Traffix Group

Western Freeway Commercial Area

Urban Design Framework

Transport & Movement Technical Report

Prepared for
MSA Properties Pty Ltd

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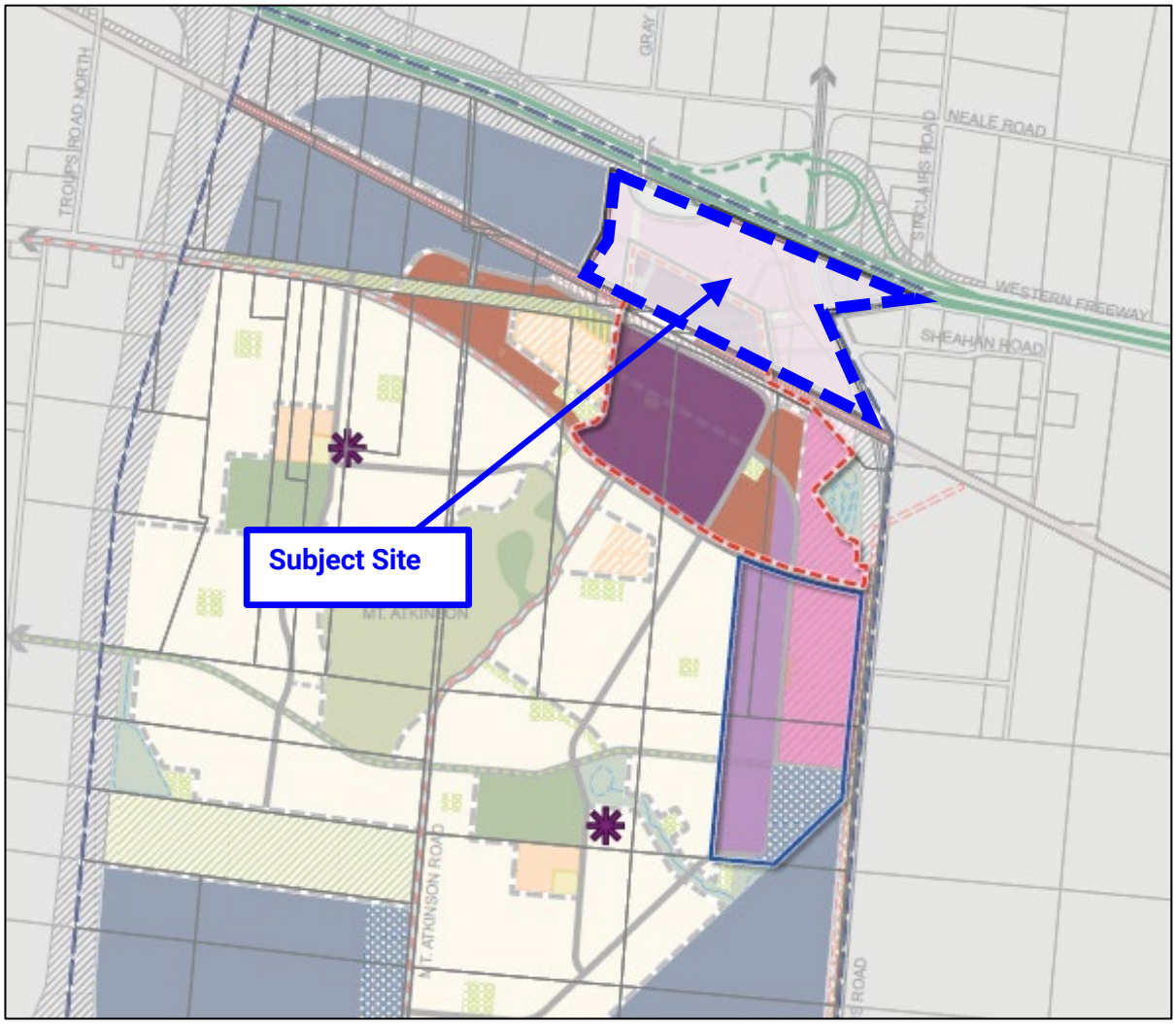
1. Introduction

Traffix Group has been engaged by Melton City Council and MSA Properties to prepare a Transport and Movement Technical Report (TMTR) to inform the Urban Design Framework for the Western Freeway Commercial Area (WFCA), located at the northern-eastern corner of the Mt Atkinson and Tarneit Plains Precinct Structure Plan (MATPPSP). The TMTR also has regard to the Western Freeway Upgrade (WFU) which is a State Government project which is currently in the planning and development phase that directly abuts the WFCA site.

For the purposes of this document, the WFCA is defined as the area bounded by the Western Freeway to the north, the Sunshine to Ballarat Rail corridor to the south, land set aside for future industrial uses to the west and Hopkins Road to the east. It includes the portion of the Major Town Centre as defined in the MATPPSP located on the northern side of the railway line. In addition to the above, the WFCA also includes the existing freeway service centre located within the southern portion of the Western Freeway/Hopkins Road interchange. The overall site contains an area of approximately 40 hectares.

A diagram showing the location of the WFCA, and where it falls within the broader MATPPSP, is presented at Figure 1.



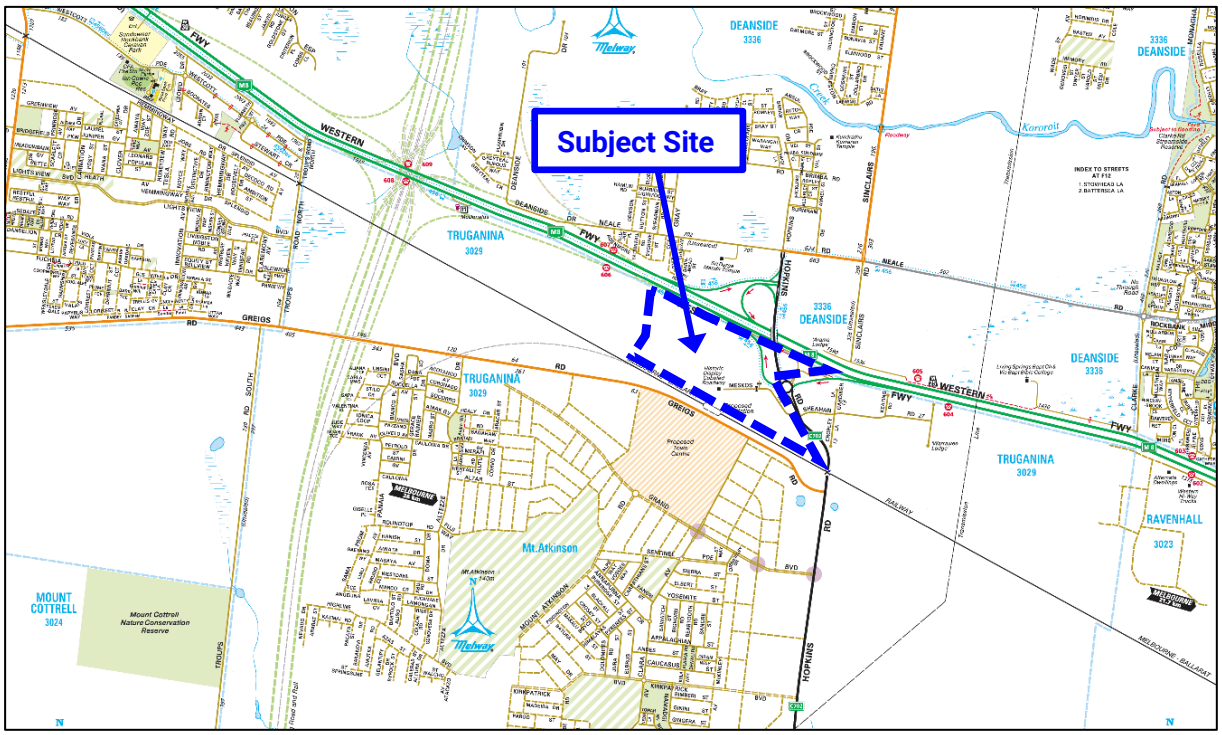
Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 1: Western Freeway Commercial Area Location

2. Existing Conditions

2.1. Site Location & Surrounding Land Use

A locality plan showing the location of the WFCA within the broader road network is presented at Figure 2.



Source: Melway Publishing Pty Ltd

Figure 2: Locality Map

The locality plan shows that the site is generally located on the south-western corner of the existing Western Freeway/Hopkins Road interchange and is located to the east of the corridor for the future Outer Metropolitan Ring Road (OMR).

The existing residential area of Rockbank is located on the western side of the OMR corridor, whilst the new residential suburb of Deanside is currently being developed on the northern side of the Western Freeway. Development is also currently underway within the MATPPSP area on the southern side of the railway line.

There is no development currently occurring within the land on the eastern side of Hopkins Road, with the Warrawee Precinct Structure Plan not yet commenced.

The main part of the site on the western side of Hopkins Road is predominantly vacant, with a small number of businesses currently operating from the site involving construction materials, garden supplies, boating, fencing and rope manufacturing. These businesses are accessed via Meskos Road which is a minor local street that runs to the west of Hopkins Road between the freeway interchange and the railway level crossing.

A freeway service centre is located within the smaller part of the site on the eastern side of Hopkins Road. The service centre can be accessed both from the westbound freeway access ramps and from Hopkins Road via the roundabout at the southern ramp terminal intersection.

2.2. Surrounding Road Network

The site has frontage to two existing roads including Hopkins Road on its eastern frontage and the Western Freeway to the north.

Western Freeway

The Western Freeway is a major freeway which runs in a predominantly east-west orientation and connects the western suburbs of Melbourne with the western region of Victoria and continues as the Western Highway into South Australia. In the vicinity of the site, it operates as a divided freeway, with two lanes in each carriageway with access points generally limited to grade separated interchanges.

A fully directional interchange is provided at Hopkins Road with a two-lane roundabout controlling the terminal intersection with the westerly oriented ramps. A future interchange with the OMR is proposed 2.3km to the west of Hopkins Road.

Hopkins Road

Hopkins Road is a significant arterial road which runs in a north-south direction and currently extends between Neale Road in Deanside through to Princes Highway in Werribee to the south, with the section to the south of Boundary Road changing name to Derrimut Road. Hopkins Road is currently being extended to the north of Neale Road through the suburb of Deanside as part of the Kororoit and Plumpton Precinct Structure Plans to ultimately continue through to the Melton Highway.

Hopkins Road currently contains an undivided cross-section with a single through traffic lane in each direction. In the vicinity of the site there is an overpass of the Western Freeway, with a two-lane, five-leg roundabout to the south which incorporates the westerly orientated freeway ramps and an access to the existing freeway service centre.

To the south of the roundabout, there are unsignalised T-intersections at Meskos Road leading into the WFCA site, and at Sheahan Road leading into the future Warrawee Precinct Structure Plan area to the east. The Victorian State Government is currently in the process of replacing an existing level crossing of the Sunshine-Ballarat Railway located on Hopkins Road to the south of these intersections, with a two-lane road overpass across the rail corridor.

Hopkins Road is ultimately proposed to be upgraded to a six-lane divided arterial road including an upgraded interchange with the Western Freeway, with the existing five-leg roundabout to be removed.

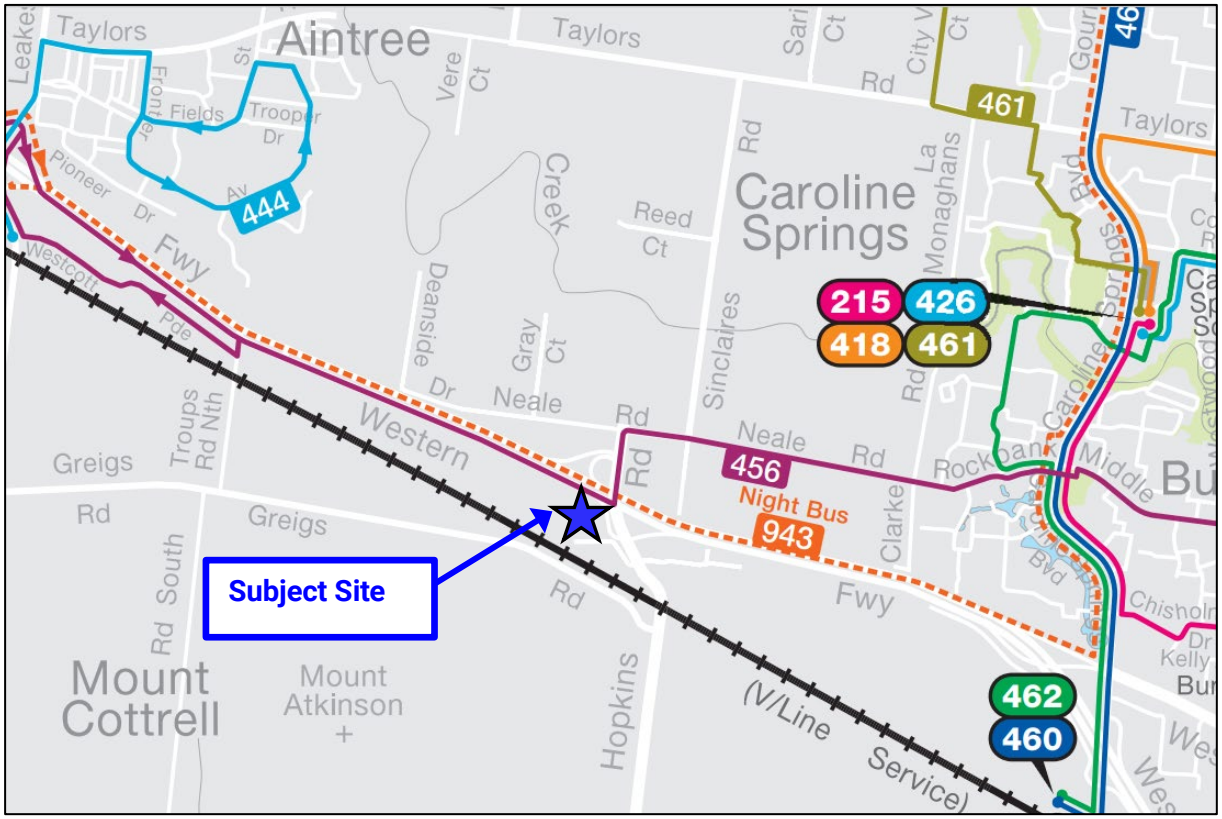
2.3. Public Transport Network

Existing public transport services in the vicinity of the WFCA site are currently very limited.

