

An abstract graphic consisting of several thin, white, parallel lines that originate from the bottom left and extend diagonally towards the top right corner of the page. The lines are set against a solid blue background that has a subtle gradient, being slightly lighter at the top.

ANZAC PARK EAST DEVELOPMENT

Commercial Facilities Works Approval

Traffic Impact Assessment

**ANZAC PARK EAST DEVELOPMENT
COMMERCIAL FACILITIES WORKS APPROVAL - TRAFFIC IMPACT ASSESSMENT**

This report has been prepared by the office of John Randall Consulting Pty Ltd, PO Box 489, Jamison Centre Macquarie, ACT 2614.

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1 Introduction

1.1 Background

John Randall Consulting Pty Ltd (JRC) was engaged by Amalgamated Property Group (APG) to prepare a Traffic Impact Assessment (TIA) for the purpose of supporting a Development Application (DA) process for Parkes Section 4 Block 2 (see Figure 1). The purpose of the TIA will be to undertake a compressive assessment of the likely traffic, transport, and parking implications in line with the ACT Governments guidelines and requirements. The TIA will forecast the likely traffic and transport impacts resulting from the proposed development and assess their impact on the adjacent transport network.

The assessment of traffic and parking impacts generated by the proposed development is based on the following information and guidelines:

- Proposed development plans and concept designs provided by APG
- Justice and Community Safety Directorate 'ACT Road Hierarchy'
- Parking and Vehicular Access General Code
- Transport Canberra and City Services (TCCS) 'Guidelines for Transport Impact Assessment'; and
- Review of existing traffic and parking conditions in the surrounding road network.



Figure 1: Site Location (source: ACTmap)

1.2 Site Context and Planning Controls

The development site is located on Constitution Avenue, ACT, approximately 1.5km from the Canberra CBD (see Figure 2). Primary access to the site would be via Anzac Parade via Limestone Avenue from the north, Parkes Way from the east or west or Commonwealth Avenue from the south, which all connect directly to Constitution Avenue which leads to Parkes Section 4 Block 2. The block falls within the National Capital Authorities Designated area and therefore is subject to the Constitution Avenue and Anzac Parade Precinct Code (see Figure 3)

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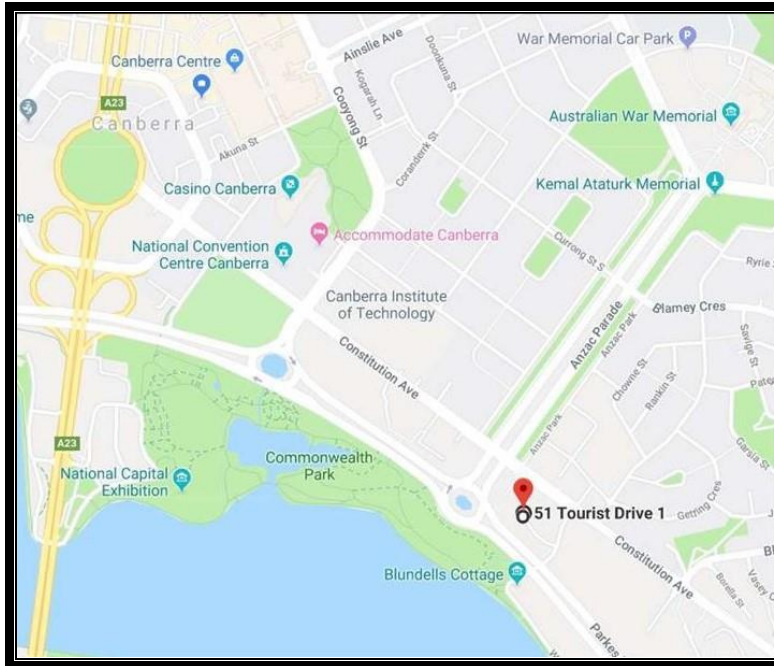


Figure 2: Illustration of the location of Parkes Section 4 Block 2 Constitution Avenue (source: Google Maps)

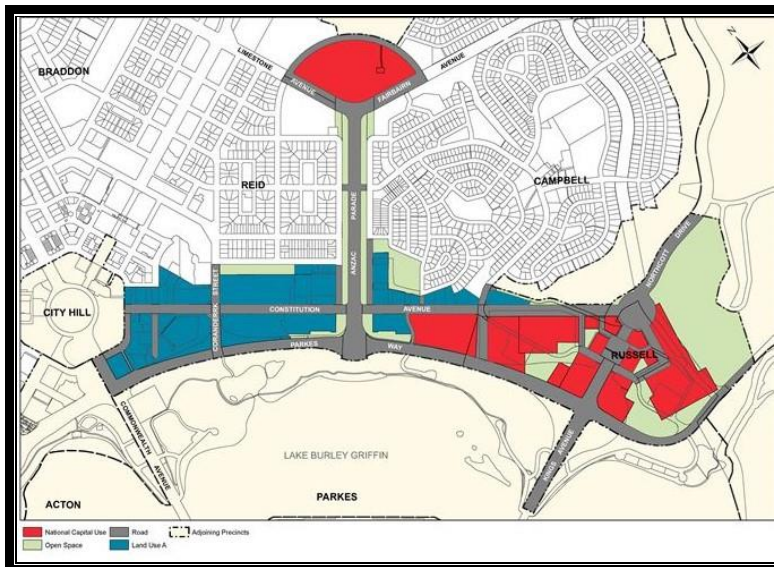


Figure 3: Constitution Avenue and Anzac Parade Precinct Code Map

Under the Precinct Code the site is subject to 'Land Use A' planning, design, and development requirements. Permitted under 'Land Use A' includes:

- Administrative Use
- Aquatic recreation facility
- Bank and cooperative society
- Café, bar, restaurant
- Carpark
- Club
- Commercial Accommodation (Serviced Apartment only)
- Consulting Rooms
- Cultural facility
- Diplomatic Mission
- Education establishment

- Health Centre
- Hotel
- Indoor recreation facility
- Motel
- Office
- Park
- Personal service establishment
- Place of assembly
- Public utility
- Residential
- Retail (ground floor of buildings only)
- Road
- Social/Community facility
- Tourist facility

Ancillary land uses for 'Land Use A' are:

- Child Care Centre
- Retail (either ground floor or above)

In addition to the allowable land uses there is detailed conditions in relation to the planning, design, and development that the development will need to address to gain approval under the NCA works approval process, these are outlined in Section 4.8.5 of the National Capital Plan.

1.3 Report Structure

This report provides advice and analysis on the potential future traffic and transport conditions that will result from proposed development at Anzac Park East. The report has been structured as follows:

- Chapter 2 – Existing Conditions – this section provides an overview of the current traffic and transport conditions in the vicinity of the proposed development site
- Chapter 3 – Proposed Development Scenario – this section provides an overview of the proposed development scenario and associated transport and traffic infrastructure
- Chapter 4 – Traffic and Parking Generation – this section provides an overview of the likely traffic and parking generation resulting from the proposed development
- Chapter 5 – Transport and Traffic Impact Assessment – this section provides an overview of the potential impacts to traffic and road network because of the proposed development
- Chapter 6 – Summary and Recommendations – this section summarises the analysis and key conclusions / recommendations of the study

2 Existing Situation

A comprehensive review of the existing transport network in the vicinity of the development site was undertaken to establish a baseline of conditions. This section outlines and summarises the findings of this review.

2.1 Road Network

The site under investigation is located east of the Canberra CBD in the suburb of Parkes which lies within the Parliamentary Triangle (as illustrated in Figure 2). The road network that surrounds the site includes (see Figure 4):

- Constitution Avenue to the north
- Anzac Parade to the west
- Wendouree Drive east; and
- Parkes Way to the south.



Figure 4: Road network surrounding Parkes Section 4 Block 2 (source: ACTmap 2021)

The following section provides a detailed overview of the road network that surround the site and forms the primary road access to and from the proposed development site.

2.1.1 Constitution Avenue

Constitution Avenue is a four lane (two lanes each direction) segregated boulevard immediately adjacent to the site (northern boundary) and to the west of the site. To the east of the site, Constitution Avenue narrows to a single traffic lane only widening at intersection to allow for turning movements. Constitution Avenue provides direct access to the City Centre of Canberra to the west and to Russell to the east.

Bounded by the suburbs of Reid and Campbell to the north, Parkes to the south and Russell to the east, Constitution Avenue sits within the Parliamentary Triangle and falls under the planning jurisdiction of the National Capital Authority (NCA). Within the ACT Government's road hierarchy, the road is classified as an arterial road corridor and connects Vernon Circle, London Circuit, Coranderrk Street and Anzac Parade to Parkes Way and the area of Russell. Constitution Avenue will form the primary access corridor to the site as it connects directly to Wendouree Drive which is likely to form the primary access to the proposed development site. Key characteristics for Constitution Avenue immediately to the north and west of the site include:

- Sealed bitumen road with appropriate corridor width of approximately 15m (including median)
- Dual traffic lanes in each direction (approx. 6m each direction) consisting of a single traffic lane for all vehicles and a bus lane on the nearside in each direction to the west of Anzac Parade. To the east of Anzac Parade both lanes are for general traffic use
- Regular median with an approximate width of 3m
- Corridor widening at intersection to allow for additional capacity for turning movements
- All major intersections are signalised
- All minor intersections / accesses are generally constrained to left in / left out with no free right turns along the corridor
- Constant line markings in the form of centre lines, bus lanes and parking bays
- Indented, short stay parking bays along the entirety of the corridor on both eastbound and westbound traffic lanes
- Regular bus stops along the corridor with provision of seating and shelters at several of the stops
- Posted speed sign of 40kmph
- No on road cycle provision on either side of the corridor, and

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- Wide off-road footpaths approximately 3m wide on both sides of the corridor.

To the east of the site there are several differences in the nature of the corridor which include:

- To the east of the intersection with Kalma Way and Wendouree Drive Constitution Avenue becomes a single traffic lane approximately 4.5m in width
- A 3m wide painted central median that forms a right turn lane in various areas along the corridor
- At intersections, the approach arm widens to two / three lanes to allow for turning movements, and
- Major intersections are signalised, however between Wendouree Drive and Russell Drive there are multiple right turn pockets or broken median lines to allow for driveway accesses.

Figure 5 illustrates the area of Constitution Avenue immediately adjacent to the proposed development site.



Figure 5: Constitution Avenue immediately adjacent to the proposed development site (source: ACTmap 2021)

The nature of Constitution Avenue changes west of the site. Between Anzac Parade and Wendouree Drive / Kalma Way the nature of Constitution Avenue remains largely consistent with west of Anzac Parade with one key difference being the removal of the dedicated bus lane. Figure 6 illustrates Constitution Avenue looking west past the site (towards the city) and Figure 7 illustrates Constitution Avenue looking east (towards Russell) past the site. The photos illustrate the two lanes in each direction and limited indented parking provision.

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Figure 6: Constitution Avenue looking west past the site 2021



Figure 7: Constitution Avenue looking east past the site 2021

East of the intersection with Wendouree Drive and Kalma Way, the nature of Constitution Avenue changes again. The key change includes a reduction in the traffic lanes to a single lane in each direction with right turn pockets for access contained within the median. There are also inconsistent verges on the north and south side of the corridor which seems largely related to developer upgrades. Where upgrades have occurred verge, improvements have been made. The median, where not utilised as a turning lane is marked through line markings and contains no landscaping consistent with the remainder of the corridor.

Figure 8 and Figure 9 illustrate images of Constitution Avenue between Wendouree Drive and Blamey Crescent.



Figure 8: Constitution Ave east of Wendouree Drive looking towards Russell 2021



Figure 9: Constitution Ave east of Wendouree Drive looking towards Russell

2.1.2 Anzac Parade

Anzac Parade is a six lane (three lanes each direction) segregated boulevard that connects Parkes Way to Limestone Avenue and Fairbairn Avenue. Bounded by the suburbs of Reid to the west and Campbell to the east, Anzac Parade forms part of an important vista between the War Memorial and Parliament House within the Parliamentary Triangle. Within the ACT Government's road hierarchy, the road is classified as an arterial road corridor and connects Parkes Way to the Inner North of Canberra. Anzac Parade will provide direct access to Constitution Avenue for vehicles approaching from the northeast and Inner North of Canberra. Key characteristics include:

- Sealed bitumen road with an expansive corridor width of approximately 60m (including median)
- Three general traffic lanes in each direction (approx. 9.5m each direction)
- Gravel median with an approximate width of 35m

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- All major intersections are signalised apart from two roundabouts that form the bookends of the corridor intersecting with Parkes Way in the south and Limestone Avenue and Fairbairn Avenue in the north
- All minor intersections / accesses are generally constrained to left in / left out with no free right turns along the corridor
- Constant line markings in the form of centre lines between traffic lanes
- Short stay parking allowable outside of the peak periods in the nearside traffic lanes
- No provision for bus stops along the corridor
- Posted speed sign of 60kmph
- No on road cycle provision on either side of the corridor; and
- Wide off-road footpaths approximately 3m wide on both sides of the corridor.

