

Integrated Transport and Traffic Management Plan

421 Upper Heidelberg Road, Ivanhoe

19-Feb-2024
Ivanhoe Tank

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421 Upper Heidelberg Road, Ivanhoe

Client: Development Victoria

ABN: 61 868 774 623

Prepared by

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1.0 Introduction

AECOM has been engaged by Development Victoria to prepare an Integrated Transport and Traffic Management Plan to accompany the submission of a Development Plan for 421 Upper Heidelberg Road in Ivanhoe pursuant to the requirements of Schedule 7 to the Development Plan Overlay under the Banyule Planning Scheme.

2.0 Development Plan Overlay Requirements

The development site is subject to the requirements of Schedule 7 to the Development Plan Overlay under the Banyule Planning Scheme, which includes a requirement for an Integrated Transport and Traffic Management Plan that addresses the following:

- Roads, pedestrian, cyclist and vehicle access locations, including communal or public car parking areas internal to the site including the likely impacts of the proposed development on the arterial and local roads and any mitigating works required such as offsite traffic management treatments
- Opportunities for access to, and use of, public and active transport modes
- Pedestrian and cycling linkages to key destinations outside the site
- Traffic and car parking management measures, as appropriate. Resident and visitor parking should be provided at basement level
- No vehicle access from Forster Street.

3.0 Site location and context

3.1 Site location

The site is located on the west side of Upper Heidelberg Road in Ivanhoe.

It is bound by Bell-Banksia Link along its northern boundary, a Right-of-Way (RoW) along its western boundary, Forster Street along its southern boundary and Upper Heidelberg Road along its eastern boundary.

It is currently occupied by a decommissioned Yarra Valley Water asset known as Ivanhoe Tank. A small playground is also located in south-east corner of the site.

Surrounding land uses are predominantly residential, including detached dwellings, units and apartment buildings. Non-residential land uses include Austin Hospital, Heidelberg Station, Burgundy Street shops and Warringal Shopping Centre to the east and Heidelberg Repatriation Hospital and Bell Street shops to the west.

The location of the site in the context of the surrounding area is presented in Figure 1.

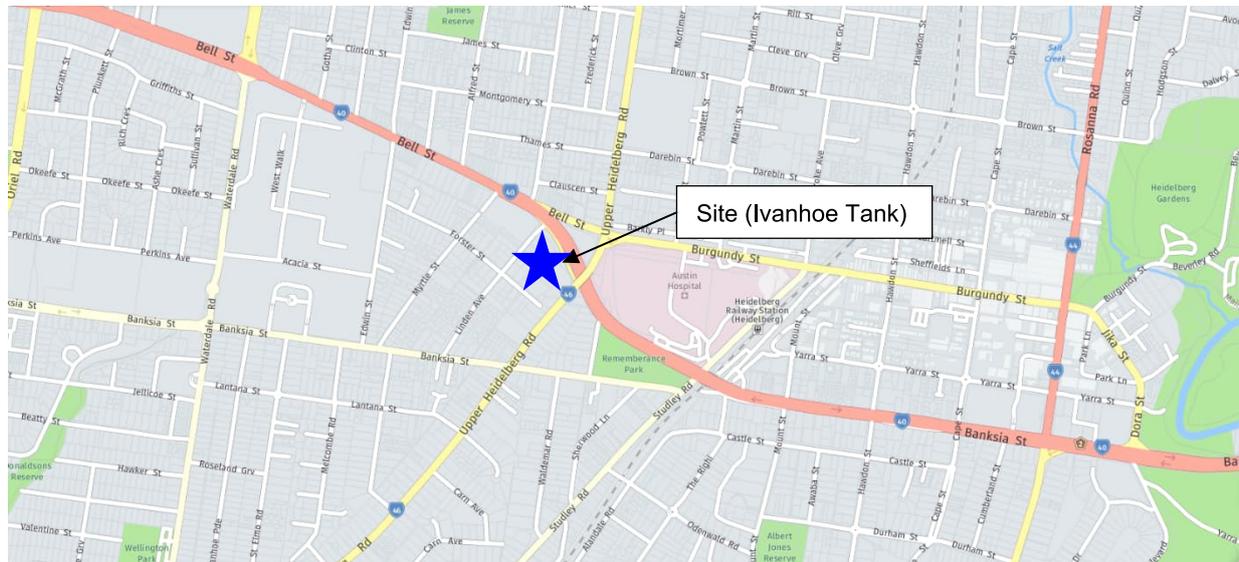


Figure 1 Site Location

Vehicle access to the site is currently provided as follows:

- Forster Street: a crossover near the western boundary of the site provides access to an entry gate (presumably used for tank maintenance). A second crossover is located near the eastern boundary of the site for playground maintenance.
- Upper Heidelberg Road: a crossover near the northern boundary of the site provides access to an entry gate (presumably used for tank maintenance). A second (redundant) crossover is located near the southern boundary of the site.
- Bell-Banksia Link: vehicle access is not currently provided from the site to Bell-Banksia Link.

An aerial image of the site is presented in Figure 2 showing the positions of the existing vehicle accesses.

