation.

Although trees reduce the potential yield for burial, they provide valuable aesthetic benefits and shade. They also provide an opportunity to develop the site as a park and a valuable repository of rare trees which will become a legacy for generation to come.

With trees under which people congregate, comes the need for arboricultural risk assessment. Trees should be assessed regularly, and any recommended remedial works carried out by qualified contractors.

In general, tree species which provides all year interest should be selected using the following criteria:

- Proven performance /track record
- Resistance to disease/fruit fly
- Limited leaf and fruit litter
- Not prone to limb shedding
- Long lived.
- Tolerance to site and soil conditions
- Drought resistance /Limited need for irrigation

Memorial Gardens

Some mulched gardens with ornamental native planting should be introduced to add colour and to act as backdrop to memorial positions and increase their saleability. Bush and standard roses should be limited as their maintenance requirements are too onerous. Carpet roses could be considered as a compromise.

In areas where water is less abundant (e.g. under tree canopies or during drier months), we recommend the use of soil conditioner 'Terracottem' to assist with root growth and establishment and reduce water requirements. This product, which was originally developed for improving tree survival rate for African farmers in areas when famine was rife, has proven to be a powerful tool in environmental restoration here in Australia.

Recommendations:

R18 Plant all avenues for shade to parked cars.

R19 Add a grid of trees to the selected areas (refer Masterplan) for added amenity within the burial

R20 Conduct regular arborist assessments on all significant specimen trees within the cemetery site to ascertain their retention worth and any remedial works required to make them safe, especially where the graves or congregation occur within their dripline.

R21 Select a broad range of tree species to add seasonal interest to the landscape.

R22 Introduce some ornamental native garden beds on site.

R23 Establish a 5m wide native buffer zone along boundaries of the new site.

Fig.25. *Art work example*

Fig.26. *Potential fill areas*

Buildings/structures

It is understood that Council 's staff manages the operations of the cemetery and that Council's crew maintains the site. Both are conducted from the Council's office and depot, with little need for a presence nor large storage facilities on site. However, a small shed to store shoring equipment, mats, carpets and the like, may be beneficial to keep them safe and out of view.

The existing toilet is deemed sufficient to service the entire site (including the new site). As almost all visitors and mourners must drive to the site from town, they are able to use to their cars to seek a toilet. The cost of setting up and maintaining an additional toilet on the new site is therefore deemed unnecessary.

As there are currently no shelters on site, it is recommended to provide a large shelter in the new site. In line with current trends, this structure would also serve as an "Open Air Chapel", a covered structure that would offer seating and be large enough to accommodate a group of 10-15 people. This would enable the space to be used for a small funeral gathering as well as for recreational and respite purposes.

Recommendations:

R24 Consider an Open Air Chapel/shelter for non-religious and respite use.

Passive recreation

Providing a scenic cemetery with a park-like feel and tranquillity is an important part of the concept.

There are opportunities for outdoor sculptures to adorn the landscape at key focal points. These offer a great platform for local artist to exhibit their work.

Recommendations:

R25 When designing any part of the cemetery, consider the scenic and recreational values of the site at all times. Design as if it was a park.

R26 Commission key sculptures from local artists if possible.

Ground modelling

All cemeteries produce excess spoil from grave excavations which should be used on site to avoid costly transport and disposal. It is therefore important to find ways to dispose of it on site.

Surplus fill from burials (and suitable imported fill) can be spread in the northern portion of the site, to fill the existing depression in the terrain. This area will be out of way for many years to come. When the cemetery development footprint comes close to it, surplus fill may need to be carted away.

Recommendations:

R27 Re-use all spoil on site in nominated area.

Yield

The yield is generally only calculated for burials as the potential for ash interment is almost limitless (and therefore unquantifiable). The yield gives a general estimate of how many new graves have been created, and therefore how long the cemetery will be in operation for, based on current and known demand.

The table herein (Fig 23) indicates a potential for 13539 new graves on site. At a rate of 25 burials per year and with a current stock of 638 graves (Refer table page 17) , the cemetery will therefore cater for burials for the next 567 years.

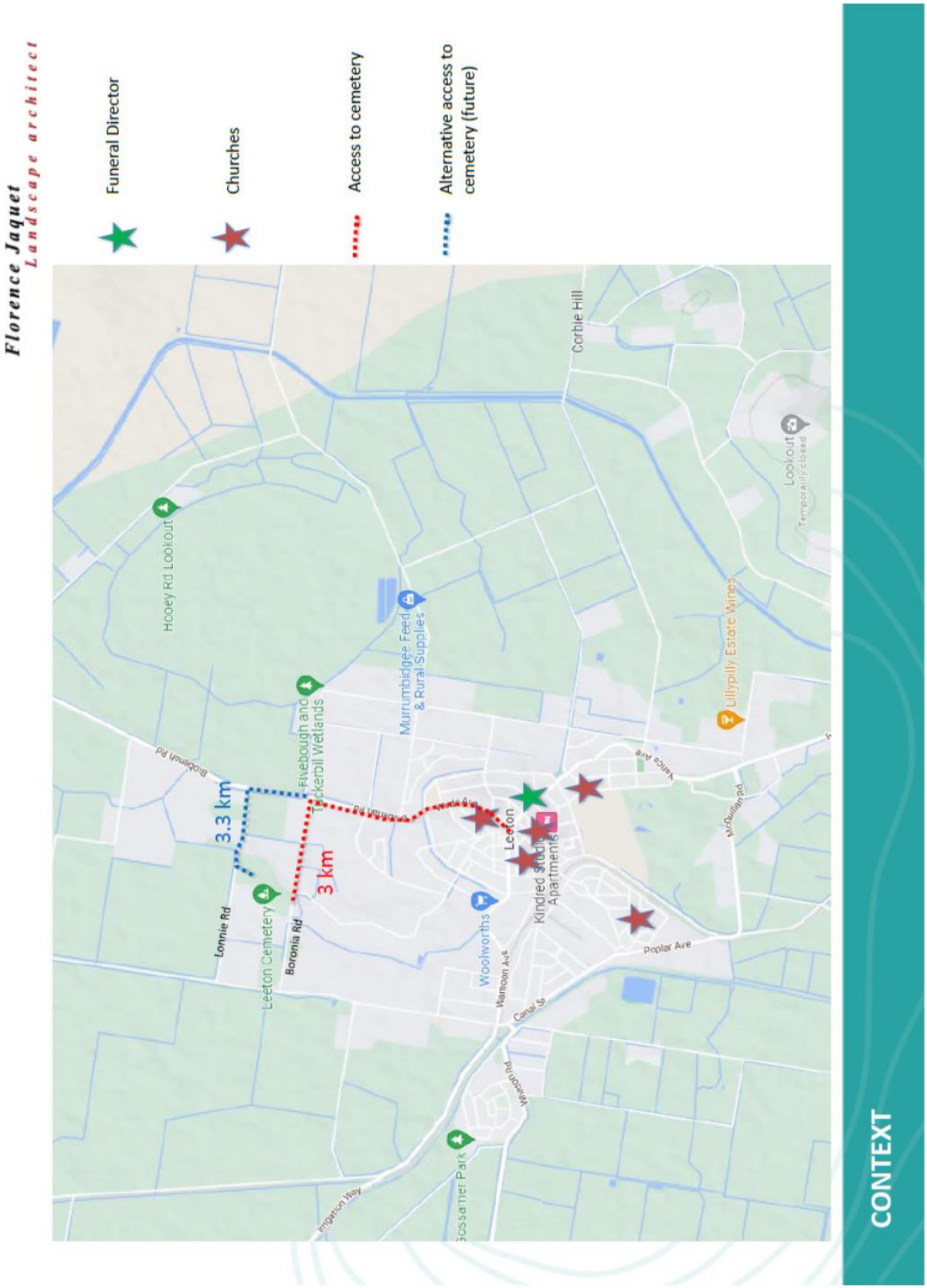
Burial types	Current stock	New stock	Total Yield	Life span
Lawn graves	583	9884	10467	135
Headstone lawn graves	0	837	837	N/A
Vaults	26	0	26	6.5
Monumental	N/A	2530	N/A	N/A
Cappellas	29	288	317	79
TOTALS	638	13539	14177	166

Fig.27. *Yield calculation*

APPENDICES

Leeton Cemetery Masterplan

APPENDIX 1 ANALYSIS



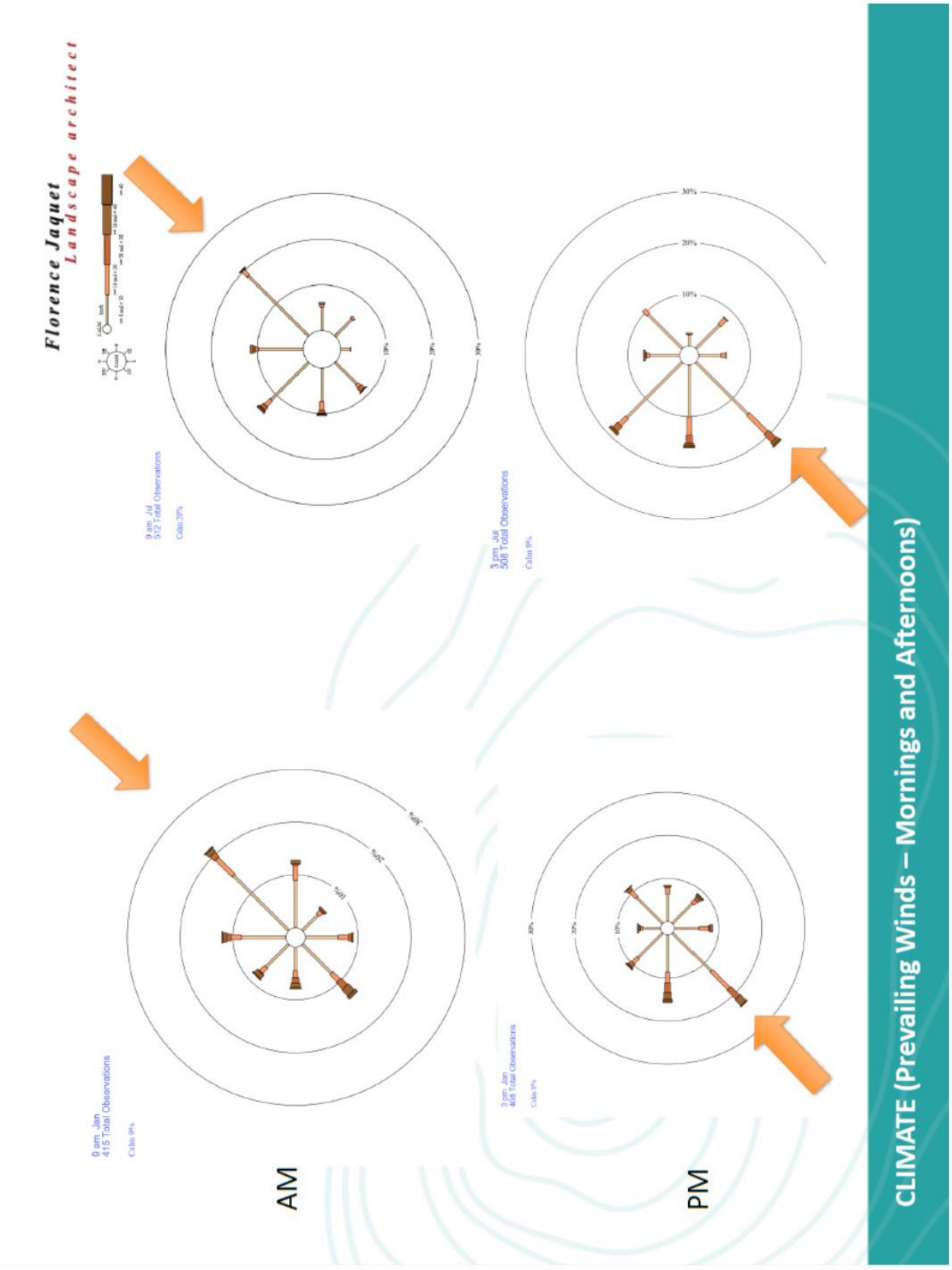
CLIMATE (Temperature)

Sub-Heading

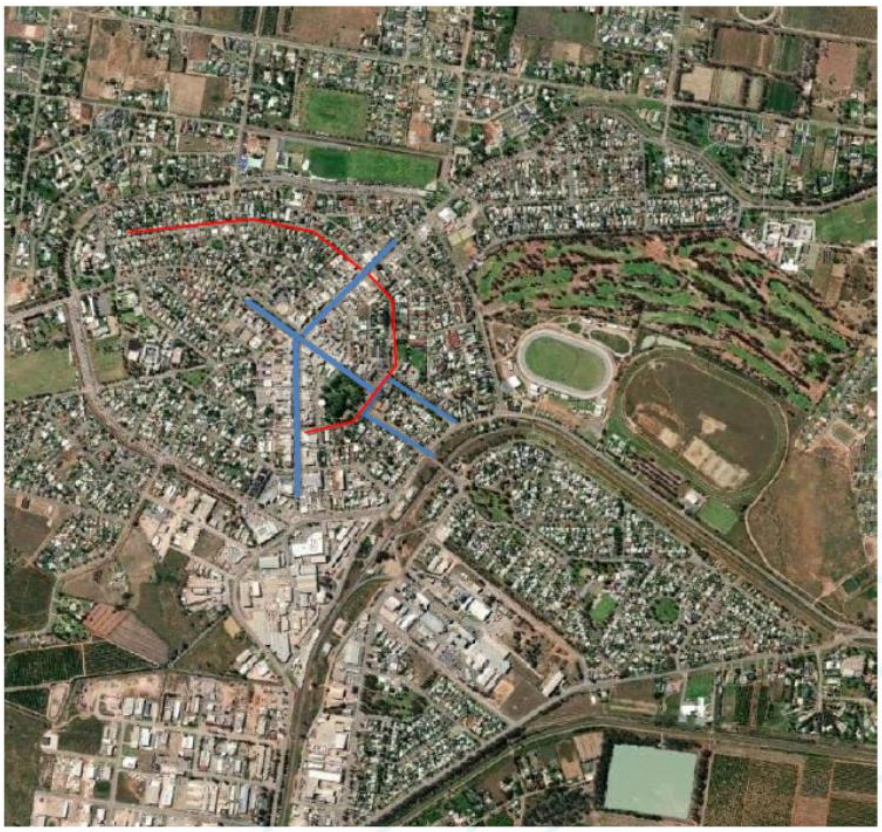
Copy

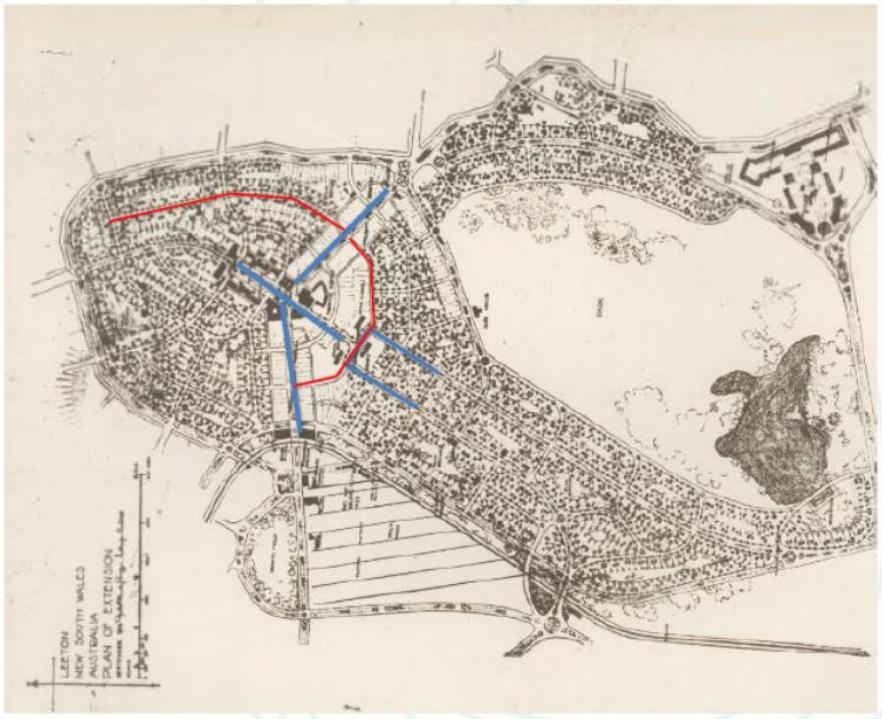
Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	Years	Plot	Map
Temperature																
Mean maximum temperature (°C)	31.9	31.2	28.2	22.9	18.1	14.7	13.9	15.8	19.3	23.0	27.0	30.2	23.0	62	1913 1975	
Mean minimum temperature (°C)	17.2	17.2	14.8	10.4	7.0	4.6	3.7	4.6	6.6	9.7	12.7	15.6	10.3	61	1913 1975	
Rainfall																
Mean rainfall (mm)	32.4	30.6	33.1	35.0	39.2	39.8	37.1	40.9	37.4	44.7	30.8	31.2	433.0	88	1914 2005	
Decile 5 (median) rainfall (mm)	19.2	20.0	20.3	24.6	31.4	37.5	36.0	40.3	34.0	35.0	24.2	22.6	432.4	91	1914 2005	
Mean number of days of rain ≥ 1 mm	3.1	3.0	3.3	4.0	5.5	6.3	6.9	7.0	5.8	5.8	4.1	3.7	58.5	90	1914 2005	
Other daily elements																
Mean daily sunshine (hours)																
Mean number of clear days	14.4	13.9	14.6	13.7	10.1	9.3	7.2	7.7	11.4	10.5	11.3	13.5	137.7	17	1957 1975	
Mean number of cloudy days	8.6	8.3	8.7	7.7	10.3	10.5	13.1	11.8	9.5	10.2	7.5	6.8	105.0	17	1957 1975	
9 am conditions																
Mean 9am temperature (°C)	24.2	23.4	20.6	15.2	11.0	8.3	7.4	8.3	13.1	16.9	20.4	23.1	15.2	61	1913 1975	
Mean 9am relative humidity (%)	46	50	55	64	75	82	82	75	63	56	47	46	62	52	1913 1965	
Mean 9am wind speed (km/h)	10.1	9.1	10.4	8.2	7.4	6.5	6.1	7.0	10.0	9.9	10.3	8.9	8.7	16	1957 1975	
9am wind speed vs direction plot																
3 pm conditions																
Mean 3pm temperature (°C)	30.7	29.9	27.3	22.5	17.2	14.8	13.3	14.9	18.1	21.5	25.6	28.4	22.0	19	1955 1975	
Mean 3pm relative humidity (%)	27	32	37	43	54	58	61	52	45	41	31	30	43	10	1966 1985	
Mean 3pm wind speed (km/h)	10.7	9.1	10.9	8.3	6.9	7.4	6.2	8.2	11.0	9.9	11.0	10.1	9.0	19	1957 1975	
3pm wind speed vs direction plot																

red is highest value blue is lowest value


Florence Jaquet
Landscape architect
9 am Jul
512 Total Observations
3 pm Jul
506 Total Observations
9 am Jan
415 Total Observations
3 pm Jan
408 Total Observations
AM
PM
CLIMATE (Prevailing Winds – Mornings and Afternoons)

Florence Jaquet
Landscape architect



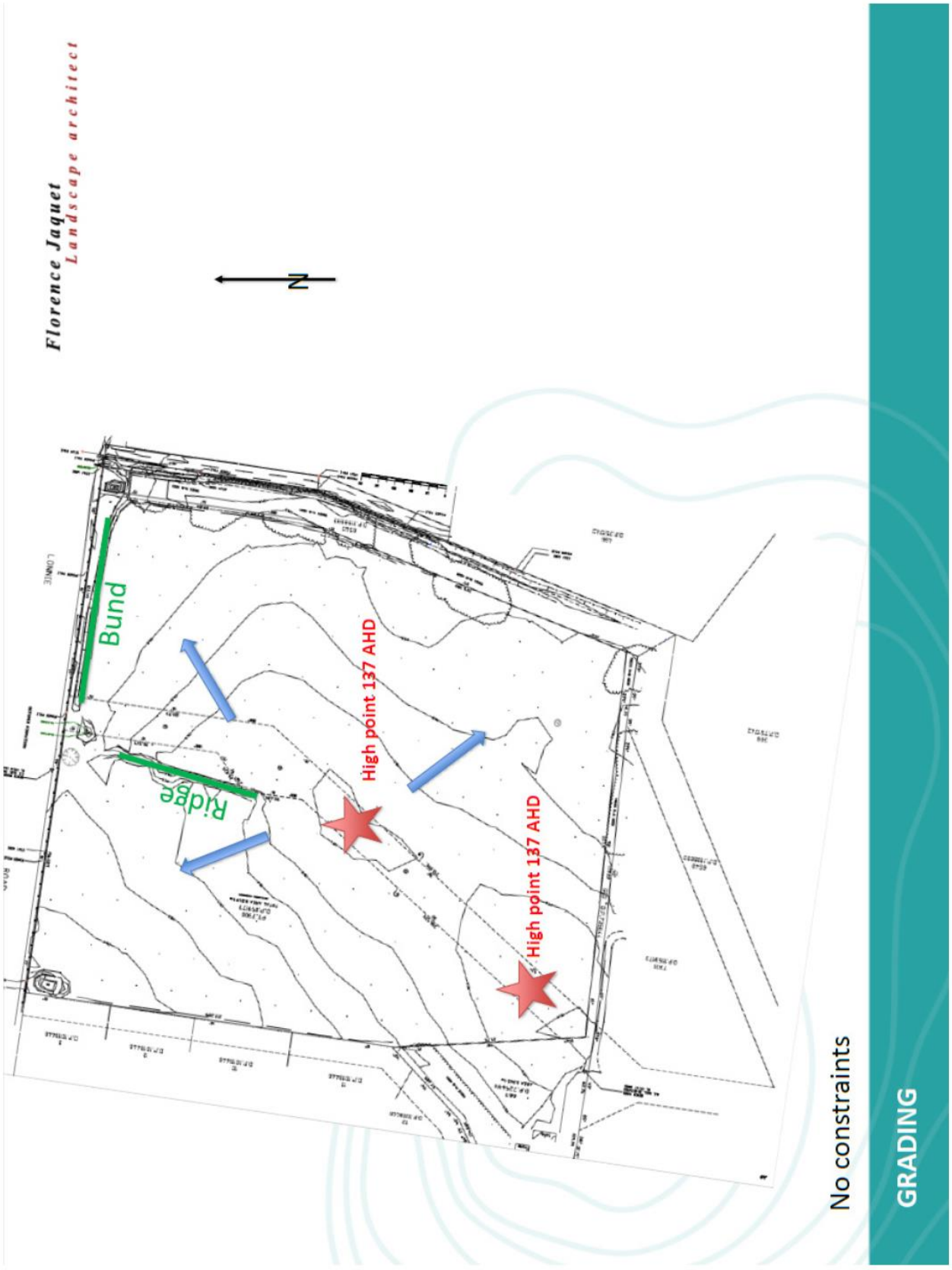


Walter Burley Griffin

Florence Jaquet
Landscape architect

Agriculture patterns

CHARACTER


Florence Jaquet
Landscape architect
N
Bund
Ridge
High point 137 AHD
High point 137 AHD
No constraints
GRADING

Florence Jaquet
Landscape architect

#	Depth/type
BH1	4.5m-silty sand
BH2	3m – silty sand
BH3	3m – silty sand
BH4	3m – silty sand
BH5	3m –Silty sand
BH6	3m –Silty sand
BH7	3m –Silty sand
BH8	3m –Silty sand
BH9	3m –Silty sand

No groundwater intersected

No constraints

SOIL CONDITIONS (Aitken Rowe – Feb 2020)


Florence Jaquet
Landscape architect
Boronia Road
Boronia Road
P
P
P
CURRENT VEHICULAR MOVEMENT


Florence Jaquet
52.12 m
94.86 m
55.67 m
Search
ACCESSIBILITY

APPENDIX 2 INITIAL STAKEHOLDER CONSULTATION

Florence Jaquet
Landscape architect

11/8 long chat , very helpful, concerned about the length of rose bush rows- hard to move between rows... very positive about cemetery maintenance & appearance. Keen to have space for reflection eg rotunda or seating in nice garden area surrounds. Said people basically happy with cem appearance and made no suggestions re alertate burial options. Italians basically in vaults and rest like rose bush lawn and headstones. Watkins longstanding business that is now ownd by Alan Harris MacDonald (large funeral business) but trades under old name. Concerned that becuase of the road layout that at times its a very long walk to get to a grave.

11/8 Main concern is "no gaps in the rose rows and long distances from the road

STAKEHOLDER CONSULTATION

APPENDIX 3 PUBLIC CONSULTATION

Questions	Comments	Responses
Q1: The above map illustrates the long-term vision for the Leeton cemetery (this map and other relevant images can be viewed in high resolution via the image tab on the right-hand side of the project view). Do you support the proposed layout for this significant development?	1. Spacing between the Monumental graves, with a small path around each grave to be able to place flowers, and clean the monument. How can one place flowers if there is no space between, or behind?	Spacing between plots/monuments is not recommended as it takes up too much land & encourages weed establishment and therefore additional maintenance. Typically, burial rights abutt as shown.
Q3: The expansion of the Leeton cemetery is proposed to be implemented in stages over many decades. The above map shows where the Stage 1 development will be undertaken. Please choose which features will be most beneficial to the residents of Leeton.	1. Additional gravesites Memorial gardens (sections in light green) Extension of existing Capella village 2. Additional parking More trees and shaded areas	1. Noted 2. Noted
Q4: The above diagram shows the planned road network (inspired by the geometry of Walter Burley Griffin) that is being considered for the expansion of the Leeton cemetery. It aims to ensure the max distance to walk to any grave is 50m. Will this deliver a walking distance that is satisfactory, in your opinion?	1. For people with disabilities and walking aids could prove to be a challenge. 2. Walking on lawn is not always possible for the elderly and disabled. Lawn can be spongy, sometimes there are sunken areas that are dangerous, plus wheely walkers, wheelchairs experience difficulty.	1. The 50m distance is the most common in the industry & commensurate with the average distance provided in the existing Leeton cemetery. This has not been the subject of complaints to date. 2. Wheelchair access to lawn graves is not possible. Trafficable maps could be used seasonally to enable access to a gravesite for the interment ceremony.
Q6: The DRAFT Masterplan considers natural burials as another option for environmentally conscious individuals in a dedicated small portion of the site. Natural burial sites are respectful of the environment and minimise their carbon and chemical footprint.	1. I would consider a natural interment for myself or a family member.	1. Noted
Q7: The DRAFT Masterplan also recommends the installation of a large shelter ("Open Air Chapel") in the new site. This structure would be covered and would offer seating to 10-15 people. Do you support this idea?	1. Don't believe this would be of much use and bench seating around shady areas in the cemetery would be better use of funds 2. Its very hot out there in summer..trees would be more effective..its not a picnic area 3. Not sure how often it would be used. 4. 10-15 is not a large number. Not big enough	Noted Size will depend on Council budget. Demand may not warrant a large structure especially in a more 'traditional' community where services tend to occur at Churches or Funeral homes.

Questions	Comments	Responses
Q9: Do you think anything has been overlooked in this DRAFT Masterplan that should be considered in its preparation.	1. Bench seating and possibly a "drinking station" available as it does get very hot during some funeral processions and not everyone comes prepared. 2. A chapel area with seating for say 50 would be worthwhile 3. Have the council thought about a crematorium? It would be interesting to know what kind of costs would be involved. 4. Why are there less monumental grave sites vs Lawn graves? 5. Get rid of the gnarly Rose bushes..they are not maintained and look horrible..just because they are hardy doesn't mean they are nice..trees at regular intervals would be much appreciated during summer..there are plenty of varieties that done grow too big..rose bushes are tragic and show it when they aren't maintained. 6. Consider a crematorium we have a multicultural town where cremation is there preferred option and more and more people are considering this as an option and Wagga is a long way for this option. 7. I agree with not having roses in the new lawn section. Whilst they do look lovely when in flower they are a lot of work to keep them and the cemetery looking neat. 8. A memorial garden dedicated to early (before 20 weeks) pregnancy loss, pregnancy termination, ectopic pregnancy. This grief is so invisible and often not acknowledged. An important part of grieving this loss would be having a dedicated place that people can mark their loss. 9. No it's pretty good. But please be mindful that you will need to move quickly on this idea as I believe the existing cemetery will be at full capacity before 5yrs as many people are becoming sick and dying faster after having the COVID injections. Thank me later! Good luck. Excellent master plan 10. Lighting and security. New fencing and decorative lighting would add to the ambience for evening services as well as security. 11. Seating under the shade trees for older citizens attending funerals especially in the summer months. 12. Wheelchair access to graves. Mobile shelter for funeral day. 13. I know it is a draft plan but hope there are significantly more seating than in current cemetery. Roses are lovely but too much maintenance and loose their aesthetic look if not maintained. Plenty of natives are available to provide great garden areas and shade. Tall gums on western boundary in keeping with current cemetery.. They are loved by local native birds. The gums litter on the ground is important for native fauna and mulching. If ground has no litter, there will be erosion. Erosion is a current problem is barren carpark near toilet, and eastern end of Catholic Section. Erosion prevention is vital in new section due to the fall of the land. A display board at entry to cemetery, showing the plan of all sections of cemetery including the rows for each section. 14. Thank you for meeting me yesterday at the cemetery and explaining the planning process. As discussed during our site visit, our organisation looks forward to working with you regarding the cemetery and future planning to ensure a local Aboriginal Cultural perspective is incorporated. Key considerations for our local Aboriginal community, but not limited to, as we move forward are for 'Sorry Business', Culture & Heritage etc for burials and for visiting.	1. Noted 2. Size will depend on Council budget. 3. Subject to feasibility study. 4. Subject to demand, as indicated. 5. Noted 6. Subject to feasibility study. 7. Noted 8. One already exists on site (shown below). 9. Noted 10. Subject to demand & Council's budget 11. Noted 12. Noted 13. Noted 14. Noted

APPENDIX 5 MASTERPLAN SK01

Legend

- Main avenue trees
- Secondary avenue trees
- Ornamental feature trees
- Garden beds
- Screen planting
- Sealed road
- Paving
- Lawn

Design Intent

The vision for the site is to provide a respectful and accessible cemetery space, in a scenic environment.

The aim of the Masterplan is to develop a unique layout for a unique town, reflective in its layout of the cultural heritage relating to the Walter Burley Griffin's and the region's agricultural heritage.

The Masterplan also respond to the community's burial demand whilst considering its operational efficiencies and costs.

Parking is expected to occur along internal roads and in temporary carparks. All temporary carparks are to be reclaimed for burials/graves as the cemetery fills up.

It is expected that the Masterplan, if and when adopted, will be implemented in many stages over many decades, in direct response to burial demand in the area.

Key Features

1. Existing cemetery
2. Road extension
3. Additional future entrance
4. Main avenue
5. Secondary avenues (Min 32m – Max 50m walking distance to graves)
6. Water feature
7. Existing Capella section
8. Capella "Village"(Refer enlargement SK02)
9. Existing Monumental section (Full)
10. Monumental/Vault section (subject to demand)
11. Lawn graves with headstone on beam (subject to demand)
12. Lawn graves with plaques on beams (subject to demand) (refer enlargement SK03)
13. Memorial gardens

DRAWN BY: YW
SHEET NO: 01

SCALE: 1:2000@A3

ISSUE	DESCRIPTION	DATE	REVISION
APPR.	CLIENT	18/01/2023	
FINAL	CLIENT	05/04/2023	

CLIENT: LEETON COUNCIL

TITLE: MASTERPLAN

DRAWING NO: SK01
DATE: 05/04/2023
PROJECT NO: 2205

PROJECT NAME: LEETON CEMETERY

A: 49 May St
Kew 3101
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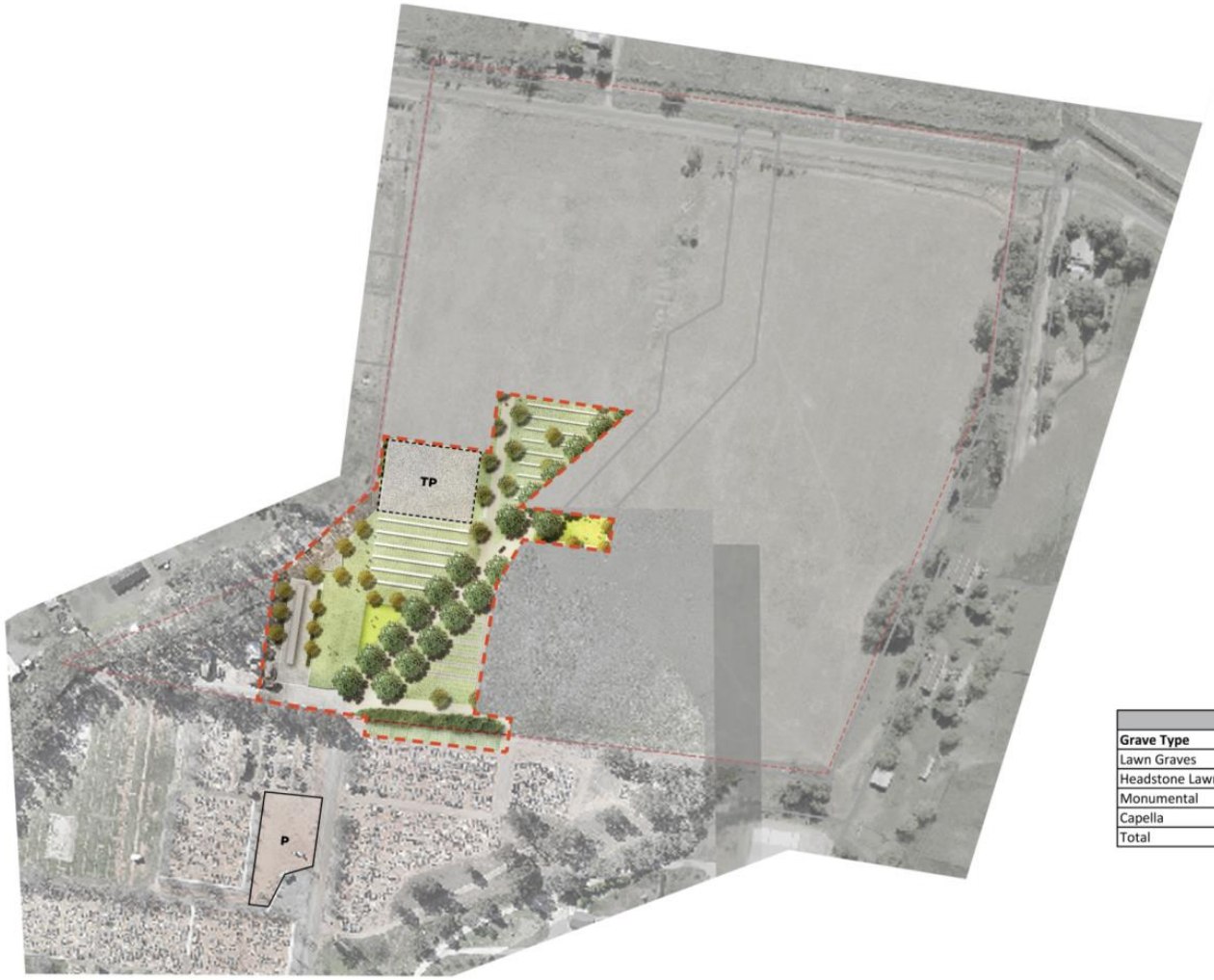
M: 0419 983 641

Florence Jaquet
Landscape Architect
Cemetery Specialist

APPENDIX 5 MONUMENTAL SECTION ENLARGEMENT SK02

APPENDIX 6 TYPICAL LAWN SECTION ENLARGEMENT SK03

APPENDIX 7 STAGE 1 EXTENT SK04



Legend

- TP — Temporary parking
- P — Existing parking
- Stage 1 development

Yield Calculation			
Grave Type	**Unit**	**Stage 1**	**Years**
Lawn Graves	No.	267	3
Headstone Lawn Graves	No.	326	N/A
Monumental	No.	224	N/A
Capella	No.	22	5.5
Total	No.	839	9.5

DRAWN BY: YW
SHEET NO: 04

SCALE: 1:2000@A3

ISSUE	DESCRIPTION	DATE	REVISION
APPR.	CLIENT	18/01/2023	
FINAL	CLIENT	05/04/2023	

CLIENT: LEETON COUNCIL

TITLE:STAGE 1 PLAN

DRAWING NO:SK04
DATE: 05/04/2023
PROJECT NO: 2205

PROJECT NAME: LEETON CEMETERY

A: 49 May St
Kew 3101
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M: 0419 983 641

Florence Jaquet
Landscape Architect
Cemetery Specialist

APPENDIX 8 COST ESTIMATE

COST ESTIMATE - LEETON CEMETERY - STAGE 1 (Jan 2023)

Item	Description	Unit	Qty	Rate	Total
			Area A		
A	**Preliminaries**	10%			66,969.35
B	**Hard Landscape**				0.00
1	Removal miscellaneous Incl. existing farm fence	Item	1	5,000.00	5,000.00
	ACCESS				0.00
2	Paving around Capellas- heavy traffic-reinf.concrete , incl. sub-base	m2	461	80.00	36,880.00
3	New road pavement - heavy traffic - asphalt, including kerbs	m2	2108	40.00	84,320.00
4	Concrete paths in monumental section	m2	314	80.00	25,120.00
5	Concrete edging to garden bed near Capellas	lm	81	50.00	4,050.00
	Crushed rock to temporary carpark and storage area	m2	1814	20.00	36,280.00
	MEMORIALISATION				0.00
6	Concrete beams for plaques - width 0.6m	lm	246	70.00	17,220.00
7	Concrete beams for headstone on beams - width 0.9	lm	169	75.00	12,675.00
8	Pre-poured concrete edge and footings in Monumental section - 2.4m x 1.2m	No	224	150.00	33,600.00
9	Memorial gardens (design unknown)	m2	363		
	FURNITURE and MISCELLANEOUS				0.00
10	seating	No	8	1,000.00	8,000.00
11	Bins (wheelie bins)	No	5	1,000.00	5,000.00
12	Irrigation (new garden beds and lawn)	Item	1	100,000.00	100,000.00
13	water reticulation and taps (upright and 700H galv. steel stand- off existing water supply)	item	1	10,000.00	10,000.00
14	Drinking Fountain (Capella section)	No	1	3,000.00	3,000.00
15	Fencing to storage yard	lm	58.5	200.00	11,700.00
16	Farm fencing relocation - to northern and eastern boundaries of Stage 1	lm	290	180.00	52,200.00
C	**Soft Landscape**				0.00
1	Cultivation	m2	9347	10.00	93,470.00
2	Fertilising	m2	9347	0.50	4,673.50
3	Supply and spread topsoil (150mm) to garden bed	m2	611	4.00	2,444.00
	Supply and spread topsoil (100mm) to lawn	m2	8736	4.00	34,944.00
4	Planting 200mm pots (5/m2 average)	no	3055	12.00	36,660.00
6	Mulching (bark)-100mm deep	m3	61.1	70.00	4,277.00
8	Lawn - Turf	m2	8736	5.00	43,680.00
9	Trees	No	45	100.00	4,500.00
	Subtotal				669,693.50
	Contingencies	10%			66,969.35
	TOTAL (Excl GST)				**803,632.20**

Quantities supplied by FJLA.
Rates supplied by Council

Florence Jaquet
Landscape architect

49 May Street, Kew, VIC 3101
M: 0419 983 641
E: flo@fjla.com.au
www.fjla.com.au

APPENDIX 3 PUBLIC CONSULTATION

Questions	Comments	Responses
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Q7: The DRAFT Masterplan also recommends the installation of a large shelter ("Open Air Chapel") in the new site. This structure would be covered and would offer seating to 10-15 people. Do you support this idea?	1. Don't believe this would be of much use and bench seating around shady areas in the cemetery would be better use of funds 2. Its very hot out there in summer..trees would be more effective..its not a picnic area 3. Not sure how often it would be used. 4. 10-15 is not a large number. Not big enough	Noted Size will depend on Council budget. Demand may not warrant a large structure especially in a more 'traditional' community where services tend to occur at Churches or Funeral homes.

