



# Gungahlin Town Centre Active Travel

## Feasibility Study Report

Transport Canberra & City Services (TCCS)

30 September 2022



→ The Power of Commitment

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# Executive Summary

GHD were engaged by Transport Canberra and City Services to undertake a Feasibility Study for Active Travel infrastructure within the Gungahlin Town Centre. The overall objective of the study was to identify proposed improvements to the active travel network including a review and update of the community route network and development of concept design for potential infrastructure improvements.

This study has been delivered in three stages as follows:

- **Existing Conditions Assessment Report** – The first stage of the study undertook an assessment of the existing conditions present within the Town Centre. This included a review of background information, existing infrastructure, utility service locations, current ATN and routes status, planning requirements and the Identification of opportunities, risks and constraints to inform the future identification of route alignments and infrastructure improvements.
- **Active Travel Network Design Review Report** – The second stage of the study involved a review undertaken of the existing ATN route design and hierarchy, focusing on the Community Route Network within the Study area. The review included:
  - A review of the compliance of the Community Route alignments with the requirements of '*Planning for Active Travel in the ACT*' (PATACT) and MIS 05 '*Active Travel Facilities Design*' (MIS 05) focusing on the extant physical active travel infrastructure.
  - A Movement and Place assessment
  - Proposed updates to the Community Route Network including updated route alignments and classifications in response to the investigations and analysis that better inform the location and prioritisation of proposed improvements.
- **Feasibility Study Report** – the final stage of this study, documented in this report buildings on the findings of the first two stages and proposed active travel infrastructure improvements to better align the physical infrastructure present on the ground with the intent of the updated Community Route Network mapping. Concept designs and budget estimates have been prepared for 11 individual Community Route links on Principal, Main and Local Routes including overlap with two Principal Recreational Trails. A 12<sup>th</sup> link was also identified for consideration as part of the Gungahlin East Precinct development.

In addition to the concept designs (refer Section 6 and Appendix A) and budget estimates (refer Section 8 and Appendix C), recommendations have been provided regarding staging of the proposed construction works and a multi-criteria analysis was undertaken to assess the relative priority of each identified works package (refer Section 9) to assist TCCS in future capital works expenditure planning.

In addition to the additional investigations recommended for each link there are some key overarching issues requiring further consideration and action prior to implementation of the recommended improvements include:

- Bus movements in Gungahlin Place represent the highest hazard to active travellers in this important area that should be a people place. Bus operations are under review and the safe and most efficient infrastructure outcome must take full consideration of the interactions and operations of active travellers and busses. The development of the most efficient and safest possible option cannot be undertaken separately or in a piecemeal fashion.
- There are several situations present within the Town Centre transport infrastructure that present hazards to active travellers and general traffic that are a legacy of earlier stages of Gungahlin's development and where the existing infrastructure has not kept up with current planning and design standards. Development of the active travel infrastructure improvements identified in this report should be viewed as a catalyst to rectify some of these non-conformances including:
  - Driveway access to major collectors from leases that have alternative conforming access.
  - Right turn access from Local streets to Arterial roads.
- A broader study that considers the speed environment on major collectors adjacent to the Town Centre such as Anthony Rolfe Avenue and The Valley Avenue to reflect their purpose and proximity to the Town Centre.
- A mechanism to protect the amenity of the verges and planned green corridors in the Town Centre area from degradation from proposed future development such as that to the east side of the Town Centre.

This Report is subject to, and must be read in conjunction with, the limitations set out in Section 1.3 and the assumptions and qualifications contained throughout the Report.

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# 1. Introduction

## 1.1 Purpose of this report

The purpose of this report is to document the investigations undertaken in the development of the Gungahlin Town Centre Active Travel Feasibility Study project, culminating in the development of proposed updates to the Active Travel Network including updated community route alignments as well as the identification of a suite of proposed active travel infrastructure improvements required to align the physical infrastructure with the overall network intent. In particular, this report provides an overview of previous investigations undertaken to inform the identification of potential infrastructure improvements and the development of concept designs and budget estimates to guide future capital works budget planning by TCCS and the ACT Government.

## 1.2 Study area

The study area for this project is illustrated in Figure 1.1 below and is defined as the area bounded by Gungahlin Drive to the south-west, Delma View and Camilleri Way to the south, Manning Clark Crescent to the east, Anthony Rolfe Avenue to the north and Gundaroo Drive (Gungahlin Drive to Gozzard Street) to the north-west. The study area, however, also includes consideration of additional linkages to Yerrabi Ponds and will also address how any proposed active travel routes within the study area fit within the context of the broad Active Travel and Community Route networks.

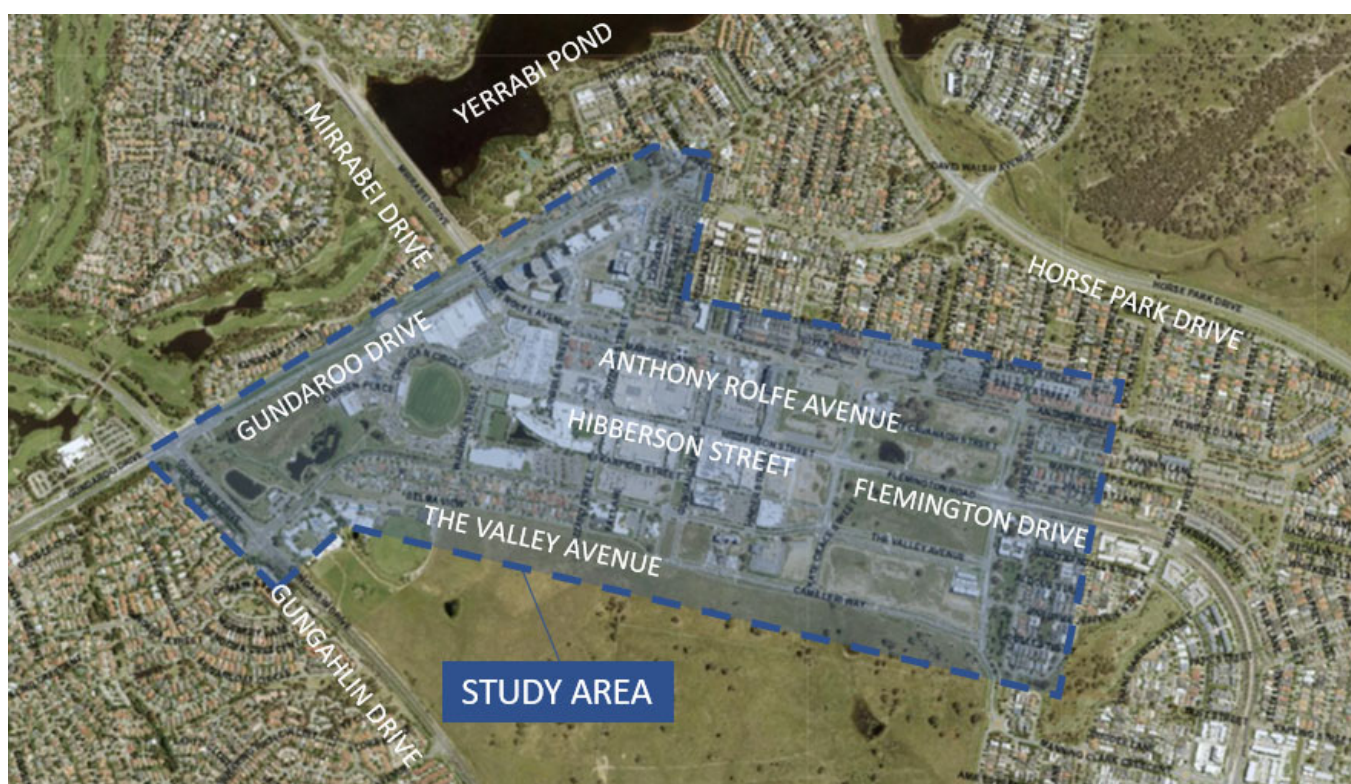


Figure 1.1 Study area

## 1.3 Scope and limitations

This report: has been prepared by GHD for Major Projects Canberra on behalf of Transport Canberra and Community Services (TCCS) and may only be used and relied on by Major Projects Canberra and Transport Canberra and Community Services (TCCS) for the purpose agreed between GHD and Major Projects Canberra on behalf of Transport Canberra and Community Services (TCCS) as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than Major Projects Canberra and Transport Canberra and Community Services (TCCS) arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared the budget estimates set out in Section 8 of this report ("Budget Estimates") using information reasonably available to the GHD employee(s) who prepared this report; and based on assumptions and judgments made by GHD as detailed in Section 8.

The Cost Estimate has been prepared for the purpose of assisting in future capital works expenditure planning and must not be used for any other purpose.

The Budget Estimates are preliminary only. Actual prices, costs and other variables may be different to those used to prepare the Budget Estimates and may change. Unless as otherwise specified in this report, no detailed quotation has been obtained for actions identified in this report. GHD does not represent, warrant or guarantee that the works can or will be undertaken at a cost which is the same or less than the Budget Estimates.

Where estimates of potential costs are provided with an indicated level of confidence, notwithstanding the conservatism of the level of confidence selected as the planning level, there remains a chance that the cost will be greater than the planning estimate, and any funding would not be adequate. The confidence level considered to be most appropriate for planning purposes will vary depending on the conservatism of the user and the nature of the project. The user should therefore select appropriate confidence levels to suit their particular risk profile.

## **1.4 Assumptions**

The basis of the information as documented in this report is as follows:

- Active travel routes as shown on the Active Travel Infrastructure Practitioners Tool (ATIPT) have been used as the basis for the Active Travel Network
- The road hierarchy is as shown on the ATIPT
- The definition of active travel routes is as per Planning for Active Travel in the ACT.
- The basis for preliminary design in order of precedence are Municipal Infrastructure Standards (MIS 05 Ed 1 Rev 1) including relevant ACT Standard Drawings as available through the ATIPT, Austroads and Australian Standards
- Concept designs have been developed in 2D only, based on Traffic Control Device drawings obtained via the TCCS ProjectWise database and aerial photography from ACTMapi.

## 2. Background information review

### 2.1 2018 Gungahlin Town Centre Planning Refresh

In 2018 the Environment, Planning and Sustainable Development Directorate (EPSDD) published the '2018 Gungahlin Town Centre Planning Refresh' (Refresh) which served as an update to the previous 'Gungahlin Town Centre Planning Report' published in 2010 by the ACT Planning & Land Authority (ACTPLA).

The Refresh provided a summary of work undertaken to date and documented recommendations for the future planning and development of the Gungahlin Town Centre. As part of this process, a 'Concept Variation to the Territory's Gungahlin Precinct Map and Code' (Code) was produced.

Most importantly for this project, the Refresh provided feedback and identified the locations where active travel facilities should be provided or improved. Figure 2.1 is an extract from the Refresh (Snapshot Map 6) that shows where this process has proposed future active travel connections, and improvements to active travel amenity and public open spaces. The Refresh involved considerable consultation and the outputs will be adopted as the basis for this Report unless limitations from site investigation or other factors do not permit. The reasons for any deviations from proposed links shown in the Refresh will be documented in this report. For the purpose of active travel routes in the Town Centre area the Refresh will be given a higher value than the routes currently shown on the ATIPT.

The Refresh also provided recommendations for changes to the Precinct Map and Code in relation to three areas as follows:

- **Building Height and Character** – the Refresh recommended increased building heights for the 'North-west urban residential precinct', bounded by Anthony Rolfe Avenue, Gundaroo Drive and Gozzard Street as well as a move from a building envelope to maximum building heights within the 'Gungahlin East Precinct' bounded by Camilleri Way, Manning Clark Crescent, Anthony Rolfe Avenue and Kate Grace Street. Additional requirements regarding the built form such as podium heights and setbacks were also recommended along with the removal of restrictions on residential uses within the Gungahlin East Precinct. The densification of the 'North-west urban residential precinct' reinforces the importance of a safe active travel connection as shown in Figure 2.1 across the Gundaroo Drive arterial to link this area to the major recreational facilities at Yerrabi Pond
- **Public Spaces, Active Travel, Roads and Public Transport, and Parking** – the Refresh identified strong community support for improving the quality and quantity of public open spaces and improving connectivity to those spaces. An illustration of some of the proposed active travel and public space improvements is provided in Figure 2.1 and a summary of the broad recommendations is as follows:
  - Improvements to the quality and use of open spaces including through measures such as improved shade, seating and lighting.
  - Softening the appearance of the area and implementation of living infrastructure principles
  - Improving active travel connections to open spaces and ensuring development contributes to the improvement of the centre's public domain
  - Monitoring of the effect of light rail on traffic and of short and long stay parking supply and demand.
- **Community facilities in Gungahlin East** – the Refresh addressed the existing requirement for at least 6 hectares of land in the Town Centre to be zone Community Facility and recommended that further investigation be undertaken to explore if community facility uses can be located nearer to Flemington Road and the light rail station



Figure 2.1 Proposed active travel and public space improvements (source: Gungahlin Town Centre Refresh – Snapshot, Map 6)

## 2.2 ACT Transport Strategy 2020

The ACT Transport Strategy 2020 sets out the ACT Government's overarching vision and strategy for the transport network and supersedes the previous 'Transport for Canberra 2012-31'. The strategy provides a high level overview of the Territory's vision for the transport network as a whole encompassing all modes of transport including private vehicles, public transport (buses and light rail), walking and cycling. Some key themes from the strategy that are of particular relevance to this feasibility study are outlined below.

### **Covid-19 pandemic impacts**

The strategy acknowledges the drastic changes that have occurred to our transport needs and demands as a result of the Covid-19 pandemic, in particular the widespread shift to flexible work arrangements and working from home which are expected to remain for the long term. Part of this change has been an increase in walking and cycling, particular with regard to recreational trips and local trips

The strategy recognises the unique opportunity that this impact presents for accelerating the uptake of sustainable transport options. This project closely aligns with this in its objective of improving walking and cyclist access to/from and within the Gungahlin Town Centre.

### **Health and wellbeing**

The strategy discusses the various health, safety and environmental benefits associated with reduced reliance on private vehicle transport and increased uptake of active travel options. Particular benefits include:

- **Improved air quality** – the strategy notes that traffic is the source of approximately 60% of PM2.5 pollutants in Canberra's air. Air quality monitoring during the first half of 2020, covering the end of the extreme bushfire season of 2019/20 and the early months of the pandemic, demonstrated some of the lowest PM2.5 levels on record coinciding with the significant reductions in vehicle traffic associated with the early pandemic travel restrictions. Correspondingly, as vehicle traffic began to increase with the easing of restrictions, PM2.5 levels were observed to increase.
- **Reduced disease and obesity** – the strategy states that physical inactivity is the second largest contributor to the burden of disease in the ACT behind smoking and notes research that has demonstrated lower rates of obesity within neighbourhoods that support for walking and cycling.



This project presents an opportunity to make a meaningful contribution towards realising significant health and wellbeing benefits for the rapidly growing Gungahlin community by identifying addressing the existing shortcomings of the Town Centre in its accommodation of walking and cycling.

### Contribution to net-zero

The ACT Government has committed to achieving net zero emissions by 2045 and reducing emissions from transport is a critical element of achieving that target, noting that transport is the largest source of greenhouse emissions from the Territory. The Strategy outlines the various avenues by which the transport network can contribute to the 2045 target including delivery of a zero emissions bus fleet by 2040, incentivizing the uptake of electric and hydrogen fuel cell private vehicles and continuing to encourage the uptake of walking, cycling and public transport.

The strategy also acknowledges the role of improved walking and cycling infrastructure in increasing public transport usage by better connecting public transport services (i.e. bus and light rail stops) with walking and cycling paths as well as bike parking facilities to support Bike and Ride usage.

### Movement & Place framework

The transport strategy introduces the 'Movement and Place Framework' as a tool for guiding the design and investment in transport infrastructure and streetscapes by recognising the dual functions that streets provide as both a facilitator of the movement of people and goods as well as a place for people to stop and spend time. Figure 2.2, taken from the ACT Transport Strategy 2020 shows the 3 x 3 assessment matrix that can be applied to individual streets to separately consider the importance of their movement and place functions. This framework is a valuable tool for assessing which function(s) and user groups should be prioritised when making design and investment decisions.

A limitation of this framework, however, is that it does not differentiate between the movement function for different modes of transport, i.e. motorised transport vs walkers vs cyclists. It is important to recognise that a given street may serve quite different movement functions for these different transport modes, for example, a quiet residential street may serve a low movement function for vehicle traffic but provide a direct and safe cycle route and thereby perform a high cyclist movement function. Particular examples of streets within the Gungahlin Town Centre with varying movement and place functions include:

- **Anthony Rolfe Avenue and The Valley Avenue** – both of these streets are important movement corridors and serve a lesser function as a place, further the movement function is similar for both vehicle traffic as well as cyclist movements
- **Gungahlin Place** – this is an example of a street for which both the movement and place functions are of high importance. As the location of outdoor dining areas and a playground it is a space intended for people to stop and spend time, however, as the location of the Gungahlin Bus Station it also provides a vital movement function
- **Hibberson Street shared zone** – this is an example of a street that serves a low movement function and a high place function. While remaining open to traffic, the main function of the road is to provide on-street parking for direct access to businesses with the street design deliberately designed to slow traffic movement and make it an unattractive route for through traffic while prioritising the amenity of the street as a place occupied by outdoor dining areas and as a main thoroughfare for retail shoppers accessing the Marketplace Gungahlin.

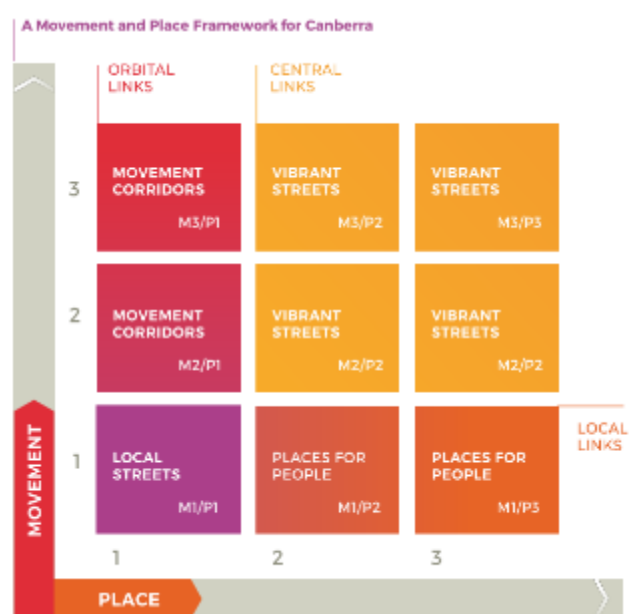


Figure 2.2 Movement and Place Framework (source: ACT Transport Strategy 2020)

### Safe Systems Approach.

Another key element of the Transport Strategy that relates directly to this project is the implementation of the Safe Systems Approach (SSA) to transport infrastructure design projects in Canberra. The Safe Systems Approach takes a holistic view of road safety recognising the complementary roles that safe speeds, safe roads, safe vehicles and safe behaviours play in creating a safe transport system. This framework is currently applied to all transport infrastructure design projects with assessments undertaken to determine the alignment of the given transport system (i.e. a particular street) with the Safe System principles and, in particular, this framework assesses the extent to which changes to the transport network affect the safe systems alignment. The SSA applies a scoring system based on three elements:

- **Exposure** – this is essentially the presence of hazards and is primarily a function of the total number of road users, whether they are vehicles, pedestrians, cyclists or motorcyclists
- **Likelihood** – this assesses the likelihood of various categories of crashes occur and takes into account various environmental factors that may increase or decrease the likelihood of crashes such as poor road design, poor road conditions or conversely low traffic speeds, good sight lines etc.
- **Severity** – this assesses the likely consequences of a crash in regard to potential injury or death suffered by road users and is primarily a function of impact energy, i.e. speeds

This framework thereby assists in the design process in focusing design decisions towards positively affecting one or more of the above factors.

### Safe Systems Approach



Figure 2.3 Safe Systems Approach (source: ACT Transport Strategy 2020)

## 2.3 National Road Safety Strategy

The National Road Safety Strategy was published in 2021 by the Federal Department of Infrastructure, Transport, Regional Development and Communications and sets out a coordinated national strategy for reducing road trauma in the current decade towards a long term goal of achieving Vision Zero by 2050. The strategy identifies the following specific targets:

- Reducing the annual number of fatalities by at least 50% by 2030
- Reducing the annual number of serious injuries by at least 30% by 2030

The strategy presents three key themes of Safe Roads, Safe Vehicles and Safe Road Use which then filter down to increased and more targeted infrastructure investment and policies including:

- Investment in improved infrastructure design prioritising user safety
- Adopting improved safety standards for vehicles
- Strengthened graduated licensing arrangements
- Enhanced education and enforcement to improve road user behaviours

This project, through the provision of improved active transport infrastructure, has the potential to contribute to achieving the objectives of this strategy in two key ways:

- **Increased uptake of active transport** – by providing improved facilities, active transport can become a more attractive transport mode encouraging more people to shift from private vehicle use to walking and cycling. This has multiple health and safety benefits including improved physical fitness, reduced traffic volumes and increased visibility of and familiarity with pedestrians and cyclists by drivers
- **Separation of road users and hazard minimisation** – by appropriately planning and designing for walking and cycling, we are able to minimise the presence of hazards that may lead to crashes involving active travel users. This includes measures such as avoiding driveway and road crossings where practicable or otherwise providing safe crossing facilities as well as providing efficient off-road facilities for cyclists.

## **2.4 Road Transport (Road Rules) Regulation 2017 and Personal Mobility Devices (PMDs)**

In the ACT the Road Transport (Road Rules) Regulation 2017 sets out the rules governing the use of the Territory's road network, including roadway, paths and other 'road related areas' by all road users including motorists, walkers, cyclists and others.

The Road Rules frequently undergo changes to adapt to changing circumstances such as shifts in public policy, changes in technology and changes in travel behaviours and while the Road Rules are broadly consistent across the states and territories of Australia there are several details that differentiate the ACT from other jurisdictions, particularly in relation to Active Travel. One long standing example is the fact that 'footpaths' within the ACT are, by default, 'shared paths' that can be used by pedestrians and cyclists alike compared to some other jurisdictions in Australia where cycling on footpaths in most cases is banned.

Another such example is the use of electrically propelled modes of transport such as eScooters, eBikes and motorised skateboards. The uptake of these transport modes has been growing in Canberra, accelerated in particular by the roll out of Neuron and Beam eScooter hire companies in 2020. In recognition of the increasing use of electric powered devices the Road Rules were updated in December 2019 to expand the definition of 'Personal Mobility Devices' (PMD) to explicitly include 'segway-like' devices, electric scooters and electrically propelled skateboards. This change in-turn authorised the use of these devices on all paths (i.e. shared paths) and bicycle only paths throughout the ACT, although it is noted that they are generally not allowed to use bicycle lanes.

As this user group becomes larger and more visible in coming years, it is important that the planning and design of Active Travel infrastructure appropriately considers these users alongside the 'typical' pedestrians and cyclists.

### 3. Existing Conditions Assessment

GHD prepared an Existing Conditions Assessment report in March 2022 that documented initial investigations undertaken to establish a baseline upon which to base further decision making regarding route alignments and infrastructure improvements.

The assessment report examined various aspects the Town Centre with respect to the potential for active travel improvements including:

- **Existing infrastructure snapshot** – we undertook a review of the existing transport infrastructure within the Town Centre identifying key streets and relevant characteristics including road hierarchy, speed limits, road configuration, existing active travel network status and active travel infrastructure among other details. An updated snapshot is provided in Table 3.1
- **Current Active Travel Network and Community Route Network status** – we undertook a review of the existing Active Travel Network focusing in particular on the Community Route Network and the currently identified Principal, Main and Local Community Route alignments.
- **Approvals pathway mapping** – PlanIt Strategic undertook a review of relevant statutory planning legislation to identify likely approval pathways for potential active travel infrastructure within the study area. This review was useful in understanding potential planning risks with respect to the identification and development of potential active travel infrastructure improvements.
- **Safe Systems baseline assessment** – we undertook a baseline assessment of several streets throughout the study area to assess how well the different Town Centre streets align with the Safe Systems framework relative to each other.
- **Opportunities, risks and constraints mapping** – a key output of the existing conditions assessment was an opportunities, risks and constraints mapping exercise that sought to consolidate the findings of the other investigations to inform the later development of an updated Community Route Network map (refer Section 5) and the identification of key infrastructure improvements for further design investigations (refer Section 6). An updated assessment including mapping is provided in Section 4 of this report.

