304000956

Gwynneville Estate – Combined Active Travel and Traffic Management Plan

Homes NSW

25 February 2025

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Prepared for:

Homes NSW

Prepared by:

Stantec Australia Pty Ltd

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EXECUTIVE SUMMARY

The following report, prepared on behalf of Homes NSW, supports a planning proposal for the urban renewal of land at Gwynneville, NSW. The proposal addresses the Transport Demand Management of the development, which covers approximately 9 hectares and is located 2km northwest of the Wollongong CBD. The Gwynneville precinct, identified as a location capable of supporting more social, affordable, and diverse private market housing, currently comprises 131 residential lots, with over 60% owned by Homes NSW.

This report has been prepared as a supplement to the Transport Impact Assessment conducted by Stantec for this planning proposal. Wollongong City Council requested both an Active Travel Report and a Traffic Demand Report as part of the determination to progress the planning proposal to Public Exhibition, based on a request from Transport for NSW (TfNSW). This additional report addresses concerns raised by TfNSW regarding traffic congestion and explores measures to reduce vehicular trip generation and improve active transport options.

Stantec has prepared a single report to address the requirements for both the Active Travel Plan (ATP) and the Traffic Management Plan (TMP). The decision to combine the Active Travel Plan and the Traffic Management Plan into a single report is based on their inherent similarities and interdependencies. Both plans share common goals of improving transportation efficiency, safety, and sustainability. By integrating these plans, we can ensure a more cohesive and coordinated approach to addressing transportation challenges, leveraging synergies between active travel initiatives and traffic management strategies.

Key Points:

1. **Planning Proposal**: Homes NSW proposes amending the Wollongong Local Environmental Plan 2009 to deliver a diverse range of housing typologies, including social and affordable housing, market housing products, seniors housing, build-to-rent, key worker housing, and student accommodation. The proposal includes changing the land zone from R2 Low Density Residential to R4 High Density Residential, with new and expanded areas of RE1 Public Recreation.
2. **Travel Demand Management**: The report emphasizes the importance of Travel Demand Management (TDM) in promoting sustainable travel and reducing reliance on private cars. TDM is more than just Active Travel; it aims to provide a range of travel choices, focusing on walking, cycling, and public transport, to achieve better environmental outcomes, public health benefits, and a strong community.
3. **Integrated Transport Strategy**: An Integrated Transport Assessment has been undertaken to align the design of the proposed development with the goals of the Wollongong City Council Integrated Transport Strategy. This includes prioritizing road user space allocation and assessing the need for additional transportation infrastructure.
4. **Future Planning**: Wollongong City Council is involved in several ongoing and future projects aimed at improving infrastructure and connectivity. Key projects include the Keiraville-Gwynneville Access and Movement Study and the M1 Princes Motorway upgrade at the Mount Ousley Interchange.
5. **Indicative Concept Proposal**: The proposal aims to deliver approximately 1,250 dwellings, with at least 50% designated as social and affordable housing. Specific provisions for car parking, pedestrian facilities, and bicycle facilities will be determined in later design phases.
6. **Public Transport Assessment**: The assessment recommends modernizing the bus station on Northfields Avenue and improving the connecting footpath infrastructure to meet the latest standards and accessibility requirements.
7. **Travel Demand Management Measures**: The report outlines several measures to promote sustainable travel, including high-quality bicycle facilities, pedestrian wayfinding, carpooling incentives, and public transport information.
8. **Conclusion and Recommendations**: The report concludes that the proposed development is well-serviced by existing infrastructure and recommends further measures to encourage a shift away from private vehicle usage to active and public transport.

ACKNOWLEDGMENT OF COUNTRY

In the spirit of reconciliation, Stantec acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples.

Limitations

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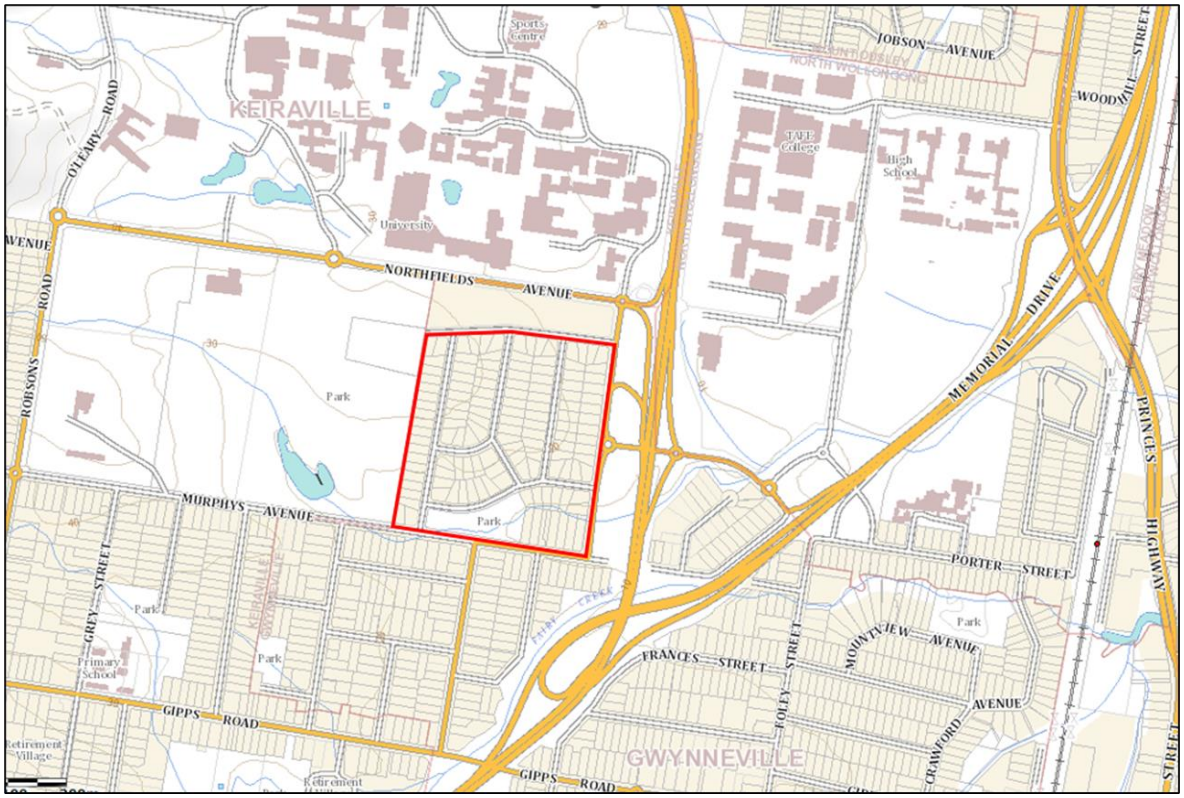
1.0 INTRODUCTION

1.1 OVERVIEW

This report has been prepared by Stantec Australia on behalf of Homes NSW (formerly the NSW Land and Housing Corporation (LAHC)) to support a planning proposal for urban renewal of land at Gwynneville, NSW.

Covering approximately 9 hectares in area, the Gwynneville precinct is located 2km north-west of the Wollongong CBD. The site sits immediately south of the University of Wollongong, and east of the Botanic Gardens. Irvine Street makes up the site's eastern boundary, with Murphy Avenue to the south. Refer Figure 1-1 below.

Figure 1-1: Site Overview



Source: SixMaps 2023

The Northfields Avenue Bus Interchange is approximately 150m northwest of the site, and North Wollongong Railway Station is approximately 1km to the east.

Many of the existing dwellings in Gwynneville were constructed by the NSW Government during the 1950s. The precinct is made up of predominantly single storey detached dwellings set in a modified grid-type street layout.

The Gwynneville precinct has been identified as a location capable of supporting more social, affordable and diverse private market housing for the Illawarra community, and to contribute to addressing NSW's housing crisis.