Bus Network

Existing public transport is limited to a single bus service, Route 456, that operates between Melton and Sunshine via Caroline Springs. A pair of bus stops on this service are located on Hopkins Road to the north of the freeway interchange, approximately 750m to the north of the WFCA.

A map showing the location of the WFCA site in proximity to the Route 456 bus service is presented at Figure 3.



Source: https://www.ptv.vic.gov.au/

Figure 3: Existing Public Transport Map

The State Government has committed to deliver a new bus route linking Rockbank and Tarneit via Mount Atkinson in the 2025/26 Budget.

Rail Network

The Sunshine to Ballarat rail corridor forms the southern boundary of the WFCA site. There are not currently any existing stations on this rail corridor in close proximity of the WFCA site, with the closest stations being located at Rockbank 5.2km to the west and at Caroline Springs 3.4km to the east. A future railway station is proposed at Mt Atkinson, directly adjacent to the WFCA as part of the Precinct Structure Plan.

Passenger rail services on the Sunshine to Ballarat rail corridor currently operate as diesel services operated by V/Line. Rail infrastructure along this corridor was recently upgraded as part of the Regional Rail Revival program including the duplication of 18km of track between Deer Park West and Melton where the WFCA site is located, which allows a more intensive service to operate particularly between Melton and Central Melbourne.

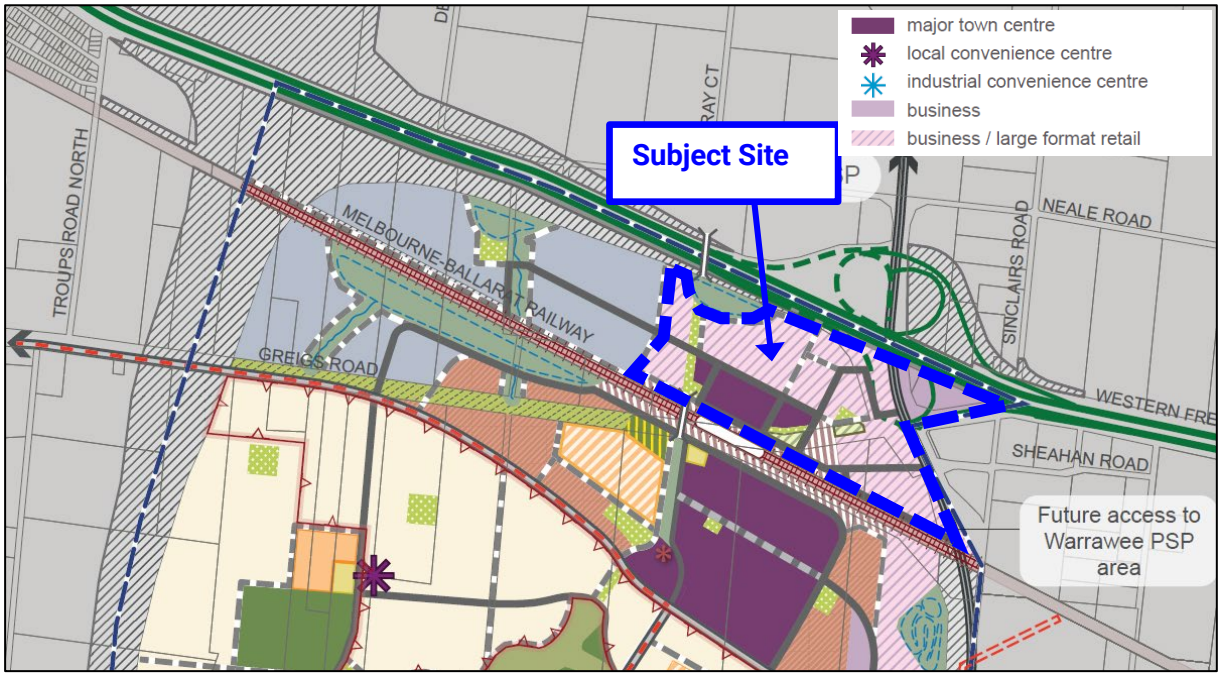
Future upgrades to the section of track between Sunshine and Melton are proposed as part of the Western Rail Plan which includes longer trains, an additional track pair and electrification through to Melton to allow for increased capacity and a further boost to service frequency to allow express trains to operate through to Ballarat. Infrastructure Victoria has recently recommended the electrification of the Sunshine to Melton railway, the construction of two additional tracks between Sunshine and Caroline Springs as well as the construction of a new Railway Station at Mt Atkinson by 2030, however, the State Government has not currently committed to this timeframe.

3. Mt Atkinson and Tarneit Plains PSP

The MATPPSP was initially gazetted and incorporated into the Melton Planning Scheme in September 2017, but was updated in January 2020 to coincide with the completion of the Mt Atkinson and Tarneit Plains Infrastructure Contributions Plan (MATPICP).

3.1. Future Urban Structure

The MATPPSP outlines the future urban structure for both the Mt Atkinson and Tarneit Plains Precinct Structure Plan areas. The future urban structure in the immediate vicinity of the WFCA is outlined at Figure 4.

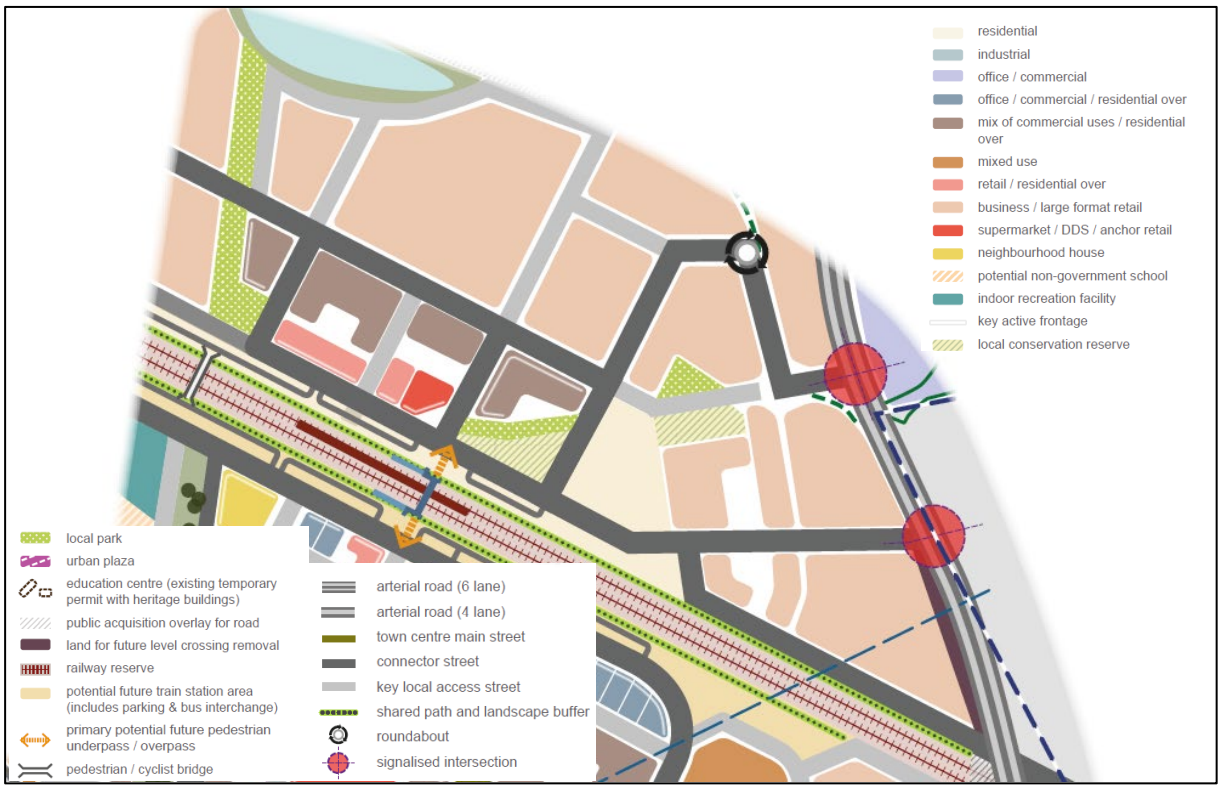


Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 4: Future Urban Structure

The majority of the land within the WFCA is proposed to be set aside for business and large format retail, with a section adjacent to the proposed railway station to be set aside for a major town centre, noting that the majority of the major town centre use is to be located on the southern side of the rail corridor. The land located to the west of the WFCA is proposed to be set aside for industrial uses.

A concept plan illustrating a potential layout for the Mt Atkinson Major Town Centre is also included within the MATPPSP, with the section located on the north side of the rail corridor including the surrounding business and large format retail uses within the WFCA reproduced in Figure 5.



Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 5: Mt Atkinson Major Town Centre Concept

3.2. Road Network

The MATPPSP specifies the proposed road network for the Mt Atkinson and Tarneit Plains Precinct Structure Plan area. The road network in the immediate vicinity of the WFCA is outlined at Figure 6.

Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 6: Road Network Plan

The figure shows an indicative road layout within the WFCA area including two internal east-west streets including one that runs adjacent and parallel to the rail corridor and the other that runs centrally within the site, separating the major town centre uses (e.g. supermarket, retail and mixed use) from the business and large format retail areas to the north.

There are also a number of internal north-south road links proposed that run directly through the site between the rail corridor to the south and the freeway reservation to the north, forming a grid network within the town centre area in particular.

The plan indicates that there will be four separate points of vehicle access into the WFCA as follows:

- Two signalised connector street access points to Hopkins Road (labelled as IT-01 & IT-02 in the MATPICP),
- Connector street access to run beneath the future Hopkins Road overpass of the Ballarat to Sunshine rail corridor and connect through to the future Warrawee PSP area, and
- Key local access street connection leading through the industrial area to the west of the WFCA and across the public acquisition overlay for the OMR corridor to connect into Troups Road North within the Rockbank PSP area to the west.

With the Warrawee PSP area not anticipated to be developed until well into the future, and the connection through to Rockbank only to cater for local traffic (noting that the Troups Road North intersection at Western Freeway is ultimately intended to be closed), it is anticipated that the majority of traffic generated by the WFCA will access the site via the two signalised intersections to Hopkins Road.

Although not necessary in the short term, the additional local access street connections is desirable to preserve future connectivity between the WFCA and Warrawee PSP, noting the town centre and railway station as future destinations.

Northern Signalised Intersection (IT-01)

The northern signalised intersection is described in the MATPICP as the replacement of the existing five-leg roundabout with a separate roundabout providing interim access into the WFCA site from the existing westbound freeway entry ramp.

