

NH Architecture Pty Ltd

Kingston Arts Precinct

Traffic Impact Assessment

Reference: 294419-00

Rev 02 | 25 June 2025

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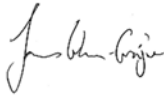
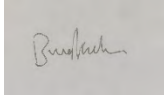
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1. Introduction

Arup has been engaged by NH Architecture Pty Ltd to prepare a Traffic Impact Assessment (TIA) to support the estate Subdivision Development Application (SDA) for the proposed Kingston Arts Precinct (the Proposal).

1.1 Proposal overview

The Proposal is located at Block 15, Section 49, Wentworth Avenue, Kingston, ACT 2604 (the Site). The proposal involves the construction of an Arts Precinct and a mixed use residential parcel. Contained within the borders of the Arts Precinct are three heritage listed buildings – Switch Room, Powerhouse, and the Fitters’ Workshop. There is also a substation located at the northern end of the Site. Additions to the established buildings which are heritage listed will include three buildings for the Arts Precinct.

Historically, the Site and its immediate surrounds are zoned for commercial and mixed use land – CZ5. The Site is currently operating as Canberra Glassworks and an electrical substation along with associated ancillary support buildings and spaces for the substation. Adjacent to this Site is the currently operating Old Bus Depot Markets.

1.2 Purpose of this report

The purpose of this report is to support the SDA for the Proposal. The report summarises the existing transport conditions and assesses the likely traffic and parking implications on the surrounding road network during the operation of the project, while taking into consideration other committed developments and their cumulative impacts.

This report also assesses the internal traffic network within the Site, including access arrangements, internal circulation and loading dock operations. In addition, an outline Green Travel Plan is also provided to support sustainable travel behaviours to and from the Proposal.

1.3 Planning requirements

There are no specific planning requirements for the site, however Section C.2 of the Territory Plan outlines planning outcomes for new development which include:

- Prioritising safe, secure, well connected active travel through the precinct with vehicular traffic and logistics located at the periphery

The development proposal for the Arts Precinct and mixed use residential parcel seeks to achieve this planning outcome. More details on how this has been achieved are outlined in this report, please refer to Section 3.

2. Existing transport environment

2.1 Site location

The Site is located in South Canberra, south of Lake Burley Griffin, approximately 4km southeast of the Canberra City Centre. The Site is surrounded by residential and commercial land uses and is bound by Eastlake Parade to the north and east, Giles Street to the south-east and Wentworth Avenue to the west.

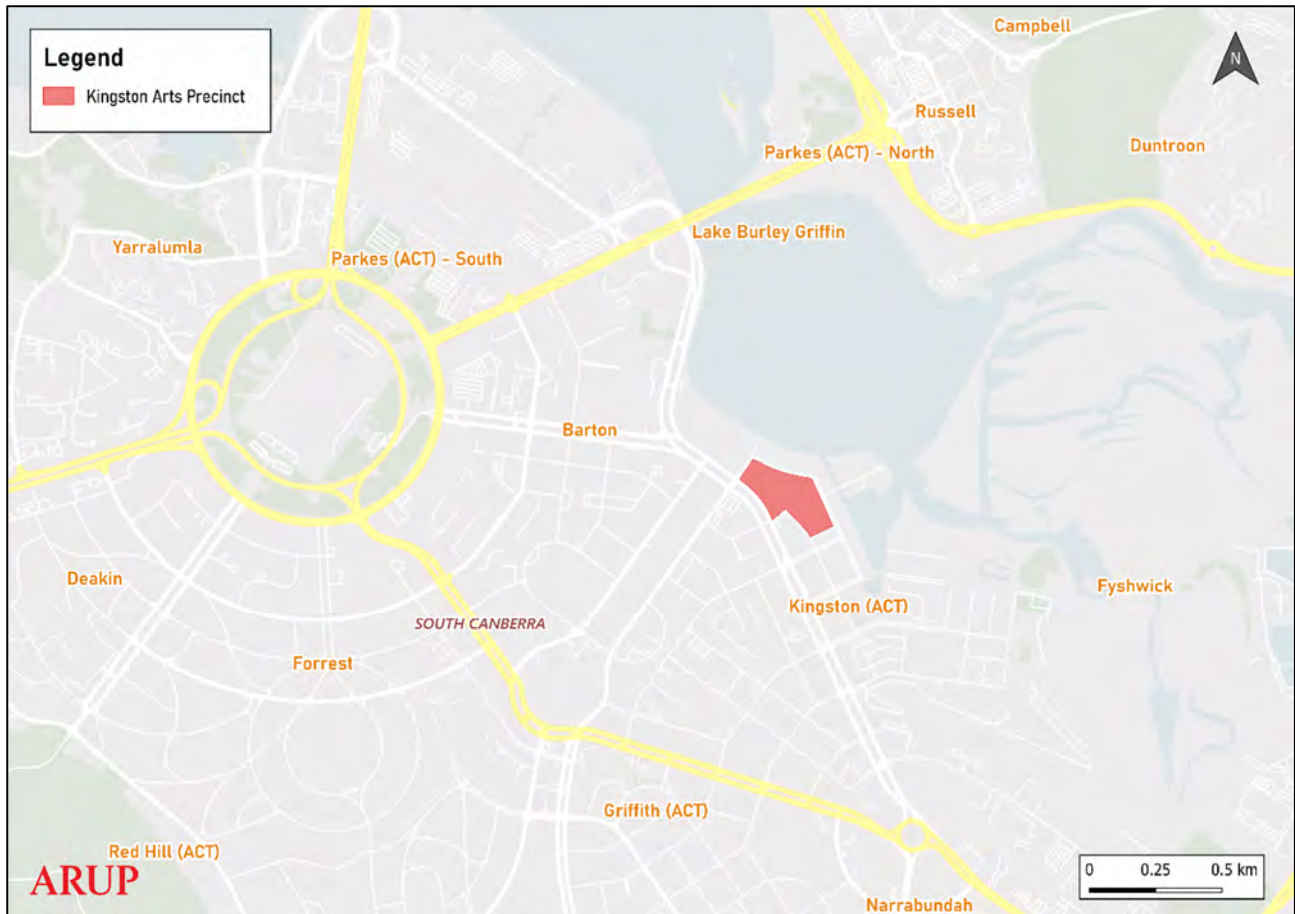


Figure 1: Site location

2.2 Existing land uses

The Site currently accommodates several retail and food and beverage venues located in the Powerhouse, the Fitters' Workshop, substation and the Old Bus Depot where markets and other events are held, mostly on the weekend.

The Site has four main car parking areas and four access locations connected by an internal road network, as shown in Figure 2. Carparks 1, 2 and 3 are public parking currently being used by visitors of the Kingston Foreshore and the commercial establishments along the foreshore. Additionally, these carparks may be used by commuters who work in the surrounding area. Carpark 4 is restricted access parking reserved for staff working at Canberra Glassworks and other existing establishments within the Site.



Figure 2: Existing access and carparks

2.3 Road network

The existing road network is shown in Figure 3 and described below.



Figure 3: Road network surrounding the Site

2.3.1.1 *Canberra Avenue (A23)*

Canberra Avenue is a classified state road and is an urban arterial route through Canberra, making up part of the A23. It is located to the south and west of the site connecting Capitol Hill to Wentworth Avenue and the border of ACT and NSW where it runs into the B52 state road. Canberra Avenue is a two-lane dual carriageway, each approximately 6.5 metres wide, separated by a large central median. The speed limit on the road is 60km/h. Additional turning and slip lanes are provided at key locations to accommodate turning vehicles. There are unprotected, on street cycle lanes in both directions, pedestrian footpaths on both sides of the road and pedestrian crossings at intersections.

2.3.1.2 *Wentworth Avenue*

Wentworth Avenue is a classified arterial road and is the main route through Kingston. It runs along the western boundary of the site connecting Canberra Avenue to Brisbane Avenue providing access to the rest of Kingston. Wentworth Avenue is a two-lane dual carriageway, each approximately 6.5 metres wide, separated by a large central median. The speed limit on the road is 60km/h. Additional turning and slip lanes are provided at key locations to accommodate turning vehicles. There are unprotected, on street cycle lanes in both directions, pedestrian footpaths on both sides of the road and pedestrian crossings at intersections. Parking is provided in the central median in some locations.

2.3.1.3 *Giles Street*

Giles Street is a classified local road. It runs along the southern boundary of the site connecting Canberra Avenue to Eastlake Parade providing access to local residences and the waterfront. Giles Street is a single-carriageway with one lane in each direction, each approximately 3.5 metres wide, and some sections have a central median. The speed limit on the road is 50km/h. Near the Site, there are unprotected on street cycle lanes in both directions and pedestrian footpaths on both sides of the road. A signalised pedestrian crossing is available at the intersection of Giles Street and Wentworth Avenue. Parking is provided in the central median in some locations.