The site currently comprises approximately 131 residential lots, consisting of:

- a total of 79 social dwelling units on 75 individual lots owned by Homes NSW; and
- approximately 56 privately owned dwelling units on 56 individual lots.

Over 60% of the homes in the precinct are owned by Homes NSW, providing an opportunity to consider additional density while taking into account key constraints such as traffic, views to and from Mount Keira as well potential to increase and embellish existing areas of open space.

Redevelopment of the Gwynneville precinct requires a formal rezoning process to confirm an amended land use zone; increased FSR and building heights, and result in improvements to the current street network, pedestrian connectivity, open space / parkland, and public amenity.

Homes NSW propose amending the Wollongong Local Environmental Plan 2009 (WLEP) to help deliver a diverse range of housing typologies which will include additional social and affordable housing, market housing products and seniors housing, as well as opportunities to develop build-to-rent, key worker housing and student accommodation.

The planning proposal intends to change the current zone of the land from R2 Low Density Residential to R4 High Density Residential, with new and expanded areas of RE1 Public Recreation. This will create the opportunity for more low to mid- rise apartments in the precinct.

The base FSR of 0.5:1 and the height control of 9m that currently applies to the precinct is not proposed to change. However, building height and FSR incentives will facilitate site amalgamation to create lots more capable of accommodating increased density and providing amenity. Height and FSR bonuses will be contingent upon achieving design excellence outcomes, providing public benefits such as social and affordable housing, and increased public open space within the precinct.

Homes NSW aims to create a high-amenity, walkable residential neighbourhood with an increased density and choice of affordable and diverse housing options that provide for a broad range of community needs and family types - including students, people on low incomes, people with disability and seniors.

New residential development will enable increased housing choices within in a well-connected location benefiting from frequent free shuttle bus services operating between University of Wollongong, North Wollongong railway station and a multitude of destinations including the city centre and hospital.

The planning proposal was submitted to Wollongong City Council on 19 July 2024, which was then placed on preliminary notification for public and agency comment. Following this notification period, Council and Homes NSW worked together to establish key amendments to the proposal and master plan that formed the basis of the reporting to Council in November 2024. The planning proposal was unanimously approved by Council on 25 November 2024 to proceed to the next step in the approval process, i.e. Gateway Determination. The revised proposal and masterplan included revisions which relate to key sites and implementation, built form outcomes, and public open space delivery. This report has been updated to reflect the outcomes of the amended planning proposal and master plan, current as at February 2025.

1.2 TRAVEL DEMAND MANAGEMENT PURPOSE

Transport is a necessary part of life, but it has economic, public health and environmental consequences. The transport sector is one of the fastest growing emissions sectors in Australia, and therefore is one of the key opportunities for reducing greenhouse gases through travel demand management purposes. As well as delivering better environmental outcomes, providing a range of travel choices with a focus on walking, cycling and public transport will have major public health benefits and will ensure a strong and prosperous community.

The physical infrastructure being provided as part of the proposal is only part of the solution. Travel Demand Management will ensure that the transport infrastructure, services and policies both within and external to the site are tailored to the users and coordinated to achieve the most sustainable outcome possible.

Travel Demand Management is a package of measures aimed at promoting sustainable travel and reducing reliance on the private car. It is not designed to be ‘anti-car’ however it will encourage and support people’s aspirations for carrying out their daily business in a more sustainable way. Travel Demand Management can provide both:

- measures which restrict car use (disincentives or ‘sticks’)
- measures which encourage or support sustainable travel, reduce the need to travel or make travelling more efficient (incentives or ‘carrots’).

Travel Demand Management would allow all users (visitors, residents, staff, guests) to achieve the above outcomes by providing flexibility around how and when they travel. This is especially important in well planned precincts and town centre environments which attract a high number of visitors for a variety of reasons.

The Travel Demand Management seeks to understand the existing public transport, cycling and walking catchments to identify gaps (if any) in the network for improvement. Similarly, opportunities are also identified to provide better connectivity between the site and other key centres. The Travel Demand Management Assessment also understands the origins and destinations of staff and visitors to understand what targeted actions would bring about the most benefit. Future travel conditions, including expected mode shares for different scenarios are considered as part of key actions.

The key objectives of this Travel Demand Management Assessment are to:

- to encourage walking
- to encourage cycling

- to encourage the use of public transport
- to reduce the use of the car, in particular single car occupancy
- where it is necessary to use the car, encourage more efficient use.

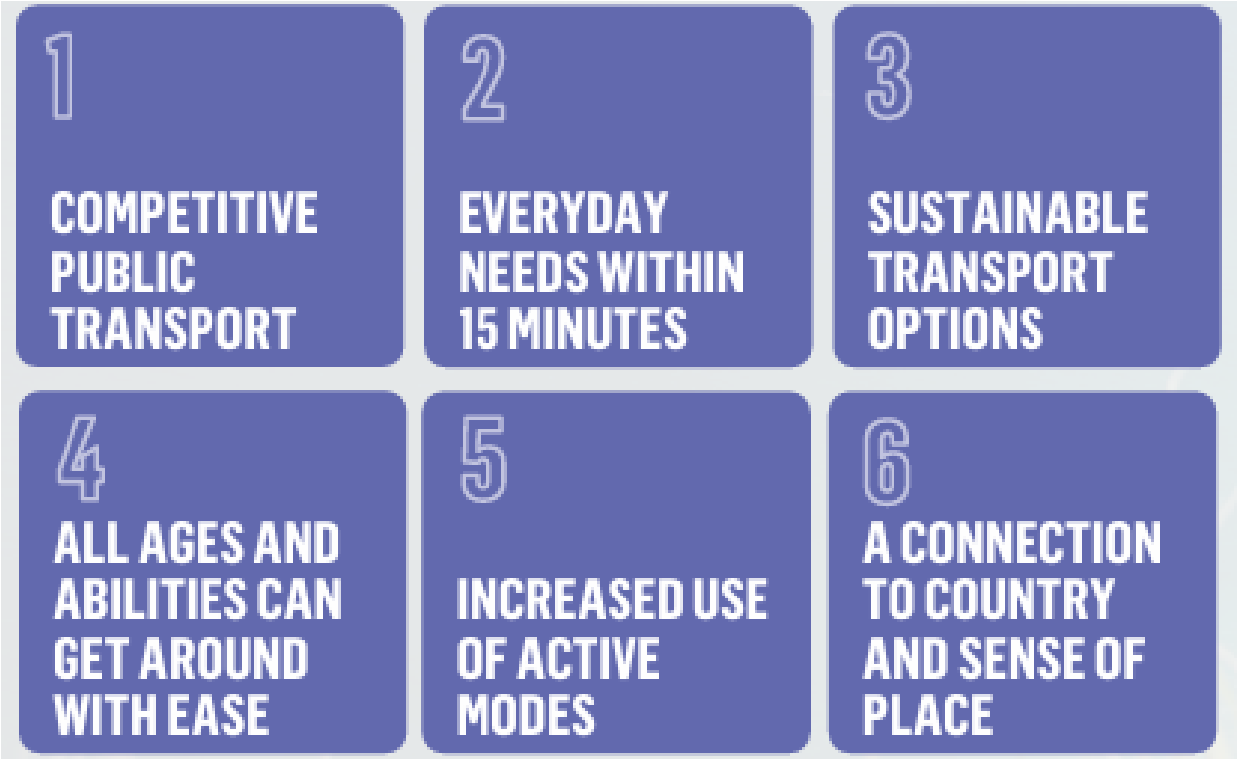
It is the intention therefore that Travel Demand will deliver the following benefits:

- enable higher public and active travel mode share targets to be achieved
- contribute to greenhouse gas emission reductions and carbon footprint minimisation
- contribute to healthy living for all
- contribute to social equity and reduction in social exclusion
- improve knowledge and contribute to learning.