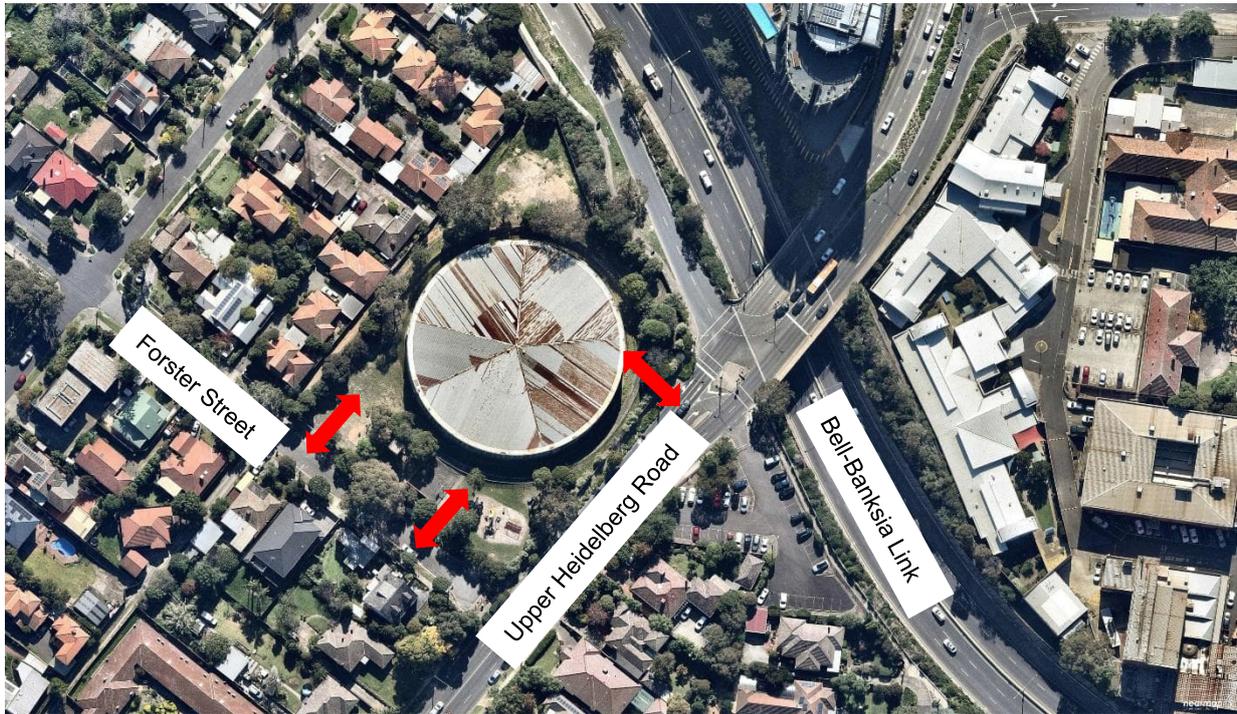


Figure 2 Existing Vehicle Access Points

3.2 Zoning and Overlays

The site is located within the Residential Growth Zone – Schedule 4 (RGZ4) under the Banyule Planning Scheme as presented in Figure 3.

The site is also covered by the following overlays:

- Development Contributions Plan Overlay – Schedule 1 (DCPO1)
- Development Plan Overlay – Schedule 7 (DPO7)
- Parking Overlay – Precinct 2 Schedule (PO2)



Figure 3 Land Use Zoning

3.3 Road network

3.3.1 Upper Heidelberg Road

Upper Heidelberg Road is a declared arterial road managed by the Department of Transport and Planning (DTP). It extends for approximately 3.4 kilometres in a north-south direction between Lower Plenty Road and Lower Heidelberg Road.

In the vicinity of the site, Upper Heidelberg Road has an undivided carriageway providing two (2) traffic lanes in each direction. At the northern end of the site, the first lane allows for a combined movement left turn and through, second lane is through only with a short right turn lane for vehicles turning into the commercial carpark east of the site. A footpath is provided on both sides of the road within a narrow verge.

A 'No Stopping' parking restriction is applicable along the site frontage.

A posted speed limit of 60km/h which applies along this section of Upper Heidelberg Road.

3.3.2 Forster Street

Forster Street is a local road and managed by the City of Banyule. It extends for approximately 500 metres in an east-west direction from Edwin Street to a dead-end adjacent to Upper Heidelberg Road.

In the vicinity of the site, Forster Street has a single carriageway providing a single traffic lane for both directions. A footpath is provided on both sides of the road.

There is a posted speed limit of 50km/h which applies along this section of Forster Street.

3.3.3 Bell-Banksia Link

Bell-Banksia Link is a declared arterial road managed by DTP. It extends in a northwest-southeast direction and connects Bell Street and Upper Heidelberg Road for approximately 240 metres. The speed limit is 60km/h with a footpath on the southern side of the link.

In the vicinity of the site, it has a divided cross-section that provides two (2) lanes in the eastbound direction and three (3) lanes that merge to two (2) lanes in the westbound direction.

The intersection with Upper Heidelberg Road is grade separated, with a westbound on-ramp located adjacent to the site's northern boundary and an eastbound off-ramp located further north meeting Burgundy Street.

It is noted that there is no access from Upper Heidelberg Road to the eastbound lanes of Bell-Banksia Link, nor from the westbound lanes of Bell-Banksia Link to Upper Heidelberg Road.

3.3.4 Right of Way (RoW)

A Right-of-Way (RoW) abuts the western boundary of the site. It extends for approximately 120m north of Forster Street to a dead-end adjacent to Bell-Banksia Link.

It is approximately 3.0m wide and is currently unconstructed with a crossover at Forster Street providing access. It is understood that the RoW provides rear access to two dwellings.

4.0 Proposed Development

4.1 Built form and land use

It is proposed to construct a 12-storey mixed-use building, primarily residential in nature.

A flexible space is also proposed on the ground floor that may be used for resident amenities (e.g. a study/work area) or potentially occupied by a retail/commercial tenant.

4.2 Vehicle access

Vehicle access to the site is proposed via three (3) crossovers to Upper Heidelberg Road along the eastern boundary of the site as follows:

- Southern crossover: the southern crossover will function as an ingress and egress for the basement carpark ramp, as well as an ingress for the Porte Cochere
- Middle crossover: the middle crossover will function as an egress only for the Porte Cochere
- Northern crossover: the northern crossover will provide access to the loading and waste collection area.

No vehicle access is proposed to Forster Street along the southern boundary of the site, nor the Right-of-Way (RoW) along the western boundary of the site.

4.3 Pedestrian and cyclist access

The main pedestrian/cyclist access to the site would be located along the site’s Upper Heidelberg Road frontage.

Secondary access for pedestrians/cyclists would be provided to Forster Street via the future public park.

Main pedestrian, cycle movements and access direction to external serviced are depicted in Figure 4.

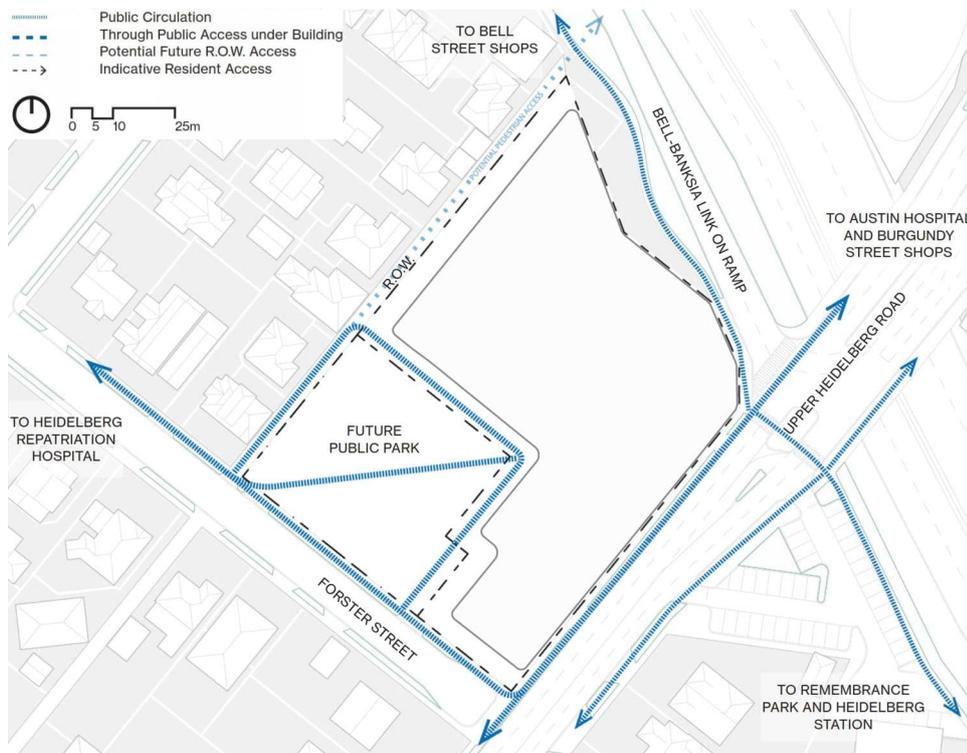


Figure 4 Proposed pedestrian and cycle movements

4.4 Car parking

Car parking is proposed within a basement carpark that will be accessed via a ramp from the southern crossover.