Figure 10 illustrates the area of Anzac Parade to the east of the proposed development site.



Figure 10: Anzac Parade immediately adjacent to the proposed development site (source: ACTmapi 2021)

Figure 11 illustrates the signalised intersection of Anzac Parade and Constitution Avenue and shows the divided carriageway of each road. Figure 12 illustrates Anzac Parade north bound carriageway looking towards the War Memorial.



Figure 11: Anzac Parade and Constitution Avenue intersection (source: ACTmapi 2021)



Figure 12: Anzac Parade north bound carriageway looking towards the War Memorial

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2.1.3 Wendouree Drive / Kalma Way

Wendouree Drive is a two-lane road that links Constitution Avenue to the Commonwealth Park and Lake Burley Griffin. Wendouree Drive is the existing primary access road to the Commonwealth ASIO building and provides direct access to the parking facilities for this building. The corridor widens to three lanes at both the intersection with Constitution Avenue, to allow for turning movements, and at the ASIO building car park to provide for a dedicated left turn. Wendouree Drive is classified as a local access road within the ACT Government's road hierarchy and its primary function is to provide access to buildings and facilities at Anzac Park East. Key characteristics include:

- Sealed bitumen road with a corridor width of approximately 9.5m between Constitution Avenue and the ASIO building car park entry / exit. Beyond this point the road width narrows to 7m wide
- Single general traffic lanes in each direction (approx. 3.5m each direction) except at intersections where the corridor widens to accommodate turning movements
- No median
- Constant line markings in the form of centre lines between traffic lanes and turning arrows at intersections
- No provision for on street carparking
- No public transport facilities
- Posted speed sign of 50kmph
- No on road cycle provision on either side of the corridor; and
- A 2m footpath on the eastern side of the corridor and no facilities on the west.

Figure 13 illustrates the location of Wendouree Drive in relation to the development site, while Figure 14 illustrates Wendouree Drive looking north towards the signalised intersection with Constitution Avenue and Figure 15 illustrates Wendouree Drive looking south, away from Constitution Avenue.



Figure 13: Wendouree Drive adjacent to the proposed development site (source: ACTmapi 2021)

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Figure 14: Wendouree Drive looking north towards Constitution Avenue



Figure 15: Wendouree Drive looking south, away from Constitution Avenue, ASIO carpark access on the left

Kalma Way forms one of the key accesses to the Campbell Section 5 development. It is a two-lane road segregated with a landscaped median and has indented parking bays on both sides of the corridor. Within the ACT Government's road hierarchy, the road is classified as a local access. Key characteristics include:

- Sealed bitumen road with a corridor width of approximately 15.5m including indented parking bays and central median
- Single general traffic lanes in each direction (approx. 3.5m each direction)
- Landscaped median of approximate width of 2.5m
- Constant line markings in the form of parking lane line markings and intersection line markings
- Provision for on street parking on both sides of the corridor
- No public transport facilities
- Posted speed sign of 50kmph
- No on road cycle provision on either side of the corridor; and
- Wide paved verges on both sides of the corridor more than 3m.

Figure 16 illustrates the location of Kalma Way in relation to the development site while Figure 17 illustrates Kalma Way looking north away from Constitution Avenue.



Figure 16: Kalma Way opposite Wendouree Drive (source: ACTmap 2021)



Figure 17: Kalma Way looking north away from Constitution Avenue

2.1.4 Parkes Way

Parkes Way is a four lane (two lanes each direction) segregated traffic corridor that forms the primary east – west road corridor for Canberra. The road connects Gungahlin Drive and the Tuggeranong Parkway to the west to the Majura Parkway and Monaro Highway in the east. Running immediately to the south of the City Centre, Parkes Way provides a direct link to both the City Centre and the Parliamentary Triangle which are key employment nodes within Canberra. Within the ACT Government's road hierarchy, the road is classified as an arterial road corridor and connects the areas of Belconnen and Molonglo to the Airport Precinct and the NSW suburb of Queanbeyan. Parkes Way connects directly to Constitution Avenue via several connections at Allara Street, Coranderrk Street and Anzac Parade. Key characteristics include:

- Sealed bitumen road with a corridor with a variable width of up to 60m in areas (including a median)
- Two general traffic lanes in each direction (approx. 9.5m each direction) except at major intersections where the corridor widens to accommodate turning movements
- Landscaped median with a variable width up to 35m
- A variety of intersection treatments exist along the corridor, including:
 - Two unsignalised roundabouts at the intersections with Coranderrk Street and Anzac Parade
 - Grade separated intersection with Commonwealth Avenue with free-flowing movements (through the cloverleaves) between Parkes Way and Commonwealth Avenue
 - A left turn exit only at Allara Street; and
 - Left in left out access to the exiting car park at the proposed development site.

Constant line markings in the form of centre lines between traffic lanes and turning arrows at intersections:

- No provision for on street parking
- No provision for bus stops
- Posted speed sign of 80kmph
- No on road cycle provision on either side of the corridor; and
- No footpaths on either side of the corridor.

Figure 18 illustrates the location of Parkes Way to the south of the proposed development site; Figure 19 illustrates Parkes Way eastbound carriageway looking west and Figure 20 illustrates Parkes Way eastbound carriageway looking east.

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Figure 18: Parkes Way to the south of the proposed development site



Figure 19: Parkes Way eastbound carriageway looking west



Figure 20: Parkes Way eastbound carriageway looking east

2.1.5 Blamey Crescent / Russell Drive

Blamey Crescent is a two-lane road that links Constitution Avenue to the suburb of Campbell. Blamey Crescent also provides a connection to surface car parks to the north of Constitution Avenue and links back to Anzac Parade as an alternative route. Blamey Crescent is classified as a major collector road within the ACT Government's road hierarchy and its primary function is to provide a primary access route through the suburb of Campbell. Key characteristics include:

- Sealed bitumen road with a corridor width of approximately 9m
- Single general traffic lanes in each direction (approx. 4.5m each direction)
- Priority controlled intersections for most of the corridor apart from the intersections with Constitution Avenue and Anzac Parade which are both signalised
- No median
- Constant line markings in the form of centre lines between traffic lanes, cycle lanes through intersections and appropriate line markings at intersections
- No provision for on street parking however there is direct driveway access directly of the entire corridor
- Provision for bus stops along the entire length of the corridor
- Posted speed sign of 60kmph
- On road cycle provision at intersections only; and
- A 1m footpath on both sides of the road corridor.

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Figure 21 illustrates the intersection of Blamey Crescent and Constitution Avenue to the east of the proposed development site.



Figure 21: Blamey Crescent (source ACTmapi 2021)

Figure 22 illustrates Blamey Crescent looking towards the north from its intersection with Constitution Avenue.



Figure 22: Blamey Crescent looking north from Constitution Avenue (source: Google Earth 2021)

Russell Drive forms one of the key accesses to the ASIO building and the associated car parking located on the eastern side of the building. It is a two-lane road that forms a cul-de-sac north of Parkes Way. Within the ACT Government's road hierarchy, the road is classified as a local access. Key characteristics include:

- Sealed bitumen road with a corridor width of approximately 7m
- Single general traffic lanes in each direction (approx. 3.5m each direction)
- No median
- Line markings are limited to the intersection with Constitution Avenue
- No provision for on street carparking
- No public transport facilities
- Posted speed sign of 50kmph
- No on road cycle provision on either side of the corridor; and
- No footpaths on either side of the corridor.

Figure 23 illustrates the intersection of Russell Drive and Constitution Avenue to the east of the proposed development site.

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Figure 23: Russell Drive (source: ACTmapi 2021)

Figure 24 illustrates Russell Drive looking south from its intersection with Constitution Avenue.



Figure 24: Russell Drive looking south from Constitution Avenue (source: Google Earth 2021)

2.2 Intersections / Access Points

The proposed development site is located on the south side of Constitution Avenue between Anzac Parade and Wendouree Street. There are several existing intersections and access points that facilitate access to and from the development site. Figure 25 illustrates the existing intersections and access points to the development site.

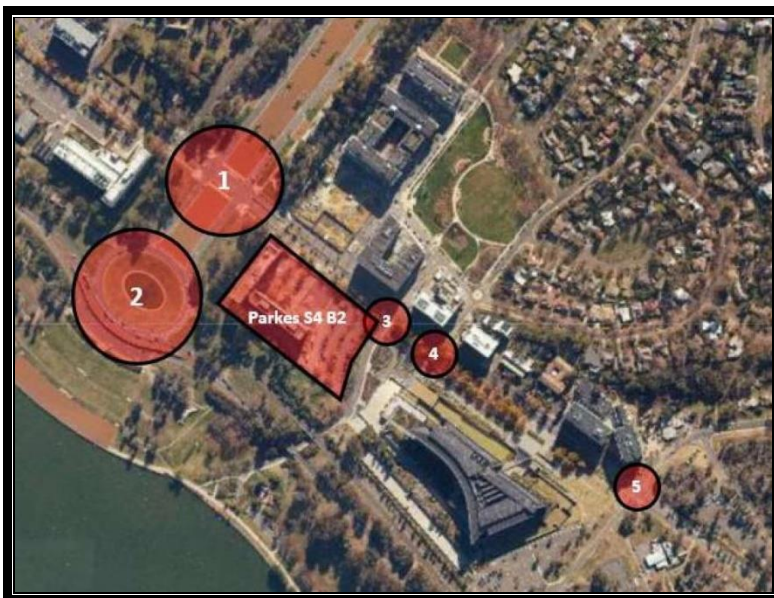


Figure 25: Existing intersections and access points that surround the proposed development site (source: ACTmapi)

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The existing intersections and access points that facilitate access to and from the site are made up of a range of different formations, these include:

- Constitution Avenue / Anzac Parade (Ref 1 on Figure 25) - this is a signalised four-way intersection allowing for all traffic movements. The intersection consists of three arms on all approaches with all lanes consisting of shared movements apart from the centre lane on Anzac Parade north and south which is a dedicated through movement lane. Pedestrian crossings are available on all intersection arms. Figure 26 illustrates the existing layout of the intersection.



Figure 26: Existing Constitution Avenue / Anzac Parade signalised intersection layout (source: ACTmapi, 2021)

- Anzac Parade / Parkes Way (Ref 2 on Figure 25) – this is an unsignalised three arm roundabout which allows for all traffic movements. The roundabout consists of two circulation travel lanes and there is a bypass lane on the south side of the movements for vehicles travelling westbound on Parkes Way. There are two approach lanes on the Parkes Way approaches from both the east and west and a three-lane approach on Anzac Parade. There are no pedestrian facilities at the intersection. Figure 27 illustrates the existing layout of the intersection.



Figure 27: Anzac Parade / Parkes Way intersection (source: ACTmapi 2021)

- Constitution Avenue / Wendouree Drive / Kalma Way (Ref 3 on Figure 25) – this is a four-way signalised intersection that caters for all traffic movements. The intersection consists of two-lane approaches on Constitution Avenue east and west and Wendouree Drive. All three approaches have dedicated right turn lanes and a shared through and left turn lane. Kalma Way is a single lane approach that provides for all movements. Signalised pedestrian crossings are available on all arms of the intersection. Figure 28 illustrates the existing layout of the intersection.

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Figure 28: Wendouree Drive / Constitution Avenue / Kalma Way intersection (source: ACTmapi 2021)

- Constitution Avenue / Creswell Street (Ref 4 on Figure 25) – this is an unsignalised priority controlled left in, left out intersection. The intersection has a single lane approach on all arms and Creswell Street is controlled with a give way to traffic travelling eastbound on Constitution Avenue. Figure 29 illustrates the existing layout of the intersection.



Figure 29: Creswell Street / Constitution Avenue intersection (source: ACTmapi 2021)

- Constitution Avenue / Russell Drive / Blamey Crescent (Ref 5 on Figure 25) - this is a four-way signalised intersection that caters for all traffic movements. The intersection consists of two-lane approaches on Constitution Avenue east and west and single lane approaches on Blamey Crescent and Russell Drive. Both the Constitution Avenue east and Russell Drive approach have left turn slip lanes. The Constitution Avenue approaches both have dedicated right turn lanes. Blamey Crescent is a single lane approach that provides for all movements. Signalised pedestrian crossings are available on Russell Drive and Constitution Avenue east arms only. Zebra crossings exist on both left turn slip lanes. Figure 30 illustrates the existing layout of the intersection.