2.3.1.4 Eastlake Parade

Eastlake Parade is a classified local road. It runs along the north-western, northern and north-eastern boundary of the site connecting Wentworth Avenue to Giles Street, providing access to local residences and the Kingston Foreshore. Eastlake Parade is a single-carriageway with one lane in each direction, each lane approximately 3.5 metres wide. The north-eastern section of the road features a central median. The speed limit on Eastlake Parade is 50km/h. There are unprotected, on street cycle lanes in both directions and pedestrian footpaths on both sides of the road. No signalised pedestrian crossings or zebra crossings are available at intersections along Eastlake Parade. Parking is provided in the central median along the north-eastern stretch of Eastlake Parade.

2.3.2 Crash data

Between 2012 and 2022, there were a total of 610 vehicle crashes in the Kingston area. 56 of these crashes resulted in injuries while the remaining majority of crashes caused property damage only. A fatal crash occurred at the intersection of Bowen Drive, Wentworth Avenue and Brisbane Avenue, outside of the Kingston area but at a distance of 360m from the Site.

A majority of crashes causing injuries occurred on intersections on Giles Street and Wentworth Avenue. A total of six crashes involving collisions with pedestrians were recorded. Based on available crash data, incidents do not follow any discernible pattern outside of greater frequency occurring at intersections and on higher traffic roads.



Figure 4: Crash data

2.4 Walking environment

The Site has multiple pedestrian access points which enable walking connections to the surrounding area. In addition, the Site is surrounded by pedestrian footpaths along the Site's entire perimeter.

Along Wentworth Avenue, signalised pedestrian crossings are available at the intersections with Eastlake Parade, Telopea Park, Giles Street and Eyre Street. Zebra crossings are available across Giles Street and the intersection of Giles Street and Jardine Street. In lieu of signalised or zebra crossings on Eastlake Parade, pedestrian refuge islands are provided.

The 10, 15 and 20-minute walking catchment from the Site is presented in Figure 5. Footpaths connect the Site to nearby public transport options. The closest bus stop is located on Wentworth Avenue at the Site's western boundary. Within the 10-minute walking catchment, there are six bus stops that service five routes. Within a 20-minute walk, the Canberra NSW TrainLink Regional Station is located towards the south-east.

Large areas of South Canberra are accessible within a 20-minute walk from the site. These areas include Barton Hospital to the west, Griffith to the south-west, and Charles Sturt University to the north-west. Parliament House lies just beyond the 20-minute walking catchment. Local amenities are easily accessible with shops, parks, food and beverage retail venues, and Telopea Park School located within a 15-minute walk from the Site.

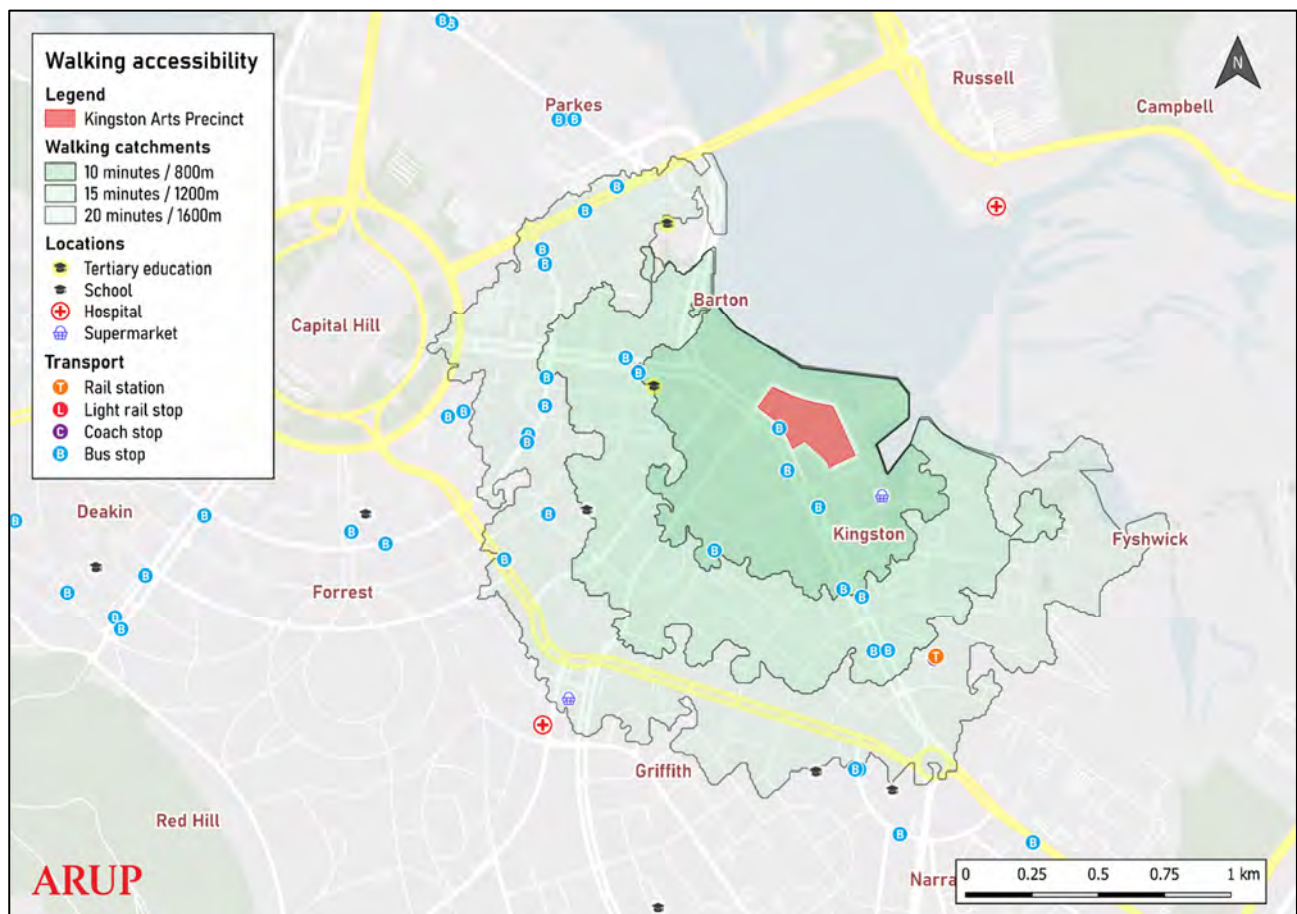


Figure 5: Walking accessibility

2.5 Cycling environment

The cycling accessibility of the Site is excellent due to provision of abundant cycling infrastructure around the Site and its location in an urban setting with an extensive cycling and shared path network.

Established and planned cycling routes and connections are shown in Figure 6. The Site is bordered by the *C2 – City to Queanbeyan* and the *LBG – Lake Burley Griffin Circuit* cycling routes along its northern and north-eastern boundaries. The north-western boundary of the site is part of Canberra's main cycling route which connects Bowen Park with Red Hill Nature Reserve and travels through Telopea Park before rejoining the road at Manuka Circle.

