

NOTE: This paper constitutes an initial transport assessment and application of design guidelines only. Further assessment and final design and site layout will be subject to more detailed traffic engineering and transport planning input.

Proposal

In order to create a new public open space and improved urban amenity, it is proposed to close Camberwell Road to through traffic and convert existing road space both north and south of the Camberwell Junction intersection into pedestrian plazas.

Camberwell Junction is located within Boroondara at the boundary between the suburbs of Hawthorn East and Camberwell. The Junction forms the intersection Riversdale Road, Burke Road and Camberwell Road which are all part of the VicRoads arterial road network.

This proposal is closely aligned with the State Government's new Movement and Place approach to integrated transport and land use planning, and presents an opportunity for City of Boroondara to partner with State Government to deliver strong local outcomes.

Overview

The proposal has a range of potential transport **benefits**, including:

- i. Improved public transport access and safety through incorporating a tram super stop for the Route 75 within the south-eastern plaza, separating public transport users from the busy Riversdale Road environment.
- ii. Improved pedestrian accessibility and safety around the junction with dedicated pedestrian areas on Camberwell Road approaches and the opportunity to incorporate best-practice Pedestrian Oriented Design (POD) components into the design.
- iii. Improved bicycle access through potential for improve bicycle infrastructure including bicycle parking areas and space for other end of trip facilities such as publically accessible lockers, bicycle pumps and maintenance stations.
- iv. Simplification of traffic management at the intersection through the removal of Camberwell Road approaches, resulting in a cross intersection of Burke Road and Riversdale Road and additional green signal time for traffic on both.
- v. Commercial and economic benefits associated with improved sustainable transport access and transport choice within the area, along with greater pedestrian activity.
- vi. Alignment with existing council, state government and other statutory agency policies, including VicRoads SmartRoads network priority.

The potential **issues** associated with the proposal include:

- i. increased local congestion from the redirection of traffic around the Camberwell Junction intersection.
- ii. The loss of approximately 8 on-street car parking spaces.

Existing Conditions and Assessment

Road Network

Camberwell Junction is the intersection of Burke Road, Riversdale Road and Camberwell Road, all declared arterial roads on the VicRoads traffic network. VicRoads, and City of Boorondara, as the responsible road authorities, have operational responsibility for the following parts and elements of the arterial road:

- through traffic lanes - VicRoads
- other (including service roads, pathways and roadside areas) – City of Boorondara.

Burke Road connects to the Eastern Freeway 5.5 km to the north and the Monash Freeway 1.8 km to the south and carries an average traffic volume of 17,250 vehicles per day in both directions at this location. Riversdale Road carries approximately 14,500 vehicles per day and Camberwell Road 11,350 vehicles per day in both directions at this location¹.

In relation to other arterial roads on the local transport network, the following traffic volumes are noted¹:

- Seymour Grove between Camberwell Road and Burke Road = 12,800 vpd
- Trafalgar Road between Seymour Grove and Riversdale Road = 16,500 vpd
- Stanhope Grove between Canterbury Road and Trafalgar Road = 18,400 vpd

The generally accepted capacity of a two-lane arterial road is typically 18,000 – 20,000 vehicles per day. Given the part time clearway operations in this location, the traffic network is considered to be operating near capacity at peak times, with congestion and queuing observed on all approaches during AM and PM peaks.

Impact of the Proposal

The proposed redevelopment would simplify the intersection by reducing the number and arrangement of approaches and pedestrian crossings to a simple cross intersection of Burke Road and Riversdale Road. There is the potential to reduce congestion through the intersection through more green signal time for both approaches and a safer, more efficient intersection layout.

The proposed redevelopment has the potential to alter the flow of traffic through the area in the following ways:

- Eastbound traffic on Camberwell Road approaching from the west of the junction is likely to divert to Redfern Road, Monteath Ave and Harold Street, increasing volumes and peak hour congestion on these streets. It is anticipated that many road users would take an alternative approach to the area of turning south from Camberwell Road into Auburn Road, then travelling east along Riversdale Road.
- Westbound traffic on Camberwell Road approaching from the east of the junction should be encouraged to divert to Seymour Grove and Trafalgar Road, which would increase volumes on these links. VicRoads traffic data show that Seymour Grove between Camberwell Road and Burke Road carried an average of 12,800 vehicles per day in 2017, and Trafalgar Road, which does not share road space with trams,

¹ VicRoads 2017 data – as provided by City of Boorondara via email 11 February 2019

carried an average of 16,500 vehicles per day between Riversdale Road and Camberwell Road. These volumes are below mid-block capacity for a two-lane road. However, it is acknowledged that these are 24hr traffic volumes, and congestion at intersections would be likely to increase as a result of this proposal.