Figure 30: Blamey Crescent / Constitution Avenue intersection (source: ACTmapi 2021)

2.3 Existing Vehicle Volumes

SCATS data was requested from Transport Canberra and City Services (TCCS) Directorate for the period Monday 2nd August to Sunday 8th August 2021 inclusive. The period requested was for a week prior to the ACT COVID lockdown. Data was requested for three locations along Constitution Avenue, including:

- Constitution Avenue / Anzac Parade
- Constitution Avenue / Kalma Way / Wendouree Drive; and
- Constitution Avenue / Russel Drive / Blamey Crescent.

SCATS data had also been requested in August 2019 for an earlier Traffic Impact Assessment for the site for a possible large office development (Reference 3). The SCATS data was for the period commencing Monday 19th August to Sunday 25th August 2019 inclusive. The SCATS data for the period in 2019 was compared with the SCATS data for the period in 2021. The 2019 SCATS data showed a higher peak traffic volume than the 2021 SCATS data. The lower volumes in 2021 compared with 2019 could be the result of several reasons including increased work from home in 2021 than was prevalent in 2019. Emails were exchanged with TCCS, and it was agreed that the 2019 SCATS data should form the base case for the report (Refer attachment B).

Figure 31 illustrates the location of the intersections above along Constitution Avenue. Figure 32 and Figure 33 illustrate the AM and PM peak hour flows for the Constitution Avenue corridor.

Based on the 2019 SCATS data provided:

- The peak travel flows along Constitution Avenue and past the proposed development were on Wednesday 21st August 2019 and these flows were used as the basis of the existing situation traffic flows
- Weekday AM peak periods at the intersections were all were between 8:15am and 9:15am
- Weekday PM peak periods at the intersections were between 5:00pm and 6:pm Monday to Thursday and between 4:00pm and 5:00pm on Fridays; and
- Weekend peak periods were around midday on both days.

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Figure 31: Intersection locations for SCATS data (source: Whereis.com 2021)

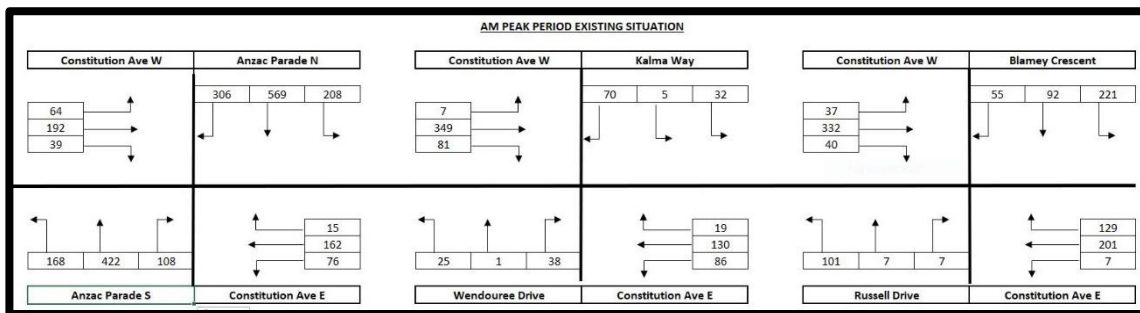


Figure 32: AM Peak hour traffic volumes 2019

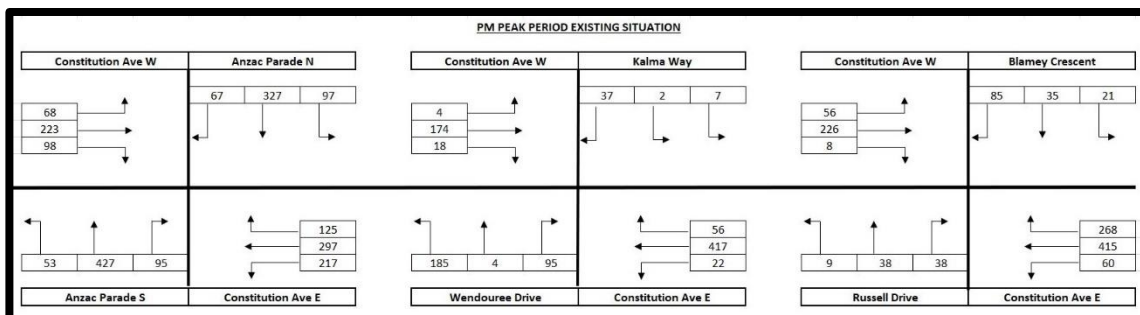


Figure 33: PM Peak hour traffic volumes 2019

2.4 Crash Data

Existing road crash data was sourced from the ACT Government's road safety website, available from: <https://www.data.act.gov.au/browse?q=crash%20data&sortBy=relevance> and from TCCS. A review of crash data for the latest 5-year (2016-2020) was undertaken focusing on the surrounding road network around the site. Figure 34 illustrates a heat map of the road crashes on the adjacent road network. Table 1 provides a summary of the crash data.

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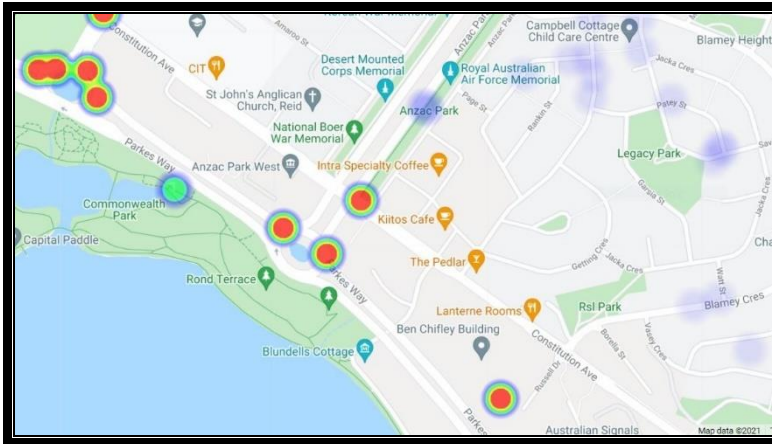


Figure 34: Crash data in vicinity of site 2012 to 2021 (source: ACT Roads 2021)

| Location | Injury | Property damage | Total Accidents |
|--|--------|-----------------|-----------------|
| Intersection | | | |
| Parkes Way / Anzac Parade | 6 | 371 | 377 |
| Anzac Parade / Constitution Ave | 7 | 25 | 32 |
| Constitution Avenue / Wendouree Drive / Kalma Way | 0 | 8 | 8 |
| Mid-block | | | |
| Parkes Way to Constitution Avenue (northbound) | 0 | 2 | 2 |
| Anzac Parade between Constitution Ave and Blamey Crescent (northbound) | 0 | 5 | 5 |
| Wendouree Drive heading towards Constitution Avenue | 0 | 2 | 2 |
| Constitution Ave between Anzac Parade and Wendouree Drive | 0 | 2 | 2 |

Table 1: Crash statistics (source: TCCS website 2021)

A review of the data illustrates that there were a significant number of crashes resulting in both injury crashes and property damage in the surrounding area of the proposed development. No fatal crashes were recorded in the vicinity of the proposed development during the last five years. It is evident that most of the crashes are associated with, or in very close proximity to the larger intersections around the site. In particular a large proportion of the crashes occurred at the unsignalized roundabouts between Anzac Parade and Parkes Way and Cooyong and Parkes Way. There were also several crashes at the Anzac Parade / Constitution Avenue intersection.

Figure 35 illustrates a heat map of all cyclist crashes in the vicinity of the proposed development from 2012 to 2021. No fatal crashes were recorded. As seen from the heat map, the predominant crash locations are at the unsignalised intersections on Parkes Way at Anzac Parade as well as the larger signalised intersection along the Constitution Avenue road corridor.

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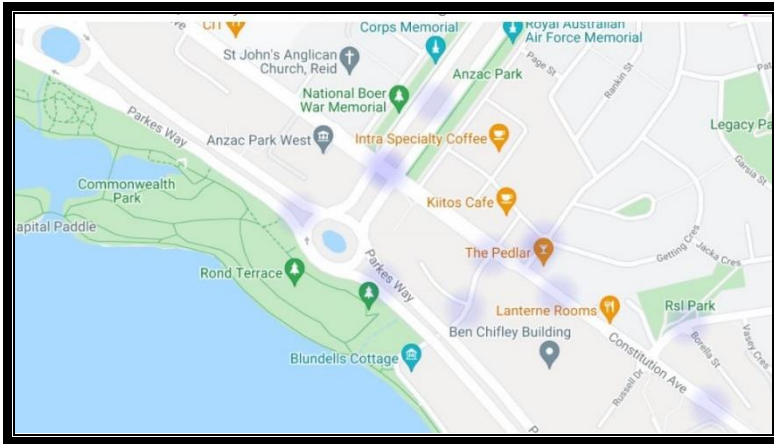


Figure 35: Cyclist crash data 2012 to 2021 (source ACT Roads 2021)

2.5 Carparking

A review of existing off-street public carparking facilities within a 400m radius of the site identified one facility located on the edge of Lake Burley Griffin at Anzac Park East and on street parking surrounding the Campbell 5 development. As such, the radius was widened to 800m to comprehensively review the publicly available carparks. The carparking facilities identified include:

- Off-street publicly available carparking
- Off-street private carparking; and
- On-street indented carparking.

Figure 36 illustrates the off-street parking facilities within an 800m radius of the development site.

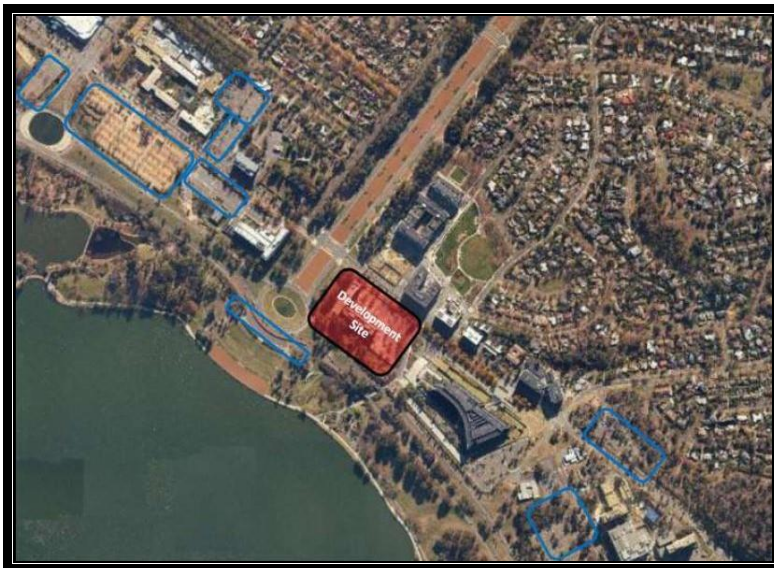


Figure 36: Off-street carparking within 800m radius of the development site (source: ACTmapi)

Table 2 outlines the capacities that are applicable at the car parks outlined in Figure 36.

| Parking Facility | Capacity (spaces) |
|--|--------------------------|
| CIT Reid Private car park – Permit only | 213 |
| CIT Dirt car park | 1,030 |
| Allara Street carpark (Canberra City swimming pool site) | 583 |
| National Convention Centre | 480 |
| Anzac Park West | 220 |
| Anzac Park East – Lake Burley Griffin edge | 76 |
| Car Park 59 - Borella Street | 1,133 |
| Car Park 48 - Russell Drive | 415 |
| Wendouree Drive adjacent Blundell's Cottage | 15 |
| Campbell 5 on street parking | 100 |
| Total number of carparking spaces | 4,265 |

Table 2: carparking spaces within 800m of the development

The table demonstrates that there are approximately 4,265 public carparking spaces daily within an 800m walking distance of the proposed development site. The parking comprises a range of short stay and long stay carparking options. There is also a private dedicated carparking facility available for the CIT Reid Campus that provides an additional 213 spaces that is available to students through a permit system.

In addition to the off-street parking facilities, there are limited short stay on street carparking facilities along Constitution Avenue that take the form of regular indented short stay carparking bays.

2.6 Public Transport

2.6.1 Public Transport Network

Constitution Avenue is well serviced with public transport with the R3 Rapid Route running along its entire length between London Circuit and the Kings Avenue interchange. The route extends from the Canberra Airport to the east, runs along Constitution Avenue, past the proposed development site, through the City Bus Interchange, continues to the Belconnen Bus Interchange and then terminates in Spence in the west.

Rapids are frequent direct bus routes that run between town centers and other key destinations. Rapids run at least every 15 minutes between 7am and 7pm on weekdays, and less frequently at other times.