Questions	Comments	Responses
Q9: Do you think anything has been overlooked in this DRAFT Masterplan that should be considered in its preparation.	1. Bench seating and possibly a "drinking station" available as it does get very hot during some funeral processions and not everyone comes prepared. 2. A chapel area with seating for say 50 would be worthwhile 3. Have the council thought about a crematorium? It would be interesting to know what kind of costs would be involved. 4. Why are there less monumental grave sites vs Lawn graves? 5. Get rid of the gnarly Rose bushes..they are not maintained and look horrible..just because they are hardy doesn't mean they are nice..trees at regular intervals would be much appreciated during summer..there are plenty of varieties that done grow too big..rose bushes are tragic and show it when they aren't maintained. 6. Consider a crematorium we have a multicultural town where cremation is there preferred option and more and more people are considering this as an option and Wagga is a long way for this option. 7. I agree with not having roses in the new lawn section. Whilst they do look lovely when in flower they are a lot of work to keep them and the cemetery looking neat. 8. A memorial garden dedicated to early (before 20 weeks) pregnancy loss, pregnancy termination, ectopic pregnancy. This grief is so invisible and often not acknowledged. An important part of grieving this loss would be having a dedicated place that people can mark their loss. 9. No it's pretty good. But please be mindful that you will need to move quickly on this idea as I believe the existing cemetery will be at full capacity before 5yrs as many people are becoming sick and dying faster after having the COVID injections. Thank me later! Good luck. Excellent master plan 10. Lighting and security. New fencing and decorative lighting would add to the ambience for evening services as well as security. 11. Seating under the shade trees for older citizens attending funerals especially in the summer months. 12. Wheelchair access to graves. Mobile shelter for funeral day. 13. I know it is a draft plan but hope there are significantly more seating than in current cemetery. Roses are lovely but too much maintenance and loose their aesthetic look if not maintained. Plenty of natives are available to provide great garden areas and shade. Tall gums on western boundary in keeping with current cemetery.. They are loved by local native birds. The gums litter on the ground is important for native fauna and mulching. If ground has no litter, there will be erosion. Erosion is a current problem is barren carpark near toilet, and eastern end of Catholic Section. Erosion prevention is vital in new section due to the fall of the land. A display board at entry to cemetery, showing the plan of all sections of cemetery including the rows for each section. 14. Thank you for meeting me yesterday at the cemetery and explaining the planning process. As discussed during our site visit, our organisation looks forward to working with you regarding the cemetery and future planning to ensure a local Aboriginal Cultural perspective is incorporated. Key considerations for our local Aboriginal community, but not limited to, as we move forward are for 'Sorry Business', Culture & Heritage etc for burials and for visiting.	1. Noted 2. Size will depend on Council budget. 3. Subject to feasibility study. 4. Subject to demand, as indicated. 5. Noted 6. Subject to feasibility study. 7. Noted 8. One already exists on site (shown below). 9. Noted 10. Subject to demand & Council's budget 11. Noted 12. Noted 13. Noted 14. Noted


LEETON
SHIRE COUNCIL
2022
Leeton Shire
Active
Transport
Plan
GET INVOLVED

Leeton Shire Council

7	17:48	Closed
Responses	Average time to complete	Status

1. About You

7
Responses

Latest Responses

[redacted]

"Leeton 270"

"Leeton "

2. Email Address

7
Responses

Latest Responses

[redacted]

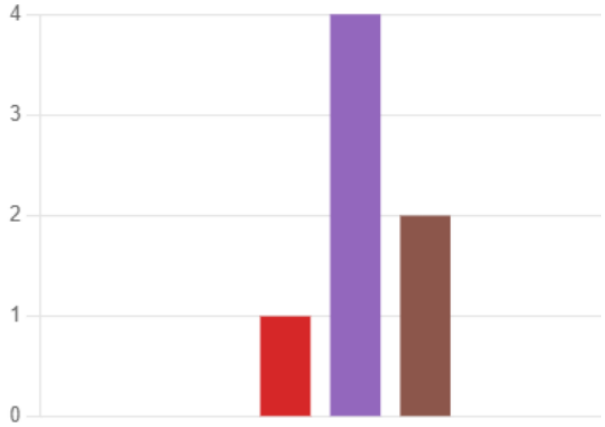
3. Phone Number

7
Responses

Latest Responses

4. Age:

12 and under	0
13 to 17	0
18 to 24	0
25 to 34	1
35 to 49	4
50 to 59	2
60 to 69	0
70 and over	0



5. Gender

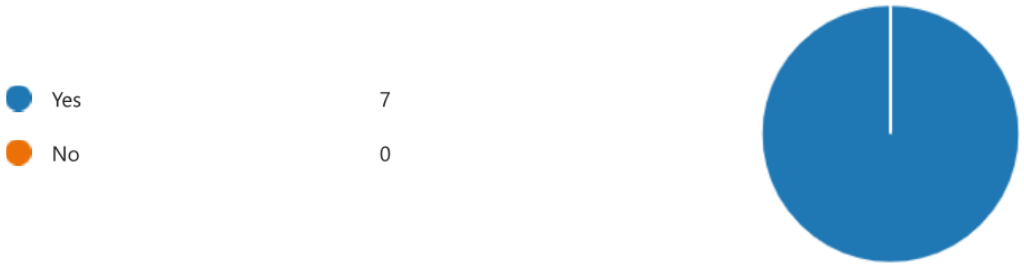
Female	3
Male	4
Prefer not to say	0

6. Which of the following statements best describes you?

I walk/run/navigate the footpat...	7
I walk/run/navigate the footpat...	0
I prefer to ride a bicycle or scoo...	0
I don't have time to walk/run/na...	0
I own a motor vehicle and prefe...	0

7. What do you think are the benefits of walking/navigating the pedestrian/footpath network on a regular basis?

8. Do you have access to a motor vehicle?

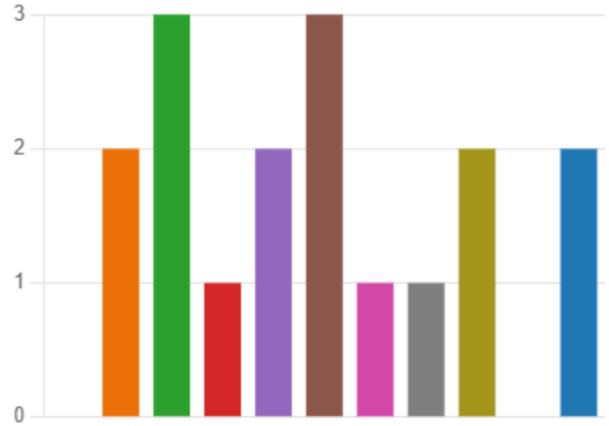


9. What type of pedestrian/walking movements do you typically do?

10. How often would you walk over one kilometre to access work, school, sport, social events, shops etc?

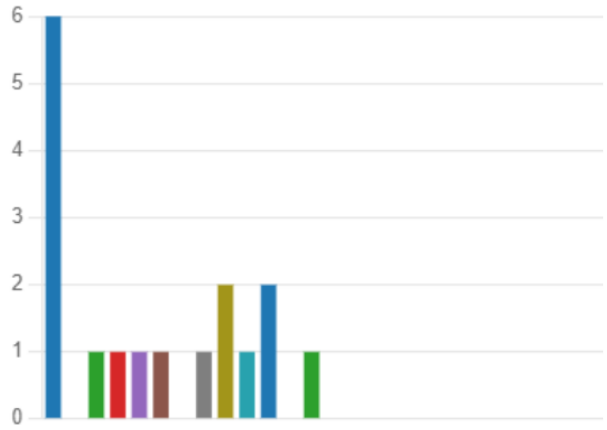
11. Please select the reasons that discourage you from walking the footpaths and pedestrian networks more often. (Please select all that apply)

The paths are too hilly	0
The road has no marked or dedi...	2
The paths I use are poorly maint...	3
There are no paths available for ...	1
I feel uncomfortable / unsafe wa...	2
There is too much traffic along t...	3
Lack of safe pedestrian crossing...	1
Distance is too long to walk	1
Aggressive animals (magpies, d...	2
Weather (too hot or too wet)	0
Other	2



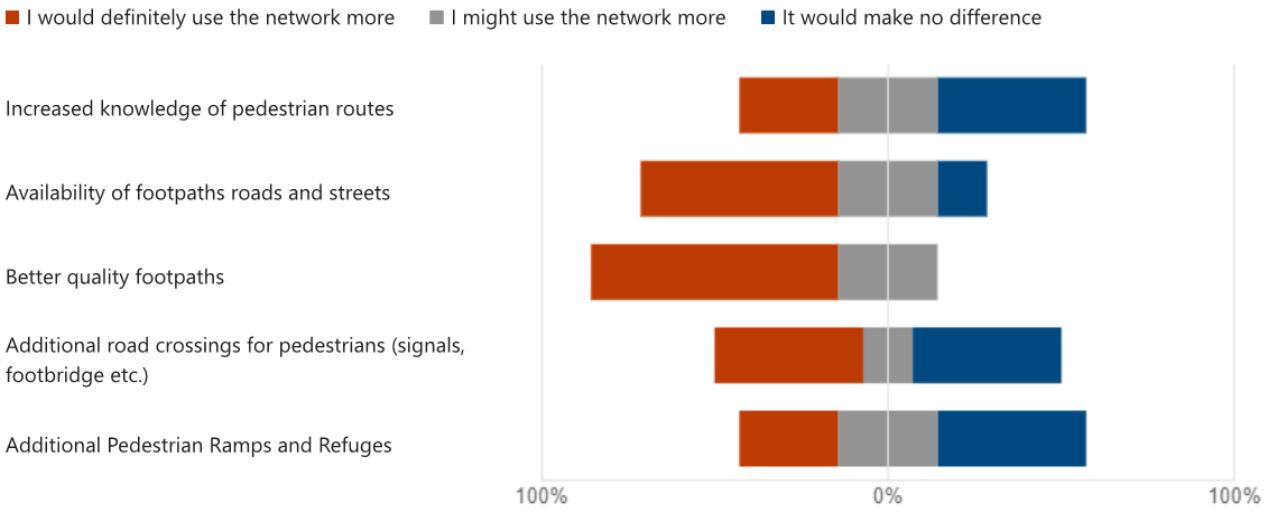
12. Which areas in the Leeton Shire Council area do you typically move to/from or within as a pedestrian? (Please select all that apply)

Leeton CBD	6
Hooey Road Lookout	0
Fivebough and Tuckerbil Wetlan...	1
Gossamer Park	1
Leeton High School	1
Leeton Train Station	1
Leeton Cemetery	0
Leeton Public School	1
Lake Paddock	2
Saint Jopseph's Primary School	1
Parkview Public School	2
St. Francis De Sales Regional Col...	0
Leeton District Hospital	1
Yanco CBD	0
McCaughey Bicentennial Park	0
Yanco Public School	0
Yanco Powerhouse Museum	0
Murrumbidgee Valley National ...	0
Mia Club	0
Yanco Agricultural High School	0

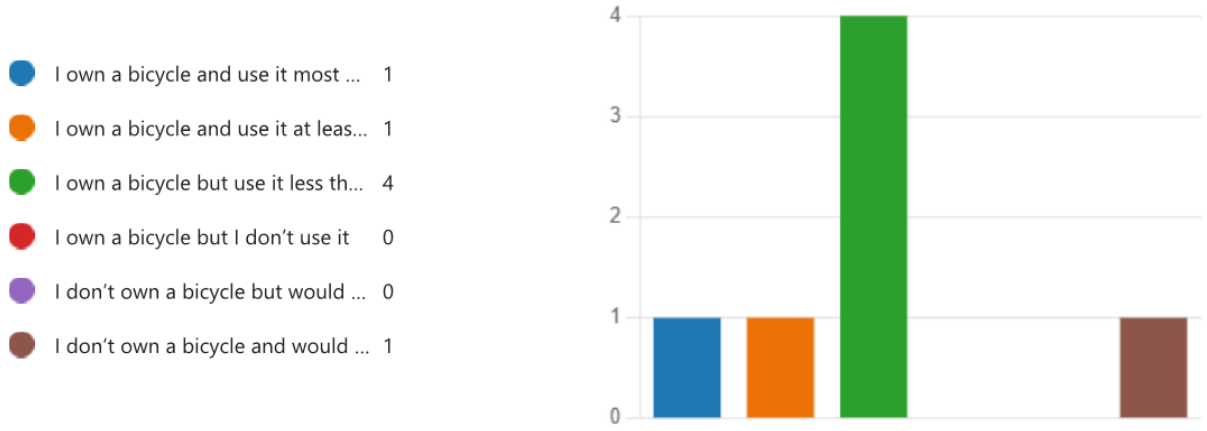


Whitton CBD	0
Whitton bus Stop on Beneremb...	0
Whitton Swimming Pool	0
Whitton Murrami Public School	0
Whitton Malthouse	0
Wamoon Public School	0

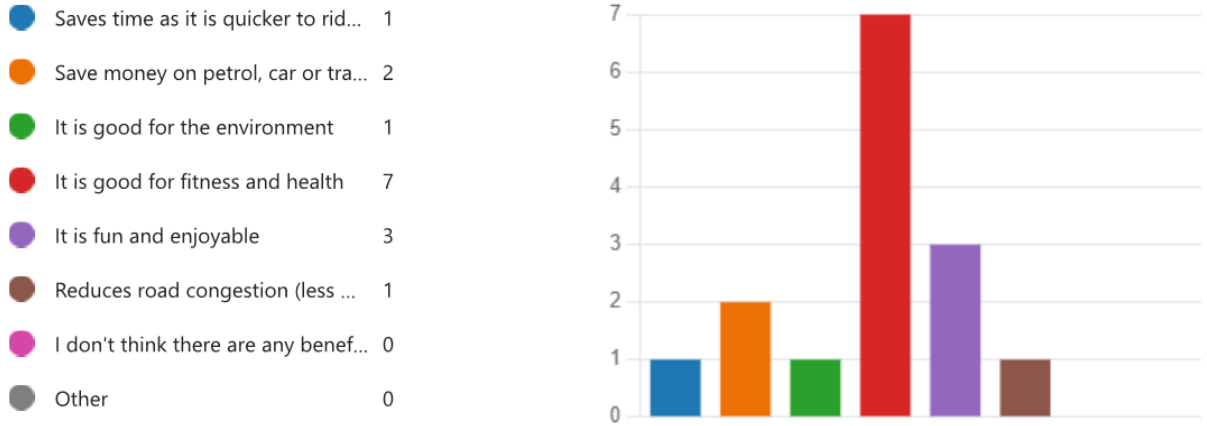
13. Please indicate whether the following changes would make you more likely to walk on a more regular basis for everyday local trips or to commute to work/study: (Please provide an answer for each option)



14. Which of the following statements best describes you?

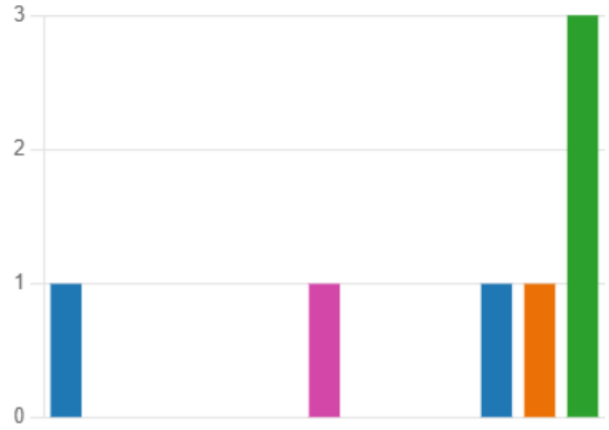


15. What do you think are the benefits of bicycle riding on a regular basis? (Please select all that apply)



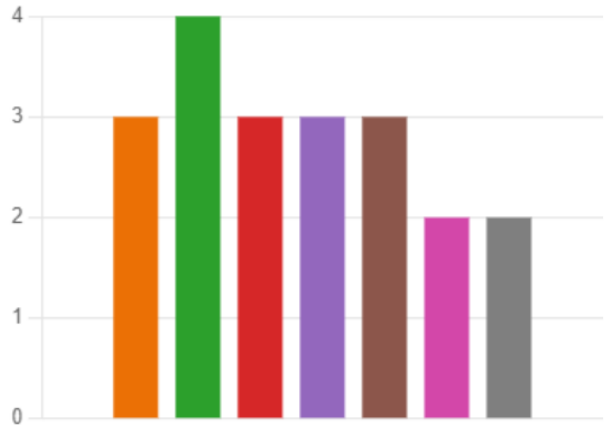
16. Please indicate why you don't ride a bicycle. (Please select all that apply)

I don't have a bicycle	1
I don't like wearing a helmet	0
I'm not confident in my bicycle r...	0
My bicycle is broken and I don't...	0
I don't feel fit enough to ride a ...	0
I don't want to be sweaty when ...	0
There is nowhere for me to take...	1
I don't think the available routes...	0
There's nowhere to park my bic...	0
I am not allowed to ride a bicycle	0
It's not cool to ride a bicycle	1
I am worried my bike will get st...	1
I would rather drive or use anot...	3



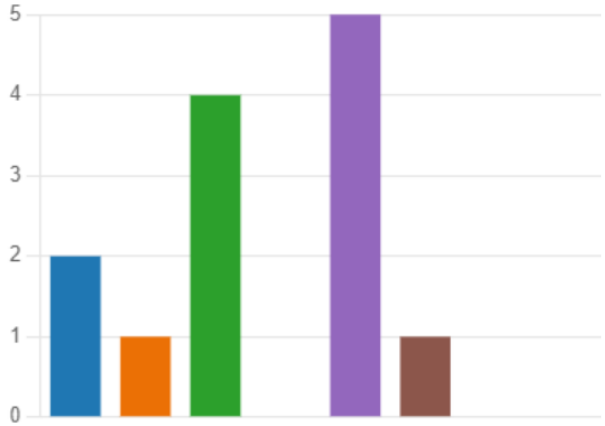
17. If you think that the available routes are unsafe or are uncomfortable to ride on, please select the reasons why from the list below. (Please select all that apply)

The routes are too hilly	0
The road has no marked bicycle ...	3
The paths I use are not comfort...	4
There aren't enough (or any) ph...	3
There aren't enough (or any) de...	3
I do not feel comfortable sharin...	3
There is too much traffic to ride ...	2
There is a lack of awareness of b...	2
Other	0



18. Why do you ride your bicycle? (Please select all that apply)

To save time as it is quicker to ri...	2
To save money on petrol, car or ...	1
Because it is fun and enjoyable	4
Because it is convenient or pract...	0
For fitness and health reasons	5
For relaxation or reducing stress	1
Because it helps reduce road co...	0
Because it is good for the enviro...	0

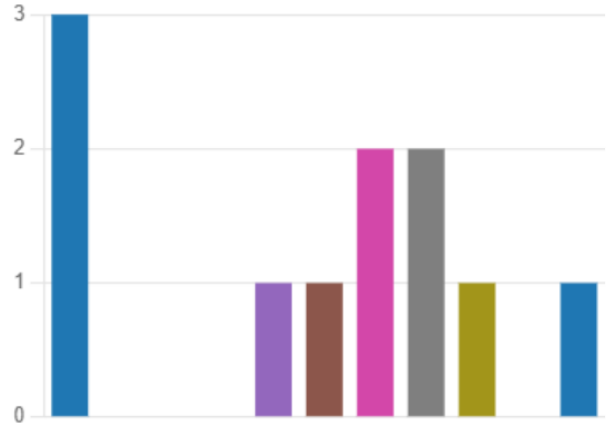


19. What type of cycling do you take part in most often?

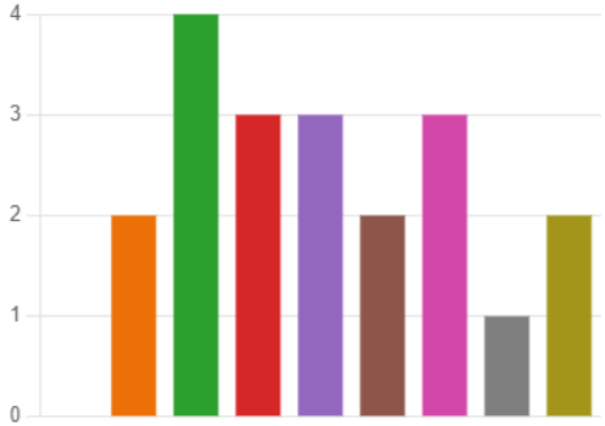
Recreational (Riding for fun, fitn...	7
Commuter (travel to/from work)	0
Commuter (travel to/from scho...	0
Sport (training, racing or serious...	0

20. Which of the following are reasons why you don't ride your bicycle more regularly for everyday local trips or for commuting to work or study? (Please select all that apply)

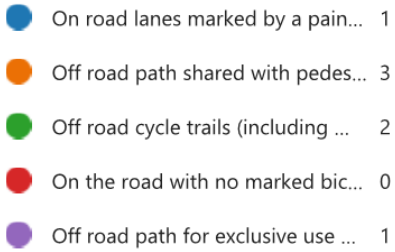
I only ride my bicycle for leisure ...	3
I don't like wearing a helmet	0
I'm not confident in my bicycle r...	0
I'm not confident I know how to...	0
I don't feel fit enough to ride m...	1
I don't want to be sweaty when ...	1
There aren't any convenient rou...	2
I don't think the available routes...	2
There is nowhere for me to take...	1
There is nowhere to park my bic...	0
None of the above	1



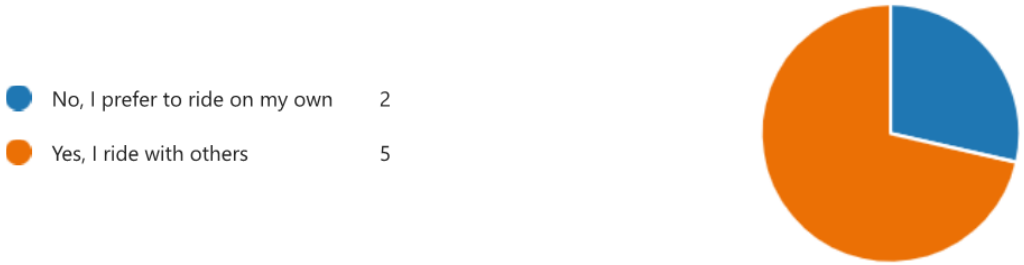
21. If you think that the available routes are unsafe or are uncomfortable to ride on, please select the reasons why from the list below. (Please select all that apply)



22. When you are riding your bike (inside or outside of Leeton Shire) what paths do you prefer to ride on? (Please select all that apply)



23. Do you ever ride with other people?



24. Why do you ride with others?

25. What are your top three most common journeys by bicycle (Please provide start and end point)?

7
Responses

Latest Responses
"NA"
"Why aren't these questions optional you have to fill in a box even though t...
"Town circle Leeton - Yanco return "

26. Please identify the top three bike destinations that you would like to see developed or improved in the future. Consider Leeton, Yanco, Whitton, Wamoon and Murrami (include street names, cross roads), hospital, schools, recreational facilities (parks, swimming pool, picnic areas, showground etc.) and any other regional links in the Leeton Shire Council area.

7

Responses

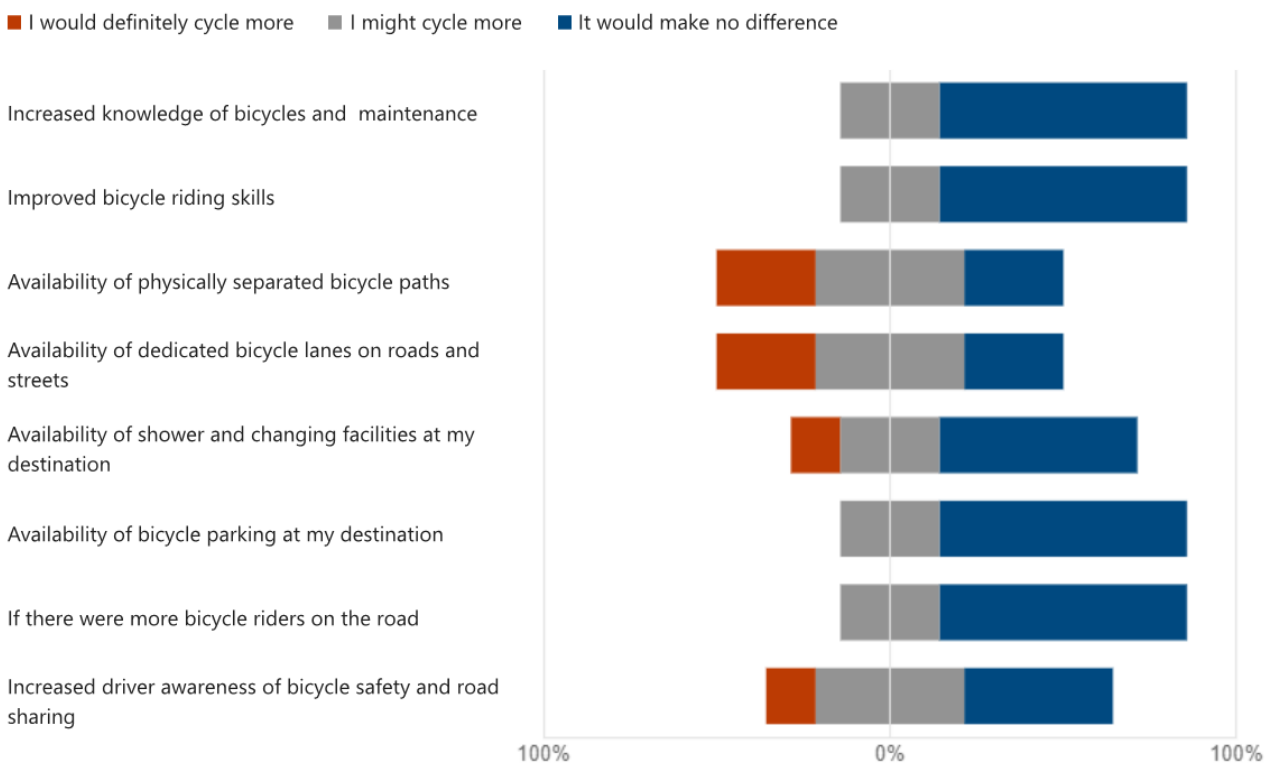
Latest Responses

"*NA*"

"*Parkview area from ramponi Park down Railway ave to the footbridge turn...*

"*Racecourse Road to Lake Paddock Then spray the cat heads early so they d...*

27. Please indicate whether the following changes would make you more likely to cycle on a regular basis for everyday local trips or to commute to work/ study (Please provide an answer for each option):



28. Do you have any children under the age of 15?

Yes	5
No	2

29. Do your children ride a bicycle?

Yes, they ride to school or aroun...	3
Yes, but they only ride around t...	2
No, they don't ride a bicycle	2
Other	0

30. Is there anything that would help you to encourage your children to ride their bicycles more often to get to school or around the local area?

7
Responses

Latest Responses

"No"

"A footpath/ ikepath from Ramponi park to the school and also all the way ...

"N/A"

31. Do you have any further comments about walking or cycling in the Leeton Shire Council area or about the new Active Transport Plan?

7
Responses

Latest Responses

"*No*"

"*People with disabilities especially hidden mobility disabilities like Rheumato...*

"*No*"

32. Are there any specific projects that you would like to see proposed in the Leeton Shire Council area that would encourage pedestrians and cyclists to walk or ride regularly?

7
Responses

Latest Responses

"*Keep adding to the walking paths around town, link up the avenue walk/ru...*

"*More shade coverage over benches or seats and acess to drinking water foo...*

"*Close the loop Lake Paddock to MIA Club Publish a flyer with paths, sugges...*


LEETON
SHIRE COUNCIL
2022
Leeton Shire
Active
Transport
Plan
GET INVOLVED
Community Consultation
5th & 6th December 2022

2022 Leeton Shire Active Transport Plan

Leeton Workshops

LEETON SHIRE COUNCIL CHAMBERS
MONDAY 5TH DECEMBER 2022
6PM - 7.30PM
TUESDAY 6TH DECEMBER 2022
6PM - 7.30PM

Yanco Workshop

YANCO HALL
MONDAY 5TH DECEMBER 2022
12PM - 1.30PM

Whitton Worksop

WHITTON HALL
TUESDAY 6TH DECEMBER 2022
12PM - 1.30PM

About the project

Leeton Shire Council is developing an Active Transport Plan which aims to investigate the requirements for improving the network of facilities in Leeton Shire that provide for and encourage walking and cycling activities.

How to get involved?

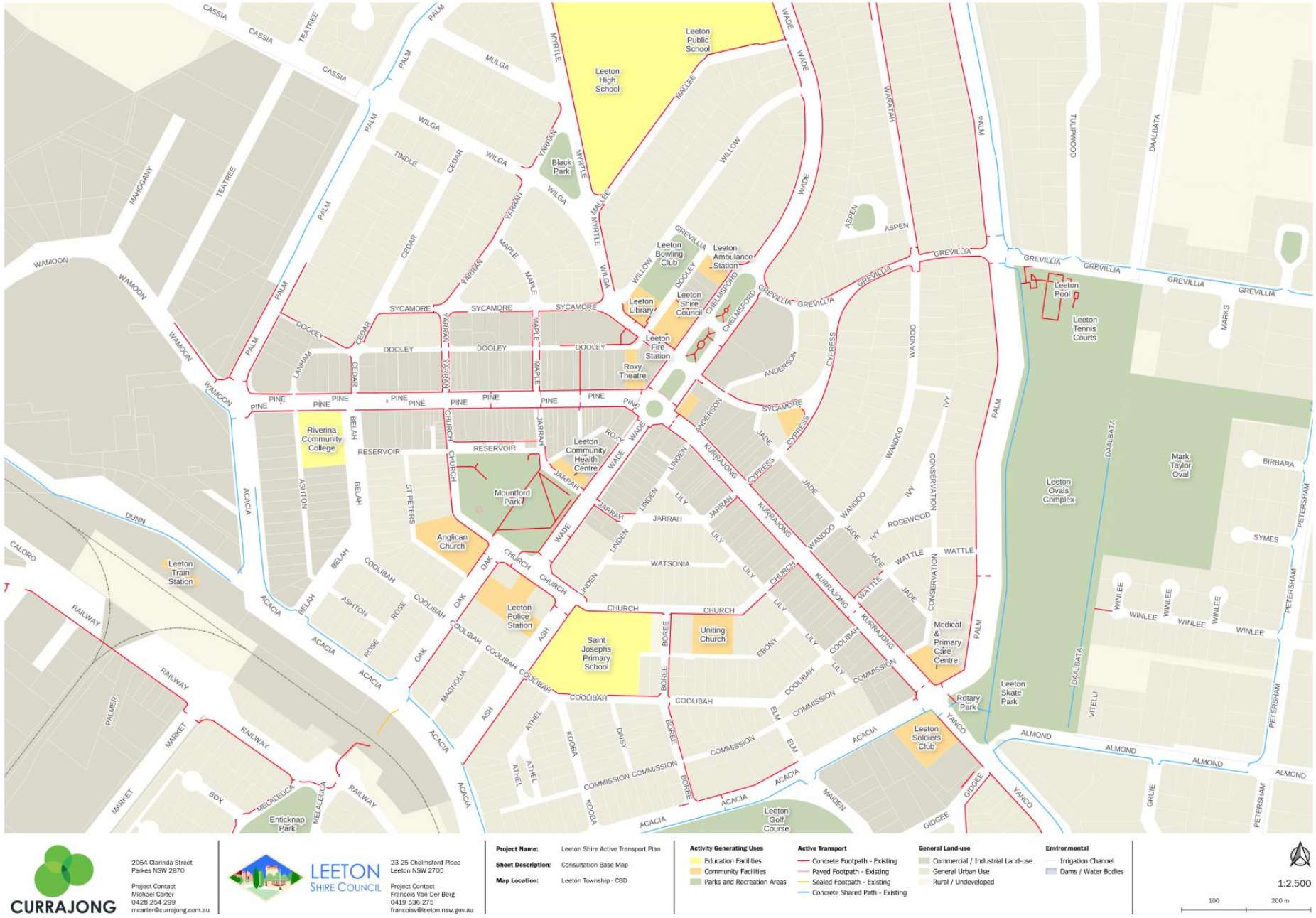
Interested persons are encouraged to attend one of the various consultation workshops (see above) or to complete a short survey on the key issues affecting walking and cycling in our community.