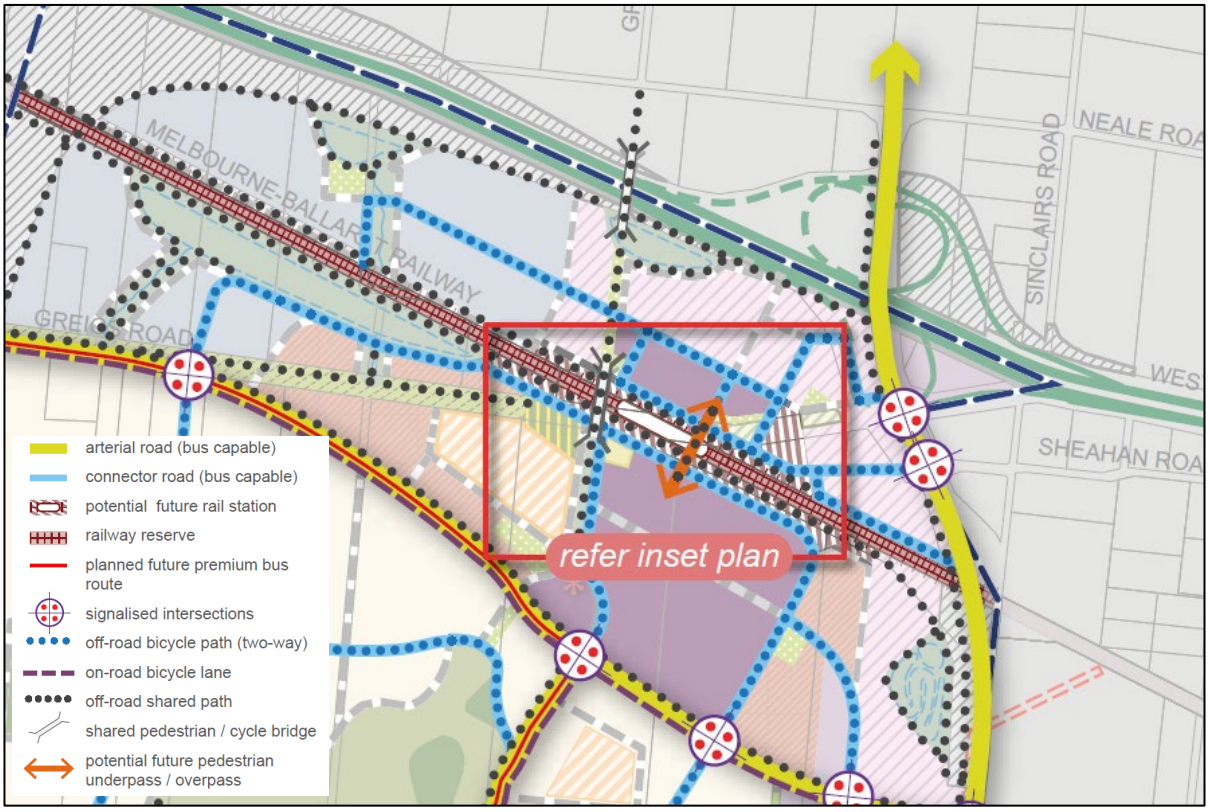
However, since the MATPICP was prepared, Department of Transport and Planning (DTP) has advised that they will not accept interim access from the Western Freeway entry ramp and accordingly, the northern signalised intersection can only be provided in the ultimate arrangement when the Western Freeway/Hopkins Road interchange is modified.

Southern Signalised Intersection (IT-02)

The southern signalised intersection is proposed as a cross-intersection to incorporate the existing access into the Warrawee PSP area via Sheahan Road to the east.

3.3. Public Transport and Path Network

The public transport and path network in the immediate vicinity of the WFCA is outlined at Figure 7.



Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 7: Public Transport and Path Network

Public Transport Network

In terms of public transport provision, the MATPPSP confirms that a new railway station is proposed to be constructed directly adjacent to the WFCA in the area to be set aside for the major town centre.

The MATPPSP also confirms that the WFCA is to contain a number of bus capable streets including internal loops through the town centre area and adjacent to the railway station, with a connection also to be provided to serve the proposed industrial area to the west.

Bus capable access into the WFCA is to be provided via both signalised intersections on Hopkins Road and also along the future roadway to run adjacent to the rail corridor beneath the future Hopkins Road overpass and connecting into the future Warrawee PSP area to the east.

Path Network

A key element of the proposed path network includes two north-south shared path connections across the Western Freeway including one along the western side of the Hopkins Road overpass and a separate pedestrian and cyclist only overpass located on the western edge of the town centre.

Three grade separated crossings of the Ballarat-Sunshine rail corridor are also identified as part of the path network including:

- A shared path along the western side of the Hopkins Road overpass,
- A potential pedestrian connection directly between the northern and southern portions of the major town centre including access points to the future railway station platforms, and

- A separate shared path crossing of the rail corridor to the west of the railway station forming a north-south spine through the WFCA and connecting directly through to the pedestrian and cycling overpass across the Western Freeway.

In addition to the above, east-west orientated shared use path routes are also proposed to run adjacent to the rail corridor and the Western Freeway, whilst shared use paths are also proposed to be provided along each of the internal bus capable streets described previously.

3.4. Precinct Structure Plan Requirements and Guidelines

The MATPPSP outlines a series of requirements and guidelines to inform future development within the Mt Atkinson precinct. Transport related requirements that are applicable to the WFCA, including the northern portion of the Major Town Centre, are reproduced in Table 1 whilst guidelines are reproduced in Table 2.

Table 1: Relevant Transport Related Requirements

Reference	Requirement
Major Town Centre	
R22	The UDF must address the following: • A fine-grained street network that identifies direct connectivity within, to and from the town centre, including measures to slow down speeds along main streets; • Measures to prioritise pedestrians along and across main streets, and provide a continuous path of travel for pedestrians and cyclists to key destinations; • Locations of public transport services, including bus stops. • Set out provisions for car parking including the location and design of parking areas, car parking rates and a demonstration of how off-street car parking has been minimised through efficiencies in the shared use of off-street facilities; • Provision of service areas for deliveries and waste disposal including access for larger vehicles including measures to minimise negative impacts on the amenity of the town centre and adjoining neighbourhoods;
Employment Areas	
R34	Vehicular access to properties fronting primary arterial roads must be from service roads, internal loop roads and/or rear laneways. Service roads and internal loop roads must provide indented parking unless carriageway widths can cater for on road parking without indented bays.
R36	Each UDF must address the following: • A street network that identifies direct connectivity within, to and from the commercial area including measures to slow down speed; • Measures to prioritise pedestrians along and across the main streets, and provide a continuous path of travel for pedestrians and cyclists to key destinations including the potential future Mt Atkinson train station; • Locations of public transport services, including bus stops; • Set out provisions for car parking including the location and design of parking areas, car parking rates and a demonstration of how off-street car parking has been minimised through efficiencies in the shared use of off-street facilities.
Street Network	
R58	Vehicle access to lots fronting arterial roads must be provided from a local internal loop road, rear lane, or service road to the satisfaction of the road authority.

Reference	Requirement
R61	Development must positively address all waterways through the use of frontage roads or lots with a direct frontage and rear access to the satisfaction of Melbourne Water and the responsible authority.
R63	Roundabouts, where determined to be required at cross road intersections, must be designed to slow vehicles, and ensure safe crossings for pedestrians and cyclists and continuity of shared paths and bicycle paths.
R66	Road networks and street types must be designed and developed in accordance with the street cross sections in Appendix C of the MATPPSP unless otherwise agreed by the responsible authority.
R67	Any changes required to the design of roads and intersections in the PSP at the time of development must be accommodated within the land take identified in Plan 4 and Appendix A of the PSP.
R68	Where agreed to be used by the responsible authority, alternative street cross sections such as illustrated in Appendix D of the PSP must ensure that: • Minimum required carriageway dimensions are maintained to ensure safe and efficient operation of emergency vehicles on all streets as well as buses on connector streets; • The performance characteristics of standard steet cross sections as they relate to pedestrian and cycling use are maintained; • Relevant minimum road reserve widths for the type of street are maintained as illustrated in Appendix D of the PSP; and • Industrial subdivision layouts must minimise industrial traffic through residential areas.
Public Transport	
R69	The street network must be designed to ensure 95% of all households are located within 400 metres of public transport services or bus capable roads, and all households are able to directly and conveniently walk to public transport services.
R70	Subdivision design must enable passive surveillance to the public transport network by designing buildings which front on to streets on the public transport network.
R71	Bus stops must be provided which enable convenient access to activity-generating land uses such as schools, community facilities, Mt Atkinson Volcanic Cone Reserve, sports reserves, Mt Atkinson Major Town Centre and Local and Industrial Convenience Centres and key employment locations.
R72	All roads, intersections and roundabouts shown as 'bus capable' on Plan 10 of the PSP should be constructed to accommodate ultra-low-floor buses to the satisfaction of Public Transport Victoria (PTV) and the responsible authority.

Reference	Requirement
Walking and Cycling	
R74	Design of all subdivisions, streets and arterial roads must give priority to the requirements of pedestrians and cyclists by providing: • Footpaths of at least 1.5 metres in width on both sides of all streets and roads unless otherwise specified by the PSP; • Shared paths or bicycle paths of 3.0 metres in width where shown on Plan 10 – Public Transport and Path Network or as shown on the relevant cross sections illustrated at Appendix C or D of the PSP or as specified in another requirement in the PSP; • Off-road bicycle path along the Hopkins Road high pressure gas transmission pipeline easement, as per relevant cross section at Appendix F of the PSP; • Safe and convenient crossing points of connector and local streets at all intersections and at key desire lines; • Pedestrian and cyclist priority crossings on all slip lanes; and • Safe and convenient transition between on- and off-road bicycle networks. All to the satisfaction of the coordinating road authority and the responsible authority.
R75	Shared and pedestrian paths along waterways must be constructed to the standard that satisfies the requirements of Melbourne Water and the responsible authority, and must be: • Delivered by development proponents consistent with the network as illustrated at Figure 7; • Positioned above 1:10 year flood levels with a crossing of the waterway designed above 1:100 year flood level to maintain hydraulic function of the waterway; and • Positioned above 1:100 year flood level where direct access is provided to the dwelling from the waterway.
R76	Bicycle priority at intersections of minor streets and connector streets with dedicated off-road bicycle paths must be achieved through strong and consistent visual clues and supportive directional and associated road signs.
R77	Safe, accessible and convenient pedestrian and cycle crossing points must be provided at all intersections, key desire lines and locations of high amenity
R78	Alignment of off-road bicycle paths must be designed for cyclists to travel up to 30km/h to the satisfaction of the responsible authority.
R79	Bicycle parking facilities including bicycle hoops and way-finding signage must be provided by development proponents in, and to, key destinations such as schools, community facilities, Mt Atkinson Volcanic Cone Reserve, sports reserves, Mt Atkinson Major Town Centre, local and industrial convenience centres and key employment locations.
R80	Subdivision designs must demonstrate how any proposed dedicated cycle paths, pedestrian paths and shared paths will integrate and connect in a safe and convenient manner.
R81	Pedestrian and cycle connections (bridges or underpass as indicated) must be provided in accordance with Plan 10 – Public Transport and Path Network, to provide pedestrian connectivity across the Melbourne–Ballarat rail corridor and the Western Freeway.

Reference	Requirement
Town Centre Transport, Access and Connectivity	
R82	Heavy vehicle movements (loading and deliveries) must not utilise the main streets and should be located to the rear and/or side street and screened, or 'sleeved' by more active uses.
R83	Main streets must be designed for a low speed environment of 30km/h or less such that vehicles and cyclists share the carriageway and pedestrians can safely cross the road.
R84	Increased permeability in the road network within and surrounding the town centre should be delivered via shorter block lengths and the avoidance of culs-de-sac.
R85	Safe and easy access for pedestrian and cycle trips must be provided to the town centre through the layout and design of the surrounding street network, including connections to the Mt Atkinson Homestead Heritage Reserve, Greigs Road and paths along waterways and the Melbourne– Ballarat rail corridor.

Table 2: Relevant Transport Related Guidelines

Reference	Requirement
Employment Areas	
G28	Buildings should be located at the front of any site apart from when any visitor car parking and access areas in the front setbacks are provided so to present an attractive address to the street. Any visitor car parking and access areas in the front setback area should be setback a minimum of 3 metres from the street frontage to enable provision of sufficient landscape strips at the street frontage. All vehicles should be able to enter/exit the site in a forward direction.
G32	Large areas of car parking, water tanks, service infrastructure and other structures (including plant and equipment) that are not part of the building should be located to the rear of buildings or the site, but behind the building line. Where this is not possible, they should be located behind constructed screening using durable and attractive materials.
Street Network	
G51	Approximately 30% of streets (including connector streets) within a subdivision should apply an alternative cross section to the standard street cross sections outlined in Appendix D of the PSP, to the satisfaction of the responsible authority. Other non-standard variations are encouraged regarding, but not limited to: • Varied street tree placement; • Varied footpath or carriageway placement; • Varied carriageway or parking bay pavement material; • Introduction of elements to create a boulevard effect; and • Differing tree outstand treatments. For the purposes of this guideline, variation to tree species between or within streets does not constitute a standard street cross section variation.
G52	Street layouts should provide multiple convenient routes to key destinations such as schools, community facilities, Mt Atkinson Volcanic Cone Reserve, sports reserves, Mt Atkinson Major Town Centre and local and industrial convenience centres.