1.3 WOLLONGONG INTEGRATED TRANSPORT STRATEGY

Urbis has prepared the Wollongong City Council Integrated Transport Strategy dated 19th April 2024. The vision of this study is to achieve six goals as presented within Figure 1-1. As part of this study, an Integrated Transport Assessment has been undertaken against this document and it is contained within Section 4. The purpose of this assessment is to align the design to these goals in order to achieve Wollongong's strategic transportation aspirations for the city.

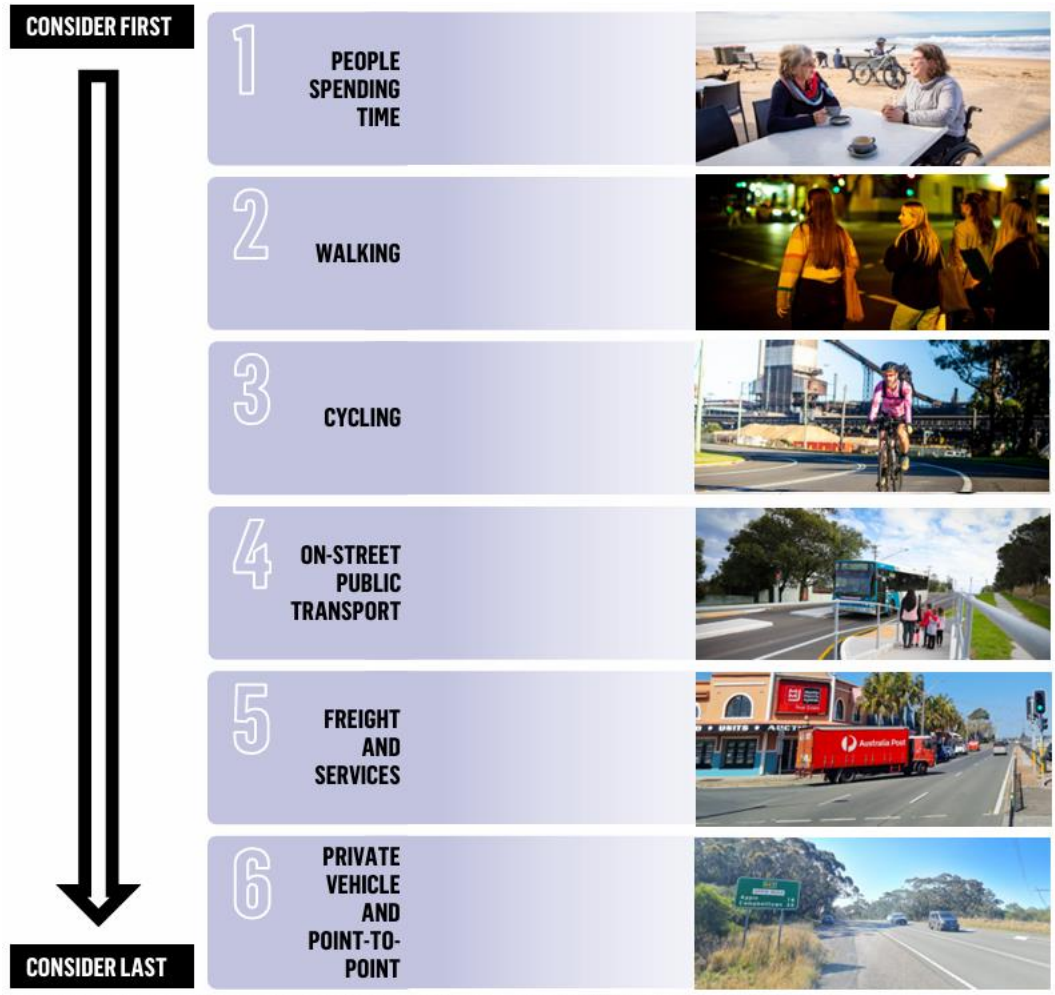
Figure 1-2: Goals of the Integrated Transport Strategy



Source: *ECM_25186821_v3_Draft Wollongong Integrated Transport Strategy for public exhibition*

In developing an integrated transport network for the Proposed Development, the following road user space allocation prioritization was adopted from the Wollongong City Council Integrated Transport Study. It is important to recognise that infrastructure provisions be implemented with this prioritization of road user space.

Figure 1-3: Prioritization of Road User Space



Adapted from requirements/guidance provided in: Transport for NSW, (2021) *Road User Space Allocation Procedure.*

Source: *ECM_25186821_v3_Draft Wollongong Integrated Transport Strategy for public exhibition*

The Proposed Development has been assessed against the items contained within Figure 1-2 and Figure 1-3 within this document to assess if further application of transportation infrastructure is required.

1.4 REFERENCES

In preparing this report, reference has been made to the following:

- Draft Wollongong Integrated Transport Strategy dated 19/04/2024
- Wollongong Development Control Plan (DCP) 2009, version date 18/08/22
- indicative plans for the proposal prepared by Gyde Consulting as referenced in the context of this report
- Keiraville-Gwynneville Access and Movement Study, prepared by Cardno Pty Ltd, dated 25/11/20
- Keiraville-Gwynneville Access and Movement Study Car Parking Strategy, prepared by Cardno Pty Ltd, dated 25/11/20
- UoW Transport Strategy Report, prepared by Cardno Pty Ltd, dated 11/08/17
- Transport and Access Action Plan 2022-2024, prepared by the UoW
- Transport and Access Action Plan Progress Report 2020, prepared by the UoW, dated 02/21
- other documents and data as referenced in this report.

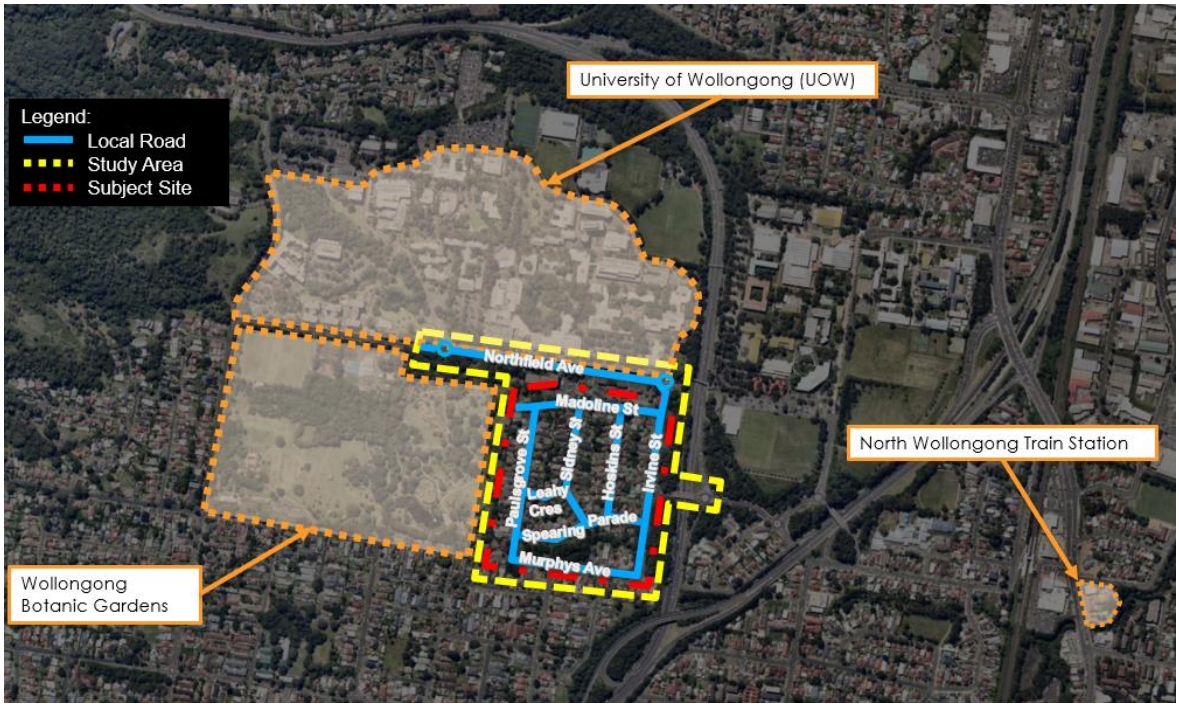
2.0 EXISTING CONDITIONS

2.1 LOCATION

The subject site is in Gwynneville, Wollongong, and is bound by Madoline Street, Irvine Street, Paulsgrove Street, and Murphys Avenue as shown in Figure 2-1. The site is located within close proximity to two significant land uses, being the UoW to the north, and the Wollongong Botanic Gardens to the east. The Wollongong Town Centre is located approximately 2km to the south-east, and the North Wollongong Train Station is located approximately 1km to the east.