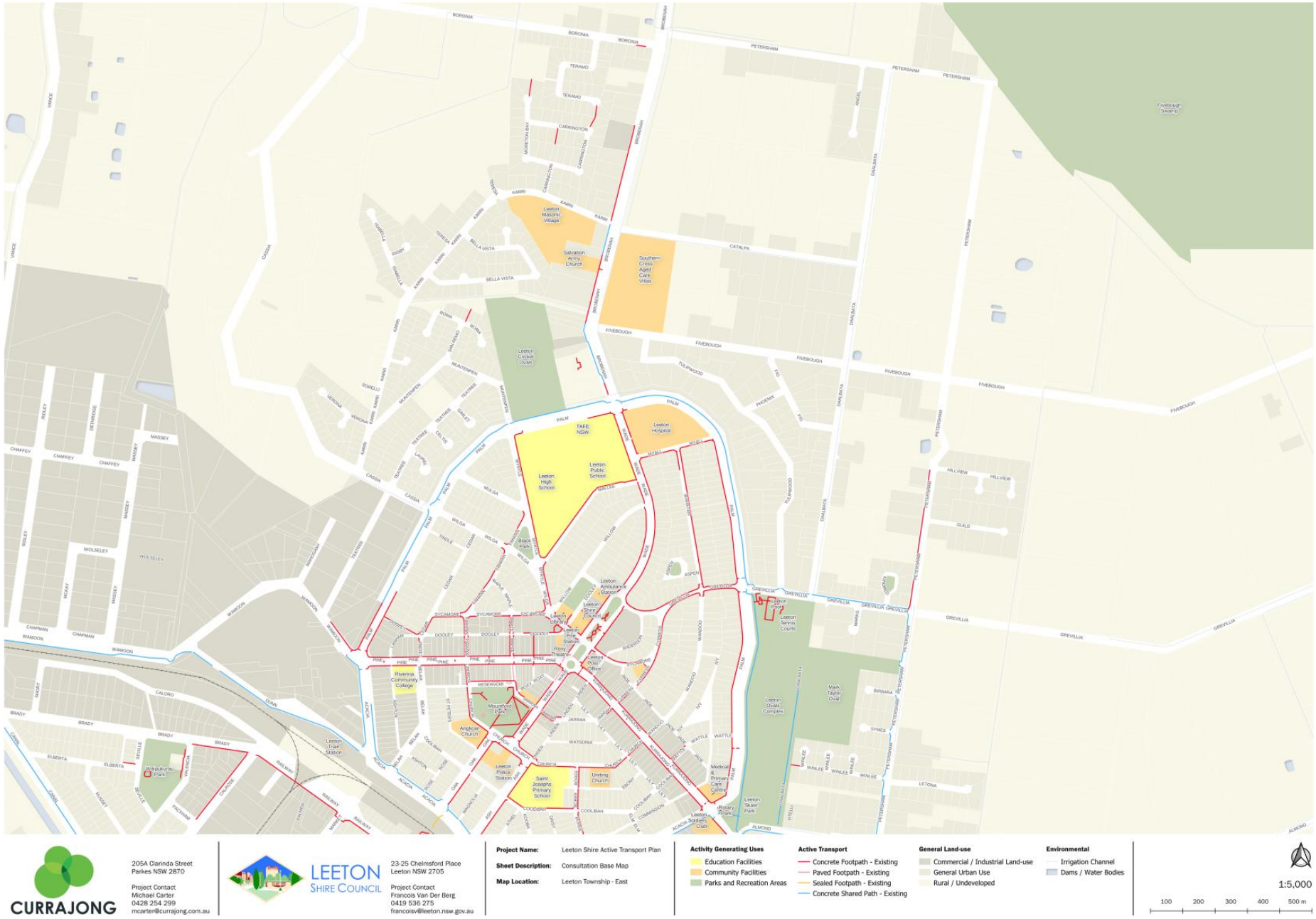
Take the survey! Scan the QR Code

CURRAJONG GHD LEETON SHIRE COUNCIL

More Info

www.leeton.nsw.gov.au
(02) 6953 0911


Leeton Public School
Leeton High School
Black Park
Leeton Bowling Club
Leeton Ambulance Station
Leeton Library
Leeton Shire Council
Leeton Fire Station
Roxy Theatre
Leeton Pool
Leeton Tennis Courts
Mark Taylor Oval
Leeton Ovals Complex
Riverina Community College
Leeton Community Health Centre
Mountford Park
Anglican Church
Leeton Train Station
Leeton Police Station
Saint Josephs Primary School
Uniting Church
Medical & Primary Care Centre
Rotary Park
Leeton Skate Park
Leeton Soldiers Club
Leeton Golf Course
Enticknap Park
CURRAJONG
205A Clarinda Street
Parkes NSW 2870
Project Contact
Michael Carter
0428 254 299
mcarter@currajong.com.au
LEETON SHIRE COUNCIL
23-25 Chelmsford Place
Leeton NSW 2705
Project Contact
Francois Van Der Berg
0419 536 275
francoisv@leeton.nsw.gov.au
Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Leeton Township - CBD
Activity Generating Uses
Education Facilities
Community Facilities
Parks and Recreation Areas
Active Transport
Concrete Footpath - Existing
Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
General Land-use
Commercial / Industrial Land-use
General Urban Use
Rural / Undeveloped
Environmental
Irrigation Channel
Dams / Water Bodies
1:2,500
100
200 m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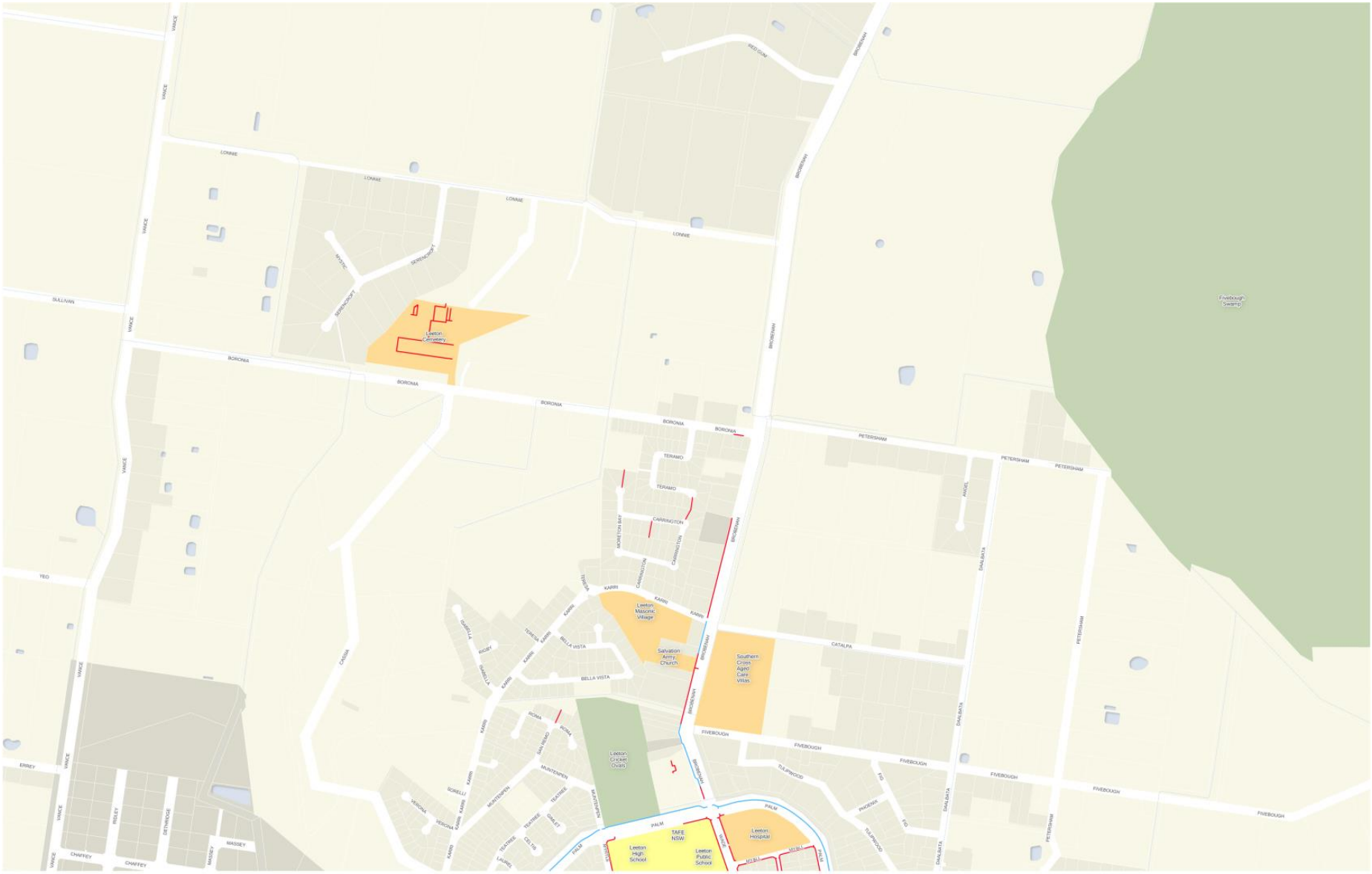
Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Leeton Township - East
Activity Generating Uses
Education Facilities
Community Facilities
Parks and Recreation Areas
Active Transport
Concrete Footpath - Existing
Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
General Land-use
Commercial / Industrial Land-use
General Urban Use
Rural / Undeveloped
Environmental
Irrigation Channel
Dams / Water Bodies
1:5,000
100 200 300 400 500 m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Francois Van Der Berg
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Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Leeton Township - North
Activity Generating Uses
Education Facilities
Community Facilities
Parks and Recreation Areas
Active Transport
Concrete Footpath - Existing
Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
General Land-use
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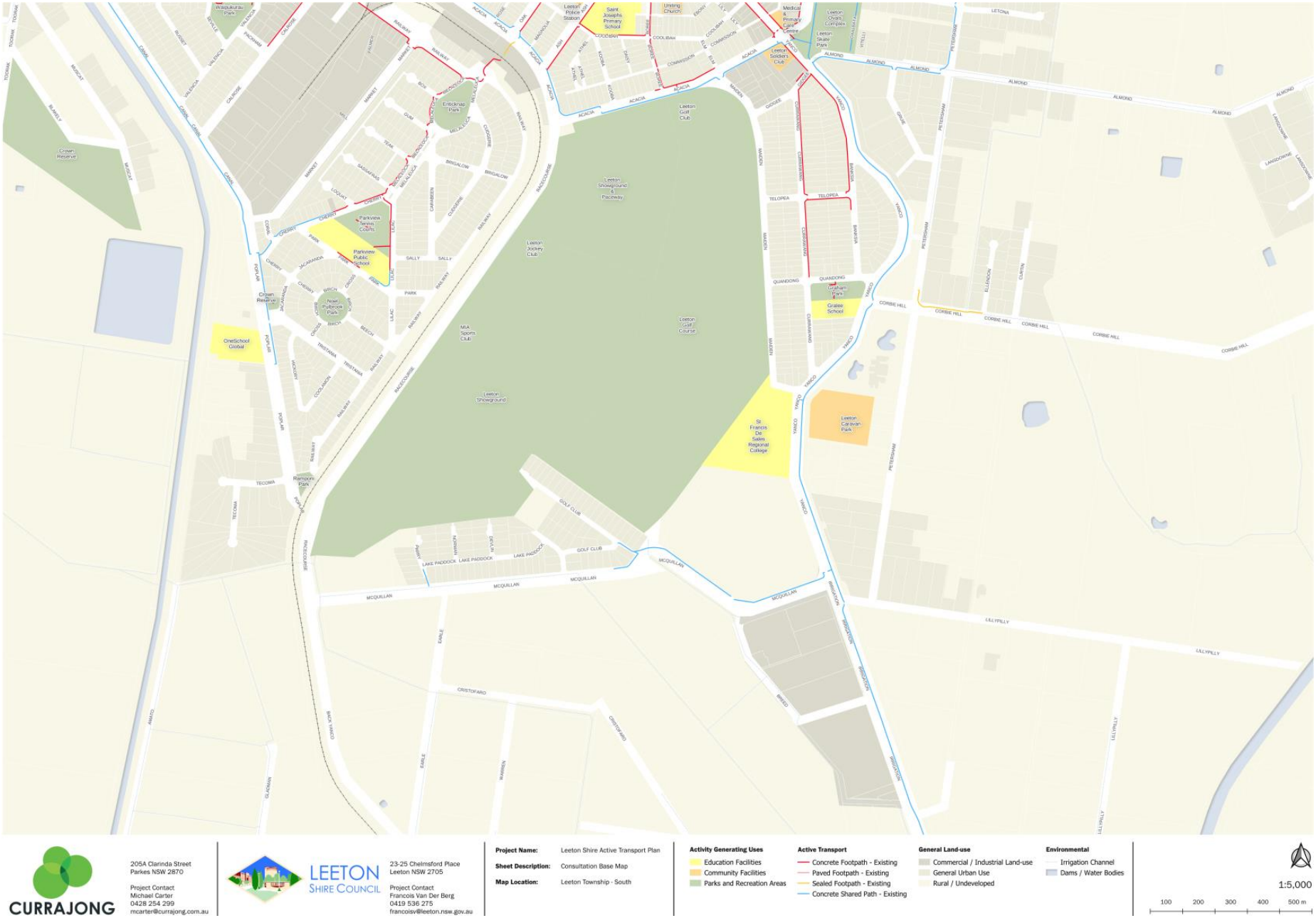
Rural / Undeveloped
Environmental
Irrigation Channel
Dams / Water Bodies
1:5,000
100 200 300 400 500 m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Francois Van Der Berg
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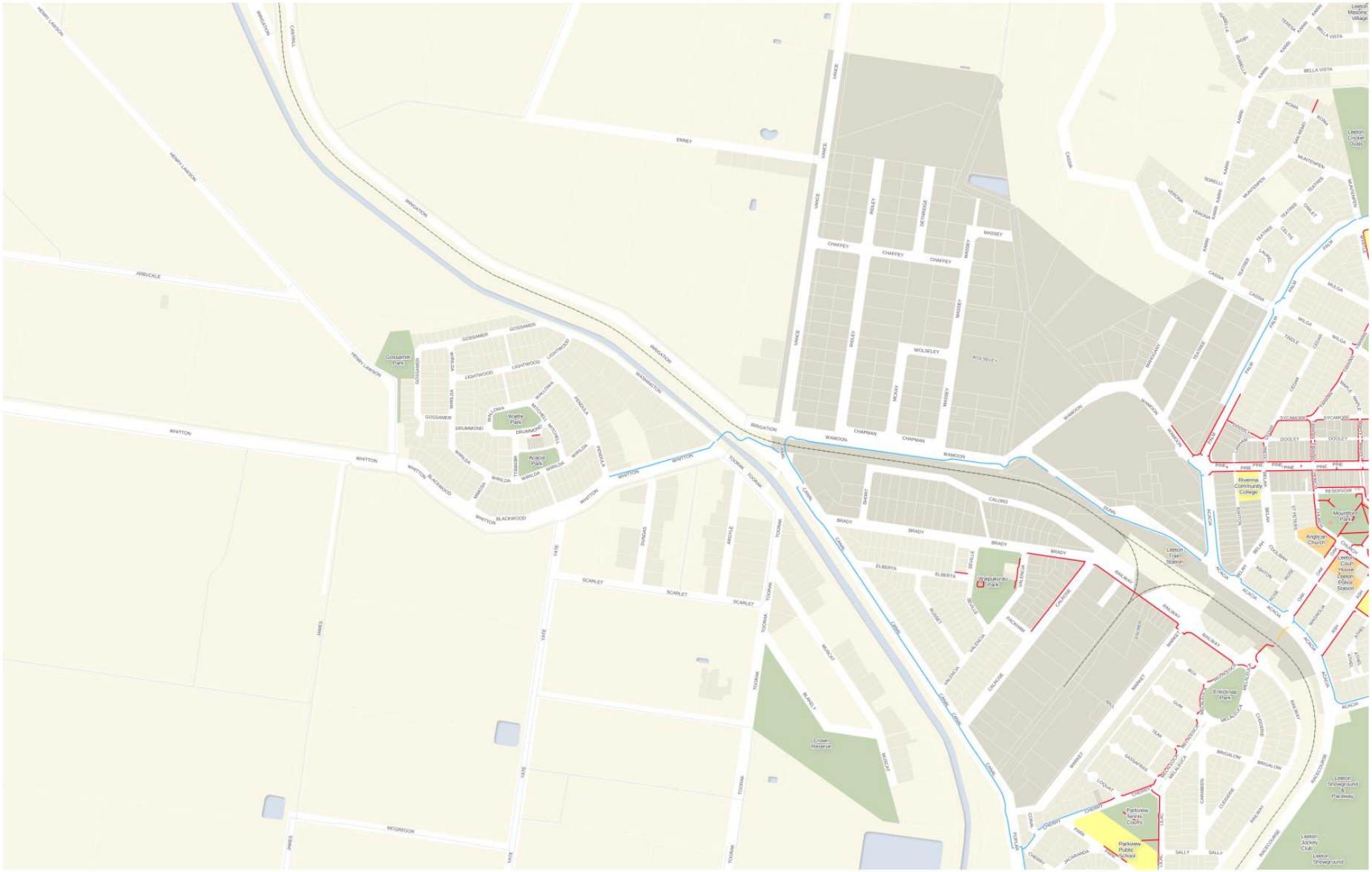
Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Leeton Township - South
Activity Generating Uses
Education Facilities
Community Facilities
Parks and Recreation Areas
Active Transport
Concrete Footpath - Existing
Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
General Land-use
Commercial / Industrial Land-use
General Urban Use
Rural / Undeveloped
Environmental
Irrigation Channel
Dams / Water Bodies
1:5,000
100 200 300 400 500 m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Project Contact
Francois Van Der Berg
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Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Leeton Township - West
Activity Generating Uses
Education Facilities
Community Facilities
Parks and Recreation Areas
Active Transport
Concrete Footpath - Existing
Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
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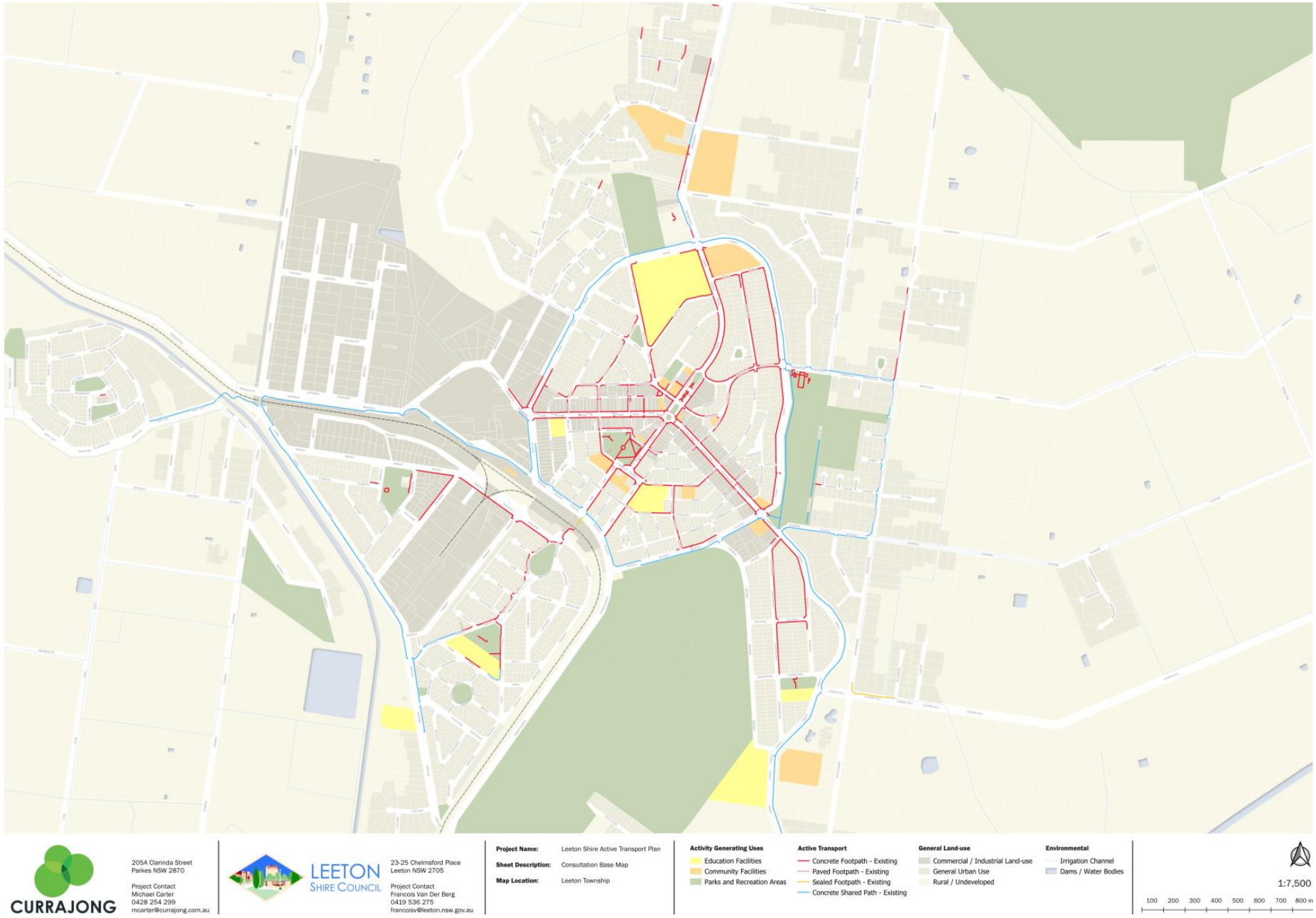
Environmental
Irrigation Channel
Dams / Water Bodies
1:5,000
100 200 300 400 500 m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Project Contact
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Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Leeton Township
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Community Facilities
Parks and Recreation Areas
Active Transport
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Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
General Land-use
Commercial / Industrial Land-use
General Urban Use
Rural / Undeveloped
Environmental
Irrigation Channel
Dams / Water Bodies
1:7,500
100 200 300 400 500 600 700 800 m


Malcom Road
Blaxland Road
Eyre Street
Blaxland Road
Gipps Street
Blaxland Road
Gess Street
Wattle Avenue
Wattle Avenue
Wattle Avenue
Tuckett Road
Yarmwal Road
Murrami Road
Wattle Avenue
Sheppard Road
Wattle Road
Murrami Road
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Parkes NSW 2870
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Leeton NSW 2705
Project Contact
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francoisv@leeton.nsw.gov.au
Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Murrami
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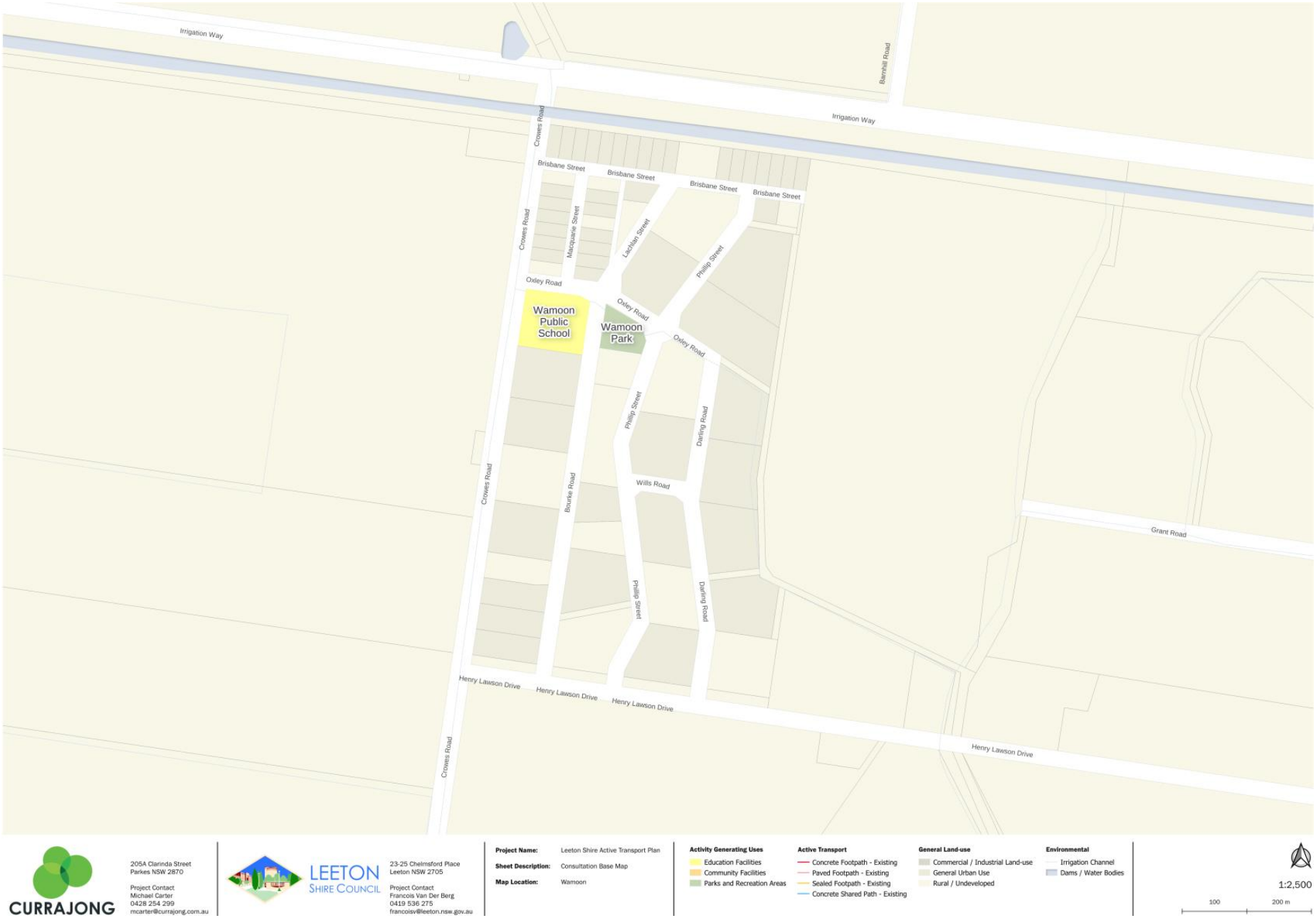
Community Facilities
Parks and Recreation Areas
Active Transport
Concrete Footpath - Existing
Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
General Land-use
Commercial / Industrial Land-use
General Urban Use
Rural / Undeveloped
Environmental
Irrigation Channel
Dams / Water Bodies
1:2,500
100
200 m


Irrigation Way
Barnhill Road
Irrigation Way
Crowes Road
Brisbane Street
Brisbane Street
Brisbane Street
Brisbane Street
Crowes Road
Macquarie Street
Lachlan Street
Phillip Street
Oxley Road
Oxley Road
Wamoon Public School
Wamoon Park
Oxley Road
Phillip Street
Darling Road
Crowes Road
Bourke Road
Wills Road
Grant Road
Phillip Street
Darling Road
Henry Lawson Drive
Henry Lawson Drive
Henry Lawson Drive
Crowes Road
Henry Lawson Drive
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Project Contact
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francoisv@leeton.nsw.gov.au
Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Wamoon
Activity Generating Uses
Education Facilities
Community Facilities
Parks and Recreation Areas
Active Transport
Concrete Footpath - Existing
Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
General Land-use
Commercial / Industrial Land-use
General Urban Use
Rural / Undeveloped
Environmental
Irrigation Channel
Dams / Water Bodies
1:2,500
100
200 m


Whitton Bulk Grain Storage Facility
Whitton Bowling Club
Whitton Reserve
Whitton Post Office
Rice Bowl Hotel
Whitton Community Hall
Whitton Public School
Whitton Historical Museum
Whitton Swimming Pool
Bringan Road
Hogan Road
Whitton Road
Houghton Road
Loughnan Street
Brunell Street
Douglas Street
Stephenson Street
Benerambah Street
Stanley Street
Gogeldrie Street - Whitton
Whitton Darlington Point Rd B
Bringan Street - Whitton
Hibiscus Lane
Azalea Lane
Begonia Lane
Fir Lane
Felicia Lane
Melbergen Street
Naradhun Street
Wisteria Lane
Conapaira Street
Oleander Lane
Binyah Street
Ballandry Street
Dioxma Lane
Beechworth Street
Musk Lane
Purdon Street
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Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Whitton
Activity Generating Uses
Education Facilities
Community Facilities
Parks and Recreation Areas
Active Transport
Concrete Footpath - Existing
Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
General Land-use
Commercial / Industrial Land-use
General Urban Use
Rural / Undeveloped
Environmental
Irrigation Channel
Dams / Water Bodies
1:2,500
100
200 m


DALLAS
DALLAS
DALLAS
MAIN
BACK YANCO
JURAMBULA
BONDI
BRINGAN
PROGRESS
DAVIS
EDON
EDON
EDON
EDON
MAIN
CUDGEL
CUDGEL
BACK YANCO
PROGRESS
Yanco Public School
CUDGEL
CUDGEL
BINYA
HEBDEN
HEBDEN
PROGRESS
GOGELDRIE
McCaughey Bicentennial Park
MAIN
COONONG
DAVIS
WIDGELLI
HANWOOD
BINYA
PROGRESS
MAIN
SHORT
SHORT
SHORT
SHORT
SHORT
Yanco Post Office
Yanco Powerhouse Museum
BINYA
MAIN
MCCAUGHEY
COONONG
HANWOOD
DAVIS
HOUGHTON
MAIN
COONONG
HANWOOD
GIDGELL
DAVIS
BURT
IRRIGATION
REGULATOR
HOUGHTON
DAVIS
IRRIGATION
Yanco Sports Ground
REGULATOR
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Project Name: Leeton Shire Active Transport Plan
Sheet Description: Consultation Base Map
Map Location: Leeton Township - West
Activity Generating Uses
Education Facilities
Community Facilities
Parks and Recreation Areas
Active Transport
Concrete Footpath - Existing
Paved Footpath - Existing
Sealed Footpath - Existing
Concrete Shared Path - Existing
General Land-use
Commercial / Industrial Land-use
General Urban Use
Rural / Undeveloped
Environmental
Irrigation Channel
Dams / Water Bodies
1:3,000
100
200
300 m

LEETON
SHIRE COUNCIL

Active Transport Plan

Leeton Shire
2023

DOCUMENT CONTROL

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DISCLAIMER

This Active Transport Plan has been prepared by Currajong Pty Ltd on behalf of Leeton Shire Council. The plan has been prepared with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Leeton Shire Council. Information reported herein is based on the information provided by Council and other sources and has been accepted in good faith as being accurate and valid. This report is for the exclusive use of the Leeton Shire Council. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from Currajong Pty Ltd. Currajong Pty Ltd disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

FROM THE MAYOR

The Liveable Leeton 2035 Community Strategic Plan highlights the community's aspiration to be a shire that is moving and connected, with accessible towns and great local destinations and many options to get there. As quoted by Henry Ford and highlighted in Liveable Leeton 2035, 'If everyone is moving forward together, then success takes care of itself.'

Walking and cycling, otherwise referred to as Active Transport, is environmentally friendly and good for your health, not to mention the social and economic benefits.

Leeton Shire Council is positioned to help everyone make active transport part of our everyday routines, by providing infrastructure, services and facilities where they are needed.

With your help Council will program a suite of new active transport projects that will support walking, cycling and personal fitness and mobility in Leeton Shire.

ACKNOWLEDGEMENT OF COUNTRY

Leeton Shire Council acknowledges the traditional custodians of the land on which we work and live, the Wiradjuri people, and pays its respects to Elders past, present and emerging. We recognise and respect their cultural heritage, beliefs and continuing connection with the land and rivers. We also acknowledge the contributions of Aboriginal Australians to this country we all live in and share together.

Aboriginal people maintain a strong belief that if we care for Country, it will care for us. This requires Country to be cared for throughout the process of design and development of Council projects such as the Leeton Shire Active Transport Plan.

Many of the transport routes we use today follow the traditional Songlines, trade routes and ceremonial paths in Country that Aboriginal people followed for thousands of years. It is appropriate that the Leeton Shire has an Active Transport Plan that plans for new connections to Country under a strategy approach that involves appropriate levels of community engagement.

A 'Connecting with Country' approach will also help Council meet any statutory requirements to sustainably manage Aboriginal culture and heritage in the Leeton Shire.

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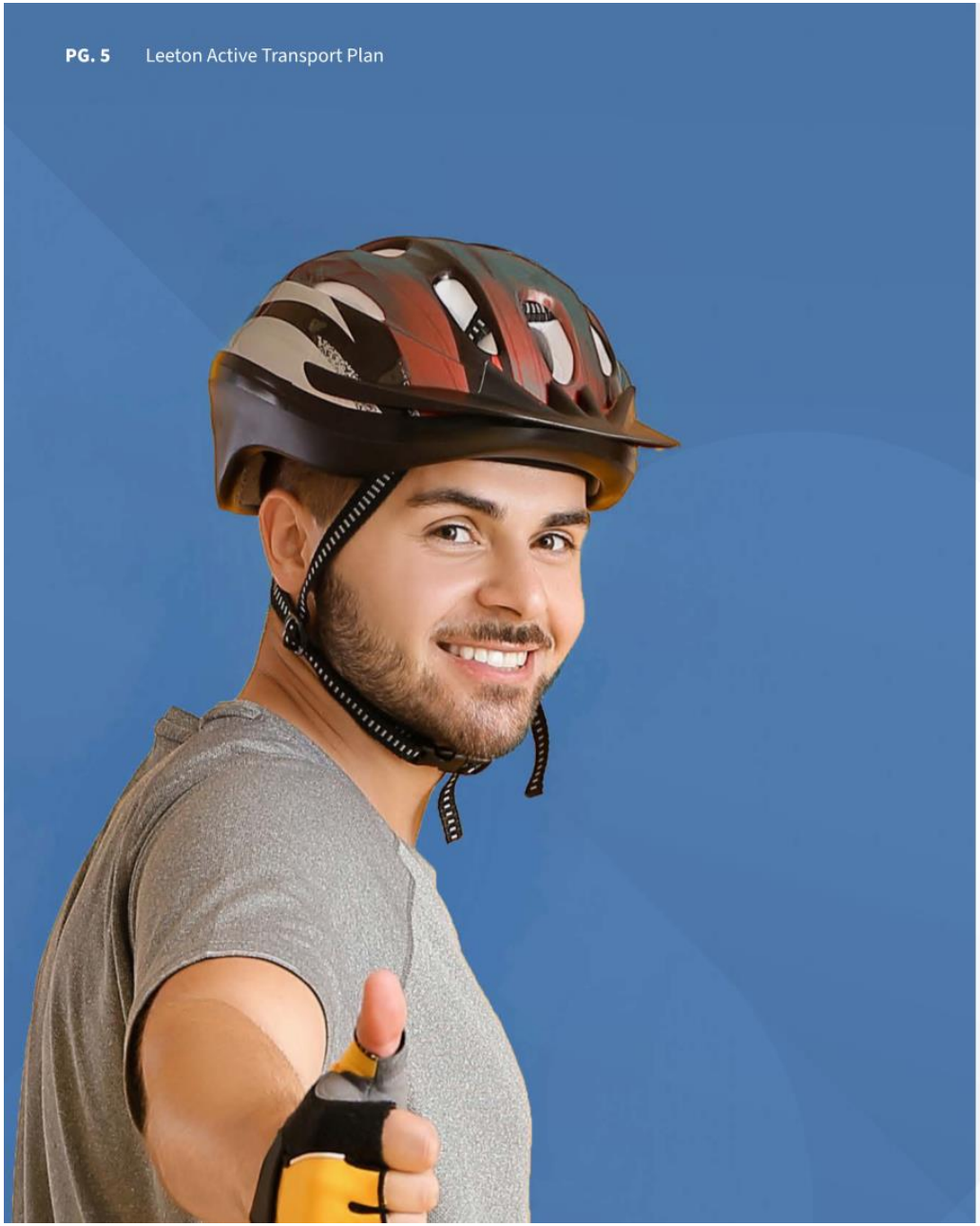

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CONTENTS

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01

INTRODUCTION

Leeton Shire Council is preparing the first Active Transport Plan to apply in the Leeton Shire.

The Leeton Shire Active Transport Plan (Leeton ATP) replaces the Leeton Shire Pedestrian Access and Mobility Plan 2019, which was largely focused on pedestrian improvements and provided minimal information on the needs of visitors, bike riders, people using the road network for fitness or people with a disability or mobility impairment.

The Leeton ATP draws on the new Transport for NSW Future Transport Strategy and Active Transport Strategy, both released in 2022. The aim is to make walking and cycling the preferred way to make short trips, with Transport for NSW encouraging regional councils to assist with achieving the NSW target of doubling the number of active transport trips within 20 years.

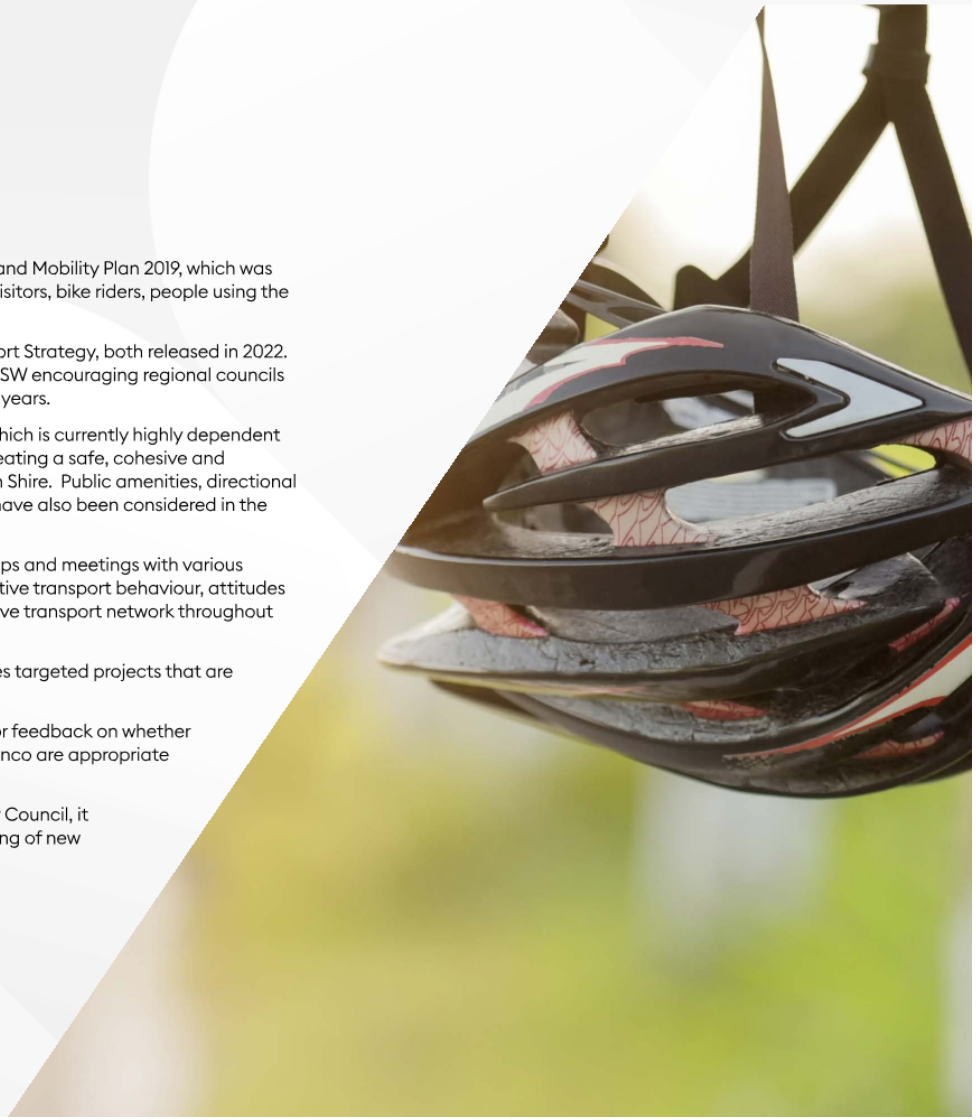
The Leeton ATP is specific to the travel patterns dispersed across the whole of the Leeton Shire, which is currently highly dependent on motorised vehicles for long and short trips. It brings into focus the specific requirements for creating a safe, cohesive and sustainable active transport network within the main towns and smaller settlements of the Leeton Shire. Public amenities, directional signage, water points, seating, bicycle racks, street lights and trees all support this network, and have also been considered in the Leeton ATP.

Stakeholder engagement and investigations have already commenced through surveys, workshops and meetings with various agencies, interest groups and residents. Feedback received so far provides valuable insight on active transport behaviour, attitudes and aspirations. It suggests the community is supportive of a more comprehensive and safer active transport network throughout the Leeton Shire.

Given there are limited funds available to undertake improvements, the draft Leeton ATP proposes targeted projects that are assessed to have the greatest benefits and user support.

Public exhibition of the draft Leeton ATP is the next step in the process to provide opportunities for feedback on whether the actions proposed in the active transport plans for Leeton, Murrami, Wamoon, Whitton and Yanco are appropriate for investment by Council, TfNSW and other stakeholders.

Following community input on the recommended actions in the Leeton ATP and final adoption by Council, it is intended the Leeton ATP will be used by Council as a planning tool to assist with the programming of new projects and initiatives.



02

THE VISION

The State Vision

The Transport for NSW Future Transport Strategy 2022 sets out the key actions to connect communities and encourage more people to choose active transport, including:

- Delivering continuous and connected cycling networks.
- Improving the safety and comfort of people walking and riding bikes by providing fit-for-purpose active transport infrastructure and appropriate road speeds.
- Facilitating children's and young people's independent mobility by improving safe walking and bike riding options for travel to and from school.
- Supporting multi-modal journeys by integrating active and public transport.
- Encouraging a shift to walking and cycling trips by delivering walking and cycling infrastructure to support mode shift.
- Supporting emerging technology choices such as e-bikes and other micro-mobility devices.

The TfNSW Active Transport Strategy 2022 draws on the NSW Future Transport Strategy 2022 and its vision for walking, bike riding and personal mobility. What is being established in NSW is a more targeted vision for safe, healthy, sustainable, accessible and integrated active transport journeys in NSW.

The NSW Government wants walking, bike riding and rolling to be the preferred way to make short trips and a viable, safe and efficient option for longer trips.

The vision of the NSW Active Transport Strategy 2022 is to double active transport trips in NSW over the next 20 years by focussing on five areas:

- Enable 15-minute neighbourhoods.
- Deliver continuous and connected cycling networks.
- Provide safer and better precincts and main streets.
- Promote walking and cycling and encourage behaviour change.
- Support our partners and accelerate change.

The NSW Active Transport Strategy provides longer term ambitions accompanied by five-year priority moves to guide planning, investment and priority actions for active transport across NSW, including regional and rural areas.

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02
THE VISION

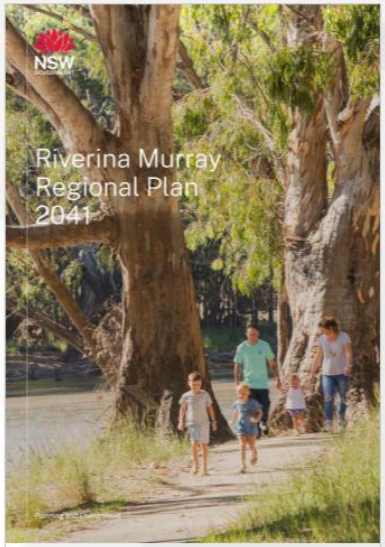
The Vision for the Region

Leeton is at the centre of the Riverina Murray Region which is one of the most productive agricultural regions in Australia and well connected to national road and rail corridors.

The Riverina Murray Regional Plan 2041, provides the NSW Government's vision for land-uses in the Riverina Murray Region. While not specifically targeting transport planning, the Riverina Murray Regional Plan 2041 supports the expansion of transport networks and improved connections between centres and other regions to bolster business and industry growth.