There is also a frequent local service No 59 that runs along Constitution Avenue on weekdays. Figure 37 illustrates the Rapid Bus network throughout Canberra and shows the R3 and Routes No 56, 59 and 182 past the proposed development.

Local bus services that are designed to get people to their town centre and other destinations in their area, such as schools or local shops. All regular routes connect with at least two Rapid routes to help customers making longer journeys. Regular routes generally run every 20 to 30 minutes in peak times, and at least every hour during the day, in the evenings and on weekends.



Figure 37: Rapid bus routes (source: TCCS web site Oct 2021)

Figure 38 illustrates the bus route map for the Inner North of Canberra.

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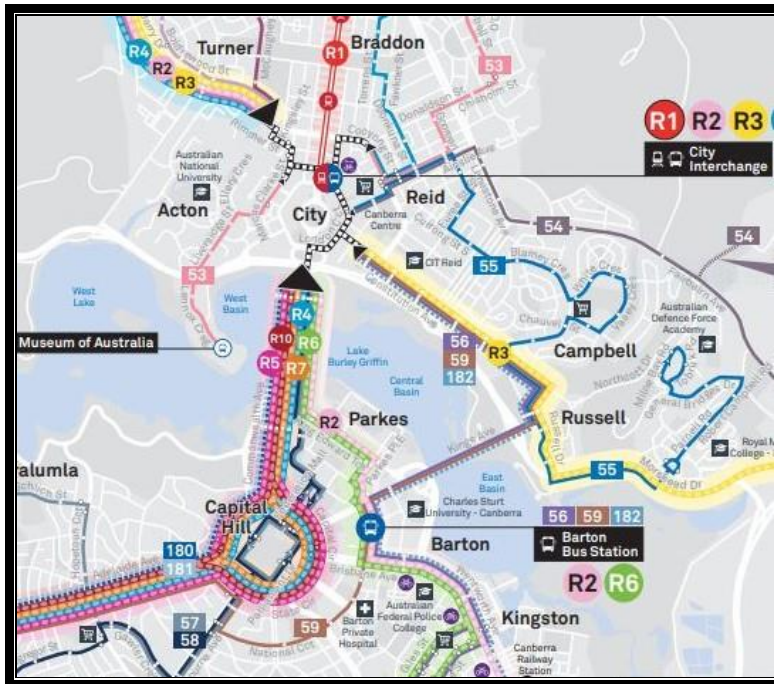


Figure 38: Local and Rapid bus routes adjacent the proposed development (source: TCCS web site Oct 2021)

2.6.2 Public Transport Facilities

There are several existing bus stops within a 400m walking distance of the proposed development site. As Constitution Avenue forms part of the ACT Government Rapid Bus Network and is currently serviced by a Rapid bus route, the standard of bus amenity along the corridor is mixed east of Anzac Parade. Some bus stop consists of a shelter, seating and passenger information signage others consist of basic provision with just a rapid bollard displaying passenger information. Figure 39 illustrate the existing bus stop facilities and passenger information bollards that exist along Constitution Avenue east bound passengers. Figure 40 and Figure 41 illustrate the existing bus stop facilities and passenger information bollards that exist along Constitution Avenue west bound passengers.

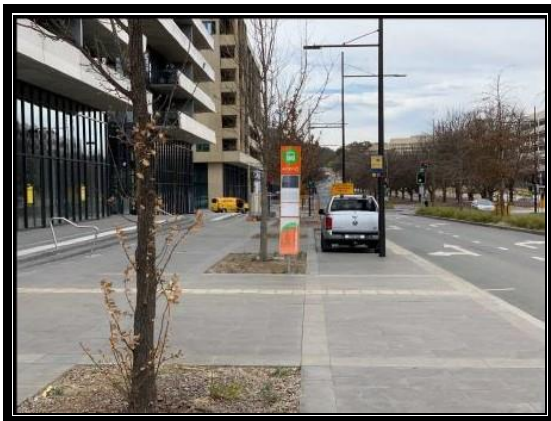


Figure 39: Bus stop on Constitution Avenue for eastbound passengers

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Figure 40: Bus shelter in the southern verge of Constitution Avenue for eastbound passengers



Figure 41: Bus route and passenger information details Oct 2021

There are currently two bus stops immediately adjacent to the proposed development site servicing both eastbound and westbound passengers.

2.7 Active Travel

Due to the location of the site, which is near the Canberra CBD, there are a variety of active travel facilities that facilitate direct access to and from the site. Figure 42 illustrates the Canberra City Centre bike route map.

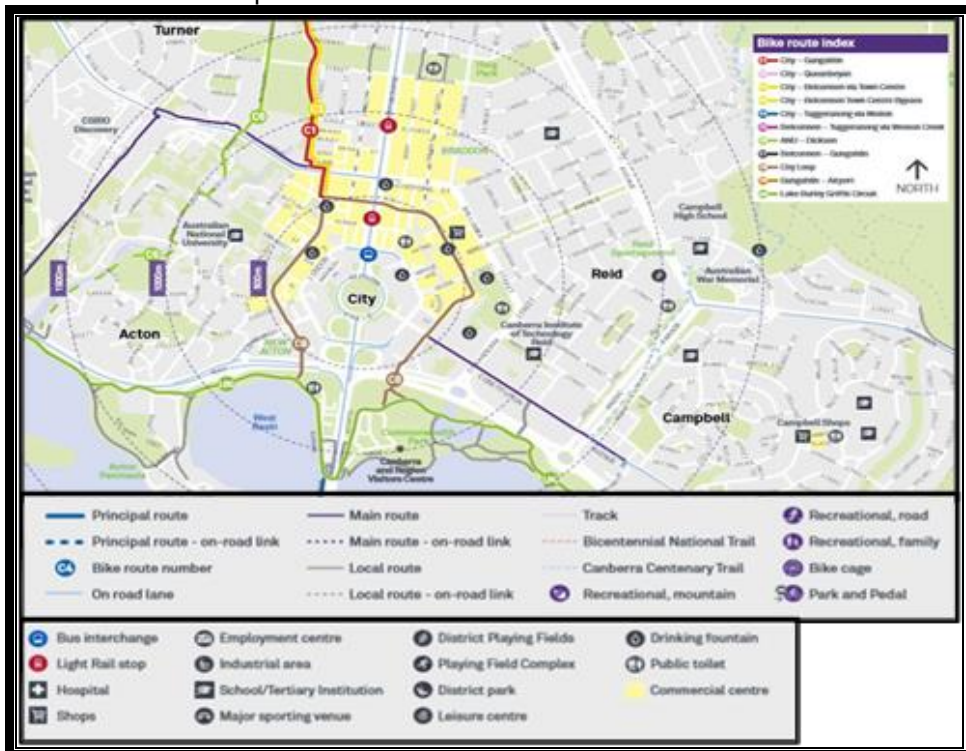


Figure 42: Map of Cycle path in the areas surrounding Canberra City (source: TCCS, ACT)

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As demonstrated on the map above, Constitution Avenue forms part of the Canberra's main cycle route which provides a direct and dedicated connection into Canberra City Centre. This main route also provides a direct connection into the Canberra City Loop and the Lake Burley Griffin Circuit. Both routes then connect into the broader Canberra on and off-road cycle network.

Active travel facilities are varied along the length of Constitution Avenue. West of Anzac Parade where the corridor has recently undergone significant upgrades, active travel facilities are generous for both commuter and recreational use. Several images were captured of facilities to the west of Anzac Parade during a recent site visit which are illustrated in Figures 43 to 48.

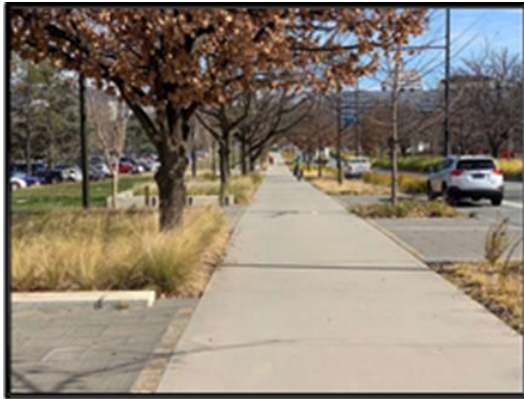


Figure 43: Off road 3metre wide shared path along that connects the proposed development site to the City Centre – image looking west



Figure 44: Off road 3metre wide shared path along that connects the proposed development site to the City Centre – image looking west



Figure 45: Parkes Way underpass providing a direct active travel connection between Lake Burley Griffin and the proposed development site

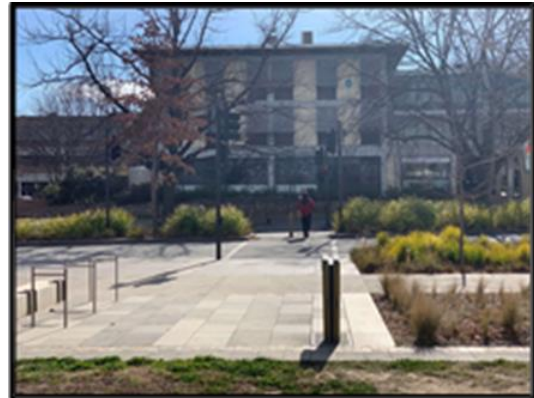


Figure 46: Constitution Avenue CIT Campus entrance, bike racks and drinking water fountain located on footpath directly outside the campus

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Figure 47: Signalised crossings provide wide provision for active travel movements along Constitution Avenue



Figure 48: Regular informal mid-block crossings are available along the entire length of Constitution Avenue to enable active travel users to move across the corridor at various points

To the east of Anzac Parade, where the corridor has yet to undergo significant upgrades, facilities are inconsistent. There are no on road facilities for cyclists however the southern verge has a consistent 3m wide footpath for its entire length. The facilities on the northern verge are dependent on what development has occurred adjacent to the verge. For example, at Section 5 Campbell (refer Figure 42), the verge has a wide paved verge more than 5m which allows for all active travel users, however further down the corridor where upgrades are occurring currently there are no facilities available currently. In addition, there is no provision for mid-block crossings, and crossing facilities only exist at signalised intersections.

Figure 49 to Figure 52 illustrate the facilities that are available to the east of Anzac Parade.

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Figure 49: 3metre wide footpath along the west side Constitution Avenue in the near verge to the development



Figure 50: Paved verge on northern side of Constitution Avenue opposite the development



Figure 51: 3metre wide footpath on Wendouree Drive and underpass below Parkes Way linking Constitution Avenue to the cycle paths around Lake Burley Griffin



Figure 52: Bike storage facilities located on the north verge of Constitution Avenue immediately adjacent to the recently completed Campbell Section 5 development

3 Proposed Development Scenario

The proposal is to redevelop Anzac Park East to provide a mixed-use development comprising office, retail / commercial and residential units with a two-level basement carpark. The site masterplan is illustrated in Figure 53.

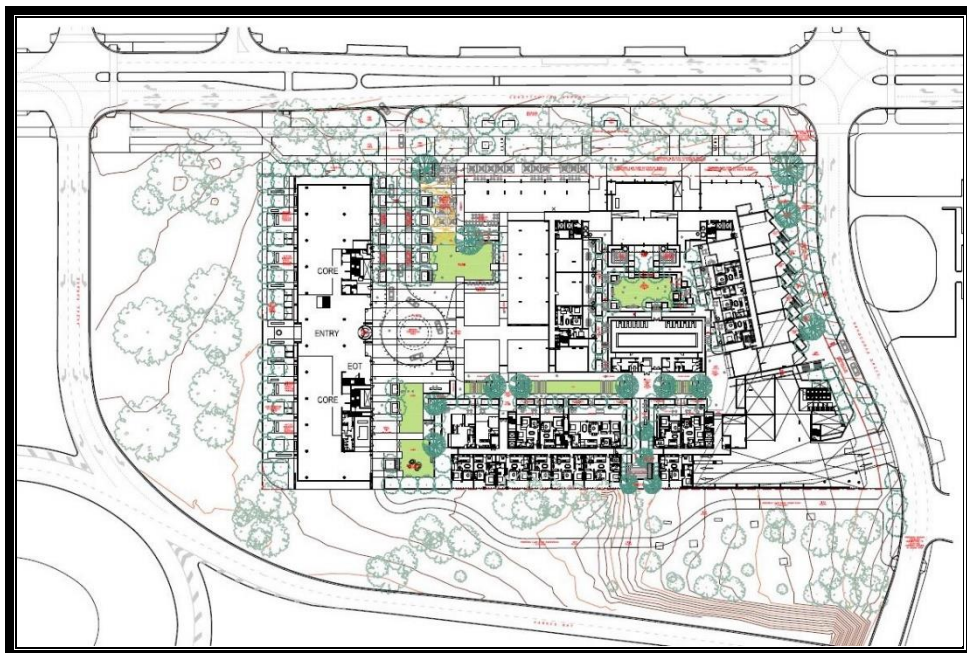


Figure 53: site masterplan (source: DBI Architects 2021)

3.2 The Development Proposal

The proposed development will feature separate office and residential buildings comprising:

- Office and Business Centre of 17,437sqm GFA
- Café / restaurant of 346sqm GFA
- Retail / restaurant of 410sqm GFA
- 381 Residential units of varying floor plans and number of bedrooms

The breakup of the residential units and commercial areas is detailed in Table 3 and Table 4.

| RESIDENTIAL | Building A | Building B | Building C | Building D | Total |
|---------------|------------|------------|------------|------------|-------|
| 1 Bed | 28 | 22 | 37 | 48 | 135 |
| 1 Bed + | 3 | 2 | 0 | 10 | 15 |
| 2 Bed (S) | 8 | 3 | 2 | 0 | 13 |
| 2 Bed (L) | 15 | 10 | 12 | 26 | 63 |
| 2 Bed + | 10 | 19 | 45 | 28 | 102 |
| 3 Bed | 13 | 19 | 5 | 0 | 37 |
| Sub Penthouse | 0 | 0 | 4 | 0 | 4 |
| Penthouse | 3 | 3 | 3 | 3 | 12 |
| Total units | 80 | 78 | 108 | 115 | 381 |

Table 3: Residential unit breakup

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| COMMERCIAL | GFA (sqm) |
|---------------------|-----------|
| Office | 17,437 |
| Café / restaurant | 346 |
| Retail / restaurant | 410 |

Table 4: Commercial and retail details

The office and residential development will consist of eight floors with typical floor layouts as illustrated in Figure 54 to Figure 59. The floor plate of the office varies over the first three floors and the layout of the units vary across the eight residential floors.