The site has an area of approximately 9 hectares and is currently zoned as R2-Low Density Residential. The properties surrounding the site are primarily zoned for Educational Establishments with a mix of Public Recreational and Low-Density Residential zones.

Figure 2-1: Subject Site and Its Environs



Source: Nearmap

2.2 ROAD NETWORK

2.2.1 ROAD HIERARCHY

Roads are classified according to the functions they perform. The main purpose of defining a road's functional class is to provide a basis for establishing the policies which guide the management of the road according to their intended service or qualities.

In terms of functional road classification, State roads are strategically important as they form the primary network used for the movement of people and goods between regions, and throughout the State. Transport for NSW (formally Roads and Maritime) is responsible for funding, prioritising and carrying out works on State roads.

State roads generally include roads classified as freeways, state highways, and main roads under the Roads Act 1993.Transport for NSW defines four levels in a typical functional road hierarchy, ranking from high mobility and low accessibility to high accessibility and low mobility. These road classes are:

Arterial Roads – Controlled by Transport for NSW, typically no limit in flow and designed to carry vehicles long distance between regional centres.

Sub-Arterial Roads – Managed by either Council or Transport for NSW under a joint agreement. Typically, their operating capacity ranges between 10,000 and 20,000 vehicles per day, and their aim is to carry through traffic between specific areas in a sub region or provide connectivity from arterial road routes (regional links).

Collector Roads – Managed by Council. Provide connectivity between local sites and the sub-arterial road network, and within Wollongong, typically carry between 3,000 and 10,000 vehicles per day.

Local Roads – Managed by Council. Provide direct access to properties and the collector road system, and within Wollongong, typically carry between 300 and 3,000 vehicles per day.

2.2.2 SURROUNDING ROAD NETWORK

Characteristics of key roads on the surrounding road network proximate to the proposal are summarised in Table 2-1.

Table 2-1: Existing Road Network

Road Name	Jurisdiction	Posted Speed Limit	Lane formation	Existing Carriageway Width	Existing Reserve Width	Kerbside Parking [1]
Irvine Street	Council	50 km/h	2-lane, 2-way. 3-lane, 2-way road between Madoline St and Spearing Parade	~12.5m	~18.5m	Restricted parking from Madoline St and Spearing Parade
Hoskins Street			Two-lane, Two-way	~7.0m	~15m	Restricted parking on both sides of the road
Sidney Street				~7.0m	14.5m	
Paulsgrove Street				~7.0m	~16m	
Madoline Street				~7.0m	~16m	Parking is restricted only on the northern side
Leahy Crescent				~7.5m	~18m	
Spearing Parade				~7.5m	~14.5m	No parking from Paulsgrove Street to Sidney Street. Restricted Parking otherwise
Murphys Avenue				~11.0m	~20m	Predominately unrestricted parking

[1] Discussed further in Section 2.5.

2.3 PUBLIC TRANSPORT PROVISION

A review of public transport provision in the vicinity of the subject site is summarised in Figure 2-1 and Table 2-2. The review indicates that the site is currently well serviced by public transport and has a high level of public transport accessibility.

Buses serve as the primary mode of public transport, with several bus stops located within a short walking distance, either on the site perimeter or within 700m of the site. Buses operate at regular intervals throughout the day, providing frequent services to key destinations, such as the UoW, Botanic Gardens, Wollongong CBD and Wollongong Hospital.

In addition to bus services, the site benefits from its proximity to the North Wollongong Train Station, located approximately 1.3km walking distance from the site. Shuttle services are available from UoW to the North Wollongong Train Station.

The South Coast Line provides regular train services, with trains running every 15 to 30 minutes on weekdays and 30 minutes to 1 hour on weekends. This train station offers access to key locations such as the Wollongong Hospital, the Wollongong CBD and neighbouring townships.

As shown, the subject site has several existing public transport provisions available, with both multiple routes surrounding the subject site, and a shuttle bus to the train station available nearby to help facilitate longer public transport journeys.

Table 2-2: Public Transport Provisions

Service	Route	Route Description	Location of Stop	Distance to nearest stop	Service Frequency	Start/Finish
Bus	3	Wollongong to Bellambi via Towradgi (Loop Service)	Irvine St opposite Madoline St	~ 600m	~ Every 1hr from 8 AM to 9 am	Wollongong - WIN Stadium (Loop service)
	8	Wollongong to Bellambi via Balgownie (Loop Service)			~ Every 2hrs from 3 to 6 pm	
	11	Wollongong to Wollongong University (Loop Service)	Irvine St and Murphys Ave	~ 400m	Every 1hr from 7 AM to 7 pm, with frequency changing from 7 AM to 9 AM to every 10-30mins	Start: UoW / Wollongong – Win Stadium Finish: Wollongong – WIN Stadium / UoW
	41	Dapto to UoW	Irvine St at Madoline St / Murphys Ave		Every 1hr from 8 to 11 AM and 4 to 8 pm	Dapto Station / UoW
	887	Campbelltown to Wollongong via Appin	Irvine St	~ 600m	Every 1hr from 6 AM to 7 pm, except from 3 to 5 pm, the frequency changes to every 30mins to 1hr 30mins	Campbelltown Station / Wollongong
Shuttle Bus	9/9N	UoW North Gong Shuttle via Ring Road	Northfields Ave/Irvine St	~ 400m to 700m	Every 5-10mins from 8 AM to 10 am. From 10 AM to 10 PM every 10 to 50 mins	UoW / North Wollongong
	55A / 55C	UoW to Wollongong via Gwynneville/ Fairy Meadow (Loop service)			Weekday – Every 10mins from 7 AM to 6 pm. From 6 PM to 10 PM every 20 mins Weekend – Every 20mins	UoW (Loop Service)
Train	South Coast Line	Bomaderry or Port Kembla to Central and Bondi Junction	North Wollongong Train Station	1.4-1.6km	Every 15 – 30 mins on Weekdays and 30mins to 1hr on Weekends	Start: Bondi Junction / Bomaderry Finish: Bomaderry / Bondi Junction

Figure 2-2: Public Transport Provisions

Source: Nearmap

2.4 CAR PARKING

Significant on-street car parking demands have been observed on the local network, which are likely driven by UoW. As such, there are several different parking restriction classifications enforced on the local network, which have been summarised in Figure 2-3 and Table 2-3.

Table 2-3: Existing On-Street Parking Inventory

Parking	Irvine Street	Hoskins Street	Sidney Street	Paulsgrove Street	Madoline Street	Leahy Crescent	Spearing Parade	Murphys Avenue
Unrestricted	✓				✓	✓		✓
Restricted Parking: 1/4P								
Bus Zone								✓
Restricted Parking: 2P - 8:30 AM – 6 PM (Mon-Fri)		✓	✓	✓			✓	✓
Restricted Parking: No parking between 6:00 AM – 6:00 pm	✓	✓	✓	✓	✓	✓	✓	
No Stopping (All Day)	✓			✓	✓		✓	
No Parking (All Day)							✓	

Figure 2-3: Existing On-Street Parking Inventory

Source: Nearmap

2.5 ACTIVE TRANSPORT PROVISION

The active transport provisions near the subject site are summarised in Figure 2-4 and Table 2-4.