Other recent regional planning work such as the NSW 2040 Economic Blueprint, Transport for NSW Future Transport 2056, NSW Services and Infrastructure Plan, regional economic development strategies and regional water strategies have also been considered in the Leeton ATP.

All these strategic planning resources have been used as an important strategic planning resources in the preparation of the Leeton ATP.



The Vision for Leeton

The Liveable Leeton 2035 Community Strategic Plan sets the following long-term vision for Leeton Shire:

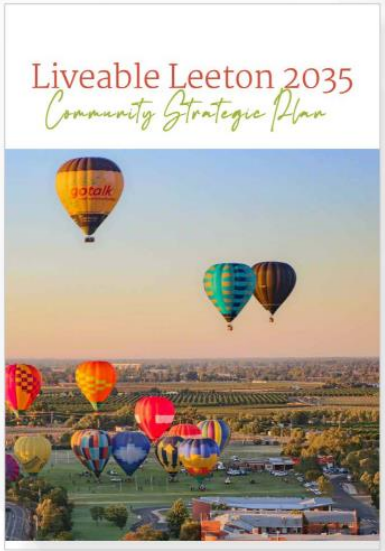
> *'We are a healthy, safe and connected community that respects people and the environment, enjoying active lives in a strong local economy under pinned by quality, accessible infrastructure, reliable water supplies and strong leadership.'*

Five focus areas have been agreed upon to achieve the community's aspirations and vision for Leeton Shire, as follows:

- A connected, inclusive and enriched community.
- A safe, active and healthy community.
- A thriving regional economy.
- A quality environment.
- Strong leadership and civic participation.

The preparation of the Leeton Shire Council 2022/25 Delivery Program is Council's four-year commitment to the progression of work highlighted for greater focus.

The Leeton ATP will inform Council's 4-Year Delivery Programs and 1-Year Operations Plans into the short to medium term, and should go a long way to implementing new projects that benefit walking and cycling in the Leeton Shire.



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03

CHALLENGES + OPPORTUNITIES

A lot has changed since the adoption of the Leeton Shire Pedestrian Access and Mobility Plan in 2019, including:

- Droughts, floods and bushfires have demonstrated the need to build more resilient settlements and multi-modal transport systems.
- The COVID-19 pandemic has changed much in our daily lives and shown how quickly we can adapt and adopt new habits such as work-life balance, remote working, different transport choices beyond motor vehicles and a rethink of the 5-day work commute.
- There is more urgency around reducing greenhouse gas emissions from transport, with a growing demand for electric vehicles and the NSW government making a commitment to Net Zero for transport operations by 2035.
- Connecting with Country now informs the planning, design, and delivery of built environment projects in NSW.
- The 6 Cities Region has replaced the Metropolis of Three Cities, with renewed emphasis on regional planning and development.
- The 'Movement and Place' framework introduced in 2018 is now fully embedded in Transport for NSW policy.
- New targets for the '15-minute neighbourhood' have been adopted by Transport for NSW policy under the NSW Active Transport Strategy 2022.
- Other important policies that support active transport infrastructure have been released, including the NSW Road User Space Allocation, Providing for Walking and Cycling in Transport Projects, the Walking Space Guide and the Cycleway Design Toolbox.
- Micro-mobility in the form of e-bikes, e-scooters and other mobility devices is growing strongly, requiring consideration of these new transport modes in the road environment.

The Leeton Shire Pedestrian Access and Mobility Plan 2019 focused mainly on footpaths in Leeton and not the other towns, villages and non-urban areas that makes-up the balance of the shire. There is a need to widen the focus of active transport planning beyond footpaths and to other areas of the Leeton Shire.

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04

APPROACH + METHODOLOGY

Active transport users are far more attuned to the environment in which they are moving than faster moving motorists.

Planning for pedestrians and cyclists does not follow the same logic as motor traffic planning, which normally involves a 'car or truck' - 'trips' - 'routes' - 'parking' - 'traffic network' with some consideration given to the land-uses adjoining road corridors.

Active transport planning places more emphasis on the environment and the conditions along routes and at attractors.

An important aspect of the Leeton ATP is to build an understanding of the elements that will make a good pedestrian and cycling network in the Leeton Shire context. These include an understanding of the following:

- The types of existing / potential pedestrians and cyclists and their needs.
- The condition of the existing pedestrian and cycling network (including paths, gaps, barriers and surrounding land-uses).
- Where pedestrians and cyclists are going and why.
- The traffic environment (speed and volume) that pedestrians and cyclists must deal with.
- The key planning and engineering principles that underpin an effective and usable network.
- The most appropriate design options that meet pedestrian and cyclists needs, including standard and innovative options.
- The views and aspirations of stakeholders.
- Mechanisms to program / fund improvements to the active transport network.

The approach for the Leeton ATP is to develop new active transport plans for the main urban settlements in the shire that build upon existing infrastructure and that address the key issues and aspirations identified from community consultation and audits.

To achieve this approach, the Leeton ATP is being undertaken in the following stages:

STAGE 1 - Asset Review

Leeton Shire Council has adopted a Strategic Asset Management Plan in June 2022 to guide the management of its road network, including active transport assets.

The main elements of the existing network of active transport facilities in the Leeton Shire have been recorded on a series of maps in the Leeton ATP.

This local data has been presented to key Council, Transport for NSW and Murrumbidgee Irrigation as the basis for reviewing the long term management of the active transport network in Leeton Shire.

STAGE 2 - Independent Audit Investigations

Consultant planners and traffic engineers specialising in active transport planning and projects have been engaged to independently investigate the existing active transport network in Leeton Shire.

This audit work was undertaken by means of the following:

- Drive-through and walk-through surveys of the study area, with particular focus on urban settlement areas, primary routes, land-use attractors and iconic destinations.
- On-site meetings with interested community members where specific sites / issues needed to be observed and discussed.

The audits were not meant to gather a comprehensive inventory of pedestrian and cycling assets in the Leeton Shire. Safety reviews were also not part of the consultancy brief.

The emphasis of the independent / expert audits was on identifying gaps in the network, barriers to people undertaking regular active transport, and new opportunities to cater for existing and potential pedestrian and cycling activity.

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STAGE 3 - Promotion

Information about the Leeton ATP was published in local media and Leeton Shire Council's website to inform community members about the preparation of the new plan. Emails were also sent out to stakeholders known to Council who have an interest in pedestrian and cycling activities.

STAGE 4 - Online Survey

An online survey was made available via Leeton Shire Council's website to provide community members with an opportunity to provide preliminary information and comments on the key issues about walking and cycling experiences, ideas, behaviour and attitudes.

STAGE 5 - Preliminary Community Workshops

Community workshops and meetings were held with interested locals in Leeton, Murrami, Wamoon, Whitton and Yanco in November 2022.

The workshops were structured around a series of local area maps. Questions were asked about the pedestrian and cycling network and local conditions that led the conversation to allow for problems, solutions, suggested routes and feedback to be covered within the allocated workshop.

Throughout the workshops, the responses given had common themes which reiterated the desire for additional paths to popular destinations and routes within the community.

STAGE 6 - Local Data Review and Planning

The audits and stakeholder feedback revealed a variety of pedestrian and cycling facilities provided in Leeton Shire, in varying conditions.

Expectedly, the preliminary investigations and engagement findings identified a number of deficiencies and barriers in the active transport network, which are discussed in more detail in later sections of the Leeton ATP.

Where these involved minor issues, they were discussed with Council staff for addressing. Project planning and development issues were also discussed with relevant staff to assist with the formulation of projects and priorities in the draft Leeton ATP.

STAGE 7 - Draft Leeton Active Transport Plan

A draft Leeton ATP has been prepared (this report) to record the relevant information in one succinct strategy document.

Incorporated into the Leeton ATP are a series of maps dealing with the audit and preliminary engagement findings.

Active Transport Plans have also been prepared for Leeton, Murrami, Wamoon, Whitton and Yanco to 'visualise' the additional facilities required to achieve a more connected network.

A Matrix Table in Section 10 provides full visibility on how priorities and actions were decided.

Concept designs of the top priority projects recommended for action are also shown in the draft Leeton ATP along with project costings and any notes relating to project implementation.

STAGE 8 - Public Exhibition

Formal public exhibition of the draft Leeton ATP is the next step in the process. Feedback on the draft plan will then be used to develop an action plan.

STAGE 9 - Review of Submissions and Finalisation of Leeton ATP

The final task will be the review of the draft plan and recommended programme the infrastructure projects by Council. Final project cost estimates for each priority project will also be shown in the Leeton ATP.

05

LOCAL CONTEXT

Leeton in the MIA

Leeton is at the centre of the Riverina Murray Region Murrumbidgee Irrigation Area which is one of the strongest agricultural regions in Australia and well connected to national road and rail corridors.

The region has a number of larger town centres at Griffith (27,700), Wagga Wagga (67,800) and Albury (56,000). As well as having the highest proportion of the regional population, these centres are hubs for higher order shopping and trade services, health and education. The balance of the population is dispersed across many smaller towns, settlements and rural holdings, which results in travel patterns that are dispersed across the region.

Over 90% of all trips in the region, including work travel, are by private vehicle. Walking and cycling comprise less than 5% of all trips, while public transport use is less than 1%. Poor access to public transport contributes to social disadvantage and accessibility issues in some sections of the wider regional community.

Town centres, schools, sports and recreational centres tend to have higher levels of active transport participation, evidenced by walking, running, bike riding and other rolling activities and events.

Leeton Shire

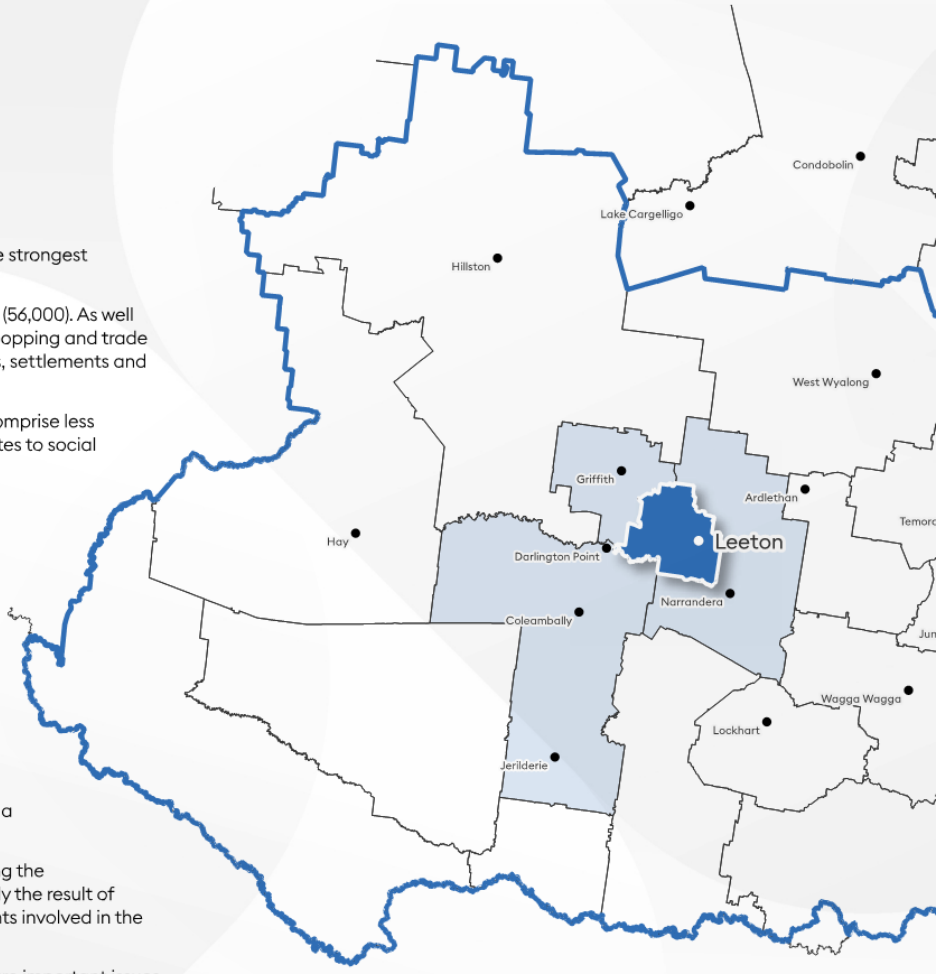
The Leeton Shire has a population of around 11,500 people, spread over a relatively large area of 1,167 square kilometres. The main towns in the shire are Leeton, Murrami, Wamoon, Whitton and Yanco.

The mainstay of the Leeton Shire economy is manufacturing and agriculture, with other key employment sectors including education, health and retail trade.

The Leeton Shire community is considered to have high car dependency for both work and leisure. Analysis of car ownership in 2021 indicates 57% of households in Leeton Shire had access to two or more motor vehicles, compared to 55% in Regional NSW and 46% in Greater Sydney. Motor vehicle dependency is reflected in the method of travel to work with over 72% of people in Leeton Shire using a motor vehicle to travel to work.

Only a small proportion of the community use alternative methods to travel to work, with walking being the most preferred with around 4% of people walking to work. The dependency on motor vehicles is largely the result of limited public transport coverage and the large distances between origins and destinations of residents involved in the rural industry sector.

Access to education and support services and a long-term focus on improving health and wellbeing are important issues to cater to the needs of existing and future residents.



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Leeton

Overview

Leeton was established by the Murrumbidgee Irrigation Trust in 1913 as the administration headquarters of the MIA. In 1914, the American architect Walter Burley Griffin re-designed the town along similar design principles to Canberra. Burley Griffin advocated a town square / meeting place, with the following key principles nominated for Leeton's "Plan of Extension":

- A central symbol of progress and prosperity.
- A community theatre of a civic function, representing continuity and stability.
- A place of relaxation and respite.
- A hint of the exotic fused with a sense of energy.

Griffin's organic design has culminated in strong vistas and places towards the central area of Leeton. Many buildings were constructed in the art deco period, which centres a strong 'sense of place' and opportunity for a strong destination 'brand'.

With a current population over 8,600 people, Leeton is the largest urban area in the shire and the mainstay of industry, employment, housing and society. Conditions at Leeton are ideal for walking and cycling. Over 90% of the town population lives within one kilometre of the Leeton CBD, schools and workplaces. Many streets in Leeton are quite wide and have lower traffic volumes than in larger regional centres. The parklands in Leeton offer ideal conditions for residents and visitors to enjoy these spaces. However, links to industrial areas, some schools and parklands and residential areas is patchy.

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Preliminary consultation and audit findings - Leeton

A number of constraints and opportunities were identified in the Leeton active transport network, which are reported in the table below and Leeton township map on page 16.

ISSUE	FINDING
Footpaths	The blue lines on the map show the existing network of constructed footpaths in Leeton. The blue dash lines show parts of the road network that are being readily used by pedestrians that do not have constructed footpaths. All community members consulted are supportive of more footpaths.
Shared Paths	The purple lines on the map show the existing shared path network, which include bitumen sealed and concrete surfaces. The purple dash lines on the map show parts of the road network that are being readily used by pedestrians and cyclists which would benefit from a shared path. All community members consulted are supportive of more shared paths.
Kerb Ramps	There are a number of kerb ramps that need to be provided or need replacing due to poor alignment, grade or condition.
School Zones	Schools in Leeton are generally provided with constructed footpaths. Conditions around Leeton High School and Leeton Public School are quite busy during school zone times and require a more comprehensive active transport network around schools and linking to other attractors such as the Leeton CBD.
Bicycle lanes and exclusive off-road cycle paths	There are no on-road cycling lanes or exclusive bike paths in Leeton. Consultation with community members suggested more focus on off-road shared paths is required for recreational riding with friends and / or family. Regular road cyclists advise they seek on-road cycling routes along the quieter rural roads for leisure or training where sealed shoulders are provided.
Road crossings	There is limited use of kerb extensions and blisters to reduce effective road carriageway width and provide safe road crossing points. The main existing crossing points are shown as black arrows.
Barriers	The Yanco to Griffith Railway running through Leeton acts a barrier for active transport movements. Limited railway crossing points tend to concentrate active transport movement along main roads where there are motor vehicle trips. Community members consulted suggested a focus on active transport linkages across railways and at existing railway crossings to ensure coherent, safe and direct paths. Canal road crossing points were also raised as potential barriers.
Obstacles	No street furniture, signs or other structures were observed to present major obstacles or hazards to pedestrians or cyclists on constructed paths.
Trip Hazards	Footpath cracking and sections of broken paving were observed on some footpaths / shared paths. Some constructed paths finish before the bitumen seal of the road carriageway, creates potential trip hazard areas. Many existing kerb ramps present as trip hazards due to poor alignment, grade or condition. Provision of concrete footpaths, shared paths and new kerb ramps along main walkways to the edge of the sealed road carriageway would help address potential trips and falls.
Lighting	No major issues were raised / noted.
Tactile Indicators	Generally absent in Leeton CBD and other public areas.
End of trip facilities	There are a good number of public parks providing end-of-trip facilities throughout Leeton. There are few disabled parking spaces within Leeton CBD. A larger capacity public car park is required at Fivebough Wetlands and provision is required for lockable bicycle parking facilities.
Signage	Generally absent at important tourism attractors.
Other	People following the Australian Road Rules was raised as a general issue for continued road safety promotion.

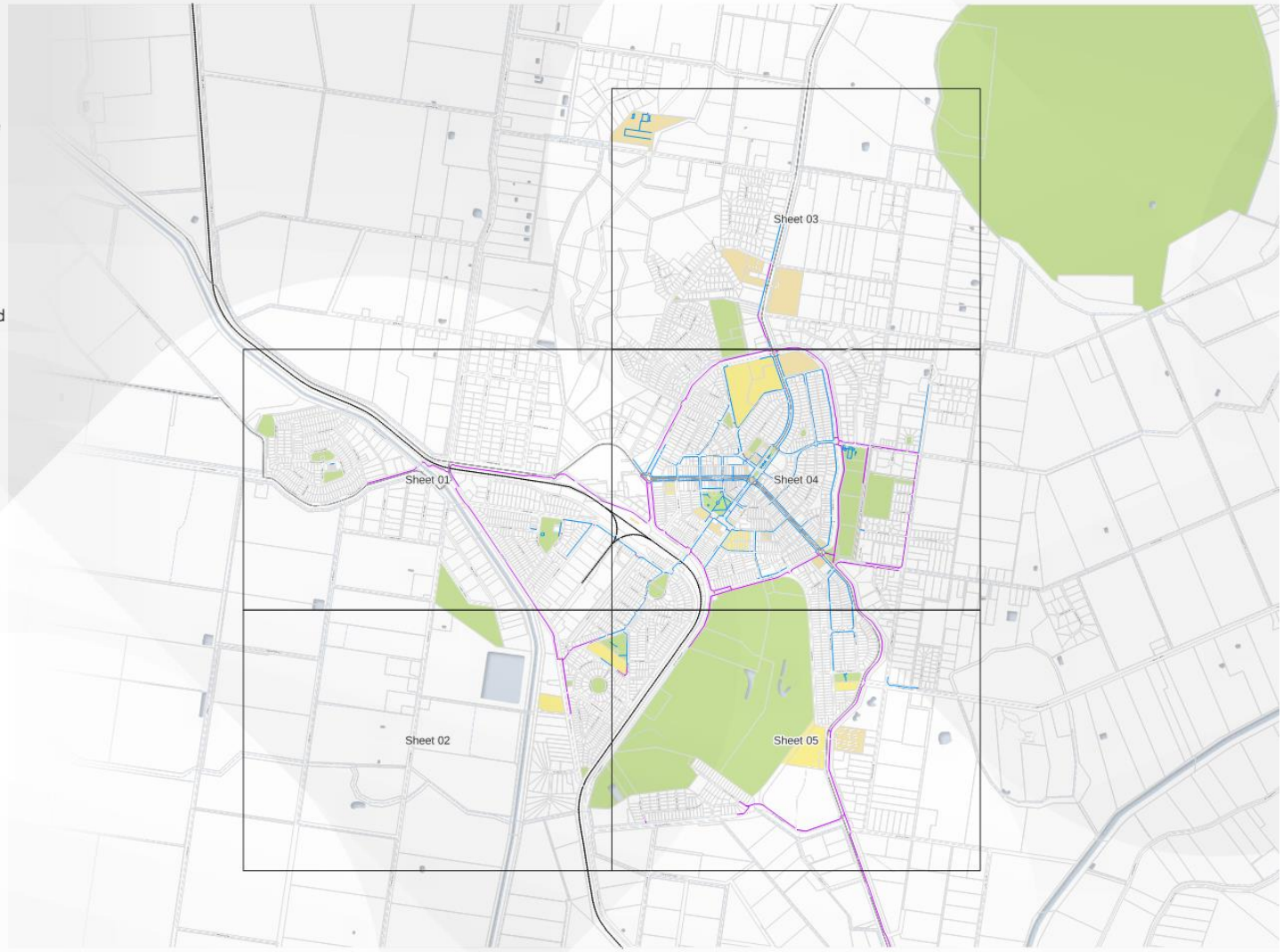
05

Leeton mapping

A series of maps have also been prepared which summarise some of the key consultation / audit findings of the Leeton investigations (as presented in the previous table).

Leeton has an expansive / large urban area. To manage this issue, a grid-based approach to the project mapping has been adopted.

This grid is shown in the map to the right of page and should be referred to when necessary when viewing the Leeton based maps throughout this Active Transport Plan.



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PG. 17 Leeton Active Transport Plan

General Comments

There is a general lack of Tactile Ground Surface Indicators within Leeton.

More people are walking and cycling particularly around school holidays.

There needs to be more awareness and promotion of road rules and cyclist safety including lights, high visibility clothing and the importance of wearing helmets.

Cyclists wearing dark clothing can be an issue for travelling motorists.

There is a need for an off-leash walking area moving into the future.

Project
Leeton Active Transport Plan

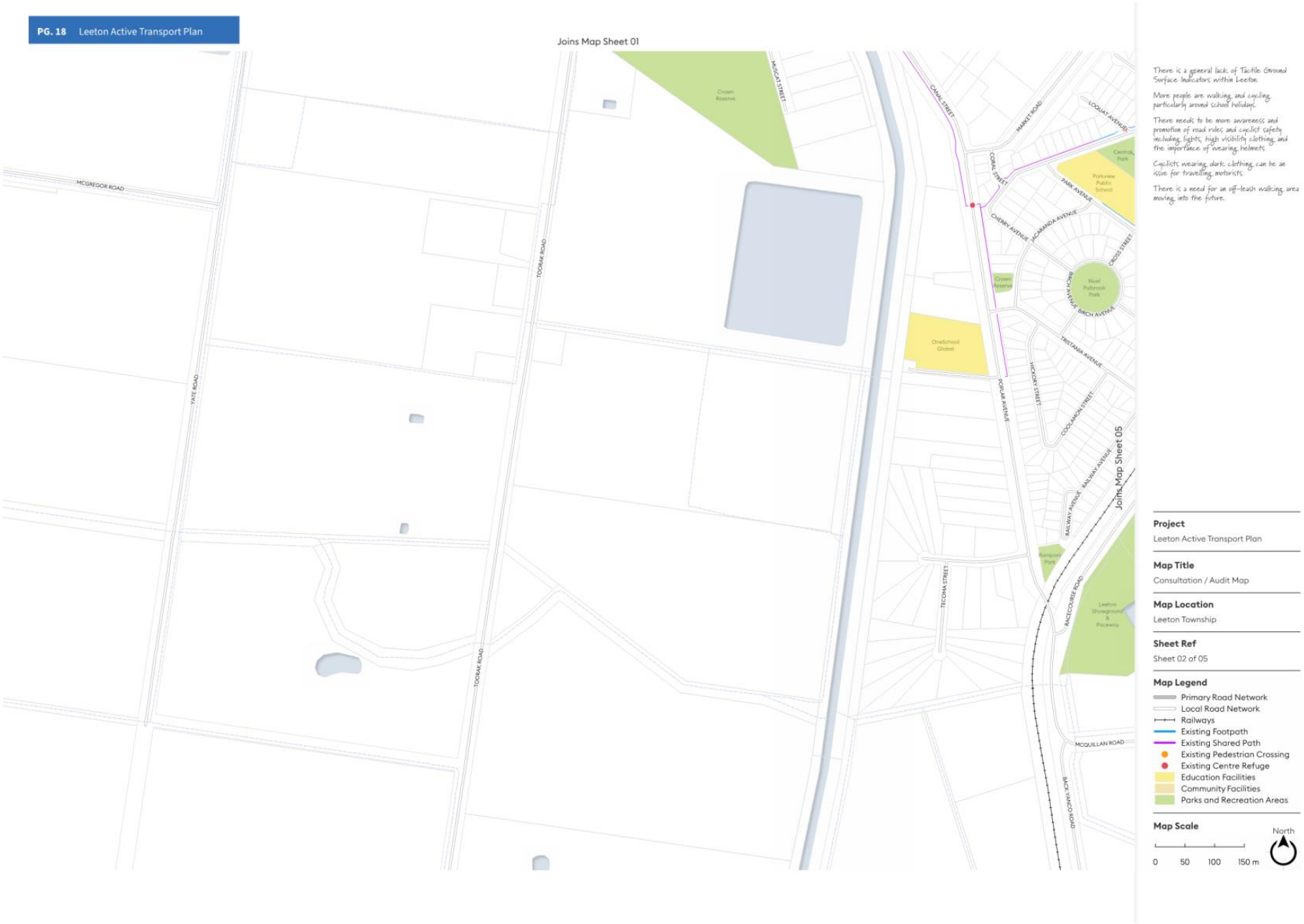
Map Title
Consultation / Audit Map

Map Location
Leeton Township

Sheet Ref
Sheet 01 of 05

Map Legend
- Primary Road Network
- Local Road Network
- Railways
- Existing Footpath
- Existing Shared Path
- Existing Pedestrian Crossing
- Existing Centre Refuge
- Education Facilities
- Community Facilities
- Parks and Recreation Areas

Map Scale
0 50 100 150 m
North


PG. 18 Leeton Active Transport Plan
Joins Map Sheet 01
Joins Map Sheet 05
MCGREGOR ROAD
YATE ROAD
TOORAK ROAD
MCCOY STREET
CANAL STREET
MARKET ROAD
LOQUAT AVENUE
CORAL STREET
PARK AVENUE
CHERRY AVENUE
ACABANDA AVENUE
CROSS STREET
BIRCH AVENUE
TRISTANIA AVENUE
HICKORY STREET
POPLAR AVENUE
COOLAMON STREET
RAILWAY AVENUE
TECOMA STREET
RACECOURSE ROAD
MCQUILLAN ROAD
BACK YANCO ROAD
Crown Reserve
Central Park
Parkview Public School
Noel Pultbrook Park
OneSchool Global
Rumpens Park
Leeton Showground & Raceway
There is a general lack of Tactile Ground Surface Indicators within Leeton.
More people are walking and cycling, particularly around school holidays.
There needs to be more awareness and promotion of road rules and cyclist safety including lights, high visibility clothing and the importance of wearing helmets.
Cyclists wearing dark clothing can be an issue for travelling motorists.
There is a need for an off-leash walking area moving into the future.
Project
Leeton Active Transport Plan
Map Title
Consultation / Audit Map
Map Location
Leeton Township
Sheet Ref
Sheet 02 of 05
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Existing Pedestrian Crossing
Existing Centre Refuge
Education Facilities
Community Facilities
Parks and Recreation Areas
Map Scale
0 50 100 150 m
North

PG. 19 Leeton Active Transport Plan

There is a general lack of Tactile Ground Surface Indicators within Leeton.

More people are walking and cycling, particularly around school holidays.

There needs to be more awareness and promotion of road rules and cyclist safety including lights, high visibility clothing and the importance of wearing helmets.

Cyclists wearing dark clothing can be an issue for travelling motorists.

There is a need for an off-leash walking area moving into the future.

Project
Leeton Active Transport Plan

Map Title
Consultation / Audit Map

Map Location
Leeton Township

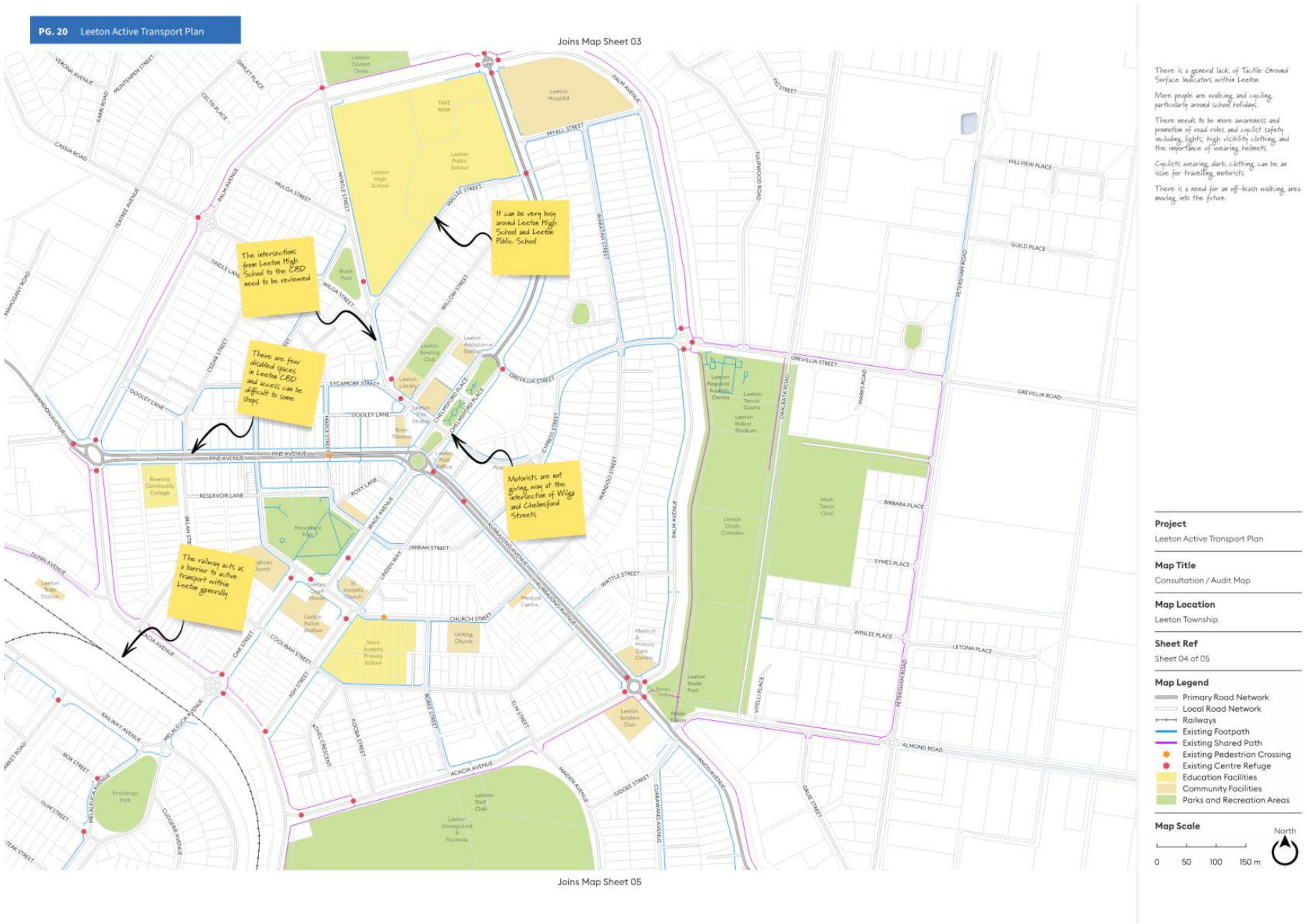
Sheet Ref
Sheet 03 of 05

Map Legend
- Primary Road Network
- Local Road Network
- Railways
- Existing Footpath
- Existing Shared Path
- Existing Pedestrian Crossing
- Existing Centre Refuge
- Education Facilities
- Community Facilities
- Parks and Recreation Areas

Map Scale
0 50 100 150 m

North

Joins Map Sheet 04


PG. 20 Leeton Active Transport Plan
Joins Map Sheet 03
Joins Map Sheet 05
It can be very busy around Leeton High School and Leeton Public School
The intersections from Leeton High School to the CBD need to be reviewed
There are few disabled spaces in Leeton CBD and access can be difficult to some shops
Motorists are not giving way at the intersection of Wilga and Chelmsford Streets
The railway acts as a barrier to active transport within Leeton generally
There is a general lack of Tactile Ground Surface Indicators within Leeton.
More people are walking and cycling, particularly around school holidays.
There needs to be more awareness and promotion of road rules and cyclist safety including lights, high visibility clothing and the importance of wearing helmets.
Cyclists wearing dark clothing can be an issue for travelling motorists.
There is a need for an off-leash walking area moving into the future.
Project
Leeton Active Transport Plan
Map Title
Consultation / Audit Map
Map Location
Leeton Township
Sheet Ref
Sheet 04 of 05
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Existing Pedestrian Crossing
Existing Centre Refuge
Education Facilities
Community Facilities
Parks and Recreation Areas
Map Scale
0 50 100 150 m
North

Joins Map Sheet 04

There is a general lack of Tactile Ground Surface Indicators within Leeton.

More people are walking and cycling particularly around school holidays.

There needs to be more awareness and promotion of road rules and cyclist safety including lights, high visibility clothing and the importance of wearing helmets.

Cyclists wearing dark clothing can be an issue for travelling motorists.

There is a need for an off-leash walking area moving into the future.

Project
Leeton Active Transport Plan

Map Title
Consultation / Audit Map

Map Location
Leeton Township

Sheet Ref
Sheet 05 of 05

Map Legend
- Primary Road Network
- Local Road Network
- Railways
- Existing Footpath
- Existing Shared Path
- Existing Pedestrian Crossing
- Existing Centre Refuge
- Education Facilities
- Community Facilities
- Parks and Recreation Areas

Map Scale
0 50 100 150 m
North

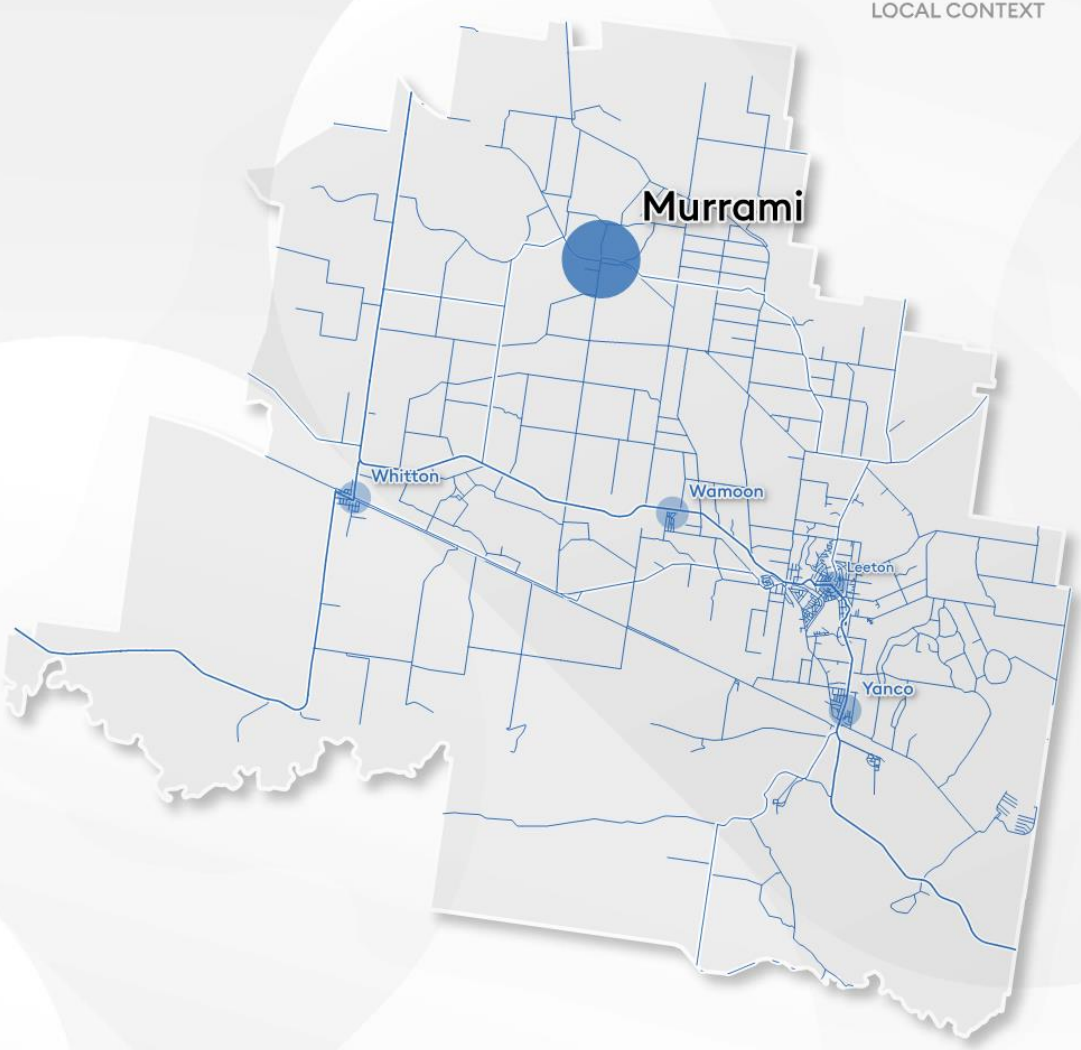
Murrami

Overview

Murrami (population 326) is located approximately 32 kilometres to the north-west of Leeton. Murrami is connected to reticulated potable water supply and comprises private residences, Murrami Post Office, and Murrami community hall and playground.

The Griffith-Junee Railway passes through Murrami and there are major grain receival depots adjacent to railway lines.

The Murrami Post Office is the centre of most daily traffic and activity. Residents were observed walking on the actual road carriageway, which is an issue along Wattle Avenue where there is heavy vehicle and through traffic.