Additional short-term visitor parking will be provided in a Porte Cochere that is positioned parallel to Upper Heidelberg Road. It will function in a one-way (south to north) arrangement with vehicles entering via the southern crossover and exiting via the middle crossover.

4.5 Bicycle parking

Bicycle parking for residents is proposed in a secure storage area in the basement and/or car parking areas.

Additional bicycle parking for visitors will be provided on the ground floor level near the building entrances.

4.6 Loading and waste collection

A loading and waste collection bay is proposed in the north-east corner of the site and will be accessed via the northern crossover.

It is noted that the median island associated with the signalised intersection to the north will restrict access to be left-in / left-out only.

5.0 Vehicle access and car parking

5.1 Vehicle access locations

Vehicle access to the site is proposed via three (3) crossovers to Upper Heidelberg Road along the eastern boundary of the site as follows:

- Southern crossover: the southern crossover will function as an ingress and egress for the basement carpark ramp, as well as an ingress for the Porte Cochere
- Middle crossover: the middle crossover will function as an egress only for the Porte Cochere
- Northern crossover: the northern crossover will provide access to the loading and waste collection area.

No vehicle access is proposed to Forster Street along the southern boundary of the site, nor the Right-of-Way (RoW) along the western boundary of the site.

The location of the proposed vehicle access points is presented in Figure 5.



Figure 5 Proposed Vehicle Access Movements

5.2 Access management treatments

Upper Heidelberg Road is an undivided arterial road providing two (2) traffic lanes in each direction.

The need to provide any access management treatments should be determined by DTP as part of their review of the development proposal.

A short median island is located opposite the northern crossover that would restrict movements for service and waste vehicles accessing this crossover from the north and to be left-in / left-out.

At the other two access locations, it is noted that physical constraints within the existing road reserve may prevent the implementation of some treatments, for example:

- insufficient space to provide a central median; and
- limited space and varied levels on the verge to provide crossover treatments (e.g. splitter islands).

It is also noted that allowing fully directional movements at the southern crossover (i.e. farthest away from the upstream traffic signals) would reduce the likelihood of local road network impacts associated with the development.

5.3 Car parking locations

Residents and visitors are expected to primarily use the basement carpark underneath the building. In addition, a Porte Cochere is proposed adjacent to Upper Heidelberg Road between the southern and middle crossovers that will be suitable to provide short-term visitor parking.

The section of Upper Heidelberg Road along the site frontage is subject to a 'No Stopping' restriction. Time restricted on-road parking is available along Forster Street and on Upper Heidelberg Road south of Forster Street.

5.4 Car parking provision

Car parking will be provided in accordance with Schedule 2 to the Parking Overlay (PO2) for those uses set out in the Parking Overlay.

Car parking for other uses will be provided in accordance with Clause 52.06 of the Planning Scheme.

5.5 Car parking management treatments

The basement carpark is likely to be accessed via a security gate and intercom system where entry is only approved for authorised visits.

The internal intersection of the basement carpark accessway and the Porte Cochere will need to be managed through appropriate signage and linemarking treatments to delineate priority for incoming and outgoing vehicles.

On-street parking will be managed and patrolled by Council and DTP.

5.6 Service and waste vehicle access

A loading and waste collection bay is proposed in the north-east corner of the site and will be accessed via the northern crossover.

It is noted that the median island associated with the signalised intersection to the north will restrict access to be left-in / left-out.

It is expected that the largest vehicle accessing the loading and waste collection bay will be an 8.8m medium rigid vehicle that will enter and exit the site in a forwards direction. The design of the access arrangements, including swept path diagrams demonstrating access, will be confirmed as part of a future planning permit application.

Waste collection details are also expected to be confirmed as part of a Waste Management Plan as part of a future planning permit application.

5.7 Emergency vehicle access

There are no statutory requirements for emergency vehicle access.

The Porte Cochere may be used for emergency vehicle parking (particularly for police and ambulance) in the event of an emergency.

Fire trucks are expected to park in proximity to the fire booster cabinets, with the location of this service to be confirmed as part of a future planning permit application.

6.0 Traffic management

6.1 Assumptions

The number of apartments is expected to be confirmed as part of a future planning permit application, however, it is understood that the potential yield from the development would be 250-300 apartments.

For the purpose of our assessment, we have adopted the following assumptions to calculate the potential traffic generation of the development:

- 275 apartments
- 90% of apartments will be 1 or 2 bedrooms and 10% will be 3 bedroom apartments
- Parking for the 1 and 2 bedroom apartments will be provided in accordance with the Parking Overlay rate of 0.8 spaces to each apartment meaning 20% of 1 and 2 bedroom apartments will not own a car and therefore not generate any traffic volumes.

6.2 Traffic generation

The RTA Guide to Traffic Generating Developments (2002) sets out traffic generation rates for a range of land uses based on empirical studies undertaken by the New South Wales Road & Traffic Authority (now Transport for NSW).

It is acknowledged in Austroads Guide to Traffic Management Part 12 as the most comprehensive Australian reference on traffic generation and is commonly used in Victoria.

The RTA Guide sets out the following traffic generation rates for medium density housing:

- Smaller units and flats (up to two bedrooms):
 - Daily vehicle trips = 4 – 5 trips per dwelling; and
 - Weekday peak hour vehicle trips = 0.4 – 0.5 trips per dwelling.
- Larger units and townhouses (three or more bedrooms):
 - Daily vehicle trips = 5 – 6.5 trips per dwelling; and
 - Weekday peak hour vehicle trips = 0.5 – 0.65 trips per dwelling.

We haven't included any traffic generation associated with a commercial/retail component to the proposed development due to the uncertainty about this component at this stage.

For the purpose of our assessment, we have conservatively adopted the upper end of the above rates.

The proposal is expected to generate in the order of:

- Daily = 1,170 vehicle movements per day
- Peak hour = 117 vehicle movements per peak hour

6.2.1 Traffic distribution

All traffic will be distributed onto Upper Heidelberg Road through the accesses stated in Section 5.1. The southern crossover is expected to be most used access as it provides direct access to the basement carpark ramp.

6.2.2 Traffic impacts

The existing two-way annual average daily traffic (AADT) volume along this section of Upper Heidelberg Road is approximately 20,000 vehicles per day (vpd).

The additional 1,170 vpd generated by the development, volumes on this section of Upper Heidelberg Road will increase to approximately 21,170 vpd (an increase of approximately 5%).