Table 3.1 provides a snapshot of the existing streetscape infrastructure present within the study area including road characteristics, active travel infrastructure and utility services. In relation to on-road cycling facilities abbreviations have been used as follows:

- BL = bicycle lane
- WKL = wide kerbside lane
- SZ = shared zone, cyclist are required to mix with general traffic but in a dedicated slow speed environment
- MT = no specific on road cycling facility, cyclists are required to mix with general traffic

**Table 3.1** Existing road network characteristics

Street Name	Hierarchy	Speed Limit (km/h)	On-Road Cycling Facilities*	Bus Route (Y/N)	B-double route (Y/N)	Current ATN Status	Proposed ATN Status	Configuration	Parking	Existing Community Route Facilities	Proposed Upgrades	Utility Services (Y/N)									
												Power - HV	Power – LV	Water	Sewer	Gas	Telstra	NBN Co	Optus	TPG / TransACT	ICON
<a href="#">Gundaroo Drive</a> <a href="#">(Link 01)</a>	Arterial	60	BL	Y	Y	PCR	LCR	4-lane dual carriageway (2 x 9m) SW of Mirrabai Dr  2-lane dual carriageway (2 x 4.5m) NE of Mirrabai Dr	No parking	Trunk path both sides (Gungahlin Dr to Mirrabai Dr)  Minor path NW side (Wunderlich St to NE)	3.0m trunk path / bike only path  Raised & at-grade priority crossings  Intersection improvements	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
<a href="#">Anthony Rolfe Avenue</a> <a href="#">(Link 04)</a>	Major Collector	60	BL	Y	Y	MCR / PCR	MCR / PCR	2-lane dual carriageway (7m)  7.5m to 11m wide median	2 no. driveway access to off-street parking	2.5 m trunk path (south side)	Alignment & intersection improvements  New 1.5 m footpath and convert existing to bike only path  Raised & at-grade priority crossings	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ernest Cavanagh Street	Access	40	MT	Y	N	N/A	N/A	2-lane single carriageway (7-9m to 7m)	On-street both sides (Gribble St to Gozzard St)	Paved verge (sections Gribble St to Hinder St)  Minor path (both sides, Hinder St to Manning Clark Cr))	Nil	Y	Y	Y	Y	Y	Y	N	Y	Y	
Hibberson Street	Minor Collector	20	SZ / WKL	N	N	PCR	N/A	A single lane, one-way road (3.5m to 4.5m)	On-street both sides	Paved verge Shared zone	Nil	Y	Y	Y	Y	Y	Y	Y	N	Y	



Street Name	Hierarchy	Speed Limit (km/h)	On-Road Cycling Facilities*	Bus Route (Y/N)	B-double route (Y/N)	Current ATN Status	Proposed ATN Status	Configuration	Parking	Existing Community Route Facilities	Proposed Upgrades	Utility Services (Y/N)									
												Power - HV	Power – LV	Water	Sewer	Gas	Telstra	NBN Co	Optus	TPG / TransACT	ICON
Efkarpidis Street	Access	50	MT	N	N	N/A	N/A	2-lane single carriageway (6.5m to 7m)	On-street southern side  Driveway access to off-street parking incl. loading dock and UG parking	Minor path (both sides)  Intermediate path (south side)	Nil	Y	Y	Y	Y	Y	Y	Y	N	N	
The Valley Avenue (Link 05 & 06)	Major Collector	60	BL	Y	Y	MCR / PCR	MCR / PCR	2-lane dual carriageway (8m to 13m) 4m to 7.5m median	Bus zone both sides	2.5m trunk path (north side) Intermediate path (south side)	3.0 m trunk path Raised priority crossings Driveway crossing treatment	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Camilleri Way	Access	50	MT	N	N	LCR	PCR	2-lane single carriageway (7.5m)	On-street both sides	3.0m trunk path (south side) 2.5m trunk path (north side)	Nil	N	N	Y	Y	Y	N	N	N	N	
Delma View (Link 05)	Access	50	MT	N	N	LCR	LCR	5.5m to 6m side road	On-street southern side	Minor path (north side) 2.5m trunk path at school under construction	Active Travel Street	N	Y	Y	Y	Y	Y	N	Y	N	
Gribble Street (Link 02)	Access	50	MT	N	N	LCR	LCR	7m side road	On-street western side	Paved verge (west side)	3.0m trunk path extension Signalised crossing of Gundaroo Drive	Y	Y	Y	Y	Y	Y	Y	Y	Y	

Street Name	Hierarchy	Speed Limit (km/h)	On-Road Cycling Facilities*	Bus Route (Y/N)	B-double route (Y/N)	Current ATN Status	Proposed ATN Status	Configuration	Parking	Existing Community Route Facilities	Proposed Upgrades	Utility Services (Y/N)									
												Power - HV	Power – LV	Water	Sewer	Gas	Telstra	NBN Co	Optus	TPG / TransACT	ICON
<a href="#">Gozzard Street</a> <a href="#">(Link 07)</a>	Major Collector	40	MT	Y	N	LCR / PCR	LCR	2-lane single carriageway (7.5m to 13m)	N/A	Paved path (west side) Intermediate path (east side)	Expanded verge paving Driveway crossing treatment	Y	Y	Y	Y	Y	Y	Y	N	Y	
<a href="#">Gungahlin Place</a> <a href="#">(Link 06)</a>	Access	20	MT	Y	N	LCR / MCR	MCR / PCR	2-lane dual carriageway (5.5m – 7.0m) 13.5m to 35.5m wide median	On-street both sides Bus layover (S of Efkarpidis St) Bus station (H'son St to E. Cav. St)	Paved path (both sides) 2.5m trunk path (both sides) Intermediate path (both sides)	3.m trunk / bike only path (configuration varies) Raised intersections and shared zone Priority crossings Secure bicycle parking	Y	Y	Y	Y	Y	Y	Y	N	N	
Hinder Street	Access	50	MT	N	N	N/A	N/A	2-lane single carriageway (7m)	On-street both sides	Paved path (west side) Minor path (east side) Intermediate path (west side)	Nil	Y	Y	Y	Y	Y	Y	N	N	Y	
Kate Crace Street	Access	60	BL	N	Y	N/A	N/A	2-lane dual carriageway (7m) 2.5m median	On-street both sides	2.5m trunk path (both sides) Intermediate path (both sides)	Nil	N	N	Y	Y	Y	Y	Y	Y	Y	
Manning Clark Crescent	Minor Collector	60	BL	Y	N	LCR	LCR/PCR	2-lane single carriageway 2.5m to 11m median	On-street western side	Intermediate path (both sides)	3.0 m trunk path (south of Camilleri Way)	N	Y	Y	Y	Y	Y	N	Y	N	

Street Name	Hierarchy	Speed Limit (km/h)	On-Road Cycling Facilities*	Bus Route (Y/N)	B-double route (Y/N)	Current ATN Status	Proposed ATN Status	Configuration	Parking	Existing Community Route Facilities	Proposed Upgrades	Utility Services (Y/N)									
												Power - HV	Power – LV	Water	Sewer	Gas	Telstra	NBN Co	Optus	TPG / TransACT	ICON
Flemington Road	Arterial	60	BL	Y	Y	PCR	PCR	4-lane dual carriageway (9m to 17m) 13m to 18.5m median incl. light rail features of 6m to 11m wide	Several no. driveway access to off-street parking	2.5m concrete trunk path (south side) Intermediate path (north side)	Nil	Y	Y	Y	Y	Y	Y	Y	N	Y	
<a href="#">Wunderlich Street</a> <a href="#">(Link 02)</a>	Access	20	MT	N	N	N/A	LCR	2-lane single carriageway road (5.5m)	On-street northern side	Minor path (east/north side) Riverside recreational path in Yerrabi Pond Park	3.0 m trunk path Raised priority crossing Driveway crossing treatment	Y	Y	Y	Y	Y	Y	N	Y	Y	
<a href="#">Nellie Hamilton Avenue</a> <a href="#">(Link 08)</a>	Minor Collector	50	MT	N	N	MCR	MCR	2-lane dual carriageway (2 x 5m carriageways) 5m to 14m median	On-street	Trunk path (west side) Minor path (east side)	3.0 m bike only path Bicycle only priority crossings Signalised crossing of Gundaroo Drive	N	N	Y	Y	Y	Y	N	Y	N	
<a href="#">Cantamessa Avenue</a> <a href="#">(Link 09)</a>	Access	50	MT	N	N	LCR	MCR	Narrow (5.5m) two-lane / two-way road	On-street western side	Trunk path in median	Raised & at-grade priority crossings Pavement markings	Y	Y	Y	Y	Y	Y	N	Y	Y	
<a href="#">Ian Potter Crescent</a> <a href="#">(Link 09)</a>	Access	50	MT	N	N	LCR	MCR	Narrow (5.5m) two-lane / two-way road	On-street eastern side	Trunk path in median Minor path (east side)	Raised & at-grade priority crossings Pavement markings	Y	Y	Y	Y	Y	Y	N	Y	Y	

Street Name	Hierarchy	Speed Limit (km/h)	On-Road Cycling Facilities*	Bus Route (Y/N)	B-double route (Y/N)	Current ATN Status	Proposed ATN Status	Configuration	Parking	Existing Community Route Facilities	Proposed Upgrades	Utility Services (Y/N)									
												Power - HV	Power – LV	Water	Sewer	Gas	Telstra	NBN Co	Optus	TPG / TransACT	ICON
<a href="#">Tea Gardens</a> <a href="#">(Link 09)</a>	Access	50	MT	N	N	LCR	LCR	2-lane single carriageway road (5m)	On-street	Minor path (south/west side, and in Tea Garden Playground)	3.0 m trunk path Active Travel Street Raised intersection as shared zone	N	N	N	Y	Y	Y	Y	N	Y	N
<a href="#">Marie Pitt Street</a> <a href="#">(Link 11)</a>	Access	50	MT	N	N	LCR	PCR	2-lane single carriageway road (7.0m)	On-street both sides	Minor path (eastern side)	3.0 m trunk path on western side	N	Y	Y	Y	Y	N	Y	N	N	N

## 4. Constraints, Risks and Opportunities

Table 4.1 to Table 4.3 below provide a snapshot of the initial assessment outcomes for the relevant streets within the study area to inform the subsequent development of higher level community route alignments and identification of design options. Specifically, the table outlines the following:

- **Active Travel Network (ATN) Status** – the ‘current’ ATN status reflects any current or future PCR, MCR or LCR alignments identified in the current network mapping. The ‘potential’ ATN status reflects an initial assessment as to what category of higher level Community Route each street and/or street segment may be suitable for in the future.
- **Opportunities** – this section outlines opportunities that have been identified for changes and/or improvements that could be implemented to make the individual street segments better suited for Active Travel purposes.
- **Risks** – this section identifies key safety and/or operational risks within particular street segments
- **Constraints** – this section identifies existing constraints that may limit or impact the feasibility of implementing active travel facilities along those particular segments

The information provided below does not represent an exhaustive list of opportunities, risks and constraints in relation to the study area, and instead focuses on the most significant issues in relation to the use of the streets for active travel purposes. Additionally, Figure 4.3 provides an illustration of some of the key details in the context of the overall study area.

Table 4.1 Constraints, risks and opportunities (Map Area 1)

Street	Segment	Community Route Status		Opportunities	Risks	Constraints
		Current	Proposed			
<a href="#">Anthony Rolfe Avenue</a> ( <a href="#">Link 04</a> )	Gundaroo Dr to Manning Clark Cr	Principal, Main, Main (future)	Main / Principal	Add raised crossings at non-signalised junctions as place markers into the town centre area  Existing continuous trunk path continuous from Gundaroo Dr to Kate Crace St  Extend trunk path at E end to Alice Cummins St trunk path	Outdoor dining area at Siren Bar Multiple building entries incl. Early Learning Centre Poorly aligned road crossings at Franz Bormann Cl, Gribble St, Gozzard St Driveway crossings	Pinch point in verge at Franz Bormann Close High-angle slip lanes at Gribble St Established street trees limit path widening opportunities



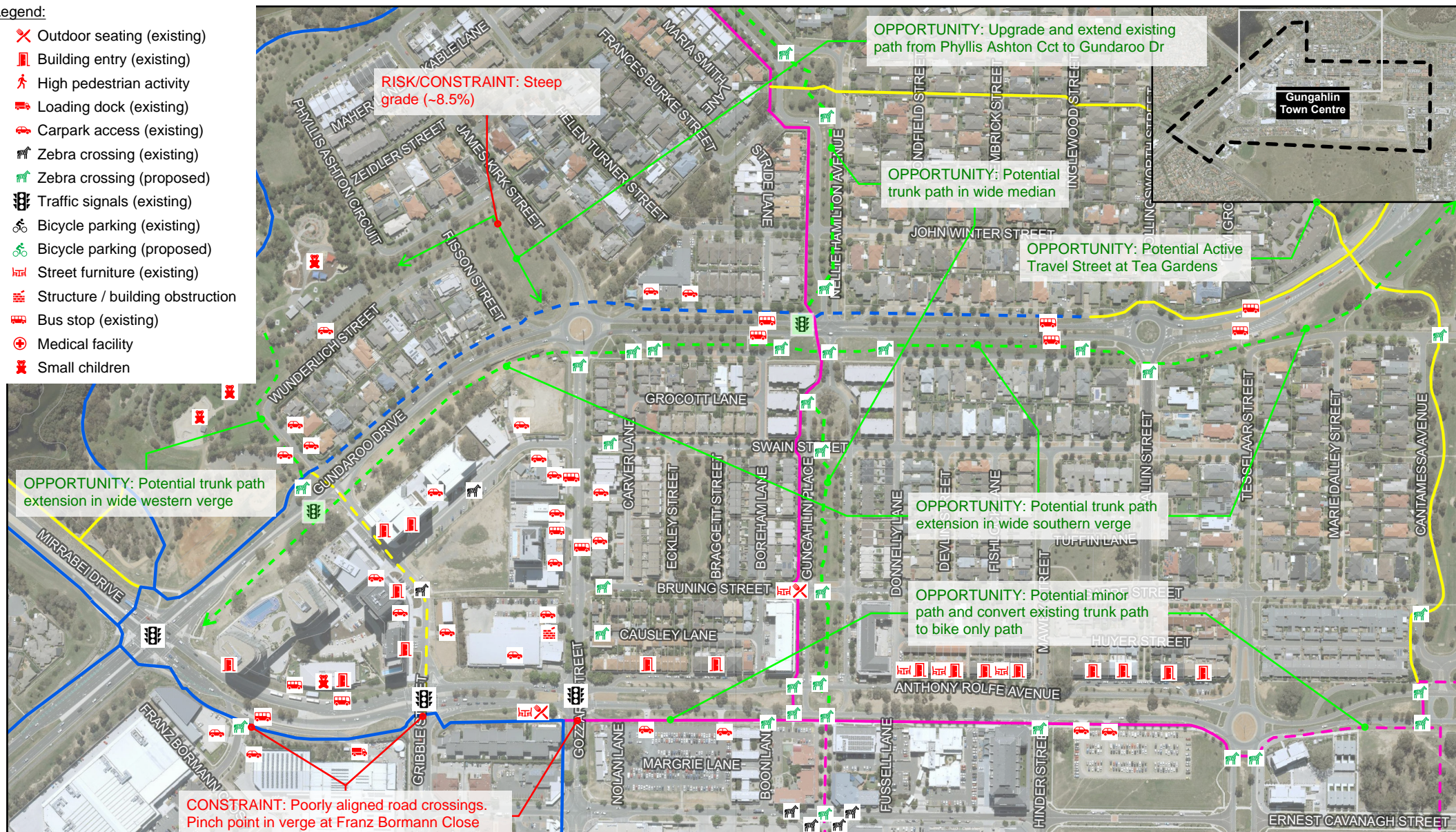
Street	Segment	Community Route Status		Opportunities	Risks	Constraints
		Current	Proposed			
<a href="#">Gundaroo Drive</a> (Link 01)	Gribble St to Horse Park Dr	Principal (future)	Local	Wide southern verge, opportunity for trunk path Provide priority crossings at Gozzard and Pallin Street roundabouts	Lack of safe crossing opportunities across Gundaroo Drive Multiple driveway and service road crossings, particularly on northern side	Service roads on both sides combined with frequent residential driveways restricts continuation of trunk path on NW side Construction site access currently located off westbound carriageway and Gozzard Street roundabout, assumed to be temporary
<a href="#">Gribble Street</a> (Link 02)	Anthony Rolfe Ave to Gundaroo Dr	Nil	Local	Existing 4-6m concrete path in western verge Potential to extend existing path to connect to potential future trunk path in Gundaroo Dr southern verge No left turn slip lane from Anthony Rolfe Ave into Gribble St minimises crossing distance on W intersection leg	90 degree parked vehicles overhang western verge path Multiple building entries and mixed businesses access directly onto verge path on western side	West verge fully paved and requires interaction with crossing traffic between roadside parking and mixed businesses Pinch point in eastern verge next to Gungahlin Telephone Exchange, limited opportunity for continuous path on east side
Gozzard Street	Anthony Rolfe Ave to Gundaroo Dr	Nil	Nil	Potential to upgrade existing intermediate paths on either side of trunk paths Provide raised priority crossings across side roads Potential to narrow road carriageway at expense of median refuges and turning lanes	Low hanging branches along eastern verge Multiple driveways and building entries along western verge Bus shelter in eastern verge	Established street trees may restrict opportunity to widen existing paths Pinch points created by existing bus stops
<a href="#">Gungahlin Place</a> (Link 08)	Anthony Rolfe Ave to Gundaroo Dr	Main (future)	Main	Existing trunk path continuous in western verge Provide raised priority crossings across Anthony Rolfe Avenue Potential bike only path in 28-33m wide median	Multiple commercial / residential entries access directly onto verge path on west side Indented parallel parking door opening risk	Established trees and retaining wall may restrict opportunity to construct new path in the northern section of the of Gungahlin Place median

Street	Segment	Community Route Status		Opportunities	Risks	Constraints
		Current	Proposed			
<a href="#">Nellie Hamilton Avenue</a> (Link 08)	Gundaroo Dr to Yerrabi Pond	Main (future)	Main	Existing trunk path continuous in western verge Potential bike only path in 5.5-14m wide median Potential bicycle priority crossings across side roads Provide signalised crossing off Gundaroo Drive	Limited opportunity for safe crossing of Gundaroo Drive Higher use vehicle access to Yerrabi Pond and mixed businesses on Strayleaf Crescent 90 degree parking spaces at the north end of Nellie Hamilton Avenue near Yerrabi Pond	Existing plantation sump and electrical box in median Established trees limit opportunity to construct new bike only path in mid-block verge
<a href="#">Wunderlich Street</a> (Link 02)	Gundaroo Drive service road to Yerrabi Pond	Nil	Local	Wide western verge Close to existing recreational trunk path along riverside of Yerrabi Pond Potential priority crossings across service road, carpark entries	Multiple carpark entries / residential driveways access on both sides	Narrow treed verge with driveways in eastern verge Existing overland flow path in western verge
<a href="#">Cantamessa Avenue</a> (Link 09)	Anthony Rolfe Ave to Gundaroo Dr	Local	Main	Existing trunk path continuous in median to south of Sarre Street Provide standard trunk path pavement marking Potential priority crossings across side roads	Limited opportunity for safe crossing of Anthony Rolfe Avenue Potential risk of side road crossings	Active bus route restricts opportunity to introduce raised priority crossings across Anthony Rolfe Avenue No current connection point on south side of Anthony Rolfe Ave
<a href="#">Tea Gardens</a> (Link 10)	Gundaroo Dr to Hollingsworth St	Local	Local	Wide verge between Gundaroo Drive and Tea Gardens Potential Active Travel Street in Tea Gardens with low traffic volume Wide open space on Tea Gardens Playground Raised intersection to verge level	Existing residential driveways on both sides Uncontrolled intersection crossings	Established trees and services limit opportunity to widen existing path or construct new path Pinch point created at the intersection between potential active travel street and Tea Gardens Playground



## Legend:

- ✕ Outdoor seating (existing)
- 🚪 Building entry (existing)
- 🚶 High pedestrian activity
- 🚚 Loading dock (existing)
- 🚗 Carpark access (existing)
- 🚧 Zebra crossing (existing)
- 🦓 Zebra crossing (proposed)
- 🚦 Traffic signals (existing)
- 🚲 Bicycle parking (existing)
- 🚲 Bicycle parking (proposed)
- 🛖 Street furniture (existing)
- 🏢 Structure / building obstruction
- 🚌 Bus stop (existing)
- 🏥 Medical facility
- 👶 Small children

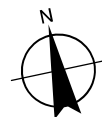


## Legend

- 🚌 Bus Stops
- CBR cycle routes
- Principal - Current
- Principal - Future
- Main - Current
- Main - Future
- Local - Current
- Local - Future
- Lot

Paper Size ISO A4  
0 30 60 90 120  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



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## Constraints, Risks and Opportunities Map 1

Project No. 12567778  
Revision No. 1  
Date 26/09/2022

## FIGURE 4.1



**Table 4.2** Constraints, risks and opportunities (Map Area 2)

Street	Segment	Community Route Status		Opportunities	Risks	Constraints
		Current	Proposed			
Ernest Cavanagh Street	Gribble St to Gozzard St	Nil	Nil	6m paved verge on southern side Potential narrowing of roadway incl. Gribble St dual lane approach	Driveways accessing off-street parking including McDonalds drive-thru On-street parking door opening risk Multiple building entries, verge obstructed by colonnade	On-street parking on southern side Permanent colonnade structures obstructing verge Established street trees
Ernest Cavanagh Street	Gozzard St to Hinder St	Nil	Nil	7m+ verge on southern side, potential for trunk path Existing Zebra crossings at Gungahlin Place Provide raised crossing at cross streets Low pedestrian activity Provide a connected public realm through Gungahlin Place	Major bus route Loading dock access route for Marketplace Indented parallel parking door opening risk Driveway access to Gungahlin Square carparking Multiple building entries, particularly on southern side	Pinch point in northern verge at Gozzard Street Planned left turn slip lane for buses at Gozzard Street Established street trees and indented parking limit path widening opportunities
Hibberson Street	Gribble St to Gozzard St	Nil	Nil	Paved verge with minimal obstructions A low-speed environment and a raised priority crossing Excess width in roadway, opportunity to widen northern verge to accommodate trunk path Potential to reduce Hibberson St / Gribble St intersection footprint	High pedestrian activity associated with College, CIT and Public Library Building entries in northern verge Indented parking door opening risk on southern side	Pinch point in southern verge with indented parking
Hibberson Street	Gozzard St to Gungahlin PI	Principal	Nil	Currently signposted as 20 km/h shared zone Traffic speed and volume conducive to Active Travel Street Consider closure of Hibberson Street to all traffic	High pedestrian activity, especially at Zebra crossings , associated with Marketplace shopping centre and outdoor seating areas On-street parking door opening risk Cluttered verge	One-way traffic flow limits opportunity for use of road carriageway for two-way cyclist movement Main shopping centre pedestrian entry points open onto verge Outdoor seating areas, street trees and furniture limit movement capacity

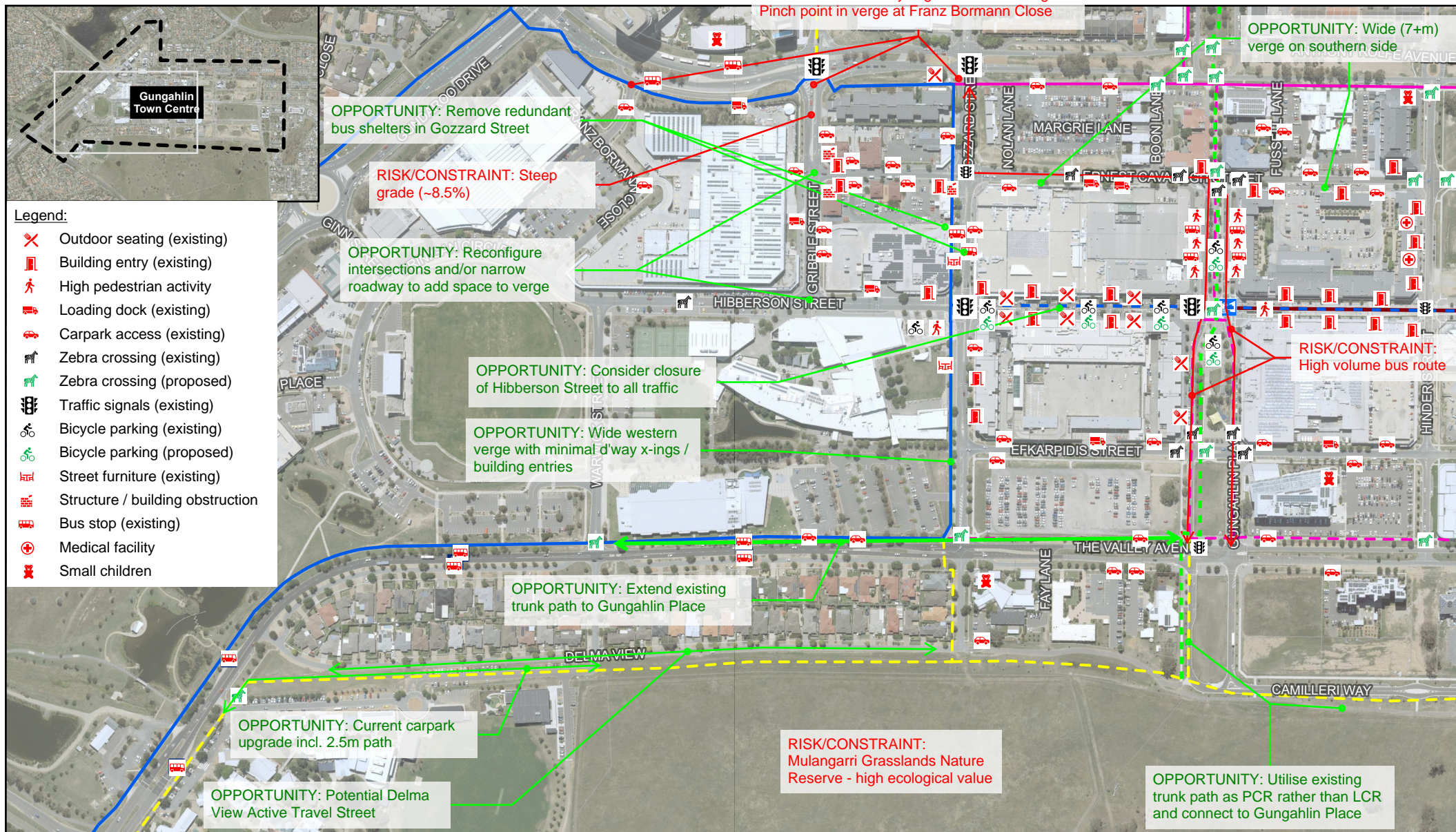
Street	Segment	Community Route Status		Opportunities	Risks	Constraints
		Current	Proposed			
Hibberson Street	Gungahlin PI to Kate Crace St	Principal	Nil	8m+ fully paved verge both sides, potential for ped & cyclist separation via pavement marking Closed to vehicle traffic	Details of future developments unknown regarding building entries High pedestrian activity at light rail terminus Multiple building entries onto verge (W of Hinder St)	Light rail terminus between Hinder St and Gungahlin PI Verge clutter due to light rail terminus infrastructure Hibberson Street west of Hinder Street may have limitations due to light rail proximity to paths
Efkarpidis Street	Gozzard St to Kate Crace St	Nil	Nil	Priority crossings already in at Gungahlin Place outer verges Provide raised crossings across side streets Low pedestrian activity	Frequent driveway crossings including Marketplace loading dock and Gungahlin Village underground parking On-street parking door opening risk	Multiple driveways for carparks and loading facilities on both verges Verge width constrained by indented parking on southern side
<u>The Valley Avenue</u> (Link 03)	Gozzard St to Gungahlin Dr	Principal	Principal	Existing 3.0m trunk path to Warwick St in northern verge meets current MIS 05 minimum standard for PCR Upgrade existing intermediate path to trunk path between Warwick St and Gozzard St Existing route has multiple interface connections with future MCRs and LCRs Provide raised priority crossings at side roads (Warwick St, Gozzard St)	Uncontrolled intersections at Warwick St and Gozzard St with frequent turning traffic	Established trees may limit opportunity to widen existing intermediate path between Warwick St and Gozzard St Southern verge not suitable due to frequent residential driveway and service road crossings
Camilleri Way	Gungahlin PI to Manning Clark Cr	Local (future)	Principal	Existing 3.0 m trunk path in place along southern verge meets MIS 05 requirement for PCR/MCR Potential to extend trunk path to Gozzard Street	Existing trunk path close to indented parking in sections	Grassland to south high environmental value