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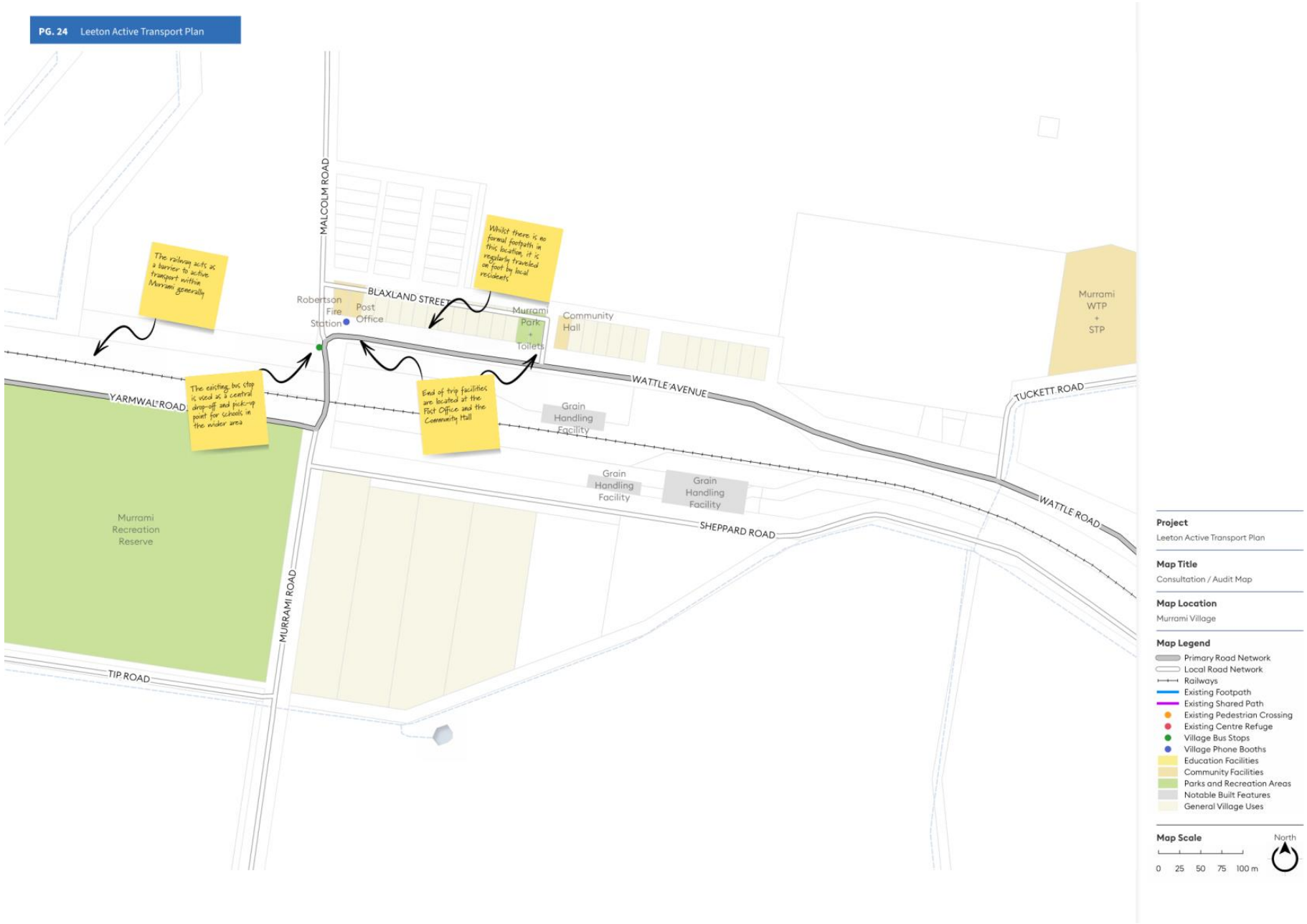
PLANNING, PROPERTY + PROJECT MANAGEMENT

Preliminary consultation and audit findings - Murrami

The audit and consultation work in Murrami revealed a general lack of footpaths and facilities.

A map summarising the audit / consultation findings of the Murrami investigations is also presented.

ISSUE	FINDING
Footpaths	There are generally no constructed footpaths in Murrami. The grassed footpath verge between the Murrami Post Office and Murrami Hall is the area being readily used by pedestrians without benefit of constructed paths.
Shared Paths	There are no constructed shared paths.
Kerb Ramps	There are generally no kerb ramps as there are no constructed footpaths. New kerb ramps should form part of any new footpath treatments.
School Zones	There are currently no schools in Murrami and there is no need for school zones or crossings.
Bicycle lanes and exclusive off-road cycle paths	There are no on-road cycling lanes or exclusive cycling paths in Murrami, nor are they warranted at this stage.
Road crossings	There are no constructed road crossings in Murrami and there is no need for crossings at this stage.
Barriers	The railway acts a general barrier for active transport, however the warrant for a rail crossings is low due to lack of land-use attractors on the southern side of the railway.
Obstacles	No street furniture, signs or other structures were observed to present major obstacles or hazards to pedestrians or cyclists on constructed paths.
Trip Hazards	Grassed footpaths and uncontrolled road drainage results in periodic washouts, erosion and footpath damage. There is potential for trips and falls between the Post Office and Hall where the majority of active transport trips were observed.
Lighting	No major issues were raised / noted.
Tactile Indicators	Generally absent in Murrami and not required at this stage.
End of trip facilities	The Post Office and Hall provide end of trip facilities, including commercial sale of drinks and packaged food.
Signage	Generally absent.
Other	The school bus stop and the Post Office is used as a central drop-off and pick-up point for schools students accessing education in the wider area. Trucks accessing grain receival facilities and farming properties present as a potential safety issue, particularly at the Post Office corner. Lack of underground drainage presents additional issues for pedestrians, particularly at the Post Office corner.


PG. 24 Leeton Active Transport Plan
The railway acts as a barrier to active transport within Murrami generally
Whilst there is no formal footpath in this location, it is regularly traveled on foot by local residents
The existing bus stop is used as a central drop-off and pick-up point for schools in the wider area
End of trip facilities are located at the Post Office and the Community Hall
MALCOLM ROAD
BLAXLAND STREET
Robertson Fire Station
Post Office
Murrami Park + Toilets
Community Hall
Murrami WTP + STP
WATTLE AVENUE
TUCKETT ROAD
YARMWAL ROAD
Grain Handling Facility
Grain Handling Facility
Grain Handling Facility
WATTLE ROAD
SHEPPARD ROAD
Murrami Recreation Reserve
MURRAMI ROAD
TIP ROAD
Project
Leeton Active Transport Plan
Map Title
Consultation / Audit Map
Map Location
Murrami Village
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Existing Pedestrian Crossing
Existing Centre Refuge
Village Bus Stops
Village Phone Booths
Education Facilities
Community Facilities
Parks and Recreation Areas
Notable Built Features
General Village Uses
Map Scale
0 25 50 75 100 m
North

Wamoon

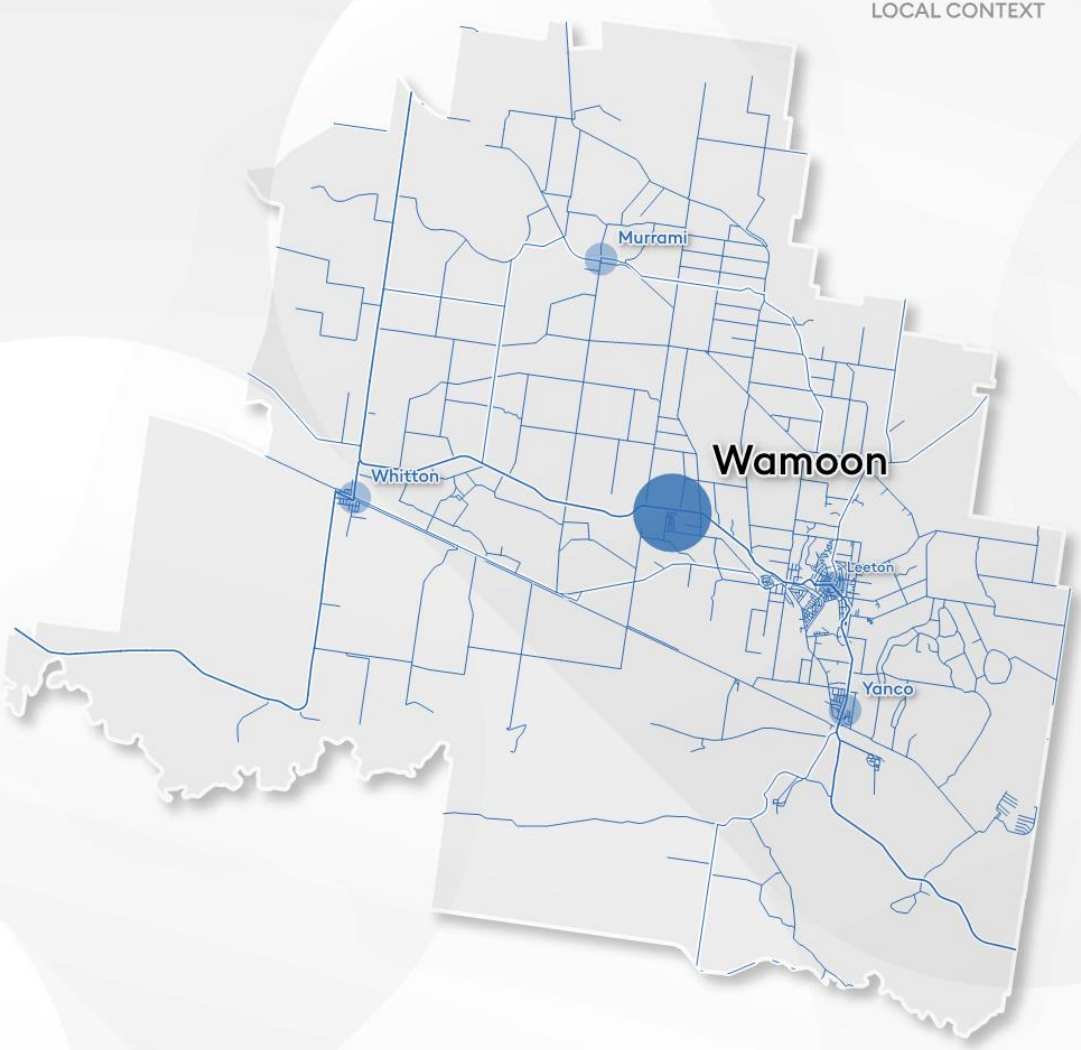
Overview

Wamoon (population 200) is located adjacent to Irrigation Way approximately 10 kilometres west of Leeton. Wamoon was established to provide a place of residence for farm and cannery workers when the rice and fruit industries were being established in 1912.

Wamoon is connected to reticulated potable water supply and there are plans to connect dwellings in the village to reticulated sewer.

Many of the local roads within the villages and surrounding rural areas are sealed, with few formed footpaths and no formal bicycle paths in villages. Due to the wide village streets and low traffic volumes, many residents walk or cycle on the actual road carriageway or along the grassed verge.

There is generally less pedestrian and cycling activity to access work, shops and other facilities in Wamoon. Most school students in Wamoon were observed walking to Wamoon Public School or to the adjoining bus stop to access other schools in the shire.



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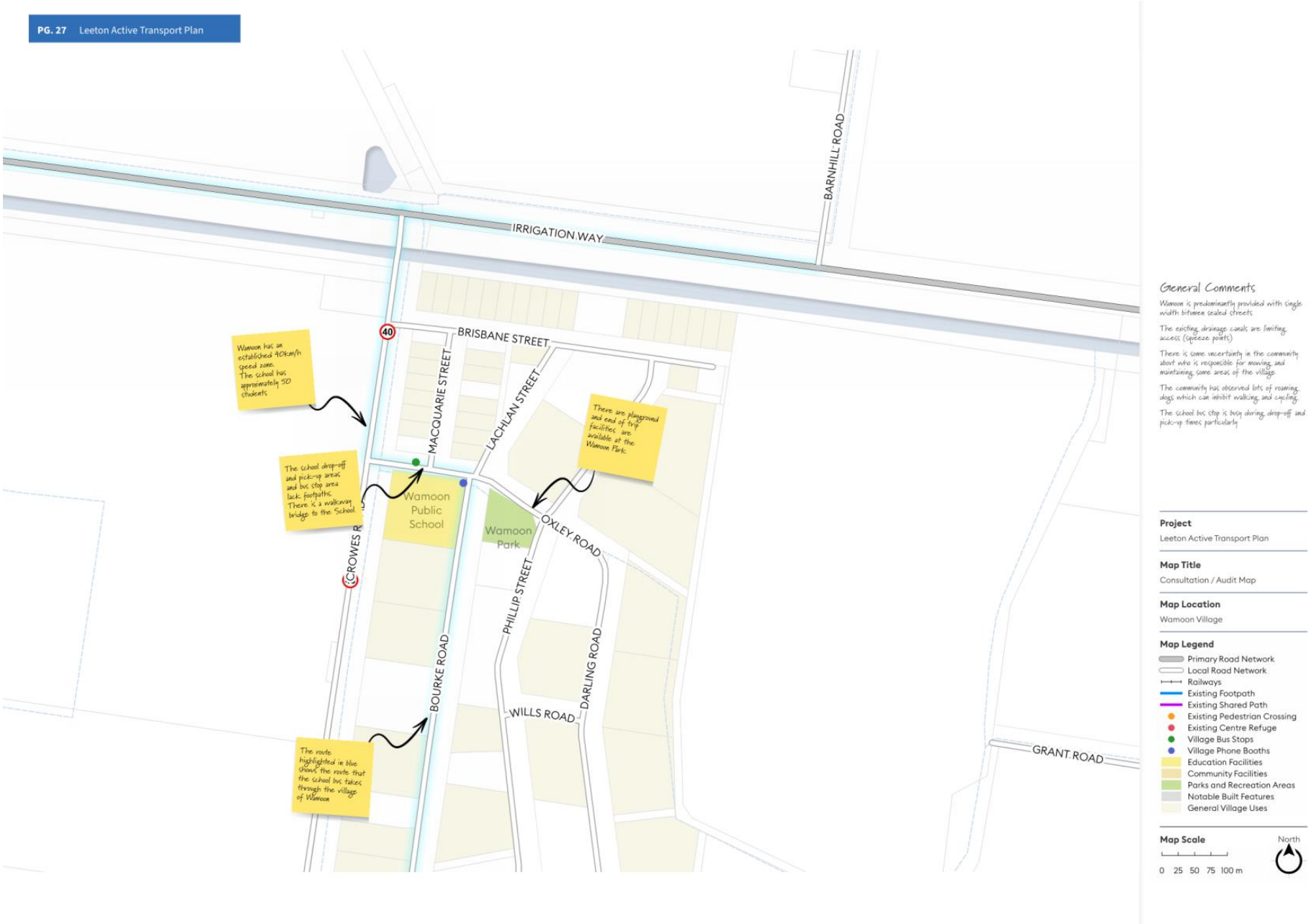
PLANNING, PROPERTY + PROJECT MANAGEMENT

Preliminary consultation and audit findings - Wamoon

The audit and consultation work in Wamoon revealed a general lack of footpaths and facilities.

A map summarising the audit / consultation findings of the Wamoon investigations is also presented.

ISSUE	FINDING
Footpaths	There are generally no constructed footpaths in Wamoon. Everyone was observe to walk on the road carriageway or road shoulder. The grassed footpaths shown as a blue dash lines on the map show the footpath areas being used by pedestrians that do not have constructed paths.
Shared Paths	There are no constructed shared paths in Wamoon. Everyone was observe to walk on the road carriageway or road shoulder.
Kerb Ramps	There are generally no kerb ramps as there are no constructed paths. New kerb ramps should form part of any new path treatments.
School Zones	Wamoon Public School (approximately 50 students) has an established school zone. The school bus stop, drop-off and pick-up areas lack constructed footpaths.
Bicycle lanes and exclusive off-road cycle paths	There are no on-road cycling lanes or exclusive cycling paths in Wamoon, nor are they warranted at this stage.
Road crossings	There are no constructed road crossings in Wamoon and there is no need for crossings at this stage.
Barriers	Irrigation channels act as minor barriers / squeeze points for active transport.
Obstacles	No street furniture, signs or other structures were observed to present major obstacles or hazards to pedestrians or cyclists.
Trip Hazards	Grassed footpaths and road drainage results in periodic washouts and erosion.
Lighting	No major issues were raised / noted.
Tactile Indicators	Generally absent in Wamoon and not required at this stage.
End of trip facilities	Wamoon Park provides end of trip facilities.
Signage	Generally absent.
Other	The school bus stop opposite Wamoon Public School functions as the central drop-off and pick-up point for Wamoon Public School as well as other schools in the area. Canals and narrow width roads present some challenges for active transport. The audit observed a number of free roaming dogs, which my may present issues under the Companion Animals Act.


PG. 27 Leeton Active Transport Plan
IRRIGATION WAY
BARNHILL ROAD
BRISBANE STREET
MACQUARIE STREET
LACHLAN STREET
40
Wamoon has an established 40km/h speed zone. The school has approximately 50 students
The school drop-off and pick-up areas and bus stop area lack footpaths. There is a walkway bridge to the School
There are playground and end of trip facilities are available at the Wamoon Park.
Wamoon Public School
Wamoon Park
OXLEY ROAD
CROWES R
PHILLIP STREET
DARLING ROAD
BOURKE ROAD
WILLS ROAD
GRANT ROAD
The route highlighted in blue shows the route that the school bus takes through the village of Wamoon
General Comments
Wamoon is predominantly provided with single width bitumen sealed streets
The existing drainage canals are limiting access (squeeze points)
There is some uncertainty in the community about who is responsible for mowing and maintaining some areas of the village
The community has observed lots of roaming dogs which can inhibit walking and cycling
The school bus stop is busy during drop-off and pick-up times particularly
Project
Leeton Active Transport Plan
Map Title
Consultation / Audit Map
Map Location
Wamoon Village
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Existing Pedestrian Crossing
Existing Centre Refuge
Village Bus Stops
Village Phone Booths
Education Facilities
Community Facilities
Parks and Recreation Areas
Notable Built Features
General Village Uses
Map Scale
North
0 25 50 75 100 m

Whitton

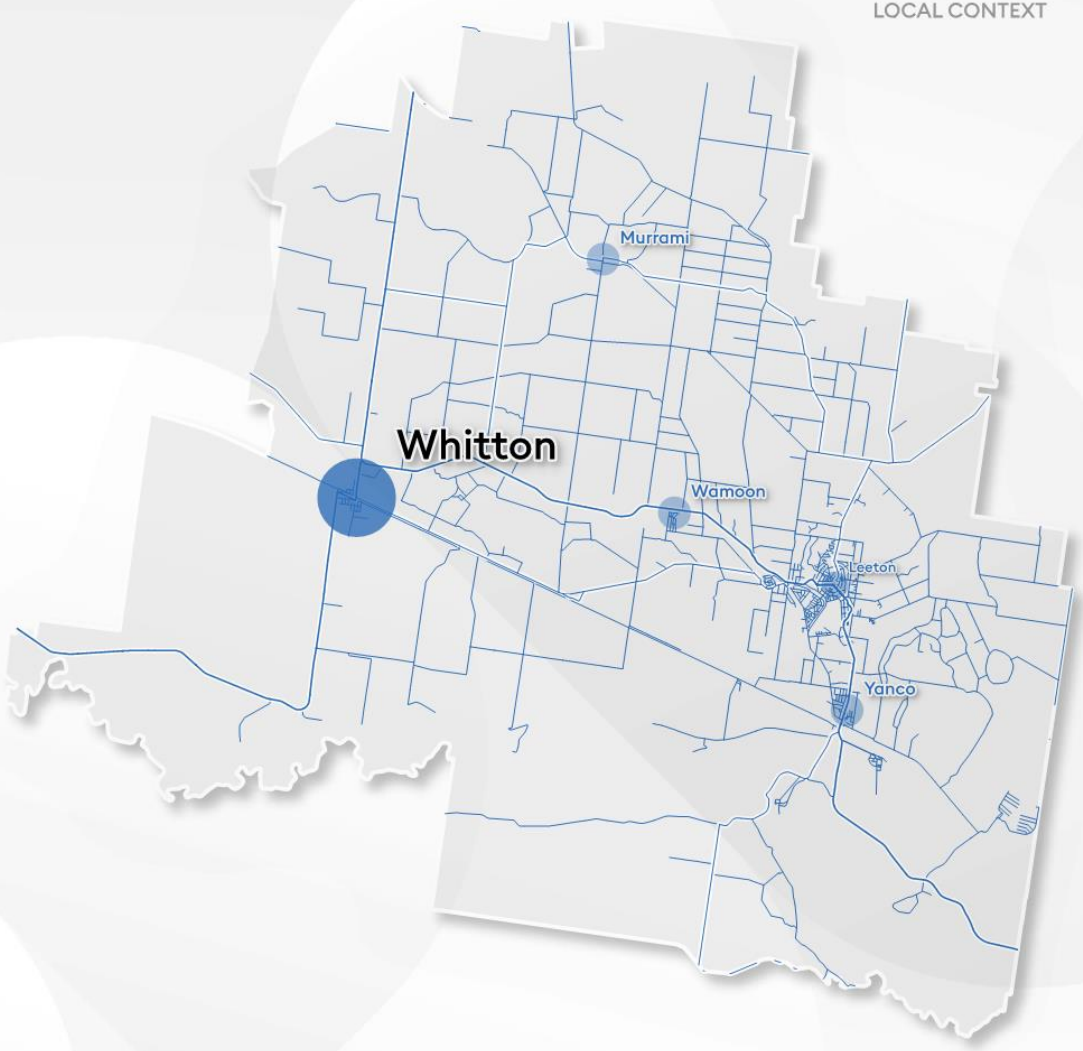
Overview

Whitton (population 496) is located approximately 20 kilometres to the west of Leeton on the intersection of Irrigation Way and the Whitton-Darlington Point Road.

Whitton is connected to reticulated potable water supply and a reticulated sewerage system. Within the village is a Council operated swimming pool, weekly garbage and recycling service, a public school (up to year 6), a general store / cafe, post office, hotel, bowling club, community run museum.

Many of the local roads within the villages and surrounding rural areas are sealed, with few formed footpaths and no formal bicycle paths in villages.

Many of the local roads within the villages and surrounding rural areas are sealed, with few formed footpaths and no formal bicycle paths in villages. Due to the wide village streets and low traffic volumes, many residents walk or cycle on the actual road carriageway or along the grassed verge.



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Preliminary consultation and audit findings - Whitton

The audit and consultation work in Whitton revealed a central spine of footpaths and facilities along Benerambah, Melberger and Naradhun Streets. A map summarising the audit / consultation findings of the Wamoon investigations is also presented.

ISSUE	FINDING
Footpaths	The blue lines on the map show the existing network of constructed footpaths in Whitton. The blue dash lines on the map show parts of the road network that are being readily used by pedestrians that do not have constructed footpaths. There is a need to connect existing footpaths in Melberger and Naradhun Streets to the Whitton Swimming Pool in Gogeldrie Street. A footpath connection to the Whitton Bowling Club would also have merit.
Shared Paths	There is an existing shared path across the railway reserve (shown as a purple line on the map) that is well used by residents seeking to access shops and facilities from housing north of the railway line.
Kerb Ramps	There are kerb ramps along constructed footpaths with varying levels of compliance. Water ponding along constructed kerb and gutters presents a major issue for use of kerb rams during extended rainfall events, and prevents pedestrians accessing footpaths. There is a need to fix drainage and kerb ramps along existing paths, particularly around the General Store and Post Office. New kerb ramps should form part of any new constructed path treatments.
School Zones	Whitton Public School has an established school zone. There are footpaths along Melberger and Naradhun Streets, with no footpath connection along Gogeldrie Street.
Bicycle lanes and exclusive off-road cycle paths	There are no on-road cycling lanes or exclusive cycling paths in Whitton, nor are they warranted at this stage.
Road crossings	There are no constructed road crossings in Whitton. Improved kerb ramps linking both sides of Benerambah Street near the General Store and Post Office are required, without taking away on-street parking.
Barriers	The railway acts a barrier for active transport. The existing shared path across the railway reserve is well located and used.
Obstacles	Water ponding along the existing kerb and gutter in Benerambah Street presents a temporary barrier to pedestrians. Regular maintenance and cleaning of the gutter would reduce water ponding and maintain access to footpaths. No street furniture, signs or other structures were observed to present major obstacles or hazards to pedestrians or cyclists on constructed paths.
Trip Hazards	Some kerb ramps and grassed footpaths, where drainage has created washouts and erosion, present as trip hazards. Provision of concrete footpaths and new kerb ramps along main walkways would help address potential trips and falls.
Lighting	No major issues were raised / noted.
Tactile Indicators	Generally absent in Whitton and not required at this stage.
End of trip facilities	Whitton Reserve provides end of trip facilities.
Signage	Generally absent.
Other	Trucks travelling through town and higher speed vehicles along Benerambah Street present as a potential safety issue. Lack of underground drainage creates issues for pedestrians, particularly along Benerambah Street. There are a lot of residents who use mobility scooters to access services in town.


PG. 30 Leeton Active Transport Plan
BRINGAN ROAD
AGS (Rice)
DOUGLAS STREET
NARADHUN STREET
CONAPAIRA STREET
BRUNELL STREET
There are safety issues at the southern entry / exit to the shared path across the Railway
The pedestrian link across the Railway line has been long established
BALLANDRY STREET
Whitton Bowling Club
STEPHENSON STREET
There is a need to expand bus shelter to accommodate students in all weather conditions
Whitton Reserve
BENGEREMBAH STREET
Access to the Whitton Bowling Club pool is a key issue for consideration
BRINGAN STREET
MELBERGEN STREET
Rice Bowl Hotel
Whitton Community Hall
BINYAH STREET
WHITTON ROAD
STANLEY STREET
HOUGHTON ROAD
Whitton Public School
NARADHUN STREET
CONAPAIRA STREET
Access to the Whitton Swimming Pool is a key issue for consideration
GOGELDRIE STREET
WHITTON DARLINGTON POINT ROAD
Whitton Historical Museum
Whitton Swimming Pool
BEECHWORTH STREET
PURDON STREET
KOOBA STREET
General Comments
Water is known to pond in the gutters at Whitton for up to a week, which stops people walking along kerb ramps / footpaths and instead they walk on the road. Water will run along the gutters if they are regularly cleaned
Trucks travel through town at higher speeds than signposted limits.
Truck compression braking signage has been recently installed
A high percentage of residents are users of mobility scooters (approx. 15 people).
The town improvement committee is currently investigating a free camping site
Project
Leeton Active Transport Plan
Map Title
Consultation / Audit Map
Map Location
Whitton Village
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Existing Pedestrian Crossing
Existing Centre Refuge
Village Bus Stops
Village Phone Booths
Education Facilities
Community Facilities
Parks and Recreation Areas
Notable Built Features
General Village Uses
Map Scale
0 25 50 75 100 m
North

Yanco

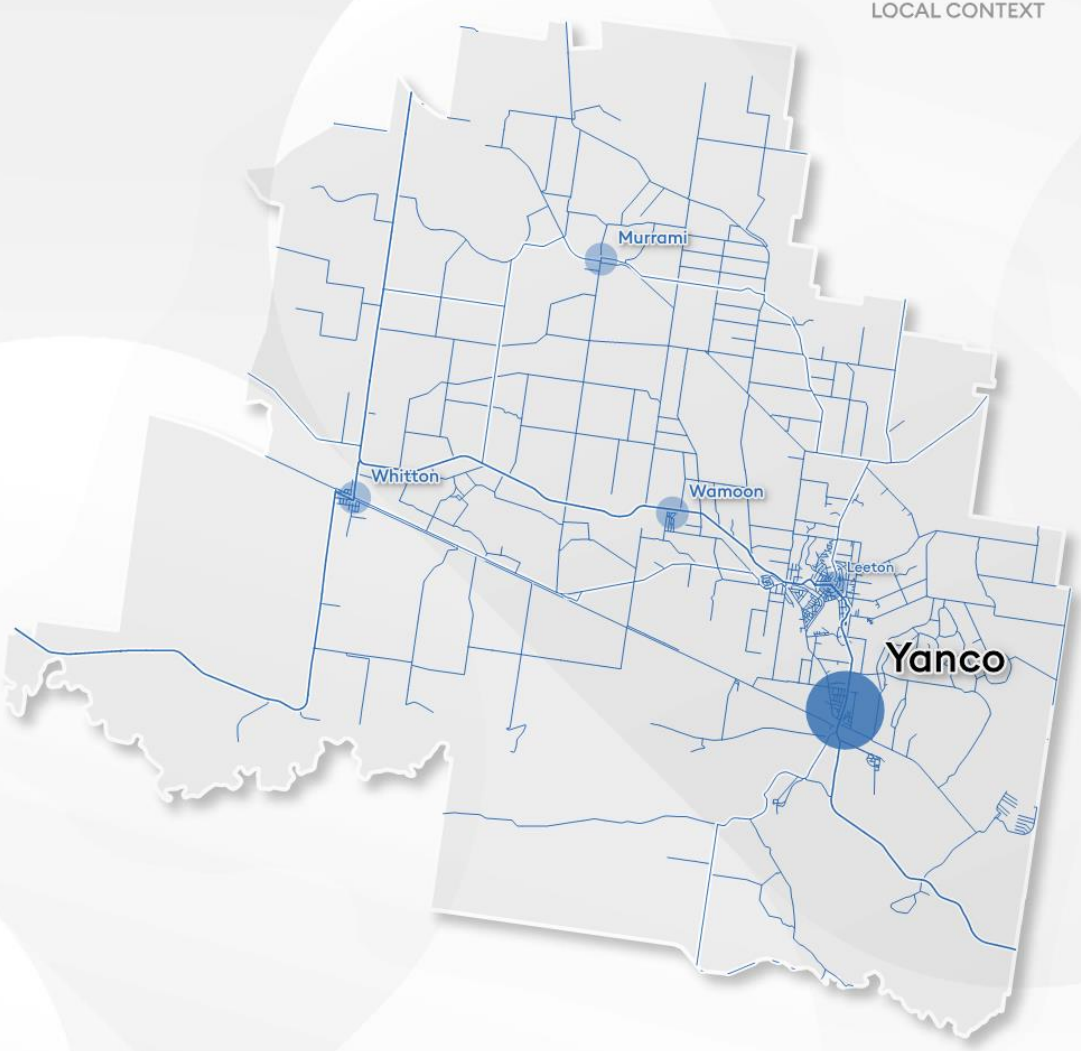
Overview

Yanco (population 505) is approximately 6 kilometres south of Leeton.

Yanco is a fully serviced town with reticulated water and sewer. The town has a public school, parks, multi-use sports ground, a central business area with a hotel, club, general store / café and post office. On the western side of Main Avenue from the Yanco Hotel to the All Services Club north of Binya Street (Back Yanco Road) and on the eastern side of Main Avenue north of Waring Park to the Yanco General Store.

Yanco is the home of the Yanco Agricultural High School which is based around the historical McCaughey homestead and offers education from year 7 to 12, as well as the Yanco Agricultural Institute which employs 95 people and is NSW DPI's Centre of Excellence for Sustainable Rice and Horticulture. Tocal College also runs short courses from the site.

Due to the wide main road and local street system, many pedestrians and cyclists may find it difficult to negotiate some elements of the road network in Yanco.



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Preliminary consultation and audit findings - Yanco

The audit and consultation work in Yanco revealed a relatively extensive footpath network in fair to good condition and a less extensive shared path network in good condition. A number of opportunities and constraints (deficiencies, gaps and barriers) were identified in the Yanco active transport network, which are discussed below. A map summarising the audit / consultation findings of the Yanco investigations is also presented.

ISSUE	FINDING
Footpaths	The blue lines on the map show the existing network of constructed footpaths in Yanco. The blue dash lines on the map show parts of the road network that are being readily used by pedestrians that do not have constructed footpaths. There is a need to connect McCaughey Park and residential areas east of the Yanco Main Street via new constructed footpaths.
Shared Paths	There is an existing shared path that links Yanco and Leeton, shown as a purple line on the map which is well used. The purple dash lines on the map show parts of the road network that are being readily used by pedestrians and cyclists which would benefit from a shared path. There was a desire to connect outlying Yanco Agricultural High School and Yanco Agricultural Research Centre to Leeton with shared paths. All community members consulted are supportive of more shared paths.
Kerb Ramps	There are kerb ramps along constructed footpaths with varying levels of compliance. There is a need to fix kerb ramps along existing paths. New kerb ramps should form part of any new footpath treatments.
School Zones	Yanco Public School has an established school zone and there are existing footpaths along all streets.
Bicycle lanes and exclusive off-road cycle paths	There are no on-road cycling lanes or exclusive cycling paths in Yanco, nor are they warranted at this stage.
Road crossings	The road crossing of Irrigation Way near Cudgel Street makes no provision for cyclists travelling north south. Potential conflict issues have been raised by locals.
Barriers	Existing canals act as a barrier at some locations, particularly the narrow canal bridge in Short Street.
Obstacles	The blister rails installed at the road crossing of Irrigation Way near Cudgel Street have been raised as acting as barriers to cyclists travelling north - south. No street furniture, signs or other structures were observed to present major obstacles or hazards to pedestrians or cyclists on constructed paths.
Trip Hazards	Some kerb ramps and grassed footpaths where drainage has created washouts and erosion present as trip hazards. Provision of constructed paths and new kerb ramps along main walkways would help address potential trips and falls.
Lighting	No major issues were raised / noted.
Tactile Indicators	Generally absent in Yanco and not required at this stage.
End of trip facilities	McCaughey Park provides end of trip facilities.
Signage	Generally absent.
Other	No other issues generally observed.


PG. 33 Leeton Active Transport Plan
BACK YANCO ROAD
EDON STREET
BONDI STREET
BRINGAN STREET
CUDGEL STREET
HEBDEN STREET
PROGRESS STREET
MAIN AVENUE
GOGELDRIE STREET
BINYA STREET
COONONG AVENUE
DAVIS ROAD
SHORT STREET
HANWOOD STREET
GIDGELL STREET
REGULATOR ROAD
BURT LANE
IRRIGATION WAY
HOUGHTON ROAD
MCCAUGHEY PLACE
Yanco Public School
Public Toilets
Public Toilets
McCaughey Bicentennial Park
St Patricks Catholic School
Yanco All Servicesmans Club
Yanco Post Office
Yanco Hall
Warino Park
Yanco Powerhouse Museum
Irrigation Way is a primary road link to Leeton and runs through the middle of Yanco.
The existing irrigation canals act as barriers to active transport in some locations of Yanco
The Powerhouse Museum are open monthly and generate a lot of pedestrian and traffic activity
The Yanco markets occur monthly and generate a lot of pedestrian and traffic activity
General Comments
Yanco is located within close proximity to Leeton and a number of important agricultural schools and colleges
There are some gaps in the active transport network, particularly to open space attractors and links to Main Avenue
Project
Leeton Active Transport Plan
Map Title
Consultation / Audit Map
Map Location
Yanco Village
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Existing Pedestrian Crossing
Existing Centre Refuge
Village Bus Stops
Village Phone Booths
Education Facilities
Community Facilities
Parks and Recreation Areas
Notable Built Features
General Village Uses
Map Scale
0 25 50 75 100 m
North

Rural Areas

Overview

There are no formal pedestrian or cycle routes connecting towns and villages in the Leeton Shire.

Cycling along rural roads is undertaken by individuals and small bunch rides via a number of well-established routes known to local cyclists.

Road touring cyclists and events are not regular occurrences in the Leeton Shire, and perhaps this is due to more favourable road conditions and more active cycling clubs and groups in Griffith and other regions.

The mode of choice for cyclists appears to be all-terrain bicycles, such as flat bar touring bikes and mountain bikes. Locals tend to ride these more sturdy bikes due to the existing road conditions and the freedom they provide in accessing quieter gravel roads and rural attractions.

06

STRATEGIC CONTEXT

Planning decisions at a local level are influenced by broader global, National, State and regional issues, trends, needs and planning priorities.

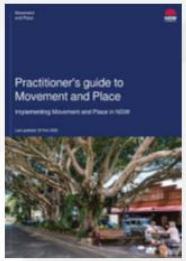
The Austroad Guide remains the base-line of standards for transport planning and design, and should be referenced when designing active transport projects.

Other guidelines and standards should also considered, with some of the main guidelines presented in this section.

The review of supportive documents serves the following purposes:

- To ensure the strategy aligns with regional, State and national policy directions.
- To ensure the strategy aligns with the wider context of transport and land-use planning policy directions.
- To understand the projects, links and network connections being planned in adjoining local government areas that might benefit the strategy.
- To help understand the correct methodology and approach when preparing the strategy.
- To help identify any deficiencies within the current network and existing policies that may hinder ongoing success.

Movement and Place Practitioner's Guide



Explains how built environment practitioners can apply a Movement and Places approach to projects and plans

Walking Space Guide

Provides a set of standards and tools to ensure that sufficient space is provided on streets to achieve comfortable environments which encourage people to walk.

Cycleway Design Toolbox

Provides guidance on desired outcomes for cycling and micromobility. It establishes design principles for cycleways in specific contexts including temporary initiatives and public bicycle parking facilities.

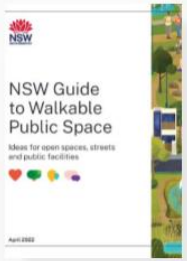
Network Planning in Precincts Guide

Provides best practice principles, tools, examples and case studies of a transport network that facilities the efficient movement of people and goods while supporting 15 minute neighbourhoods.

NSW Public Spaces Charter

The NSW Public Spaces Charter has been developed to support the planning, design, management and activation of public spaces in NSW. It identifies 10 principles for quality public space, developed through evidence based research and discussions with public space experts and community members.

NSW Guide to Walkable Public Space



Outlines why walkable public spaces are needed. It includes ideas and opportunities for how they can be created and methods for trialling and evaluating improvements.

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BENEFITS OF ACTIVE TRANSPORT PLANNING

Substituting vehicle trips with walking and cycling has a number of benefits, including:

Healthy Lifestyle

Leading an active lifestyle brings many benefits for the general health and well-being of Leeton Shire residents.