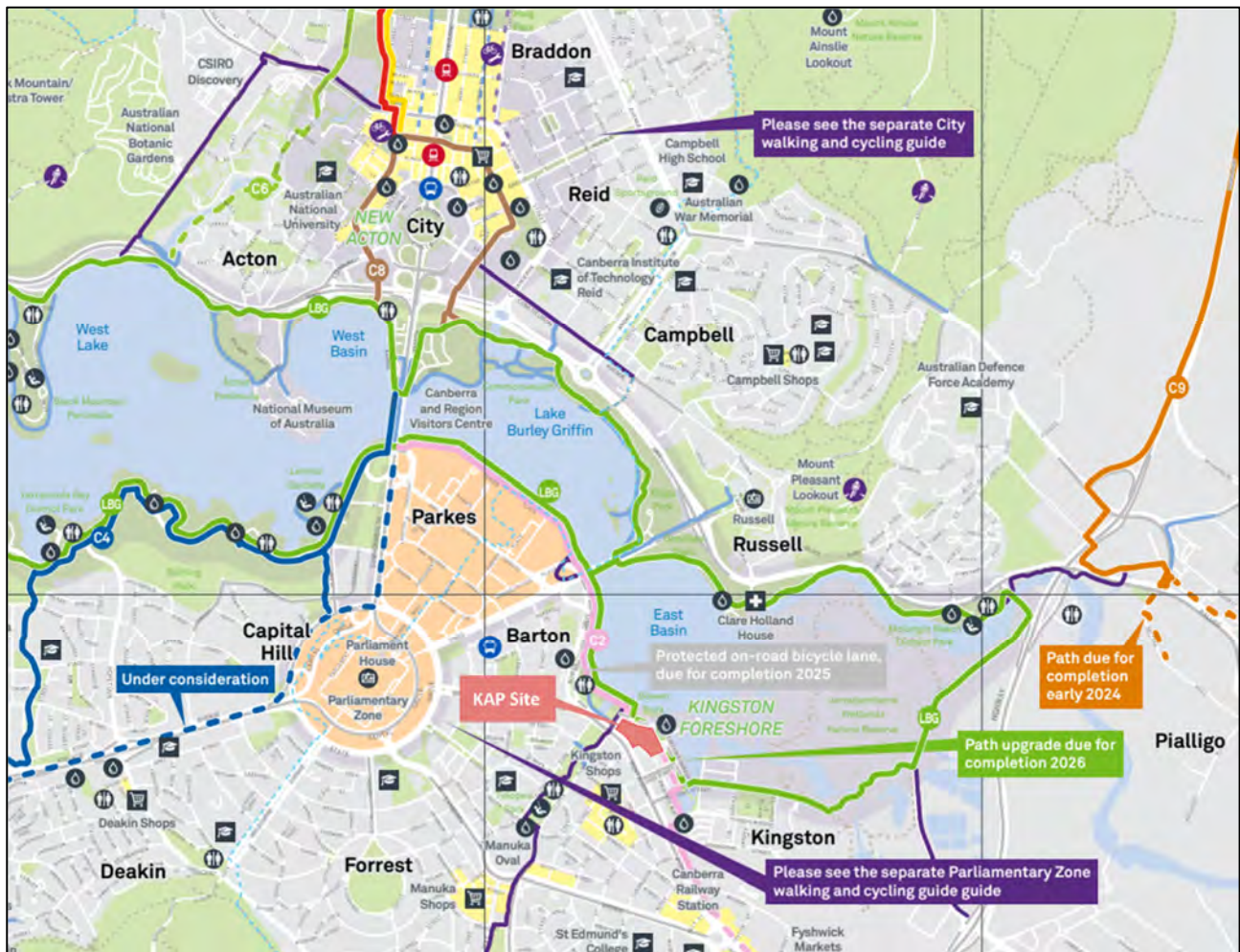


Figure 6: Transport Canberra cycling network map (Transport Canberra 2024)

The 10, 20 and 30-minute cycling catchment from the Site is presented in Figure 7. The 10-minute cycling catchment captures a significant portion of South Canberra, including Canberra Station. Within reach of the 20-minute cycling catchment are key transport nodes in North Canberra including the Alinga Street Light Rail Station and Interchange, allowing for accessible intermodal travel to other regions of the ACT. Also within this catchment is Parliament House, City Hill, The Australian National University, and the Canberra CBD, north of the Molonglo River.

The nearest bicycle parking available outside of the Site include bike rails available along Wentworth Avenue and Giles Street.

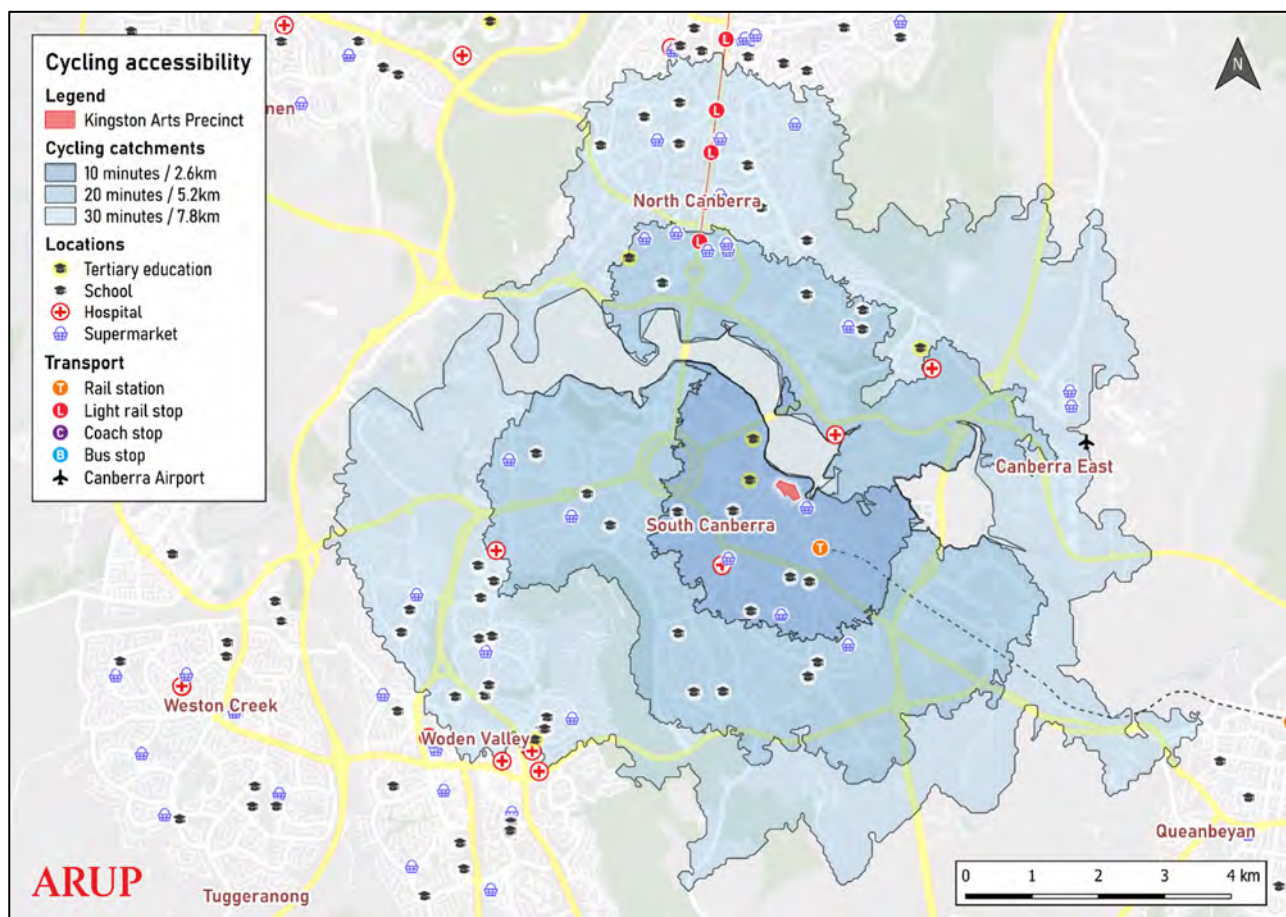


Figure 7: Cycling accessibility

2.6 Public transport

2.6.1 Bus

There are a total of three bus stops that currently service the Site. These stops can all be reached within a 10-minute walk of the Site, as shown in Figure 5.

The closest bus stop is Stop 2374 located on the southbound side of Wentworth Avenue, directly adjacent to the Site's western boundary. This stop services Routes 2, 6, 56, and 182. The corresponding routes traveling northbound on Wentworth Avenue are serviced by Stop 2373. These routes connect the Site with Canberra CBD City Interchange, Fyshwick, Narrabundah, Conder, The Australian National University, and Canberra Hospital. The 830 rural connection route to Googong is serviced by Stop 2233 which is a short 2-minute walk from the Site and located on Wentworth Avenue, between Giles Street and Eyre Street. These services are summarised in Table 1.

Of these services, Routes 2 and 6 are rapid services which are frequent direct routes that run between town centres and other key destinations. Rapid services run at least every 15 minutes between the hours of 7am and 7pm during weekdays. Route 182 is a peak service which is designed to cover long distances from the Canberra CBD and Parliamentary Triangle during weekday peak hours.

Table 1: Bus routes and frequency

Route no.	Bus Stop	Serviced Locations	Frequency	
			Weekday	Weekend
2	2373 and 2374	Fraser, Dunlop, Macgregor, Kippax, Holt, Florey, Belconnen Interchange, Bruce, Australian National University (ANU), City Interchange, Barton Interchange, Parkes, Kingston, Canberra Railway Station, Fyshwick	15 mins morning and afternoon peak hour services. 6:09am – 11:47pm	60 mins morning and afternoon peak hour services. 8:00am – 9:24pm
6	2373 and 2374	Australian National University (ANU), City Interchange, Parkes, Barton, Kingston, Griffith, Narrabundah, Garran, Woden, Canberra Hospital	15 mins morning and afternoon peak hour services. 6:09am – 10:56pm	30 mins morning and afternoon peak hour services. 7:37am – 9:06pm
56	2373 and 2374	City Interchange, Russell, Barton, Kingston, Griffith, Manuka, Red Hill, Narrabundah, Fyshwick	30 mins morning and afternoon peak hour services. 6:18am – 10:31pm	60 mins morning and afternoon peak hour services. 7:39am – 11:11pm
182	2373 and 2374	Australian National University (ANU), City Interchange, Reid, Russell, Barton, Kingston, Chisholm, Calwell, Conder, Lanyon Market Place	30 mins morning and afternoon peak hour services. 7:35am – 8:40 am during morning services 4:25pm – 6:26pm during afternoon services	No weekend or public holiday service.
830	2233	Googong to Canberra CBD via Karabar, Queanbeyan, Crestwood, Harman, Barton, Parkes	30 mins morning and afternoon peak hour services. 6:06am – 9:43pm	60 mins morning and afternoon peak hour services. 8:11am – 6:43pm

2.6.2 Train

The nearest railway station is Canberra Station, located 1km to the south-east of the Site. This station provides regional train services only, and connects commuters with Sydney Central Station. Services also make stops at the following regional stations:

- Queanbeyan
- Bungendore
- Tarago
- Goulburn
- Bundanoon
- Moss Vale
- Bowral
- Mittagong
- Campbelltown

Three Canberra and Sydney connection services are provided during each weekday with morning service leaving Canberra Station at 6:55am, afternoon service leaving at 11:55am, and evening service leaving at 5:08pm.