Figure 54: Office ground floor (source May Russell Architects 2021)



Figure 55: Office level 1 (source May Russell Architects 2021)

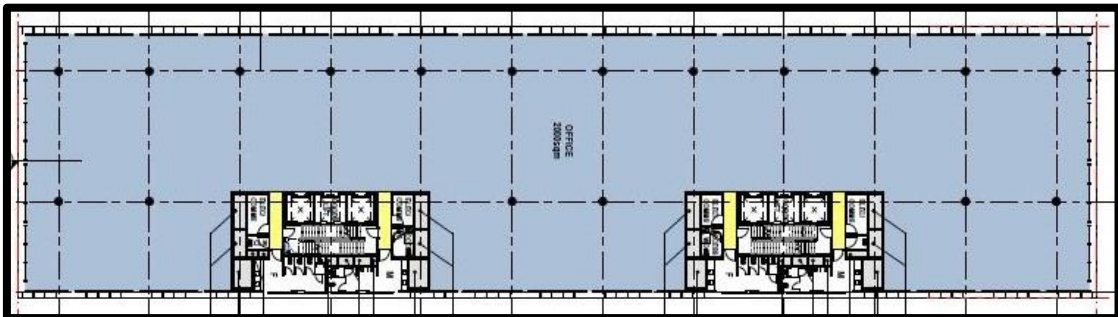


Figure 56: Office level 2 (source May Russell Architects 2021)

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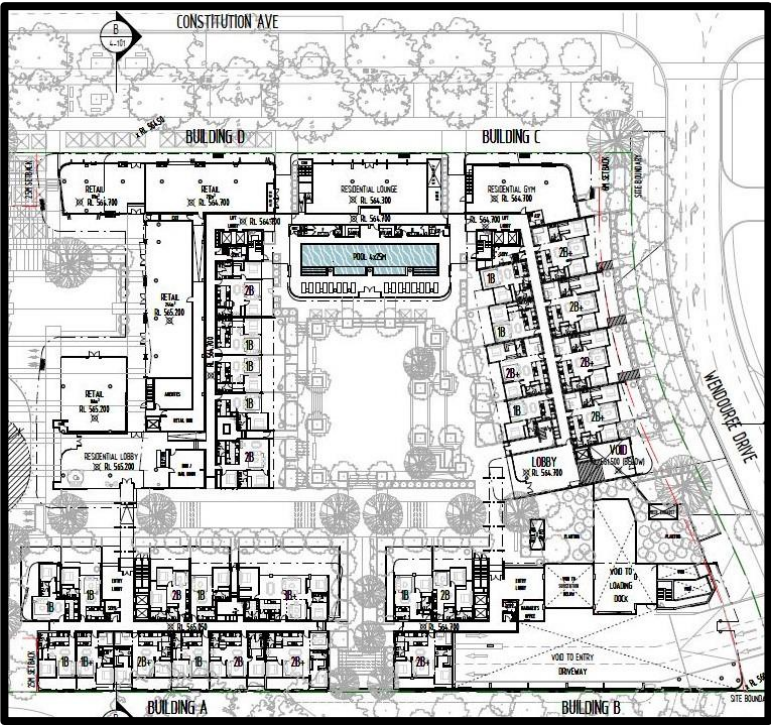


Figure 57: Residential units' level 1 (source: DBI Architects 2021)

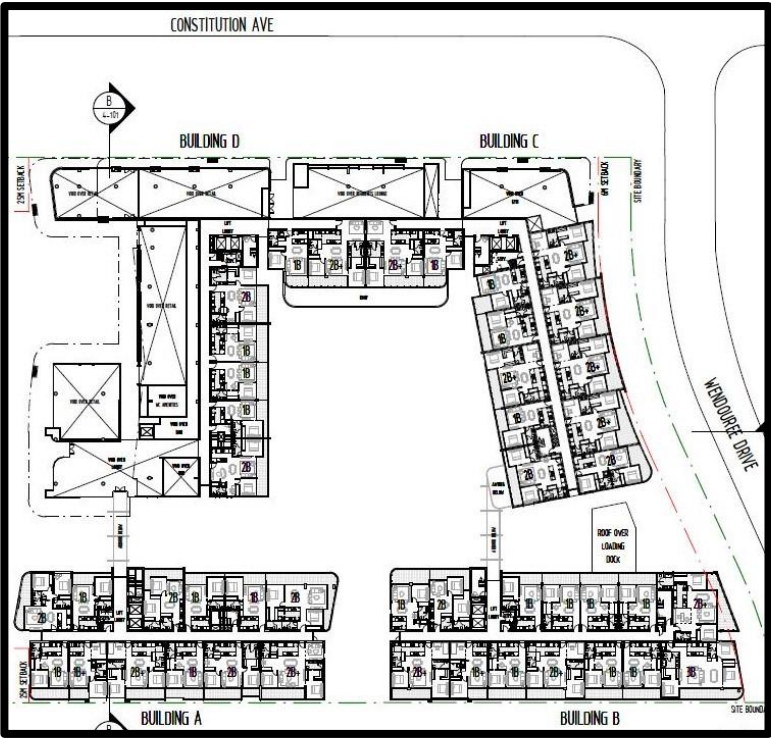


Figure 58: Residential units' level 2 (source: DBI Architects 2021)

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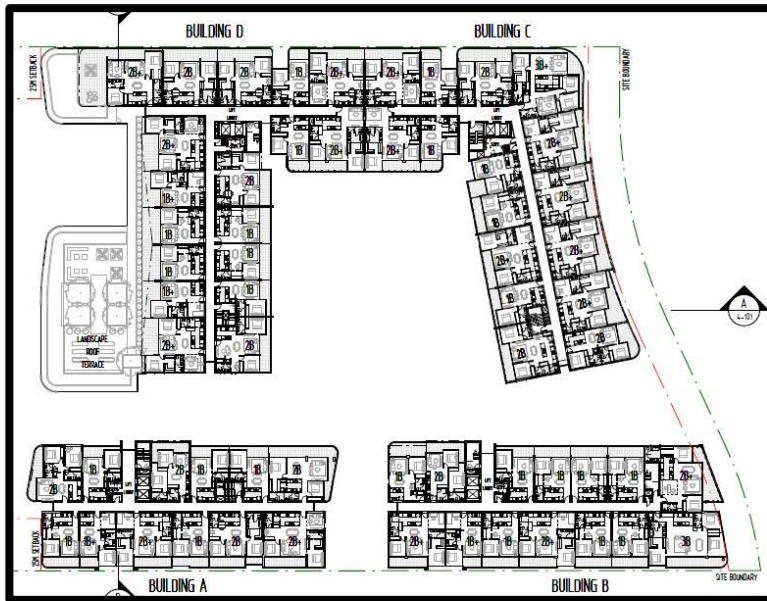


Figure 59: Residential units' level 3 (source: DBI Architects 2021)

3.2.1 Carparking

The development proposals include provisions for two levels of basement carparking for both the office and residential components of the development. A total parking provision of 870 spaces is proposed comprising:

- Residential 642 spaces
- Office 180 spaces incl 6 disabled driver spaces
- Café / Restaurant / Retail 20 spaces incl 1 disabled driver space and 3 motorcycle spaces
- Visitor 25 spaces incl 1 disabled driver space

The proposed on-site parking facilities will support the proposed office, retail / café / restaurant, residential and some visitors. The retail / café / restaurant parking may be available for visitor parking in the evenings and on weekends when the retail / café / restaurant is not trading. The balance of the visitor parking to be accommodated off site as per the agreed 'Detailed Conditions of Planning, Design and Development' (2017).

The proposed basement carparking layouts are illustrated in Figures 60 to 63 inclusive.



Figure 60: Office basement carparking level 1 (source: May Russell Architects 2022)

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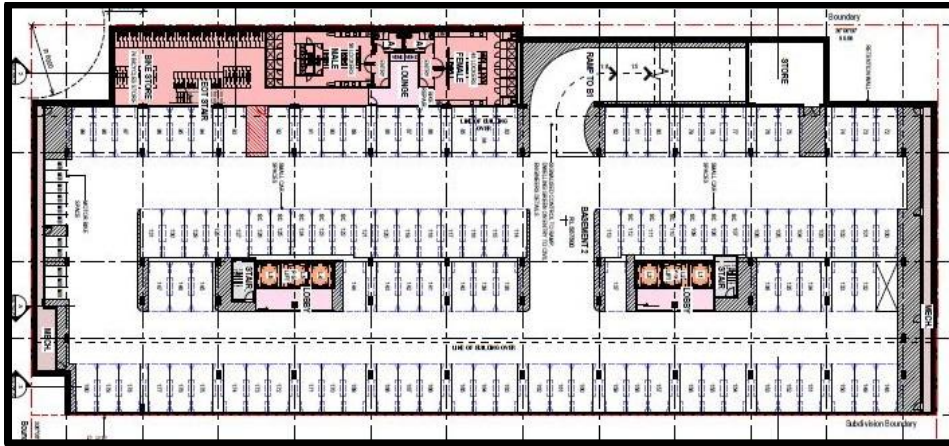


Figure 61: Office basement carparking level 2 (source: May Russell Architects 2022)

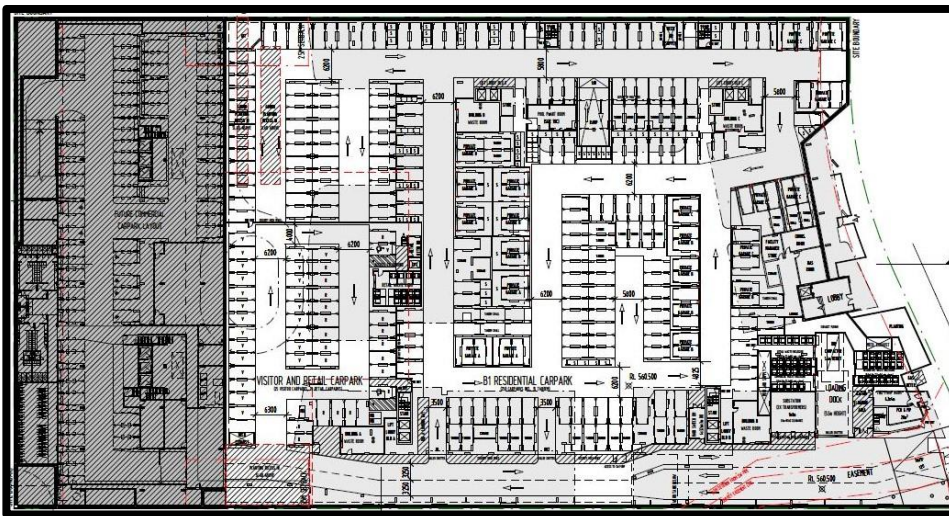


Figure 62: Overall basement level 1 (office carpark shaded) (source: DBI Architects 2021)

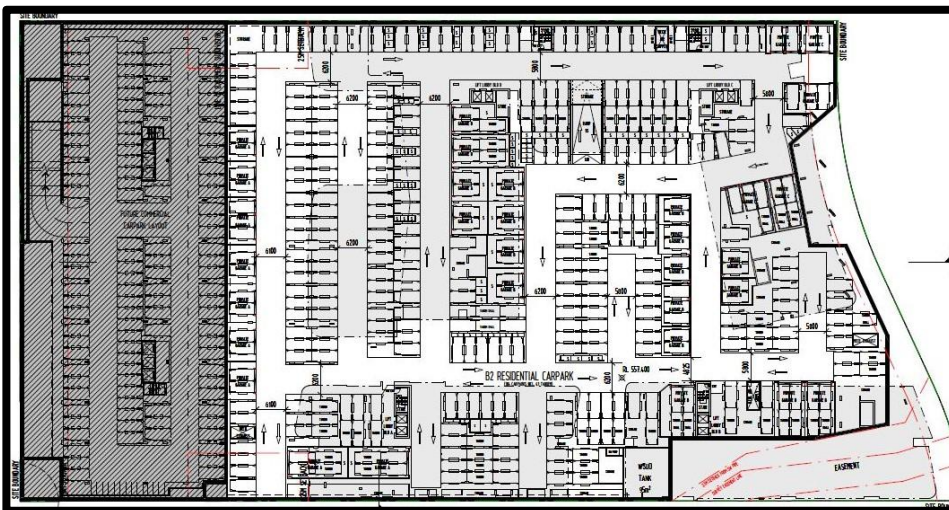


Figure 63: Overall basement level 2 (office carpark shaded) (source: DBI Architects 2021)

3.2.2 Access

The National Capital Authority has advised that primary access to the development is to be off Wendouree Drive. A secondary access is also permitted off Constitution Avenue for pick up and drop off. Figure 64 illustrates the proposed access arrangements.