Site generated traffic will originate and be dispersed in both directions on Upper Heidelberg Road and onto the surrounding road network including Bell Street, Banksia Street, Burgundy Street and Lower Heidelberg Road. The distribution of site generated traffic on Upper Heidelberg Road will depend on any access controls determined by DTP as part of their review.

Based on the Austroads guides, the capacity of a 4-lane arterial road is approximately 36,000 vpd.

Accordingly, the increase in volumes generated by the site is not expected to detrimentally affect the operation of Upper Heidelberg Road.

The anticipated peak hour traffic generation equates to two vehicle movements every minute on average during the peak hours. This level of peak hour volumes would not typically result in excess queuing or delays, however, it is noted that the nearby signalised intersection at Upper Heidelberg Road and Bell-Banksia Link may queue back past the site access points during the road network peak hours potentially resulting in some small delays for residents exiting the site.

Overall, the volume of traffic generated by the proposed development is low and can be comfortably accommodated on the surrounding road network.

6.2.3 Mitigation measures

At the time of this assessment, there is minimal traffic impacts on the surrounding network therefore no mitigation measures are proposed to the surrounding roads and intersections.

At the site access points, the need for mitigation treatments should be determined in consultation with DTP as discussed in Section 5.2.

7.0 Public transport

7.1 Public transport network

Heidelberg Railway Station is located approximately 700m north-east of the site. It is designated as a premium station with most services on the Hurstbridge railway line stopping at the station.

A bus interchange is located on the east side of the station on Yarra Street. The following bus routes operate from the bus interchange:

- 546 – operates from Heidelberg Station to Melbourne University and Queen Victoria Market via Clifton Hill and Carlton
- 551 – operates from Heidelberg Station to La Trobe University
- 903 – is a SmartBus service that operates from Altona to Mordialloc. Nearby destinations on the route include Preston Station, Northland Shopping Centre, Doncaster Shopping Centre and Box Hill Station.

In addition, bus routes 513 and 514 operate along Burgundy Street and Bell Street past the site. These services operate from Eltham to Glenroy via Greensborough or Lower Plenty.

Bus route 548 operates along Edwin Street to the west of the site with services between Kew and La Trobe University.

The location of the nearby public transport services is presented in Figure 6.

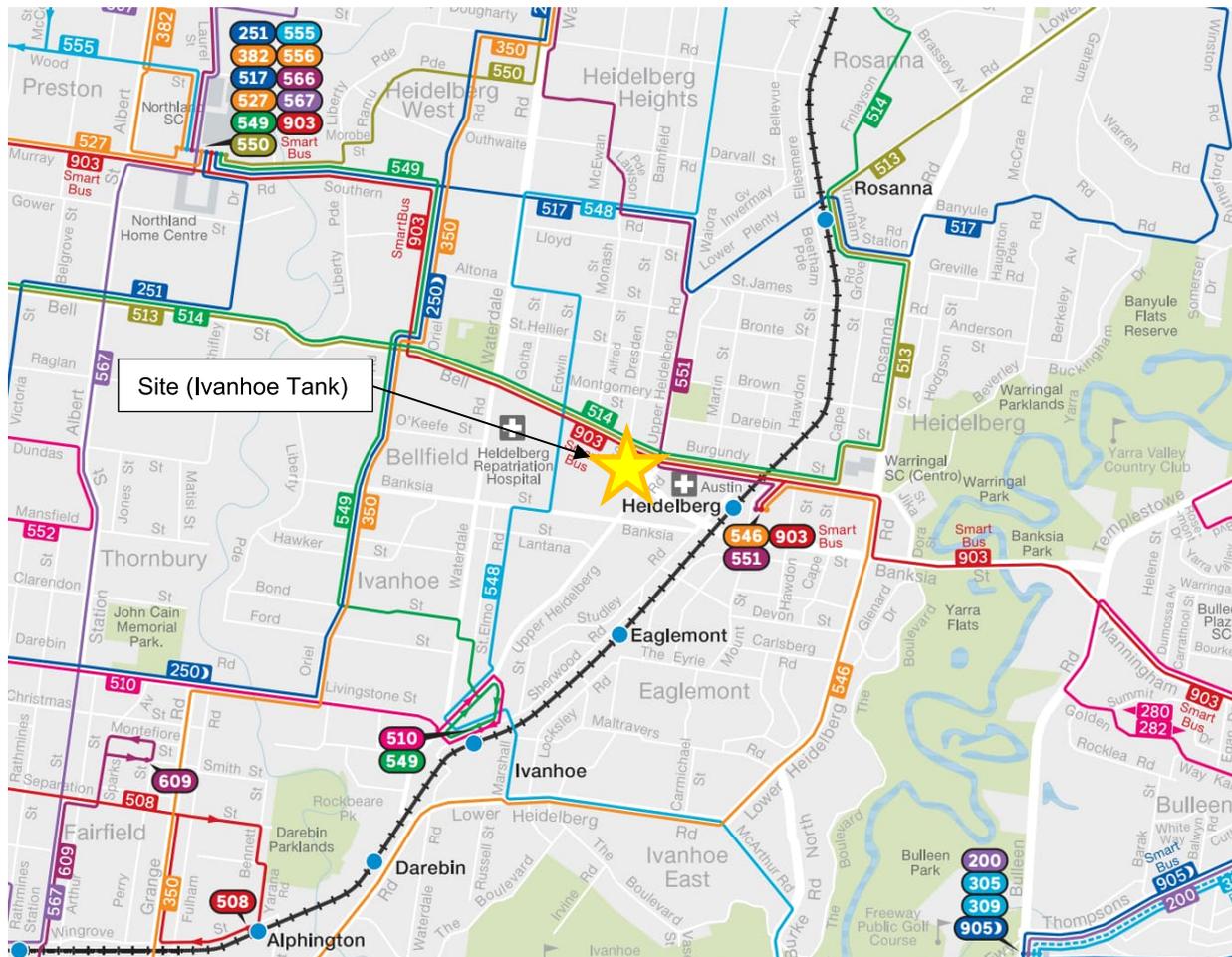


Figure 6 Public Transport Network

7.2 Access to Heidelberg Railway Station and bus interchange

Heidelberg Station can be accessed via either:

- Remembrance Park and Studley Road – approximately 850m equating to 4 minutes cycle time or 8 minutes walking time.
- Upper Heidelberg Road, Burgundy Street and Studley Road – approximately 900m equating to 6 minutes cycle time or 11 minutes walking time.

The travel route from the site to Heidelberg station are shown in Figure 7.