Street	Segment	Community Route Status		Opportunities	Risks	Constraints
		Current	Proposed			
<a href="#">Delma View</a> <a href="#">(Link 05)</a>	The Valley Ave to Gozzard St	Local (future)	Local	Low / slow speed traffic environment conducive to Active Travel Street Wide road reserve on southern side, potential opportunity for trunk path Burgmann Anglican School carpark currently being upgraded including 2.5 m path along Delma View verge (west of Warwick Street)	Frequent residential driveways Potential for high traffic volumes during school pick-up / drop-off times	Mulangerri Grasslands Nature Reserve to the south is high ecological value, may constrain opportunity to construct path in southern verge Northern verge not suitable due to frequent residential driveways, street trees and service road crossings
<a href="#">Gundaroo Drive</a> <a href="#">(Link 01)</a>	Gungahlin Dr to Gribble St	Principal (future)	Local	Existing 2.5 m trunk paths both sides meet MIS 05 requirements for a PCR Provide priority crossings of side roads incl. Nari St, Ginn St, Gribble St	Limited opportunity for safe crossing of Gundaroo Drive E of Mirraabei Drive	Traffic volumes and road classification not conducive to introduction of new priority crossing of Gundaroo Drive (signals or Zebra) at Gribble Street
Gribble Street	Hibberson St to Anthony Rolfe Ave	Nil	Nil	~6.5m paved verge on western side (S of Ernest Cavanagh St) Low pedestrian activity Potential to reconfigure intersection with Ernest Cavanagh St and Bunning entrance - possible roundabout Widen eastern verge into road carriageway	Raiders Club and Bunnings carpark entries across verge Eastern verge of Gribble Street is obstructed by building colonnades	~8.5% grade between Ernest Cavanagh St and Anthony Rolfe Ave with restricted sight distance to Bunnings carpark entry in western verge Eastern verge width restricted by building colonnades Existing streets trees may restrict ability to widen existing path
Gozzard Street	Delma View to The Valley Ave	Local (future)	Nil	Potential upgrade of minor path in eastern verge to trunk path Possible Active Travel Street Possible signalisation of intersection with The Valley Avenue to provide safe crossing	Residential driveways on western side No safe crossing of The Valley Avenue	The Valley Avenue not conducive to priority crossing Street trees may impact on desirable path alignment / width



Street	Segment	Community Route Status		Opportunities	Risks	Constraints
		Current	Proposed			
<a href="#">Gozzard Street</a> (Link 07)	The Valley Ave to Hibberson Street	Principal	Local	Wide western verge with single driveway crossing, maintenance access only to buildings  Potential low-cost enhancements including pavement marking, minor extension of paving to property line in southern portion	Large pedestrian volumes associated with Gungahlin College and CIT  Multiple building entry points and basement carpark entry with limited sight line on eastern verge  Alignment of street lighting in northern half of street may conflict with desired path alignment	Street trees may constrain width / alignment  Street furniture in northern portion of verge constrains movement capacity  Building and carpark entries on eastern verge
<a href="#">Gozzard Street</a> (Link 07)	Hibberson Street to Anthony Rolfe Ave	Principal	Local	Potential to reduce 12 m road carriageway width  Remove bus shelters from decommissioned bus stops to de-clutter verge	The McDonald's drive thru exit driveway has limited visibility of the verge for vehicles exiting onto Gozzard Street  Gungahlin Marketplace underground carpark entry on east side	Multiple obstructions along the western verge including bins, benches, colonnades, trees and streetlights  Multiple carpark entry/exit points  Proposed left turn slip lane for incoming buses to Ernest Cavanagh St
<a href="#">Gungahlin Place</a> (Link 06)	Camilleri Way to Efkarpidis St	Local (future) Main (future)	Principal	Upgrade existing minor path on western side to trunk as continuation of Camilleri Way trunk path  Raise existing priority crossings at Efkarpidis Street  Use of median to extend the public realm to the south	Minimal risk as no driveway crossings or uncontrolled intersection crossings	Existing street trees may restrict opportunity to widen existing paths
<a href="#">Gungahlin Place</a> (Link 06)	Efkarpidis St to Ernest Cavanagh	Main (future)	Principal	Wide paved median with potential for pedestrian & cyclist separation via pavement marking  Potential to provide improved public realm connectivity of Ernest Cavanagh and Hibberson Streets from a raised median	High pedestrian activity associated with bus and light rail stations  Presence of small children associated with playground at southern end	Verges on both sides highly restricted by outdoor dining, street furniture, bus shelters etc.  Decorative landscape features in the median, including placed large rocks and raised surface patterning, may restrict opportunities for provision / alignment of bicycle only paths





- Legend**
- 🚌 Bus Stops
  - 🚊 Light Rail Stops
  - CBR cycle routes
  - Principal - Current
  - Principal - Future
  - Main - Current
  - Main - Future
  - Local - Current
  - Local - Future
  - Light Rail Route
  - Lot

Paper Size ISO A4  
0 30 60 90 120  
Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55



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Constraints, Risks and  
Opportunities Map 2

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**FIGURE 4.2**

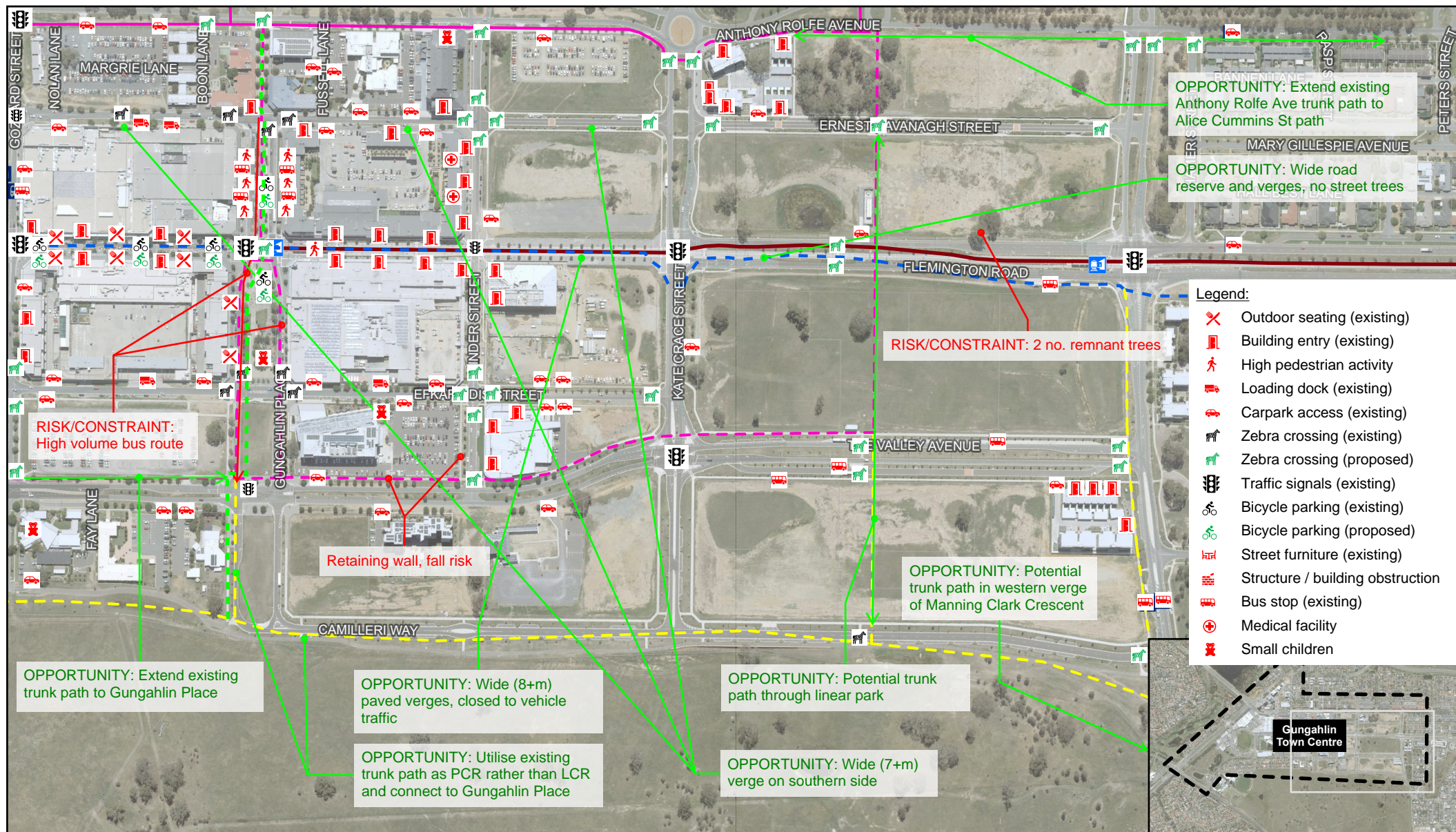


**Table 4.3** Constraints, risks and opportunities (Map Area 3)

Street	Segment	Community Route Status		Opportunities	Risks	Constraints
		Current	Potential			
Ernest Cavanagh Street	Hinder St to Manning Clark Cr	Nil	Nil	7m+ verges on both sides, potential for trunk path Provide raised crossing at cross streets Recent street tree plantings present early opportunity for path widening	Indented parallel parking door opening risk Details of future developments unknown regarding building entries	Established street trees and indented parking limit path widening opportunities
Flemington Road	Manning Clark Cr to Kate Crace St	Principal	Main	Wide verges both sides, ample width for trunk path No current street tree plantings in verge (2 isolated remnant trees in northern verge) Connectivity with planned linear park	Potential conflicts with linear park landscape design Possible pinch point and congestion at Manning Clark Cr from light rail stop	2 no. remnant trees in northern verge to be retained
Hinder Street	The Valley Ave to Anthony Rolfe Ave	Nil	Nil	Potential north-south link across the Town Centre 6m+ verge potential for trunk path on east or west side Much of land on east side is not yet developed, opportunity for ease of construction if actioned quickly Provide raised priority crossing of cross streets	Multiple building entries directly onto verge Indented parallel parking door opening risk Existing handrail on western verge between Efkarpidis Street and The Valley Avenue doesn't meet clearance requirement from path Unknown building frontages on east side, north of Hibberson Street	Established street trees may restrict opportunities for widening of existing paths
Kate Crace Street	Camilleri Way to Anthony Rolfe Ave	Nil	Nil	Potential north-south link across the Town Centre 2.5m concrete paths in place both sides south of The Valley Ave – potential to extend to Anthony Rolfe Ave Provide raised priority crossings of side roads	Minimal risk as no driveways, minimal indented parking, may change depending on planned developments on adjoining land	Pinch points in verges between Hibberson St / Flemington Rd and Ernest Cavanagh St

Street	Segment	Community Route Status		Opportunities	Risks	Constraints
		Current	Potential			
<a href="#">Linear Park</a> ( <a href="#">Link 12</a> )	Camilleri Way to Anthony Rolfe Ave	Local (future) Main (future)	Main	Linear car-free corridor presents opportunity for trunk path or bicycle only path to provide N-S link across Town Centre	Potential conflict with pedestrian and other recreational activities utilising the linear park area	Current EDP includes preliminary design of the linear park that does not prioritise the space for active travel facilities
Manning Clark Crescent	Camilleri Way to Anthony Rolfe Ave	Local (future)	Local	Potential to upgrade existing intermediate paths to trunk paths Provide raised crossings on side roads	Low risk as no driveway crossings, some indented parking and uncontrolled road crossings High volume bus route	Established trees on east side may restrict path widening opportunity
<a href="#">Manning Clark Crescent</a> ( <a href="#">Link 11</a> )	Camilleri Way to Marie Pitt Street	Local (future)	Principal / Local	Potential to upgrade existing intermediate paths to trunk paths	Low risk as no driveway crossings on west side High volume bus route	Multiple driveways and narrow verge on east side of Marie Pitt Street Swale limits suitable verge space on west side of Marie Pitt Street





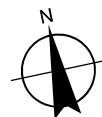
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  - 🚶 Light Rail Stops
  - CBR cycle routes
  - Principal - Current
  - Principal - Future
  - Main - Current
  - Main - Future
  - Local - Current
  - Local - Future
  - Light Rail Route
  - Lot

Paper Size ISO A4

0 30 60 90 120

Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
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### Constraints, Risks and Opportunities Map 3

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**FIGURE 4.3**



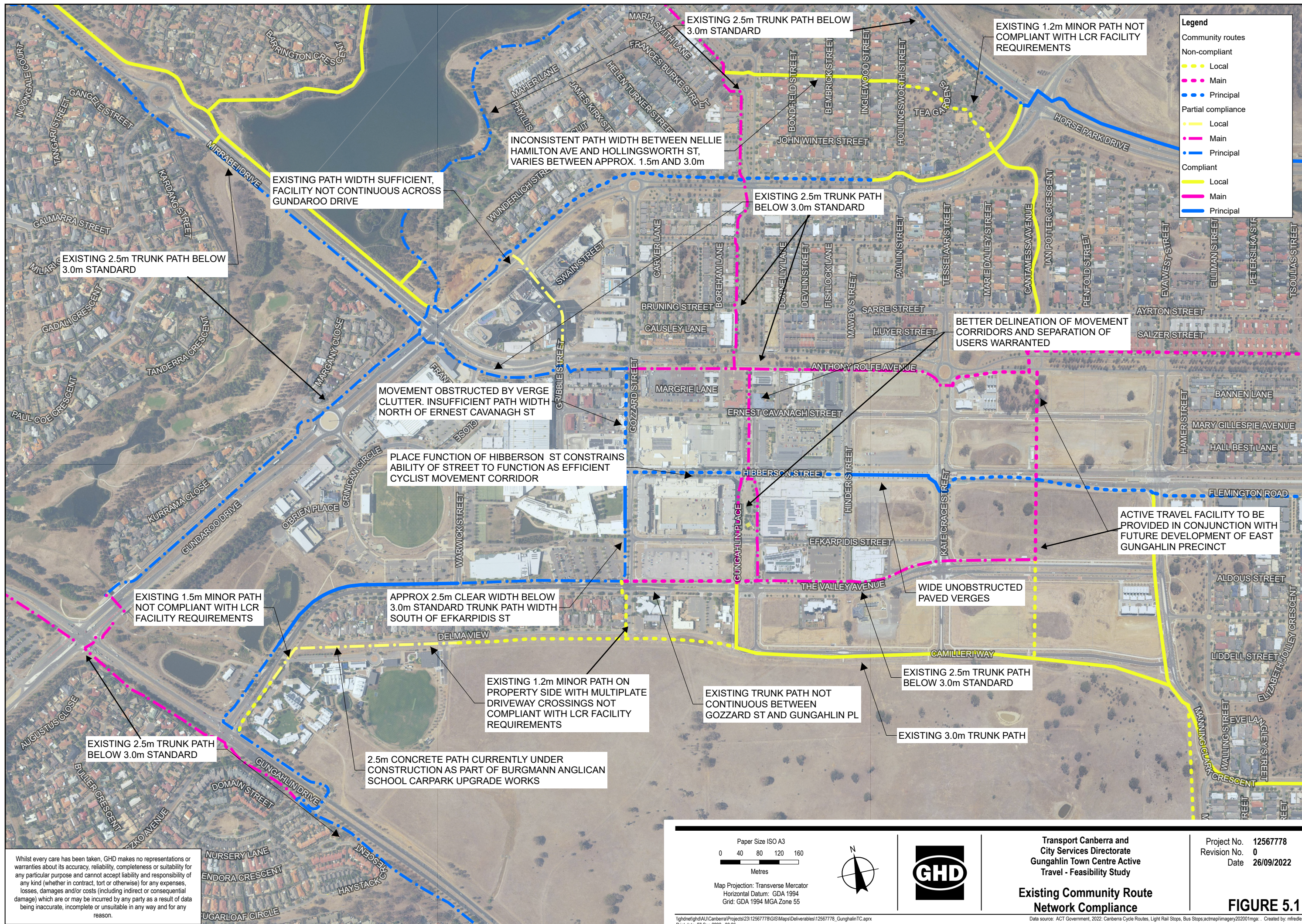
## 5. Active Travel Network Design Review

Following the Existing Conditions Assessment report completed in March 2022, GHD undertook a review of the existing Active Travel Network, focusing on the Community Route Network and identified proposed modifications to better align the routes with site specific constraints and opportunities and the objectives and requirements of PATACT and MIS 05.

The design review consisted of three key elements as follows:

- **Community Route Network compliance audit** – an audit of the existing community route network was undertaken that assessed the level of compliance of existing active travel infrastructure with the requirements of MIS 05 for the corresponding alignment status, i.e. Principal, Main or Local Community Route. The outcomes of the compliance audit were documented in the ATN Design Review report and illustrated in the Existing Community Route Network Compliance map provided as Figure 5.1
- **Movement and Place assessment** – a movement and place assessment was undertaken based on the principles outlined in the ACT Transport Strategy to consider the competing ‘movement’ and ‘place’ functions of various streets within the Gungahlin Town Centre. This assessment separately considered the importance of the movement function with respect to private vehicle (car / delivery truck) traffic, public transport and active travel while also assessing the importance of the place function for each street. The outcomes of this assessment helped to inform the development of the proposed Community Route Network map with the recommended Community Route hierarchy largely reflecting the active travel movement function assessment, with streets assessed as having a high (i.e. 3) active travel movement function typically being assigned as Principal or Main routes. An updated movement and place assessment is provided in Table 5.1.
- **Proposed Community Route network** – taking into account the findings of the network compliance audit and movement and place assessments, along with the outcomes of the ‘Existing Conditions Assessment’, a Proposed Community Route Network map was developed. This identified several changes compared to the current network map including the realignment of certain routes to better reflect physical constraints and opportunities as well as the reclassification of certain routes to better align with their function and with the definitions set out in PATACT and MIS 05. In particular, several routes currently identified as Principal routes have been proposed to be reclassified to Main routes. The Proposed Community Route Network map is provided as Figure 5.2





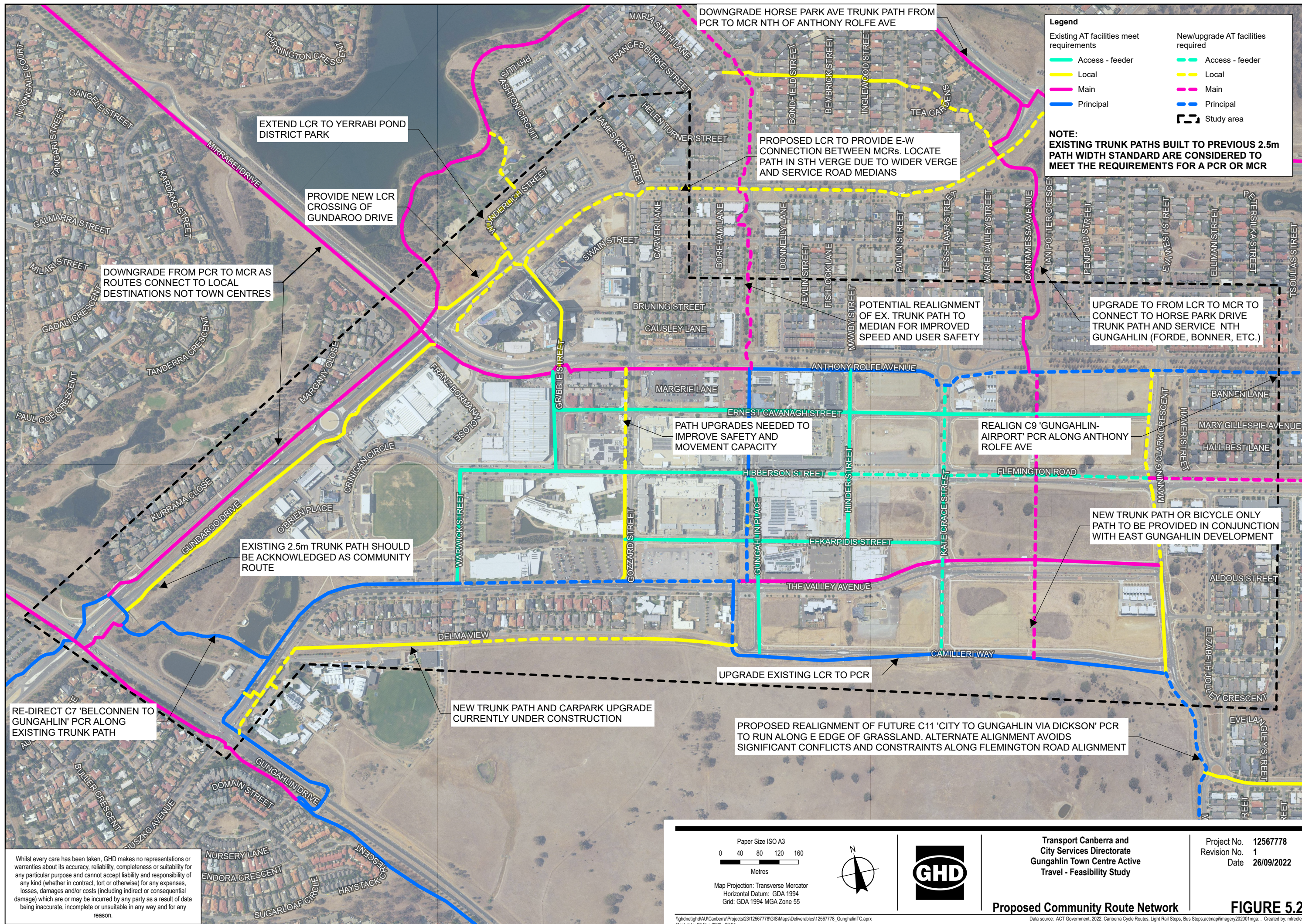


**Table 5.1**      *Movement and place assessment outcome*

Street	Segment	Movement (private vehicles)	Movement (public transport)	Movement (Active Travel)	Place	Comments
Gundaroo Drive (Link 01)	Gungahlin Drive to Horse Park Drive	3	2	3	1	Major movement corridor for vehicle traffic and commuter cyclists, also accommodates several bus routes. No significant place function.
Anthony Rolfe Avenue (Link 04)	Gundaroo Drive to Manning Clarke Crescent	3	2	3	1	Major movement corridor for vehicle traffic and commuter cyclists, also accommodates several bus routes. No significant place function.
The Valley Avenue (Link 03)	Gungahlin Drive to Gozzard Street	3	2	3	2	Provides a key vehicle and active travel connection into the Town Centre as well as being a bus route. Moderate place function associated with adjoining Gungahlin Valley Ponds recreational area.
The Valley Avenue (Link 03)	Gozzard Street to Kate Crace Street	3	2	3	2	Continuation of key vehicle, active transport and bus routes into the Town Centre. Moderate place function associated with being extension of front yards for residential housing and community facilities on southern side of street.
Delma View (Link 05)	The Valley Avenue to Gozzard Street	1	1	2	2	Minimal movement function for all types. Potential rat-run to avoid traffic on The Valley Avenue discouraged by LATM measures. Potential for higher active transport function as an alternate route to The Valley Avenue for access to Burgmann Anglican School and church. Moderate place function providing amenity to residential dwellings.
Gribble Street (Link 02)	Gundaroo Drive to Anthony Rolfe Avenue	1	1	2	2	Private vehicle movement function limited to providing direct access to high-density residential development and limited on-street parking. Active travel movement function currently limited by lack of access across Gundaroo Drive but provision of safe crossing facility would provide improved function as alternate access to Yerrabi Pond.
Gozzard Street (Link 07)	Anthony Rolfe Avenue to Ernest Cavanagh Street	2	3	2	2	Important private vehicle link into Town Centre to distribute traffic to final off-street parking destinations off Gozzard, Ernest Cavanagh and Efkarpidis Streets. Similar active travel movement function but impeded by quality of existing facilities. Critical public transport function as all Gungahlin bus services travel via this segment of Gozzard Street.
Gozzard Street (Link 07)	Ernest Cavanagh Street to The Valley Avenue	2	1	2	2	Important private vehicle movement function providing direct and indirect access to off-street parking. Similar active travel movement function providing access to Gungahlin College and local retail and employment centres. Moderate place function associated with location in heart of the Town Centre and access to Gungahlin Town Square.