- Importantly Burke Road and Riversdale Road would be provided with additional capacity through Camberwell Junction as a result of the proposal.

Local observations at peak times indicate that the local traffic network operates with some queuing and delay through the junction and on the alternate routes described above during the AM and PM peak demand periods. Whilst closure of Camberwell Road as proposed would have an impact on the capacity of private vehicle travel through the junction, there are alternative routes for both local traffic accessing the Camberwell Activity Centre, and through traffic with an origin and/or destination away from the centre.

Further investigation using either SIDRA intersection analysis or local traffic modelling is required to make a more accurate assessment of the impact of the proposal on queuing and travel times in the area. However, it is likely that the redistribution of through traffic currently using Camberwell Road would be absorbed into the surrounding network, and effects of this mitigated through adjustment to intersections arrangements and signal priority on the local network. New Local Area Traffic Management (LATM) initiatives may be required to ensure the increased volumes on residential streets do not adversely affect local safety and amenity.

Given the priority given to planning for sustainable transport modes within all local and State policy, it is considered that the benefits of the proposal for accessibility and safety for pedestrians, cyclists and public transport users act as a strong mitigating measure for the impacts on private vehicle travel.

Impact on Intersection Capacity

A high level assessment of the impact of closure of Camberwell Road on the capacity of the intersection to accommodate additional through traffic on Riversdale Road and Burke Road has been made under the assumption that all three through roads are allocated equal priority and therefore an equal amount of green signal time, and run on a standard phasing. Given the adjustments that would be expected to signal times and phasing to accommodate peak AM and PM traffic flows, detailed analysis using SCATS data or SIDRA is required for a more accurate assessment.

The increase in vehicle capacity for Riversdale Road and Burke Road through removal of one of the three phases from the signal sequence could be expected to be greater than the volume of vehicles currently accommodated on the Camberwell Road signal phase, for the following reasons:

- i. Reallocation of not only Camberwell Road green signal time, but also amber signal time and signal changeover time to the Riversdale Road and Burke Road signal phases.
- ii. One less red signal phase which would require less vehicle stopping and starting time within the intersection.
- iii. Increased opportunity for more regular pedestrian crossing phases on the two remaining roads, and therefore potential for less delay on turning movements where pedestrians have priority.
- iv. More consistent vehicle speeds through the intersection with longer green signal times on Riversdale and Burke Roads.

It is acknowledged that, in isolation, the factors above may only contribute to increased capacity in a minor way. However, when considered cumulatively could have a noticeable effect. It is therefore anticipated that the closure of Camberwell Road may provide a slight increase in overall intersection capacity.

Alternatively, part of the Camberwell Road signal phase could be reallocated to extended pedestrian crossing time, increasing safety, accessibility and priority for pedestrians in the area.

Car Parking

The *Camberwell Junction Access Study: Parking Study* identifies a total of 8,699 parking spaces within the activity centre. Approximately 20 percent of this is unrestricted with the remainder having time restrictions of between 5 minutes and 4 hours or being a range of zones for particular vehicles such as taxis.

The *Parking Study* notes that, “parking within the Study Area has a maximum occupancy of 60% between 11am and 1pm on a weekday and 50% at 11am on a Saturday, indicating that sufficient total supply of parking is provided within the Study Area to accommodate demands”²

It is considered the loss of 8 car parking spaces in this location would not have an adverse impact on parking availability in the local area.

Public Transport

Camberwell Junction forms the intersection of 3 tram routes as below:

Tram	Route
70 – Docklands to Wattle Park	Riversdale Road
72 – Melbourne Uni - Camberwell	Burke Road
75 – Docklands to Vermont South	Riversdale Road to Camberwell Road

Data collected for Council's *Camberwell Junction Access Plan* show that these services are well-utilised with 1,760 patrons boarding or alighting all routes at Camberwell Junction between 7am and 1.15pm on a typical weekday in October 2011³. The peak period for tram activity was between 8.30am and 8.45am with 281 passenger movements.