2.7 Travel behaviour

2.7.1 Mode of Travel to Work

Australian Bureau of Statistics (ABS) 2016 Census data has been used to understand travel behaviour near the site. The site is located within the Kingston Statistical Area 2 (SA2, code 801061131). The mode of travel for people who work in the Kingston SA2 is shown in Table 2.

The data shows that a majority of the people who work in the Kingston Area travel to work using a car or private vehicle.

Table 2: Mode of travel to work to Kingston SA2 (ABS 2016 Census)

Mode of transport	Percentage of workers
Train	0.2%
Bus	4.5%
Ferry	0.0%
Light rail	0.0%
Taxi or rideshare	0.3%
Car (driver)	81.6%
Car (passenger)	6.0%
Truck	0.4%
Motorbike or scooter	0.8%
Bicycle	1.2%
Walked only	4.6%
Other mode	0.4%

2.7.2 Worker Place of Usual Residence

ABS 2016 census data has also been used to understand the place of usual residence for workers in the Kingston SA2. The places of usual residence by Statistical Area 4 (SA4) are shown in Table 3.

Table 3: Places of usual residence by SA4 (ABS 2016 Census)

Place of residence (SA4)	Percentage of workers
ACT	84.8%
Capital Region	13.0%
Sydney – Parramatta	0.6%
Southern Highlands and Shoalhaven	0.4%
Sydney – North Sydney and Hornsby	0.3%
Central Coast	0.2%
Illawarra	0.2%
Sydney – City and Inner South	0.2%

Place of residence (SA4)	Percentage of workers
Riverina	0.2%
Murray	0.1%

A further breakdown of worker place of usual residence within the ACT SA3 is shown in Table 4.

Table 4: Place of usual residence within ACT by SA3 (ABS 2016 Census)

Place of residence (SA3)	Percentage of workers
South Canberra	21.4%
Belconnen	17.5%
Tuggeranong	15.6%
Gungahlin	15.4%
North Canberra	13.3%
Woden Valley	8.1%
Weston Creek	6.3%
Molonglo	2.0%
Canberra East	0.2%
Urriarra - Namadgi	0.2%

2.8 Existing road network performance

This section outlines the existing road network performance of the key intersections surrounding the Site. The following key access intersections have been assessed using SIDRA Intersection 9.1 as a network intersection model as shown in Figure 8.

1. Wentworth Avenue / Eastlake Parade / Telopea Park (east approach and west approach intersections)
2. Wentworth Avenue / Giles Street
3. Giles Street / Printers Way / Southern Site Access
4. Giles Street / Eastlake Parade
5. Eastlake Parade / Trevillian Quay
6. Eastlake Parade / Northern Site Access
7. Wentworth Avenue / Gosse Street / Western Site Access
8. Eastlake Parade / Eastern Site Access



Figure 8: Modelled intersections

2.8.1 Traffic surveys and peak periods

Intersection count surveys were commissioned over eight days between Sunday 22 October 2023 to Sunday 29 October 2023 over the following periods:

- For intersections 1, 2, 4, and 5, counts were taken on weekdays and Saturdays for three hours during the AM peak (06:30–09:30) and three hours during the PM peak (15:30–18:30). On Sundays, counts were taken over eight hours (07:00–15:00).
- At intersections 3, 6, 7, and 8, counts on weekdays were taken over 5.5 hours in the AM (06:30–12:00) and 5.5 hours in the PM (15:30–21:00). On Saturdays, counts were taken over 14.5 hours (06:30–21:00), while on Sundays, counts were taken over eight hours (07:00–15:00).

The network peak for the surveyed intersections were:

- Weekday AM peak hour: Wednesday, 25 October, between 08:00–09:00
- Weekday PM peak hour: Thursday, 26 October, between 17:00–18:00
- Weekend peak hour: Sunday, 29 October, between 12:00–13:00

For the purposes of this study, the above peak hour times were used for traffic modelling. Note a growth factor of 0.75% was assumed to convert the 2023 traffic surveys for a 2024 modelling scenario (refer to Section 4.2).

2.8.2 Existing traffic generation at the Site

As shown in Figure 9, the data from the traffic count survey indicates that the precinct’s weekday peak occurs on Friday, 27 October, between 17:30 and 18:30, while the weekend peak occurs on Sunday, 29 October, between 12:00 and 13:00.

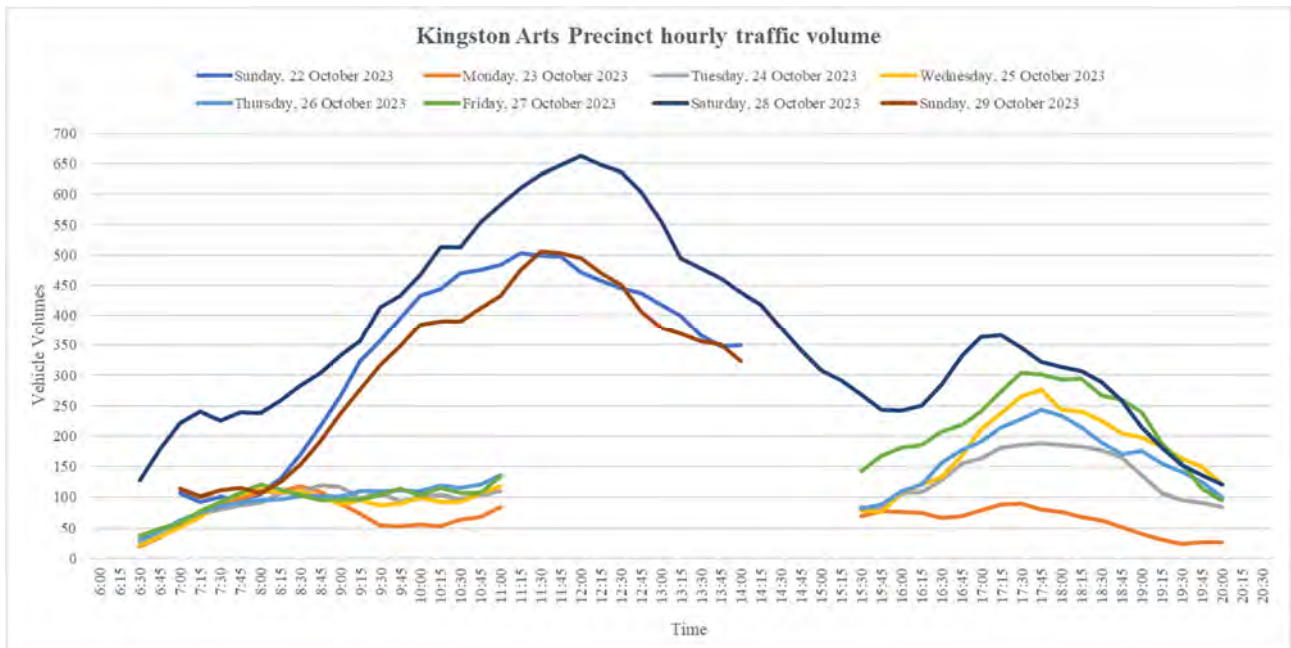


Figure 9: Kingston Arts Precinct hourly traffic volumes

Weekday AM trips in and out of the precinct remain steady between 07:00 and 11:00, with a slight increase toward the end of this period. Monday shows a lower volume of trips after 09:00 compared to other weekdays. During the weekday PM, site trips peak between 17:30 and 18:30, with volumes gradually rising through the week, culminating in the highest counts on Friday. This evening peak suggests that many people travel to the site after work, likely using it for parking before dining at the nearby foreshore restaurants and bars, which would explain the increase in volumes throughout the week.

The site's weekend peak period shows higher volumes than on weekdays, occurring around midday. This demand is largely driven by the Old Bus Depot Market, which operates on Sundays with occasional once off markets held on Saturday (note an event was held at the Old Bus Depot Market on the Saturday of the survey, resulting in a larger peak than on Sunday).

2.8.3 Existing traffic distribution at the Site

Based on the traffic survey results, the existing distribution of vehicles in and out of the Site during the three network peak hours is shown in Figure 10.

The most common point of entry to the Site is Intersection 8, with as much as 50% of vehicles (seen in the PM) entering at this access. Intersection 3 is the most used exit point during the AM, whereas during the PM and weekend Intersection 6 is the most used exit point. Intersection 7 has the least number of vehicles entering or exiting.