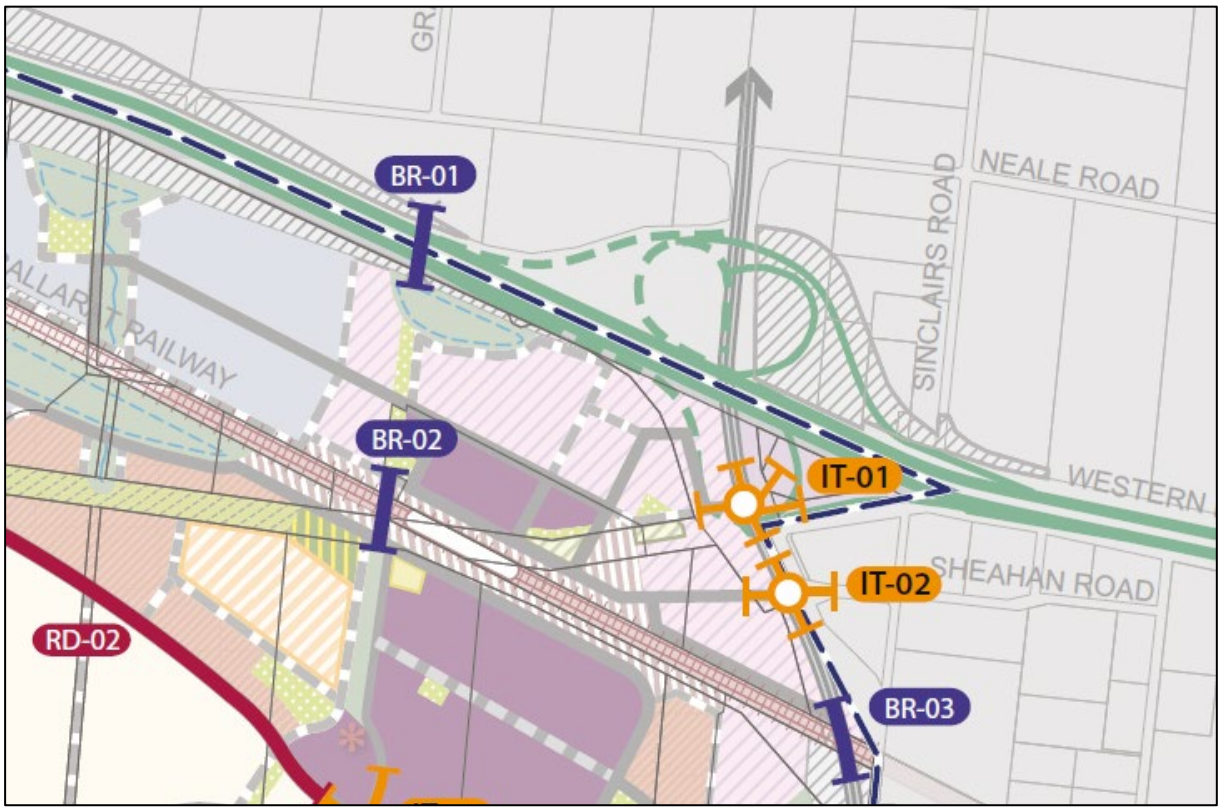
Reference	Requirement
G53	Street block lengths should not exceed 240 metres to ensure a safe, permeable and low speed environment for pedestrians, cyclists and vehicles is achieved.
G54	Cul-de-sacs should not detract from convenient pedestrian, cycle and vehicular connections.
G55	The frequency of vehicular crossovers on widened verges (a verge in excess of six metres) should be minimised through the use of a combination of: • Rear loaded lots with laneway access; • Vehicular access from the side of a lot; • Combined or grouped crossovers; and • Increased lot widths.
G56	Slip lanes should be avoided in areas of high pedestrian activity and should only be provided at any intersection between connector streets and arterial roads where they are necessitated by unusually high traffic volumes to the satisfaction of the coordinating road authority.
G57	Alignment of future primary arterial roads may be altered so long as the intended performance and function of the roads are maintained to the satisfaction of the coordinating road authority and the responsible authority, and in consultation with affected landowners.
G58	Streets should be the primary interface between development and waterways, with open space and lots with a direct frontage allowed only as a minor component of the waterway interface.
G59	Where lots with direct frontage are provided, they should be se t back five metres from the waterway corridor to provide pedestrian and service vehicle access to those lots, to the satisfaction of Melbourne Water and the responsible authority.
G60	All signalised intersections should be designed in accordance with the VicRoads 'Growth Area Road Network Planning Guidance & Policy Principles (2015)'.
Walking and Cycling	
G62	Lighting should be installed along shared, pedestrian and cycle paths linking to key destinations, unless otherwise agreed by the responsible authority.
Town Centre Transport, Access and Connectivity	
G63	Pedestrian priority should be provided across all side roads along main streets and all car park entrances.
G64	Bicycle parking should be provided at entry points to the town centre and designed to include weather protection, passive surveillance and lighting to the satisfaction of the responsible authority.
G65	Car park entrances directly from main streets should be minimised and alternative access should be provided from other streets.
G66	Car parking should be provided efficiently through use of shared, consolidated parking areas.
G67	A safe, clearly identified and continuous path of pedestrian travel should be provided throughout all car parking areas.

4. Mt Atkinson and Tarneit Plains Infrastructure Contributions Plan

The MATPICP was gazetted in January 2020 in conjunction with the updated version of the MATPPSP.

The MATPICP identifies the key infrastructure requirements that require monetary contributions in conjunction with the development of the area. Key transport infrastructure that is relevant to the WFCA is identified in Figure 8. These projects include:

- IT-01 Hopkins Road/east-west connector interim signalised intersection and separate roundabout.
- IT-02 Hopkins Road/east west connector interim signalised intersection.
- BR-01 Pedestrian and Cyclist bridge across the Western Freeway to connect to the Kororoit PSP to the north.
- BR-02 Pedestrian and cyclist bridge across the Ballarat-Sunshine Rail Corridor.
- BR-03 Hopkins Road Level Crossing Upgrade involving the construction of automated pedestrian gates at the existing railway level crossing on Hopkins Road. (This project is now redundant given that the railway level crossing is in the process of being grade separated.)



Source: Mt Atkinson & Tarneit Plains Infrastructure Contributions Plan

Figure 8: Transport Infrastructure Requirements

IT-01 Hopkins Road/East-West Connector Road (WFCA Access North Intersection)

A concept plan of the IT-01 intersection included in the MATPICP is presented at Figure 9.

Source: Mt Atkinson & Tarneit Plains Infrastructure Contributions Plan

Figure 9: IT-01 Hopkins Road/East-West Connector Road (WFCA North Access Intersection) Concept Plan

The concept plan shows a four-leg signalised intersection replacing the existing five-leg roundabout incorporating the westerly orientated ramps at the Hopkins Road/Western Freeway interchange and the construction of a separate three-leg roundabout part way along the existing Western Freeway westbound entry ramp.

This treatment was intended to provide interim access into the WFCA, however, as discussed previously it is no longer supported by DTP, who instead require that the western leg of the signalised intersection provide access directly into the WFCA site, but that this cannot be provided until the existing freeway interchange is modified.

IT-02 Hopkins Road/East-West Connector Road (WFCA Access South Intersection)

A concept plan of the IT-02 intersection included as part of the MATPICP is presented at Figure 10.

Source: Mt Atkinson & Tarneit Plains Infrastructure Contributions Plan

Figure 10: IT-02 Hopkins Road/East-West Connector Road (WFCA South Access Intersection) Concept Plan

The concept plan shows that this signalised intersection is to replace the existing staggered T-intersections at Meskos Road and Sheahan Road, with the western leg of the intersection to provide a second point of access into the WFCA site.

5. Western Freeway Upgrade

Since the MATPPSP and MATPICP were completed, the Victorian State Government has developed a business case for the upgrade of the section of the Western Freeway between Melton and Caroline Springs which includes the existing interchange at Hopkins Road, referred to as the Western Freeway Upgrade Project (WFU Project). In addition to considering additional traffic lanes on the Western Freeway, the business case also includes consideration of upgrades to freeway interchanges including the existing interchange at Hopkins Road.

The WFU Project is to be delivered by the Victorian Infrastructure Delivery Authority (VIDA) and will require a revised intersection design at IT-01 which excludes the roundabout on the existing freeway entry ramp as shown in the MATPICP. This will result in significant challenges providing access to the site via the IT-01 intersection until such time as the portion of the WFU Project in the vicinity of Hopkins Road is complete.

DTP has advised that the ultimate access arrangements for the WFCA need to reflect the arrangements included in the WFU business case. Accordingly, should the WFU business case be accepted, this will require amendment to the MATPPSP and the MATPICP to no longer include a roundabout showing access to the WFCA from the existing Western Freeway westbound entry ramp.

DTP has also advised that access to the WFCA will initially need to be via the IT-02 intersection, citing that the ultimate design and construction of the IT-01 intersection will be

linked with the future Western Freeway/Hopkins Road interchange upgrade. Further discussion is included in the 'Transport and Movement Assessment' section of this report.

6. Transport Modelling

Transport modelling was undertaken to inform the preparation of the MATPPSP. This modelling has now been superseded by the transport modelling undertaken for the WFU business case.

The modelling for the WFU has not been released publicly, however, we understand that it includes provision for development within the WFCA and substantiates the need for the two access points to be provided into the WFCA via IT-01 and IT-02.

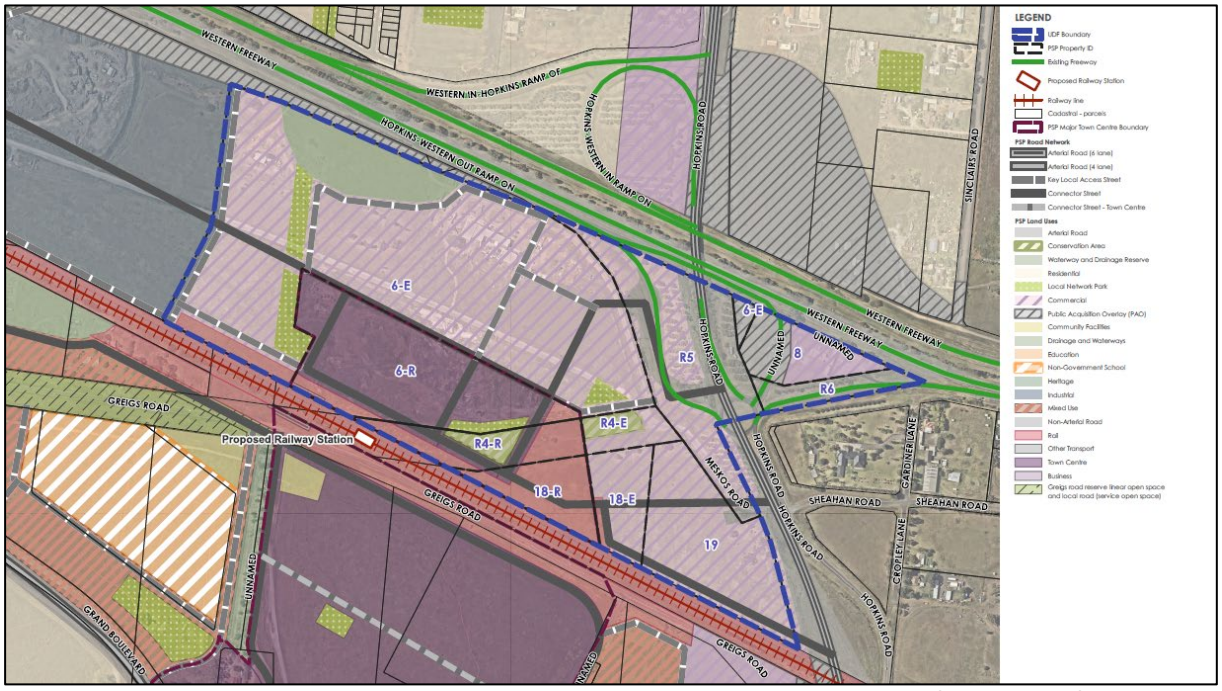
7. Proposed WFCA Development

Urban Design and Management is working on the preparation of the Urban Design Framework for the WFCA site and has been working with MSA properties to develop a draft masterplan.

7.1. Proposed Precinct Layout

The indicative precinct plan for the WFCA is presented at Figure 11 and is consistent with the urban structure outlined in the MATPPSP.

Note that there are some discrepancies between the internal road network shown in the MATPPSP and the arrangement currently proposed within the WFCA site. This is due to the change that has occurred as a result of the WFU business case where there will no longer be an interim access into the WFCA from the existing Western Freeway westbound entry ramp. This is discussed in more detail as part of the Transport Movement Assessment.