There are limited pedestrian connections central to the subject site, with formal connections only provided around the edge of the subject site. As part of the proposal, it is recommended that additional provisions are provided through the centre of the subject site along Sidney Street & Hoskins Street to further promote active transport opportunities and reduce vehicle trips.

Table 2-4: Existing Active Transport Provision

Road Name	Existing Footpath Width	Existing Shared Path Width
Irvine Street	~1.4m	-
Hoskins Street	-	-
Sidney Street	-	-
Paulsgrove Street	~1.2m	~2.5m
Madoline Street	~1.5m	-
Leahy Crescent	-	-
Spearing Parade	-	-
Murphys Avenue	~1.3m	-

Figure 2-4: Existing Active Transport Provisions

Source: Nearmap

2.6 FUTURE PLANNING

Wollongong City Council is actively involved in several ongoing projects and future projects aimed at improving infrastructure and connectivity within the city.

First is the Keiraville-Gwynneville Access and Movement Study, which contains transport network issues and opportunities for the greater area which includes the subject site and the transportation network providing access to it. This document identifies a number of pre-existing network issues, some of which include:

- vehicle parking demand from the UoW spilling onto the streets within the subject site
- missing active transport connections
- inappropriate intersection configurations for active transport
- public transport connectivity and frequencies.

It is recommended that the actions contained within this document are incorporated into the future design for the proposal, where feasible, as they will be key in achieving Council's and TfNSW transportation mode share goals for the subject site, UoW, and the greater Keiraville – Gwynneville area.

Additionally, TfNSW is upgrading the M1 Princes Motorway at the base of the Mount Ousley Interchange. The project has now been awarded and early work activities and detailed design is underway. As part of the upgrade, a new interchange is planned to provide access from the M1 Princes Motorway to Mount Ousley Road and the UoW. This new access to the UoW will fundamentally alter the traffic levels and patterns on the road network surrounding the subject site.

Figure 2-5 presents a diagram of the TfNSW planned M1 Princes Motorway at the base of Mount Ousley Interchange.

Figure 2-5: Princes Highway at Base to Mount Ousley

3.0 INDICATIVE CONCEPT PROPOSAL

3.1 LAND USES

The amended controls will facilitate the delivery of a diverse range of housing typologies which will include additional social and affordable housing, market housing products and seniors housing, as well as opportunities to develop build-to-rent, key worder housing and student accommodation. The proposal will allow for approximately 1,250 dwellings, at least 50% of which will be social and affordable housing. Whilst the analysis below assumes 30% social and affordable housing spilt, Homes NSW has committed to the delivery of 50% social and affordable housing (i.e. 625 dwellings) and 50% market / private sale homes (i.e. 625 dwellings) at Gwynneville. As a result, the following outputs of this transport model can be viewed as "conservative" and the traffic impacts from the development will be less than anticipated at this preliminary stage. Each Development Application will be required to confirm their individual traffic impact with a Traffic Impact Assessment, or equivalent document.

The proposal is indicatively shown Figure 3-1, with the indicative proposal yields outlined in Table 3-1.

Figure 3-1: Proposal Overview

Table 3-1: Indicative Proposal Yields

Land Use	% Weighting	Indicative Dwelling numbers
Residential Dwellings (Private Sale)	70%	875
Affordable Housing (e.g. Student Accommodation)	10%	125
Social Housing	20%	250

The exact dwelling layout and other development details are to be further developed in future stages of planning and design.

3.2 CAR PARKING

Specific car parking provisions are yet to be determined and will be confirmed in a later design phase. Whilst this analysis assumes 30% social and affordable housing, Homes NSW has committed to the delivery of 50% social and affordable housing (i.e. 625 dwellings) and 50% market / private sale homes (i.e. 625 dwellings) at Gwynneville. As a result, the car parking requirements can be viewed as "conservative" and the impacts from the development will be less than anticipated at this preliminary stage. Each Development Application will be required to confirm their individual parking impact with a Traffic Impact Assessment, or equivalent document.

3.3 PEDESTRIAN FACILITIES

As noted in Section 2, there are existing pedestrian facilities noted around the edge of the subject site. Specific pedestrian provisions regarding the proposal are yet to be confirmed and will be refined in a later design phase. Notwithstanding, is it recommended that the following provisions are incorporated into future design:

- additional pedestrian facilities should be provided on all road frontages within the subject site to facilitate active travel
- A review of the existing pedestrian crossing facilities on Northfields Avenue should be undertaken in accordance with the Austroads 'Pedestrian Crossing Facility Selection Tool' to ensure that the most suitable crossing facilities are present to encourage Active Transport mode shift where possible.

The proposed pedestrian pathway network is set out in Figure 3-2. This pedestrian pathway network provides direct access to key destinations, including:

- University of Wollongong;
- Bus interchange;
- Pedestrian connections over the Highway.

Figure 3-2: Active Transport Network

3.4 BICYCLE FACILITIES

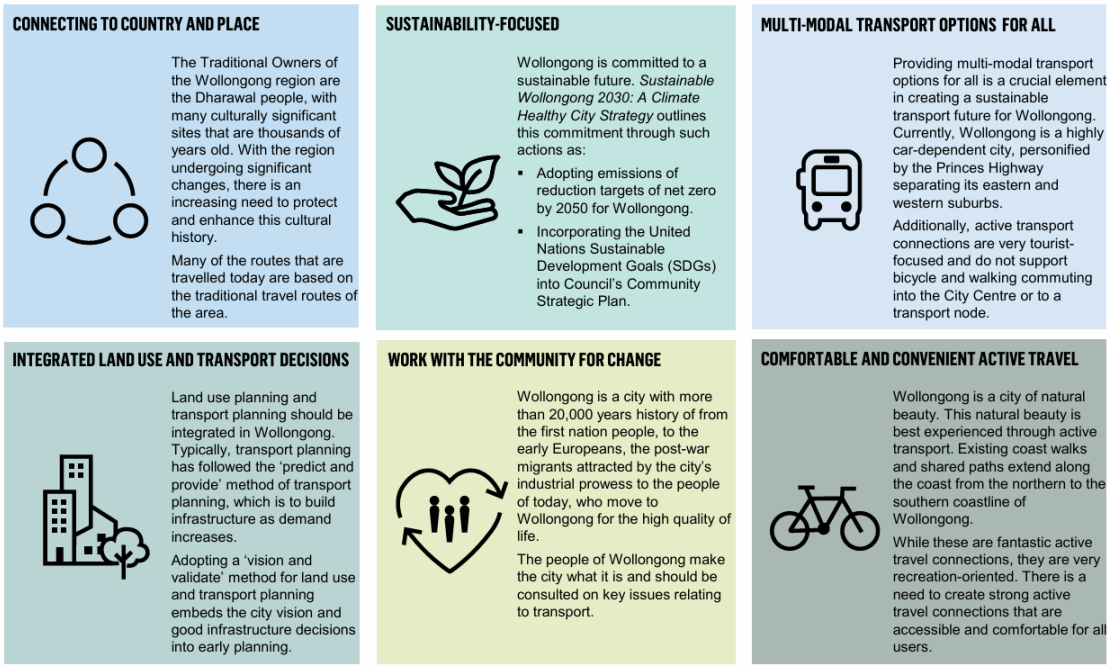
Specific bicycle parking provisions are yet to be determined and will be confirmed in a later design phase. Whilst this analysis assumes 30% social and affordable housing, Homes NSW has committed to the delivery of 50% social and affordable housing (i.e. 625 dwellings) and 50% market / private sale homes (i.e. 625 dwellings) at Gwynneville. As a result, the bicycle parking requirements can be viewed as "conservative" and the impacts from the development will be less than anticipated at this preliminary stage. Each Development Application will be required to confirm their individual bicycle parking impact with a Traffic Impact Assessment, or equivalent document.