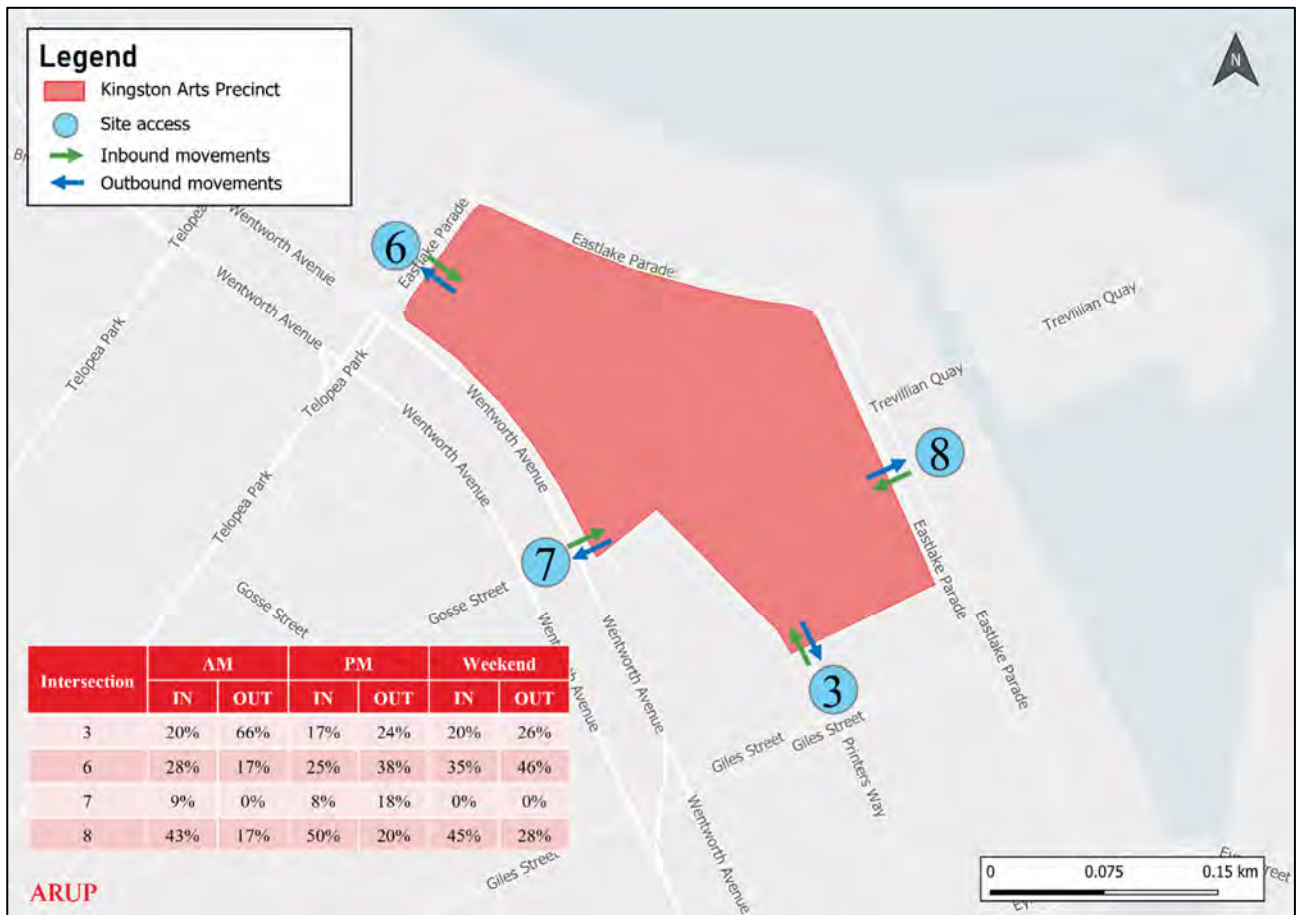


Figure 10: Existing vehicle distribution

2.8.4 Existing road network performance

The intersection performance of the key access intersections is assessed in this report using the following metrics:

- Degree of saturation (DoS)
- Delay (average delay at signalised intersections and highest delay by movement at unsignalised intersections)
- Level of Service (LoS)
- 95th percentile queue length

In urban areas, the traffic capacity of the major road network is generally a function of the performance of key intersections. This performance is quantified in terms of LoS and is based on the delay per vehicle. For signalised intersections, LoS is calculated as the average delay across all movements. For unsignalised intersections, LoS is calculated as the maximum delay of all movements. LoS ranges from A = very good to F = unsatisfactory (refer to Table 5).

Another common measure of intersection performance is the degree of saturation (DoS), which provides an overall measure of the capability of the intersection to accommodate additional traffic. A DoS of 1.0 indicates that an intersection is operating at capacity.

Table 5: Level of Service criteria for intersections

Level of Service	Average delay (s)	Description
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. Roundabouts require other control mode.
F	Greater than 71	Unsatisfactory with excessive queuing.

The intersection performance of the key access intersections is summarised in Table 6. In the 2024 base scenario, key intersections near the Site operate well at LoS A or B. The Wentworth Avenue / Eastlake Parade / Telopea Park and Wentworth Avenue / Giles Street intersections carry the highest volume of traffic and begin to approach capacity in the weekday peak hours.

Table 6: SIDRA modelling results – 2024 base

Intersection	Peak hour	DoS	Delay (s)	LoS	95 th percentile queue
1. Wentworth Avenue / Eastlake Parade / Telopea Park (east approach)	AM	0.77	18	B	215m
	PM	0.69	16	B	69m
	Weekend	0.41	18	B	85m
1. Wentworth Avenue / Eastlake Parade / Telopea Park (west approach)	AM	0.68	29	C	132m
	PM	0.82	28	B	226
	Weekend	0.58	29	C	16m
2. Wentworth Avenue / Giles Street	AM	0.76	27	B	192m
	PM	0.66	30	C	152m
	Weekend	0.47	27	B	90m
3. Giles Street / Printers Way / Southern Site Access	AM	0.08	10	A	2m
	PM	0.10	10	A	2m
	Weekend	0.10	10	A	3m
4. Giles Street / Eastlake Parade	AM	0.12	10	A	4m
	PM	0.19	10	A	6m
	Weekend	0.21	9	A	8m
5. Eastlake Parade / Trevillian Quay	AM	0.11	6	A	3m
	PM	0.20	7	A	5m
	Weekend	0.17	7	A	3m

6. Eastlake Parade / Northern Site Access	AM	0.29	6	A	1m
	PM	0.21	6	A	1m
	Weekend	0.23	6	A	10m
7. Wentworth Avenue / Gosse Street / Western Site Access	AM	0.54	16	B	2m
	PM	0.21	7	A	1m
	Weekend	0.20	7	A	1m
8. Eastlake Parade / Eastern Site Access	AM	0.12	3	A	2m
	PM	0.14	3	A	3m
	Weekend	0.15	3	A	5m

2.9 Nearby developments – Causeway Precinct

The Causeway Precinct is a proposed mixed-use development located in Kingston, south-east of the Site as shown in Figure 11. The precinct is being planned by the ACT Government Suburban Land Agency (SLA) and will provide housing, community facilities, childcare and Jerrabomberra Wetlands Visitor Centre in the East Lake urban renewal area.

Following consultation with SLA, it is understood that the Causeway Precinct is expected to generate up to 460 vehicle trips in the weekday AM and PM peak hours along Wentworth Avenue. Traffic generation during the weekend peak hours was not provided.



Figure 11: Causeway Precinct

3. Proposed development

3.1 Site layout

As part of the Proposal, the Site is proposed to be divided into the ‘Arts Precinct’ on the western side of the Site, and a mixed use residential parcel on the eastern side. The Proposal includes the following new buildings, which would be in addition to the existing Powerhouse, Fitters’ Workshop, Substation and Old Bus Depot:

- Three additional mixed-use buildings and multi-storey car park (accessed via Printers Way)
- Mixed use residential parcel, accommodating up to ten residential buildings

The planned Site layout is illustrated in Figure 12 and a summary of the yield are presented in Table 7.