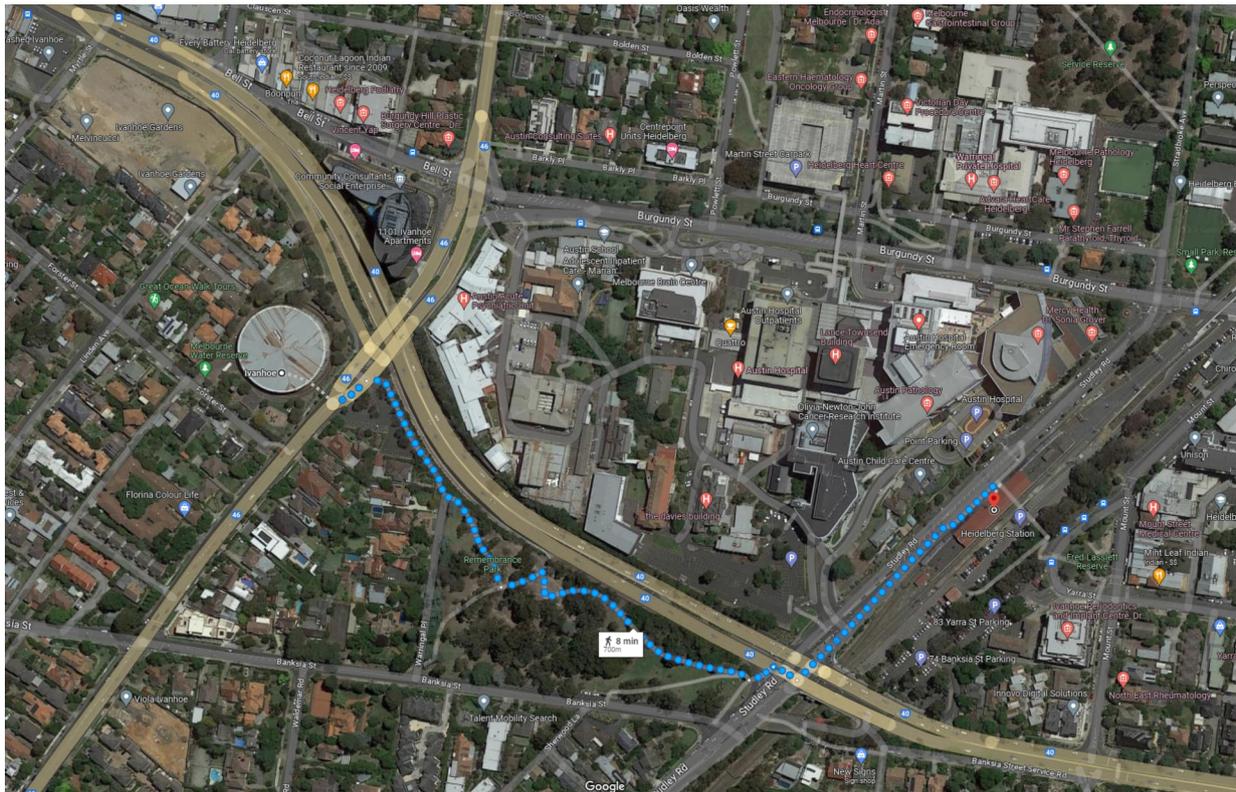


Figure 7 Travel routes to Heidelberg Station

8.0 Active Travel

8.1 Active travel network

Pedestrian infrastructure nearby the site consists of footpaths that are generally provided along both sides of the road and pedestrian crossings, including signalised crossings and zebra crossings. It is noted that there are no footpaths along Bell-Banksia Link between Upper Heidelberg Road and Studley Road.

Cycling infrastructure nearby the site consists of a mixture of formal off-road shared user paths, on-road bicycle lanes and informal bicycle routes (shown in blue below). Key bicycle routes near the site include:

- Main Yarra Trail to the east and south
- Darebin Creek Trail and Donaldsons Creek Trail to the west
- Studley Road on-road bicycle lanes
- Lower Heidelberg Road and McArthur Road on-road bicycle lanes
- Upper Heidelberg Road is identified as an informal cycle route providing a north-south connection
- Banksia Street is identified as an informal cycle route providing an east-west connection
- Waterdale Road is identified as an informal cycle route providing a north-south connection to La Trobe University.

The surrounding bicycle network is presented in Figure 8.

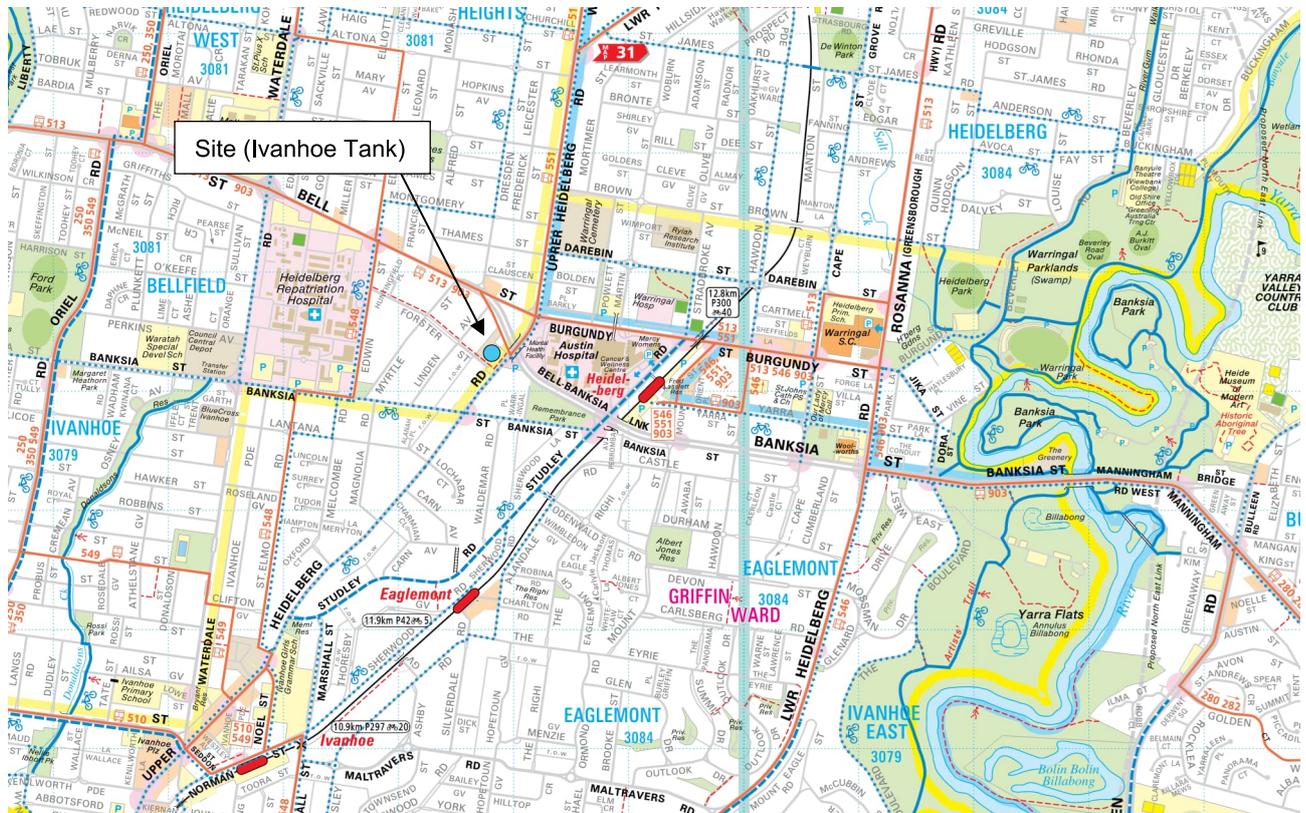


Figure 8 Cycling route map

8.2 Key destinations

Travel routes to key destinations near the site for pedestrians and cyclists is discussed below.