Street	Segment	Movement (private vehicles)	Movement (public transport)	Movement (Active Travel)	Place	Comments
Gungahlin Place (Link 08)	Gundaroo Drive to Anthony Rolfe Avenue	1	1	3	2	Low private vehicle movement function as low priority link from Gundaroo Drive into the Town Centre. High active travel movement function as a key link between Yerrabi Pond and the Town Centre. Moderate place function as an extension of the front yard of medium density residential developments and open space provided in wide median of Gungahlin Place.
Gungahlin Place (Link 06)	Anthony Rolfe Avenue to Efkarpidis Street	1	3	3	3	Function as a private vehicle link is discouraged in order to preserve priority of bus movements and acknowledging high pedestrian movements. High public transport and place function as a major hub between bus and light rail networks. Place function further enhanced by Gungahlin Place playground and outdoor dining areas.
Gungahlin Place (Link 06)	Efkarpidis Street to The Valley Avenue	2	3	3	1	Movement functions remain south of Efkarpidis Street, particularly as continuation of bus routes and active transport link to The Valley Avenue. Minimal place function south of Efkarpidis Street associated with change in land use, function may change with future development of Block 1, Section 232.
Gungahlin Place (Link 06)	The Valley Avenue to Camilleri Way	2	1	2	1	Provides alternative southern road link into the Town Centre to Flemington Road. Potential for higher value active travel movement function if associated with extension of trunk path south to connect to 'Mitchell-Throsby via Gungaderra Creek' MCR. Minimal place function currently but may change with future development of Blocks 1 and 4, Section 246.
Nellie Hamilton Ave (Link 08)	Yerrabi Pond to Gundaroo Drive	2	1	3	2	Moderate private vehicle movement function as a minor collector accessing residential areas and limited commercial and recreational facilities at Yerrabi Pond foreshore. High active travel movement function as a key link between Yerrabi Pond and the Town Centre. Moderate place function as an extension of the front yard of medium density residential developments and open space provided in wide median.
Wunderlich Street (Link 02)	Gundaroo Drive to Yerrabi Pond District Park	1	1	2	2	Low movement function, providing access to local residential properties as well as to parking for Yerrabi Pond District Park and nearby recreational areas. Potential for increased active travel use with appropriate facilities providing easier access to recreation for nearby Town Centre residents.
Tea Gardens (Link 10)	Hollingsworth Street to Gundaroo Drive	1	1	2	2	Low movement function with no-through road, services a small number of residential properties only with no public transport access. Moderate place function providing amenity to residential dwellings.
Cantamessa Avenue (Link 09)	Gundaroo Drive to Anthony Rolfe Avenue	1	1	3	2	Low movement function servicing local residential properties with sole access to higher level (major collector) road via Anthony Rolfe Avenue. High active travel movement function providing north-south off-road connection from Gundaroo Drive to Anthony Rolfe Avenue, will be further enhanced with development of East Gungahlin precinct. Moderate place value as open space corridor acts as extended 'front yard' for residential properties.







## 6. Proposed Upgrades

Building on the outcomes of the ATN Review investigations and the Proposed Community Route Network map developed (see Figure 5.2), 11 individual links were identified for potential active travel infrastructure improvements with concept designs developed as discussed in further detail below.

Table 6.1 provides a list of the links identified along with a snapshot of their network status, location and key details.

Figure 6.1 provides a key plan illustrating the location of all the links in the context of the overall Gungahlin Town Centre with detailed discussion of each of the links provided in the following sections.

Further discussion and details regarding the budget estimates is provided in Section 8.

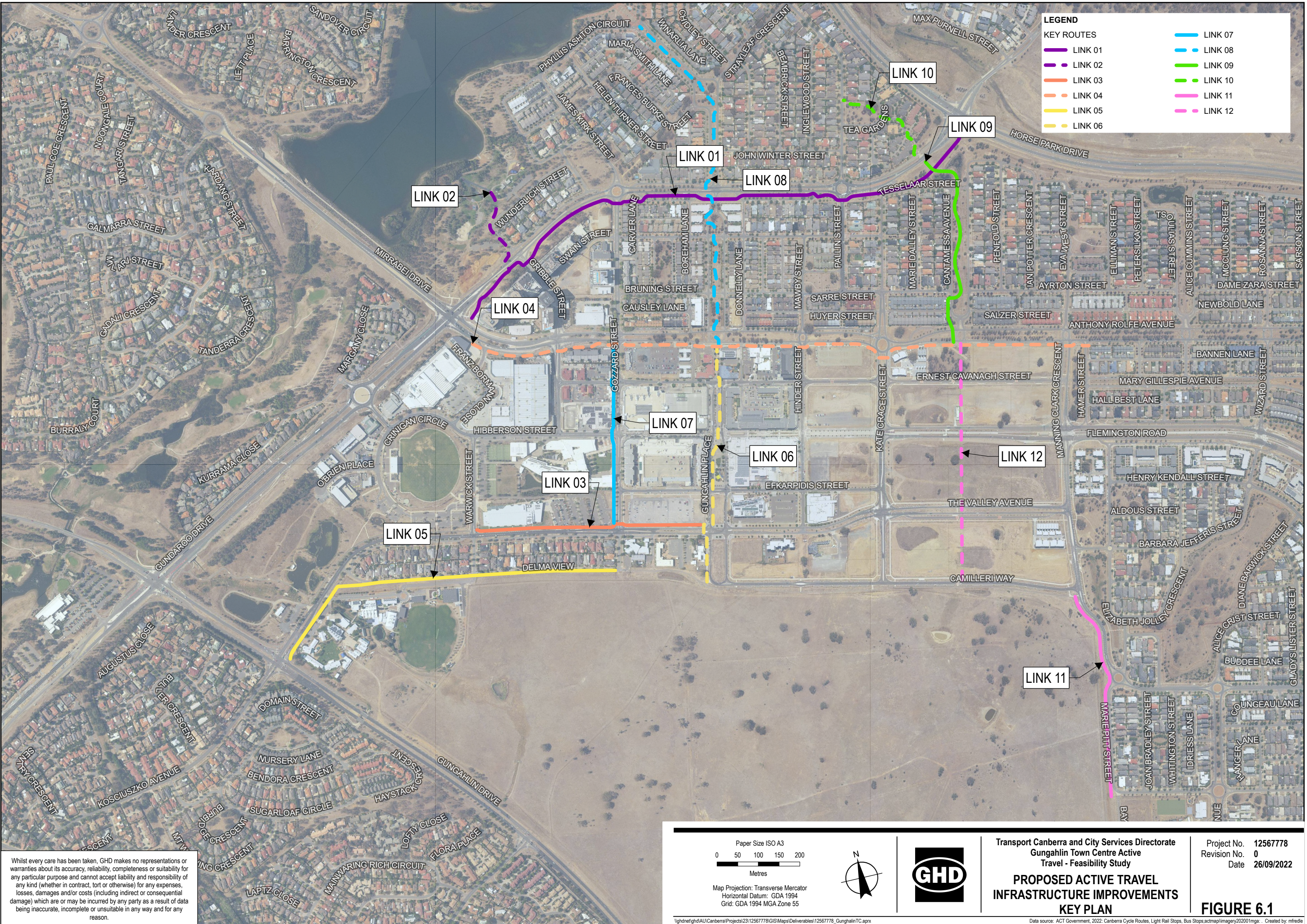
**Table 6.1** Summary of proposed Active Travel infrastructure upgrades

Link No.	CR Status	Location	Length <sup>1</sup>	Facility Type (s)	Budget Estimate <sup>2</sup>
1	LCR	Gundaroo Drive LCR	1.4 km	3.0 m trunk path	\$3,510,000
2	LCR	Gribble Street and Wunderlich Crescent western verges	250 m	3.0 m trunk path	\$1,240,000
3	PCR	The Valley Avenue northern verge	550 m	3.0 m trunk path	\$950,000
4	PCR	Anthony Rolfe Avenue southern verge	1.5 km	3.0 m trunk path / bike only path	\$2,650,000
5	LCR	Delma View / The Valley Avenue eastern verge	900 m	3.0 m trunk path and Active Travel Street	\$730,000
6	PCR	Gungahlin Place median	600 m	3.0 m bike only path	\$2,360,000
7	LCR	Gozzard Street western verge	450 m	Verge widening and de-cluttering	\$320,000
8	MCR	Gungahlin Place & Nellie Hamilton Avenue median	850 m	3.0 m bike only path	\$2,140,000
9	MCR	Cantamessa Avenue median	500 m	Priority crossings	\$380,000
10	LCR	Tea Gardens	250 m	3.0 m trunk path and Active Travel Street	\$480,000
11	PCR	Manning Clark Crescent & Marie Pitt Street western verges	500 m	3.0 m trunk path	\$820,000

<sup>1</sup> Length shown is the approximate length of the link which may differ from the total length of new or upgraded paths proposed

<sup>2</sup> Budget estimates are rounded to the nearest \$10,000 and include GST and contingencies. Further details regarding the budget estimates are provided at Section 8 and Appendix C





**LEGEND**

**KEY ROUTES**

LINK 01	LINK 07
LINK 02	LINK 08
LINK 03	LINK 09
LINK 04	LINK 10
LINK 05	LINK 11
LINK 06	LINK 12

Whilst every care has been taken, GHD makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of data being inaccurate, incomplete or unsuitable in any way and for any reason.

Paper Size ISO A3

0 50 100 150 200

Metres

Map Projection: Transverse Mercator  
Horizontal Datum: GDA 1994  
Grid: GDA 1994 MGA Zone 55

Transport Canberra and City Services Directorate  
Gungahlin Town Centre Active  
Travel - Feasibility Study

**PROPOSED ACTIVE TRAVEL  
INFRASTRUCTURE IMPROVEMENTS  
KEY PLAN**

Project No. 12567778  
Revision No. 0  
Date 26/09/2022

**FIGURE 6.1**



## 6.1 Design Objectives and Philosophies

While each individual active travel route presents its own unique design requirements and challenges there are some overarching design principles that apply across the board. Planning for Active Travel in the ACT (PATACT) provides the objectives and values of each route type and details of the identified hierarchy for active travel routes while MIS 05 broadly defines the design requirements for the facilities required to best achieve the objectives of each route type.

### 6.1.1 Community Route links

The Report principally considers the needs of Community Route users, 8-80s people primarily travelling from A to B, preferring or required to use active travel facilities physically separated from the roadway. This has become more important with the rise of the use of PMDs with the increasing battery power density and decrease in price of electric powered mobility devices.

The ACT Road regulations generally exclude PMDs from roadways such that the physically separated network of paths is the only option for these users. Given most of the Community Route facilities in the ACT, including in the Gungahlin Town Centre, are shared paths or paved verge areas and the speed differential between PMDs and pedestrians may be similar to bicycles, separation of modes becomes increasingly important in these areas where there is likely to be a higher number of active travellers.

Community Routes are aligned to connect to destinations appropriate to the hierarchy level of the route with consideration of a number of key criteria including grade, distance, amenity and importantly safety. PATACT provides the principals for the alignment of active travel routes with Community Routes being designed to best meet commuting needs (getting from A to B).

There are 11 links on the Community Route network, of various hierarchy that have been identified for improvement as part of this Report with alignments designed consistent with PATACT. Some of these alignments differ from those currently shown on the ATIPT as discussed in Section 5 this report and in the separate Active Travel Network Design Review report. A further Link 12 has been identified with the key issues for consideration in the future development of this area by SLA. This link was included to assist in maintaining the integrity and amenity of the proposed Community Route Network around and through the Town Centre area.

Facilities for the identified links (or routes) were considered in accordance with MIS 05 and the associated ACTSD-0500 series of standard drawings that detail typical arrangements for facilities to provide consistency in design approach and with the road regulations applicable to the ACT which are different to NSW.

MIS 05 is structured to provide guidance on the design of facilities to meet the needs of active travellers with different sections devoted to different active travel user groups. The section on Community Routes includes the key attributes and relevant requirements for facilities to best meet purpose such as:

- Facilities that are appropriate for the different hierarchy levels of the network similar to what is expected for vehicles on roads
- The level of compromise that may be appropriate when facilities are installed in retrofit (Retrofit case) when compared to situations without limitations (Estate Development case)
- The impact of adjoining land use and the urban context on the choice of facilities in a particular location.

Some of the key considerations in the provision of improved facilities include

#### 6.1.1.1 Priority crossings

To provide higher amenity and safety and hence promote increased use, higher level Community Routes such as Principal, Main and Local Routes are required to have priority over vehicular traffic wherever possible. On lower order roads this can be through use of a Zebra Crossing but as the road hierarchy increases a signalised intersection or crossing may be required. A bicycle-only priority crossing is used to provide priority to users of bicycle-only paths on lower order roads, similar to a Zebra crossing on trunk paths.

Priority crossings identified in the concept designs will be as shown on ACTSD-0500 series drawings. Driveway crossings should be minimised through route alignment choice wherever possible but when present treatments should be as per ACTSD-0526 for bicycle-only paths and -0527 for trunk paths.

### **6.1.1.2 Mode separation**

With the increasing use of PMDs and the speed differential that can exist between pedestrians and PMD users & bicycles, mode separation on routes that may be trafficked by people commuting through to destinations beyond the Town Centre should be prioritised for separation. This would be through installation of a separate bicycle-only path which may be used by bicycles and PMDs. Many examples of how path separation can be achieved, and details of configuration are shown in the ACTSD-0500 series drawings.

Use of coloured patches to mark the commencement of a bicycle-only path is an important consideration in marking these facilities to prevent inadvertent misuse by pedestrians and has been shown on the concept designs.

The existing verge width present in many of the streets in the Town Centre is limited and this has been a factor in determining higher order route alignments which will enable installation of two separate paths for mode separation to meet future demand while providing for safe and high amenity usage.

### **6.1.1.3 Linemarking and signage**

Signage associated with the paths should be kept to a minimum because of the plethora of signage already present in the Town Centre area. Signs are no longer necessary for designating bicycle-only paths and installation of pavement symbols only now suffice to legally designate a bicycle-only path. This change provides better visibility and a higher likelihood of user recognition and conformance in cluttered urban environments, such as is often present in Town Centres.

Linemarking and any warranted signage will be to the details as shown on the ACTSD-0500 series drawings.

### **6.1.1.4 Lighting**

Lighting design will be in accordance with the recently released ACT lighting design standard MIS 14 which includes a specific section on path and crossing lighting requirements. In general for paths located adjacent to arterial and collector roads, dedicated path lighting is not required on the basis that these roadways should be appropriately lit from property boundary to property boundary.

Lighting requirements for off-road paths are to be determined on a case-by-case basis.

### **6.1.1.5 Materials**

An important consideration in the choice of pavement materials is that they can provide intuitive guidance on path usage. In the ACT asphalt paving has traditionally been used on the shared trunk path network. These paths generally have a higher use by bicycles and have colloquially been called “bicycle paths” though this is a misnomer as they are shared between pedestrians and cyclists. Because of this and that the use of concrete generally requires jointing which users of any wheeled device can find annoying, asphalt has been used for bicycle-only paths.

Asphalt has been adopted as the default pavement material for trunk paths and bicycle only paths in the development of the concept designs with concrete for paths for pedestrians adjacent a bicycle-only path. It has been necessary for some exceptions to be made to this in various locations, including where asphalt paths may be considered to conflict with the overarching urban design fabric such as along Gungahlin Place or where paths are required to be constructed close to established street trees.

## **6.1.2 Recreational Route improvements**

Another important function of the facilities provided for active travel is recreation, generally targeted at people using active travel for enjoyment of the experience not necessarily aiming to reach a destination. Subsequently these routes are aligned not necessarily for directness or grade but for the environment they are situated within or connect. Both PATACT and MIS 05 provide detail on the design of routes and facilities in this context.

Recreational Routes will generally use the facilities already in place for Community Routes, however identifying a Recreational Route provides for the installation and ongoing maintenance of appropriate signage to increase awareness of the route and its purpose.

Path surfacing along a recreational route may vary depending on its intended use and for the main part recreational routes generally use the paths on the Community Route network. When they don't, say through a green space corridor, an unsealed surface such as decomposed granite gravel may be more warranted and adequately serve all intended users. A sealed surface may be warranted if the intended users include PMDs.

For the Gungahlin Town Centre study area there are two Recreational Routes that are recommended for consideration:

- **Gungahlin Town Centre to Yerrabi Circuit**– adjacent to the Town Centre is a Principal Recreational Trail, Yerrabi Circuit that incorporates a loop around Yerrabi Pond and another through Forde connecting the shops and on to Mulligans Flat Nature Reserve. Currently there is no clear connection to Yerrabi Pond from the Town Centre and the proposed Route, to become a Principal Recreational Trail, mainly through installation of signage, will link Gungahlin Place to the Yerrabi Circuit. The visitor centre and main trailhead for Mulligans Flat Nature Reserve is to be the Wildbark Visitor Centre located in Throsby however subsidiary trailheads are situated off Amy Ackman Street and also Eric Wright Street in Forde, both accessed via the Yerrabi Circuit path network.
- **Old Gundaroo Road heritage trail** – there is a signed heritage trail that includes a wider concrete path from Mulligans Flat Road along the Nature Reserve boundary through the Heritage Park to connect to Yerrabi Pond via the Horse Park Drive underpass. The section through the Heritage Park to Yerrabi Pond also forms part of the Yerrabi Circuit.

A separate section of the Old Gundaroo Road Heritage Trail connects to the trunk path adjacent to Horse Park Drive on the Town Centre side south of the underpass. This part of the trail that runs from Horse Park Drive along Strayleaf Crescent across Nellie Hamilton Avenue, along Francis Burke Street and then in green space to cross James Kirk Street and terminate at Gundaroo Drive.

This section has not been included in mapping or provided with coherent wayfinding and although the two sections are connected via the existing path network a coherent linkage between the two sections of the Old Gundaroo Road heritage trail located each side of Horse Park Drive is currently missing.

## 6.2 Link 1 – Gundaroo Drive LCR



Figure 6.2 Link 1 Gundaroo Drive LCR

### 6.2.1 Design overview

The Link 1 concept design consists of a 3.0 m wide asphalt path located in the southern verge of Gundaroo Drive between Anthony Rolfe Avenue and Horse Park Drive. The path is primarily to be designated as a trunk path but is proposed as a bicycle only path between Gozzard Street and Pallin Street where a minor path is also present, thereby allowing mode separation to be provided at negligible marginal cost.

This link has been identified as a Local Community Route and provides an important commuter link across the northern portion of the Town Centre, collecting local residents and providing a connection between existing Main and Principal Community Routes along Horse Park Drive, Mirrabai Drive and further along Gundaroo Drive.

The Link 1 concept design is illustrated on drawings 12567778-SK0100 to SK0111. Key details relating to this link include:

- 3.0 m asphalt path provides a continuous connection for approximately 1.4 km from Mirrabai Drive / Anthony Rolfe Avenue to Horse Park Drive on the southern side of Gundaroo Drive
- Raised priority crossings are proposed at Gribble Street, Gozzard Street, Gungahlin Place and Pallin Street. The crossings have been aligned as close as practicable to the existing desire lines, however, the Gozzard Street crossing has been setback from the current informal crossing alignment to accommodate frequent bus movements from Gundaroo Drive and to minimise the risk of buses blocking the roundabout when giving way to path users
- At-grade priority crossings are proposed at the service road crossings. At-grade crossings have been proposed due to geometric constraints that would limit the practicality of raised platforms, combined with the existing low-speed / low-volume traffic environment that presents a significantly reduced safety risk compared to the other road crossings.
- It is noted that the southern verge is currently being used to provide construction access to a residential tower under construction on the corner of Gundaroo Drive and Gozzard Street. It is assumed that the verge will be reinstated to its prior condition following completion of the construction works. Ideally the restoration could include the construction of a path to meet the requirements of the Active Travel Network.
- The Gundaroo Drive / Gribble Street intersection is proposed to be modified to remove the existing left turn slip lanes and splitter island with new kerb & gutter to be installed. The purpose of these modifications is to reduce the speed of the left turn movements and improve the alignment of vehicles approaching the raised priority crossing of Gribble Street from Gundaroo Drive.
- An existing unconventional drainage arrangement immediately west of Gribble Street, consisting of three stone pitched open channels which drain the Gundaroo Drive roadway into a mini wetland area with overflow into a plantation sump in the southern verge will be rationalised. Subject to detailed design investigations, it is proposed to remove the three existing channels and provide a conventional R-sump to capture runoff from the road, outletting to the mini wetland via a pipe culvert under the trunk path. Discharge would be through a headwall, incorporated into a retaining wall required alongside the trunk path to account for the significant localised verge crossfalls.

- It is anticipated that one existing tree will require removal at the western limit of the path. It is expected that detailed design of the path will be able to mitigate the need for further tree removals along the route.
- While not illustrated on the concept design drawings, path lighting should be provided in accordance with the requirements of MIS 14. While this does not typically require dedicated path lighting for a path along an arterial road, the wide verges present along much of the route and the varying separation of the path from the roadway are considered to likely warrant additional lighting. Accordingly, allowance has been made in the budget estimate for path lighting at a typical spacing of 50 m based on designs completed for comparable paths elsewhere in Canberra.

## 6.2.2 Alternate options considered but not pursued

A summary of various alternate design options that were considered during the concept design development is provided below:

- **Northern verge alignment** – locating the path in the northern verge would allow continuation of the existing trunk path at the western end of the link. However, the northern side was not deemed suitable due to narrower median widths between the Gundaroo Drive eastbound carriageway and the parallel service roads which would not provide sufficient space for the proposed trunk path. This would have then required the trunk path to be located in the outer verge of Gundaroo Drive with the additional hazard presented to path users by numerous residential driveways.
- **Widen existing footpath(s) in southern verge** – consideration was given to the viability of upgrading the existing minor paths in the southern verge where present rather than constructing a new path on a new alignment. This option was not pursued for several reasons including:
  - The existing minor paths are typically located in relatively narrow verges and would likely require significant tree removals
  - The existing minor paths cross numerous residential driveways which pose a significant safety hazard to path users due to limited approach sight lines between path users and vehicles exiting properties
  - The construction cost would be higher for a path upgrade compared to a new path due to the additional cost of removal of the existing concrete paths plus a more constrained construction environment that would require significantly greater care and detailed works staging
- **Convert one-way service roads to Active Travel Streets** – an option was considered to convert the existing one-way service roads located between Gozzard Street & Gungahlin Place and between Gungahlin Place & Pallin Street in order to reduce construction costs through the utilisation of existing road pavements. Ultimately, this was not considered a suitable option due to potential safety and legal concerns regarding two-way cyclist movements shared in a one-way traffic environment interacting with driveway accesses, particularly when a safer alternative is available.

## 6.2.3 Recommended works staging

The key value that this link adds to the Community Route network is as a cross-link across the Town Centre between Horse Park Drive and Anthony Rolfe Avenue. As such, it is recommended that this link be delivered in its entirety.

Construction of the link will be constrained by the ongoing use of the Gundaroo Drive verge between Gribble Street and Gozzard Street by the high-rise residential construction worksite, so the timing of those works would need to be considered in programming the delivery of the Link 1 works.

## 6.2.4 Issues for further investigation

Key issues requiring further investigations during subsequent project delivery stages are outlined as follows:

- **Duplication of Gundaroo Drive** – it is understood that there is potential for Gundaroo Drive to be duplicated between Anthony Rolfe Avenue and Horse Park Drive. It is our understanding that there are no firm plans for this and current traffic volumes do not warrant duplication of this section in the short term. Further, modelled 2041 AM peak traffic volumes indicate negligible long-term growth in traffic volumes along this section of Gundaroo Drive.  
Based on available information, duplication of Gundaroo Drive along the length of Link 1 is not considered likely to be warranted in the short or long term, however, this information should be confirmed with relevant ACT Government stakeholders prior to commencing detailed design as it may affect the path alignment.
- **Coordination with Links 2 and 8** – It is noted that Link 1 intersects with the concept designs for Links 2 and 8 at Gribble Street and Gungahlin Place respectively. While the concept designs for each link have been developed such that they can be delivered in full, independent of other links, there may be opportunities to combine elements in order to take advantage of potential cost and time savings. In particular:
  - Link 2 links Gribble Street and Wunderlich Street across Gundaroo Drive via the provision of a signalised crossing of Gundaroo Drive and raised Zebra crossing of the parallel service road. These elements could be incorporated into the Link 1 scope of works to provide an additional safe crossing of Gundaroo Drive and connection between the existing trunk path located in the northern verge between Mirrabai Drive and the service road and to the recreational amenities of Yerrabi Pond District Park.
  - Link 8 follows Gungahlin Place and Nellie Hamilton Avenue and includes a proposed signalised crossing of Gundaroo Drive. This crossing could be incorporated into the Link 1 scope of works to provide a safe crossing opportunity and improve the accessibility of the existing trunk path link between the Town Centre and Yerrabi Pond.
- **Gundaroo Drive / Gozzard Street roundabout and priority crossing alignment optimisation** – Bus movements from Gundaroo Drive to Gozzard Street via the existing roundabout may require a compromise in the alignment of the raised crossing with the active travel desire line. For maximum path user amenity, the crossing should be located as close as possible to the desire line which coincides with the existing median refuge opening. This location, however, provides insufficient separation between the crossing and the roundabout circulating traffic lane which may result in the following unsafe conditions:
  - A northbound bus waiting to enter the roundabout may queue across the raised priority crossing blocking path users and obstructing sight lines for path users if required to move around the bus.
  - A southbound bus exiting the roundabout may obstruct roundabout traffic when stopped to give way at the priority crossing.The concept design shows the priority crossing aligned to allow space for a 14.5 m Steer Tag bus to store between the raised platform and the roundabout traffic lane. It is proposed to remark the existing carriageway to move the traffic lane further away from the crossing. Further investigations should be undertaken during detailed design to determine if the traffic lane in the roundabout could be further narrowed to allow the raised crossing to better align with the desire line.



## 6.3 Link 2 – Gribble Street to Wunderlich Crescent LCR



Figure 6.3 Link 2 Gribble Street to Yerrabi Pond vis Wunderlich Crescent LCR

### 6.3.1 Design overview

Link 2 consists of a 3.0 m asphalt trunk path linking from the northern end of Gribble Street, across Gundaroo Drive and along Wunderlich Street to Yerrabi Pond District Park.