Source: Urban Design and Management

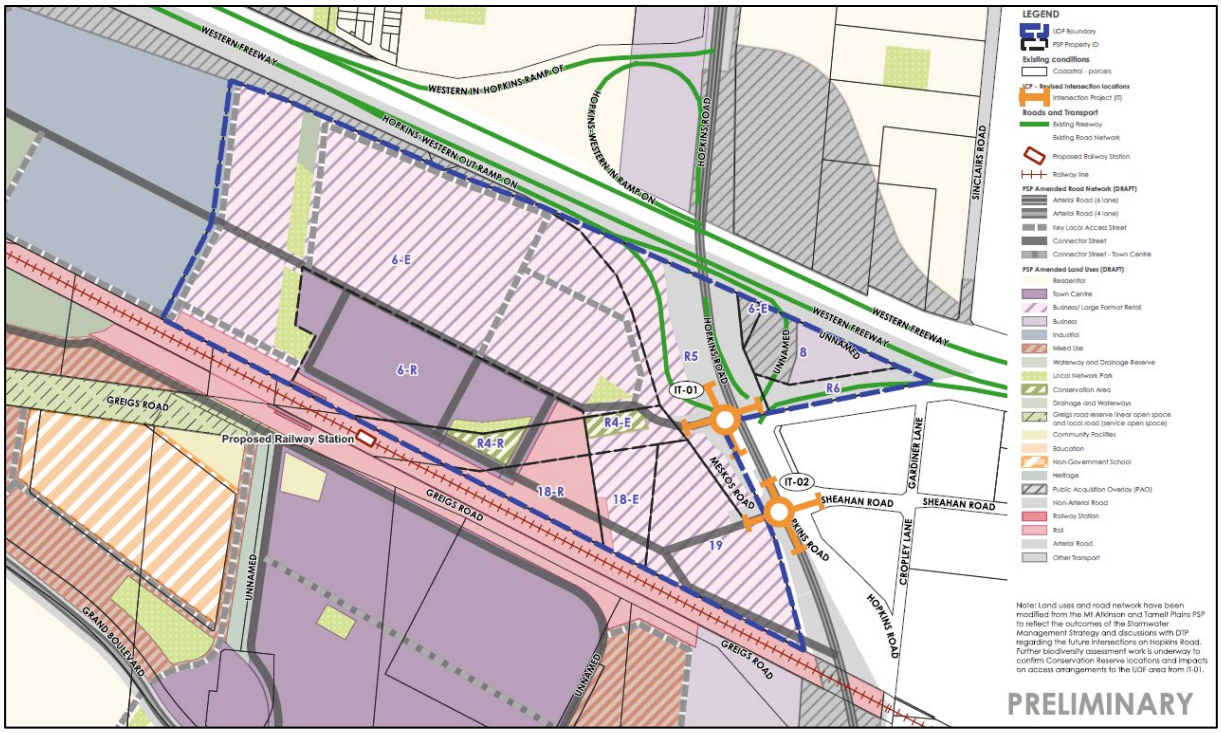
Figure 11: WFCA Precinct Plan

The plan indicates that the WFCA will include the specialised town centre precinct located closest to the proposed railway station, with the remainder of the site to include large format retail uses. The site is also proposed to include some commuter parking associated with the proposed Mt Atkinson Railway Station, although the majority of commuter parking will be located on the southern side of the railway line.

7.2. Proposed Road Layout and Access

An indicative future road network for the WFCA is presented at Figure 12. The indicative future road network plan includes access to the WFCA from Hopkins Road that is consistent with the preferred arrangements described in the WFU business case.

It is noted that the alignment of the access road into the site from the northern IT-01 intersection may be impacted by the conservation reserve (R4-E) within the historic Greigs Road reserve.



Source: Urban Design and Management

Figure 12: WFCA Proposed Road Network

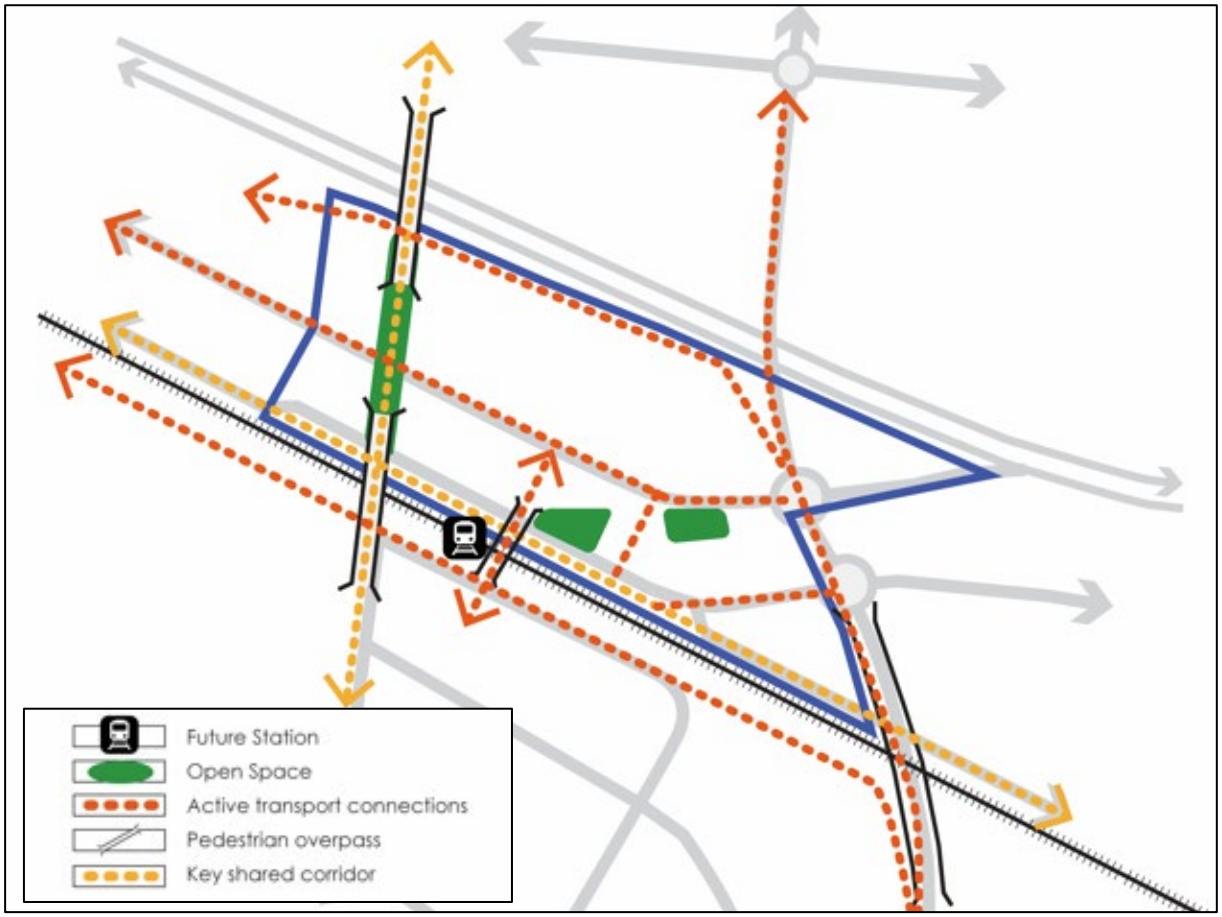
The proposed road network includes two primary access roads connecting through to Hopkins Road. This includes the southern access, which connects to the southern signalised intersection (IT-02) and forms the southern east-west route through the site, running parallel and adjacent to the rail corridor; and the northern access, which connects to the northern signalised intersection (IT-01), which will ultimately replace the existing roundabout incorporating the Western Freeway westbound ramps. Both roads run in a predominantly east-west direction through the site, parallel to the rail corridor and the Western Freeway.

In addition to the two proposed access roads to Hopkins Road, there is also proposed to be a third east-west road that runs to the south of the connection to IT-02. This road will run adjacent to and parallel to the rail corridor and will run beneath the Hopkins Road overpass that is currently being constructed and continue through to the Warrawee Precinct Structure Plan area to the east.

There are also a number of north-south roads that are proposed to run perpendicular to the main east-west roads, between the rail corridor and the Western Freeway.

7.3. Proposed Pedestrian and Cycling Networks

The indicative pedestrian and cycling network for the WFCA is presented at Figure 13.



Source: Western Freeway Commercial Area Background Report

Figure 13: WFCA Proposed Active Travel Network

The proposed active travel network includes a central east-west spine running along the central east-west connector street, with additional east-west routes running adjacent to the rail corridor connecting to Hopkins Road and adjacent to the Western Freeway. Each of the routes provide connectivity through to the proposed industrial precinct to the west.

The primary north-south route is shown to incorporate the PSP identified bridge connection across the Western Freeway and the connection across the rail corridor at the proposed Mt Atkinson Railway Station. An additional north-south cycling route is proposed through the core area of the proposed town centre leading directly through to the railway station.

In addition to the active travel network described at Figure 13, footpaths are also proposed on both sides of all internal streets to provide full separation between pedestrians and vehicle traffic.

8. Transport and Movement Assessment

8.1. Transport Modelling Adequacy

Strategic and microsimulation transport modelling undertaken as part of the WFU business case has confirmed the need to provide two intersections on Hopkins Road to provide access to the WFCA.

This has superseded earlier transport modelling undertaken specifically for the WFCA site which arrived at the same conclusion. Whilst the most recent transport modelling has not been shared with the project team preparing the Urban Design Framework for the WFCA, it is understood that the modelling has been used to inform the design of the IT-01 and IT-02 intersections.

The transport modelling undertaken as part of the WFU business case is informed by the latest transport project and land use assumptions provided by the State Government including the assumptions regarding the Western Intermodal Freight Terminal, the OMR, the Western Rail Plan, Level Crossing Removals. Accordingly, this is considered to be adequate for the purposes of the design of the ultimate intersection layouts to service the WFCA.

8.2. Site Access Considerations

Opportunities to provide road access to the WFCA site are limited due to its irregular shape (elongated in the east-west direction but condensed in the north-south direction) and the presence of significant barriers on three of the four site boundaries due to existing or future major transport corridors.

Due to these limitations, the major points of access are restricted to the proposed IT-01 and IT-02 intersections on Hopkins Road. The locations of these intersections are also relatively fixed due to the grade separation of the Ballarat-Sunshine rail corridor to the south of IT-02 and the Western Freeway overpass to the north of IT-01. The IT-02 intersection must also incorporate an access into the future Warrawee PSP to the east (Sheahan Road), whilst the IT-01 intersection must fit between the IT-02 intersection and the approach grade to the Western Freeway overpass to the north.

Interim Hopkins Road Access Arrangements

A complication with the access to the WFCA site is that the IT-01 intersection treatment that is compatible with the WFU business case is unlikely to be able to be constructed until such time as the Western Freeway/Hopkins Road interchange upgrade is completed and the existing roundabout that coincides with the IT-01 intersection location can be removed. The State Government has not yet announced a timeframe on when these works are proposed to occur or the extent of works that will be funded.

DTP's stated position is that they will not permit an interim access to the WFCA in the location of the IT-01 intersection whilst the existing freeway entry and exit ramps remain in place. This means that the most likely scenario is that interim access to the WFCA site will initially need to be from an intersection in the location of IT-02.

However, the ability to construct the full IT-02 intersection as shown in the MATPICP may be limited as not all land located on the western side of Hopkins Road is under the same ownership. Specifically, construction of the full IT-02 intersection treatment is subject to development of the adjacent Land Parcel 19. Without access to this land parcel, the western

leg of the IT-02 intersection will be quite constrained due to the need to curve sharply to the north to follow the existing Meskos Road alignment. There would also be limited ability to widen the interim access to accommodate additional turning lanes to meet future traffic demand as the site is developed.

This potential interim access road alignment which avoids Land Parcel 19 is presented at Figure 14.

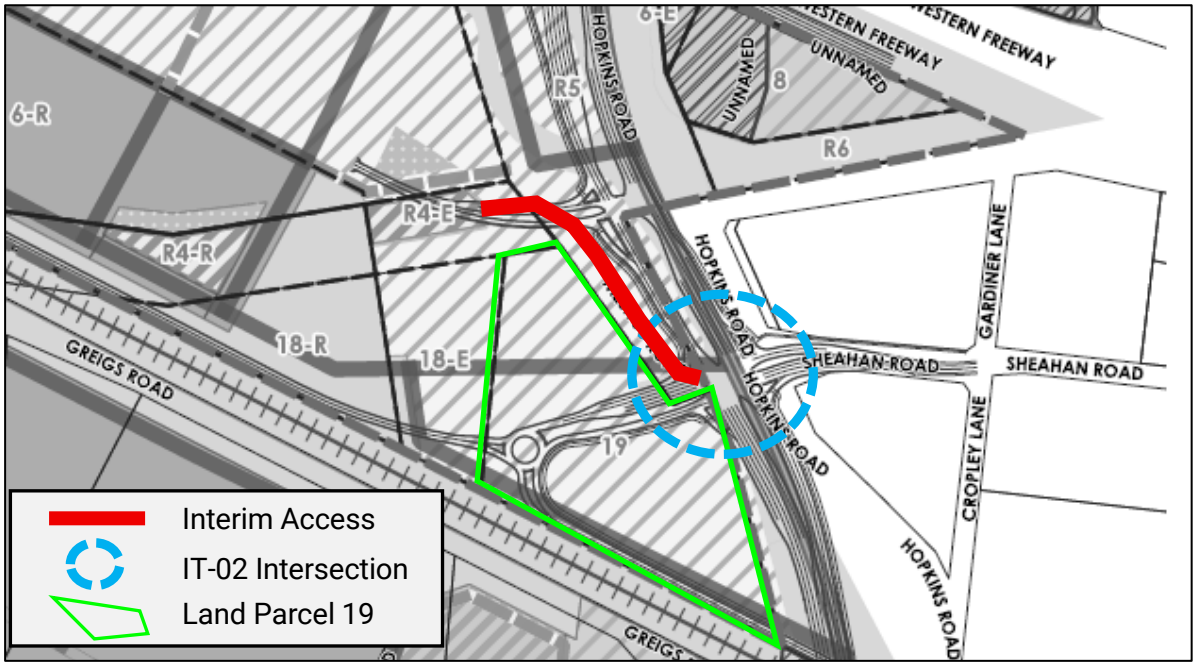


Figure 14: Potential Interim WFCA Access Road Alignment

This arrangement will limit the amount of traffic that can be accommodated via an interim IT-02 intersection and would therefore constrain the amount of development that could occur on the site under this interim scenario. This scenario is also likely to result in a substantial amount of redundant work as the interim alignment of the western leg of the intersection would not line up with the ultimate western leg alignment.