8.2.1 Main Yarra Trail

The Main Yarra Trail is a shared-user path for cyclists and pedestrians that follows the Yarra River. It starts at the Mullum Mullum Trail in Templestowe and connects to the Capital City Trail and Marri Creek Trail facilitating access to the city and inner suburbs.

The Trail is positioned approximately 1.9km east of the site, as well as approximately 2.7km south of the site.

The most convenient travel routes to the east are either via Burgundy Street or Yarra Street (which is nominated as an informal bicycle on Council's travel smart map), or alternatively via Banksia Street. The travel time for cyclists is approximately 6-7 minutes and 24 minutes for pedestrians.

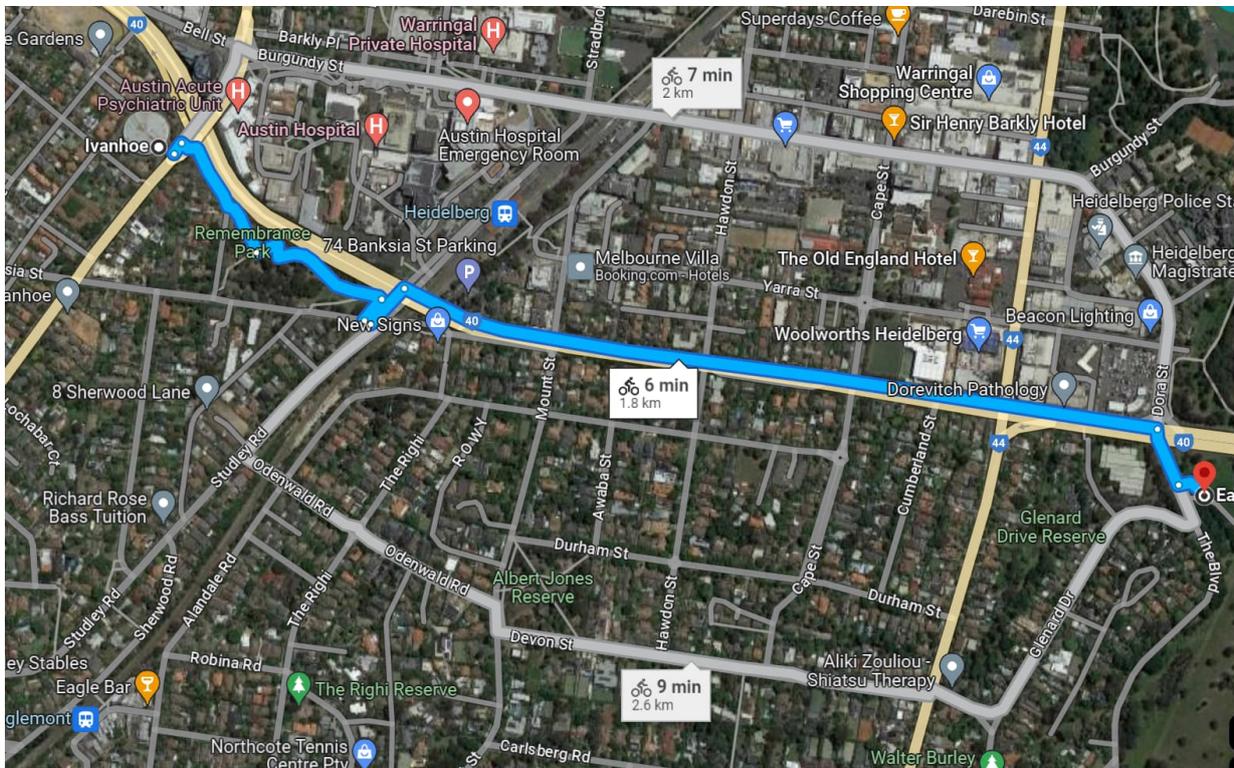


Figure 9 Travel routes to Main Yarra Trail

8.2.2 Austin and Mercy Hospitals

The Austin Hospital, Olivia Newton-John Cancer Centre and Mercy Hospital are located to the east of the site.

The main entry for the Austin Hospital is located on Studley Road, with the emergency entry and outpatient entry located on Burgundy Street.

The main entry for the Olivia Newton-John Cancer Centre is located on Studley Road.

The main entry for the Mercy Hospital is located near the corner of Studley Road and Burgundy Street, with the hospital accessible from either street. The emergency entry is located on Burgundy Street.

The travel routes from the site to the Hospitals is either via Remembrance Park and Studley Road or via Upper Heidelberg Road and Burgundy Street (depending on which hospital entry), with both routes being up to 800m in length equating to a travel time of approximately 10 minutes for pedestrians and 4 minutes for cyclists.