This link is identified as a Local Community Route but potentially serves a dual purpose as a Recreational Route and provides an additional connection between the Town Centre and Yerrabi Pond. Importantly, this link proposes a safer crossing of Gundaroo Drive for improved access to the Yerrabi Pond District Park and associated recreational facilities for the increasing residential population of the high-density north-west Gungahlin development area. This also applies to the users of Yerrabi Pond District Park who may be more inclined to visit the eateries and businesses on Gribble Street if there was path and safe crossing.

The Link 2 concept design is illustrated on drawings 12567778-SK0200 and SK0201. Key details relating to this link include:

- A 3.0 m asphalt trunk is proposed from the northern extent of the Gribble Street paved verge to Gundaroo Drive and then along the western / northern verge of Wunderlich Street, connecting into the Yerrabi Pond District Park at the location of public toilets and children's playground. A separate branch is proposed, departing from the main alignment near the 90 degree bend in Wunderlich Street to provide a direct connection to the existing skate park and basketball court. The proposed path will connect to the existing Yerrabi Pond path network providing access to other amenities and further afield to the Mulligans Flat Nature Reserve.
- The existing Gundaroo Drive / Gribble Street intersection is proposed to be restricted to a left-in/left-out configuration by infilling the existing concrete median. In conjunction with the intersection reconfiguration, a signalised crossing of Gundaroo Drive is proposed, connecting to a raised Zebra crossing of the service road
- Minor earthworks will be required alongside the trunk path as it follows Wunderlich Street to maintain an existing overland flow path and facilitate a more efficient alignment for the two required drainage culverts under the proposed trunk path including the branch heading towards the existing skate bowl and basketball court.
- At the northern-western extent of the link, the proposed trunk path alignment coincides with an existing gravel maintenance track accessed via the adjacent carpark. On the assumption that this track is used only sporadically by maintenance vehicles it is proposed that the northern extent of the trunk path should be designed to accommodate this occasional vehicle use by the inclusion of appropriate warning signage and a potentially a stronger pavement than the standard trunk path pavement.

- While not illustrated on the concept design drawings, path lighting should be provided in accordance with MIS 14 which calls for lighting requirements for path through open space to be determined on a case by case basis. It is assumed that the Link 2 path would warrant the provision of path lighting to subcategory PP5 and allowance has been made in the budget estimate for path lighting at a typical spacing of 50 m based on designs completed for comparable paths elsewhere in Canberra.

### 6.3.2 Alternative options considered but not pursued

A summary of various alternate design options that were considered during the concept design development is provided below:

- **Zebra crossing across Gundaroo Drive** – consideration was given to installation of a Zebra crossing rather than a signalised crossing with a view to reducing delays for path users. This was ultimately ruled out due to non-compliance with overarching design standards which state that Zebra crossings are not appropriate on arterial roads and/or in speed environments of 60 km/h or greater.
- **Gundaroo Drive / Gribble Street intersection signalisation** – consideration was given to converting the existing Gribble Street t-junction into a fully signalised intersection, also incorporating the service road on the northern side of Gundaroo Drive to create a four-way signalised intersection. Initial investigations were undertaken into the likely configuration of the intersection and extents of proposed widening of Gundaroo Drive and this option was ultimately ruled out as being beyond the scope of this project, noting the following:
  - Full signalisation of the intersection would require widening of Gundaroo Drive to provide adequate storage for queued vehicles. This would likely mean duplication of Gundaroo Drive from Anthony Rolfe Avenue to west of Gribble Street
  - The existing road configuration within the Gundaroo Drive road reserve would require significant demolition and reconstruction works to enable a suitable road alignment which would in-turn likely require extensive utility relocations. These factors combined would result in a substantial construction cost that would be unlikely to be warranted for the purposes of implementing an active travel link, particularly considering the alternative options available.
  - Road planning doctrine generally does not allow for right turning connection of roads with a difference of more than two levels of hierarchy. Gribble Street is a local access street currently connecting to an arterial road. Providing safe full turning movement access would not warrant the installation of signals given the alternative access options available through the road network that do not require significant detour. The conforming option is to convert the intersection to a left-in left out configuration as proposed.
- **Wunderlich Street Active Travel Street** – an alternative design option was considered consisting of converting Wunderlich Street to an Active Travel Street in lieu of a separated trunk path in the verge. While this option was considered feasible and would result in a significantly lower construction cost, it was not considered appropriate due to the traffic mix, turning movements and the grade of the road, when a safer and equally feasible alternative option, i.e. off-road trunk path, was available.

### 6.3.3 Recommended works staging

Improved connections between the Town Centre and Yerrabi Pond was a key issue raised by the community as part of the Planning Refresh indicating significant latent demand for this connection. As such, it is considered that this link would add significant immediate value to the Community Route network.

Further, it is noted that this link has significant overlap with the Link 1 concept design, as such any decision regarding the delivery of Link 2 should take into account opportunities to combine this with elements of Link 1, in particular the trunk path connection between Anthony Rolfe Avenue and Gribble Street.

### 6.3.4 Issues for further investigation

Key issues requiring further investigations during subsequent project delivery stages are outlined as follows:

- **Traffic modelling of the proposed signalisation and intersection reconfiguration** – prior to undertaking detailed design of the Gundaroo Drive / Gribble Street intersection works and signalised crossing, a traffic study should be undertaken to assess the impacts of these works on Gundaroo Drive traffic flows. It is not anticipated that the restriction of the intersection to left-in/left-out would have significant impacts to the broader network, however the extent of queuing on Gundaroo Drive generated by the signalised crossing should be assessed. In particular, the signal timing should be configured to minimise the risk of eastbound queuing restricting the throughput of the upstream Gundaroo Drive / Anthony Rolfe Avenue intersection.
- **Steep grades immediately north of Gundaroo Drive** – while we have not undertaken any 3D design modelling in the development of the concept design, it is noted that the existing grades along Wunderlich Street immediately north of Gundaroo Drive exceed the desirable longitudinal grades for cycling. During detailed design, efforts should be made to lengthen the path alignment between the service road and carpark driveway in order to moderate these grades where practicable.

## 6.4 Link 3 – The Valley Avenue PCR



Figure 6.4 Link 3 The Valley Avenue PCR/MCR

### 6.4.1 Design overview

Link 3 is identified as a Principal Community Route and acts as an important link into the Town Centre from Gungahlin Drive. The concept design consists of the continuation of the existing 3.0 m trunk path that runs from Gungahlin Drive to Warwick Street through to the west side of Gungahlin Place.

The Link 3 concept design is illustrated on drawings 12567778-SK0300 to SK0310. Key details relating to this link include:

- The existing 2.0 m asphalt (to the eastern boundary of Gungahlin Leisure Centre) and concrete (to Gozzard Street) path between Warwick Street and Gozzard Street is proposed to be upgraded to 3.0 m in line with MIS 05 requirements for a PCR trunk path
- Raised Zebra crossings are proposed across Warwick Street and Gozzard Street
- Priority driveway crossing pavement markings are to be applied as per ACTSD-0527 across three existing carpark entry driveways
- A new 3.0 m trunk path of approximately 180 m length is proposed in the northern verge between Gozzard Street and Gungahlin Place where there is no continuous path currently provided. The selection of either an asphalt or concrete pavement shall be determined during detailed design taking into account potential development plans for the adjacent public carpark as well as concerns regarding protection of the existing street trees. It is noted that the adoption of a concrete pavement can reduce potential impacts to street trees due to a thinner profile and reduced compaction requirements.
- Priority driveway crossing pavement markings are to be applied as per ACTSD-0527 across three existing carpark entry driveways between Warwick Street and Gungahlin Place. Consideration should be given during detailed design for the potential removal of one or more of the existing driveways to conform with current planning and standards. This would be subject to confirmation of any additional carpark modifications that may be required to maintain compliance with relevant design standards in relation to internal circulation as well as entry and exit capacity (refer sections 6.4.4 and 11.3.2 for further discussion)
- The recommended alignment of the Warwick Street crossing requires removal of an existing street tree. Allowance has been made in the budget estimate for the planting of two replacement trees in the vicinity of the works, however, the new plantings have not been shown on the concept plans.
- No allowance has been made in the budget estimate for dedicated path lighting with the exception of lighting required at the proposed Zebra crossings. This is on the basis that the proposed trunk path would receive sufficient spill lighting from the existing road lighting, however, an assessment of the existing lighting should be undertaken during detailed design.

It is noted that Transport Canberra raised concerns about the alignment of the raised Zebra crossings which have been located on the minimum setback of 6.0 m specified in MIS 05, with respect to bus movements. While neither Warwick Street nor Gozzard Street are active bus routes, Transport Canberra advised that buses use these streets, and Gozzard Street in particular, for 'dead running'. Consequently there is potential for a bus giving way to path users to obstruct traffic movements on The Valley Avenue. In settling the concept design, it was considered

that the benefits of aligning the Zebra crossing as close as possible to the active travel desire line outweighed the risk associated with bus movements, noting that:

- The likely frequency with which a bus would be stopped to give way to path users is considered to be low and such stoppages would be for a short duration only
- The configuration of The Valley Avenue is such that there is ample approach sight distance from all directions that a vehicle approaching a stopped bus would have ample opportunity to slow down and come to a safe stop if required.
- The introduction of the raised crossing reduces the likelihood of a path user being struck by a turning vehicle which would be likely to have catastrophic (i.e. fatal) consequences. Conversely, if a stopped bus were to cause a vehicle crash on The Valley Avenue, this would be a low-speed accident with only minor consequences. As such, the proposed configuration is considered to deliver a net improvement in road safety

## 6.4.2 Alternative options considered but not pursued

Feasible design options consistent with PATACT and MIS 05 were limited along this link and the main alternative option considered was for the provision of separate pedestrian and bicycle only paths, particularly between Gozzard Street and Gungahlin Place.

Consideration was given to the design of a minor path along the road reserve boundary for pedestrian use with a separate bicycle only path to be aligned between the existing street trees and The Valley Avenue. This option was ultimately considered not to be feasible due to limited available space between the trees and the Valley Avenue kerbline and the requirement for a 3.0 m separation between the adjacent traffic lane and the path in a 60 km/h or higher speed environment.

## 6.4.3 Recommended works staging

Link 3 is considered integral to the function of the broader Community Route network as a continuation of the PCR along The Valley Avenue and connection to the proposed Gungahlin Place PCR. However, recognising that the western portion of this link between Warwick Street and Gozzard Street is currently serviced by an intermediate path compared to the eastern portion which has no continuous path at all, the relative benefit provided by the proposed trunk path is significantly greater between Gozzard Street and Gungahlin Place. Noting this, the Link 3 works could reasonably be staged with priority given to the eastern portion to provide a trunk path where there is currently no facility provided at all.

Alternatively, in anticipation of the future development of Block 1 Section 232, currently occupied by public carparking, the eastern portion of Link 3 could be identified for delivery as off-site works by the future developer. However, considering where Link 3 sits within the overall Community Route network, delaying the delivery of this link in order to tie-in with the likely development timeframe is not recommended.

## 6.4.4 Issues for further investigation

Key issues requiring further investigations during subsequent project delivery stages are outlined as follows:

- **Tree removals and management of potential tree impacts** – the concept design identifies the removal of an existing tree in conjunction with the Warwick Street raised crossing. This is proposed to give preference to optimising the path alignment over retaining the tree, however, further consultation should be undertaken with Urban Treescapes with respect to further design options that may allow for retention of the tree. Further, construction of the trunk path in the verge from Warwick Street through the Gungahlin Place will require construction activities to be undertaken within the Tree Protection Zone (TPZ) presenting a risk of damage to existing trees. Consultation should be undertaken with Urban Treescapes during detailed design development to agree on appropriate construction methodologies and design details to provide detailed mitigation measures for each particular tree. Options could include:
  - Management of path levels to minimise the need for cut / stripping over existing tree roots
  - Selection of pavement materials including use of continuously reinforced concrete rather than asphalt in order to minimise overall pavement thickness and reduce requirements for subgrade compaction through use of sand subgrade. This will also minimise risk of future unplanned cracking and the hazards associated with joint displacement.

- Hydro-vac investigations for visible inspection of tree roots to better assess risks and determine viability of selective root cutting if required
- **Path lighting assessment** – an assessment of existing lighting levels within the verge should be undertaken to inform the detailed design on the need for any additional path lighting
- **Block 1 Section 232 development coordination** – consultation should be undertaken with relevant stakeholders including SLA regarding the planned development of Block 1 Section 232, located between Gozzard Street and Gungahlin Place. Any development conditions relating to the block including any off-site works requirements should allow for the proposed active travel link whether it is to be delivered in advance of the block development or potentially to be included as off-site works to avoid any damage during construction work.
- **Driveway removal** – given the hazard of driveway crossings to active travellers, investigations should be undertaken to determine the feasibility of removing one or more of the existing driveway crossings from the Valley Avenue northern verge. The western most driveway provides the sole access to the Gungahlin Leisure Centre carpark and may not be suitable for removal without significant internal modifications connecting this carpark to the adjoining Gungahlin College carpark. Both the Gungahlin College carpark and the existing gravel carpark on Block 1 Section 232 have alternate driveway accesses on Gozzard Street and Efkarpidis Street respectively. Prior to confirming removal of the Valley Avenue driveways for both of these carparks, a review of the carpark configurations would be required to determine if any internal modifications are required to maintain appropriate internal circulation and to confirm if a single driveway access provides sufficient entry and exit capacity for the size of the carparks.



## 6.5 Link 4 – Anthony Rolfe Avenue PCR/MCR



Figure 6.5 Link 4 Anthony Rolfe Avenue PCR/MCR

### 6.5.1 Design overview

Link 4 is located in the southern verge of Anthony Rolfe Avenue and is identified as a Main Community Route between Gundaroo Drive and Gungahlin Place and then as a Principal Community Route from Gungahlin Place eastwards. This link plays an important role connecting existing trunk paths along Mirrabai Drive to the west and Horse Park Drive to the east and north into the Town Centre as well as helping to distribute path users east and west across the Town Centre.

This link is currently serviced by a trunk path but there are several significant deficiencies along the route and opportunities for improvement and augmentation to better align with the objectives and requirements of PATACT and MIS 05. As such, the concept design consists of a mix of localised alignment improvements, priority crossings and mode separations wherever possible.

The Link 4 concept design is illustrated on drawings 12567778-SK0400 to SK0411. Key details relating to this link include:

- Trunk path pavement markings to be applied to existing sections of trunk path along the route
- Path and kerb alignment improvements are proposed at the intersection of Franz Bormann Close and the Bunnings loading dock exit road. The existing intersection configuration, which includes a redundant road stub creates a pinch point in the existing trunk path where the path width is reduced and the alignment detours significantly from the desire line. Additionally, Franz Bormann Close has a steep longitudinal grade on the approach to the intersection resulting in a high crossfall on the existing crossing which requires awkward manoeuvres majorly impacting the amenity for all path users, and cyclists in particular. The improvement works proposed at this location are illustrated on drawing SK0400 and include:
  - Construction of a new kerb alignment to cut off the redundant road stub including demolition of the redundant road pavement and extension of the verge landscaping to the new kerb alignment. This in turn provides additional verge width allowing continuation of a full width trunk path.
  - Reconstruction of the existing 2.5 m trunk path along the desire line including installation of new kerb ramps and an at-grade Zebra crossing. The Zebra crossing has been aligned on the direct desire line with no setback from the loading dock exit road. This is on the basis that the loading dock exit has infrequent traffic movements, typically by single vehicles with the vast majority of vehicles continuing on to Anthony Rolfe Avenue with minimal left turn movements into Franz Bormann Close. Any left turning vehicles that may be required to give priority to path users at the Zebra crossing should not pose any risk to through traffic on the Bunnings loading dock exit road due to the slow speed environment and adequate sight lines.
  - The existing kerb & gutter on the westbound approach will be demolished and reconstructed on a new alignment, removing the existing deviation to provide improved geometry for the installation of a new kerb ramp aligned with the proposed Zebra crossing. This kerb realignment will also require localised stormwater modifications including demolition and replacement of existing stormwater sumps and associated underground pipe works.
- The Bunnings loading dock exit road has a function and appearance similar to a one-way industrial driveway and consequently is proposed to be improved with markings as per ACTSD-0527.
- It is proposed to undertake significant modifications to the Anthony Rolfe Avenue / Gribble Street signalised intersection to improve the amenity and safety of path users through the removal of existing left turn slip lanes

and the introduction of tighter kerb geometry. The proposed configuration is shown on drawing SK0401 and includes:

- Removal of existing left turn slip lanes on the Gribble Street southern leg including demolition of existing splitter islands and relocation of traffic signals infrastructure
  - Realignment of crosswalks to better align with desire lines and reduce the overall crossing distance for path users
  - The existing intersection lane configuration shall be maintained with separate left turn lanes for traffic entering and exiting Gribble Street from/to Anthony Rolfe Avenue. Maintaining the lane configuration will mitigate impacts to the overall traffic operations, however, this should be validated through a traffic study prior to detailed design
- Realignment of the existing trunk path is proposed in conjunction with relocation of an existing outdoor licenced area associated with Siren Bar & Grill at the corner of Anthony Rolfe Avenue and Gozzard Street. This realignment is proposed to remove a conflict between path users and venue patrons moving to and from the outdoor seating area within the verge. Additional path and landscape improvements are proposed in this vicinity to address clear deficiencies in the alignment of existing hardstand areas with desire lines, as evidenced by trampled verge grassing. Additionally, it is proposed to reconstruct existing non-compliant kerb ramps.
  - From Gozzard Street to Fussell Lane it is proposed to designate the existing 2.5 m asphalt trunk path as a bicycle only path in conjunction with the construction of a separate 1.5 m concrete pedestrian path to provide mode separation taking advantage of the verge space available.
  - Raised priority crossings are proposed along each of the side roads including Boon Lane, Fussell Lane, Hinder Street, Kate Crace Street, Manning Clark Crescent and Hamer Street. With the exception of Fussell Lane these will be implemented as conventional raised Zebra crossings. For Fussell Lane due to alignment constraints within the verge, it is proposed to convert this connection to Anthony Rolfe Avenue to a continuous verge in the form of an industrial driveway at verge level with application of the typical driveway crossing treatment as per ACTSD-0527.
  - As per MIS 14 no allowance has been made in the budget estimate for dedicated path lighting with the exception of lighting required at the proposed Zebra crossings. This is on the basis that the proposed paths would receive sufficient spill lighting from the existing road lighting, however, an assessment of the existing lighting should be undertaken during detailed design.

## 6.5.2 Alternative options considered but not pursued

The proposed alignment of Link 4 in the southern verge of Anthony Rolfe Avenue was the only alignment option considered in detail taking into account the existing infrastructure already in place and its proximity to the core of the Gungahlin Town Centre.

Consideration was given, however, to alternate design details and treatments along the route including:

- Consideration was briefly given to constructing a trunk path in the Anthony Rolfe Avenue median however this was dismissed for reasons including:
  - Locating the path in the median would require less conventional road crossing configurations including at the Gungahlin Place and Hinder Street / Mawby Street median crossings. These were considered to represent a higher safety risk than priority crossings of the laneways and side streets in the southern verge
  - Alignment in the median presents connectivity issues at large intersections including the Gribble Street and Gozzard Street signalised intersections and the Kate Crace Street roundabout. This would likely result in the introduction of additional road crossings and make this type of route less safe and with lower amenity than the preferred alignment in the southern verge.
- The introduction of a raised crossing at Franz Bormann Close was considered but this was dismissed due to physical constraints present at the location, most notably an approximate 6%-8% longitudinal gradient on the Franz Bormann Close approach to the intersection with the Bunnings load dock exit road which precludes the construction of a compliant raised platform.

### 6.5.3 Recommended works staging

Link 4 has a variety of discrete elements which provides an opportunity for the division of the overall scope of works into several smaller packages that may be progressed independently. Suggested works packages are as follows, in no particular order:

- **Package 1 – Franz Bormann Close and Bunnings loading dock exit driveway** – this package would constitute the works in the immediate vicinity of Franz Bormann Close including:
  - Kerb realignment works and associated drainage modifications
  - Removal of the redundant road stub and verge infill
  - Path alignment improvements and installation of Zebra crossing and associated lighting
  - Pavement marking improvements on the Bunnings loading dock exit driveway
- **Package 2 – Gribble Street intersection improvements** – this package would constitute the works in the immediate vicinity of the Gribble Street intersection including:
  - Removal of existing left turn slip lanes and demolition of splitter islands
  - Relocation of traffic signals infrastructure
  - Kerb realignment works including associated drainage modifications and realignment of stop lines and crosswalks
  - Path realignment works including new kerb ramps to align with new kerb alignments
- **Package 3 – Siren Bar & Grill path realignment and Gozzard Street intersection improvements** – this package would constitute the works in the vicinity of the Siren Bar & Grill and the Gozzard Street intersection including:
  - Relocation of the Siren Bar & Grill outdoor licensed area
  - Realignment of the trunk path around the relocated licensed area including expanded hardstand area and soft landscaping to the SW corner of the Gozzard Street / Anthony Rolfe Avenue intersection
  - Reconstruction of non-compliant kerb ramps including minor realignments of crosswalks and potential relocation of traffic signals infrastructure
- **Package 4 – Gozzard Street to Hinder Street path augmentation and priority crossing works** – this package would constitute the proposed works from Gozzard Street to Hinder Street including:
  - Construction of a 1.5 m minor path for pedestrian only use.
  - Construction of raised priority crossings of Boon Lane and Hinder Street, and the construction of a continuous verge treatment at Fussell Lane.
  - Application of driveway crossing treatment as per ACTSD-0527
- **Package 5 – Hinder Street to Hamer Street works** – this package would constitute the remainder of the works from Hinder Street through to Hamer Street. Demand for this package of works should be tied to the development timing of the East Gungahlin precinct and should be completed as part of the future development works.

### 6.5.4 Issues for further investigation

Key issues requiring further investigations during subsequent project delivery stages are outlined as follows:

- **Consultation with Bunnings** – consultation should be undertaken with Bunnings prior to progressing the design for the proposed Franz Bormann Close modifications. In particular, clarification should be sought from Bunnings as to their use of the loading dock exit road to ensure that their operational requirements are appropriately accommodated within the active travel infrastructure design.
- **Consultation with the Siren Bar & Grill Proprietors** – consultation should be undertaken with the proprietors of the Siren Bar & Grill prior to progressing the design of the path realignment to check the proposal is appropriate and will meet their operational requirements.
- **Gribble Street / Anthony Rolfe Avenue intersection modelling** – the proposed modifications to the Gundaroo Drive / Gribble Street signalised intersection should undergo a traffic study prior to detailed design in order to validate the intersection configuration, particularly with regard to additional queuing of left turning vehicles due to the removal of the slip lanes.

- **East Gungahlin planning and design coordination** – further consultation and coordination should be undertaken with EPSDD and SLA regarding the planned development of the East Gungahlin precinct. Particular issues to be addressed as early as possible are:
  - Development timing – current user demand for the eastern portion of the proposed Link 4 is considered to be low based on the mostly vacant status of the land between Hinder Street and Manning Clark Crescent. This will rapidly change, however, when the East Gungahlin precinct is developed and a significant local residential population moves in. It will be important that the delivery of the active travel infrastructure is appropriately timed so that it is in place in time to meet the future demand.
  - Design coordination – a key element of this Feasibility Study is to set out a long-term vision for active travel infrastructure so that appropriate protections can be put in place to prevent future developments compromising the ability to provide the necessary active travel infrastructure to meet future needs. Consultation should be undertaken so that the proposed PCR in the Anthony Rolfe Avenue verge is appropriately accommodated within the East Gungahlin EDP.

## 6.6 Link 5 – Delma View and The Valley Avenue LCR



Figure 6.6 Link 5 Delma View and The Valley Avenue LCR

### 6.6.1 Design overview

Link 5 is identified as a Local Community Route that links between the proposed Gungahlin Place and Gungahlin Drive PCRs. The main purpose of this link is to provide a direct connection to Burgmann Anglican School for active travel users approaching from east of the Town Centre, avoiding the need to detour along The Valley Avenue or navigate the existing minor path and frequent driveway crossings in the northern verge of Delma View.

It is noted that construction works are currently underway associated with Burgmann Anglican School along the western portion of Delma View (west of Warwick Street) and part of The Valley Avenue. This work includes a significant upgrade to parking for the school plus construction of a 2.5 m trunk path in the southern verge of Delma View.

The Link 5 concept design has been developed with consideration of the Burgmann Anglican School works under construction and is illustrated on drawings 12567778-SK0500 to SK0504 and SK0510. Key details relating to this link include:

- Delma View between Gozzard Street and Warwick Street has no requirement for through traffic and is essentially a section of street for local residents only. Consequently it is proposed to be designated as an Active Travel Street (ATS). This can be achieved through the construction of raised pavement platforms as threshold treatments at the eastern and western extents of the ATS to complement existing raised platforms in place along Delma View. This would be in conjunction with the standard ATS pavement markings as per the MIS 05 standard drawings. A speed limit of 30 km/h would be recommended on this section of street.
- A trunk path connection will be introduced east of Warwick Street to guide cyclists off the Delma View roadway and will connect to the new trunk path under construction by Burgmann Anglican School including provision of a Zebra crossing across the school carpark entry road.
- A modification is proposed to the current path alignment in the verge at the western end of Delma View to better align with the desire line for path users accessing the school. The current path design swings northward to meet the existing The Valley Avenue path at a right angle whereas continuing the path alignment parallel to the upgraded carpark is considered to better align with the desire line for the majority of path users.
- The Burgmann Anglican School works included limited path widening and only within the immediate footprint of the carpark in the Valley Avenue verge. The path widening is proposed to be extended all the way to Gungahlin Drive to connect to the existing PCR trunk path in the Gungahlin Drive northern verge. In conjunction with this, it is proposed to provide a Zebra crossing across the new carpark access road.
- A minor kerb realignment is proposed in the vicinity of the existing bus stop to straighten out a kink in the existing kerb line and slightly widen the existing verge to better accommodate the upgraded path and a compliant bus stop pad.