The construction of a new tram super stop compliant with the provisions of the Disability Discrimination Act (1992) as part of the SW plaza would improve accessibility and safety for public transport users in the area and assist in catering to the identified potential increase in patronage for tram route 75.

The proposal would also improve tram movements on Route 72 and 70 through Camberwell Junction through providing more green signal time for both Burke Road and Riversdale Road through the intersection.

Pedestrian Activity

Camberwell Junction is an area of high pedestrian activity. Observations undertaken for the *Camberwell Junction Access Plan 2014* show approximately 15,000 pedestrian movements around the Junction daily.

² Camberwell Junction Access Study 2014 p. 52

³ Camberwell Junction Access Study 2014 p. 38

Data also indicates that the area to the east of Burke Road is a strong origin for pedestrian trips to the Junction. Pedestrian movement through the intersection of the Junction itself is currently facilitated by eight signalised pedestrian crossings.

As the project would create areas free from car traffic, the proposed redevelopment has the potential to greatly increase pedestrian access through and within Camberwell Junction while also greatly enhancing the wider pedestrian network. This enhancement of the pedestrian network is especially important given the recent increase in residents living adjacent to the Junction.

The proposal is consistent with the *Camberwell Junction Access Plan*, which notes (pg 29):

'The survey data reinforces that the central draw for pedestrians is the precinct immediately surrounding the Camberwell Junction. Therefore, promoting links that better serve the movement towards the Burke Road shopping strip and Camberwell Junction will improve amenity for this existing pedestrian population and potentially lead to increased walking for short trips from people who currently use other modes.'

Cycle network

On-street bicycle lanes are currently marked on the approach to Camberwell Junction on Riversdale Road and Camberwell Road. Observations for the *Camberwell Junction Access Plan 2014* demonstrate a 6 pm peak of 264 cyclists passing through the intersection in addition to other peaks at 11am and 3pm which indicate a high number of non-work commuter trips.

The proposed redevelopment would simplify traffic flow through Camberwell Junction, making cycling through the area safer. There is also the potential to improve bicycle lanes through the intersection as part of the redevelopment.

Built environment and land use

Land adjacent to Camberwell Junction is currently zoned *Commercial Zone 1* and as such is largely currently occupied by retail and food outlets. However, the residential density of the area has been greatly increased in recent years through redevelopment, most notably the fourteen-story *Aerial Apartment* building in the South-Western area of land adjacent to the Junction.

Increasing pedestrian and cycle access has the potential to both greatly increase the commercial viability of businesses and provide the necessary commercial activity for new businesses in the area. The Heart Foundation's *Good for Busine\$\$ Discussion Paper 2011* found that car drivers tend to stop for one item only rather than visiting an activity centre specifically to spend time shopping.

Movement and Place analysis

The Victorian State Government has recently announced a new Movement and Place approach to designing roads and streets to meet the increasing needs of people and businesses while also creating or improving places

Traditionally, roads and streets are considered only movement corridors to get from A to B. The Department of Transport's new approach, the Movement and Place framework, recognises that streets not only keep people and goods moving, they're also places for people to live, work and enjoy.

Through promoting this approach, the State has indicated that when planning and developing the transport network, there is a need to balance the needs of both transport users and place users and design a mix of transport modes that are appropriate to how the road and places are used by communities.

Movement and Place has many uses at the strategic network planning and development level and at the detailed project level through marrying network-wide and localised considerations. The framework organises transport links by their place and movement roles into road and street types. A set of priority uses, performance measures and potential interventions are then developed for each road and street type.

It is strongly recommended that a Movement and Place analysis and approach is taken to the future planning of Camberwell Junction. The proposal is consistent with the objectives and aims of movement and place and holds strong potential as an early candidate or pilot project that can be delivered in partnership between City of Boorondara and the State Government.

Relevant policy

- *Plan Melbourne* - Camberwell Junction is a nominated Activity Centre in the State Government metropolitan strategy, *Plan Melbourne*.