It is noted that a specific bicycle parking rate for Student Accommodation is not available within Council's DCP. As such, a specific rate for this land use will need to be calculated and justified as part of future design stages, as noted with car parking. Notwithstanding, is it recommended that the following provisions are incorporated into future design end of trip facilities are to be provided in accordance with Council's DCP Chapter E03 Section 7.3 Table 1.

4.0 INTEGRATED TRANSPORT STRATEGY ASSESSMENT

The Proposed Development has been assessed against the Wollongong Integrated Transport Strategy Draft Strategy dated 19 April 2024. In assessing the Proposed Development, the following guiding principles were considered as displayed within Figure 4-1. The aim of the principles is to make active and public transportation as desirable as it can be whilst also encouraging a mode share transition away from private vehicle usage to active and public transportation.

Figure 4-1: Wollongong Integrated Transport Strategy Guiding Principles



4.1 WALKING ASSESSMENT

An assessment of the Proposed Development is contained within the following table against the assessment criteria found within the Draft Wollongong Integrated Transport Network dated 19 April 2024 which included the following contained within

Figure 4-2. In making active transportation a desirable option for all users, walking infrastructure needs to be provided in way that is attractive, safe, comfortable, and entertaining for pedestrians. This is shown within the below figure.

Figure 4-2: Walking Principles / Criteria

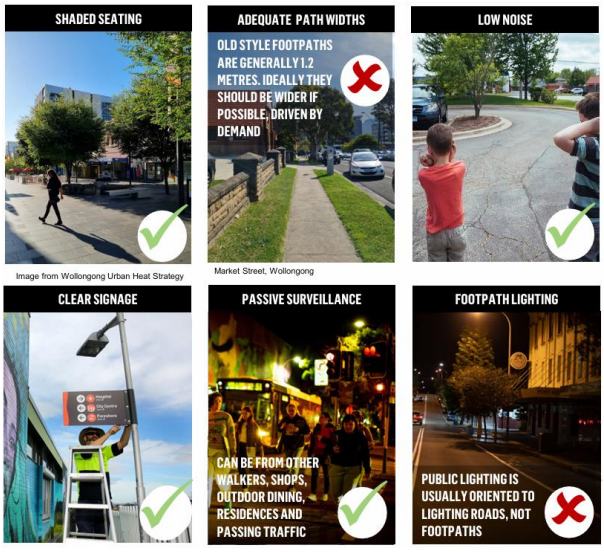


Image: Aerial, Wollongong City Centre

Image: Great Buckingham Street, Redfern

Image: Modal filter (Source: Cycling Embassy of Great Britain)

Image: Colleen Grove, Wollongong

Image: Crown Street Mall, Wollongong City

Image: Globe Lane, Wollongong City Centre

Home in Gwynneville with front yard tree shading public footpath

"Living Roof" Bus Stop, Leicester, UK

Source: *ECM_25186821_v3_Draft Wollongong Integrated Transport Strategy for public exhibition*

Table 4-1: Walking Assessment of Proposed Development

Land Use	Description
Shaded Seating	Public Realms to be designed by suitably qualified landscape architect.
Adequate Paths	Public Realms to be designed by suitably qualified landscape architect.
Low Noise	Low vehicular trip generation land uses provided and travel demand to minimise road noise
Clear signage	Public Realms to be designed by suitably qualified landscape architect including wayfinding signage.
Passive Surveillance	Provided with development overlooking the road network
Footpath Lighting	To be provided as part of public realm design.
Grid Networks	Existing Road Structure Plan / Transport Network has this provided.
Park Streets (Retrofitting Park into road space)	A green spine has been provided through the site.
Filter permeability	Existing Road Structure Plan / Transport Network has this provided.
Community Activity / Surveillance deters crime	Provided with development overlooking the road network
Space / Activity Management (Well Cared for Spaces)	Green Spine provided throughout the site for park / active transport corridor.
Large Trees in yards for Shading	Public Realms to be designed by suitably qualified landscape architect.
Tree Canopy prioritising pedestrian route	Public Realms to be designed by suitably qualified landscape architect.
Innovative Options for Urban Greening	Public Realms to be designed by suitably qualified landscape architect.

Table 4-1 contains the assessment of the walking infrastructure against the requirements of the Draft Wollongong Integrated Transport Strategy dated 19th April 2024 in which a number of public realm considerations should be made at the next stage of the development. Whilst the public realms are yet to be designed, it is considered that the Proposed Development is more than capable of achieving the goals of the Draft Wollongong Integrated Transport Strategy dated 19th April 2024.

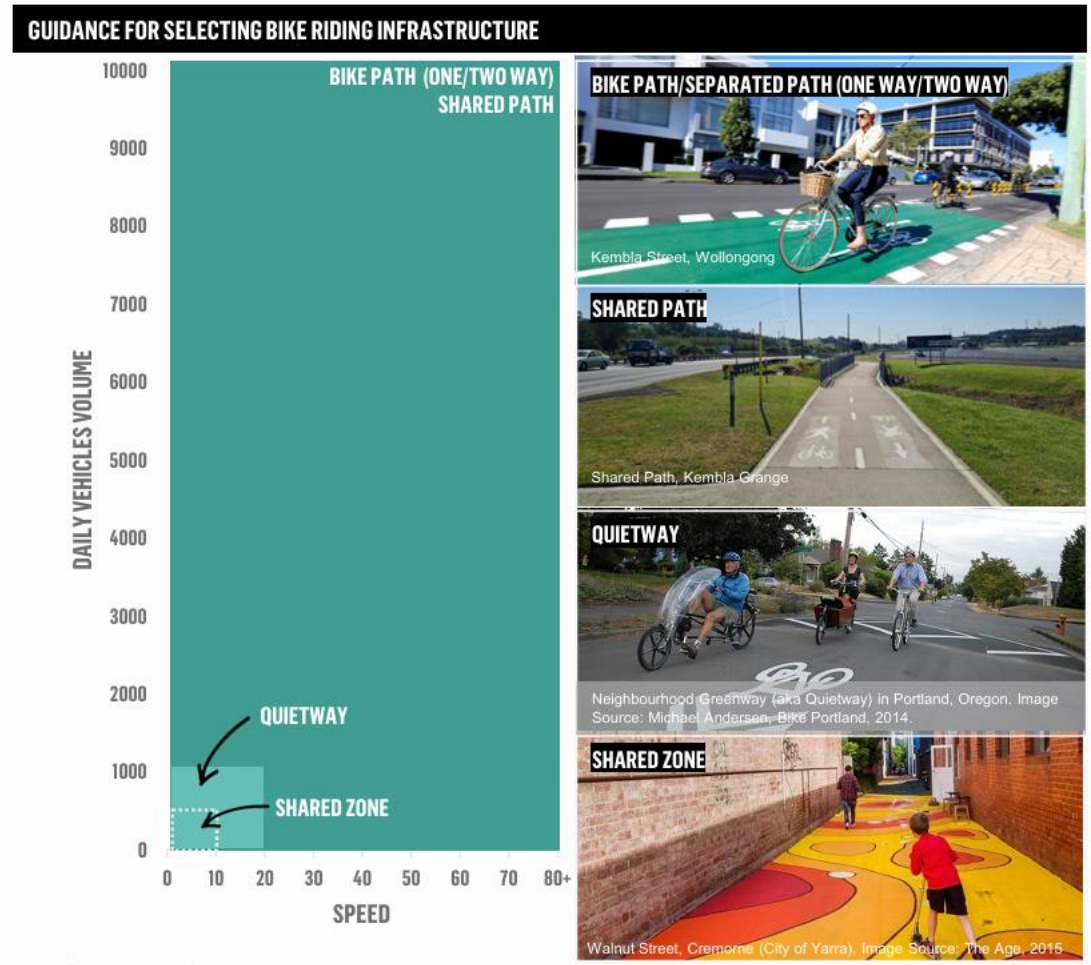
4.2 CYCLING ASSESSMENT

An assessment of the cycling facilities provided as part of the Proposed Development was undertaken against the assessment criteria found within the draft Wollongong Integrated Transport Network dated 19th April 2024. Given that the internal roads will carry no more than 1,000vph (refer to Traffic Report) and that the internal speeds will likely be around 20kph, it is considered that the Proposed Development will need Shared Zone to the existing facilities on the internal roads.