## 6.6.2 Alternative options considered but not pursued

Alternate options within the Valley Avenue verge were limited however alternative options were considered along Delma View including:

- **Trunk path in southern verge** – the initial preferred option along the eastern portion of Delma View was for the provision of a 3.0 m trunk path in the southern verge. This option was dismissed, however, due to significant environmental risks and constraints associated with the adjacent Mulanggari Grasslands Nature Reserve. Preliminary advice from the Office of the Conservator of Flora and Fauna indicated that, while the Delma View verge is not technically within the nature reserve, due to its proximity and direct physical connection to the grassland, the path would be subject to the same environmental requirements as if it were within the nature reserve including seasonal ecological surveys. For the purposes of this Feasibility Study, the environmental risks and constraints were considered to warrant dismissal of this option from further consideration, particularly given the low traffic use and speed providing suitable conditions on Delma View for an Active Travel Street treatment.
- **Delma View connection to Gungahlin Drive behind Burgmann Anglican School** - Consideration was also briefly given to providing a connection between Delma View and Gungahlin Drive along the eastern boundary of the Burgmann School campus however this was not pursued further due to the same environmental issues discussed above.

## 6.6.3 Recommended works staging

The proposed Link 4 scope of works can be divided into two discrete works packages that may be progressed independently as follows:

- **Package 1 – Delma View Active Travel Street between Gozzard Street and Warwick Street** – this package would consist of the conversion of Delma View to an Active Travel Street and would include the following:
  - Undertake traffic surveys to confirm existing traffic volumes and traffic speeds noting that the timing of the surveys will need to be coordinated to reflect 'typical' operations. These surveys should be undertaken following completion of the current Burgmann Anglican School construction works and during school term.
  - Consultation with the residents of Delma View to gain some acceptance of the proposed amendments to the streetscape.
  - Install raised threshold treatments and other LATM measures determined to be required following completion of the traffic surveys and resident consultation.
  - Install pavement markings and signage.
  - Construct an on-road to off-road link path at Warwick Street to tie into the new trunk path currently under construction by Burgmann Anglican School between Warwick Street and The Valley Avenue.
- **Package 2 – The Valley Avenue path widening and priority crossings** – this package would consist of the upgrade of the Valley Avenue verge including:
  - Upgrade of the existing intermediate path to a 2.5 m wide trunk path providing a continuous trunk path from Gungahlin Drive through to Delma View
  - Kerb modifications and construction of a new bus stop slab on The Valley Avenue to correct unconventional kerb alignment and gain additional verge width
  - Implement driveway crossing treatments at Burgmann Anglican School carpark access points
  - Realignment of the trunk path (currently under construction) to better align with pedestrian and cyclist desire lines.

Noting the direct interface between the Package 2 works described above and the works currently under construction it would be desirable to accelerate these works to overlap with the Burgmann Anglican School works. This could either be through incorporation of the additional scope into the current construction contract or planning for the Package 2 works to follow directly on from the current works. It is acknowledged, however, that this may not be feasible depending on the anticipated completion date for the current construction works.

## 6.6.4 Issues for further investigation

Key issues requiring further investigations during subsequent project delivery stages are outlined as follows:

- **Delma View traffic surveys and resident consultation** - Prior to carrying out the detailed design for the proposed Active Travel Street treatment traffic surveys should be undertaken to verify the existing traffic volumes and speeds on Delma View and confirm that they are within the acceptable parameters as set out in MIS 05. Resident consultation on the proposed measures will also be key to their successful implementation. In the event that traffic volumes and/or speeds from the survey exceed the required thresholds additional measures can be incorporated into the design in consultation with residents. These could include:
  - Additional speed reduction measures such as additional raised pavement platforms or one-way 'pinch points'
  - Reconfiguration of the Warwick Street / Delma View intersection to give priority to Warwick Street over Delma View. This measure would be particularly effective in discouraging potential rat-running by school traffic along the eastern portion of Delma View.
  - This section of road would be ideal to trial a 30 km/h speed restricted zone which could be part of the final design
- **Coordination with the ongoing construction work** – there may be an opportunity depending on current progress and timing of the Burgmann Anglican School construction works to implement some minor design changes to better align their works with the Link 5 design. In particular, realignment of the western end of the new trunk path. It may not be achievable to incorporate design changes at this late stage in which case the concept design should be reviewed during detailed design against the completed works to determine the extent of any required rework.

## 6.7 Link 6 – Gungahlin Place PCR



Figure 6.7 Link 6 Gungahlin Place PCR

### 6.7.1 Design overview

Link 6 is identified as a Principal Community Route and provide a key north-south link through the heart of the Town Centre including providing access to the light rail terminus and Gungahlin Bus Station. The nature of this link and the proposed design treatments vary somewhat along the route in response to changing constraints and the importance of the urban design 'character' as detailed below.

The Link 6 concept design is illustrated on drawings 12567778-SK0600 to SK0602 and SK0610. Key details relating to this link include:

- At the southern end of the link it is proposed to replace the existing 2.5 m concrete path with a 3.0 m asphalt trunk path as a continuation of the Camilleri Avenue trunk path. This ties into the existing segmental paving at the intersection with The Valley Avenue.
- Between The Valley Avenue and Efkarpidis Street it is proposed to construct a 3.0 m asphalt bicycle only path within the wide median, reserving the existing intermediate paths in the outer verges of Gungahlin Place for pedestrian only use. The concept design shown the path alignment toward the western side of the Gungahlin Place median, this is in order to provide minimal constraint to the potential upgrade of the median for other public uses including as a possible bus layover area. The exact alignment of the path through this section should be determined during detailed design and should be developed in consultation with relevant stakeholders including Transport Canberra in order to not preclude other potential uses of the median.
- At the Efkarpidis Street crossing, it is proposed to raise the road pavement to verge level and designate a shared space within the wide median bridging the space currently each side of the 'road' to form a connected urban space corridor. This reinforces the space as more for people than traffic and the message by design that Gungahlin Place is intended to be a slow speed, pedestrian friendly environment with vehicles invited through the space rather than taking priority on a roadway. The selection of pavement materials and finishes should be determined during detailed design with input from a landscape architecture and/or urban designer to ensure consistency with the overarching urban design character and principles of the Town Centre and Gungahlin Place in particular.
- Between Efkarpidis Street and Hibberson Street the following is proposed:
  - To provide a 3.0 m bicycle only path with pavement finishes varying along the route depending on the adjoining space. It is proposed to construct a new asphalt path through the existing grassed area alongside the playground, with minor modifications to the existing seating wall to provide a suitable unobstructed corridor. Asphalt has been chosen for this link because this path should be perceived as a travelway where, similar to a road, pedestrians may cross but are not invited to use this space.
  - Where the asphalt path rejoins the existing pedestrianised area it is proposed to use a softer treatment to define the bicycle only corridor through this space. Treatment options include applying pavement marking over the existing surface paving or using differential paving material such as a different colour paver or applying a linear paving pattern to define the path alignment possibly feathered at the edges to better fit in with the existing design character. Use of a feathered edged paver treatment instead of an asphalt path through this area may send the message to cyclists to slow down and be more attentive for

inattentive pedestrians in an area where there is likely to be a much higher likelihood of pedestrian crossing movements.

- At the Hibberson Street crossing, it is proposed to terminate the bicycle only path either side of the crossing and raise the road pavement to verge level while maintaining the existing traffic signals and stop sign traffic controls. The raised pavement is proposed to extend across the north and southbound carriageways but with extended ramps with a low gradient more to lift the level than reduce speed in consideration of the frequent bus movements. Similar to Efkarpidis Street, the intent of the raised pavement, while not being formally designated as a shared space, is to reinforce the urban design language of a slow speed pedestrian space and provide a better visual and apparent connection of the median on each side of the current roadway.
- Between Hibberson Street and Ernest Cavanagh Street it is proposed to again provide a bicycle only path, to be located along the eastern edge of the Gungahlin Place median requiring removal of existing stairs, garden beds and street trees plus construction of new retaining walls. The proposed configuration is illustrated on the typical sections (SK0610) with the bicycle only path constructed adjacent to the roadway and elevated from the pedestrian plaza occupying the central space of the median. Although pointed out to be noisy and fummy because of the proximity to buses this may change with electrification expected in the next 2-5 years and because of the complete absence of the hazard of crossing traffic it is arguably one of the safest mid-block active travel links in the Town Centre. The proposed configuration was adopted primarily to avoid conflict with the existing art installation at the northern end of the Gungahlin Place median which, while it may have been intended to allow free movement over it, is considered to present a potential safety hazard to cyclists.
- At the Gungahlin Place / Ernest Cavanagh Street intersection, it is proposed to raise the road pavement to verge level similar to what is proposed at Hibberson Street, again to promote a slow speed pedestrian environment and provide a better connection for the urban open space corridor. In order to appropriately manage the various vehicle, pedestrian and cyclists movements across the intersection, traffic signals are proposed to control the intersection that would operate on a three phase cycle. This would consist of an Ernest Cavanagh Street phase with filtered right turn, Gungahlin Place phase and a pedestrian / cyclist only phase that would then allow active travel users to cross in all directions. The key advantage of this alignment is that it will allow cyclists to follow the desire line to cross Ernest Cavanagh Street and through to Anthony Rolfe Avenue.
- For the final segment of this link between Ernest Cavanagh Street and Anthony Rolfe Avenue it is proposed to retain the existing configuration and simply allow cyclists to share the space with pedestrians, however, it is proposed to construct a small section of paving to connect the pedestrian plaza directly to the Anthony Rolfe Avenue trunk path.

## 6.7.2 Alternative options considered but not pursued

The Gungahlin Place link presents probably the greatest design challenge of the various links identified due to significant competing users and user requirements and safety issues including path users, buses, light rail passengers, private vehicle traffic, restaurant & café patrons among others. Accordingly there were various alternative design options and treatments considered but ultimately not adopted including:

- **Upgrade of existing verge paths between The Valley Avenue and Efkarpidis Street** – consideration was given to upgrading the existing intermediate paths in the outer verges of Gungahlin Place but this was not pursued for the following reasons:
  - Existing verge constraints including mature street trees and significant crossfalls present constructability risks that would likely result in tree removals and/or increased construction costs
  - The link's status as a Principal route with intended use by through active traffic was considered to warrant separation of pedestrians and cyclists where practicable and the existing open space in the median was considered to present a better level of service in this instance as there is less potential cross traffic hazards, conflict with people entering and exiting buildings and businesses and at a comparable and likely cheaper construction cost
- **Raised priority crossing of Efkarpidis Street** – it was initially proposed to construct a conventional raised crossing of Efkarpidis Street aligned centrally within the Gungahlin Place median. This option was ultimately discarded in lieu of the proposed shared space treatment as it was considered to present a poorer urban design outcome and a more complicated traffic arrangement via the introduction of a third priority crossing of Efkarpidis Street in the space of approximately 70 m

- **Continuous bicycle only asphalt path along Gungahlin Place** – consideration was given to constructing a conventional asphalt bicycle only path through Gungahlin Place, however, this was considered to be inconsistent with the overarching urban design character of the Town Centre. Further, it was considered that constructing a clearly defined higher speed movement path had the potential to encourage increased cyclist / PMD speeds presenting an elevated risk of pedestrian and cyclist / PMD crashes
- **Hibberson Street and Ernest Cavanagh Street shared space intersections** – consideration was given to removing the existing traffic signals at the Hibberson Street intersection as well as removing the Zebra crossings at the Ernest Cavanagh Street intersection with both intersections to operate as shared spaces. This option was ultimately discarded due to safety concerns associated with the interaction of pedestrians and buses, particularly regarding bus turning movements at to/from Ernest Cavanagh Street.

### 6.7.3 Recommended works staging

Noting the key purpose of the Link 6 works as a continuous north-south link across the Town Centre, in order to unlock the full benefit of the link it is recommended to deliver the full scope of works as a single construction package. However, there is potential to stage the works if necessary whilst providing a significant improvement to the active travel network, as follows:

- **Package 1 – Camilleri Way to Efkarpidis Street** – this package would deliver the southern portion of the works from Camilleri Way to Efkarpidis Street to provide a significant increase in movement capacity into and through the Gungahlin Place public realm and would include:
  - Upgrade of the existing concrete path to a 3.0 m asphalt trunk path south of The Valley Avenue.
  - Construction of a new 3.0 m bicycle only path in the Gungahlin Place median between The Valley Avenue and Efkarpidis Street including widening of the crosswalks and kerb ramps across The Valley Avenue and Gungahlin Place northbound carriageway.
  - Construction of the Efkarpidis Street shared space. It is important that this element of the concept design be delivered as part of the Package 1 works in order to ensure a continuous link into the core of the Town Centre.
- **Package 2 – Efkarpidis Street to Anthony Rolfe Avenue** – this package would consist of the remaining works through the established public realm area including:
  - Construction of a 3.0 m asphalt bicycle only path through the existing grassed area to the west of the low seating wall opposite the playground including modifications to the wall.
  - Provision of a bicycle only corridor through the existing paved area up to Hibberson Street.
  - Construction of connected raised pavement median to replace the roadway at the Hibberson Street intersection.
  - Construction of bicycle only path along the eastern edge of the Gungahlin Place median from Hibberson Street to Ernest Cavanagh Street including tree removals, removal of existing stairs and infill with retaining walls to match existing, extension of existing segmental paving finish to the extended retaining wall.
  - Construction of raised pavement at the Gungahlin Place / Ernest Cavanagh Street intersection including installation of new traffic signals infrastructure.
  - Construction of new secure bicycle parking.



## 6.7.4 Issues for further investigation

The alignment of Link 6 running through what is effectively the heart of the Gungahlin Town Centre presents several design and stakeholder challenges that are not able to be fully addressed as part of this study. As such there are several outstanding issues that will require further investigation as this link is progressed including:

- **Proposed bus layover and busway extension to Anthony Rolfe Avenue** – During stakeholder consultation activities Transport Canberra indicated a need for expanded and improved bus infrastructure within the Town Centre. The two key elements identified were:
  - Construction of a new bus layover in the Gungahlin Place median
  - Extension of the Gungahlin Place roadway directly through to Anthony Rolfe Avenue

Transport Canberra noted that no formal planning or design investigations have been initiated for either of the above proposals but indicated their desire to pursue these which would have a direct impact on the proposed PCR link. Clarity around any such plans by Transport Canberra will be required prior to progressing Link 6 to detailed design. (Refer more detail at Section 11.3.1)

- **Landscape / urban design overlay** – given the high place value of the public realm that the proposed link traverses and the established urban design fabric of Gungahlin Place and its immediate surrounds, it is important that the detailed design of the proposed PCR improvements has input from a suitably qualified landscape architect or urban designer. The selection of materials and finishes for the path itself as well as the proposed raised intersections will play a principal role in delivering a robust piece of transport infrastructure that encourages the required user behaviour by design, while also and very importantly enhancing the urban design quality of Gungahlin Place in recognition of its high 'place' value.
- **Potential future uses of the Gungahlin Place median** – the Gungahlin Place medians between Camilleri Way and The Valley Avenue and between The Valley Avenue and Efkarpidis Street present prime opportunities for enhancement as public spaces including a potential extension of the existing 'plaza' treatment present between Efkarpidis Street and Ernest Cavanagh Street. Prior to proceeding with detailed design, consultation should be undertaken with relevant ACT Government stakeholders to identify and plans that may be in place for the future use of these spaces such that they can complement where practicable the Link 6 design and scope of works.

## 6.8 Link 7 – Gozzard Street LCR



Figure 6.8 Link 7 Gozzard Street LCR

### 6.8.1 Design overview

Link 7 is identified as a Local Community Route and follows Gozzard Street between The Valley Avenue and Anthony Rolfe Avenue. This link provides access to facilities adjoining Gungahlin Town Square including Gungahlin College, CIT Gungahlin and the Gungahlin Library. These facilities generate a significant volume of active travel demand warranting its designation as a LCR. However, physical constraints particularly between Hibberson Street and Anthony Rolfe Avenue limit the options to provide a dedicated trunk path. Consequently, the concept design as illustrated on drawings 12567778-SK0700 to SK0702 consists mainly of localised improvements to maximise movement capacity along the western verge. Key details relating to this link include:

- It is proposed to widen the existing verge paving between The Valley Avenue and Efkarpidis Street by approximately 1.8 m, occupying the full width of the verge to the road reserve boundary. This maximises the paved surface area suitable for active travel and the effective clear path width. It is also proposed to implement the driveway crossing treatment per ACTSD-0527 across an existing carpark entry driveway.
- Feasible opportunities for improvement between Hibberson Street and Ernest Cavanagh Street have been limited to de-cluttering of the verge including removal of a redundant bus shelter and relocation of existing street furniture (bin and seating) to sit in line with existing street lighting and street trees to provide a wider unobstructed movement corridor.
- Between Gozzard Street and Anthony Rolfe Avenue it is proposed to fully pave the verge with installation of a mirror at the McDonald's drive-thru exit to improve visibility. To mitigate the risk of damage to existing mature street trees it is proposed to apply a permeable pavement over the structural root zone of the trees in order to provide a trafficable surface for active travel as well as the ability to adjust to tree root movements and for stormwater runoff to percolate through to the tree roots.
- An expanded hardstand area and planter beds to improve pedestrian and cyclist access to the Gozzard Street / Anthony Rolfe Avenue signalised crossings has been documented as part of the Link 4 concept design, however, this could be incorporated into the Link 7 works if warranted in scheduling of the active travel construction works.

### 6.8.2 Recommended works staging

Given the relatively minor and ad-hoc nature of much of the Link 7 works there is an opportunity for some elements of the concept design to be accelerated with minimal design and planning. In particular, the following works could potentially be classified as minor works:

- **Verge widening between The Valley Avenue and Efkarpidis Street** – the proposed extension of the existing verge paving to the road reserve boundary could potentially be undertaken as a minor works contract with an appropriate level of site supervision.
- **Verge de-cluttering between Hibberson Street and Ernest Cavanagh Street** – this work consists of the relocation of a bin enclosure and four seats and removal of a redundant bus shelter. Removal of the bus shelter would also require decommissioning of a low voltage power supply to the bus stop including removal of a mini pillar. Following the relocation and removal works, disturbed areas of the verge would then require reinstatement with matching segmental pavers.

Separate to the above minor works, the expanded verge paving between Ernest Cavanagh Street and Anthony Rolfe Avenue will require development of a detailed design and could be delivered as a standalone minor works package. In the event that the Link 7 works are progressed in advance of Link 4, the Link 4 works proposed at the corner of Gozzard Street and Anthony Rolfe Avenue should be incorporated into the Link 7 scope.

### 6.8.3 Alternative options considered but not pursued

Due to the limited verge width available and significant obstructions presented by mature street trees as well as building colonnades placed within the verge, provision of a conventional trunk path was not considered feasible. Consideration was given to potentially extending the verge into the Gozzard Street roadway, this is a relatively narrow road section and would likely require the removal of dedicated right turn lanes on the approaches to the Ernest Cavanagh Street and Anthony Rolfe Avenue signalised intersections.

This option was ultimately not pursued as the likely construction costs and potential traffic impacts, particularly noting the high volume of bus movements within the narrow pavement area from Anthony Rolfe Avenue to Ernest Cavanagh Street, were not considered warranted given the lower level status of this link compared to others that are parallel (i.e. Link 6 along Gungahlin Place).

## 6.9 Link 8 – Gungahlin to Yerrabi Pond MCR



Figure 6.9 Link 8 Gungahlin to Yerrabi Pond MCR

### 6.9.1 Design overview

Link 8 is identified as a Main Community Route and follows Gungahlin Place and Nellie Hamilton Avenue from Anthony Rolfe Avenue to Yerrabi Pond. This link consists of a bicycle only path located in the median of Gungahlin Place and Nellie Hamilton Avenue and duplicates an existing trunk path located in the western verge.

The driver for this link is safety concerns raised during stakeholder consultations regarding the alignment of the existing trunk path adjacent to on-street parking and across building accesses with an increased potential for cyclist / PMD and pedestrian conflicts. The provision of a bicycle only path in the median provide mode separation and facilitates safer faster cyclist and PMD travel between the Town Centre and Yerrabi Pond and other destinations further afield.

The Link 8 concept design is illustrated on drawings 12567778-SK0800 to SK0804. Key details relating to this link include:

- Four individual raised priority crossings are proposed across Anthony Rolfe as follows:
  - Raised Zebra crossings are proposed across each carriageway of Anthony Rolfe Avenue in line with the existing trunk path.
  - Raised bicycle only priority crossings are proposed across each carriageway in the line with the proposed bicycle only path to be located in the Gungahlin Place median. It is noted that these crossings also align with the northern end of Link 6.

The speed limit on Anthony Rolfe Avenue is required to be lowered from 60 km/h to 50 km/h in conjunction with the installation of the priority crossings.

- At-grade priority crossings are proposed across the lower order streets along the route including Bruning Street, Swain Street, Gungahlin Place, Nellie Hamilton Avenue, John Winter Street and Stray Leaf Crescent / Phyllis Ashton Circuit. These crossings are proposed as at-grade rather than raised crossings noting that the intersecting streets are low-speed low-volume access streets presenting a low safety risk to path users. As such, installation of a raised crossing would provide only a marginal safety improvement but at a significant cost due to additional materials as well as the need for stormwater modifications.
- The path alignment through the medians has been developed to minimise the risk of impacts to existing trees. Detailed design modelling will be required, however, to determine the total earthworks footprint and to ensure that existing overland flow paths within the medians are maintained and appropriately designed to protect the proposed path from frequent inundation.
- Where the Gungahlin Place and Nellie Hamilton Avenue medians disappear or narrow significantly either side of Gundaroo Drive the bicycle only path is terminated and merges with the existing trunk path.
- A signalised crossing of Gundaroo Drive is proposed immediately west of Gungahlin Place / Nellie Hamilton Avenue including modifications to the existing concrete median to provide a sufficient refuge area for path users. Closing Gungahlin Place access on to Gundaroo Drive is also an option to simplify this intersection and address the current anomaly of a local street right turn intersection on to an arterial road (Refer Section 11.3.2 for details)

## 6.9.2 Alternative options considered but not pursued

No alternative design options were identified for detailed consideration. Consideration was given to providing raised crossings rather than at-grade crossings, however, these were not adopted for the reasons outlined in Section 6.9.1 above.

The presence of the existing trunk path is broadly consistent with the requirements of PATACT and MIS 05 such that the MCR could be considered compliant in its current form and a 'do-nothing' option might be considered. However, the opportunity exists to significantly enhance the function of this link and improve access between the Town Centre and Yerrabi Pond and further destinations within the generally accepted 5 km cycle range including the Yerrabi Pond mixed use precinct, Amaroo and Forde Shops, and Mulligans Flat Nature Reserve trailheads, which is consistent with the outcomes of the Planning Refresh.

## 6.9.3 Recommended works staging

The key purpose of this link is to improve access between the Town Centre and Yerrabi Pond, as such it is desirable that the link be delivered in its entirety. However, there is potential for the overall scope of work to be divided into smaller packages that will still add value to the Active Travel Network without substantially adding to the overall construction costs. Potential works packages that may be considered for discrete delivery are as follows, in no particular order:

- **Package 1 – Anthony Rolfe Avenue Zebra crossings** – this package would consist of the installation of raised Zebra crossings across each of the Anthony Rolfe Avenue carriageways in line with the existing trunk path. This would also require lowering of the speed limit to 50 km/h if not already done as well as installation of new stormwater sumps at the toe of the uphill ramps. This would deliver safety benefits to existing trunk path users
- **Package 2 – Gungahlin Place bicycle only path** – this package would consist of the construction of the bicycle only path from Anthony Rolfe Avenue to Gundaroo Drive including:
  - Installation of raised priority crossings across Anthony Rolfe Avenue including installation of stormwater sumps and lowering of the speed limit (and speed environment) to a maximum of 50 km/h if not already implemented.
  - Construction of the 3.0 m asphalt bicycle only path through the Gungahlin Place median
  - At-grade priority crossings across Bruning Street, Swain Street and Gungahlin Place
  - Provision of path lighting including priority crossing lighting
  - Minor earthworks and soft landscaping to maintain existing overland flow paths
- **Package 3 – Gundaroo Drive signalised crossing** – this package would consist of the implementation of the proposed signalised crossing of Gundaroo Drive including localised path realignment works. Specifically, this package would include:
  - Realignment of existing trunk path approaches to Gundaroo Drive and removal of redundant paths and kerb ramps
  - Widening of the existing Gundaroo Drive concrete median
  - Installation of new traffic signals including all above ground and below ground infrastructure and traffic controller and associated pavement marking
- **Package 4 – Nellie Hamilton Avenue bicycle only path** – this package would consist of delivery of the bicycle only path north of Gundaroo Drive within the Nellie Hamilton Avenue median including:
  - Construction of the 3.0 m asphalt bicycle only path through the Nellie Hamilton Avenue median
  - At-grade priority crossings across Nellie Hamilton Avenue, John Winter Street and Stray Leaf Crescent / Phyllis Ashton Circuit
  - Provision of path lighting including priority crossing lighting
  - Minor earthworks and soft landscaping to maintain existing overland flow paths



## 6.9.4 Issues for further investigation

Key issues requiring further investigations during subsequent project delivery stages are outlined as follows:

- **Traffic modelling of the Gundaroo Drive / Nellie Hamilton Avenue signalised crossing and intersection modifications** – prior to undertaking detailed design of the proposed signalised crossing of Gundaroo Drive and modifications to the intersection with Gungahlin Place and Nellie Hamilton Avenue a traffic study should be undertaken to determine the likely extent of queuing generated on Gundaroo Drive as well as the potential for right turning vehicles to exceed the reduced capacity of the auxiliary right turn lane in the median. . The study should also include the review of the option to close the access from Gungahlin Place to Gundaroo Drive to simplify and improve safety at this intersection. This would resolve legacy issues with the streetscape design in this area, refer to Section 11.3.2 for further details.
- **Speed limit reduction on Anthony Rolfe Avenue** – it is noted that a reduction in the speed limit on Anthony Rolfe Avenue is required in conjunction with the installation of the proposed priority crossings in order to comply with Austroads and AS1742 requirements. These proposed changes should be undertaken in consultation with TCCS' Traffic Management and Safety unit including consideration of the appropriate extents of the speed limit change, particularly noting the priority crossings also proposed at Cantamessa Avenue as part of Link 9. It is recommended this be undertaken as part of a Town Centre wide review of speed limits and streetscapes to ensure measures including any urban design features within the road corridor provide a speed environment that reflects the speed limit. Refer to Section 11.3.2 for further details.