Ultimate Hopkins Road Access Arrangements

Following the construction of the interchange upgrade and the removal of the existing roundabout, it will be possible to construct the IT-01 intersection to supplement the intersection at IT-02, such that there will be two signalised points of access into the WFCA site from Hopkins Road.

Although not currently shown on the Road Network plan at Figure 12, an eastern leg to the IT-01 intersection should be constructed to replace the existing freeway exit ramp. This eastern leg would provide access to the existing freeway service centre site and would also provide a second access through to the Warrawee PSP area.

Other Access Points

There are two other vehicle access points to the WFCA included as part of the MATPPSP. These two access points perform a less significant traffic function as they do not involve connections through to the arterial road network or the Western Freeway.

An additional eastern connection into the Warrawee PSP is shown to be provided adjacent to the rail corridor which will pass beneath the future Hopkins Road overpass of the railway. The

benefit of this connection is that traffic will be able to travel between the adjacent Mt Atkinson and Warrawee PSP areas without the need to travel through a signalised intersection to cross Hopkins Road. This link would not need to be provided until such time as the Hopkins Road level crossing has been grade separated and development has commenced within the Warrawee PSP.

The remaining link is a westerly connection through the proposed industrial precinct to the west of the WFCA and across the OMR reservation to link with Troups Road North in the adjacent Rockbank PSP. This link does not provide a significant traffic function as it will not provide convenient access through to the arterial road network, noting that Troups is ultimately proposed to be closed at both the Western Freeway intersection and the at the existing railway level crossing. Accordingly, the provision of this link should not be a requirement for the development of the WFCA.

The main function of the westerly access would be to provide a local access connection between the WFCA and residents of the Rockbank PSP. Accordingly, development of the WFCA should not preclude this link from being constructed in the future.

8.3. Internal Road Layout

The suggested internal road network is generally arranged in a grid network including two east-west roads that run the full length of the WFCA site including one centrally located route and the other running adjacent to the rail corridor on the southern boundary. A number of internal north-south routes linking the two east-west roads are proposed which are approximately 230m apart. Importantly, each of the proposed internal streets include connectivity at each end, with an avoidance of cul-de-sacs.

This road layout is generally consistent with the arrangement shown in the MATPPSP, however, a number of minor amendments are recommended as documented in Figure 15.

These changes involve:

- Matching up the two east-west connector streets through the site to align with the updated IT-01 and IT-02 intersections respectively,
- Constructing a connector street as the east leg of the IT-01 intersection to provide access to the service centre site and a second connection into the Warrawee PSP area to the east, and
- Removing the previous connector street route that was formerly proposed to connect to the existing westbound freeway entry ramp as this is now superseded by the direct connector street access from IT-01

A smoother curved alignment is also recommended for the connection between the southern east-west connector route through the WFCA and the IT-02 intersection.

It is noted also that the alignment of the connector street linking up to IT-01 will need to have regard to the conservation reserve located within the historical Greigs Road reserve as there are areas of forest sun-orchids which are not to be disturbed.

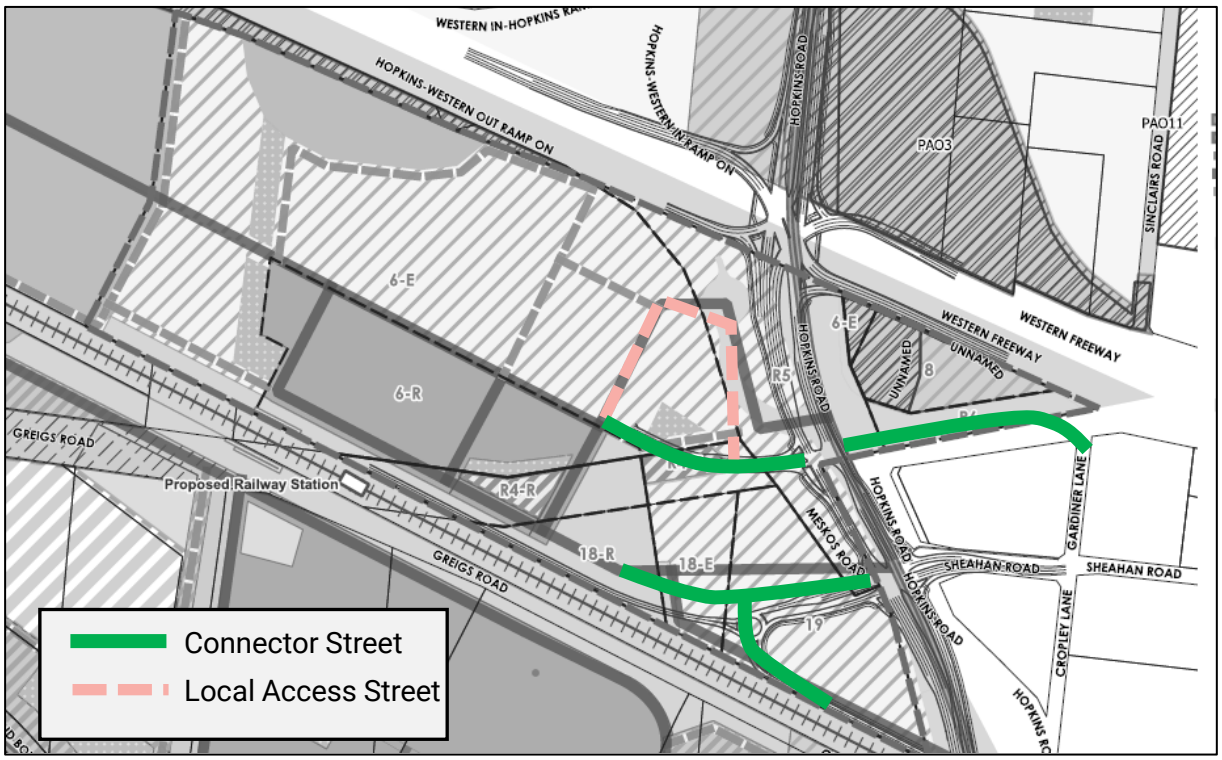


Figure 15: Recommended Changes to WFCA Road Network

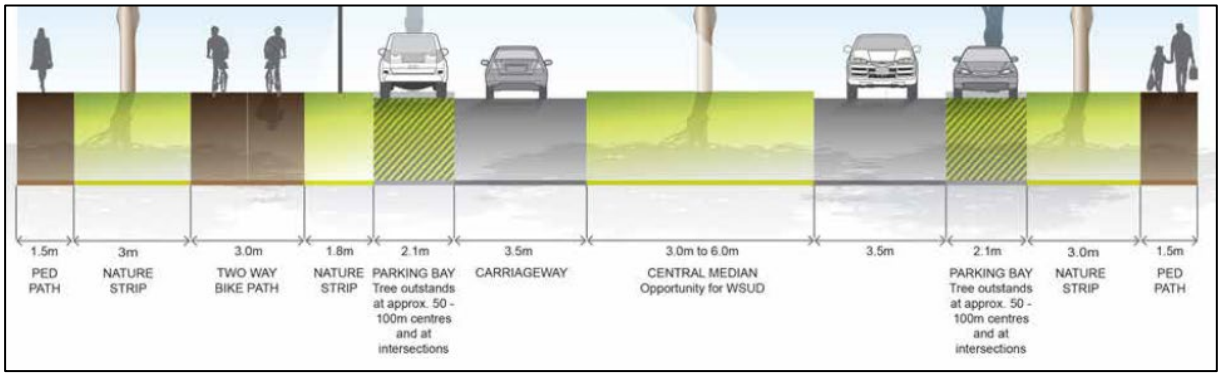
Adopting these changes documented above will result in a fine grained street network providing good connectivity within the town centre and employment areas that meets the objectives of the MATPPSP.

Internal Road Cross-Sections

The MATPPSP specifies a number of road cross-sections that are relevant to the WFCA. These include:

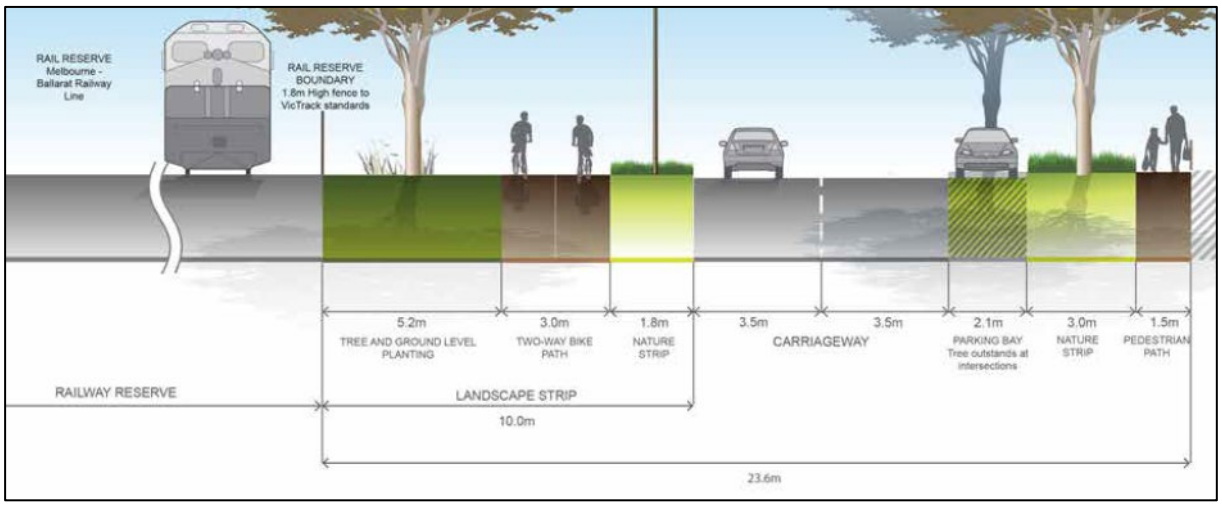
- Boulevard Connector Street,
- Rail Interface Connector Street,
- Town Centre Main Street, and
- Industrial Access Street.

Diagrams illustrating these cross-sections are presented in Figure 16 through to Figure 19.