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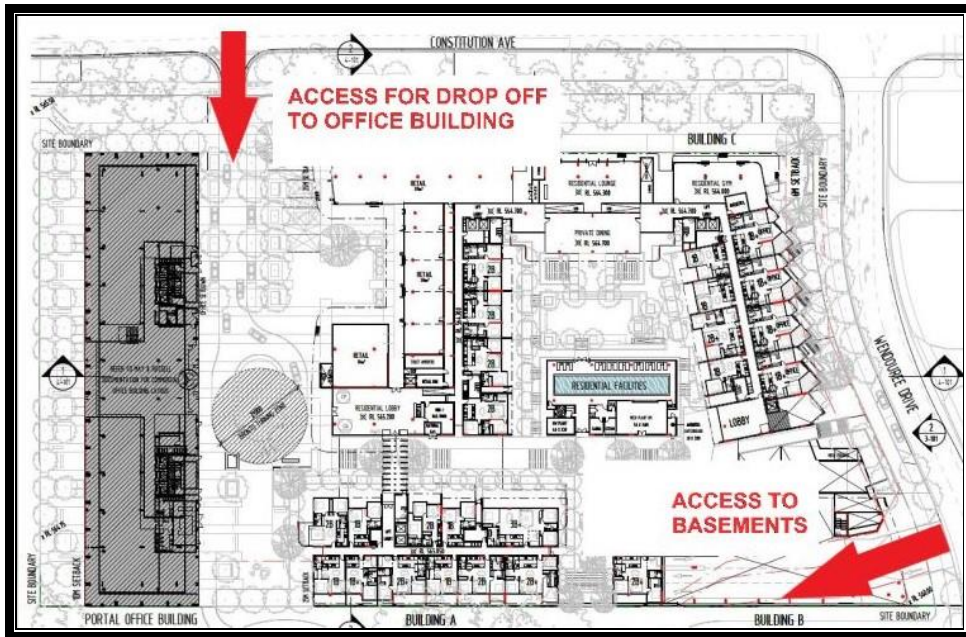


Figure 64: Driveway access to development (source: DBI Architects 2021)

Due to the size of the car park, there will need to be a minimum of two entry lanes which would allow for 600 free flow vehicle movements per lane per hour during the peak access and egress periods. The proposed entry exit arrangement is for two entry lanes extending approximately 60 metres into the site then merging into a single lane and a single exit lane: the exit joins with a single lane on Wendouree Avenue.

The entrance for the residential carpark is located some 110metres inside the site while the entrance to the office, retail and limited visitor parking is located a further 30 to 40metres past the residential carpark entrance, hence the access controls on the residential and office carparks should not cause queuing on Wendouree Drive. The actual control for access to the site is the traffic signals at the intersection of Constitution Avenue and Wendouree Drive which limits the number of cars accessing Wendouree Drive in each phase of the signal cycles.

3.2.3 Cycle Parking / Storage

Approx. 380 sqm of end of trip facilities (EOT) within each of basements 1 and 2 will be provided for the office workers as illustrated in Figure 65A and 65B. The EOT facilities will include:

- 148 bicycle spaces
- changing rooms with 24 showers; and
- 208 lockers.

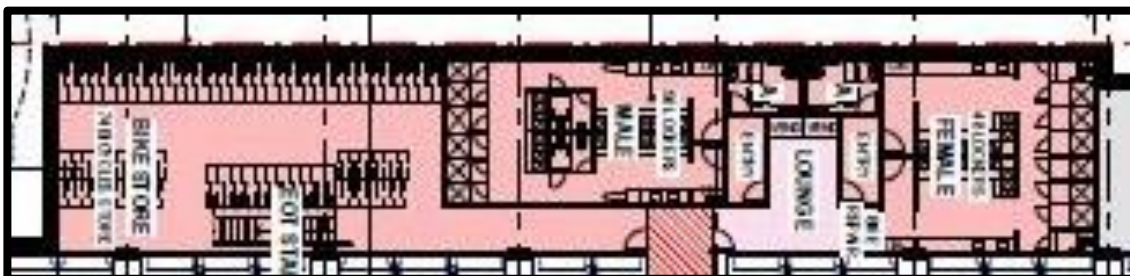


Figure 65: Office end of trip facilities basement level 2 (source: May Russell Architects 2022)

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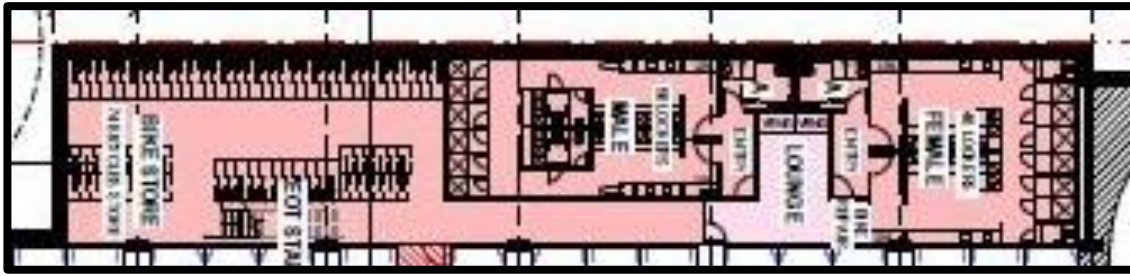


Figure 66: Office end of trip facilities basement level 2 (source: May Russell Architects 2022)

3.2.4 Service Vehicles and Waste Collection

The design of the proposed development allows for all service and waste collection vehicles to enter and exit the development in a forward motion whether it be at the drop off driveway off Constitution Avenue or the main development driveway off Wendouree Drive. Figure 67 illustrates the arrangement for the waste collection and loading dock area.

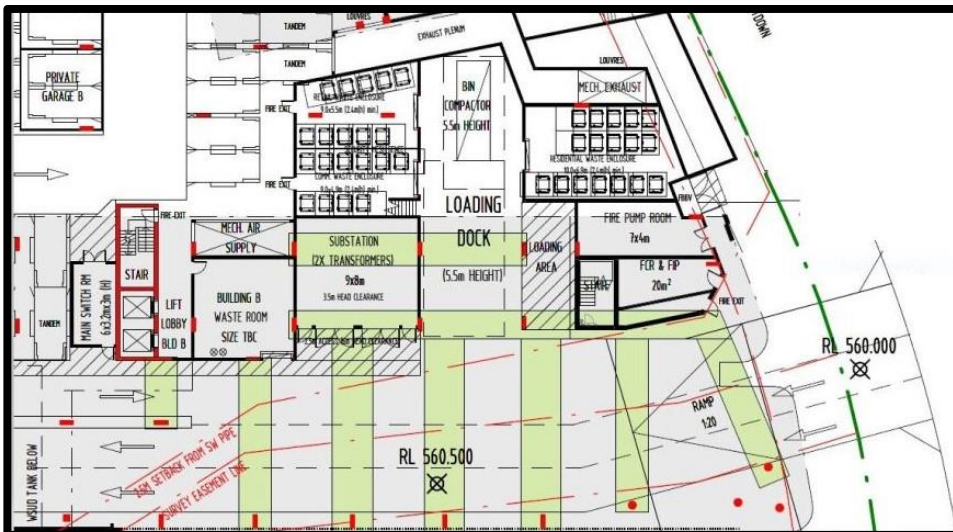


Figure 66: Waste and delivery area off Wendouree Drive (source: DBI Architects 2021)

4 Traffic and Parking Generation

4.1 Traffic Generation

4.1.1 Office and Business Centre traffic generation

The Roads and Maritime Services (RMS) Guide to Generating Traffic Developments provides guidance on traffic generation resulting from new developments. Section 3.5 specifically outlines guidance in relation to office and commercial developments. The guidance states:

- Daily vehicle trips = 10 per 100sqm gross floor area; and
- Evening peak hour vehicle trips = 2 per 100sqm gross floor area.

Further analysis conducted by RMS between 2010-2012 informed a further update to the traffic generation rates for office accommodation as part of 'Technical Direction TDT 2013/04a'. Within this technical note the trip generation rates that apply to office accommodation were as follows:

- Daily vehicle trips = 11 per 100sqm gross floor area
- Morning peak hour vehicle trips = 1.6 per 100sqm gross floor area; and
- Evening peak hour vehicle trips = 1.2 per 100sqm gross floor area.

4.1.2 Residential traffic generation

The RMS Guide to Generating Traffic Developments provides guidance on traffic generation resulting from new developments. Section 3.3.2 to 3.3.3 specifically outlines guidance in relation to medium and high-rise developments. The guidance states that for:

- Medium density developments consisting of smaller units and flats (up to two bedrooms) generate 0.4-0.5 trips per unit during peak periods
- Medium density developments consisting of larger units and town houses (three or more bedrooms) generate 0.5-0.65 trips per unit during peak periods
- Metropolitan Regional Centres high density developments generate 0.24 trips per unit during peak periods, and
- Metropolitan Sub-Regional Centre high density development generate 0.29 trips per unit during peak periods.

The Guide to Traffic Generating Developments - Updated Traffic Survey, RMS 2013 provides a range of peak hour trips per unit for Sydney and regional areas; these are

- Weekday AM Peak (1 hour) 0.39 to 0.67 vehicle trips per unit
- Weekday PM Peak (1 hour) 0.22 to 0.42 vehicle trips per unit

The upper limit of the range has been adopted for the analysis.

4.1.3 Retail traffic generation

Section 3.6 of the RMS Guide to Generating Traffic Developments provides guidance on traffic generation for retail / café / restaurant. It notes that the traffic generation varies significantly and depends on the retail use and floor area and provides an average PM Peak rate of 12.5 vehicle trips per 100sqm GFA. The RMS does not provide AM peak rates for retail. It is likely that the retail would target the office workers and residents hence may not generate the above trips however these are applied to the evening peak, both for arrival and departure. An AM Peak rate of 1 vehicle trips per 100sqm GFA has been allowed for possible staff servicing the retail.

The proposed development is mixed use and as such is made up of residential dwellings of various sizes as well as a small amount of retail / café / restaurant and a large office block hence is of significant scale which is likely to generate a substantial volume of peak hour trips. The proposed development is also located on a high frequency public transport corridor that is identified within the Public Transport Strategy for Canberra as a future light rail corridor. As such, in calculating the likely traffic generation from the proposed development, the rates within the Guide to Generating Traffic Developments and the Technical Direction paper TDT2013/04a have been applied. Table 2 illustrates the predicted traffic generation from the proposed development.