On the external roads and linking to existing bicycle infrastructure, it is recommended that bicycle lanes are provided on Irvine Street/ Murphys Avenue and Northfields Avenue (to link to the University and Bus Station).

These facilities should be designed by a suitably qualified civil engineering in conjunction with a suitably qualified landscape architect in order to integrate with the public realm design.

Table 4-2: Cycling Assessment of Proposed Development.



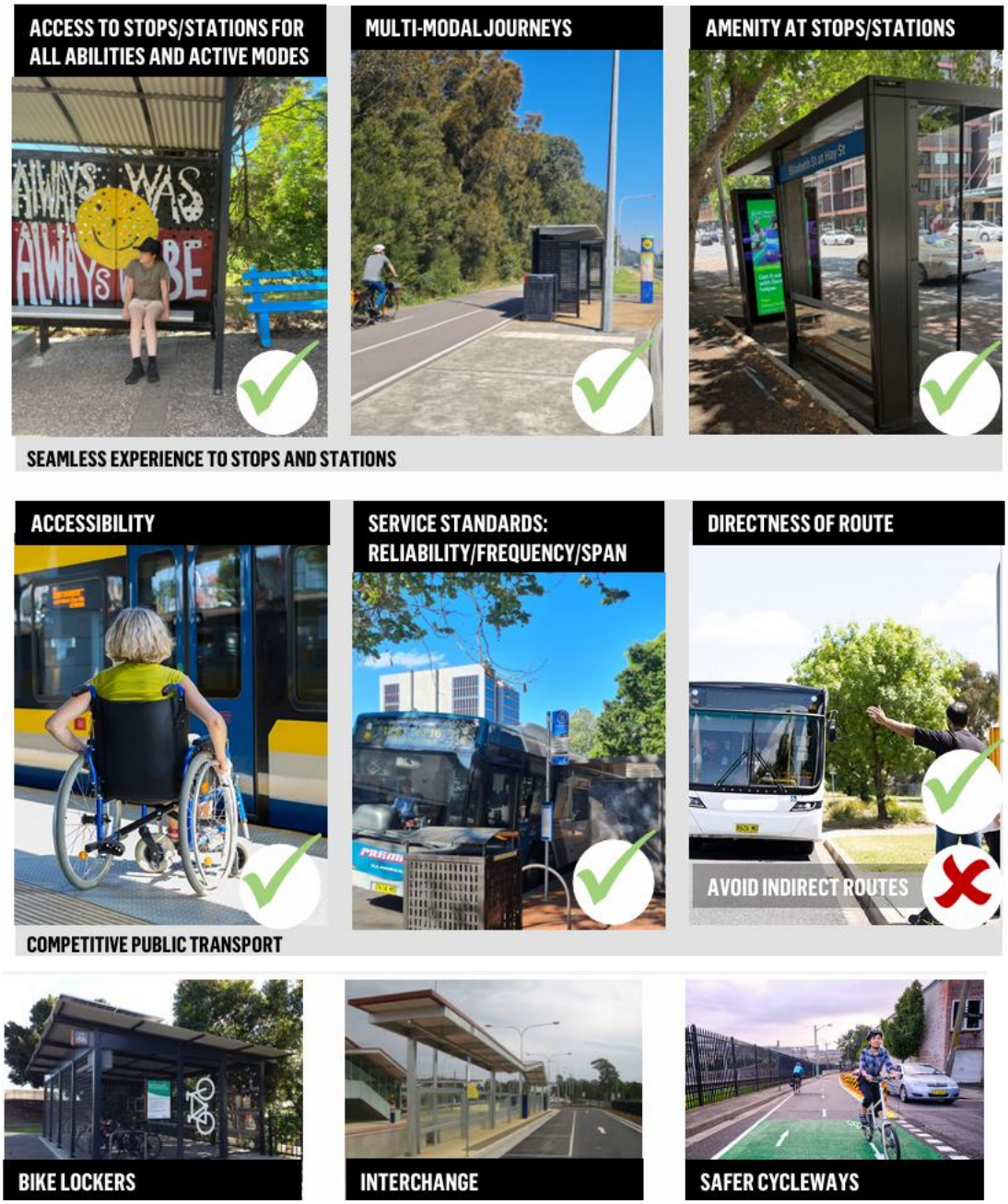
Adapted from requirements/guidance provided in:
Shared Zones: Austroads, *Guide to Traffic Management Part 10: Traffic Control and Communication Devices,*
Quietways: TfNSW, *Cycleway Design Toolbox*, 2020

Source: *ECM_25186821_v3_Draft Wollongong Integrated Transport Strategy for public exhibition*

4.3 PUBLIC TRANSPORT ASSESSMENT

An assessment of the public transport facilities was undertaken against the assessment criteria found within the draft Wollongong Integrated Transport Network dated 19th April 2024 which included the following criteria found within Figure 4-3. Of note, the evaluated bus stop infrastructure included the Bus Station of Northfields Avenue as well as the Murphys Avenue bus stops.

Figure 4-3: Public Transport Principles / Criteria



Source: *ECM_25186821_v3_Draft Wollongong Integrated Transport Strategy for public exhibition*

Table 4-3: Public Transport Assessment of Proposed Development.

Land Use	Description / Recommendation
Access to Stops / Stations for All Abilities and Active Modes	The bus station located on Northfields Avenue does not cater for all modes of transport or accessible road user requirements. Particularly the connecting footpath infrastructure which is dated and could benefit from modernisation of the facilities to include appropriate drop-ramps with tactile tiles as well as boarding setback areas. Additionally, the facilities should have parking for car share users / taxis and there are no end-of-trip facilities for cyclists and micro mobility users. It is therefore recommended that the bus station and TfNSW stops are modernised to the latest specifications and include provision for disabled users, drop-off facilities for car share / taxis and end-of-trip facilities for active transport users.
Multi-Modal Journeys	It is recommended that the bus station and TfNSW stops are modernised to the latest specifications and include provision for disabled users, drop-off facilities for car share / taxis and end-of-trip facilities for active transport users.
Amenity at Stops / Stations	It is recommended that the bus station and TfNSW stops are modernised to the latest specifications to improve the amenity. This should include the pedestrian network to and from the site which also is dated.
Accessibility	It is recommended that the bus station and TfNSW stops are modernised to the latest specifications to improve the amenity. This should include the pedestrian network to and from the site which also is dated.
Service Standards / Reliability / Frequency / Span	The bus station is well serviced providing regular frequencies. The Proposed Development will further support this infrastructure by allowing increased patronage which should create increased frequencies.
Directness of Route	The station provides multiple routes to various areas within Wollongong.

From the table above, it is clear the bus stop infrastructure surrounding the site including the bus station and supporting active transport infrastructure is modernised to support the Proposed Development and encouraging residents to travels by non-private vehicle travel.