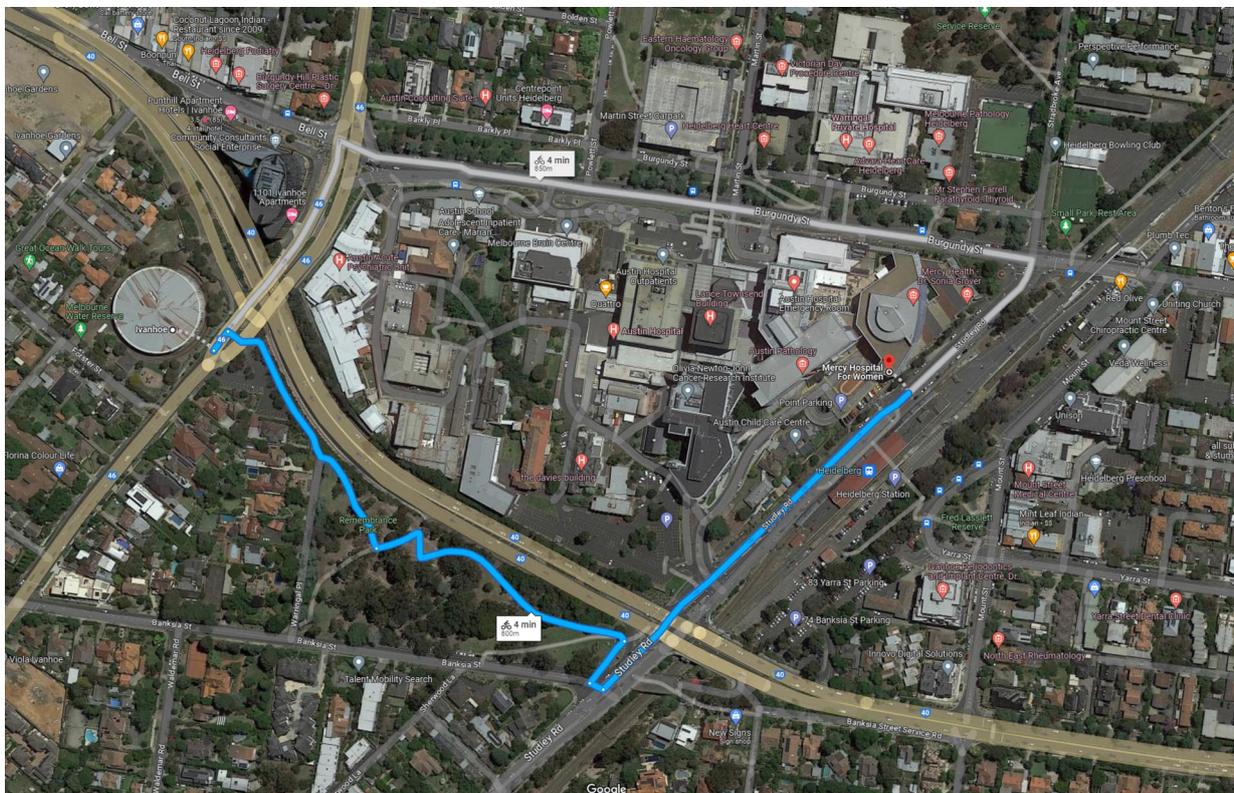


Figure 10 Travel routes to Austin and Mercy Hospitals

8.2.3 Repatriation Hospital

The Repatriation Hospital is located to the west of the site, with the main entry located on Waterdale Road, with secondary accesses located on Bell Street, Edwin Street and Banksia Street.

The travel route from the site to the Repatriation Hospital is approximately 900m in length via Forster Street and Edwin Street, resulting in a travel time of 10 minutes for pedestrians and 3 minutes for cyclists.

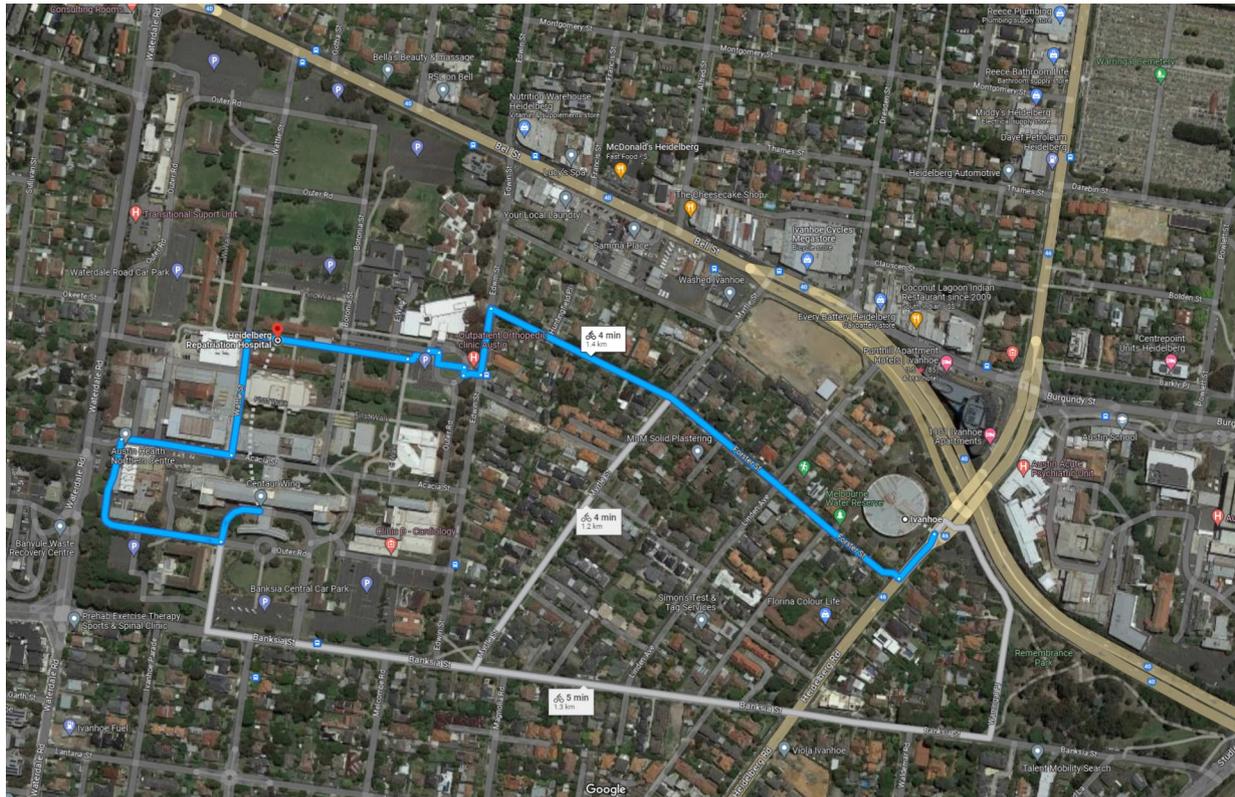


Figure 11 Travel routes to Repatriation Hospital

8.2.4 Warringal Shopping Centre and Burgundy Street Retail

The Warringal Shopping Centre is located at the eastern end of Burgundy Street approximately 1.2 km to the east of the site. A variety of retail shops are also located along Burgundy Street between the railway line and Lower Heidelberg Road.

The most convenient travel route from the site to the Shopping Centre is via Upper Heidelberg Road and Burgundy Street, with a travel time of 4 minutes for cyclists and 16 minutes for pedestrians.