Relevant City of Boroondara policies and strategies include:

- *Camberwell Junction Structure Plan 2011* - This plan has been prepared to guide land use and development at Camberwell Junction over the next two decades.
- *Camberwell Junction Access Study Access Plan* – identifies a number of high-level strategies to give priority to walking, cycling, and public transport.
- *Camberwell Junction Access Study: Parking Study* – This document was produced to inform the *Access Study Plan* and includes detailed observations of parking availability and use in Camberwell Junction.
- *Boroondara Integrated Transport Strategy* – The purpose of this strategy is to guide the development of transport and access within and through Boroondara.
- *Boroondara Open Space Strategy* – This strategy provides the strategic direction for the future planning, provision, design and management of open space in Boroondara through to 2026.

Other relevant policies and strategies include:

- VicRoads *SmartRoads* strategy – This strategy aims to promote a safer and more efficient road network through prioritising different uses on Victoria’s road network.
- TAC *Towards Zero* program – This strategy has the goal of future free of deaths and serious injuries on Victoria’s roads.

Policy Alignment

The proposed redevelopment aligns with the following aspects of existing Council policies and other government and statutory body strategies:

- *Camberwell Junction Access Plan*
 - Includes the aim to “maintain existing levels of pedestrian activity and to encourage further growth in pedestrians as a mode of travel the environment provided for pedestrians will need to be improved, specifically the removal of pinch points as well as provision of additional rest areas and green space.” (*Camberwell Junction Access Plan*, p. 33)
 - Recommendation 4.3: Investigate infrastructure improvements to the Principal Pedestrian Network. Camberwell Road is considered a priority corridor for improvement in this recommendation.
 - Recommendation 5.3: Advocate that Camberwell Road south of Riversdale Road to Inglesby Road becomes a Pedestrian Priority Area.
 - Recommendation 9.1: Advocate for ‘second generation’ bicycle lanes along Burke Road, Camberwell Road and Riversdale Road east of the Camberwell Junction.
- *Camberwell Junction Structure Plan*
 - The vision for Camberwell Junction as outlined here includes, “a pedestrian friendly environment... improved accessibility through better connected public transport,

- walking and cycling networks, and traffic and parking measures to reduce adverse impacts on residential areas.” (Camberwell Junction Structure Plan, p. 2)
- Includes the action to develop, “a secure and convenient pedestrian network with outdoor eating spaces and well-connected to the public transport spine of the Burke Road tram.” (Camberwell Junction Structure Plan, p. 11)
 - Includes the action to, “improve pedestrian and bicycle accessibility and facilities, in particular around key pedestrian spaces, parks and transport nodes.” (Camberwell Junction Structure Plan, p. 15)
 - “A range of other implementation measures are required as follows: [including] ... Public realm improvements to widen footpaths, construct landscaped plazas, improve tram stops etc.” (Camberwell Junction Structure Plan, p. 21)
- *Boroondara Integrated Transport Plan*
 - The vision of this strategy includes the aim to, “provide improved public transport, walking and cycling provision and manage private car travel more effectively” (Boroondara Integrated Transport Plan, p. 3).
 - Strategic Objective 1: To facilitate improvements to and better integration of all forms of public transport.
 - Strategic Objective 2: To improve provision for cycling and walking, particularly in activity nodes, strip shopping centres and schools and in order to improve access to public transport.
 - Strategic Objective 3: To create more pedestrian friendly street environments and high quality urban centres which are less car-dominated.
 - Strategic Objective 4: To introduce measures to better manage traffic, public transport, cycling and walking on congested roads and particularly in urban centres.
 - *Boroondara Open Space Strategy*
 - Includes the action to, “investigate new Small Local open space to cater for both existing and forecast population needs in the Camberwell Junction activity centre” (Boroondara Open Space Strategy, p. 30)
 - *VicRoads SmartRoads*
 - Under the *SmartRoads* strategy, VicRoads has already designated the area North-West of Camberwell Junction on Camberwell Road as a pedestrian priority area. All of Camberwell Road is a designated cycle priority route. Tram route 75 is an identified tram priority route.
 - The aims of this strategy include facilitating good pedestrian access into and within activity centres, prioritising public transport routes through activity centres and encouraging cars to use alternative routes around activity centres.
 - *TAC Towards Zero*
 - The TAC is currently urging Victorian local governments to publicly back the *Towards Zero* philosophy, to introduce better speed management in areas used by many pedestrians and cyclists and to apply for grants for projects that improve pedestrian and cyclist safety.