5.0 TRAVEL DEMAND MANAGEMENT

5.1 INTRODUCTION

5.1.1 TRAVEL PLAN FRAMEWORK

Transport is a necessary part of life, but it has economic, public health and environmental consequences. The transport sector is one of the fastest growing emissions sectors in Australia, and therefore is one of the key opportunities for reducing greenhouse gases. As well as delivering better environmental outcomes, providing a range of travel choices with a focus on walking, cycling and public transport will have major public health benefits and will ensure a strong and prosperous community.

The physical infrastructure being provided as part of the development is only part of the solution. Travel Demand Management will ensure that the transport infrastructure, services, and policies both within and external to the site are tailored to the users and coordinated to achieve the most sustainable outcome possible.

5.1.2 WHAT IS TRAVEL DEMAND MANAGEMENT

Travel Demand Management is a package of measures aimed at promoting sustainable travel and reducing reliance on the private car. It is not designed to be 'anti-car' however it will encourage and support people's aspirations for conducting their daily business in a more sustainable way. Travel plans can provide both:

- measures which restrict car use (disincentives or 'sticks')
- measures which encourage or support sustainable travel, reduce the need to travel or make travelling more efficient (incentives or 'carrots').

The travel plan would promote the use of transport, other than the private car, provide choice for staff to travel to and from the site, which is more sustainable and environmentally friendly.

Indeed, there are a range of "non-car" transport options that are available at the site which have been described in this report.

Given the developments aim to reduce private travel to the site, the implementation of travel demand management would be beneficial.

5.2 KEY OBJECTIVES

The aim of travel demand management is to bring about better transport arrangements for living and working at the site. The key objectives of the Travel Plan are:

- To encourage walking.
- To encourage cycling.
- To encourage the use of public transport.
- To reduce the use of the car, in particular single car occupancy.
- Where it is necessary to use the car, encourage more efficient use.

It is the intention therefore that the travel plan will deliver the following benefits:

- Enable higher public and active travel mode share targets to be achieved.
- Contribute to greenhouse gas emission reductions and carbon footprint minimisation.
- Contribute to healthy living for all.
- Contribute to social equity and reduction in social exclusion.
- Improve knowledge and contribute to learning.

5.3 SITE SPECIFIC MEASURES

Several opportunities exist to provide the Proposed Development staff and visitors with incentives to consider alternative modes of travel to and from site. The following potential measures and initiatives could be implemented to encourage more sustainable travel modes:

Active Travel

- Provide high quality and prominent bicycle facilities and end-of-trip facilities (change/ shower facilities).

- Provide clear pedestrian and cyclist wayfinding.
- Provide shelters along walkways or near bus stops and street lighting.
- Encourage cultural change through:
    - creating a bike user group (targeting staff living within five kilometres of the site)
    - events such as annual 'ride to work' day
    - providing information detailing opportunities and facilities available to staff. This may include providing maps of the available cycling routes to and within the Proposed Development.

Promote Car-Pooling

- Provide prioritised carpool parking spaces on-site, including consideration for incentives such as prices, location, and proximity to services.
- Limiting on-site parking allocation to staff.
- Encouraging staff that drive to work and park on surrounding roads to carpool through creation of a carpooling club or registry/ forum.

Public Transport

- Create a Travel Access Guide (TAG) following construction to be provided to all staff and publicly available to all visitors. The document would be based on facilities available at the site and include detail on the surrounding public transport services and active transport initiatives. The TAG would be updated as the surrounding transport environment changes.
- Providing public transport information boards/ apps to inform staff and visitors of alternative transport options (the format of such information boards would be based upon the TAG).

5.3.1 TRAVEL ACCESS GUIDE

A TAG provides information to staff and visitors on how to travel to the site using sustainable transport modes such as walking and public transport. The information is presented visually in the format of a map (or app) showing the site location and nearby transport modes highlighting available pedestrian and cycle routes. The information is usually presented as a brochure (or app) to be included in a welcome pack or on the back of company stationery and business cards.

5.3.2 INFORMATION AND COMMUNICATION

Several opportunities exist to provide staff and visitors with information about nearby transport options. Connecting staff and visitors with information would help to facilitate journey planning and increase their awareness of convenient and inexpensive transport options which support change in travel behaviour.

These include:

- Transport NSW provides bus, train and ferry routes, timetables, and journey planning through their Transport Info website: http://www.transportnsw.info.
- Council provides a number of services and a range of information and events to encourage people of all levels of experience to travel by bicycle: Walking and cycling (nsw.gov.au).

In addition, connecting staff and visitors via social media may provide a platform to informally pilot new programs or create travel-buddy networks and communication.

5.3.3 MONITORING OF TRAVEL DEMAND

There is no standard methodology for monitoring Travel Demand, but it is recommended that it is monitored to ensure that it is achieving the desired benefits and modify it if required. It will not be possible at this stage to state what additional modifications might be made as this will be dependent upon the particular circumstances prevailing at that time.

Travel Demand Management should be monitored on a regular basis, e.g., yearly, by conducting travel surveys. Travel surveys will allow the most effective initiatives of the Travel Demand Management to be identified, and conversely less effective initiatives can be modified or replaced to ensure the best outcomes are achieved. It will clearly be important to understand people's reasons for travelling the way they do; any barriers to changing their behaviour, and their propensity to change.

Travel Demand Management should be coordinated with stakeholders and building management to ensure the successful implementation.

5.4 SUMMARY

The proposal would be able to develop and use a travel plan to actively promote increased use of sustainable transport modes. The above measures provide a framework for the site and implementation of a future travel plan to encourage a mode share transition away from private vehicle travel to active and public transport.

6.0 CONCLUSION AND RECOMMENDATIONS

This report has been prepared by Stantec Australia on behalf of Homes NSW (formerly the LAHC) to support a planning proposal for urban renewal of land at Gwynneville, NSW and addresses the Transport Demand Management of the development.

The conclusions and recommendations of this transport assessment are as follows:

- An assessment of Proposed Development was undertaken against the requirements of the Draft Wollongong Integrated Transport Strategy dated 19th April 2024 in which the following recommendations are made:
    - It is recommended that all public realms within and surrounding the site are designed by a suitably qualified landscape architect to include wayfinding signage, micro-climate facilities, and shared paths.
    - It is recommended that all lots within the Proposed Development are connected by shared paths facilities connecting to the existing active transport infrastructure that links to areas within Wollongong.
    - On the external roads and linking to existing bicycle infrastructure, it is recommended that bicycle lanes are provided on Irvine Street/ Murphys Avenue and Northfields Avenue (to link to the University and Bus Station).
    - The Bus Station located on Northfields Avenue does not cater for all modes of transport or accessible road user requirements. It is recommended that this Bus Station is modernised to latest standards and includes appropriate end-of-trip facilities, drop-off facilities for car share / taxis, and accessibility requirements.
    - The connecting footpath infrastructure between the Proposed Development site and the Bus Station on Northfields Avenue is recommended to be modernised of TfNSW latest standards. This should include all accessibility requirements including drop ramps and tactile tiles to guide people of determination.
    - The bus stops and stations are to have parking for car share users / taxis and end-of-trip facilities for cyclists and micro mobility users.
- It is recommended that the proposal develops and use a travel plan to actively promote increased use of sustainable transport modes. The measures discussed within the report provide a framework for the site and implementation of a future travel plan to encourage a mode share transition away from private vehicle travel to active and public transport.

Given the discussions contained within this document, it is considered that not only is the Proposed Development well serviced by active and public transport infrastructure but also that in its existing form, it would be able to achieve Wollongong's strategic transportation goals as the development, in its own nature, would support the viability of this infrastructure.

Notwithstanding, it is considered that recommendations outlined within this document should further encourage a shift away from private vehicle usage to active and public transport. This is of particular importance and the area around the site is heavily congested and requires large scale infrastructure improvements.

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