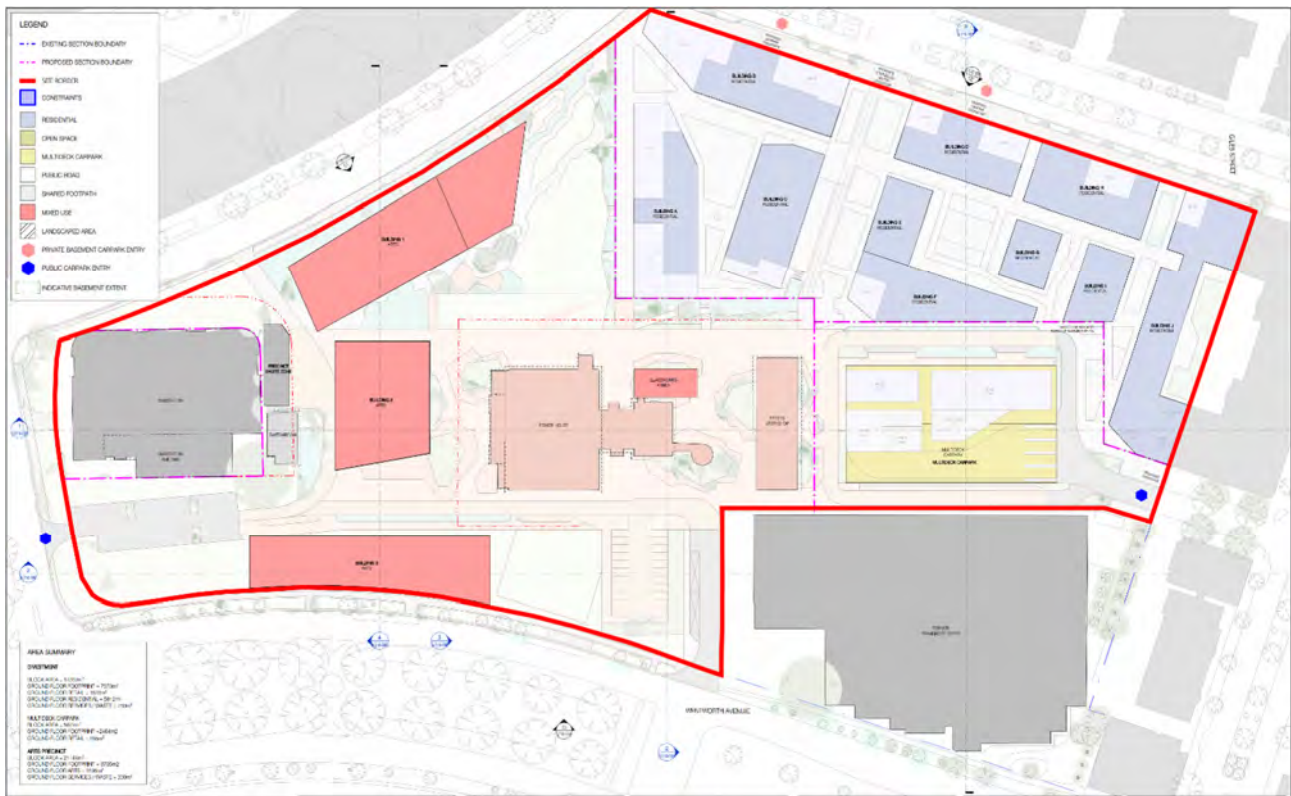


Figure 12: Site development plan (NH Architecture 2024)

Table 7: Land use for the Arts Precinct and mixed use residential parcel

Land use	Yield or GFA (m ²)
Arts Precinct	
Community Activity Centre & Craft workshop	4,628 m ²
Cultural Facility	3,659 m ²
Office	2,052 m ²
Theatre (80 seats)	213 m ²
Artist Accommodation	923 m ² / 10 units (7 x 1 bed, 2 x 2 bed, 1 x 3 bed)

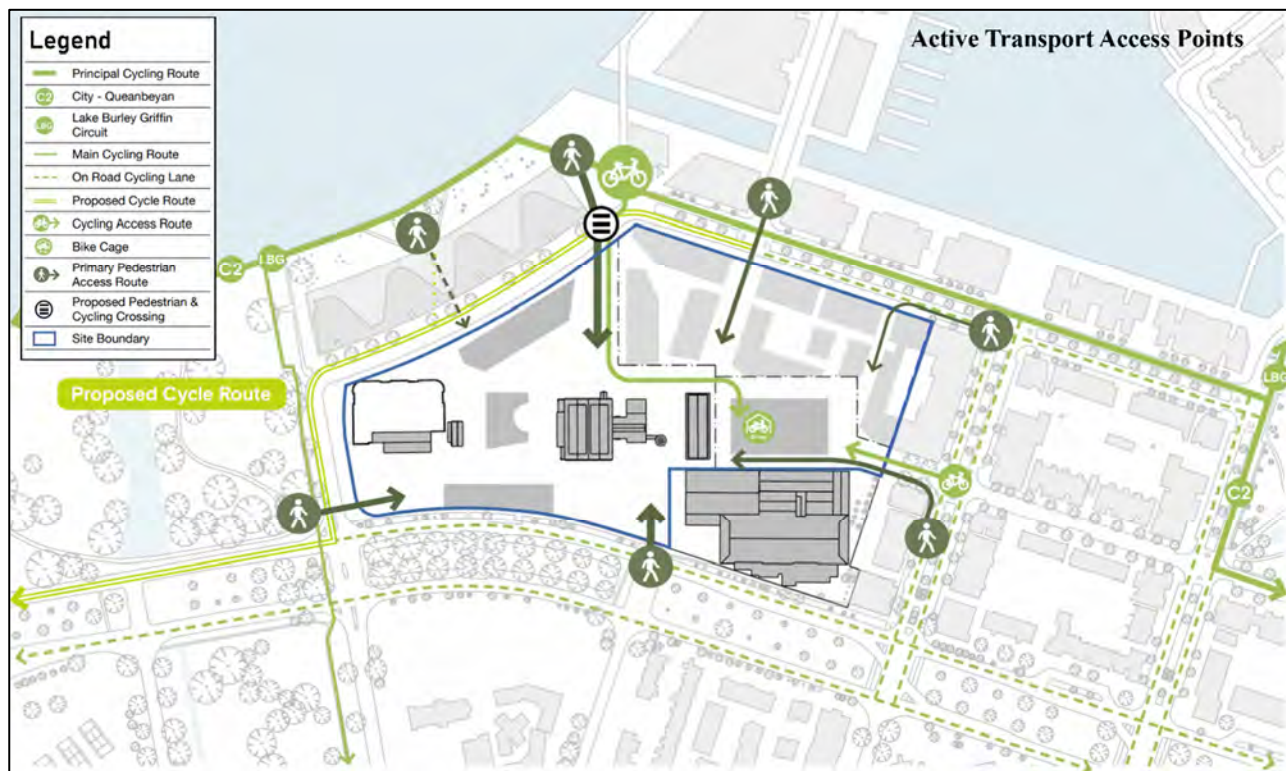
Land use	Yield or GFA (m ²)
Retail 500 NFA	
Shop	242 m ²
Food & Beverage	302 m ²
Office	166 m ²
Retail 1,500 NFA	
Shop	724 m ²
Food & Beverage	905 m ²
Office	501 m ²
Retail (Arts Org)	128 m ²
Mixed use residential parcel	
Residential	258 units (99 x 1 bed, 99 x 2 bed, 60 x 3 bed)
Retail	1,700 m ²

3.2 Site access

3.2.1 Walking and cycling access

A comprehensive internal walking and cycling network would be provided within the Site and connect to the wider regional walking and cycling network. Pedestrians would be able to access the Site via seven access points across the Site as shown in Figure 13. A zebra crossing would also be provided on Eastlake Parade to connect the foreshore to the northern end of the Site.

Internal walking and cycling routes are shown in Figure 14. Walking routes would enable pedestrian connectivity throughout the Arts Precinct and mixed use residential parcel. Key cyclist access routes would be provided on Eastlake Parade and Printers Way to connect to bicycle parking within the multi-storey car park.



3.2.2 Vehicle access

Vehicle and bus access is shown in Figure 15 and Figure 16 and includes the following access points:

- Printers Way: public access to Arts Precinct multi-storey car park
- Wentworth Avenue: left-in access only to the Arts Precinct for drop-off and charter buses, exit via Eastlake Parade
- Eastlake Parade: two public access to mixed use residential basements

Boom gates/access controls will be installed at the multi-story carpark entrance and the mixed use residential basements entrance