## 6.10 Link 9 – Cantamessa Avenue MCR



Figure 6.10 Link 9 Cantamessa Avenue MCR

### 6.10.1 Design overview

Link 9 is identified as a Main Community Route and runs for approximately 500 m along Cantamessa Avenue consisting of an existing 2.5 m trunk path predominantly aligned within the wide median of Cantamessa Avenue. The existing trunk path is considered adequate to meet the needs of this route, however, opportunities were identified for minor safety improvements along the route to enhance its functionality.

The Link 9 concept design is illustrated on drawings 12567778-SK0900 to SK0902 and includes:

- Provision of raised Zebra crossings across Anthony Rolfe Avenue in conjunction with a reduction in the speed limit from 60 km/h to 50 km/h (subject to the timing of Link 4 and future development)
- Raised Zebra crossing of Cantamessa Avenue in line with the transition of the trunk path from the verge into the median. A raised crossing has been proposed at this location due to the potential for elevated vehicle speeds on the southbound approach to the crossing due to an approximately 250 m long section of straight, uninterrupted roadway
- An at-grade Zebra crossing is proposed across Tesselaar Street towards the northern end of the link. This crossing is proposed as an at-grade crossing as elevated vehicle speeds are considered less likely to a shorter and less direct approach.

Standard trunk path pavement marking consisting of a centreline and pavement symbols is proposed to improve shared path 'keep left' behaviour and legibility of the trunk path

### 6.10.2 Alternative options considered but not pursued

While the existing trunk path at 2.5 m width is below the specified standard of 3.0 m for a MCR, upgrading the path was considered to deliver only a marginal benefit that would not warrant the cost involved. Further, user demand is not anticipated to warrant providing mode separation via the construction of a separate pedestrian or bicycle only path. As such, not alternate design options were pursued in any detail.

### 6.10.3 Recommended works staging

The proposed improvement works for Link 9 are relatively minor and can be implemented with minimal design and construction effort.

However, until the Link 4 path is delivered along the southern side of Anthony Rolfe Avenue, the raised crossing across Anthony Rolfe Avenue will provide minimal benefit as there is currently no path to connect the southern end of Link 9 to the rest of the Community Route network. Noting this, inclusion of approximately 60 m of trunk path in the southern verge to connect the proposed crossing to the existing path in Anthony Rolfe Avenue greatly improve the connectivity of the Link 9 MCR.

## 6.11 Link 10 – Hollingsworth Street to Gundaroo Drive LCR



Figure 6.11 Link 10 Hollingsworth Street to Gundaroo Drive LCR

### 6.11.1 Design overview

Link 10 is identified as a Local Community Route and runs for approximately 250 m through open space and along Tea Gardens between Hollingsworth Street and an existing underpass under Gundaroo Drive. This link is the continuation of an existing intermediate path that runs east-west through a narrow corridor between residential dwellings, linking between Nellie Hamilton Avenue and Hollingsworth Street and ultimately through to Gundaroo Drive, along the old Gundaroo Road alignment. The alignment along Strayleaf Crescent and southwest of Nellie Hamilton Avenue forms part of a longer heritage trail route that is marked and includes a trunk path commencing in the Forde Heritage Park to run along the old Gundaroo Road alignment to Mulligan Flat Road.

The Link 10 concept design is illustrated on drawings 12567778-SK1000 and SK1001 and includes:

- An upgrade to the existing concrete minor path through existing open space to a 3.0 m asphalt trunk path. It is proposed to maintain the existing alignment and grading in order to minimise disturbance and potential tree impacts.
- Raising the intersection at the eastern branch of Tea Gardens that marks the start of a proposed Active Travel Street (ATS) treatment. The eastern leg of Tea Gardens provides a minimal overall road reserve width with driveway crossings limiting opportunities for a safe off-road path, however as a no through road servicing a small number of residential properties the traffic conditions are ideal for conversion to an ATS that should preferably also include a reduction in the posted speed limit to 30 km/h.
- Similar to above, an existing concrete minor path linking from the eastern end of Tea Gardens to the Gundaroo Drive underpass is proposed to be upgraded to a 3.0 m asphalt trunk path.

### 6.11.2 Alternative options considered but not pursued

Due to the highly restricted nature of Tea Gardens a continuous off-road path was not considered feasible and use of the existing road carriageway along the eastern leg was considered the only feasible option for this alignment.

### 6.11.3 Recommended works staging

The proposed Link 10 works are relatively minor in nature and can be delivered with a relatively low level of design effort given the existing established path alignments. Further, given the relatively small scale of works proposed it is recommended that this link be delivered as a single package.

### 6.11.4 Issues for further investigation

It is recommended that local residents be consulted on the proposed Link 10 works prior to detailed design. Residents along the eastern leg proposed to be designated as an Active Travel Street may have concerns about the proposed changes and the preferred reduction in the posted speed limit to 30 km/h.

## 6.12 Link 11 – Camilleri Way to Marie Pitt Street PCR



Figure 6.12 Link 11 Camilleri Way to Marie Pitt Street PCR

### 6.12.1 Design overview

Link 11 is identified as a Principal Community Route and runs for approximately 500 m along the western verge of Manning Clark Crescent and Marie Pitt Street as a continuation of the existing 3.0 m trunk path along Camilleri Avenue. It is noted that the extent of the trunk path documented in the concept design does not in itself meet the requirements of the proposed PCR, however, the further continuation of facilities on the PCR which could include marking Bayonas Place as an ATS requires further investigations that are beyond the scope of this Feasibility Study.

The route is currently shown as an LCR and it is recommended to be upgraded to a PCR to replace the current 'future' PCR alignment along Flemington Road which has been developed into a roadscape that provides many hazards and challenges to the delivery of a safe active travel facility suitable for PCR users. The proposed trunk path and PCR would act as a commuter connection from the east of the Town Centre to Mitchell, North Canberra and the new suburb of Kenny. It also provides a more direct link for the east of the Town Centre to North Canberra via the connected green corridor MCR and on to the C1 PCR at Gungahlin Drive.

The trunk path and proposed PCR is considered an important link in the Community Route network as a long distance southern connection to the Town Centre and is an alternative to the Flemington Road corridor.

The Link 11 concept design is illustrated on drawings 12567778-SK1100 and SK1103 and includes:

- A 3.0 m asphalt trunk path is proposed in the western verge of Manning Clarke Crescent and Marie Pitt Street, connecting to the existing Camilleri Way trunk path. The alignment of the path in the western verge places the path on the outer fringe of development in this area, avoiding crossings of driveways and side roads, providing a safe and uninterrupted path for active travel.
- The concept design shows the path terminating at the intersection of Marie Pitt Street and Bayonas Place with the further continuation of the path still to be resolved. The LCR as currently shown on the ATIPT along Gwen Meredith loop is the likely continuation of the PCR to allow connection to Mitchell and on to the City via the C1 PCR.

### 6.12.2 Recommended works staging

Link 11 is proposed as part of a long distance PCR link providing a principal north-south connection between the east side of Gungahlin Town Centre, Mitchell and the City. As such, for this link to function the southern limit of the proposed trunk path needs to be extended beyond what is currently shown on the Link 11 concept design to ensure that it connects to the existing trunk path network in the green corridor further south.

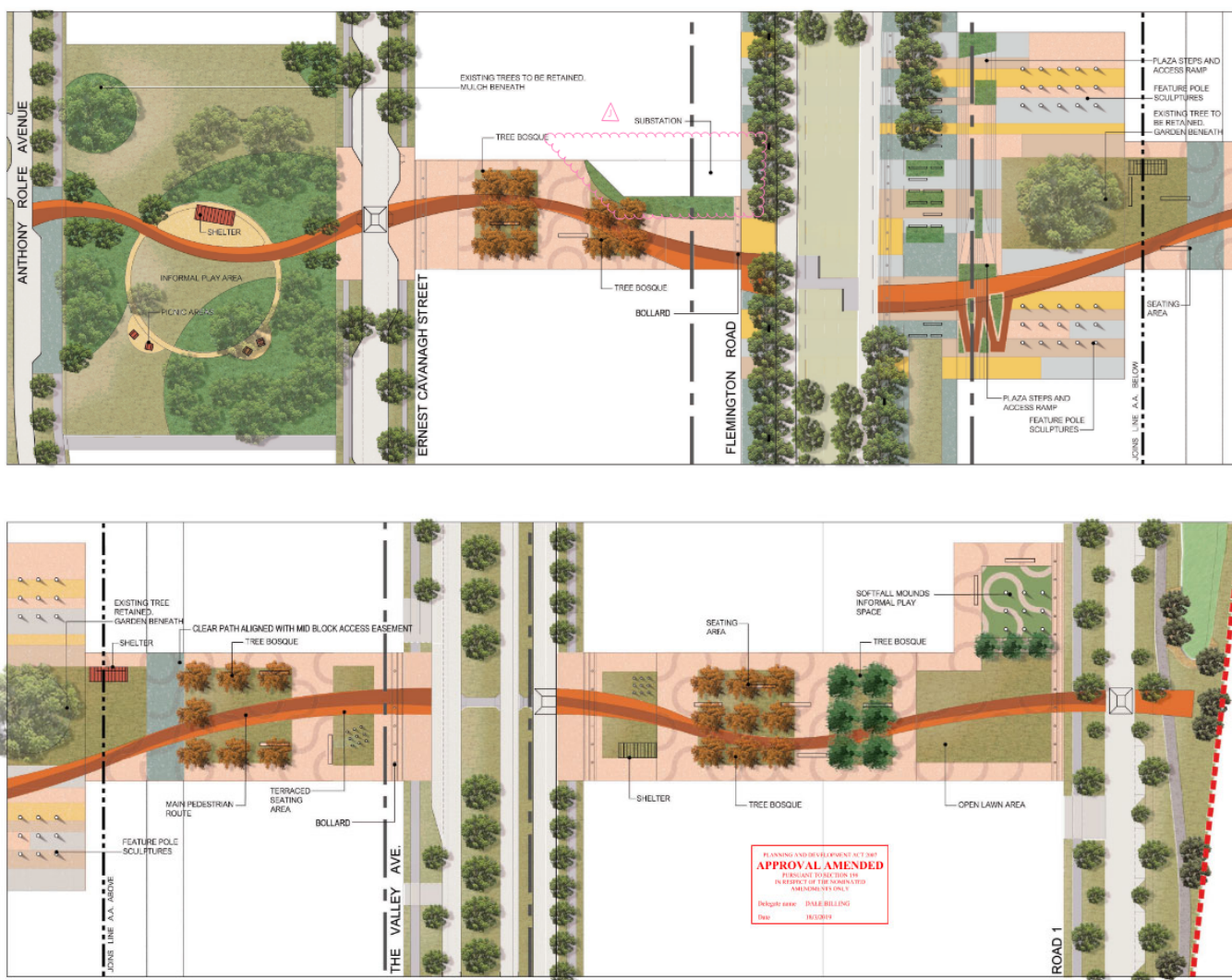
Noting this, subject to confirmation of the extended link alignment, the Link 11 works should be delivered as a single construction package to provide a continuous north-south connection to the Town Centre.



### 6.12.3 Issues for further investigation

As noted above, the Link 11 PCR alignment needs to extend to connect to the trunk path network located in the green corridor that joins Throsby to the north-west of Mitchell. There is currently a Local Route shown along Gwen Meredith Loop to connect to the MCR in the green corridor that would also be upgraded to a PCR to connect to PCR C1. This could be partially an ATS along Gwen Meredith Loop where traffic is minimal and it may not be possible to construct a trunk path adjacent to the grasslands. A trunk path in the open space to the west of Gwen Meredith Loop between Newsome Street and Oodgeroo Avenue would then provide the facilities needed to complete this link. A further investigation of this link as a separate project should be undertaken prior to the implementation of Link 11 to ensure the viability of the current proposal.

## 6.13 Link 12 – East Gungahlin Linear Park



**Figure 6.13** East Gungahlin Linear Park landscape masterplan extract  
(source: Gungahlin Town Centre East Estate Development Plan, drawing 5671-164 Issue I)

The East Gungahlin Estate Development Plan (EDP) produced on behalf of the Land Development Agency (now Suburban Land Agency) makes provision for a linear park running north-south between Camilleri Avenue to Anthony Rolfe Avenue, mid-block between Kate Crace Street and Manning Clark Crescent. This park has been identified as a Main Community Route on the Proposed Community Route Network map (Figure 5.2) warranting provision of a trunk path or bicycle only path.

The EDP includes a landscape masterplan that indicates a 'main pedestrian route' running through the linear park, however, it does not fully detail the design of the path including width and materials. While this is recognised as an important active travel link in this Feasibility Study that warrants investment, a concept has not been undertaken as the design must be integrated with the built form and character of the area, so is a better fit as part of the EDP development. The current design does not appear to recognise the use of this link by faster moving bicycles and PMDs that will require design considerations to ensure conflicts with pedestrians using the space to linger are minimised to ensure the required level of safety and amenity for all users.

Noting this, it is recommended that consultation be undertaken between TCCS and SLA to discuss the intent of the linear park and landscape masterplan to ensure that the requirement of the Main Community Route are clearly and explicitly incorporated into the EDP to ensure that the final outcome, when the precinct is developed, is consistent with the objectives and requirements of PATACT and MIS 05.

## 7. Safety in Design

A Safety in Design (SiD) review and risk assessment was undertaken based on draft concept design plans. The review was undertaken in consultation with a range of stakeholders including:

- GHD and specialist sub-consultants (Designer)
- Major Projects Canberra (Project sponsor's representative)
- TCCS Infrastructure Delivery (Project sponsor)
- Pedal Power (Stakeholder, user representative)
- Gungahlin Community Council (Stakeholder, community representative)
- Transport Canberra (Stakeholder / user – bus operations)

The SiD review was carried out over two sessions on 19 and 22 July 2022 and considered overarching safety risks that apply to most active travel infrastructure projects as well as examining risks specific to each individual link. The review of the individual links and concept design drawings focused on 'out of the ordinary' risks and hazards that go beyond simply complying with design standards. General risks identified and discussed included:

- Road crossings – one of the highest risk elements of any active travel project is where paths cross roadways. This risk is addressed by the provision of priority crossings typically in the form of zebra crossings or signalised crossings
- Driveway crossings – another common risk is where paths cross driveways, this can be particularly problematic on residential streets with frequent driveway crossings and sight lines often obscured by landscape features such as fences, hedges, trees etc. This risk is best addressed by selecting alignments that avoid residential verges and generally seek to minimise the number of driveway crossings. Where crossings are unavoidable, use of surface treatments that emphasise the priority of path users over vehicle traffic is necessary to ensure behaviour consistent with the road rules
- Pedestrian and cyclist collisions – where paths are shared by both pedestrians and cyclists / PMDs the speed differential can be significant such that if a collision occurs there may be significant consequences. In extreme cases, pedestrians have been fatally injured or permanently disabled following collisions with cyclists or PMDs. This risk is best addressed by providing adequate space for various path users to safely interact. This is either through shared paths with adequate width or, where practicable and warranted, providing separate pedestrian and cyclist / PMD paths.

Key risks identified in relation to individual links included:

- Link 1, Gozzard Street priority crossing – Transport Canberra raised concerns regarding the lack of separation between the proposed raised crossing and the Gundaroo Drive / Gozzard Street roundabout noting that a bus stopping to give-way to path users would obstruct roundabout traffic movements. As a result, the alignment of the crossing was moved to provide a greater separation.
- Link 4, Siren Bar & Grill outdoor seating area – the existing trunk path on Anthony Rolfe Avenue runs between an outdoor seating licensed by Siren Bar & Grill and the restaurant entrance. This arrangement requires patrons and staff to cross the trunk path when moving to/from the seating area. In response to this risk the concept design has proposed to remove this conflict through relocation of the seating area in conjunction with realignment of the trunk path around the outside of the seating area.
- Link 6, various user conflicts – several SiD risks were identified for Link 6 through Gungahlin Place reflective of the dense urban structure and complex mix of various user movements through the area including cyclists, pedestrians and buses. As an outcome of the SiD review various measures were identified for consideration in the concept designs and for further investigation during detailed design. These included:
  - Separation of modes and removal of interaction / conflict points wherever possible.
  - The introduction of raised pavement platforms, traffic signal controls and alternative pavement treatments and finishes. These are typically designed to reduce the speed of cyclists and vehicles, thereby reducing the severity of crashes if and when they do occur as well as providing legibility for user priority and movement corridors to lessen the likelihood of accidents.

A detailed Safety in Design risk register is provided at Appendix B.

## 9. Prioritisation of capital works

Recognising that capital works funding is limited and that it may not be feasible to deliver the full scope of works identified in the concept designs at the same time, it is necessary to prioritise the works associated with various links to make best use of the available funds.

To assess the relative priority or importance of the individual links proposed and concept designs developed, a multi-criteria analysis (MCA) was undertaken. The MCA was undertaken based on the recommended works staging for each link as discussed in Sections 6.2 to 6.12 with each works package assessed on a scale of 1 to 3 against the following criteria:

- **Route Status** – Scores of 1 to 3 were assigned to each works package based on the status of the link within the Community Route Network with a 3 assigned to Principal routes, 2 to Main routes and 1 to Local routes. It is noted that Link 2 represents an exception to this rating system, being assigned a rating of 2 on the basis that it potentially serves a dual purpose as a LCR and a Recreational Route.
- **Safety Improvement** – a score of 1 to 3 was assigned to each works package based on a subjective assessment of the degree to which the proposed concept designs would deliver improved safety outcomes, independent from the overall user demand. Scores were assigned as follows:
  - The highest score of 3 was assigned where the concept designs were considered to significantly reduce the risk of fatalities or permanent total disabilities resulting from accidents in the current built environment. Examples include the introduction of signalised crossings on Gundaroo Drive where the existing speed environment would be likely to result in a fatality or total permanent disability if a pedestrian or cyclist were struck by a vehicle.
  - The middle score of 2 was assigned to links where the existing risk of fatalities or total permanent disabilities was assessed to be low but where the concept designs were considered to significantly reduce the likelihood of accidents that may cause severe injuries, considered to be permanent partial disability or hospitalisation. Examples include the introduction of priority crossings across major and minor collector roads or where the concept designs propose measures to significantly reduce traffic and/or cyclist speeds thereby reducing the likely consequences in the event of an accident.
  - The lowest score of 1 was assigned to links that were already considered to be relatively safe and any safety improvements were considered marginal. Examples included the introduction of priority crossings across local access roads where the existing traffic environment is one of low-speed and low-volume vehicle movements as well as links with limited potential for conflict between vehicles and path users.
- **Existing active travel infrastructure** – a score of 1 to 3 was assigned to each works package based on an assessment of the level of existing active travel infrastructure as follows:
  - The highest score of 3 was assigned to links with the lowest level of existing active travel infrastructure such as links with no paths, discontinuous paths and/or where existing facilities were in poor condition or limited to minor paths at best.
  - The middle score of 2 was assigned where the existing active travel infrastructure was considered somewhat compliant. Examples included links with good quality intermediate paths or links that have suitable trunk paths but have localised deficiencies such as poor alignments or unsafe road crossings.
  - The lowest score of 1 was assigned to links where the existing active travel infrastructure is largely compliant with MIS 05 and the improvements proposed are an enhancement of an existing satisfactory but not ideal facility

The scoring system results in a potential range of scores for each package between 3 and 9 with a high score reflecting a package warranting a higher degree of priority in assigning capital works funding with each package given an overall priority ranking as follows:

- HIGH – packages achieving a score of 7 or higher were assessed as high priority for capital works funding
- MEDIUM – packages achieving a score between 5 and 6 (inclusive) were assessed as medium priority for capital works funding
- LOW – packages achieving a score of 4 or lower were assessed as low priority for capital works funding

It is important to note that this assessment does not factor in the budget estimates prepared for each link on the assumption that future funding allocations would be subject to cost-benefit analyses that are beyond the scope of this study and that link improvements may be delivered in stages to meet budgetary requirements.

Based on the scoring system discussed above, each of packages were assessed and sensitivity analyses were undertaken based on applying different weightings emphasising each of the criteria. The weighting scenarios assessed are set out in Table 9.1.

**Table 9.1** Multi Criteria Analysis weightings

	Route Status	Safety Improvement	Existing AT Infrastructure
Non-weighted	33%	33%	33%
Route Status Priority	50%	25%	25%
Safety Priority	25%	50%	25%
Infrastructure Priority	25%	25%	50%

The results of the MCA are summarised in Table 9.2 with key observations noted below:

- 14 of the 22 individual work packages assessed received the same priority assessment under each weighting scenario with the following changes occurring for each weighted scenario compared to the non-weighted assessment:
  - Route Status Priority – two packages increased in priority from medium to high (Link 3 west, Link 6 package 1) and two decreased from medium to low (Link 5 package 1, Link 10)
  - Safety Priority – no packages increased in priority, one package decreased from high to medium (Link 11) and two packages decreased from medium to low (Link 4 package 4, Link 10)
  - Infrastructure Priority – one package increased in priority from medium to high (Link 1), two packages decreased from medium to low (Link 4 package 4, Link 9)
- The following six works packages received a high priority assessment under each weighting scenario:
  - Link 2 – Gribble Street to Wunderlich Crescent LCR
  - Link 3, East Package – The Valley Avenue northern verge trunk path from Gozzard Street to Gungahlin Place
  - Link 4, Package 1 – Anthony Rolfe Avenue, improvements to the Franz Bormann Close intersection
  - Link 4, Package 5 – Anthony Rolfe Avenue mode separation from Hinder Street to Hamer Street
  - Link 6, Package 2 – Gungahlin Place median PCR from Efkarpidis Street to Anthony Rolfe Avenue
  - Link 8, Package 1 – Anthony Rolfe Avenue raised crossings
  - Link 8, Package 3 – Gundaroo Drive signalised pedestrian crossing
- The following two works packages received a medium priority assessment under each weighting scenario:
  - Link 4, Package 2 – Anthony Rolfe Avenue, improvements to the Gribble Street signalised intersection
  - Link 4, Package 3 – Anthony Rolfe Avenue, alignment improvements between Gribble Street and Gozzard Street including path realignment around the Siren Bar & Grill outdoor seating area
- The following five works packages received a low priority assessment under each weighting scenario:
  - Link 5, Package 2 – The Valley Avenue portion of the Delma View LCR
  - Link 7, minor & major works packages – Gozzard Street western verge from The Valley Avenue to Anthony Rolfe Avenue
  - Link 8, Package 2 – Gungahlin Place bicycle only path from Anthony Rolfe Avenue to Gundaroo Drive
  - Link 8, Package 4 – Nellie Hamilton Avenue bicycle only path from Gundaroo Drive to Yerrabi Pond

Separate to the above priority ratings, Link 4 Package 4 and Link 9 are recommended to be delayed until such time as the East Gungahlin precinct is proposed to be developed.