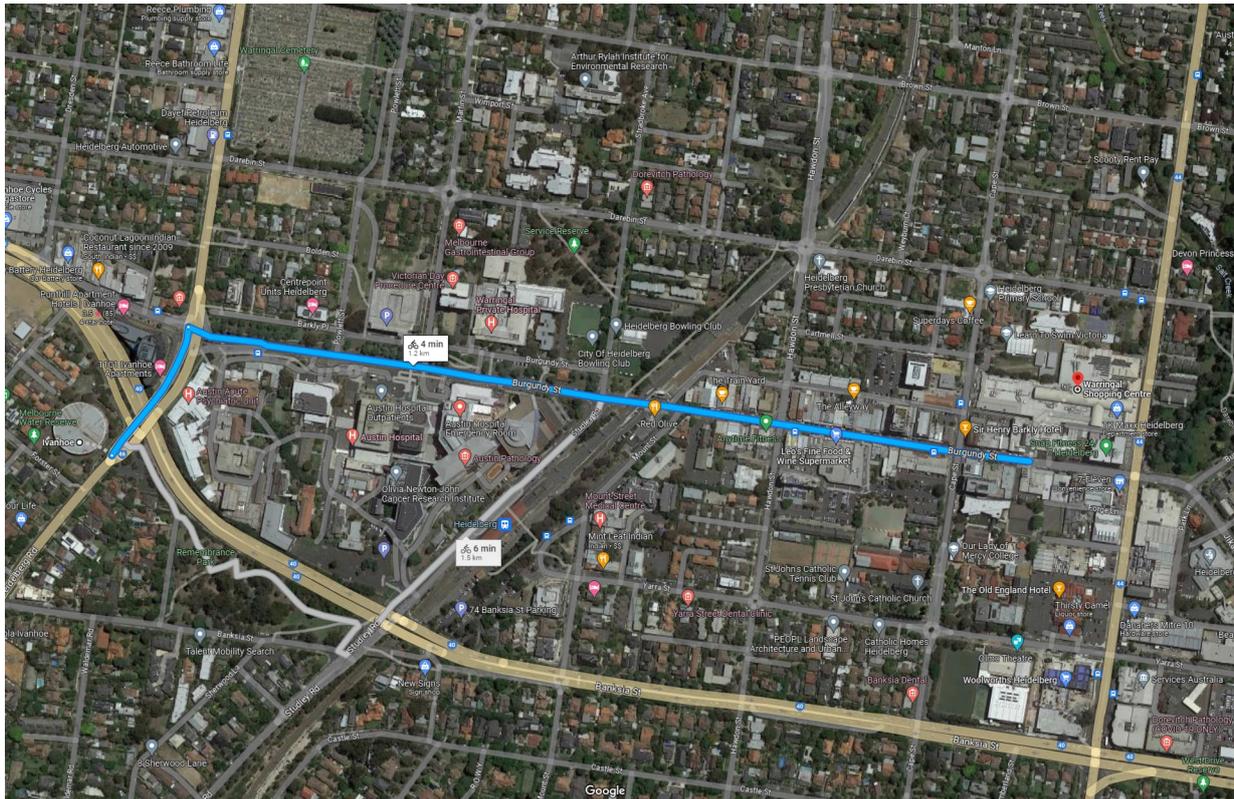


Figure 12 Travel routes to Warringal Shopping Centre

8.2.5 Bell Street Retail

Retail and commercial premises are located on Bell Street approximately 600m west of the site.

The main travel route is via Bell-Bankisa Link and Bell Street, with travel times of 2 minutes for cyclists and 6 minutes for pedestrians.

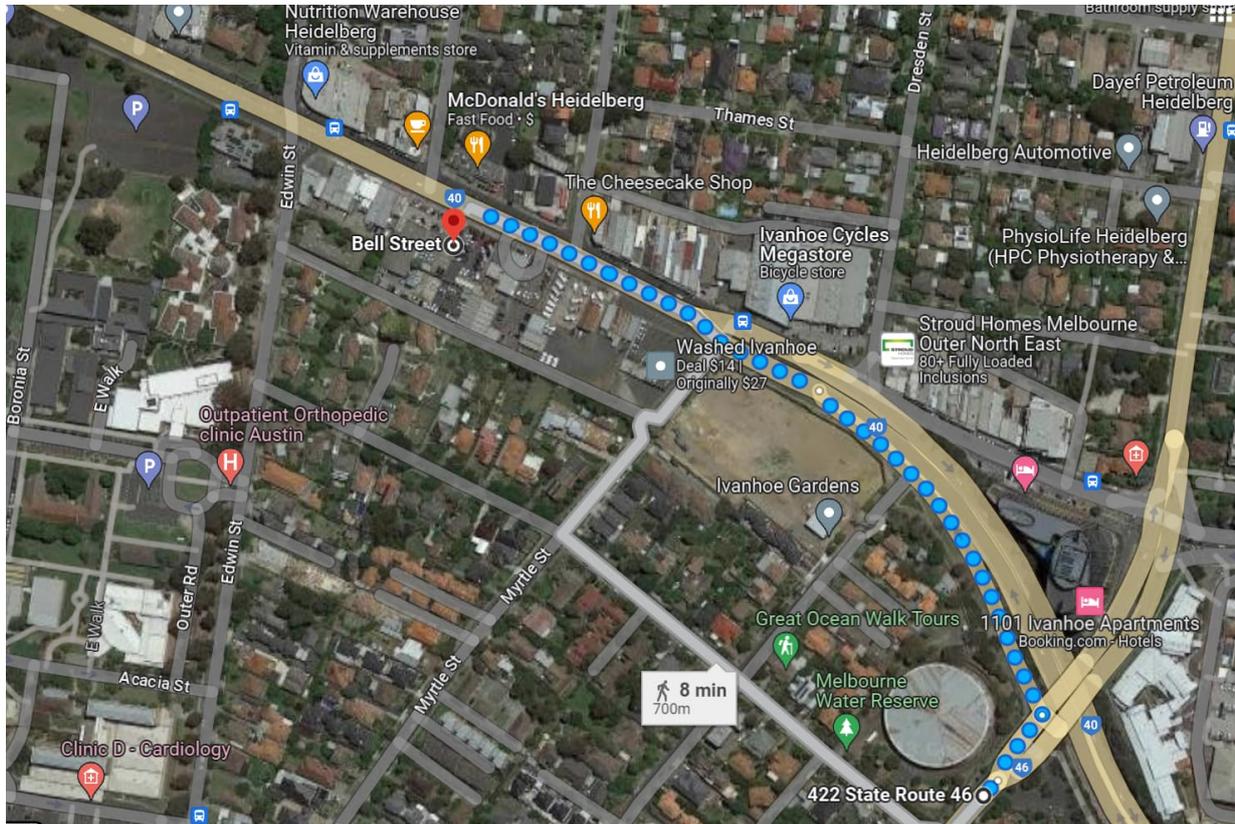


Figure 13 Travel routes to Bell Street Retail

9.0 Summary

This Integrated Transport and Traffic Management Plan has been prepared to address the requirements of Schedule 7 to the Development Plan Overlay under the Banyule Planning Scheme. In particular:

- Vehicle access to the site is proposed via three (3) crossovers to Upper Heidelberg Road along the eastern boundary of the site as follows:
 - Southern crossover: the southern crossover will function as an ingress and egress for the basement carpark ramp, as well as an ingress for the Porte Cochere
 - Middle crossover: the middle crossover will function as an egress only for the Porte Cochere
 - Northern crossover: the northern crossover will provide access to the loading and waste collection area
- No vehicle access is proposed to Forster Street along the southern boundary of the site, nor the Right-of-Way (RoW) along the western boundary of the site.
- No adverse impacts nor any mitigating works on the surrounding road network are expected based on the information available at the time of this assessment.
- Public transport services (both rail and bus) are available in the surrounding area within walking distance of the site.
- Walking and cycling links are available from the site to key destinations in the surrounding area.