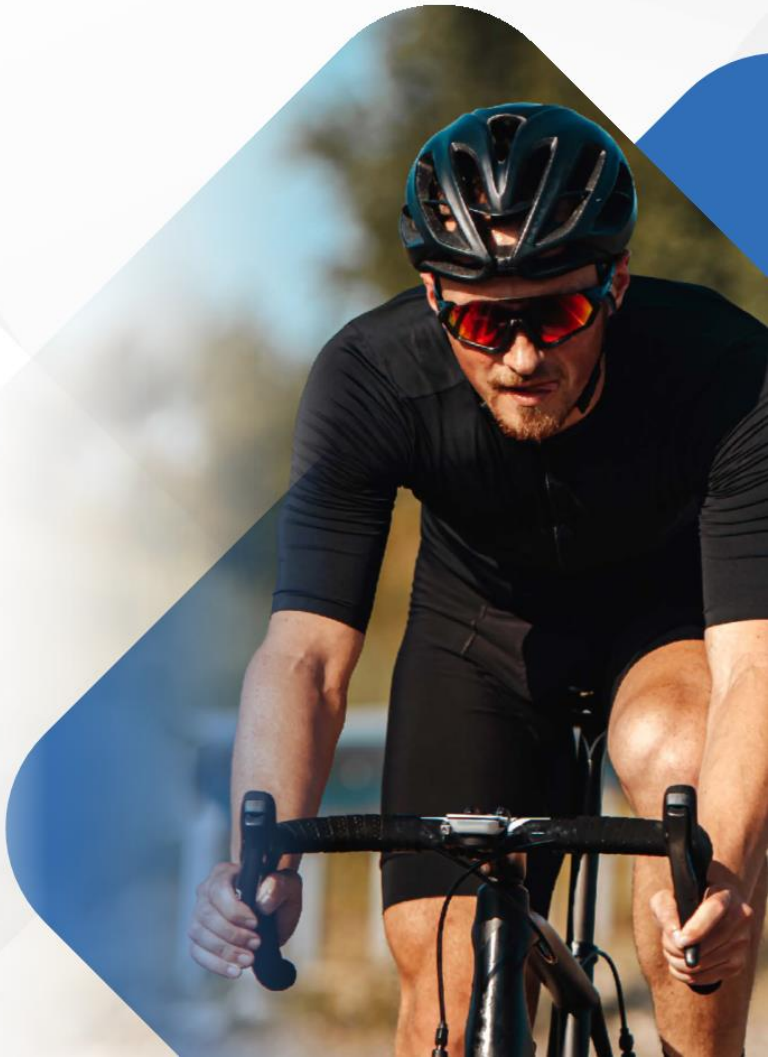
Using footpaths, bicycle lanes and shared paths provide a cheap means of incorporating exercise into our daily routine. As a regular activity, walking, running, bike riding and rolling can aid the prevention of:

- Heart disease.
- Stroke.
- Type 2 diabetes.
- Falls, fractures and injuries (through improved strength and coordination).
- Hypertension.

Active transport activity can also improve psychological wellbeing, metabolism, muscle strength and flexibility, endurance, respiratory function, energy levels and weight management. In the event of illness or recovery from trauma / surgery, all this aids in a speedy return to good health.

Children's health should include regular physical activity, with at least 60 minutes of moderate to vigorous physical activity being recommended for children 5 to 18 years of age to keep healthy. Outdoor activity, such as playing, walking, running, rolling and bike riding can contribute to children's health, as well as their development of physical, practical, emotional and social skills.

The presence of footpaths, shared paths and cycleways are associated with active travel across all age groups.



Creating a comprehensive movement network

Comprehensive road environments are ones that incorporate efficient transport options (roads, public transport, footpaths and cycleways) as well as aesthetic presentation and general walkability.

Quality footpaths and shared paths are particularly influential in encouraging people across all ages to lead more active lifestyles.

Leeton Shire Council and State government transport planners are focussing efforts towards doubly active transport trips over the next 20 years. To achieve this goal requires planning of a more comprehensive active transport network that allows people to navigate between land-uses and destinations via roads, pedestrian footpaths, cycle paths and shared paths, as well as using public transport routes where available.

The active transport network in the Leeton Shire is currently largely based around private motor vehicles on roads. Continued lack of public transport options and large distances between work and home trips in the Leeton Shire are key reasons for improving the active transport network in the urban areas of the shire.

As a first major step in improving active transport goals, the urban areas of the Leeton Shire need more comprehensive active transport networks to cater for the growing needs of residents and visitors.

Achieving Safer Conditions

Pedestrians and cyclists are considered 'at risk road users' due to their lack of protection against motor vehicles in the event of a crash. It is therefore important for road safety reasons that facilities are available for pedestrians and cyclists that minimise their exposure to potential conflict with motor vehicles.

Connected active transport networks have been shown to be associated with more walking in older adults and children, but only when traffic-related issues are managed, and the local streets are perceived to be safe.

Evidence indicates that connected street networks that are perceived as safe by users, facilitate active walking for transport for all age groups. Older adults (particularly women) are more fearful and more vulnerable to crime thus the design and location of active transport facilities to achieve good levels of perceived / actual safety is important to avoid people constraining their behaviour.

Evidence indicates that consideration of Crime Prevention Through Environmental Design (CPTED) can encourage increased levels of active transport. CPTED principles focus on good street lighting, neighbourhood upkeep, and less physical incivilities (e.g. litter, graffiti and vandalism) and street features that promote safety from crime (e.g. front verandahs and neighbourhood maintenance) can encourage walking. The design of commercial buildings and their relation to the street also has the potential to increase natural surveillance which improves safety and feelings of safety.

Providing safe, well-lit building entrances that face the street and are directly accessible from the street and footpath and car parks and public transport stops has been shown to encourage active modes of transport to and from buildings.

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Economic Benefits

For the wider community, leading a healthier lifestyle reduces the impacts on our health care system. It also reduces costs of living and boosts industry productivity from fit and healthy workers. Active transport also creates more footfall for local businesses and caters to the burgeoning visitor market interested in exploring Mainstreet environments, heritage walking trails, riparian areas and bushland trails, either on foot or on a bike.

Social Benefits

Active transport, particularly walking and bunch riding, are some of the most socially inclusive modes of transport. It provides opportunities to socialise with friends and creates a safer, friendlier and more connected community. Benefits include:

- Encouraging family and community connectedness.
- Improving social skills and networks.
- Reducing isolation and loneliness.
- Enhancing self-esteem and confidence.
- Prolonging independent living for older people in the community.

Evidence suggests that active transport infrastructure, particularly footpaths around local shops and community facilities, are important for encouraging social interaction and social capital. Such facilities provide casual and chance interactions with other members of the community as well as providing places for people to meet friends and family and engage in social activities.

Great Places

The way we design and build our streets and neighbourhoods has an effect on many residents' social connections, sense of community and social capital, and thus their use of active transport facilities.

Neighbourhood 'walkability' (a combination of residential density, mixed-use planning and street connectivity) is particularly associated with walking for transport and general walking.

A connected street network that is legible and permeable enables more movement choices around town. This encourages more walking and cycling, allowing for more interactions between neighbours and residents, which in turn increases the sense of community in residents.

Shorter travel distances between land-uses can enable easy access to facilities and services for all people, including the very young, older persons and people with a disability, which can reduce social isolation for these groups. For example, living within close proximity (400-800m) of a mix of destinations is associated with higher levels of active travel across all age groups.

In terms of active travel behaviours, increased connectivity reduces the distances between origins and destinations and provides a range of routes to choose from, increasing the likelihood of walking and cycling between locations.

Traditionally designed neighbourhoods tend to have grid-style street layouts, which create few barriers to direct travel, resulting in high levels of connectivity and a choice of routes. In contrast, our more modern neighbourhoods have been developed around a network of hierarchical roads, which often result in creating low levels of connectivity. In these neighbourhoods, we are learning that some residents have little or no choice of transport (other than motor vehicles), there is only one road in and out of the development, there are limited available active transport routes, and the often indirect curvilinear streets leading to reduced appetite for active transport due to the distances between destinations.

A review of the walking and cycling conditions in urban areas is therefore important and may provide opportunities for the review of other land-use / transport policies. This is particularly important in areas that have encouraged an overuse of cul-de-sacs that can result in a disconnected street system and general lack of active travel facilities in new residential estates.

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NETWORK PLANNING

The following provides some insights into the different needs of pedestrians which must be considered when the planning new Active Transport Plans for the Leeton Shire.

The Austroads Guide and other guidelines listed in Section 6 of this report provides more detailed guidance on the key considerations for active transport network planning.

Pedestrian Types + Needs

Everyone is a pedestrian, be it walking 30 metres from the car to a place of work, walking to school or the shops, using wheeled devices on footpaths or walking and running for fitness.

Pedestrians are considered 'at risk road users' due to the severe outcomes that can occur when they come into conflict with motor vehicles. In the five years from 2015 to 2019, about one in six people killed on the road was a pedestrian.

In the Leeton Shire context, the main pedestrian groups are as follows:

Older pedestrians

Are generally less mobile that other pedestrians and prefer footpaths and shared paths with minimal gradients / steps and a high degree of safety and personal security.

Commuters

This group comprises adults and secondary age students who use the footpath network mainly as a mode of transport for journeys to and from a workplace, school or TAFE. They prefer the fastest safe route between their origin and destination and are generally more skilled and experienced. On-road lanes and footpaths are suitable for commuters.

Utility / shopping

Trips are generated for specific purposes, such as running errands, shopping, visiting friends, local destinations and points of interest. Local trips are often short length trips and can be unpredictable. Users may be constrained by time and vary widely in skill and experience. They prefer footpaths, shared paths, low volume roads, minimal gradients and a high degree of safety and personal security.

Secondary / tertiary school students

Older students have similar characteristics as commuters and utility / shopping users. Footpaths, on-road lanes and shared paths are suitable for older students.

Infants / primary school students

Infant and primary school aged pedestrians have undeveloped cognitive skills, lack good peripheral vision, and have little knowledge of road traffic rules. They require adult supervision and / or off-road paths and facilities. Road crossing points must be carefully designed to give greater visibility / priority to children.

Fitness

Sports people use the road environment for fitness and training purposes and to access sporting events. They often travel alone or in small groups - seeking long distances for training purposes which can take them onto busier roads. Fitness pedestrians prefer footpaths and shared paths but will use any path or the road / road shoulder if necessary.

Cyclist Types + Needs

There are a range of cyclists who need to access different parts of the Leeton Shire on their bicycles for recreational, educational, shopping, commuting and other purposes.

Cyclists are considered 'at risk road users' due to the severe outcomes that can occur when a rider crashes their bike or when they come into conflict with motor vehicles.

Most cyclists are very aware of their vulnerability on the road network and use safety lights, helmets and high visibility gear when riding.

In the Leeton Shire context there are different cyclist groups as follows:

Older bike riders

Older people in the local context are tending to avoid using bicycles, which is not ideal as cycling is good fitness for cardio, skeletal and muscular fitness.

Commuters

This group comprises predominantly adults who use the road to cycle to work. These cyclists are generally more confident mixing with traffic, though still prefer separation. They prefer the fastest safe route between their origin and destination and are generally more skilled and experienced.

On-road lanes and shared paths are suitable for commuter cyclists. Commuters will ride longer distances of up to 20km. They prefer flat, direct routes, but may tolerate 10% gradients, or 15% with e-bikes. All day secure parking, showers and change facilities are desired by commuters.

Utility / shopping

A small percentage of people use a bicycle to run errands and do the shopping as well as visit friends and family, local destinations and points of interest.

Local trips may be 'spare-of-the-moment' decisions, where a bicycle is used to visit the shops for last minute supplies. Users may be constrained by time and vary widely in skill and experience. They may use footpaths, shared paths and roads to access their destination, and sometimes may forget to take appropriate safety precautions.

Secondary / tertiary school students

Older students in the local context are tending to avoid using bicycles (particularly in Leeton), other than to access weekend sports, skate parks and friends.

Infants primary school students

Infant and primary school aged cyclists have undeveloped cognitive skills, lack good peripheral vision, and have little knowledge of road traffic rules. More cycling in the infant / primary school age group has been observed in the smaller towns than in Leeton. Fear of traffic in the larger towns appears to be a factor in this age group riding their bikes regularly. Off-road routes may help with increased cycling activity.

Fitness

Adult riders are more confident mixing with traffic. If riding for training , touring or competition purposes, cyclists may ride very long distances, sometimes more than 100km.

Road and touring cyclists often travel in small groups or larger bunch rides seeking long distances for training and recreational purposes, which can take them onto busier roads.

A number of adults in Leeton Shire use road bikes, touring bikes and MTB bikes for fitness and recreation. MTB and other off-road riders travel individually or in small groups and seek quieter roads and off-road trails. Supervised rides involving children are also happening in the shire.

Families with children

Prefer separation from traffic and ride shorter distances. Prefer flat routes with less than 5% gradient. Adults / guardians may be walking / riding alongside young children to supervise activity.

Access Impaired Needs

Disability is an issue that affects a significant proportion of the population. The 2018 ABS Survey of Disability, Ageing and Carers reported that 17.7% of Australians had a long-term disability that restricted their everyday activities.

Planning for the transport needs of disabled persons presents its own unique challenges, with a person in a wheelchair requiring different assistance to negotiate the movement network than a person who is sight impaired.

Motorized scooter usage is a growth industry and there is a need to review current and future innovations in these mobility devices to ensure infrastructure improvements are aligned with technology. Access impaired persons also desire end of trip facilities, such as parking facilities, water points and toilets.

A key focus of the Leeton ATP is on ensuring paths and facilities provide for mobility and access for disabled and older persons in our community, particularly in high activity areas such as the Leeton CBD.

Aged Access Needs

Age is related to a variety of characteristics and skills that influence the risk of traffic injury. These age-related characteristics can also affect the way in which people of different ages interact with the movement network.

In the 2010 NSW Health Falls Prevention Baseline Survey, 26.7% of people aged 65 and older, reported limiting their walking because of fear of falling whilst walking over rough or uneven surfaces, steps or stairs. The main needs of aged persons are for level walking surfaces that are free of hazards. Aged persons also appreciate end of trip facilities, such as seating, water points and toilets.

Older people continue to be over presented in pedestrian crashes. As shown by Job RFS, Pedestrians at Traffic Light Controlled Intersections: Crossing Behaviour in the Elderly and Non-elderly, several factors work together to increase the risk of older people:

- Deterioration in visual acuity may have a negative impact on an older person's ability to cross the road safely.
- Reduced mobility can render older people unable to react quickly in imminent danger to avoid a crash.
- Underlying health conditions or frailty can result in greater injury severity when a crash occurs.
- Reduced speed when crossing the road can be an issue at automated signals that do not allow sufficient time for slower pedestrians to cross safely.

A key focus of the Leeton ATP should be to provide mobility and access facilities for disabled and older persons in the community, particularly in high activity areas such as the Leeton CBD. The following measures have been adapted from the WHO Pedestrian Safety Manual 2013 and the NSW Centre for Road Safety to improve the safety, comfort and amenity of elderly pedestrians:

- Increase the time allocated to pedestrians at signalized pedestrian crossings.
- Install high-visibility crossings and advance stop bars.
- Repair broken kerbs and pedestrian ramps.
- Replace missing and / or upgrade existing signs.
- Install pedestrian refuge islands or, preferably, raised medians.
- Narrow roadways with traffic-calming techniques.
- Raise public awareness about the safety needs of elderly pedestrians.
- Reduce legal speed limits to where necessary.
- Strengthen enforcement of laws on speed limits, and drink–driving.

08
NETWORK PLANNING

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Needs of Young Children

Children are highly vulnerable road users.

Infant and primary school aged children need their parents or other adult supervision when they travel on the road network, but they also need our confidence to explore their environment and learn how to do things independently.

Children can use the same facilities as adults however they are at risk from traffic for many reasons. Infant and primary school aged pedestrians and cyclists have undeveloped cognitive skills, lack good peripheral vision, and have little knowledge of road traffic rules.

Although children may think they can handle the road network, Kidsafe NSW advises they are:

- Easily distracted and focus only on one aspect of what is happening.
- They are smaller and harder for drivers to see, and less predictable than other pedestrians.
- Cannot accurately judge the speed and distance of moving vehicles.
- Cannot accurately predict the direction that sounds are coming from.
- Unable to cope with sudden changes in traffic conditions.
- Do not understand abstract ideas, such as road safety.
- They may lack the ability to distinguish between safe and unsafe crossing gaps and sites, putting them at risk as they cross the road.
- They may lack understanding of the dangers presented under different conditions, such as wet weather or darkness.

An extensive network of structured sporting activities is available for children in Leeton Shire that helps to keep them active and engaged.

There are also a number of areas where children can go 'off-road' and explore the environment and practice skills on their own or with friends. Some of these areas have become obscured and there are inadequate cues to invite children and their parents / guardians to use these spaces as part of the active movement network.

Network Planning Principles

The planning focus of the new active transport network is to make pedestrian and cycling activities a safe, healthy and attractive travel option throughout the Leeton Shire. To achieve this over such a vast area requires a targeted and systematic approach, based on a number of principles which are explored further in this section.

Coherence

Coherence refers to the extent of coverage and completeness of the facilities. Coherence can be characterised by the completeness of the network or the completeness of connecting routes. A cohesive network should be continuous and it should be clear to the user where the path leads. Clear, well-placed sign-posting and line-marking should indicate major destinations as well as the 'serious transport intent' of sections of road routes. The quality of network facilities should be consistent throughout the length of the route regardless of whether the facility uses a separate or shared road profile. End of trip facilities, such as seating, watering points, toilets, bicycle racks and storage facilities and change room facilities should also be integrated into the cohesive network.

Safety

Perceived and actual safety is very important to pedestrians and cyclists.

Pedestrians of all ages and genders need to feel that it is safe to walk, whenever they choose to do so. Pedestrians desire 'open-to-viewer' routes and well-lit pathways where they are regularly used in dark hours. Road crossings present the greatest danger to pedestrians and safe crossing locations need to be provided at regular intervals along major streets or at the location where key desire lines cross major streets. Pedestrians will rarely walk along an indirect route to access safe crossing points, so frequent crossing points must be provided.

Cyclists travel faster than pedestrians and therefore are less concerned about personal security. However, cyclists are still slower and smaller than motor cars and trucks, making them less likely to be seen. When they do come into conflict, cyclists have little protection in a collision. On-road paths and off-road paths reduce the risk of collision with motor vehicles, but still endanger cyclists at squeeze points and intersections with roads. They can also involve potential conflict with pedestrians and pets where the off-road facility is a shared path. The general principles of predictability and clear priority remain important for off-road paths, including directional segregation and high visibility for all users.

Directness

Pedestrians and cyclists do not like to travel out of their way to reach a destination. This is a natural 'hard wired' response to avoid the extra effort involved in walking or riding extra distances. Paths serving desire lines between activity areas need to be direct and legible in order to provide for and encourage walking and riding trips. Wherever possible, barriers should be overcome, with slight deviations or additional safe crossing points. A careful balance must be found between providing a direct route and also one free of delays, excessive energy expenditure, or safety concerns.

Amenity

People are more likely to walk or ride in an attractive environment because it is enjoyable. Areas with high volumes of vehicular traffic, excessive noise and poor pavements may discourage walking and cycling. Urban areas should be maintained at a human scale that provides an attractive and safe environment. Pedestrian and cycling facilities should be designed to fit into the surrounding environment so that the enjoyment of the experience is enhanced. The route should be scenic, quiet, and free of heavy traffic and traffic travelling at high speeds. The best walking and cycling environments are often found along quiet rural roads, in urban parklands or residential areas that have been traffic calmed.

Suitability for all users

Quality environments must be available to all who choose to use them. Paths and facilities must have appropriate gradients (including ramps) and be continuous and free of obstructions such as signage, street furniture and overhanging tree branches. The needs of hearing and vision-impaired users must be considered, especially where user safety is an issue.

15 minute neighbourhoods

People will generally walk or use assisted mobility for 10-15 minutes to access local shops and services, depending on their age, health, the walking environment and the weather. Principal Pedestrian Networks are based on walking distances of 10 minutes to the edges of local centres and 15 minutes to economic centres.

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Identifying Activity Generators

There are certain areas of the Leeton Shire that generate significantly more pedestrian and cycling activity than other areas. Identifying activity generators is particularly important to consider in the preparation of new active transport plans. The different activity generators have been divided into four main groups and are presented in this section.

PRIMARY ACTIVITY AREA

Primary activity areas include central business districts as well as other areas that attract large concentrations of people, such as large railway stations, airports and the like. Safety, connected / wide footpaths, road crossing points, disability access infrastructure, secure bike parking and end of trip facilities are important design goals for primary activity generators.

SECONDARY ACTIVITY GENERATORS

These include neighbourhood shops, schools, popular sporting and recreational facilities, clubs, hospitals and community facilities such as the larger congregation churches that are not centrally located within primary activity areas. These land-uses are busy places at certain times of the day or week. Safety, connected footpath networks and end of trip facilities are important design goals for secondary activity generators.

PRIMARY ROUTES

These are routes from residential areas to the primary activity areas and secondary activity generators. They are collector level routes, which do not reach every property but instead form a network of routes that are accessible to a significant catchment of population.

HAZARD AREAS

There are a number of areas / routes that have been noted from accident reports or from road users as being potentially hazardous or particularly stressful places for pedestrians and cyclists.

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Identifying Appropriate Paths

The selection of the appropriate path type treatment depends on a combination of factors, including:

- The level of demand for the path.
- The conditions present in the surrounding environment (traffic speed and volume).
- The availability of space in which to provide the path.
- Whether path usage is for exclusive pedestrian or cycle use or shared use.

The overall goal is to install facilities that are safe, practical and that respond to local conditions.

A number of different path treatments can be applied, including:

Footpaths

Footpaths are suitable for a wide range of pedestrian situations. They are required to be designed and built to meet minimum design requirements, including width, gradient, slip resistance, type of kerb and adequate setback distance of the footpath from the roadway.

The Austroads Guide and other guidelines listed in Section 6 of this report advocate for a minimum footpath width of 1.2m for most situations, except in commercial and shopping environments.

A footpath wider than the minimum may be necessary at locations where pedestrians gather such as at the entrance to schools and associated crossings, at recreation facilities and at important bus stops.

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Shared paths

Shared paths are a type of off-road facility that are generally wider than footpaths (minimum 2.5m) and allow common use of the facility by both cyclists and pedestrians.

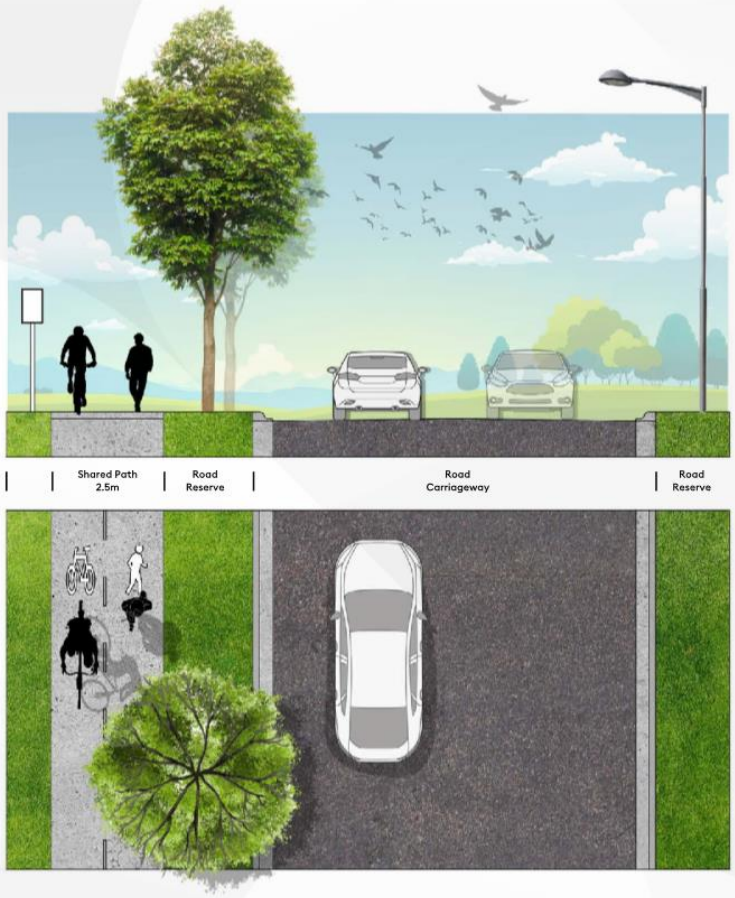
According to the Austroads Guide and other guidelines listed in Section 6 of this report, a shared use path may be appropriate where demand exists for both a pedestrian path and a bicycle path but where the intensity of use is not expected to be sufficiently great to provide separate facilities.

Shared paths are a popular response to connecting attractors and as paths in large parklands. In some situations shared paths may cause friction between pedestrians and cyclists.

Displaying highly visible signs and rules applying to the proper use of share paths are important considerations when planning these paths.

Shared streets

Shared local streets are safer streets with 'design speeds' of no more than 40km/h that enable more people of all ages and abilities to undertake active transport activity.



Exclusive off-road cycle paths

According to the Austroads Guide and other guidelines listed in Section 6 of this report, exclusive bicycle paths are most appropriate when there is a significant cycling demand and very few pedestrians desire to use the path or a separate footpath is provided, and there is very limited motor vehicle access across the path.

On-road cycle paths

Paths can either be on-road, which are essentially 'bicycle lanes' alongside motor vehicle traffic on a roadway within the road corridor, or off-road paths, which are separated from the road corridor. They include physically separated bicycle lanes, visually separated footpaths and bicycle lanes and wide sealed road shoulder paths. Where feasible, facilities should comply with current standards and also taking into account local conditions.

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Pavement Surfaces

There are a variety of pavement materials commonly used as part of the construction of new active transport infrastructure, which are described in this section.

Ideally, paths should be free of obstructions and therefore should not include steps, stairways or obstacles that affect safety.

Concrete and asphalt

This provides a hard surface and is generally functionally appropriate. This material is ideal where footpaths are on a gradient and exposed to water, as the texture of these surface materials are slip resistant. Most footpaths in Leeton Shire are of these construction types. Some main street beautification works use a combination of asphalt, concrete and brick pavers to provide variety and interest.

Pavers and bricks

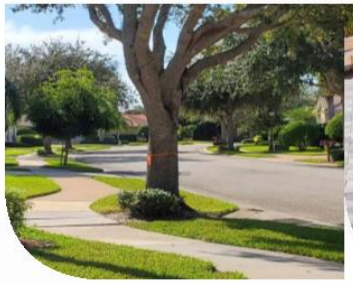
For aesthetic reasons and to add interest and variety, pavers and brick paving are often used. Pavers have been used extensively in the Leeton CBD and at some other commercial and tourism destinations. When used for pedestrian paths, glazed surfaces should be avoided as they are slippery when wet. Stone path surfaces should also be avoided as they can fail flatness tests. Pavers are ideal for sight impaired pedestrians as a guidance using different pavement colours, however overuse of colours can also be confusing.

Spray seal emulsion

Generally less hard wearing than concrete, asphalt or pavers. It is often used as a cheaper option in low trafficked areas where drainage is not an issue. It may also be considered where a new path is being trialled to determine its longer-term material type.

Loose surface material

These materials such as exposed aggregate, gravel, soil, sand, grass and tanbark should be avoided along heavily used routes. They can be very difficult to walk on and make it difficult for people in wheelchairs. However, gravel surfaces may be suitable for fitness walkers and runners and MTB cyclists.

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End of Trip Facilities

Public amenities can be important mid-way or end of trip resources for pedestrians and cyclists. They include a range of supporting infrastructure such as bicycle parking, seating / rest stops, water points, toilets, shade and signage.

Exercise equipment is also being used / provided in some parks to facilitate more intensive fitness training. These facilities are the 'outdoor' equivalent of a gym, and may include weight resistance benches, step-up and pull-up devices and the like.

Lighting

Night time outdoor lighting has most often been designed for the vehicle driver, rather than for pedestrians and cyclists.

Where footpaths, bicycle lanes and shared pathways carry a substantial number of pedestrians and cyclists during periods of darkness, consideration should be given to the provision of path lighting. Lighting will increase both actual and perceived safety along the network and should be targeted along key primary pedestrian routes and activity zones.

The main objectives of pedestrian lighting are to ensure adequate lighting is provided to identify pedestrian routes and signage, illuminate pedestrians to other road users and to achieve facial recognition of another pedestrian at a reasonable distance.

The main objective of cycleways lighting is to ensure adequate lighting is provided so that cyclists, travelling at reasonable speed are able to avoid potholes and any other traffic hazards. Generally, provision for public lighting for bicycles may occur where:

- Paths for cycling associated with Mainstreets, promenades or a centre for night-time activity.
- Paths for cycling used for commuting by workers or students.

Lighting should be placed along key routes, key road crossing points, intersections and places where people congregate. Direction and height of illumination and background land illumination levels are key considerations that should be addressed at project design stage.

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Landscape Design

People are more likely to walk or ride in an attractive landscape environment because it is enjoyable.

Landscape works which are poorly planned and designed can have negative impact on pathway use.

It is important that landscaping is designed, constructed and managed to:

- Provide clear sight lines.
- Promote good visibility.
- Provide safe side clearances.
- Prevents intrusion into pedestrian / cycling operating space.
- Manages tree root damage to pathways.
- Provide passive surveillance and promotes an open easy – supervised environment.
- Manage weeds, especially cat-heads.

The Austroads Guide and other guidelines listed in Section 6 of this report provides guidance on the key considerations for landscape design.

Signage and Line Marking

Signage and / or road markings should be provided throughout the entire network to guide bicycle and shared path network movements.

Signage and / or markings should be provided as new on-road bicycle and shared pathways are constructed and should be progressively retro-fitted across the existing network.

The use of a green surface for bicycle lanes, which draws motorists' attention to the presence of bicycles, is recommended at busy or higher-speed locations and areas where the road layout is complex.

Technical advice on signage and marking treatments is provided in the Austroads Guide and other guidelines presented in Section 6 of this report. At primary attractors and for some end-of-trip facilities it may be necessary to provide large print signage, tactile or Braille signage and symbols.

09

ACTIVE TRANSPORT PLANS

Active Transport Plans have been prepared for Leeton Township and the outlying centres of Murrami, Whitton, Wamoon and Yanco. The Active Transport Plans are presented in a series of maps, as necessary, for each location and typically include the following detail:

- Public Roads (sealed, unsealed, tracks-in-use).
- Railway Infrastructure.
- Primary Activity Areas.
- Secondary Activity Generators.
- Primary Routes.
- Hazard Areas.
- Other key land-uses and / or landmarks.
- Existing and proposed footpath locations.
- Existing and proposed shared path locations.
- Existing and proposed off-road path locations.
- Existing and proposed end of trip facilities.

Guiding Principles

Focusing efforts in areas of highest importance

Effective and useful planning relies on focusing effort and resources in areas that it is most needed. Leeton Shire Council has limited funds for improvements and these funds need to be carefully directed towards achieving optimal outcomes. The Leeton ATP needs to focus efforts on areas with high levels of pedestrian and cyclist activity as well as the desire lines of high potential and demand. Consideration should also be given to locations which may merit a review of road conditions based on a poor safety record.

Focusing on potential pedestrian and cyclists

It is important to consider existing pedestrians and cyclists, however, the biggest advantage in terms of increasing patronage is to target people who currently are not active pedestrians or cyclists, but who are likely to become so if conditions improve. The Leeton ATP needs to consider ways to promote behaviour-changes that encourages new users.

Developing effective infrastructure to improve conditions

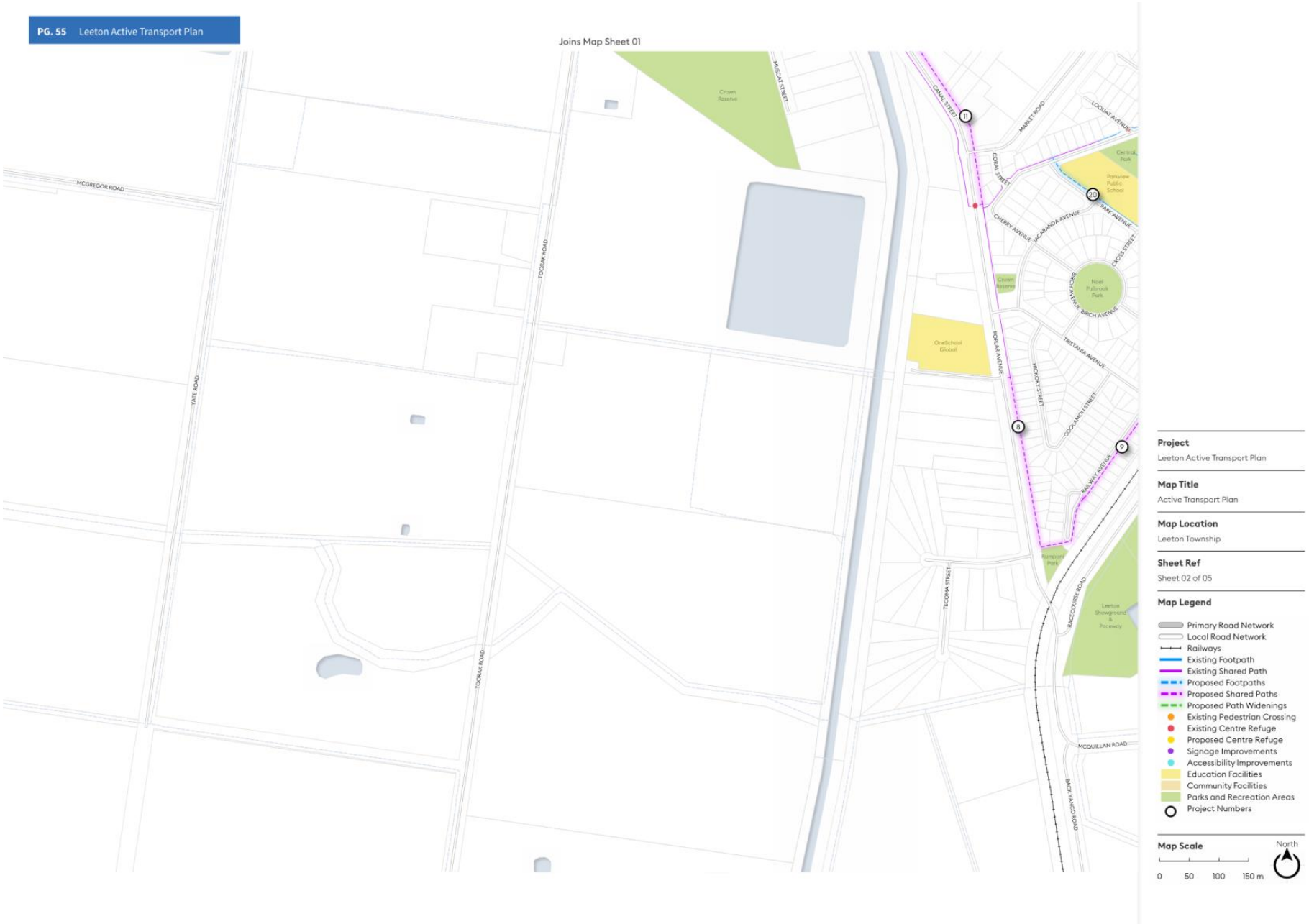
The Leeton ATP aims to develop innovative infrastructure interventions, based on the Austroads Guide and other NSW guidelines and standards.

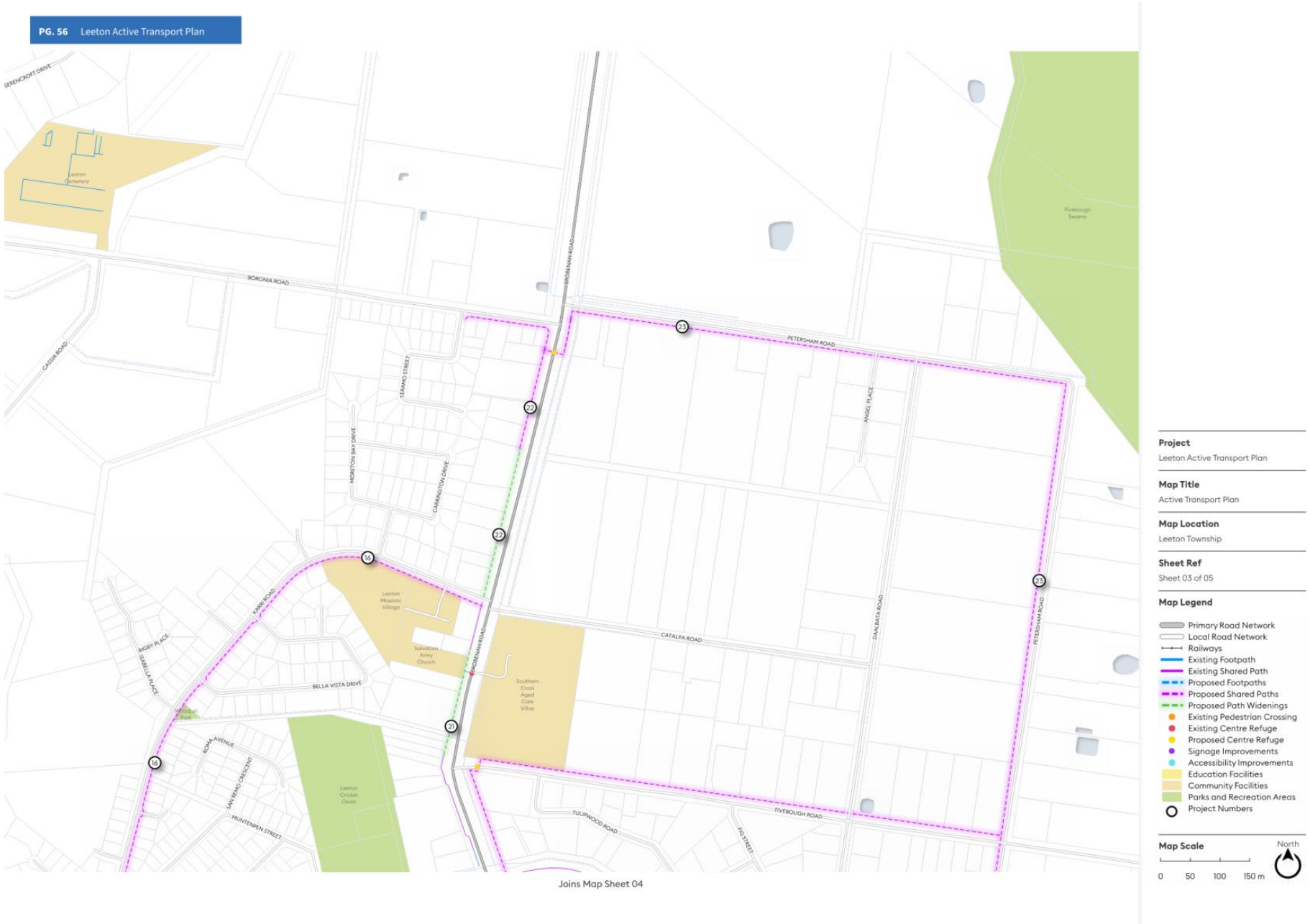
Setting achievable targets

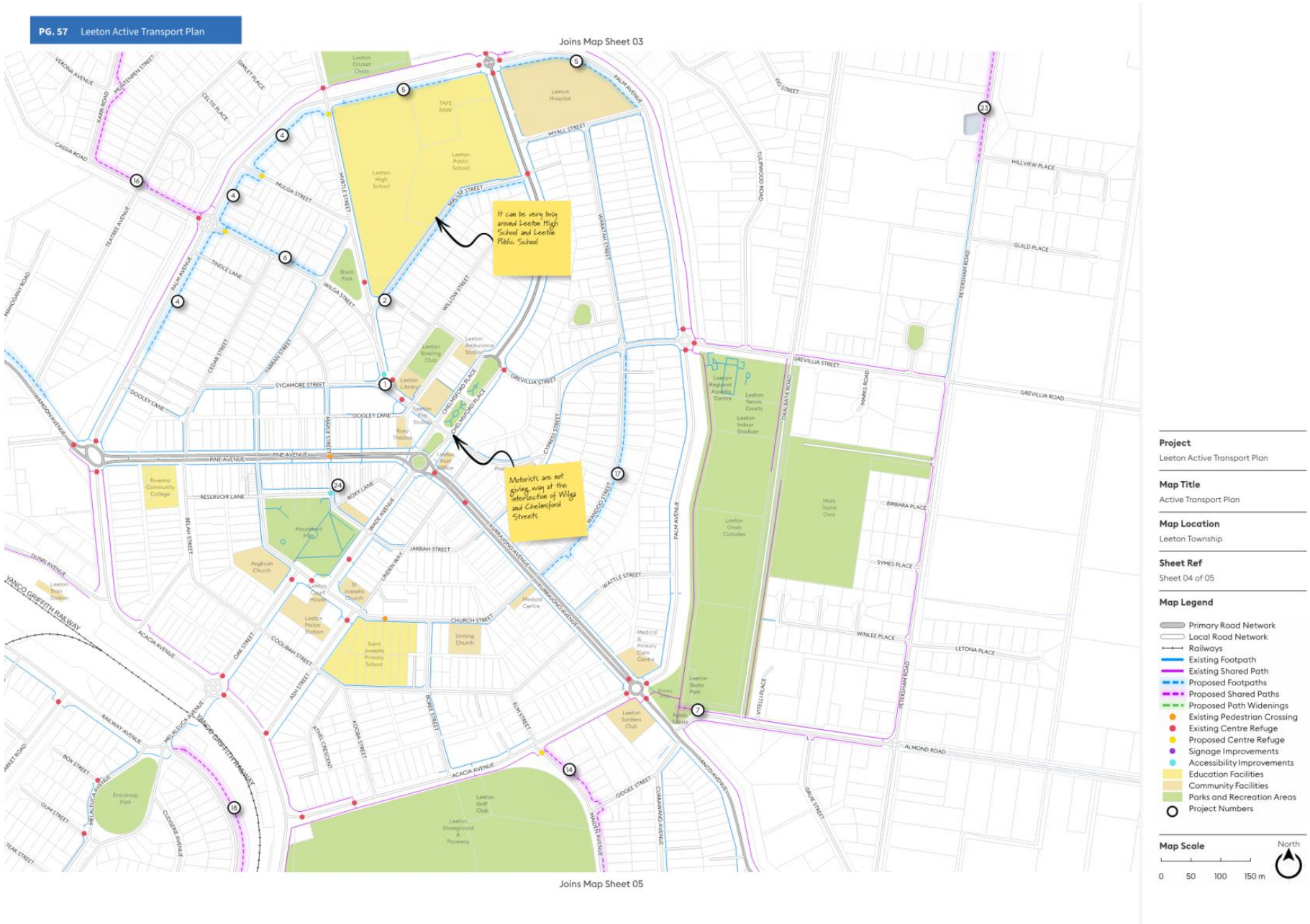
Funds are limited and there is a need to focus on specific actions that are achievable by Council. There is no sense in developing an active transport plan that proposes excessive expenditure beyond the means of the community. It is better to set targets that can be realistically achieved over the intended 10 to 20 year implementation period. Should extra funding become available and targets are met earlier, it is a relatively simple task of reviewing the active transport plan to set more goals and targets.