Table 9.2 Capital works prioritisation MCA outcomes

Link	Package	Location	Criteria assessment scores			Weighted assessment outcomes			
			Route Status	Safety Improvem't	Ex. AT Infr.	Non-weighted	Status priority	Safety priority	Infr. priority
Link 1	All	Gundaroo Drive S verge	1	2	3	MEDIUM	MEDIUM	MEDIUM	HIGH
Link 2	All	Gribble St to Yerrabi Pond (via Wunderlich St)	2	3	3	HIGH	HIGH	HIGH	HIGH
Link 3	East	The Valley Ave (Gozzard St. to Gung. Pl.)	3	2	3	HIGH	HIGH	HIGH	HIGH
	West	The Valley Ave (Warwick St to Gozzard St.)	3	2	1	MEDIUM	HIGH	MEDIUM	MEDIUM
Link 4	Pkg 1	Ant. Rolfe Ave (Franz. Bormann Cl.)	2	2	3	HIGH	HIGH	HIGH	HIGH
	Pkg 2	Ant. Rolfe Ave (Gribble St intersection)	2	2	2	MEDIUM	MEDIUM	MEDIUM	MEDIUM
	Pkg 3	Ant. Rolfe Ave (Gribble St to Gozzard St)	2	2	2	MEDIUM	MEDIUM	MEDIUM	MEDIUM
	Pkg 4	Ant. Rolfe Ave (Gozzard St to Hinder St)	3	1	1	MEDIUM	MEDIUM	LOW	LOW
	Pkg 5	Ant. Rolfe Ave (Hinder St to Hamer St)	3	2	2	HIGH	HIGH	HIGH	HIGH
Link 5	Pkg 1	Delma View Active Travel Street	1	2	2	MEDIUM	LOW	MEDIUM	MEDIUM
	Pkg 2	The Valley Ave E verge	1	1	2	LOW	LOW	LOW	LOW
Link 6	Pkg 1	Gung. Pl (Camilleri Way to Efkarpidis St)	3	1	2	MEDIUM	HIGH	MEDIUM	MEDIUM
	Pkg 2	Gung. Pl (Efkarpidis St to Ant. Rolfe Ave)	3	2	2	HIGH	HIGH	HIGH	HIGH
Link 7	Minor Works	Gozzard St (The Valley Ave to E. Cav. St)	1	1	1	LOW	LOW	LOW	LOW
	Main Works	Gozzard St (E. Cav. St to Ant. Rolfe Ave)	1	1	2	LOW	LOW	LOW	LOW
Link 8	Pkg 1	Ant. Rolfe Ave raised crossings	2	2	3	HIGH	HIGH	HIGH	HIGH
	Pkg 2	Gung. Pl (Ant. Rolfe Ave. to Gundaroo Dr)	2	1	1	LOW	LOW	LOW	LOW
	Pkg 3	Gundaroo Dr signalised crossing	2	3	3	HIGH	HIGH	HIGH	HIGH
	Pkg 4	Nellie Hamilton PI (G'roo Dr. to Yerrabi Pond)	2	1	1	LOW	LOW	LOW	LOW
Link 9	All	Cantamessa Avenue	2	2	1	MEDIUM	MEDIUM	MEDIUM	LOW
Link 10	All	Tea Gardens	1	1	3	MEDIUM	LOW	LOW	MEDIUM
Link 11	All	Camilleri Way to Marie Pitt St	3	1	3	HIGH	HIGH	MEDIUM	HIGH

## 10. Stakeholder Consultation

This project has been subject to ongoing stakeholder consultation with various Government and community stakeholders to ensure that the project outcomes align with stakeholder needs and expectations. A consistent stakeholder group has been engaged at all stages of the project including:

- Transport Canberra and City Services
  - Infrastructure Delivery (Project Sponsor)
  - Active Travel Office
  - Infrastructure Planning
  - Place Management
  - Bus Operations
  - Traffic Management & Safety
- Major Projects Canberra – Infrastructure Delivery Group
- Pedal Power
- Suburban Land Agency
- Gungahlin Community Council (GCC)

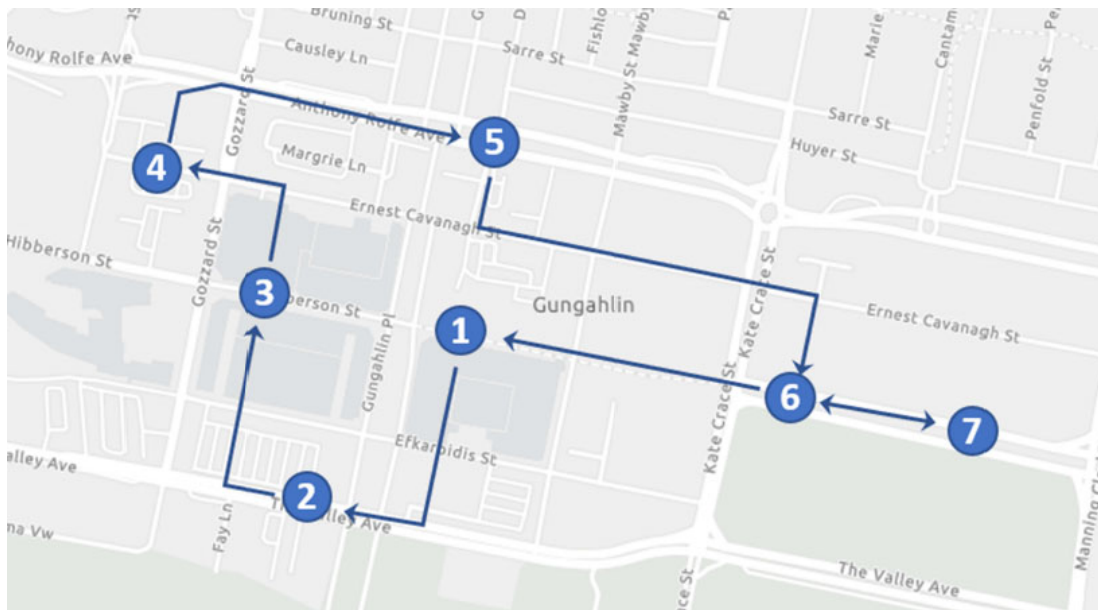
The above stakeholders have been involved to varying degrees and stages throughout the project and have provided valuable inputs that have helped shape the final outcomes of this project. The following section outlines the key stakeholder consultation activities undertaken throughout the project.

### Initial site inspection

On 8 February 2022, GHD undertook an initial site inspection with representatives from the following:

- Transport Canberra and City Services – Infrastructure Delivery, Active Travel Office (ATO) and Traffic Management & Safety (TMS)
- Major Projects Canberra – Infrastructure Delivery Group
- Pedal Power
- Civilscope Consult (design team representative)
- Planit Strategic (design team representative)
- Gungahlin Community Council (GCC)

The objective of this initial site inspection was to introduce stakeholders to the project and provide an opportunity to familiarise themselves with the site and to get a better appreciation for the opportunities and constraints that are present. The project team traversed the site on foot and inspected the following streets in order as shown in Figure 10.1



**Figure 10.1** Initial Site Inspection travel route

Comments made by the stakeholder group during the meeting were general in nature, the greater objective was to create discussion amongst each other and identify the characteristics of the current PCRs, MCRs and LCRs.

Some of the key features and issues inspected and/or discussed included:

- The currently identified PCR alignment along Flemington Road and Hibberson Street may not be suitable due to conflicts and constraints along the route such as high pedestrian activity at the light rail stops and frequent services road and driveway crossings along Flemington Road
- Pedal Power and GCC identified a lack of bicycle parking within the Town Centre as a concern
- There may be opportunities to capitalise on existing infrastructure such as the trunk path on Camilleri Way by upgrading their status in the network, i.e. reclassifying from a Local to a Main or Principal Community Route, with minimal capital expenditure required

## Stakeholder Workshop 1

Following submission of the draft Existing Conditions Assessment Report to all relevant stakeholders, GHD conducted a stakeholder workshop on 8 March 2022 to run the stakeholder group through the key findings and outcomes of the investigations to date. This provided stakeholders and project team members the opportunity to raise questions and provide commentary on the existing conditions in addition to providing endorsement of opportunities, risks and constraints. Stakeholders from the following organisations attended the workshop:

- Transport Canberra and City Services – Infrastructure Delivery, Active Travel Office (ATO), Roads Maintenance, Bus Operations and Traffic Management & Safety (TMS)
- Major Projects Canberra – Infrastructure Delivery Group
- Pedal Power
- Suburban Land Agency (SLA)
- Civilscope Consult (design team representative)
- Planit Strategic (design team representative)
- Gungahlin Community Council (GCC)

General points of discussion revolved around considerations for the design optioneering phase of the project. No comments were noted which had an impact on the outcome of the Existing Conditions Assessment.

## Community Route Network Review

An informal workshop was conducted on 24 March 2022 to seek broader inputs into the development of the proposed CR network. The workshop was attended by representatives of the following organisations:

- Transport Canberra and City Services – Infrastructure Delivery, Active Travel Office (ATO)
- Gungahlin Community Council
- GHD
- Civilscope Pty Ltd (on behalf of GHD)
- PlanIt Strategic (on behalf of GHD)

This workshop was conducted as a working meeting to actively discuss and collaborate on the design of the updated CR network and, discuss alignment options for the PCRs and MCRs accessing the Town Centre area. The comments and feedback received during the workshop were then taken into consideration by GHD in the further development of the proposed network map (**Error! Reference source not found.**).

## Stakeholder Workshop 2

Following circulation of the draft Active Travel Network Review Report a second stakeholder workshop was conducted to seek feedback on the outcomes of the investigations to date and input into the final feasibility study report. The following stakeholders were represented at the workshop:

- Transport Canberra and City Services – Infrastructure Delivery, Active Travel Office (ATO), Place Management, Bus Operations and Traffic Management & Safety (TMS)
- Major Projects Canberra – Infrastructure Delivery Group
- Pedal Power
- Suburban Land Agency (SLA)
- Civilscope Consult (design team representative)
- Planit Strategic (design team representative)
- Gungahlin Community Council (GCC)

Discussions generally revolved around the proposed community route network map with various suggestions for minor alterations to proposed route alignments and statuses. Transport Canberra (bus operations) raised concerns regarding the movement of buses into the Town Centre from the north and noted that they are separately considering potential road network changes which may affect Active Travel routes.

## Safety in Design Workshop

As discussed in detail in Section 7, a Safety in Design workshop was conducted over two sessions on 19 and 22 July 2022, attended by the following stakeholders:

- GHD (Designer)
- Major Projects Canberra (Project sponsor's representative)
- TCCS Infrastructure Delivery (Project sponsor)
- Pedal Power (Stakeholder, user representative)
- Gungahlin Community Council (Stakeholder, community representative)
- Transport Canberra (Stakeholder / user – bus operations)

This workshop brought the stakeholders together to review the draft concept plans with a particular focus on identifying and addressing safety risks the proposed infrastructure improvements may present to both active travellers and road users in general. The outcomes of the workshop were documented in the Safety in Design Risk Register, provided at Appendix B.

## Stakeholder review of draft Feasibility Study

The draft Feasibility Study Report was issued to MPC and TCCS in August 2022 and circulated to the broader stakeholder group for comment. In addition to the draft circulation a consultation meeting was conducted between the core project team of GHD, MPC and TCCS Infrastructure Delivery with Pedal Power and Gungahlin Community Council to provide a final opportunity to provide comment and input on the final project outcomes. Formal comments received through this round of consultation were reviewed by GHD and have been incorporated into this final report to the extent that they could be addressed within the scope of this project.



# 11. Conclusions and Recommendations

## 11.1 Community Route Network Update

It is recommended that the proposed Community Route Network Map (Figure 5.2) be formally adopted and the routes as mapped on the ATIPT be updated to reflect the changes identified in this study.

## 11.2 Active travel infrastructure improvements

Based on the Proposed Community Route Network map noted above (Figure 5.2), infrastructure improvements have been identified and concept designs developed for 11 individual Community Route links. A preliminary assessment has been undertaken to assess the relative priority of each link in relation to delivering tangible improvements to active travel infrastructure in the Town Centre with the following links / packages assessed as high priority for delivery in the near term under each of the weighted assessment scenarios outlined in Section 9:

- **Link 2, Gribble Street to Wunderlich Street (Yerrabi Pond) LCR** – new trunk path from Gribble Street to Yerrabi Pond District Park including left-in left-out modification to the Gribble Street / Gundaroo Drive intersection and a new signalised pedestrian crossing of Gundaroo Drive
- **Link 3, The Valley Avenue PCR, East Package** – new trunk path in the northern verge of The Valley Avenue between Gozzard Street and Gungahlin Place, including a new priority crossing of Gozzard Street
- **Link 4, Anthony Rolfe Avenue MCR, Package 1** – path alignment improvements and priority crossing of Franz Bormann Close
- **Link 6, Gungahlin Place PCR, Package 2** – improvements to the Gungahlin Place public realm including definition of a bicycle only route through the public realm, construction of raised pavement and limited shared zone treatments to enhance the existing slow speed pedestrian friendly environment and installation of traffic signals at the Gungahlin Place / Ernest Cavanagh Street intersection
- **Link 8, Gungahlin Place to Yerrabi Pond MCR - Package 1**, raised priority crossings of Anthony Rolfe Avenue and Package 3, Signalised pedestrian crossing of Gundaroo Drive

In addition to the work packages listed above, the following links were assessed as high priority under one or more scenarios:

- **Link 1, Gundaroo Drive LCR** – new trunk / bicycle only path in the Gundaroo Drive southern verge between Anthony Rolfe Avenue and Horse Park Drive.
  - This link was assessed as a high priority under the 'Infrastructure Priority' scenario and is considered an important link for short term progression as it serves an important function as a connector between MCRs running along Horse Park Drive and Gundaroo Drive west of the Town Centre. Considering the lack of a continuous path along this route, it is recommended that this link be considered a high priority overall, notwithstanding its medium priority assessment under three of the four weighting scenarios.
- **Link 3, The Valley Avenue PCR, West Package** – upgrade of existing intermediate path to trunk path in the northern verge of The Valley Avenue between Warwick Street and Gozzard Street, including a new priority crossing of Warwick Street
  - This link was assessed as a high priority under the 'Route Status Priority' scenario by way of its status as a Principal route. For this particular link, however, the relatively minor improvement in the standard of facility provided is considered of greater significance than its status as a Principal route and it is recommended that this be considered a medium priority overall. Consideration may be given, however, to progressing the priority crossing across Warwick Street independently of the overall path upgrade.
- **Link 6, Gungahlin Place PCR, Package 1** – upgrade of the existing path south of The Valley Avenue to a full width trunk path and construction of a new trunk path in the Gungahlin Place median.
  - This link was assessed as a high priority under the 'Route Status Priority' scenario and medium priority against the other weighting scenarios. The medium rating for the other weighting scenarios is largely driven by the safety rating of 1 noting that the existing path alignment doesn't cross any driveway and the existing road crossings are controlled either by traffic signals or zebra crossings. However, it is recommended that this link be considered a high priority overall given its connectivity with the Link 6 Package 2 works and the opportunity to provide a continuous high standard of facility through the heart of the Town Centre.

- **Link 11, Camilleri Way to Marie Pitt Street PCR** – new trunk path from the eastern end of the existing Camilleri Avenue trunk path along Marcus Clark Crescent and Marie Pitt Street with continuation further southward to be determined during separate route alignment investigations
  - This link was assessed as high priority under each of the weighting scenarios except for the ‘Safety Priority’ scenario on the basis that the existing path alignment has minimal interaction with vehicle traffic. This link has the potential to close a significant gap in the current network and as such is considered particularly valuable to the broader Community Route network. As such it is recommended that it be considered a high priority for advancement including an alignment study to determine the full extent of the link southwards to connect to the existing ‘Mitchell-Throsby via Gungaharra Creek’ MCR.

## 11.3 Further Investigations Required

The process of consultation, workshops and investigations undertaken to complete the Feasibility Study has raised several important issues that warrant further consideration and investigation in conjunction with the further development of the infrastructure improvements outlined in Section 6 of this report. Issues of particular importance are described below.

### 11.3.1 Bus movements in the Gungahlin Place area

#### The issue

The intensive use of Gungahlin Place between The Valley Avenue and Ernest Cavanagh Street by both buses and active travellers is problematic as there are several structural issues associated with the existing built environment and the resulting constraints imposed on any feasible active travel design solution. This intensive use of the same space by these different transport modes is not ideal as there are inherent safety issues in having high bus movements combined with high active traveller use.

Collisions are the most significant risk to active travellers when required to interact with buses. While the likelihood of collision may be reduced through appropriate design solutions, the consequences of a collision with such a large moving object is likely to cause a critical and potentially fatal injury which means this risk will always be significant.

The proposed establishment of a PCR through Gungahlin Place to serve the “heart” of the Town Centre and public transport interchanges will also require interaction of cross / through cycle and scooter traffic via Gungahlin Place. This link was flagged in the Planning Refresh and also was resolved through much discussion at workshops and could be regarded as a core requirement from the consultation process of this Study.

It is noted that the current route of buses from Anthony Rolfe Avenue through to The Valley Avenue is under review by Transport Canberra as there are recognised issues with the current arrangement. Additionally, the main bus layover area to the east of the Town Centre is also to be moved in conjunction with the development proposed in this area.

The Movement and Place framework can be used to guide the decision making process to determine which functions should be given greater priority on individual streets. However, to be objective this exercise must involve both bus and active travel operability and safety considerations to identify the streets that should have each mode as their principal purpose as it is desirable that high volume routes for competing modes should be separated where possible.

The core focus of this Feasibility Study is the active travel infrastructure needs of the Town Centre and accordingly the proposed infrastructure improvements prioritise active travellers over other modes of transport including buses. Meanwhile Transport Canberra are considering options for relocation of the bus layover that will materially impact the alignment of active travel facilities through Gungahlin Place. The proposed improvements presented in this Study have been developed with close consultation with Transport Canberra and are broadly consistent with their requirements. However, other options may exist that present a more balanced outcome for both modes but are beyond the scope of this project.

## Suggested action

Conduct a study that considers the detailed requirements of bus operations and active travel movements through Gungahlin Place. This study could be used to further define the requirements of active travel through the space and should focus on the options for bus movements that could best provide for both modes. The proposed study should consider:

- Gungahlin Place / Ernest Cavanagh Street intersection
  - Transport Canberra have indicated they are exploring the provision of a new road in the public open space area between Section 59 and 60 to link to Anthony Rolfe Avenue. This will impact on the viability of any current active travel facility improvement proposal in this area.
  - Other options to the current flagged proposal could include a one-way system for busses utilising Boon and Fussell Lanes to remove right turn bus movements from the intersection. This would provide improved safety and allow continuity of the median across Ernest Cavanagh Street delivering a connected people space and enhanced active travel and urban space outcomes.
  - To improve bus operations the priority at the intersections of Boon and Fussell Lanes and Ernest Cavanagh St could be altered to provide priority to bus movements. Ernest Cavanagh Street could be closed at Gungahlin Place or vehicle movements other than buses could continue to be allowed across the plaza area similar to the proposal for Hibberson Street
  - Bus U-turn movements at the intersection may preclude this option, however, and degradation of bus operations should be balanced against the benefits for active travel and urban space outcomes.
- Gungahlin Place / Hibberson Street
  - The value of this intersection as a people place and a gateway to the Town Centre for public transport users could be enhanced through modification from the current road intersection environment.
  - This intersection is the main entry into the shopping precinct for public transport users, particularly light rail users, and the value of enhancing the environment to be more welcoming and to present a sense of arrival for pedestrians / public transport users warrants further exploration while recognising the importance of bus operations and safety.
- Bus Layover in Gungahlin Place median between Efkarpidis Street and The Valley Avenue
  - The median area at this location can provide for desirable mode separation in a section of the proposed PCR alignment where the verge is constrained.
  - Transport Canberra have advised the median may be used for a future bus layover area and a bicycle only path could be designed on the west side to potentially allow for use by both modes however any access to Gungahlin Place eastbound carriageway would be precluded.
  - The Gungahlin Place median south of The Valley Avenue may be a better option and warrants further investigation.

## 11.3.2 Legacy development issues affecting safety

### The issues

There are several situations present within the Town Centre transport infrastructure that present hazards to active travellers and general traffic that are a legacy of earlier stages of Gungahlin's development and where the existing infrastructure has not kept up with current planning and design standards. Development of the active travel infrastructure improvements identified in this report should be viewed as a catalyst to rectify some of these non-conformances including:

- **Driveway access to major collectors from leases that have alternative conforming access.**

There are a number of driveways that cross the verges of Anthony Rolfe Avenue and The Valley Avenue that are non-conforming and could be removed including, but not limited to:

  - The carpark on the corner of The Valley Avenue and Gozzard Street (Block 6, Section 223) is currently accessed from The Valley Avenue, Gozzard Street and Warwick Street. The driveway on The Valley Avenue could be removed with access still possible from two streets. Some minor internal reconfiguration would be required to maintain appropriate circulation within the carpark.

- The large gravel carpark located on Block 1 Section 232, between Gozzard Street and Gungahlin Place, is accessed from both Efkarpidis Street and The Valley Avenue. Removal of the driveway on The Valley Avenue is desirable but may require construction of a replacement driveway on either Efkarpidis Street or Gozzard Street to maintain sufficient entry / exit capacity. It is noted that this block is a future development site that would be expected to include basement carparking and it would be desirable to either remove the driveway prior to sale of the block or to ensure that the development conditions preclude direct vehicle access from The Valley Avenue.
  - Block 1 Section 228, between Gozzard Street and Boon Lane is currently accessed via two driveway crossing the Anthony Rolfe Avenue verge plus a third driveway off Boon Lane. Removal of the Anthony Rolfe Avenue driveways, potentially with replacement driveway(s) off Ernest Cavanagh Street would complement Anthony Rolfe Avenue's status as a MCR in this location. Alternately if removal of both driveways was not acceptable, consolidation to a single driveway would reduce the number of conflict points along the MCR.
  - Similar to the above location Block 3 Section 229, Kate Crace Street and Hinder Street has two driveways spaced approximately 20 m apart crossing the Anthony Rolfe Avenue verge and the proposed PCR alignment. Removal of one or both of these driveways may not be practicable in the site's current configuration, however, consideration should be given to including their removal as part of the development conditions for this block, with access instead provided from Ernest Cavanagh Street.
- **Right turn access from Local Access streets to Arterial roads** – there are two particular instances along Gundaroo Drive where local access streets directly connect to the arterial road without any movement restrictions which is inconsistent with typical road network planning. The removal and / or restriction of these connections would provide safety benefits to active travellers as well as removing potential crash opportunities for general traffic. In particular:
- The current t-intersection of Gribble Street and Gundaroo Drive allows right turn movements in and out of Gribble Street. As part of the Link 2 concept design it is proposed to limit this to a left-in / left out configuration and infilling the right turn area with a continuous median. This will facilitate the introduction of a signalised crossing across Gundaroo Drive thereby providing safe access between the Yerrabi Pond District Park and the eateries, cafes and other businesses along Gribble Street as well as for the increasing population in the high density apartment area of north-west Gungahlin. It would also allow the proposed designated Principal Recreational Trail to provide a more direct connection to the Town Centre and on to Mulligan Flat Reserve via the Gribble Street commercial area.
  - The four-way intersection of Gungahlin Place / Gundaroo Drive / Nellie Hamilton Avenue could be resolved by closing Gungahlin Place (a local access street) from access to Gundaroo Drive. There are alternatives for this connectivity and a conventional three-way signalised t-intersection with the minor collector, Nellie Hamilton Avenue would be the conforming treatment for safety, road planning and operational requirements.

## Suggested action

Input from relevant internal ACT Government stakeholders should be sought on the improvements identified in this study including those outlined above and opportunities identified for these types of legacy issues to be considered in any future design briefs and/or planning studies such as the current 'mesoscopic traffic study' being delivered by TCCS.

### 11.3.3 Town Centre wide review of speed and streetscape environments

#### The issue

Improving the amenity and safety of active travellers in the Town Centre area requires the installation of multiple priority crossings on roads of various hierarchy levels. Several crossings are proposed on roads that carry relatively high traffic volumes but because of the adjoining land use should have a lower speed environment that reflects the higher volume of streetscape interactions between people and vehicles.

Gungahlin Town Centre has grown over a long period (since the mid 1990s) and interim measures that suited the prevailing traffic conditions of the time have not necessarily been adequately adjusted to reflect the changing needs of the developing streetscape with regard to the safe movement of people and vehicles. New developments often only consider the streetscapes within their development areas and not the impact the development will have on the broader transport network in a co-ordinated way. This often ends at the property boundary and the adjustments necessary at street level in an aerial context may go unconsidered or if recognised, follow up action omitted.

The recent Planning Refresh presents a high-level review and does not cover a co-ordinated approach to the works required at street level to achieve safe and efficient movement of people where there are interactions with buses, trucks and general vehicle traffic to the current and future levels expected in the Town Centre area.

There may be an overarching need for a co-ordinated plan that includes the outputs from this study combined with the needs of businesses and public transport with regard to current and expected future bus and truck movements. This issue is not uncommon in other jurisdictions and Austroads have developed a number of studies for the design of measures that can be delivered to provide a slower speed environment on roads with higher traffic volumes including bus and delivery truck movements such as identified major collector roads.

#### Suggested action

We recommend a study that reviews the speed environment of the roads in the Town Centre area along with the proposed safety and amenity improvements recommended from this Feasibility Study. The study should have a strong urban design and planning emphasis with close coordination with the further development of the physical and engineering measures that may be required in addition to those recommended by this study to deliver the objective. This could include:

- Identification of locations where the Town Centre entries may be defined by place markers to clearly flag the commencement of the required reduced speed environments.
- Identification of the physical measures that will complement the place markers to provide direct feedback and clear and intuitive cognition by users of the changed speed and streetscape environments.
- A plan that shows the relationship of the lower speed environments with road hierarchy, adjoining land use, bus movements and the active travel route network and how any physical measures such as vertical displacement from raised safety platforms at crossings has been integrated into the overall scheme.
- The choice of vertical displacement devices for each streetscape in terms of the positioning, slopes and length of raised safety platforms must reflect the operational and safety needs of all road users including busses and delivery trucks.
- Close reference to this study and the suggested study to resolve bus movement issues at Section 11.3.1 will be essential.

Suggested Austroads studies and other documents to inform the study include:

- AP-R626-20 Classifying Measuring and Valuing Benefits of Place on the Transport System
- AP-T330-17 Safe System Infrastructure on Mixed Use Arterials
- AP-R642-20 Effectiveness and Implementation of Raised Safety Platforms
- Road Design Note 0307 Raised Safety Platforms RSP

## 11.4 Recommendations on supporting actions

The following section identified proposed actions to be undertaken by TCCS to support the delivery of the infrastructure improvements recommended in this study and, ultimately, support the realisation of the broader objectives of this study and the Active Transport Network as a whole.

### 11.4.1 Planning protection of outcomes

The design options provided in this Report have been developed based on 'feasible' infrastructure meaning constructed assets that provide a reasonable return on investment and remain in place for the design life of the materials, typically for a 20 to 50 year time span. To ensure the facilities are fit for purpose and have the best chance of meeting the objectives for the longest time possible, planning processes are required that protect the core values of providing safe facilities with the appropriate level of amenity.

Consultation and coordination should be undertaken with appropriate internal stakeholders including EPSDD and SLA to ensure that the active travel needs identified in this study are built into the planning requirements and development conditions of future development sites such as the East Gungahlin precinct.

### 11.4.2 Blackspot Program for additional funding stream

The Blackspot program for Gungahlin Town Centre has focussed on intersections identified through traffic accident data. The 2022-23 program of feasibility studies for improvement include:

- Anthony Rolfe Avenue / Eva West Street / Manning Clark Crescent
- Efkarpidis Street / Hinder Street
- Ernest Cavanagh Street / Gozzard Street
- Ernest Cavanagh Street / Hinder Street

The Black Spot program allows for intersections of concern because of apparent hazards to be included in the program if identified through a road safety audit (refer <https://investment.infrastructure.gov.au/about/local-initiatives/black-spot-program/site-eligibility.aspx>)

The intersections identified in Section 11.3.2 could be made subject of Road Safety Audits to enable additional future funding sources to deliver improvements before potential accidents occur.

### 11.4.3 Connection to future facilities

The Gungahlin Community Facilities Report released recently highlights the chronic lack of facilities in Gungahlin. Any improvements to the Active Travel Network should consider where the yet to be identified additional facilities are likely to be provided and consider how these may connect to the proposed route amendments.

This should be considered during the next phase of design.





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