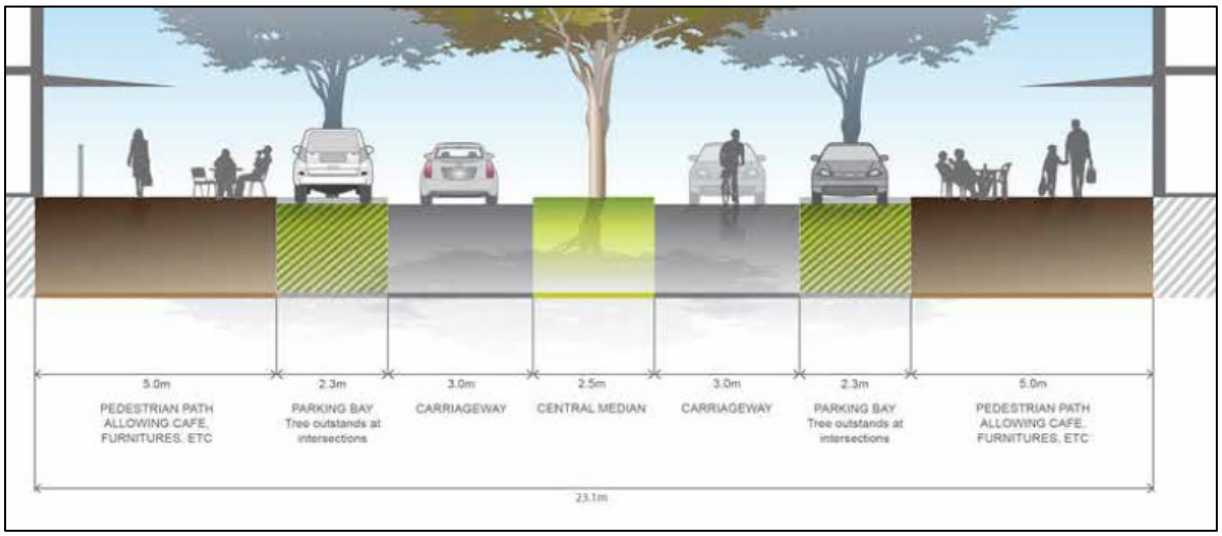
Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 16: Standard 28m-31m Boulevard Connector Street



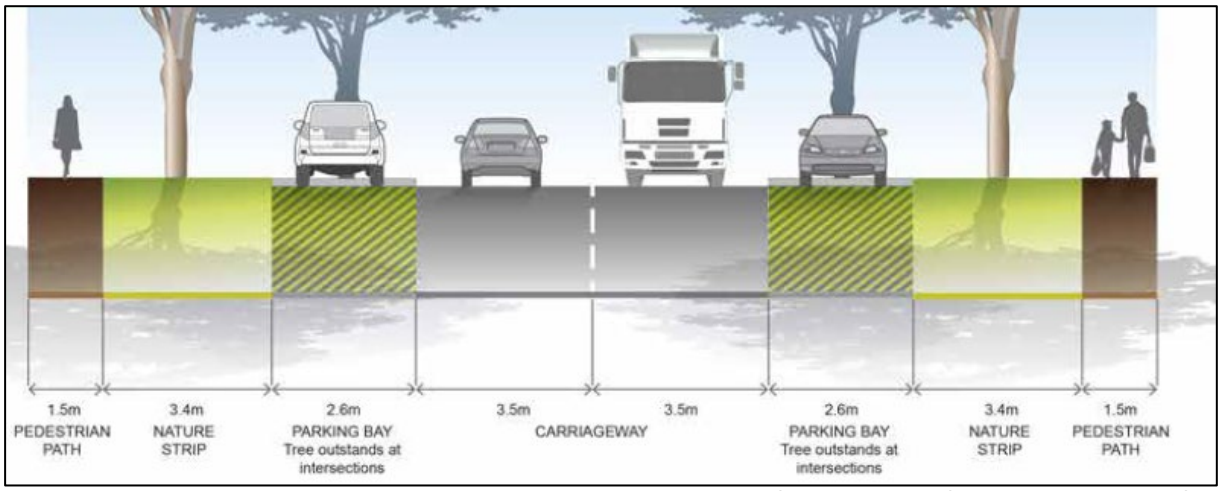
Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 17: 23.6m Connector Street – Commercial Frontage, Rail Interface



Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 18: 23.1m Town Centre Main Street



Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 19: 22.0m Industrial Access Street

It is considered that a cross-section similar to the 'Boulevard Connector Street' would be appropriate for the main east-west connector street running through the site.

Importantly the cross-section includes 3.5m traffic lanes with separate indented parallel parking to ensure that the street is suitable for buses. At the eastern end of the street, near the site entrance, it would be appropriate to widen the cross-section to incorporate two through traffic lanes in each direction, to maximise capacity with additional turn lanes to be provided on approach to the IT-01 intersection at Hopkins Road.

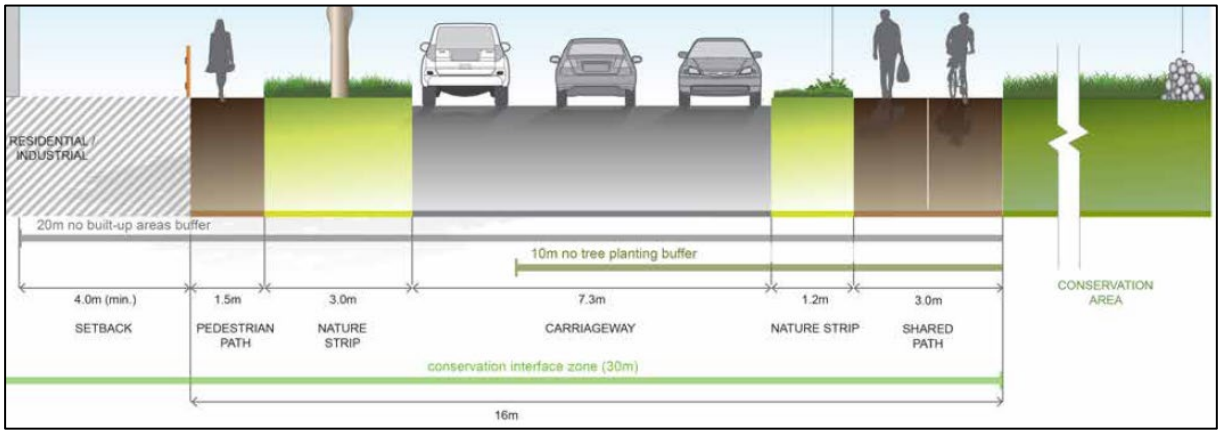
For the connector street that runs parallel and adjacent to the rail corridor, it would be appropriate to apply the cross-section described in Figure 17 for the 'Rail Interface Connector Street' noting that this cross-section has been specifically prepared for this purpose. Importantly, this cross-section would also be suitable for buses given that it includes 3.5m traffic lanes with indented parking on the retail side. Similar to the main east-west connector street, it would be appropriate to widen the cross-section to incorporate two through traffic lanes in each direction to maximise capacity with additional turn lanes to be provided on approach to the IT-02 intersection at Hopkins Road.

For each of the north-south streets within the town centre area that connect between the two east-west connector streets, it would be appropriate to apply the 'Town Centre Main Street' cross-section as described in Figure 18. This cross-section includes indented parking lanes and wide footpaths adjacent to the retail frontages. Where it is proposed for buses to operate along these streets it may be necessary to increase the proposed traffic lane widths to 3.5m.

The cross-section for the internal streets within the employment areas elsewhere within the WFCA, including to the north of the central east-west connector street, should be based on the 'Industrial Access Street' cross-section described in Figure 19.

In addition to the cross-sections described above, there will also be a need for laneways and minor roadway links to access rear parking areas and loading areas. Only minimal cross-sections would be required for these types of roads.

At the western end of the site, where the road adjacent to the rail corridor is only proposed to be a local street, rather than a connector street, it may be appropriate to apply the lesser 'Local Access Street Level 1 Conservation Area 7 & 8' standard as specified in the MATPPSP and presented at Figure 20.



Source: Mt Atkinson & Tarneit Plains Precinct Structure Plan

Figure 20: Local Access Street Level 1 – Conservation Area 7 & 8

This reduces the overall cross-section to 16m but retains the 3.0m shared path adjacent to the rail corridor, noting that the lesser carriageway width without a separate parking lane would not allow buses to operate in this section.

Traffic Management and Speed Control

The MATPPSP describes that the main streets through the town centre area should be designed for a low speed environment with speeds of less than 30km/h where cyclists can share the carriageway with motor vehicles and pedestrians can safely cross the road.

This can be achieved in the WFCA with relatively short leg lengths for each of the north-south streets of approximately 140m and by providing narrow carriageway widths with a central median so that pedestrians can stage their crossing of the road. Provision of a raised pedestrian crossing (wombat crossing) at a mid-block location on each of these streets would be a further suitable means of slowing traffic and prioritising pedestrian movements. Desirably, these mid-block crossings should be aligned with pedestrian walkways through to adjacent retail development. Any raised pavement treatments must however, be designed such that they can be easily negotiated by low floor buses on any roads that have the potential to be utilised as a bus route.

The two east-west connector streets will carry a greater traffic function and accordingly, reducing the traffic speed down to 30km/h for the entirety of these routes would not be appropriate. Similar to the town centre streets, the inclusion of a median and regular kerb outstands between indented parking areas along the central east-west connector street will have the visual effect of narrowing the carriageway width, resulting in slower speeds.

It is recommended that any cross-intersections formed between the central east-west connector street and north-south streets should be controlled by traffic signals. This will provide regular breaks in traffic and will provide a safe and easier crossing environment for both pedestrians and cyclists compared to the alternative of providing roundabouts. A signalised crossing point should also be provided where the north-south bicycle route crosses the east-west connector street to provide a safe and convenient crossing point. This could be provided as a raised crossing to reduce traffic speeds through the crossing.

Left turn slip lanes should only be provided at the major IT-01 and IT-02 intersections with Hopkins Road and not at internal signalised intersections within the WFCA where there is a desire to maximise space for pedestrians and minimise crossing distance.

Raised pedestrian priority crossings should be provided across the rail interface connector street that align with the railway station access and the separate grade separated crossing of the rail corridor to the west.

8.4. Pedestrian and Cyclist Access

Providing a high standard of pedestrian and cycle links is a key focus of the MATPPSP. This is critical to reducing car dependency and in relation to the WFCA, ensuring that it is easily accessible to the residential area and major part of the town centre to be located to the south of the rail corridor, as well as other PSP areas to the north, west and east.

The MATPPSP identifies a number of locations where off-road bicycle paths should be provided within the WFCA. This includes three east-west routes including adjacent to the rail corridor along the southern boundary, adjacent to the central east-west connector street and adjacent to the freeway corridor to the north. The route adjacent to the rail corridor is

considered to be of greatest importance as it will provide connectivity to the Rockbank PSP area to the west and to the future Warrawee PSP area to the east.

North-south routes should be provided to connect between the railway and freeway overpasses towards the western edge of the WFCA and adjacent to Hopkins Road along the eastern boundary. Both of these routes will provide connectivity to areas to the north and south of the WFCA by providing crossings of the freeway and rail corridor. Each of the crossings of the freeway and railway should be provided with ramps to provide convenient access for cyclists. This includes the separate rail crossing to be located at the future Mt Atkinson Railway Station.

Each of the off-road bicycle paths should, as a minimum, be constructed at a width of not less than 3m to provide an appropriate level of service for both pedestrians and cyclists. For locations where pedestrian volumes are likely to be highest, such as in the vicinity of the proposed railway station, the provision of separate parallel pedestrian and cyclist paths should be considered, to minimise conflicts between pedestrians and cyclists.

For the majority of other streets located within the WFCA, including the north-south streets through the town centre area, it is recommended that cyclists should share the road carriageway with motorists, noting that these streets are to be designed as low speed environments.

In addition to the bicycle network, footpaths should generally be provided on both sides of all streets within the WFCA, with regular crossing facilities provided as discussed previously.

8.5. Bus Network

The MATPPSP requires that the WFCA includes bus capable streets to allow buses to circulate through the area and access a bus interchange on the north side of the railway station. All bus routes would initially be required to enter and exit the WFCA via the proposed intersections with Hopkins Road. In the longer term there could also be potential for the bus route to extend in a westerly direction through the site to connect to the existing residential area in Rockbank. Bus services should ideally be provided at an early stage of the development of WFCA so that public transport is a viable option from the outset. This has the benefit of reducing congestion associated with vehicle traffic accessing the site and establishing public transport as a potential mode choice before use a private motor vehicle becomes entrenched.

Bus access into the WFCA site from Hopkins Road could be provided from either the IT-01 or IT-02 intersections as per the potential options illustrated in Figure 21, noting that both east-west routes into the site are to be designed as bus capable.