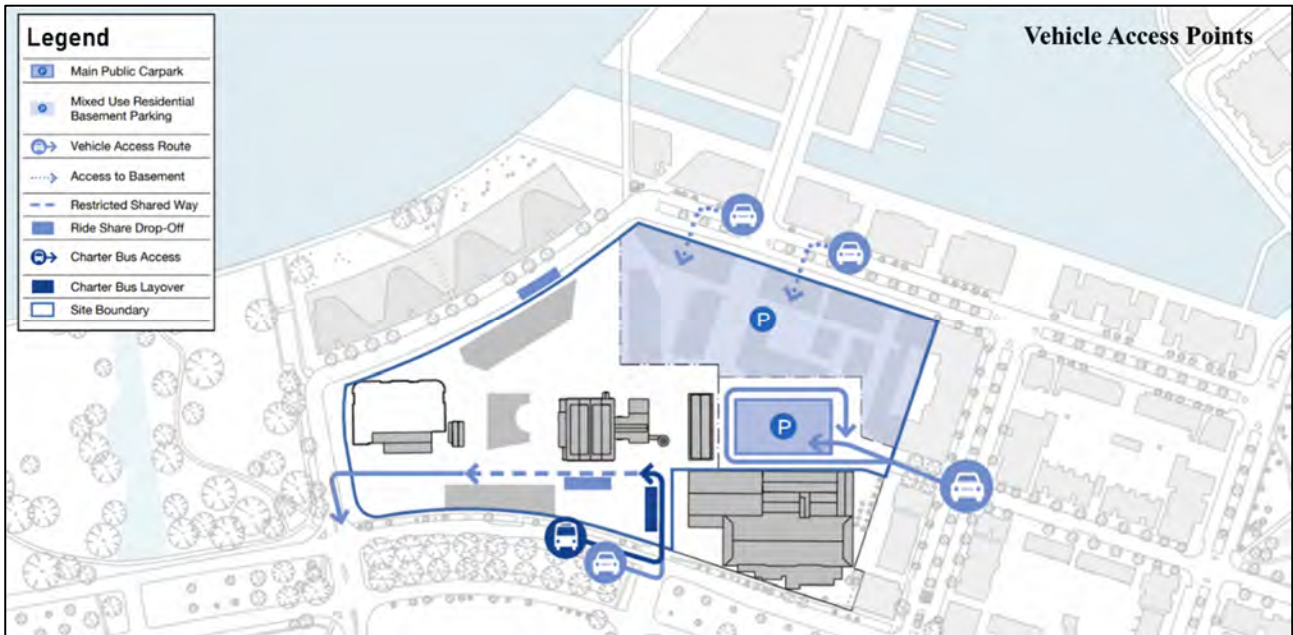


Figure 15: Vehicle access

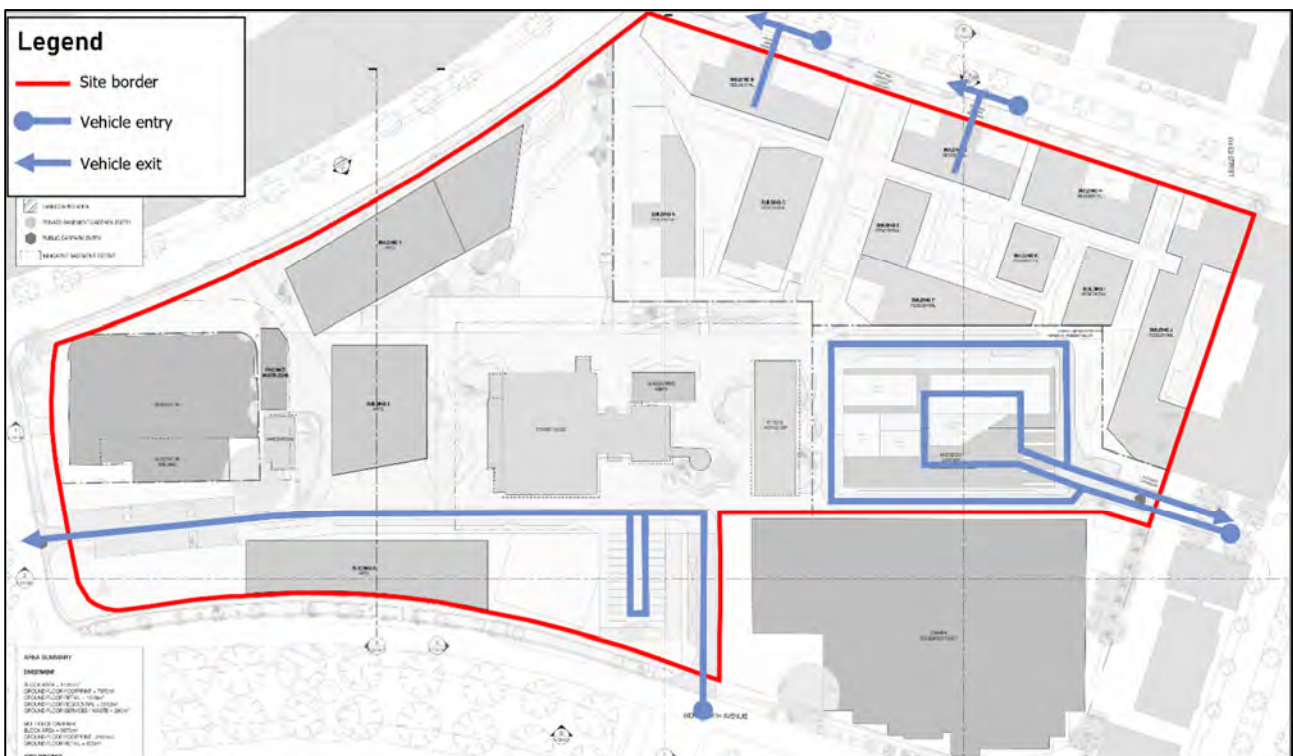


Figure 16: Vehicle access within the Site

3.3 Service vehicle access and circulation

Two access routes are provided for service vehicles. The Site will include a logistics hub at the south end of the Substation in the Arts Precinct as shown in Figure 17. The entry point to the logistics hub is from Eastlake Parade. This entrance would be designed to accommodate vehicles up to 12.5m heavy rigid vehicles (HGVs). This entry would only be permitted for service and emergency vehicles, and visitors and staff would not be permitted. Service vehicles would leave the Site via the exit on Eastlake Parade.

An alternative service vehicle access at the eastern end of the Arts Precinct would also be provided. Access would be via Printers Way, with circulation around the multi-storey car park. Service vehicles would leave the Site via Wentworth Avenue.

During events set up, service vehicles will be given restricted access to the path north-east of Building 2, the Powerhouse, and the Fitters' Workshop. This path connects the Arts Precinct with the mixed use residential parcel, allowing service vehicles for events set up to exit through the mixed use residential parcel's proposed controlled access crossover and leave the Site via the eastern stretch of Eastlake Parade.

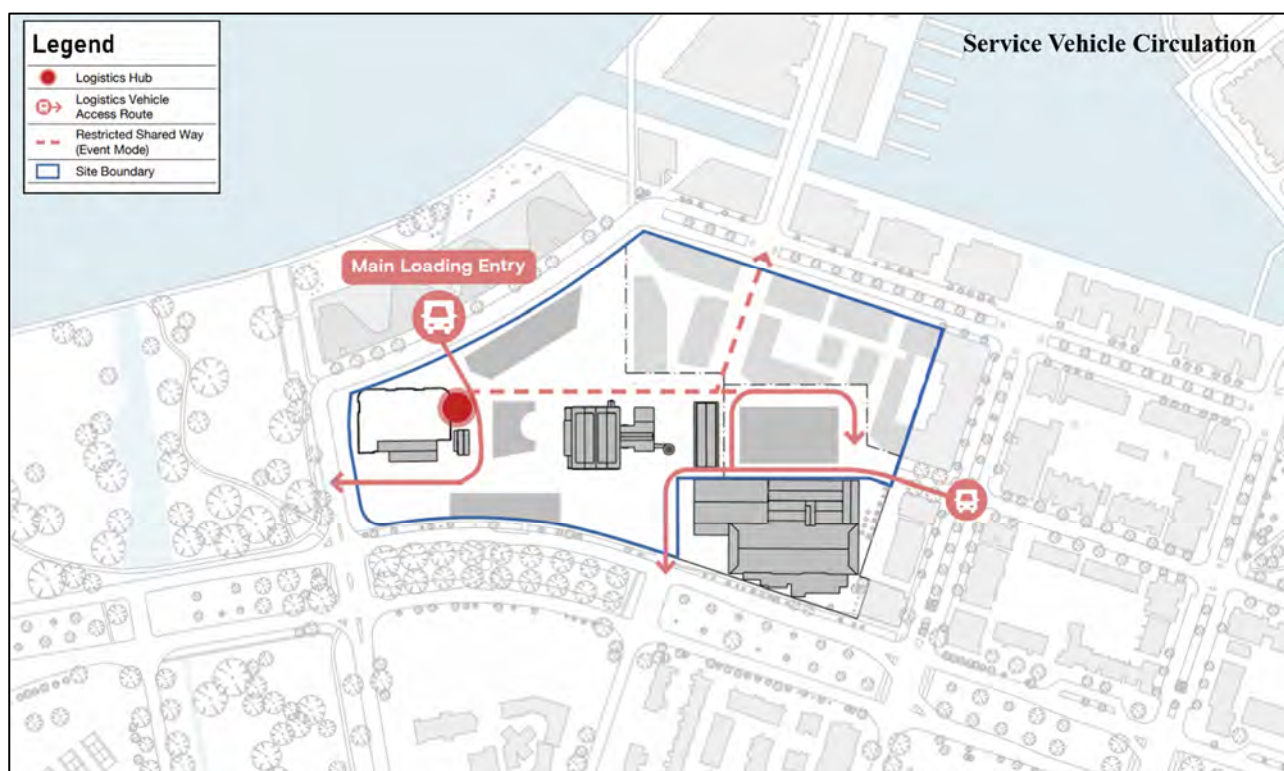


Figure 17: Service vehicle circulation

3.4 Emergency vehicle access and circulation

Emergency vehicles would be able to access the Site via all entry and exit points on Wentworth Avenue, Printers Way and Eastlake Parade. During emergencies, emergency vehicles would also be able to use the proposed controlled access crossover connecting the western and eastern sides of the Arts Precinct as shown in Figure 18.