CURRAJONG
PLANNING, PROPERTY + PROJECT MANAGEMENT


IRRIGATION WAY
WASHINGTON DRIVE
LIGHTWOOD STREET
GOSSAMER STREET
Gossamer Park
WALLOWA STREET
Wattle Park
DRUMMOND STREET
MERRELL STREET
MITCHELL STREET
Acacia Park
WIRILDA STREET
MIMOSA STREET
BLACKWOOD STREET
WHITTON ROAD
DUNDAS STREET
ARGYLE STREET
TOORAK ROAD
SCARLET STREET
YATE ROAD
MUSCAT STREET
BLAKELY STREET
Crown Reserve
VANCE ROAD
RIDLEY AVENUE
DETHRIDGE AVENUE
CHAFFEY AVENUE
MASSEY AVENUE
WOLSELEY AVENUE
MCKAY AVENUE
CHAPMAN AVENUE
WAMOON AVENUE
DUNN AVENUE
SHORT STREET
CALORO STREET
BRADY WAY
ELBERTA STREET
CANAL STREET
RUSSET STREET
VALENCIA STREET
PACKHAM STREET
CALROSE STREET
RAILWAY AVENUE
MARKET ROAD
15
3
19
11
12
Joins Map Sheet 02
Project
Leeton Active Transport Plan
Map Title
Active Transport Plan
Map Location
Leeton Township
Sheet Ref
Sheet 01 of 05
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Proposed Footpaths
Proposed Shared Paths
Proposed Path Widenings
Existing Pedestrian Crossing
Existing Centre Refuge
Proposed Centre Refuge
Signage Improvements
Accessibility Improvements
Education Facilities
Community Facilities
Parks and Recreation Areas
Project Numbers
Map Scale
0 50 100 150 m
North


PG. 55 Leeton Active Transport Plan
Joins Map Sheet 01
MCGREGOR ROAD
YATE ROAD
TOORAK ROAD
McCOAT STREET
Crown Reserve
CANAL STREET
MARKET ROAD
LOQUAT AVENUE
CORAL STREET
Central Park
Parkview Public School
CHERRY AVENUE
ACACIA AVENUE
PARK AVENUE
CROSS STREET
Noel Pullbrook Park
BIRCH AVENUE
OneSchool Global
POPLAR AVENUE
HICKORY STREET
TRISTANIA AVENUE
COOLAMON STREET
RAILWAYS AVENUE
Rumpore Park
TECOMA STREET
RACECOURSE ROAD
Leeton Showground & Raceway
McQUILLAN ROAD
BACK YANCO ROAD
Project
Leeton Active Transport Plan
Map Title
Active Transport Plan
Map Location
Leeton Township
Sheet Ref
Sheet 02 of 05
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Proposed Footpaths
Proposed Shared Paths
Proposed Path Widenings
Existing Pedestrian Crossing
Existing Centre Refuge
Proposed Centre Refuge
Signage Improvements
Accessibility Improvements
Education Facilities
Community Facilities
Parks and Recreation Areas
Project Numbers
Map Scale
0 50 100 150 m
North


PG. 56 Leeton Active Transport Plan
BORONIA ROAD
BROKENAH ROAD
PETERSHAM ROAD
CATALPA ROAD
FIVEBOUGH ROAD
TULIPWOOD ROAD
BELLA VISTA DRIVE
FARR ROAD
CASSIA ROAD
TERAMO STREET
MORETON BAY DRIVE
CARRINGTON DRIVE
ANGEL PLACE
DAHLIA PLACE
ROMA AVENUE
SAN REMO CRESCENT
MUNTENREN STREET
FIG STREET
RIGBY PLACE
ISABELLA PLACE
SERENCROFT DRIVE
Leeton Cemetery
Fivebough Swamp
Leeton Masonic Village
Salvation Army Church
Southern Cross Aged Care Villas
Leeton Cricket Oval
Joins Map Sheet 04
Project
Leeton Active Transport Plan
Map Title
Active Transport Plan
Map Location
Leeton Township
Sheet Ref
Sheet 03 of 05
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Proposed Footpaths
Proposed Shared Paths
Proposed Path Widenings
Existing Pedestrian Crossing
Existing Centre Refuge
Proposed Centre Refuge
Signage Improvements
Accessibility Improvements
Education Facilities
Community Facilities
Parks and Recreation Areas
Project Numbers
Map Scale
0 50 100 150 m
North


PG. 57 Leeton Active Transport Plan
Joins Map Sheet 03
It can be very busy around Leeton High School and Leeton Public School
Motorists are not giving way at the intersection of Wilga and Chelmsford Streets
Joins Map Sheet 05
Project
Leeton Active Transport Plan
Map Title
Active Transport Plan
Map Location
Leeton Township
Sheet Ref
Sheet 04 of 05
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Proposed Footpaths
Proposed Shared Paths
Proposed Path Widenings
Existing Pedestrian Crossing
Existing Centre Refuge
Proposed Centre Refuge
Signage Improvements
Accessibility Improvements
Education Facilities
Community Facilities
Parks and Recreation Areas
Project Numbers
Map Scale
0 50 100 150 m
North

PG. 58 Leeton Active Transport Plan

Joins Map Sheet 04

Project
Leeton Active Transport Plan

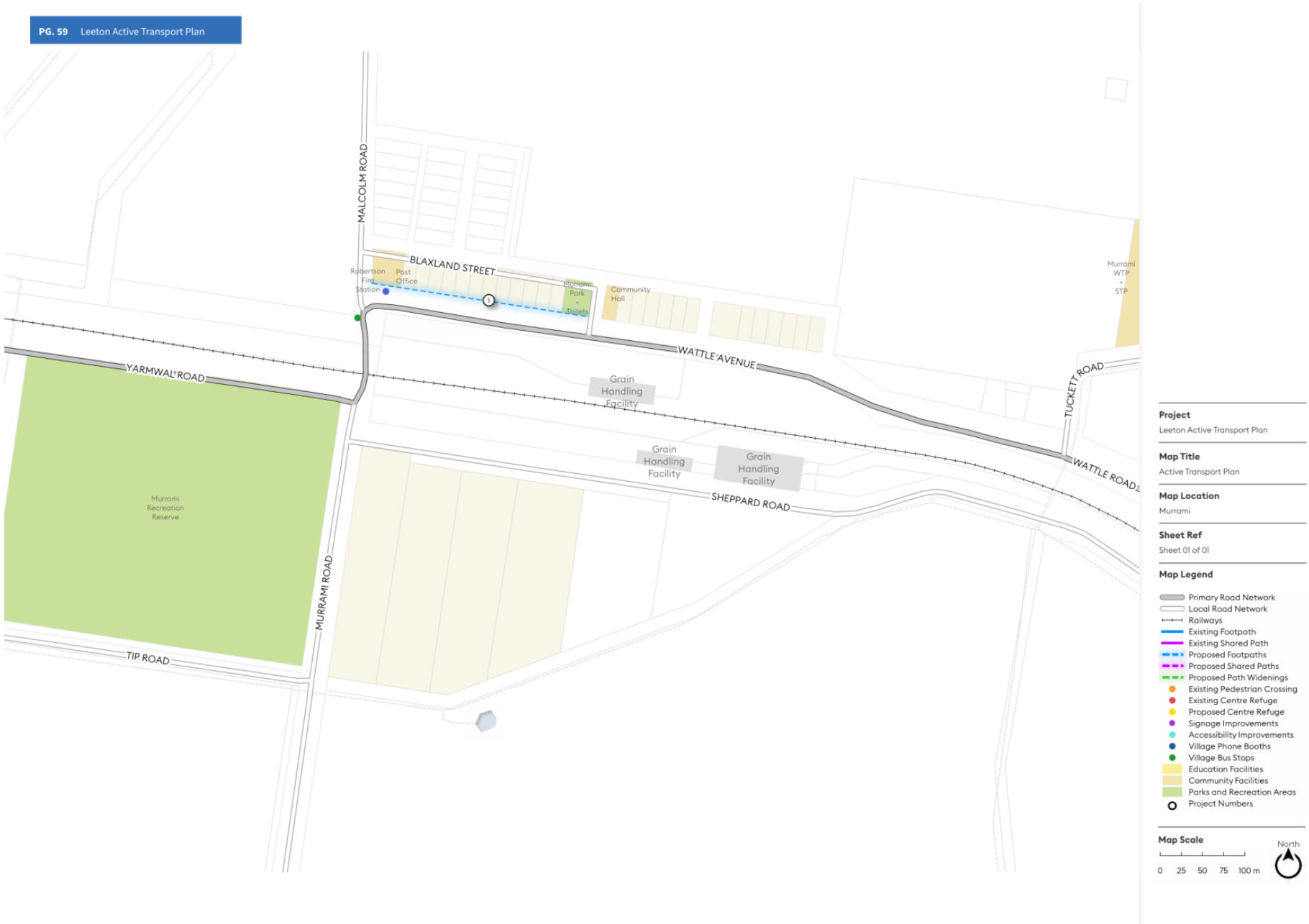
Map Title
Active Transport Plan

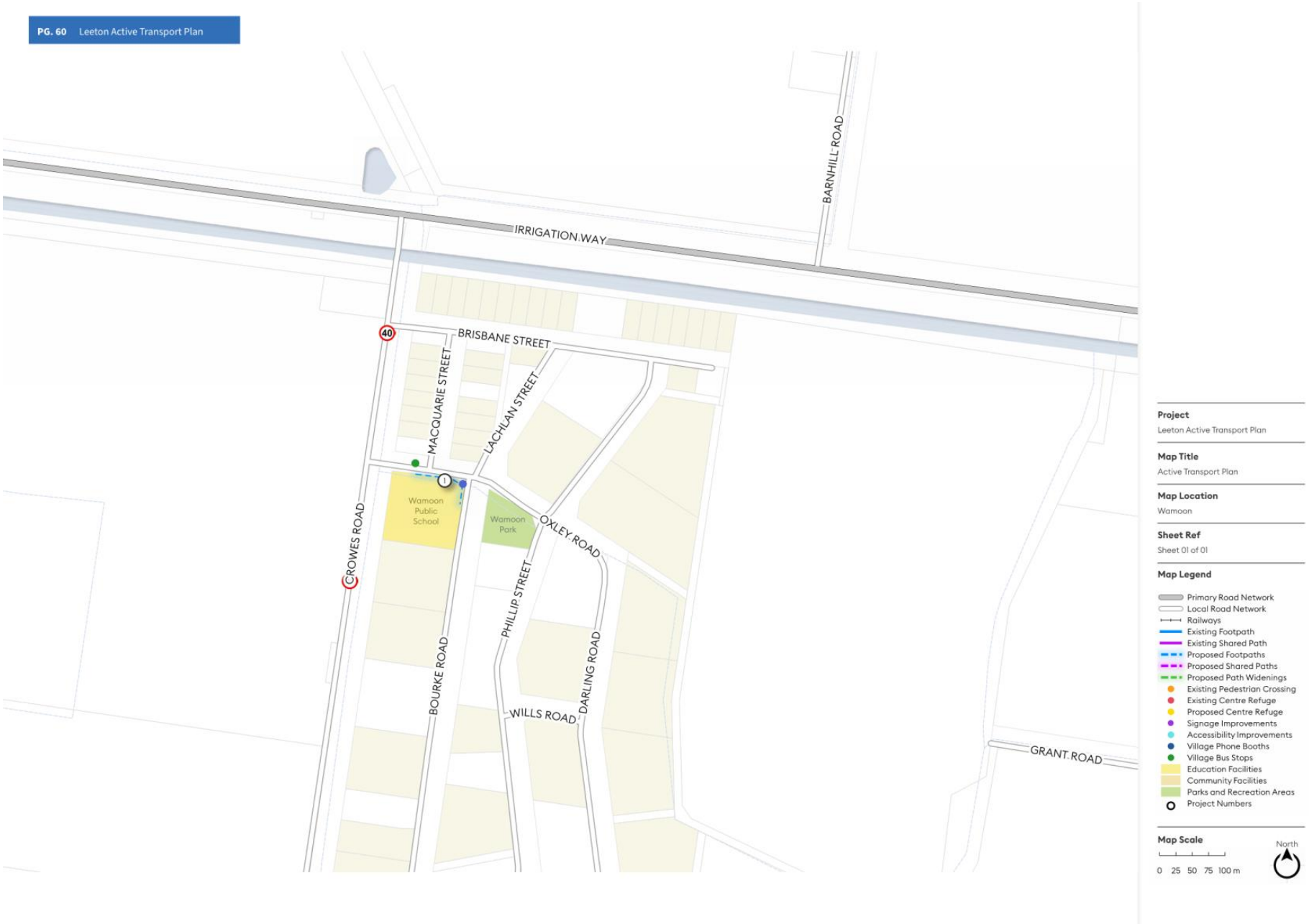
Map Location
Leeton Township

Sheet Ref
Sheet 05 of 05

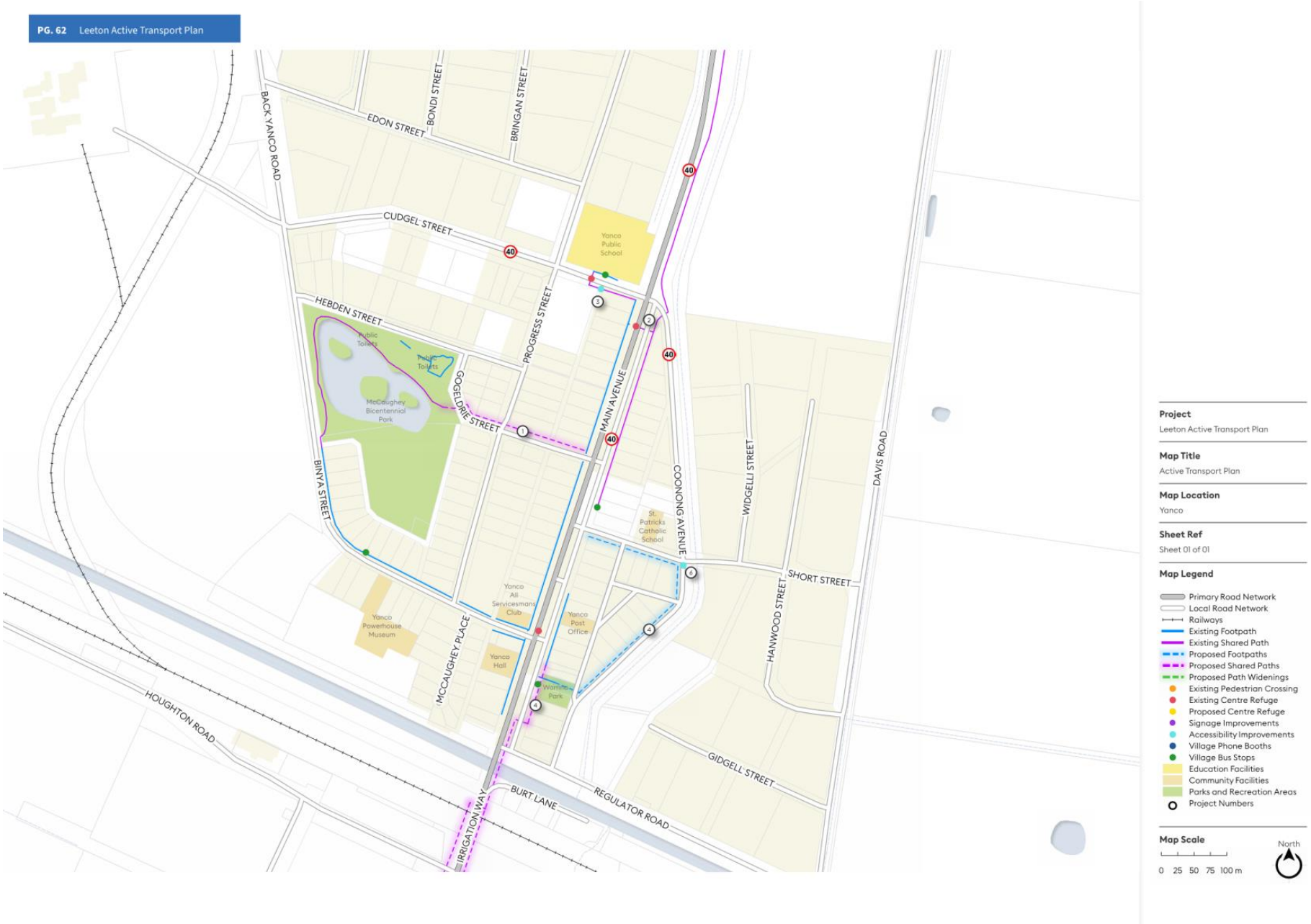
Map Legend
- Primary Road Network
- Local Road Network
- Railways
- Existing Footpath
- Existing Shared Path
- Proposed Footpaths
- Proposed Shared Paths
- Proposed Path Widenings
- Existing Pedestrian Crossing
- Existing Centre Refuge
- Proposed Centre Refuge
- Signage Improvements
- Accessibility Improvements
- Education Facilities
- Community Facilities
- Parks and Recreation Areas
- Project Numbers

Map Scale
0 50 100 150 m
North


PG. 59 Leeton Active Transport Plan
MALCOLM ROAD
BLAXLAND STREET
Robertson Fire Station
Post Office
Murrami Park + Toilets
Community Hall
Murrami WTP + STP
WATTLE AVENUE
YARMWALT ROAD
TUCKETT ROAD
Grain Handling Facility
Grain Handling Facility
Grain Handling Facility
WATTLE ROAD
SHEPPARD ROAD
Murrami Recreation Reserve
MURRAMI ROAD
TIP ROAD
Project
Leeton Active Transport Plan
Map Title
Active Transport Plan
Map Location
Murrami
Sheet Ref
Sheet 01 of 01
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Proposed Footpaths
Proposed Shared Paths
Proposed Path Widenings
Existing Pedestrian Crossing
Existing Centre Refuge
Proposed Centre Refuge
Signage Improvements
Accessibility Improvements
Village Phone Booths
Village Bus Stops
Education Facilities
Community Facilities
Parks and Recreation Areas
Project Numbers
Map Scale
0 25 50 75 100 m
North


PG. 60 Leeton Active Transport Plan
IRRIGATION WAY
BARNHILL ROAD
BRISBANE STREET
40
MACQUARIE STREET
LACHLAN STREET
Wamoon Public School
Wamoon Park
OXLEY ROAD
CROWES ROAD
PHILLIP STREET
BOURKE ROAD
DARLING ROAD
WILLS ROAD
GRANT ROAD
Project
Leeton Active Transport Plan
Map Title
Active Transport Plan
Map Location
Wamoon
Sheet Ref
Sheet 01 of 01
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Proposed Footpaths
Proposed Shared Paths
Proposed Path Widenings
Existing Pedestrian Crossing
Existing Centre Refuge
Proposed Centre Refuge
Signage Improvements
Accessibility Improvements
Village Phone Booths
Village Bus Stops
Education Facilities
Community Facilities
Parks and Recreation Areas
Project Numbers
Map Scale
0 25 50 75 100 m
North


PG. 61 Leeton Active Transport Plan
BRINGAN ROAD
AGS (Rice)
DOUGLAS STREET
NARADHUN STREET
CONAPAIRA STREET
BRUNELL STREET
BALLANDRY STREET
Whitton Bowling Club
STEPHENSON STREET
Whitton Reserve
Whitton Post Office
BENEREMBAH STREET
WHITTON ROAD
BRINGAN STREET
MELBERGEN STREET
Rice Bowl Hotel
Whitton Community Hall
STANLEY STREET
Whitton Public School
BINYAH STREET
HOUGHTON ROAD
WHITTON DARLINGTON POINT ROAD
GOGELDRIE STREET
Whitton Historical Museum
Whitton Swimming Pool
BEECHWORTH STREET
PURDON STREET
KOOBA STREET
Project
Leeton Active Transport Plan
Map Title
Active Transport Plan
Map Location
Whitton
Sheet Ref
Sheet 01 of 01
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Proposed Footpaths
Proposed Shared Paths
Proposed Path Widenings
Existing Pedestrian Crossing
Existing Centre Refuge
Proposed Centre Refuge
Signage Improvements
Accessibility Improvements
Village Phone Booths
Village Bus Stops
Education Facilities
Community Facilities
Parks and Recreation Areas
Project Numbers
Map Scale
0 25 50 75 100 m
North

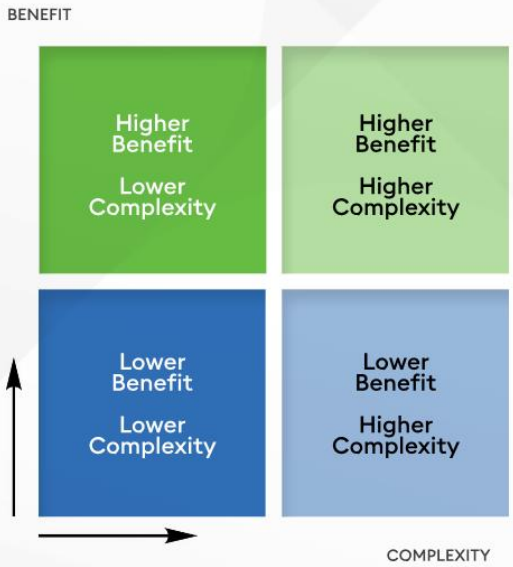

PG. 62 Leeton Active Transport Plan
BACK YANCO ROAD
EDON STREET
BONDI STREET
BRINGAN STREET
CUDGEL STREET
HEBDEN STREET
PROGRESS STREET
GOGELDRIE STREET
MAIN AVENUE
COONONG AVENUE
WIDGELLI STREET
DAVIS ROAD
SHORT STREET
HANWOOD STREET
BINYA STREET
MCCAUGHEY PLACE
HOUGHTON ROAD
IRRIGATION WAY
BURT LANE
REGULATOR ROAD
GIDGELL STREET
Yanco Public School
McDoughey Bicentennial Park
Public Toilets
St. Patricks Catholic School
Yanco All Servicesmans Club
Yanco Post Office
Yanco Powerhouse Museum
Yanco Hall
Warmin Park
Project
Leeton Active Transport Plan
Map Title
Active Transport Plan
Map Location
Yanco
Sheet Ref
Sheet 01 of 01
Map Legend
Primary Road Network
Local Road Network
Railways
Existing Footpath
Existing Shared Path
Proposed Footpaths
Proposed Shared Paths
Proposed Path Widenings
Existing Pedestrian Crossing
Existing Centre Refuge
Proposed Centre Refuge
Signage Improvements
Accessibility Improvements
Village Phone Booths
Village Bus Stops
Education Facilities
Community Facilities
Parks and Recreation Areas
Project Numbers
Map Scale
0 25 50 75 100 m
North

PRIORITIES + ACTIONS

The facilities and treatments required to create a more cohesive, safe, direct and attractive network forms the basis of the new Active Transport Plans developed for Leeton, Murrami, Wamoon, Whitton and Yanco.

The Active Transport Plans are the result of the consideration of a number of variables that have been examined in previous sections.

To prioritise potential new projects for action, a series of questions (see right of page) were asked and given a ranking score to reflect their importance in pedestrian and bicycle planning outcomes.



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- Does it fill a network gap?
- Has it been identified in consultation, audits and inspections?
- Will it be suitable for all users? (safe, direct, comfortable, coherent)?
- Will it benefit more than one user type? (recreation, commuter, fitness, shopping / short trips, student)?
- Is it located in a high activity area? (primary activity area, secondary activity generator, primary routes)?
- Is it located in a hazard area? (In a black spot, or near miss area, arterial or collector road, school zone, a place visited at night, or place where alcohol is available)?
- Does it improve pedestrian / cyclist separation from motor vehicles?
- Is it an iconic link that inspires greater uptake of walking and cycling?
- Will it lead to greater active transport trips, user support and general awareness?
- Is is practical / cost effective?

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Project Description		From Street Name / Place	To Street Name / Place	Does it fill a network gap?	Has it been identified in consultation / audits?	Is it suitable for all users?	Are there multi-user type benefits?	Is it located in a high activity area?	Is it located in a hazard area?	Does it improve separation from motor vehicles?	Is it an iconic route that inspires greater activity?	Will it increase active transport trips and support?	Is it practical and cost effective?	Total
Leeton Project # 01	Crossing alignment replacement	Wilga St / Willow St intersection	Wilga St / Willow St intersection	10	10	9	9	9	9	10	6	8	10	90
Leeton Project # 02	Footpath Installation	Mallee St / Wade Ave intersection	Mallee St / Myrtle St intersection	9	10	9	9	10	10	10	5	8	9	89
Leeton Project # 03	Footpath Installation	Wamoon Ave / Teatree Ave intersection	Wamoon Ave / Dunn Ave intersection	9	9	9	8	8	8	10	5	9	8	88
Leeton Project # 04	Footpath Installation	Palm Ave / Myrtle St intersection	Palm Ave / Dooley Lane intersection	9	9	9	8	7	8	9	6	8	8	81
Leeton Project # 05	Footpath Installation	Palm Ave / Myall St intersection	Palm Ave / Myrtle St intersection	9	9	9	8	7	8	9	6	8	8	81
Leeton Project # 06	Footpath Installation	Wilga St / Palm Av intersection	Wilga St / Yarran St intersection	9	9	9	8	7	8	9	6	8	8	81
Leeton Project # 07	Shared Path Installation	Almond Rd.	Leeton Skate Park	9	7	9	9	7	6	7	8	9	10	81
Leeton Project # 08	Shared Path Installation	Poplar Ave	Ramponi Park	9	8	8	8	6	8	8	6	7	7	75
Leeton Project # 09	Shared Path Installation	Railway Ave / Lilac Ave intersection	Ramponi Park	9	8	8	8	6	5	8	6	7	7	72
Leeton Project # 10	Shared Path Installation	Lilac Ave / Railway Ave intersection	Park Ave	9	8	8	8	6	5	8	6	7	7	72
Leeton Project # 11	Shared Path Installation	Canal St / Brady Way intersection (north side of road)	Poplar Ave (existing shared path on northside of road)	9	7	9	7	6	8	7	6	5	7	71

CURRAJONG
PLANNING, PROPERTY + PROJECT MANAGEMENT

Project Description		From Street Name / Place	To Street Name / Place	Does it fill a network gap?	Has it been identified in consultation / audits?	Is it suitable for all users?	Are there multi-user type benefits?	Is it located in a high activity area?	Is it located in a hazard area?	Does it improve separation from motor vehicles?	Is it an iconic route that inspires greater activity?	Will it increase active transport trips and support?	Is it practical and cost effective?	Total
Leeton Project # 12	Footpath Installation	Calrose St / Packham St intersection	Calrose St / Canal St intersection	8	7	7	8	8	7	8	5	6	6	70
Leeton Project # 13	Footpath Installation	Yanco Ave (Golden Apple IGA)	Yanco Ave (Golden Apple IGA)	9	8	7	7	8	7	7	5	5	6	69
Leeton Project # 14	Shared Path Installation	Maiden Ave / Acacia Ave intersection	Maiden Ave / Yanco Ave intersection	9	8	8	7	6	5	7	5	6	5	66
Leeton Project # 15	Shared Path Installation	Whitton Rd / Pendula St intersection	Gossamer Park, via Pendula St, Washington Dr and Lightwood St	7	7	7	7	6	5	7	5	6	6	63
Leeton Project # 16	Shared Path Installation	Karri Rd / Brobenah Rd intersection	Cassia Rd / Palm Ave intersection	6	7	6	6	5	5	7	5	6	5	58
Leeton Project # 17	Footpath Installation	Wandoo St / Grevillia St intersection	Wandoo St / Kurrajong St intersection	6	6	6	6	5	5	6	5	5	5	57
Leeton Project # 18	Shared Path Installation	Railway Ave / Oak St intersection	Railway Ave / Lilac Ave intersection	7	6	6	6	5	5	6	5	6	5	57
Leeton Project # 19	Footpath Installation	Brady Way / Valencia St intersection	Brady Way / Canal St intersection	7	6	6	5	6	5	7	5	5	5	57
Leeton Project # 20	Footpath Installation	Park Avenue / Cherry Ave intersection	Existing footpath on northside of Park Ave	7	6	6	5	5	5	7	5	5	6	57
Leeton Project # 21	Footpath widening	Brobenah Rd / Fivebough Rd intersection	Brobenah Rd	5	7	6	6	5	5	6	6	5	5	56
Leeton Project # 22	Footpath widening to Shared Path	Brobenah Rd / Karri Rd intersection	Boronia Rd / Teramo St intersection	6	7	6	6	5	5	6	6	5	4	56
Leeton Project # 23	Shared Path Installation	Petersham Rd / Brobenah Rd intersection	Existing path near Hillview Pl via Petersham Rd	5	8	4	4	5	5	7	7	6	4	55

CURRAJONG
PLANNING, PROPERTY + PROJECT MANAGEMENT

Project Description		From Street Name / Place	To Street Name / Place	Does it fill a network gap?	Has it been identified in consultation / audits?	Is it suitable for all users?	Are there multi-user type benefits?	Is it located in a high activity area?	Is it located in a hazard area?	Does it improve separation from motor vehicles?	Is it an iconic route that inspires greater activity?	Will it increase active transport trips and support?	Is it practical and cost effective?	Total
Leeton Project # 24	Accessibility Improvements	Intersection Reservoir La & Jarrah St	Intersection Reservoir La & Jarrah St	5	5	6	6	7	5	6	4	4	7	55
Murrami Project # 1	Footpath Path Installation	Murrami Post Office	Murrami Park	8	8	4	4	8	4	7	5	7	7	62
Wamoon Project # 1	Footpath Path Installation	Wwamoon Public School	Wamoon Park	8	8	5	7	5	3	6	4	6	7	59
Whitton Project # 1	Footpath Path Installation	Naradhun Street	Whitton Swimming Pool via Gogeldrie Street	7	7	6	6	7	3	5	4	6	8	59
Whitton Project # 2	Footpath Path Installation	Melbergen Street	Naradhun Street via Gogeldrie St	8	7	6	6	7	3	5	4	6	8	60
Whitton Project # 3	Crossing relocation and improvements	Benerembah St	Benerembah St	6	7	8	8	8	5	7	4	7	8	68
Whitton Project # 4	Footpath Path Installation	Bringan Street	Whitton Bowling Club via Benerembah St	7	7	6	6	7	3	5	4	6	8	59
Yanco Project # 1	Shared path installation	Main Avenue	McCaughey Bicentennial Park	8	7	8	7	7	3	7	4	7	8	66
Yanco Project # 2	Crossing improvements	Main Avenue	Main Avenue	5	6	8	7	9	3	7	4	6	8	63
Yanco Project # 3	Signage and accessibility improvements	Benerembah St	Benerembah St	2	7	5	7	8	3	4	4	5	8	53
Yanco Project # 4	Footpath Installation	Short Street	Coonong Avenue	7	7	8	7	8	3	6	6	6	6	64

CURRAJONG
PLANNING, PROPERTY + PROJECT MANAGEMENT

Project Description		From Street Name / Place	To Street Name / Place	Does it fill a network gap?	Has it been identified in consultation / audits?	Is it suitable for all users?	Are there multi-user type benefits?	Is it located in a high activity area?	Is it located in a hazard area?	Does it improve separation from motor vehicles?	Is it an iconic route that inspires greater activity?	Will it increase active transport trips and support?	Is it practical and cost effective?	Total
Yanco Project # 5	Shared path installation	Junee - Hay Railway	Yanco Agricultural High School	5	6	8	7	7	3	8	7	8	5	64
Yanco Project # 6	Accessibility improvements	Coonong St	Coonong St	4	6	7	6	5	7	6	3	6	8	58
Yanco Project # 7	Shared path installation	Junee - Hay Railway	Agricultural Centre	5	6	8	7	7	3	8	7	8	5	64

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PLANNING, PROPERTY + PROJECT MANAGEMENT

ON-GOING RESPONSIBILITIES

Supporting a Culture of Active Transport

Even a locally tailored evidence-based plan of action is not a guarantee of lasting results once completed and implemented.

According to the WHO Pedestrian Safety Manual, safe road-user behaviour and increasing user support depends on a number of factors, including:

- Knowledge and skills.
- Leaders.
- Community support.
- Perception of vulnerability and risk.
- Social acceptance to norms and change models.
- Engineering measures.
- Law enforcement.

As this is a strategic document, detailed behaviour-change interventions and road safety programs have not been considered comprehensively. These issues need to be addressed over a longer period and with greater community involvement.

The following community awareness, education and activation strategies are suggested for further consideration by Leeton Shire Council and the wider local community over the life of the Leeton ATP.

Actions	Timeframe
Publicise an active transport routes way-finding map, possibly aligning with neighbouring councils and share data on recommended routes to help the NSW Government and third-party service providers improve digital trip planning services for walking and cycling.	1-5 years
Review shared path signage and investigate opportunities for improvements to encourage shared path etiquette, including use of social media.	1-5 years
Investigate an integrated approach to planning and prioritising local area traffic management interventions as part of area planning activities and road safety technical investigations to better align with pedestrian and cyclist safety issues and priorities.	5-10 years
Investigate community 'crowd funding' models that ensure delivery of active transport projects for Leeton Shire.	5-10 years
Encourage businesses to install secure bicycle parking, change rooms and shower amenities at their premises.	ongoing
Investigate / implement street tree plantings in appropriate locations along walking and cycling routes to create iconic trips that encourage increased active transport trips.	ongoing
Partner with the NSW Government and community organisations to deliver skills development and road safety awareness initiatives.	ongoing
Advocate for the NSW Government to investigate improved bicycle storage for significant public transport nodes and interchanges.	ongoing

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Maintaining the Active Transport Network

The development of a comprehensive maintenance program which identifies key tasks and frequency of works is an important part of a quality active transport network.

Monitoring Progress

Implementing the priorities of the Leeton ATP will require on-going review of progress and regular feedback to key stakeholders and the wider community.

Council will monitor, review and report on its progress under the Leeton ATP using the existing Integrated Planning and Reporting Framework under the Local Government Act 1993 to ensure that its planning priorities are being achieved.

Funding Programs, Initiatives + Infrastructure

Moving forward, Council has the opportunity to make significant upgrades to walking and cycling infrastructure across the Leeton Shire with support from other government authorities.

Options for funding the actions outlined within the Leeton Active Transport Action Plan include:

- Section 7.11 contributions - collected from new development in the relevant areas. However, these contributions will not be able to fund all of the actions in this Plan.
- Grants and contributions (operational and capital) - Council will actively pursue grant funding and other contributions to assist in the delivery of new infrastructure.
- Delivery partnerships - where Council and key partners (such as State Government agencies or private developers) collaborate to deliver a new infrastructure.

The following grant programs are currently available for active transport in NSW:

- Transport, through the Get NSW Active grant program - funds grants to local and State governments for walking and cycling infrastructure as well as the development of strategies that support walking and cycling in local communities. To fund the development and delivery of the 15-minute neighbourhoods, the Get NSW Active grant program will fund local links that support a more cohesive active transport network.
- The Liveable and Safe Urban Communities Initiative - will deliver targeted, area-based actions and treatments to improve safety. In busy urban places, the Safer Roads Program will deliver traffic calming, pedestrian facilities, and the expansion of safer speed settings.
- The Streets as Shared Spaces program - provides grants for NSW councils to deliver temporary and demonstration projects that test and pilot innovative ideas for streets as safe, shared public spaces. The program tests possible permanent changes that can strengthen the amenity, accessibility and economic vitality of a high street and surrounding areas.

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PROJECT SHEETS

A number of project sheets have been developed for some of the priority projects in Leeton, Murrami, Wamoon, Whitton and Yanco.

These project sheets are presented in the following sections of the Leeton Active Transport Plan.

CURRAJONG
PLANNING, PROPERTY + PROJECT MANAGEMENT

Leeton Project # 1

PROJECT DESCRIPTION

Crossing alignment replacement at the intersection of Wilga Street and Willow Streets in Leeton.