**ANZAC PARK EAST DEVELOPMENT
COMMERCIAL FACILITIES WORKS APPROVAL - TRAFFIC IMPACT ASSESSMENT**

| Unit Description | Number of Units/Floorspace (sqm) | Traffic Generation Rate (peak hour) | Estimated Peak Hour Trips |
|--------------------------------|----------------------------------|-------------------------------------|---------------------------|
| AM Peak | | | |
| Residential | 381 | 0.60/unit | 225.3 |
| Office – AM Peak | 17,437sqm | 1.6/100sqm | 279.0 |
| Café / Restaurant ¹ | 346sqm | 5/100sqm | 17.3 |
| Retail / Restaurant | 410sqm | 1/100sqm | 4.1 |
| TOTAL – AM Peak | | | 525.7 |
| PM Peak | | | |
| Residential | 381 | 0.42/unit | 160 |
| Office – PM Peak | 17,437sqm | 1.2/100sqm | 209.2 |
| Café / Restaurant | 346sqm | 5/100sqm | 17.3 |
| Retail / Restaurant | 410sqm | 12.5/100sqm | 51.3 |
| TOTAL – PM Peak | | | 437.8 |

Table 5: Predicted traffic generation from the proposed development

In identifying the likely traffic generation above, we should also note that the development is located adjacent to Canberra's frequent public transport network and sits on a corridor that is serviced by a Rapid bus route. In addition, it should also be noted that the development is located less than 2km from Canberra City Centre. The traffic generation numbers identified above have been developed to identify a 'worst case' scenario and therefore it is likely that the resulting traffic from the development post occupancy will be less than forecast.

4.2 Parking Generation

The proposed development site falls within the Constitution Avenue and Anzac Parade Precinct Code under the National Capital Plan and therefore is subject to the parking requirements specified within the code. Section 25 of the *ANZAC Park East and West Detailed Conditions of Planning, Design and Development NCA, 6 April 2017* details the parking provision requirements as outlined within Table 6.

¹ Final usage of the commercial component unknown and could be retail / café / restaurant. For the purposes of the traffic generation and SIDARA Analysis the area allocation is café / restaurant 375sqm and retail / restaurant 470sqm (areas determined in the earlier versions of the development planning) and the generation rates noted above.

**ANZAC PARK EAST DEVELOPMENT
COMMERCIAL FACILITIES WORKS APPROVAL - TRAFFIC IMPACT ASSESSMENT**

| Land use(s) | Car parking rate | Locational requirements |
|--|---|---|
| Residential | One space per dwelling and one visitor space per four dwellings or part thereof. | Long-stay resident parking: on-site Short stay/visitor parking: on- site or off-site immediately adjacent to the site. |
| Office | One space per 100 square metres of gross floor area. | On-site or off-site immediately adjacent to the site. |
| Administrative use; Bank; Child Care Centre; Consulting Rooms; Cooperative Society; Health Centre; Personal Services Establishment | Two spaces per 100 square metres of gross floor area. | On-site or off-site immediately adjacent to the site, except for Child Care Centre where parking must be provided on- site. |
| Bar, Café, Restaurant, Retail | Two and a half spaces per 100 square metres of gross floor area. | On-site or off-site immediately adjacent to the site. |
| Hotel, Motel | One space per employee, plus one space per guest room or unit for establishments up to 36 units; or 25 spaces plus 0.3 spaces per guest room for establishments of more than 36 units. | On-site. |

Table 6: NCA Precinct Code development parking requirements

Based on the requirements outlined in Table 6 the proposed development would be required to provide parking as outlined in Table 7.

| Land Use | Area / No Proposed | Parking Rate | Number of Parking Spaces Required |
|---------------------|--------------------|-------------------------|---|
| Residential | 381 | 1 space per dwelling | 381 spaces located on site |
| Visitor | 381 | 1 space per 4 dwellings | 96 spaces located on or immediately adjacent to the development |
| Office | 17,437sqm | 1 space per 100sqm | 175 spaces located on site |
| Café / restaurant | 346sqm | 2.5 spaces per 100sqm | 9 spaces located on site |
| Retail / restaurant | 410sqm | 2.5 spaces per 100sqm | 11 spaces |
| TOTAL | | | 672 spaces |

Table 7: Parking requirements for the proposed development based on NCA Precinct Code

The developer has however elected to provide car parking within the development above the minimum requirements noted in Table 8. The allocation for each unit type within the development will be as detailed in Table 9.

**ANZAC PARK EAST DEVELOPMENT
COMMERCIAL FACILITIES WORKS APPROVAL - TRAFFIC IMPACT ASSESSMENT**

| Beds | Carparking provision |
|------|-------------------------------------|
| 1 | 1 standard car space |
| 2 | 2 standard or a tandem car space |
| 3 | Garages with two or more car spaces |

Table 8: Residential carparking provision

| Unit type | Number of units | 1 car space | 2 car spaces | Tandem car spaces | Garage with 2 car spaces | Garage with 3 car spaces | Garage with 4 car spaces |
|-------------------------|-----------------|-------------|--------------|-------------------|--------------------------|--------------------------|--------------------------|
| 1 Bed | 135 | 135 | | | | | |
| 1 Bed + | 15 | 15 | | | | | |
| 2 Bed (S) | 13 | | 1 | 12 | | | |
| 2 Bed (L) | 63 | | | 63 | | | |
| 2 Bed + | 102 | | 101 | 1 | | | |
| 3 Bed | 37 | | | | 34 | 3 | |
| Sub Penthouse | 4 | | | | | 3 | 1 |
| Penthouse | 12 | | | | | 2 | 10 |
| Total units | 381 | | | | | | |
| Total car spaces | 642 | 150 | 204 | 152 | 68 | 24 | 44 |

Table 9: Residential carparking actual allocation

5 Transport and Traffic Impact Assessment

To assess the potential impacts of the proposed development at Parkes Section 4 Block 2 (Anzac Park East) on the surrounding transport network, JRC has an analysis of the existing and future traffic and transport network in the vicinity of the development. This section presents the results of this analysis and key findings. The analysis will also inform any mitigation measures that are required to minimise impacts on the adjacent transport network and are identified later within this report.

5.1 Development Related Traffic Network Distribution

Access to the development is constrained by a single access of Wendouree Drive. As such, any development related traffic has limited route choice in and out of the development. The spreadsheet model presented in Section 2.3 of this report was updated to include the development related traffic and background traffic growth based on growth factors extracted from the Canberra Zenith Model. In developing the spreadsheet model the following assumptions were applied:

- Opening year for the development has been advised as mid to late 2024
- For the AM peak, inbound, and outbound development related traffic was distributed based on existing turning flow factors extracted from the TCCS SCATS data
- For the PM peak, outbound development related traffic was distributed based on existing turning flow factors extracted from the TCCS SCATS data.

For the purposes of the distribution of the traffic generated from the proposed development, it has been assumed a worst case of:

- 225 vehicle trips are generated by the residential component in the morning peak with 80% assumed exiting the site (180 out) and 20% entering the site (45 in) in the AM peak
- 302 vehicle trips are generated by the office, business centre, retail, and cafe components in the morning peak with 242 assumed entering the site in the AM peak. Of the 252 entering the site it is assumed 40 drop off a passenger and exit during the peak. It is also assumed that 30 west bound vehicles enter and exit the driveway off Constitution Avenue to drop off a passenger and 30 east bound vehicles drop off a passenger on the northern side of Constitution Avenue and continue travelling east
- 160 vehicle trips are generated by the residential component in the evening peak with 80% assumed entering the site (128 in) and 20% exiting the site (32 out) in the PM peak
- 260 vehicle trips are generated by the office, business centre, retail, and cafe components in the evening peak with 60% of the office carpark being vacated during the PM peak and similar passenger pick up in the PM peak to the assumed drop off in the AM peak
- the retail generates both in and out movements in the evening PM peak
- based on the 2019 traffic turning movements, of the vehicles entering the site in the morning and afternoon peaks 50% will turn right and 50% will turn left from Constitution Avenue into Wendouree Drive in the AM Peak
- based on the 2019 traffic turning movements, of the vehicles exiting the site in the morning peak 60% will turn right and 40% will turn left into Constitution Avenue from Wendouree Drive in the AM Peak
- based on the 2019 traffic turning movements, of the vehicles exiting the site in the evening peak 33% will turn right and 67% will turn left into Constitution Avenue in the PM Peak
- no vehicles will exit (or enter) the development and use Russell Drive which leads to the ASIO carpark in either the AM or PM Peak
- no vehicles will exit of enter the development via the section of Wendouree Drive through Commonwealth Park

Figures 68 and 98 illustrate the forecasted future traffic distribution on the road network adjacent to the proposed development site. These flows have been used to assess the future capacities of the road network and intersections in the vicinity of the development site in mid to late 2024 and assuming 100% occupancy of the offices and residential units.

ANZAC PARK EAST DEVELOPMENT COMMERCIAL FACILITIES WORKS APPROVAL - TRAFFIC IMPACT ASSESSMENT

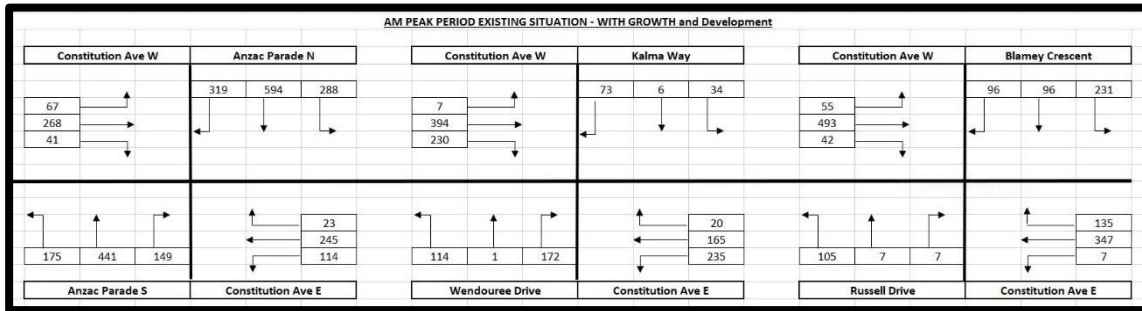


Figure 67: 2024 forecasted AM peak hour flows and turning post development opening

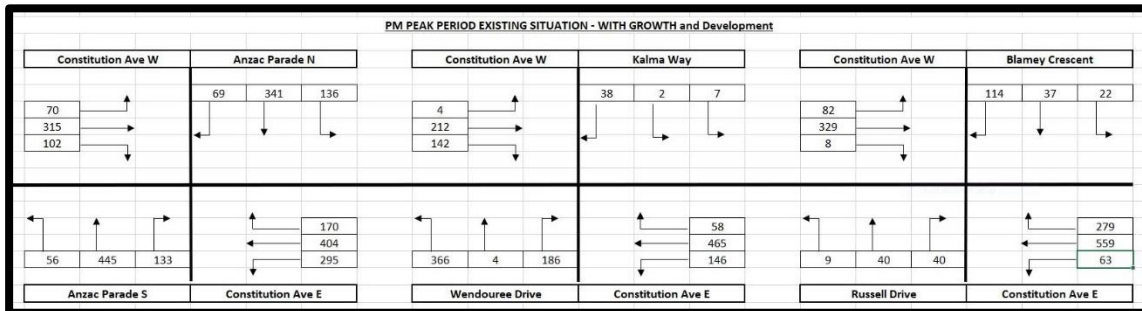


Figure 68: 2024 forecasted PM peak hour flows and turning post development opening

5.2 Road Capacity

5.2.1 Existing Road Capacity

The key access road to the development site is Constitution Avenue. Given the only proposed access to the development site is off Wendouree Drive which connects directly with this corridor, Constitution Avenue will need to accommodate all traffic related to the development. At this location, Constitution Avenue / Wendouree Drive intersection is located between the intersection with Anzac Parade to the west and Russell Drive / Blamey Crescent to the east. Constitution Avenue has two general traffic lanes between Wendouree Drive and Anzac Parade and to the east of Wendouree Drive a single general traffic lane. Given the existing road layout and the proximity of the signalised intersections along the Constitution Avenue road corridor would be limited to 500 to 700 vehicles per hour. Based on the August 2019 SCATS data presented in Section 2.3 Constitution Avenue traffic flows can be summarised as:

- During the AM peak period:
 - Westbound traffic flows along Constitution Avenue are approximately 250-300 vehicles along the whole corridor, and
 - Eastbound traffic flows along Constitution Avenue are approximately 400-500 vehicles along the whole corridor.
- During the PM peak period:
 - Westbound traffic flows along Constitution Avenue are approximately 500-650 vehicles along the whole corridor, and
 - Eastbound traffic flows along Constitution Avenue are approximately 200-300 vehicles along the whole corridor.

Based on the traffic volumes above, we can conclude that the corridor is operating under capacity within the AM peak period and is operating close to capacity in the PM peak period for westbound traffic.