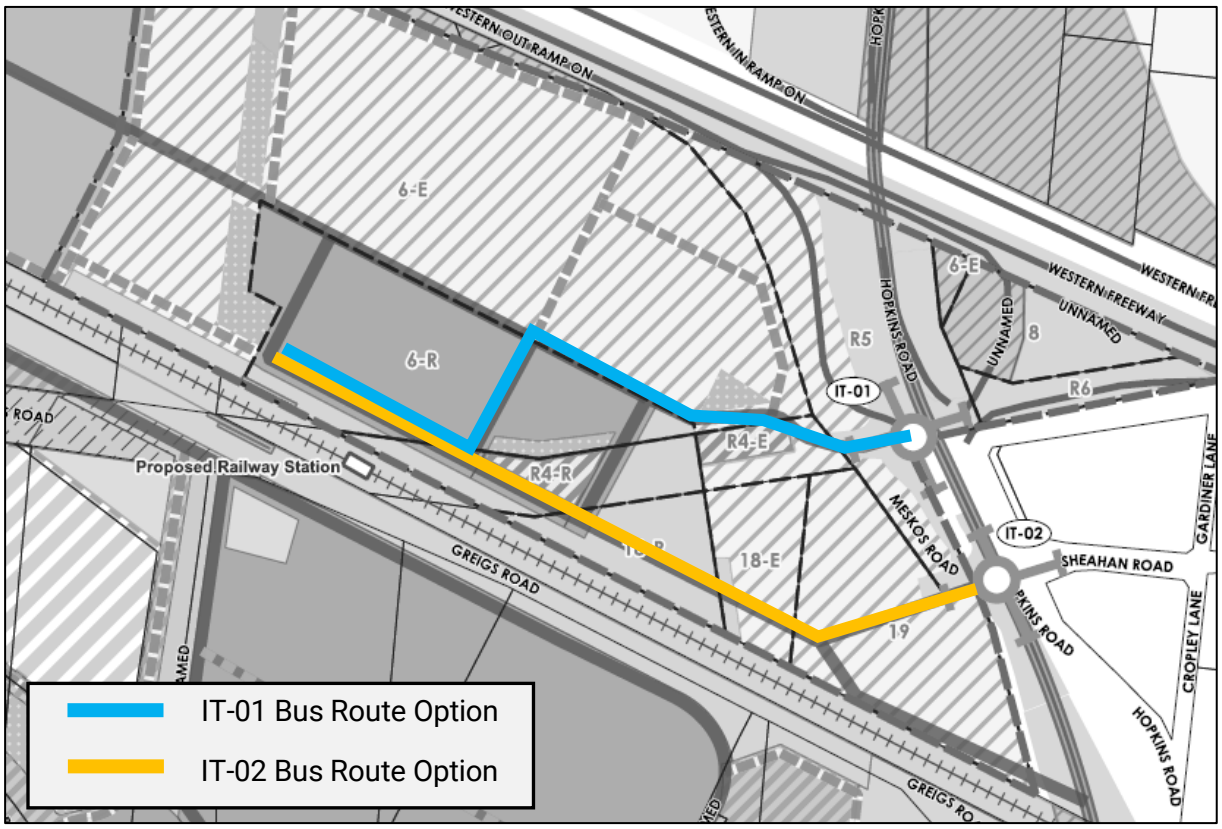


Figure 21: Initial Bus Route Options to Access WFCA from Hopkins Road

Both options would involve buses terminating at an interchange adjacent to the proposed Mt Atkinson Railway Station, which would need to be designed so that buses can turn around.

The use of the IT-02 access for the bus route is beneficial as it allows the bus route to be more direct and does not involve the need to the bus to make turns at intersections within the town centre, avoiding the need for larger intersection geometry. However, the IT-01 bus route option would allow bus stops to be located closer to the town centre. The IT-01 option would also require one of the north-south streets within the town centre to be designed as bus capable.

Both options would allow the bus route to ultimately continue west towards Rockbank rather than terminating at Mt Atkinson Railway Station.

Regardless of which access route option is selected, the entire area of the WFCA would be within 400m of a bus service, noting that the north-south distance between the rail corridor and the Western Freeway is only slightly above 400m. This will ensure that the bus services will provide effective public transport to the surrounding commercial and industrial areas in addition to the railway station and town centre.

In addition to a major bus interchange to be located adjacent to the railway station, bus stops should ideally be spaced at intervals of approximately 200m to 300m along the route. Bus stops should be located near intersections or designated crossing points to allow safe and convenient access from both sides of the road. Bus stops must also provide for universal access in accordance with current DTP standards and should be provided with an all-weather shelter to make the use of buses attractive for passengers regardless of weather conditions.

Bus stops should desirably be provided within indented bays on the departure side of intersections or at the commencement of auxiliary left turn lanes in place of parallel parking spaces.

Traffic signals should be provided at any internal intersection within the WFCA where buses are required to undertake right turn movements from minor streets into connector streets in order to minimise the potential for delays.

8.6. Car Parking

Car parking for the WFCA should be provided in accordance with the rates specified in Clause 52.06 of the Melton Planning Scheme based on the various uses that are proposed within the site.

Clause 52.06 of the Planning Scheme allows reduced rates of parking provision to apply when an area is identified within a designated Principal Public Transport Network area which includes areas within 400m within a railway station. Although this has not been formally applied to the area surrounding the future Mt Atkinson Railway Station at this stage, it would be appropriate to have consideration for the reduced parking rates as identified in Column B of Table 1 of Clause 52.06 of the Planning Scheme in anticipation of the new station opening. This particularly relates to the uses within the major town centre area to the south of the central east-west connector boulevard.

The Planning Scheme also includes a number of decision guidelines which may be considered to reduce the minimum parking requirement. Decision guidelines likely to be appropriate for the WFCA include:

- The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.
- Variation of car parking demand likely to be generated by the proposed use over time.
- The availability of public transport in the locality of the land.
- The convenience of pedestrian and cyclist access to the land.
- The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.
- The availability of alternative car parking in the locality of the land including efficiencies gained from the consolidation of shared car parking spaces, public car parks and on-street parking in non-residential zones.

In particular, it is recommended that shared parking facilities should be provided for customers of the various bulky goods businesses within the employment area and retail businesses located within the town centre area. This will avoid the need to provide separate parking areas for individual facilities and will lower the overall parking supply noting that different businesses are likely to peak at different times.

The co-location of different businesses within the WFCA and the convenient connections provided to the major portion of the town centre on the south side of the railway station will also reduce the demand for parking.

As discussed in the MATPPSP, parking areas should generally be located at the rear of businesses so that they are not visible from the main street frontage within the town centre. The number of access points to parking areas from the main streets and connector streets should also be minimised to provide an enhanced walking environment for pedestrians.

It is understood that the Mt Atkinson Railway Station will include commuter parking areas on both sides of the rail corridor. Any commuter parking that is provided on the north side of the rail corridor within the WFCA should not be provided directly between the railway station and the town centre area to avoid the need for pedestrians to walk through parking areas in order to access the town centre from the station. Preferred locations for commuter parking are adjacent to the rail corridor, but to the east and west of the town centre, as shown in Figure 22. The use of multi-deck parking facilities could also be considered both for commuter and town centre parking to reduce the overall footprint required.

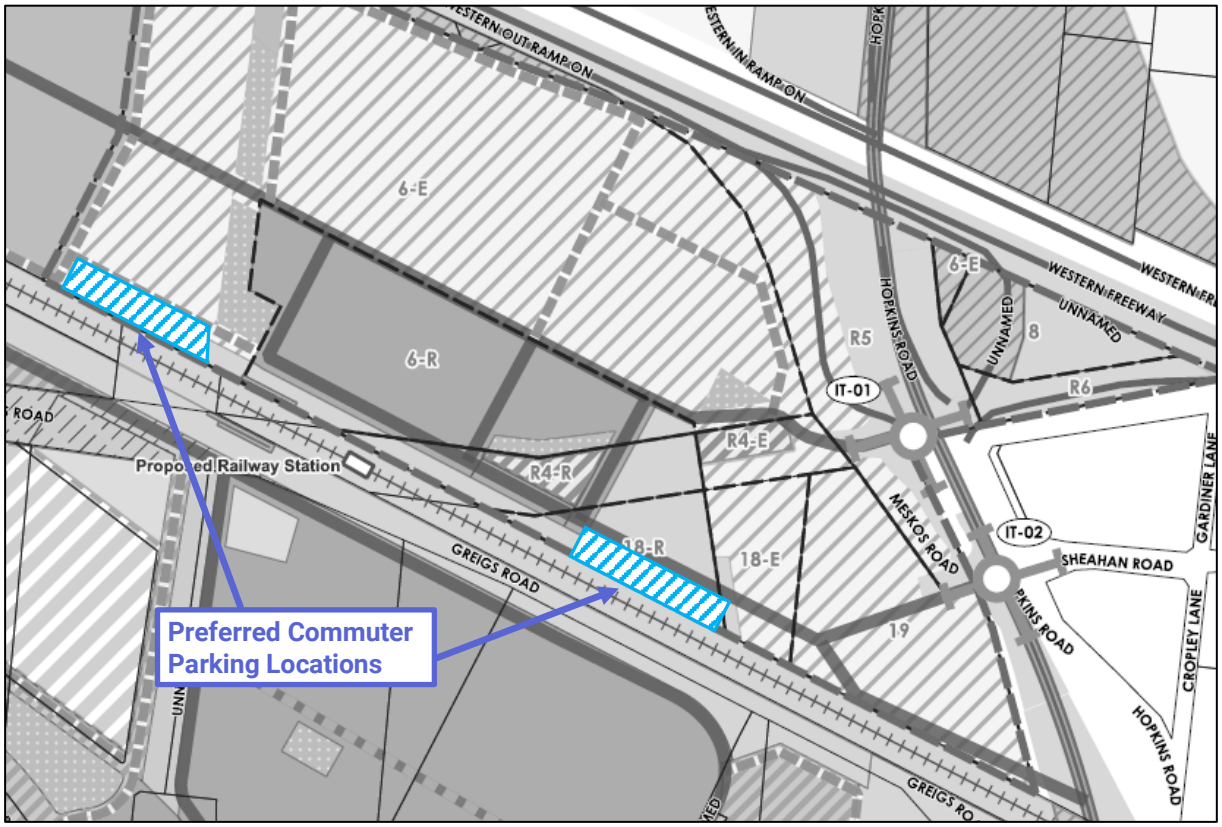


Figure 22: Preferred Commuter Parking Locations

8.7. Loading and Waste Collection

Loading and waste collection should be provided in locations that are separate from public parking areas and remote from locations where pedestrians will regularly walk. Typically, they should be located adjacent to buildings that are clear of public entrances.

The location of loading and waste collection areas should be designed to avoid the need for trucks to reverse in areas that are shared with public parking areas and pedestrians.

The internal road layout within the WFCA should be designed to accommodate the swept path of vehicles that are required for waste collection and loading and unloading purposes. Excluding the proposed industrial area to the west, this would typically include designing for the 8.8m Medium Rigid Vehicle as defined in Australian Standard AS 2890.2 Off-Street Commercial Vehicle Facilities. Intersections and kerb radii should be designed so that the turning path of these vehicles can be accommodated without crossing over the kerb or obstructing the path of opposing traffic. It is noted that any intersections designed to accommodate turning buses would also accommodate 8.8m Medium Rigid Vehicles.

Where there are specific locations where it is known that access will be required for larger vehicles (e.g. loading bays for supermarkets or stores selling bulky goods) it will be necessary to ensure that suitable access routes are provided for these vehicles that also avoid crossing over the kerb or obstructing the path of opposing traffic. Typically loading for these facilities should occur outside of peak periods and access should occur along routes that minimise the number of turns required and avoid the main town centre area. Access to the industrial area to the west should occur directly through the WFCA via the central east-west connector boulevard, without any need for turning movements at internal intersections.

8.8. Railway Station Interface

The DTP have their own internal standards which they will adopt for the future Mt Atkinson Railway Station. These standards cover a range of issues including platform lengths and widths, the amount of shelter to be provided on platforms, track geometry through the station and access requirements to comply with the Disability Discrimination Act.

Although responsibility for the station design will be a matter for DTP there are some broad considerations which could be adopted to benefit the WFCA. These considerations include:

- Provision of multiple access points to station platforms where practical to minimise walking distance for pedestrians from each end of the station. This could potentially include access from the pedestrian and cyclists bridge to the west of the station.
- Provision of ramps in addition to stairs and lifts to provide a high capacity, universal access to the station, that is not subject to periodic breakdown. Ideally, the ramps should be aligned with pedestrian desire lines to avoid unnecessary additional walking distance.
- Provision of sheltered walkways to minimise the likelihood of pedestrians being impacted by weather when interchanging between train and bus.
- Station entrances should align with walkways and crossing points into the WFCA.

9. Key Findings

The key transport and movement findings for the Western Freeway Commercial Centre Urban Design Framework are:

a) Transport modelling undertaken for the Western Freeway Upgrade business case has taken into account traffic generation associated with the WFCA.

b) Two signalised intersections (IT-01 and IT-02) are required to be provided on Hopkins Road to facilitate access to the WFCA site.

c) Provision of the IT-01 access will be delayed until such time as the State Government proceeds with the Hopkins Road interchange upgrade as part of the WFU, resulting in the need for interim access to be provided via IT-02.

d) Unless access can be provided through Land Parcel 19, the development of an interim IT-02 intersection will be significantly constrained, limiting the extent of the site that can be developed and resulting in redundant works.

e) Both the IT-01 and IT-02 should ultimately be constructed as 4-leg intersections providing access into the Warrawee precinct to the east.

f) Other access points to the WFCA should be provided adjacent to the rail corridor beneath the Hopkins Road overpass to the east and to Troups Road in Rockbank to the west.

g) Both east-west routes through the site connecting to the IT-01 and IT-02 intersections are to be designed as bus capable to provide multiple options for potential bus routes through the site.

h) Internal streets should be designed to a low speed environment of 30km/h with short leg lengths and traffic control treatments at intersections.

i) Raised priority crossing treatments should be provided for pedestrians and cyclists using the main north-south routes where connectivity will be provided across the freeway and railway corridors.

j) Shared parking areas should be provided within the WFCA in preference to separate private parking areas for individual sites.

k) Commuter parking should preferably be provided adjacent to the rail corridor, at the periphery of the railway station entrances rather than at a more central location with the town centre.

l) Loading areas should be separated from public parking areas and locations where there are high pedestrian demands near public entrances to buildings.

m) Multiple points of access should be provided to the Mt Atkinson Railway Station that match closely with pedestrian desire lines.