PROJECT BENEFIT

The lack of kerb ramps following desire lines is encouraging pedestrian movement onto the through carriageway of Myrtle and Wilga Streets. The project is necessary to improve the safety of student and commuter pedestrians crossing the street environment at this location.

PROJECT SPECIFICATIONS

Concrete kerb and gutter realignment to create a more appropriate intersection, estimated @ $9,000

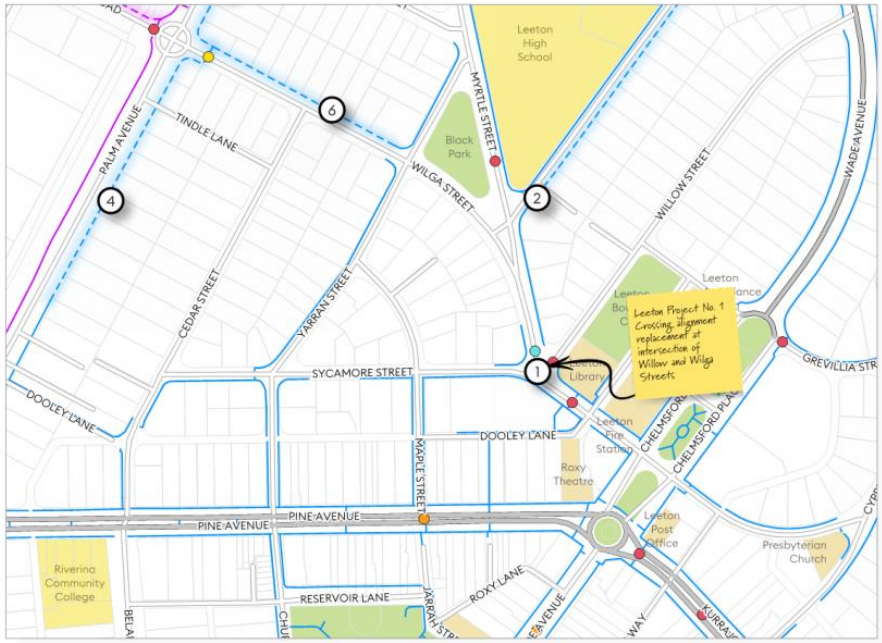
Footpath repair and realignment works, estimated 10m @ $270/lm

Kerb ramps x 2 @ $3,500 each

Traffic control, estimated @ $5,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$23,700



Project Location Map

Site Photograph

Site Photograph

CURRAJONG

Leeton Project # 3

PROJECT DESCRIPTION

Installation of a new footpath along the northern side of Wamoon Avenue linking from the existing footpath location near the intersection of Acacia Avenue Street to the existing shared path location on Dunn Avenue.

PROJECT BENEFIT

The project will fill an identified network gap and improve the connectivity of the active transport network along a primary route that is well used by pedestrians accessing the Leeton CBD.

PROJECT SPECIFICATIONS

1.5m footpath x 850m @ $270/lm

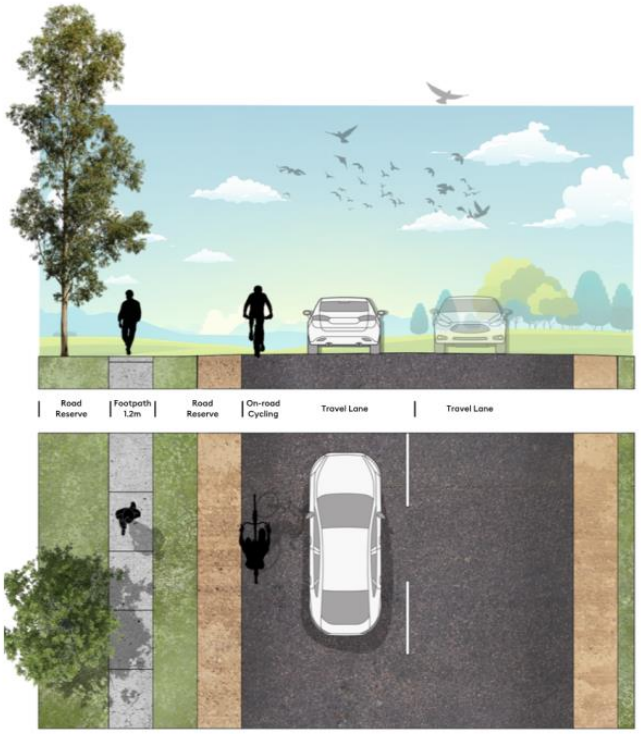
Concrete blisters x 2, northern side of Wamoon Avenue, estimated @ $7,000 each

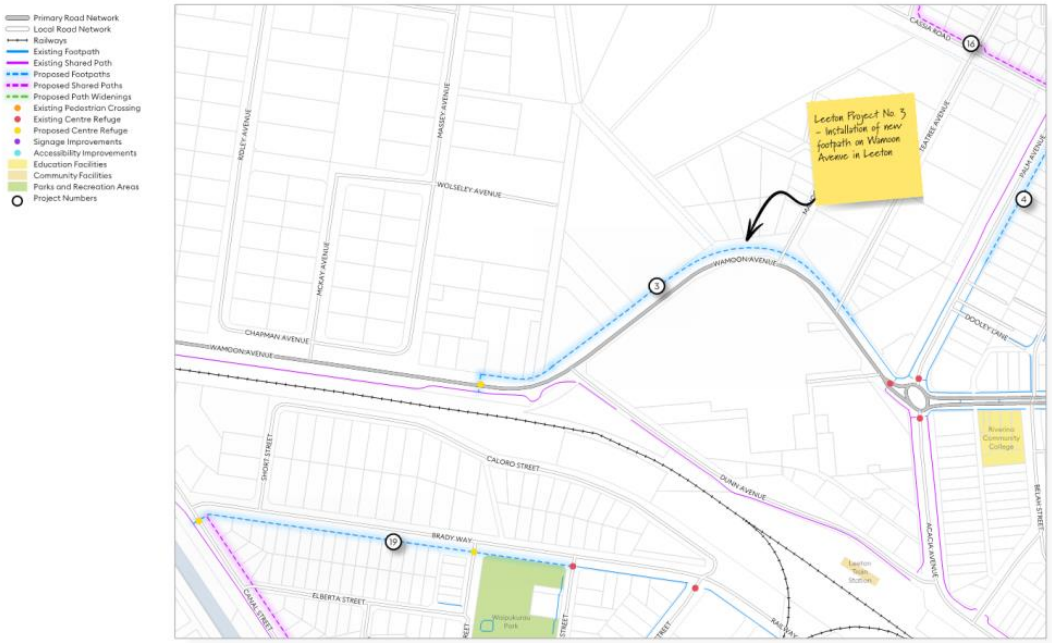
Drainage and footpath rehabilitation, estimated @ $7,000

Traffic control, estimated @ $8,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$258,500





Project Location Map

Site Photograph

CURRAJONG

Leeton Project # 7

PROJECT DESCRIPTION

Installation of new shared path along the northern side of Almond Road, linking from the existing shared path location near Daalbata Road to the existing shared path network in the vicinity of Rotary Park and Leeton Skate Park.

PROJECT BENEFIT

The project will fill an identified network gap and improve the connectivity of the active transport network in the vicinity of Almond Road and the various public recreation facilities within the Leeton Ovals Complex.

PROJECT SPECIFICATIONS

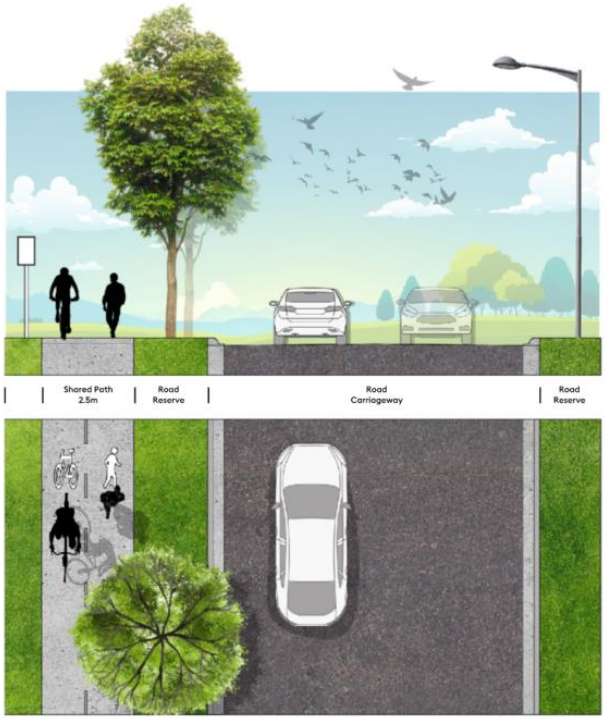
2.5m shared path x 95m @ $430/lm

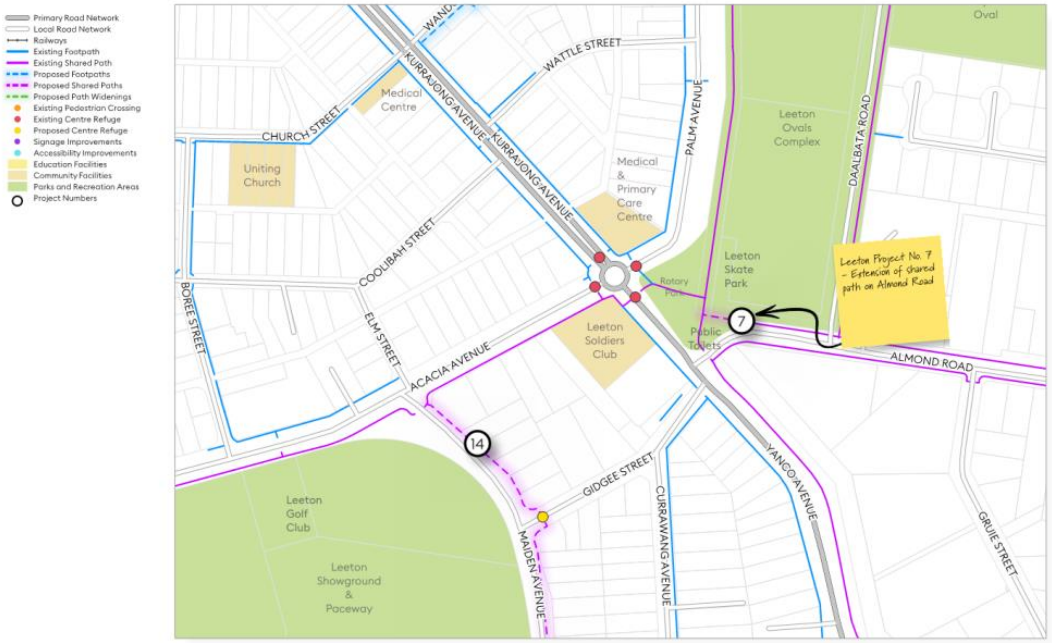
Drainage and footpath rehabilitation, estimated @ $1,500

Work safe barrier / signage, estimated @ $750

ESTIMATED COST

$43,100





Project Location Map

Site Photograph

Site Photograph

CURRAJONG

Leeton Project # 8

PROJECT DESCRIPTION

Installation of new shared path along the eastern side of Poplar Avenue, linking from the existing shared path opposite OneSchool Global to Ramponi Park at the intersection of Poplar Avenue and Racecourse Road. The project is proposed as part of a larger shared path project involving Leeton Projects # 9, 10 and 11.

PROJECT BENEFIT

The project will fill an identified network gap and improve the connectivity of the active transport network along the busy Poplar Avenue.

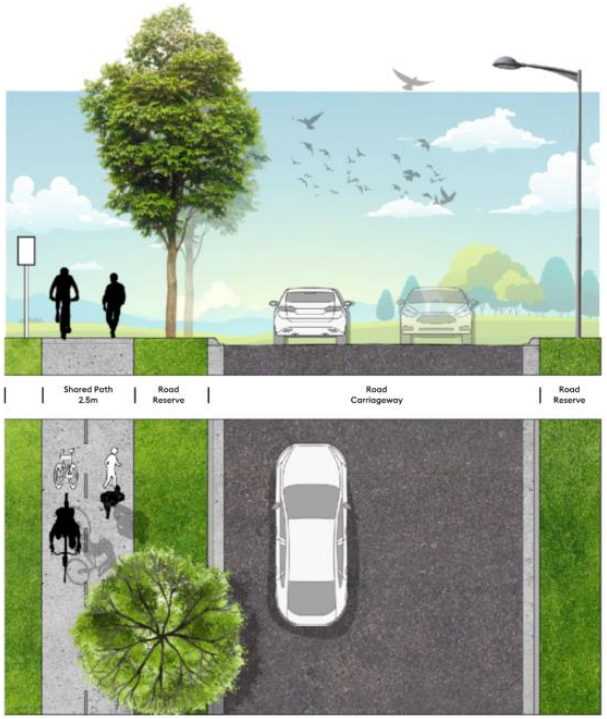
PROJECT SPECIFICATIONS

2.5m shared path x 409m @ $430/lm

Traffic control, estimated @ $8,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$183,870



Project Location Map

Site Photograph

CURRAJONG

Leeton Project # 9

PROJECT DESCRIPTION

Installation of new shared path along the eastern side of Railway Avenue Road, linking from Ramponi Park to Beech Street. The project is proposed as part of a larger shared path project involving Leeton Projects # 8, 10 and 11.

PROJECT BENEFIT

The project will fill an identified network gap and improve the connectivity of the active transport network along Railway Avenue.

PROJECT SPECIFICATIONS

2.5m shared path x 460m @ $430/lm

Kerb ramps x 2 @ $3,500 each

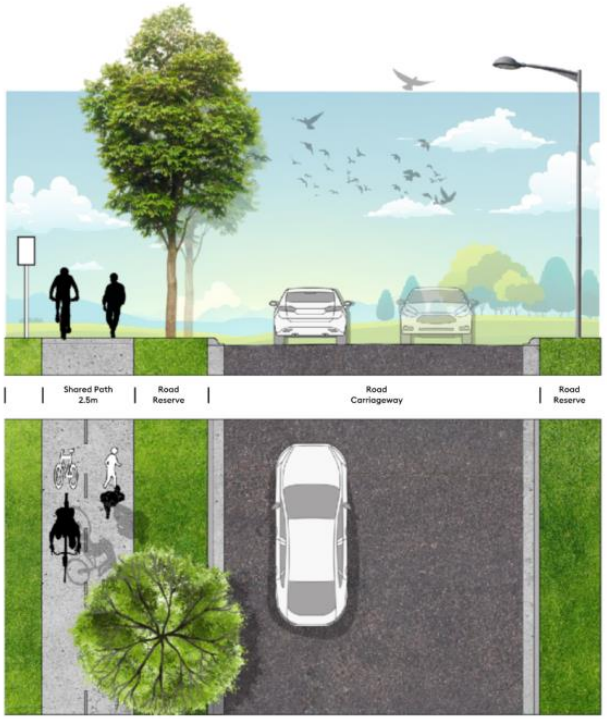
Pedestrian refuge islands x 1 @ $12,000 each

Kerb side blisters x 2 @ $7,000 each

Traffic control, estimated @ $8,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$238,800



Project Location Map

Site Photograph

CURRAJONG

Leeton Project # 10

PROJECT DESCRIPTION

Installation of new shared path along the western side of Lilac Avenue linking from Racecourse Road to the existing shared path on Park Avenue adjacent to the Parkview Public School. The project is proposed as part of a larger shared path project involving Leeton Projects # 8, 9 and 11.

PROJECT BENEFIT

The project will fill an identified network gap and improve the connectivity of the active transport network between busy Railway Avenue and the Parkview Public School.

PROJECT SPECIFICATIONS

2.5m shared path x 175m @ $430/lm

Kerb ramps x 2 @ $3,500 each

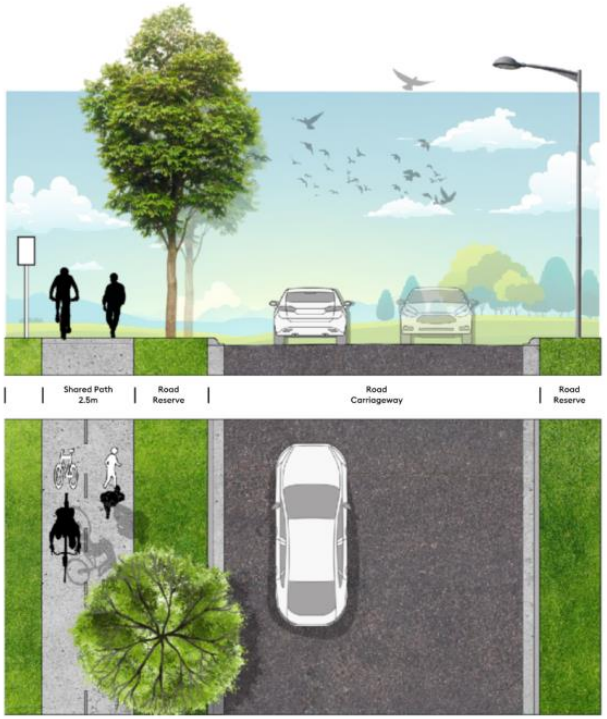
Pedestrian refuge islands x 1 @ $12,000 each

Kerb side blisters x 2 @ $7,000 each

Traffic control, estimated @ $8,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$116,250



Project Location Map

Site Photograph

CURRAJONG

Leeton Project # 11

PROJECT DESCRIPTION

Installation of new shared path along the eastern side of Canal Street, linking from the existing shared path near the intersection of Cherry Avenue to the existing footpath located on Brady Way. The project is proposed as part of a larger shared path project involving Leeton Projects # 8, 9 and 10.

PROJECT BENEFIT

The project will fill an identified network gap and improve the connectivity of the active transport network along the busy Poplar Avenue / Canal Street

PROJECT SPECIFICATIONS

2.5m shared path x 1100m @ $430/lm

Pedestrian refuge islands x 1 @ $12,000 each

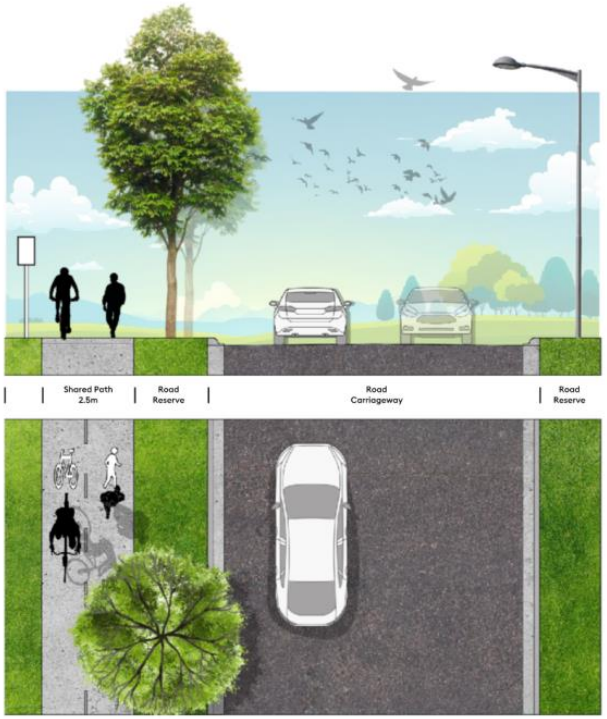
Kerb ramps x 8 @ $3,500 each

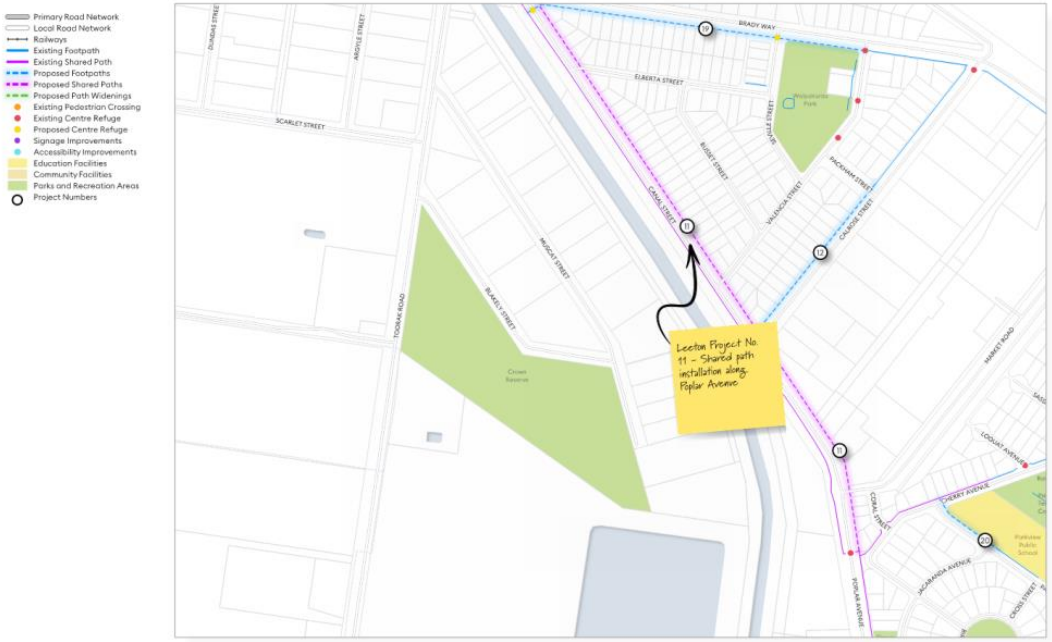
Kerb side blisters x 2 @ $7,000 each

Traffic control, estimated @ $8,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$535,000





Project Location Map

Site Photograph

CURRAJONG

Leeton Project # 14

PROJECT DESCRIPTION

Installation of a new shared path along the eastern side of Maiden Avenue linking from the existing shared path location near the intersection of Acacia Avenue Street to the existing shared path location on Yanco Avenue.

PROJECT BENEFIT

The project will fill an identified network gap and improve the connectivity of the active transport network along an existing primary route used by pedestrians accessing the Leeton Showground, the Gralee School and the St Francis De Sales Regional College, Leeton Caravan Park, Golden Apple IGA and Yanco wider afield.

PROJECT SPECIFICATIONS

2.5m shared path x 1,130m @ $430/lm

Kerb ramps x 8 @ $3,500 each

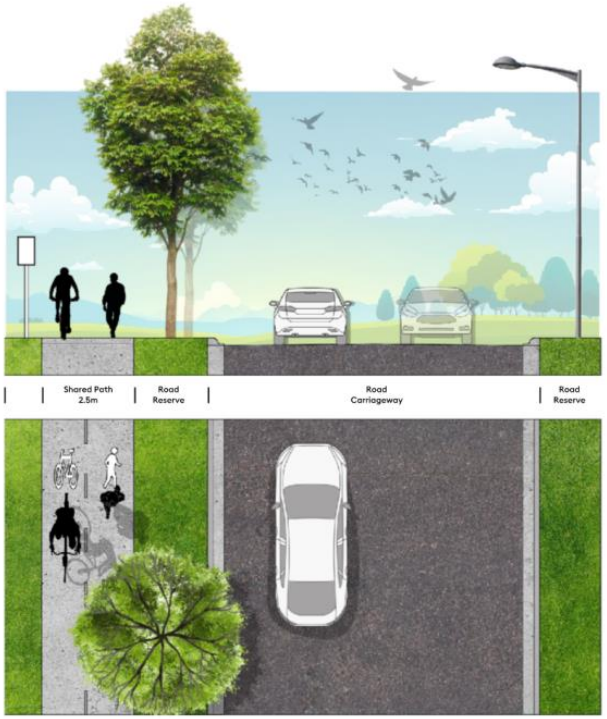
Pedestrian refuge islands x 2 @ $12,000 each

Drainage and footpath rehabilitation, estimated @ $5,000

Traffic control, estimated @ $8,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$550,900



Project Location Map

Site Photograph

CURRAJONG

Murrami Project #1

PROJECT DESCRIPTION

Installation of a new footpath path along the northern side of Wattle Avenue linking from the Murrami Post Office to the Community Hall.

PROJECT BENEFIT

The project is necessary in order to improve conditions for active transport movement along a route that is identified to be well used by pedestrians accessing the Post Office and the Community Hall, being two of the primary trip generating activities in Murrami. Drainage and heavy vehicle traffic need to be carefully managed in the completion of this project.

PROJECT SPECIFICATIONS

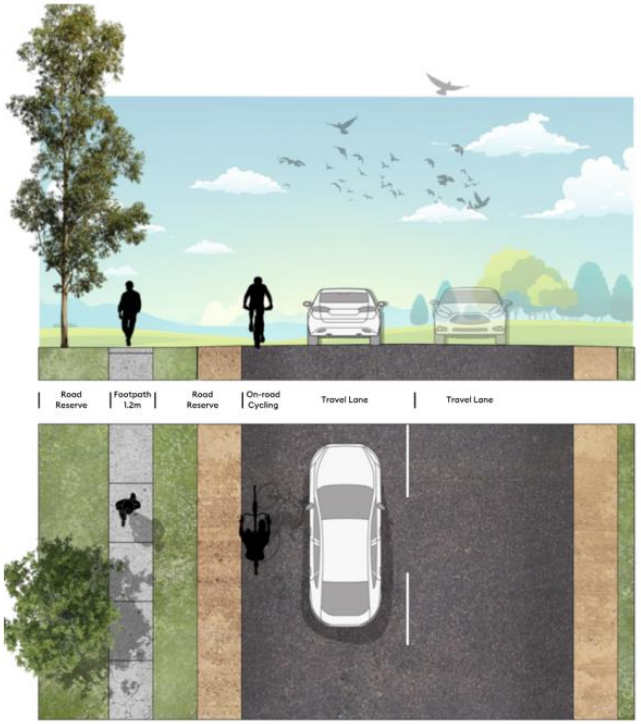
1.5m footpath x 341m @ $270/lm.

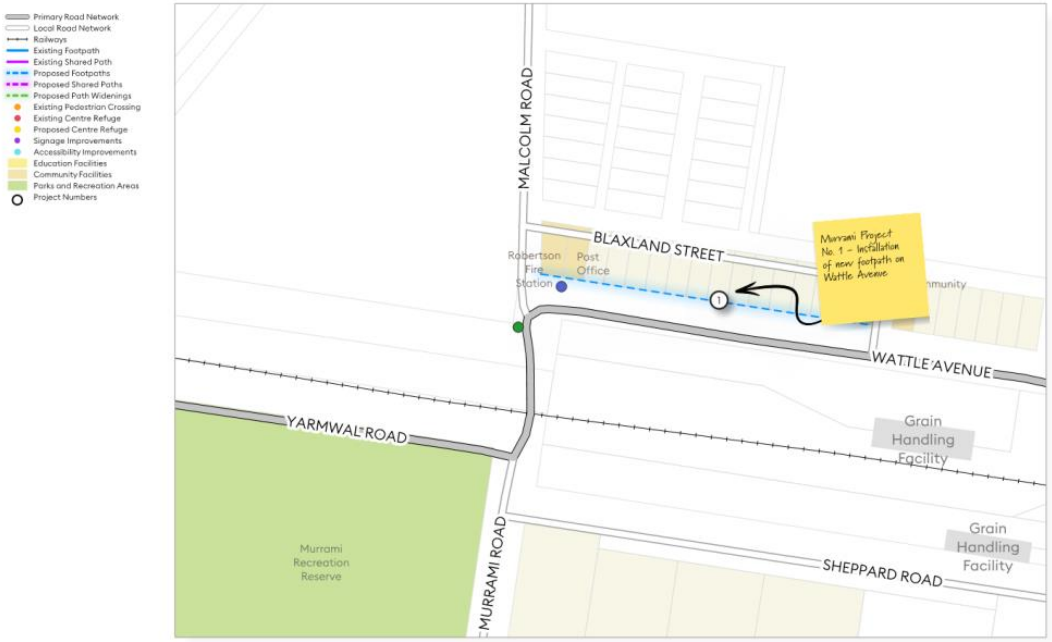
Drainage and footpath rehabilitation, estimated at $10,000

Traffic control, estimated @ $3,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$105,070





Project Location Map

Site Photograph

Site Photograph

CURRAJONG

Wamoon Project #1

PROJECT DESCRIPTION

Installation of a new footpath path along the southern side of Oxley Road linking from the Wamoon Public School to the Wamoon Park.

PROJECT BENEFIT

The project will improve conditions for active transport movement along an identified route that is well used by students accessing the Wamoon Public School and bus stop and walking to the nearby Wamoon Park.

PROJECT SPECIFICATIONS

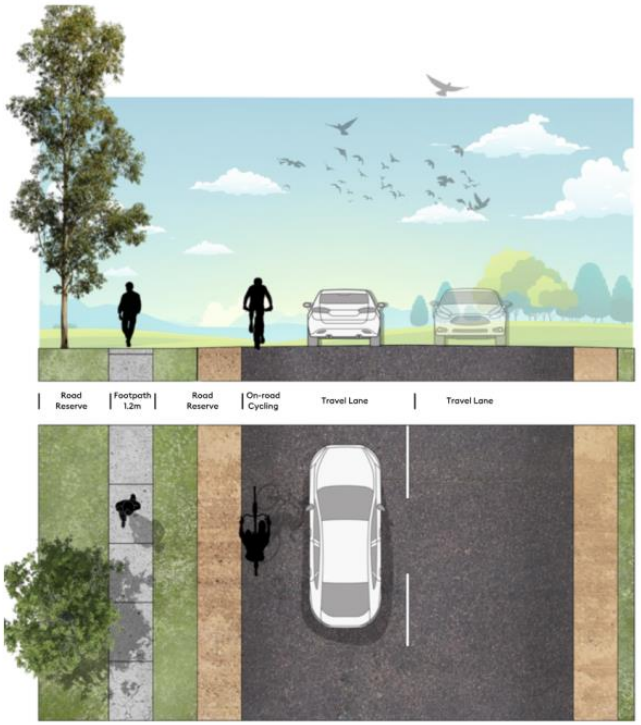
1.5m footpath x 115m @ $270/lm

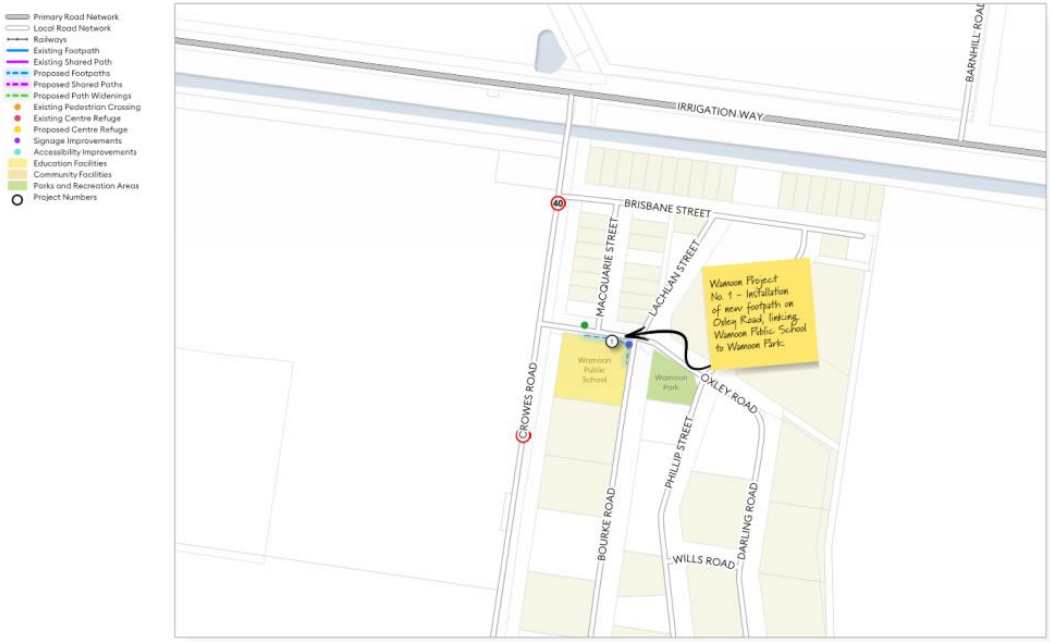
Drainage and footpath rehabilitation, estimated @ $5,000

Traffic control, estimated @ $3,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$35,188





Project Location Map

Site Photograph

Site Photograph

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Whitton Project # 3

PROJECT DESCRIPTION

Relocation of the existing crossing location on Benerembah Street and associated improvement works including removal of existing refuge, installation of a new refuge, kerb blisters and kerb ramps. The project also involves new line marking and signage.

PROJECT BENEFIT

The project is necessary in order to improve the safety of pedestrians crossing Benerembah Street at this location which is well used by pedestrians accessing the Post Office, General Store and Community Hall. Maintaining existing car parking and drainage are important design considerations.

PROJECT SPECIFICATIONS

Remove existing centre refuge and blisters and requisite road seal, estimated @ $8,000

Kerb Ramps x 6 @ $3,500 each

Footpath extensions x 30m @ $270/lm

Drainage and footpath rehabilitation, estimated at $8,000

Pedestrian refuge islands x 1 @ $12,000 each

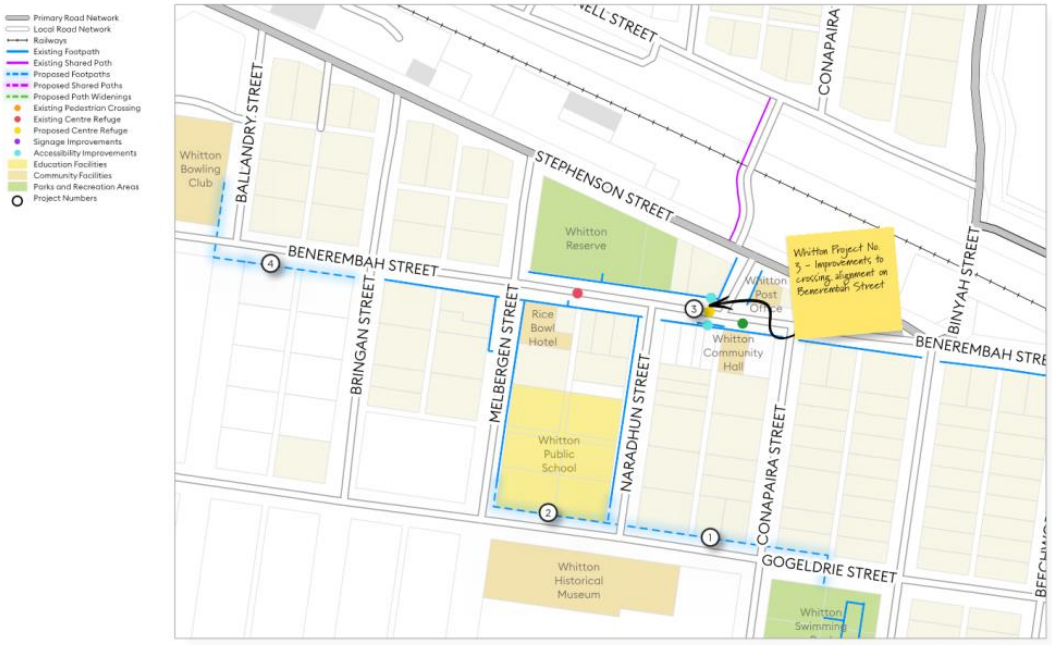
Kerb side blisters x 2 @ $7,000 each

Traffic control, estimated @ $8,000 for preparation / implementation of a Traffic Control Plan

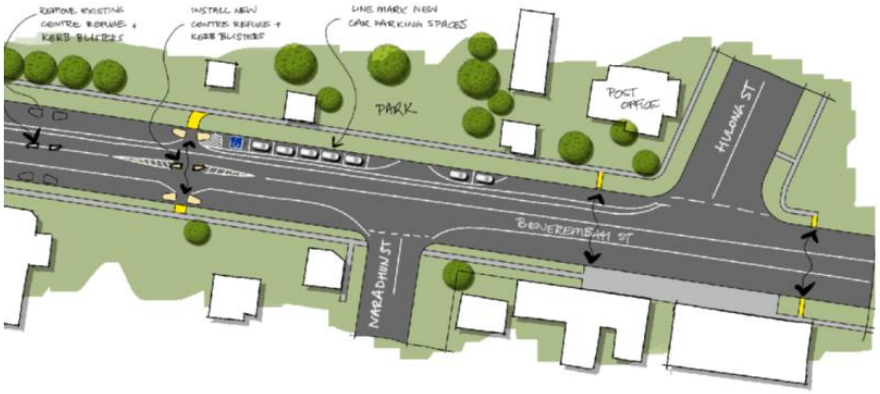
Line marking and signage, estimated @ $4,000

ESTIMATED COST

$83,100



Project Location Map



Site Photograph

Site Photograph

CURRAJONG

Yanco Project #1

PROJECT DESCRIPTION

Installation of a new shared path along the northern side of Gogeldrie Street linking from the existing footpath location near the intersection of Main Avenue Street to the existing shared path in the McCaughey Bicentennial Park.

PROJECT BENEFIT

The project provides a necessary link from McCaughey Bicentennial Park to Yanco Main Street.

PROJECT SPECIFICATIONS

2.5m shared path x 240m @ $430/lm

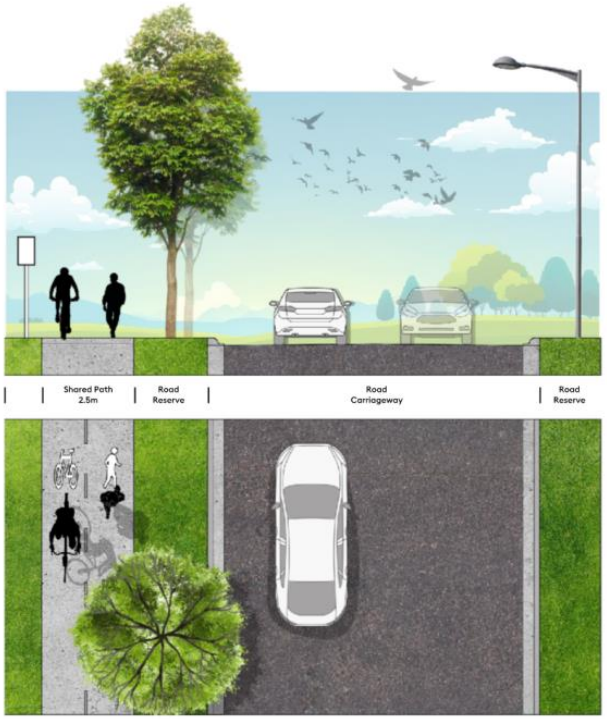
Kerb Ramps x 2 @ $3,500 each

Drainage and footpath rehabilitation, estimated at $6,000

Traffic control, estimated @ $3,000 for preparation / implementation of a Traffic Control Plan

ESTIMATED COST

$119,200



Project Location Map

Site Photograph

Site Photograph

CURRAJONG

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