5.2.2 Future Road Capacity

Based on the forecasted traffic volumes presented in Section 5.2 the future traffic flows post development opening can be summarised as follows:

- During the AM peak period:
 - Westbound traffic flows along Constitution Avenue are approximately 350-450 vehicles along the whole corridor, and

ANZAC PARK EAST DEVELOPMENT COMMERCIAL FACILITIES WORKS APPROVAL - TRAFFIC IMPACT ASSESSMENT

- Eastbound traffic flows along Constitution Avenue are approximately 550-650 vehicles along the whole corridor.
- During the PM peak period:
 - Westbound traffic flows along Constitution Avenue are approximately 650-900 vehicles along the whole corridor, and
 - Eastbound traffic flows along Constitution Avenue are approximately 350-450 vehicles along the whole corridor.

Based on the traffic volumes above, we can conclude that Constitution Avenue is likely to be operating over capacity during the peak hour particularly between the intersections of Anzac Parade and Wendouree Drive.

5.3 Intersection Capacity / Operation

To assess the impact of the additional traffic generated by the proposed development on the adjacent road network, a SIDRA analysis of the adjacent intersections that will be directly impacted by the proposed development was undertaken. SIDRA is a modelling package that is commonly used to determine the performance of the existing and future intersection arrangements in peak travel periods.

Average delay and Level of Service (LoS) are two of the key indicators of intersection performance. Table 8 provides an explanation of the parameters of the LoS for SIDRA for signalised intersection and roundabout arrangements.

| Level of Service (LoS) | Average Delay/Vehicle (sec/veh) | Traffic Signals and Roundabouts |
|------------------------|---------------------------------|--|
| A | Less than 14 | Good Operation |
| B | 15 to 28 | Good with acceptable delays and spare capacity |
| C | 29 to 42 | Satisfactory |
| D | 43 to 56 | Operating near capacity |
| E | 57 to 70 | At capacity at signals incidents will cause excessive delays |
| F | >70 | Roundabouts require other control mode |

Table 10: SIDRA LoS Parameters

The following sections of this report review both the existing and future operation of the intersections that will facilitate the primary access to the proposed development.

5.3.1 Sidra Analysis Summary

Sidra analysis was undertaken to analyse the existing and future operation of the intersections along the Constitution Avenue corridor in both the AM and PM peak periods. Several scenarios were modelled to assess the potential impacts of the proposed development on the road network, these included:

- Scenario 1 – 2019 Base Year, existing situation
- Scenario 2 – 2024 Future Base Year, existing situation plus growth consistent with the Canberra Zenith Strategic Transport Model
- Scenario 3 – 2024 Future Year, scenario 2 plus development related traffic

Intersections that were analysed included:

- Constitution Avenue / Anzac Parade four-way signalised intersection
- Constitution Avenue / Wendouree Drive / Kalma Way four-way signalised intersection
- Constitution Avenue / Russell Drive / Blamey Crescent four-way signalised intersection

A summary of the analysis is presented in Table 11 and Table 12, further details on the SIDRA analysis included SIDRA outputs and detailed intersection analysis can be found within Appendix A.

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COMMERCIAL FACILITIES WORKS APPROVAL - TRAFFIC IMPACT ASSESSMENT**

| Intersection | Approach | Level of Service (AM Peak) | | |
|---|--------------------------|----------------------------|--------------------------|-----------------------|
| | | 2019 | 2024 without development | 2024 with development |
| Constitution Avenue / Anzac Parade | Anzac Parade North | C | C | D |
| | Constitution Avenue East | E | E | E |
| | Anzac Parade South | D | D | D |
| | Constitution Avenue West | E | E | D |
| | All Vehicles | D | D | D |
| Constitution Avenue / Wendouree Drive / Kalma Way | Kalma Way North | E | D | E |
| | Constitution Avenue East | B | B | C |
| | Wendouree Drive South | D | D | E |
| | Constitution Avenue West | C | C | D |
| | All Vehicles | C | C | D |
| Constitution Avenue / Russell Drive / Blamey Crescent | Blamey Crescent North | D | D | E |
| | Constitution Avenue East | C | C | C |
| | Russell Drive South | C | C | B |
| | Constitution Avenue West | C | C | D |
| | All Vehicles | C | C | D |

Table 11: AM peak period LOS summary table (Source: SCT Consulting, 2021)

Overall, the SIDRA analysis demonstrates that intersection performance will deteriorate marginally at two of the three intersections analysed along the corridor with the third intersection of Constitution Avenue / Anzac Parade remaining unchanged. All intersections will operate at a LoS D during the AM Peak Period which will cause a minor increase in delays and queuing on the adjacent road network to that currently experienced.

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COMMERCIAL FACILITIES WORKS APPROVAL - TRAFFIC IMPACT ASSESSMENT**

| Intersection | Approach | Level of Service (PM Peak) | | |
|---|--------------------------|----------------------------|--------------------------|-----------------------|
| | | 2019 | 2024 without development | 2024 with development |
| Constitution Avenue / Anzac Parade | Anzac Parade North | D | D | D |
| | Constitution Avenue East | C | C | C |
| | Anzac Parade South | D | D | D |
| | Constitution Avenue West | D | D | D |
| | All Vehicles | D | D | D |
| Constitution Avenue / Wendouree Drive / Kalma Way | Kalma Way North | E | E | E |
| | Constitution Avenue East | B | B | F |
| | Wendouree Drive South | D | D | F |
| | Constitution Avenue West | B | B | D |
| | All Vehicles | B | C | E |
| Constitution Avenue / Russell Drive / Blamey Crescent | Blamey Crescent North | D | E | F |
| | Constitution Avenue East | B | B | E |
| | Russell Drive South | D | D | E |
| | Constitution Avenue West | B | B | B |
| | All Vehicles | C | C | D |

Table 12: PM peak period LOS summary table (Source: SCT Consulting, 2021)

Overall, the SIDRA analysis demonstrates that intersection performance will deteriorate marginally at two of the three intersections analysed along the corridor with the third intersection of Constitution Avenue / Anzac Parade remaining unchanged. Two of the intersections will operate at a LoS D with the final intersection operating at a LoS E during the PM Peak Period. This will likely cause a minor increase in delays and queuing on the adjacent road network to that currently experienced.

5.4 Access Arrangements

5.4.1 Access Operation

A single access point is proposed to the basements as outlined within Section 3 of this report. The proposed arrangement is a priority controlled unsignalised access allowing for all movements off Wendouree Drive. The estimated peak demand for the development is predicted to be approx. 300 vehicular trips in and out.

Current traffic flows along Wendouree Drive are relatively low during peak periods however, it is anticipated that the additional traffic will cause minor delays along Wendouree Drive particularly in the PM peak with cars leaving the Anzac Park East office and ASIO Building carparks.

5.4.2 Access Design

Access to the development carpark is to be provided off Wendouree Drive between the ASIO Building service vehicle entry and exit. Based on AS/NZS2890.1 Parking Facilities, Off-street carparking, Clause 3.2.2 the access and egress is required to be two lanes each.

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As the proposed development is for residential and office use, access and egress is expected to be tidal, i.e.,

- egress in the morning peak and access in the evening peak for the residents
- access in the morning peak and egress in the evening peak for the office workers

the developer has proposed to provide the carpark with two dedicated entry lanes and one dedicated exit lane.

The proposed driveways are on a long sweeping curve of Wendouree Drive hence provide adequate sight distance for exiting drivers along Wendouree Drive and to the ASIO Building driveways.

While the number of vehicles that can access the basement at any time is largely dependent upon the operation of the traffic signals at the intersection of Wendouree Drive and Constitution Avenue, the access to the proposed development will not have security control at the site boundary hence the queuing requirements for vehicles entering the development should cause delays in exiting of Wendouree Drive into the development.

5.5 Parking Impacts

5.5.1 Parking Demand

The development proposes to provide 867 spaces within two levels of basement on site. In accordance with the agreed 'Detailed Conditions of Planning, Design and Development' (2017) the development needs to provide a minimum of 672 parking spaces on site. The proponent is therefore in excess of the minimum requirement and therefore meets the requirement of the NCA development conditions.

5.5.2 Car Park Layout

Based on the preliminary architectural drawings, the layout of the two levels of carpark appears to be functional. The carparking areas for the different uses are separated with the office and residential areas having security control.

The design of the carpark is required to be in accordance with the AS/NZS2890 Parking Facilities suite of standards.

5.6 Public Transport Impacts

Public transport will provide a vital role in facilitating travel movements to and from the development. It is highly likely, given the development is located on a corridor that is serviced by a Rapid bus route corridor, that demand on the R3 will increase. Peak hour frequency 8-9am and 4:30-6:30pm is currently a bus every fifteen. Therefore, during the peak hours, there will be four buses an hour providing a capacity of approximately 280 passenger an hour.

Based on the existing level of service along the corridor it is anticipated that the existing routes may not be able to accommodate the additional demand resulting from the proposed development and additional buses may need to be added to the route once the development is completed.

5.7 Active Travel Impacts

Constitution Avenue has been designed to provide excellent amenity for active travel users. Large verges with footpaths more than 3m with regular controlled and uncontrolled crossing points along the corridor provide for favourable conditions for users. The existing facilities allow for both pedestrians and cyclists to travel along the corridor together with minimal conflict points.

In addition, the development includes provision for a significant EOT facility within the basement car parking. This facility will accommodate 83 bike spaces, 12 showers, 102 lockers to encourage active travel usage to / from the development.

6 Summary and Conclusions

6.1 Summary

In assessing the potential impacts associated with the proposed development at Anzac Park East several issues have been identified on the traffic and transport network leading to and surrounding the development area. Key conclusions include:

- Overall, the intersection performances surrounding the development will deteriorate due to the development causing marginal increases in delays and queuing to that currently experienced or experienced in 2024 through natural increase in traffic volumes
- Office car parking spaces have been provided in accordance with NCA requirements (reference 1)
- Residential car parking spaces have been provided in excess of the NCA requirements (reference 1)
- Residential visitor parking is off-site within 800metres of the site
- Retail and commercial car parking spaces has been provided in accordance with NCA requirements (reference 1)
- Active travel facilities exist along the corridor providing for excellent connectivity to and from the site
- Significant End of Trip facilities for the office component of the development are proposed within the basement car parking which is in accordance with the guidelines
- Excellent connectivity exists along the Constitution Avenue corridor with two bus stops serviced by a Rapid bus route and local bus services within easy walking distance of the development: and
- The design of the carpark access, queuing and security control for the carpark meets the requirements of the suite of Australian Standards AS2890

6.2 Conclusions

The proposed development will increase the traffic on the surrounding roads and have an impact on the associated intersections. Drivers using the surrounding road network will experience marginal increases in delays and queuing to that currently experienced or experienced in 2024 through natural increase in traffic volumes without the development.

7 References

1. ANZAC Park east and West Detailed Conditions of Planning, Design and Development NCA 6 April 2017
2. Engineering Advisory Note Number 14: ACT Traffic Generation Rates for Higher Density Residential Developments (HRRD) in the Vicinity of Town Centers and Northbourne Avenue Corridor.
3. Constitution Avenue Development – Anzac Park East – Parkes Section 4 Block 2, Traffic Impact Assessment, John Randall Consulting Pty Ltd, September 2019
4. Constitution Avenue Development, Parkes Section 3 Block 8 Traffic Impact Assessment, John Randall Consulting Pty Ltd, October 2019
5. Guide to Generating Traffic Developments Version 2.2 RTA 2002
6. Guide to Traffic Generating Developments - Updated Traffic Survey, RMS 2013
7. ACT Parking and Vehicular Access General Code, ACTPLA 2018
8. Access and Mobility General Code, ATPLA 2008
9. Bicycle Parking General Code, ACTPLA 2013

ATTACHMENT A

ATTACHMENT B

John Randall

From: Paluri, Rama <Rama.Paluri@act.gov.au>
Sent: Thursday, 7 October 2021 10:55 AM
To: John Randall; Balberona, Justinieta
Cc: Senarath, Nethmei; TCCS_DC DevelopmentCoordination
Subject: RE: Traffic Impact Assessment

OFFICIAL

Good morning John,

Thank you for your email. We are happy for you to consider 2019 traffic volumes, instead of 2021. From our inhouse exercise, we have also noted the drop in traffic volumes at the city centre and town centres. As you rightly pointed out, this drop could be related to 'work from home' arrangements.

On the table of contents, the summary seemed to cover all the TIA aspects very well. So, we are satisfied with the overall coverage. We look forward to receive the TIA report, SIDRA files, and other associated files/ drawings from you.

On the other note, as you may aware that TCCS has established the **Place Coordination** team a several months ago. The objectives of this team is to serve as a portal for DA submissions, and provide collective responses on the DA/ TIA queries. So for future communications/ delegations, we would appreciate if you please contact them.

For any further discussions, please let us know.

Regards
Rama