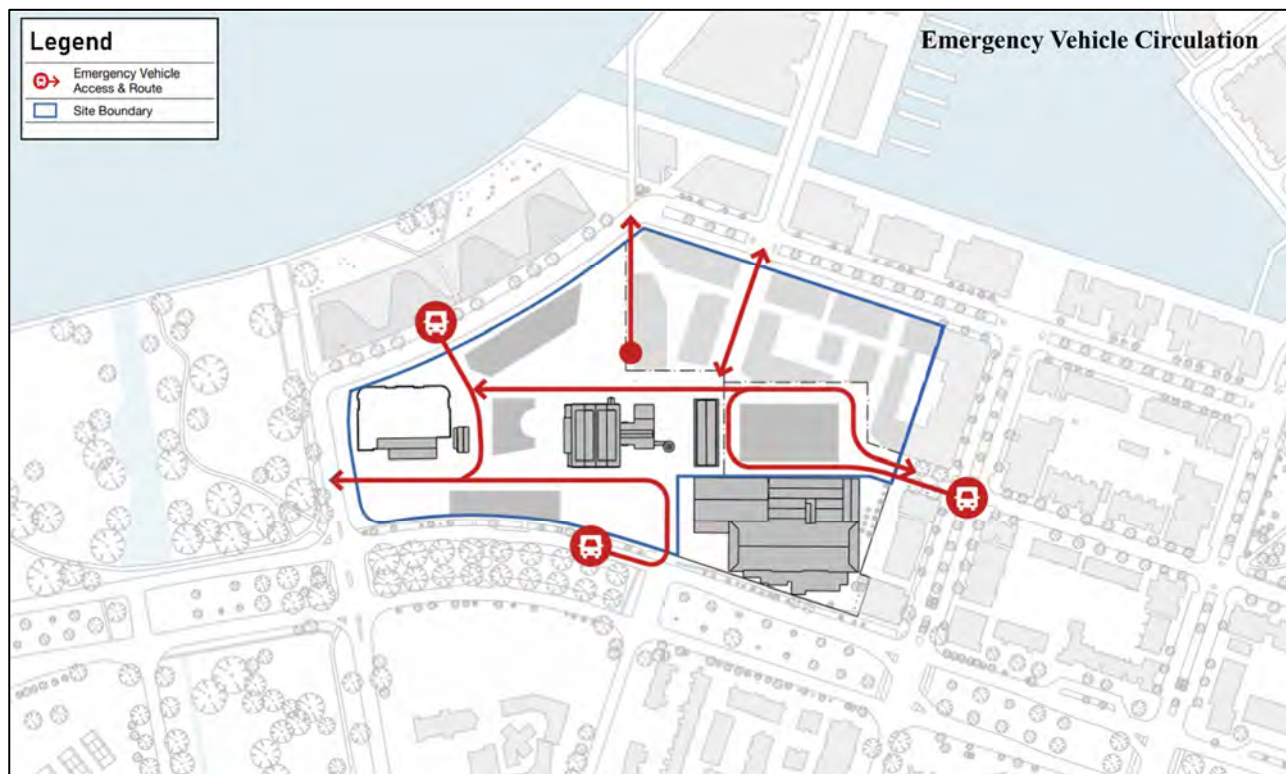


Figure 18: Emergency vehicle circulation

3.5 Bicycle parking

3.5.1 Arts Precinct

The ACT Planning and Land Authority's *Bicycle Parking General Code 2013* sets out the required bicycle parking provisions for different land uses within the Site. The minimum requirements for the Arts Precinct is 34 bicycle parking spaces as determined by these standards as presented in Table 8.

Table 8: Bicycle parking requirements for Arts Precinct

Land use	Yield or GFA (m ²)	Minimum parking rate	Parking spaces required
Arts Precinct	10,339 m²		
Community Activity Centre & Craft workshop	4,628 m ²	Individual Assessment	-
Cultural Facility	3,659 m ²	Individual Assessment	-
Office	2,052 m ²	1 per 250m ² GFA after the first 250m ² GFA for employees and 1 per 950m ² GFA after the first 400m ² GFA for visitors	9
Theatre (80 seats)	213 m ² 80 seats	1 per 50 seats with a minimum of 2 provided	5
Artist Accommodation	923 m ² 10 units 7 x 1 bed 2 x 2 bed 1 x 3 bed	1 per 4 beds after the first 4 beds for residents and 1 per 15 beds after first 15 beds for visitors	4
Retail 500 NFA			

Shop	242 m ²	1 per 500m ² GFA after the first 500m ² GFA for employees and 1 per 300m ² GFA for visitors with minimum of 2 for visitors	2
Food & Beverage	302 m ²	1 per 400m ² GFA after the first 400m ² GFA for employees and 1 per 200m ² GFA after the first 200m ² GFA for visitors	1
Office	166 m ²	1 per 250m ² GFA after the first 250m ² GFA for employees and 1 per 950m ² GFA after the first 400m ² GFA for visitors	0
Retail 1500 NFA			
Shop	724 m ²	1 per 500m ² GFA after the first 500m ² GFA for employees and 1 per 300m ² GFA for visitors with minimum of 2 for visitors	4
Food & Beverage	905 m ²	1 per 400m ² GFA after the first 400m ² GFA for employees and 1 per 200m ² GFA after the first 200m ² GFA for visitors	6
Office	501 m ²	1 per 250m ² GFA after the first 250m ² GFA for employees and 1 per 950m ² GFA after the first 400m ² GFA for visitors	1
Retail (Arts Org)	128 m ²	1 per 500m ² GFA after the first 500m ² GFA for employees and 1 per 300m ² GFA for visitors with minimum of 2 for visitors	2
Total			34

In total, the Arts Precinct will provide 180 bike parking spaces. Bicycle parking for the Arts Precinct would be provided within the multi-storey car park. End of trip facilities will also be provided within the multi-storey car park.

3.5.2 Mixed use residential parcel

The minimum requirements for the Arts Precinct based on the *Bicycle Parking General Code 2013* is 288 bicycle parking spaces as presented in Table 8.

Table 9: Bicycle parking requirements for mixed use residential parcel

Land use	Units / GFA (m ²)	Minimum parking rate	Parking spaces required
Residential (residents and visitors)	99 x 1 bed	1 / apartment	258
	99 x 2 bed		
	60 x 3 bed		
	Visitor	1 per 12 apartments after first 12 apartments	21
Retail (assumed shop, employees and visitors)	1,700 m ²	1 / 500 m ² after the first 500m ² GFA	3
	Visitor	1 / 300 m ²	6
Total			288

In total, the mixed use residential parcel will provide 323 bike parking spaces for residents and retail staff. Bike parking will be provided in the basement car park on the upper basement level. Retail visitor bicycle parking would be provided on street level in the public domain.

3.6 Vehicle parking

3.6.1 Arts Precinct

The ACT Government's *Planning (Commercial Zones) Technical Specifications 2023* instrument sets out the required parking provisions for different land uses within the area. Based on the specification, 419 parking spaces are required for the Arts Precinct as presented in Table 10.

Table 10: Car parking requirements for Arts Precinct

Land use	Yield or GFA (m ²)	Minimum parking rate	Parking spaces required
Arts Precinct			
Community Activity Centre & Craft workshop	4,628 m ²	3 / 100 m ²	139
Cultural Facility	3,659 m ²	1 / 100 m ²	37
Office	2,052 m ²	2 / 100 m ²	41
Theatre (80 seats)	213 m ² 80 seats	1 / 12 seats	7
Artist Accommodation	923 m ² 10 units 7 x 1 bed 2 x 2 bed 1 x 3 bed	0.5 / bedroom	7
Retail 500 NFA			
Shop	242 m ²	5 / 100 m ²	12
Food & Beverage	302 m ²	10 / 100 m ²	31
Office	166 m ²	2 / 100 m ²	3
Retail 1500 NFA			
Shop	724 m ²	5 / 100 m ²	36
Food & Beverage	905 m ²	10 / 100 m ²	90
Office	501 m ²	2 / 100 m ²	10
Retail (Arts Org)	128 m ²	5 / 100 m ²	6
Total			419

Vehicle parking for the Arts Precinct is provided at three separate locations with some on-street parallel parking also provided, as shown in Figure 19 and outlined below.

- The main facility is the multi-storey car park, which would provide 346 parking spaces. A further 14 vehicle parking spaces would be provided along the building's western and northern perimeter.
- An off-street car park will be provided west of the Substation, adjacent to Eastlake Parade, which would provide 30 parking spaces. A further 9 vehicle parking spaces would be provided the internal road.
- An off-street car park will provided on the western side of the Arts Precinct adjacent to Wentworth Avenue, which would provide 22 parking spaces.

In total, the Arts Precinct would be served by 421 parking spaces. This provision exceeds the required 419 spaces in the *Planning (Commercial Zones) Technical Specifications 2023*.

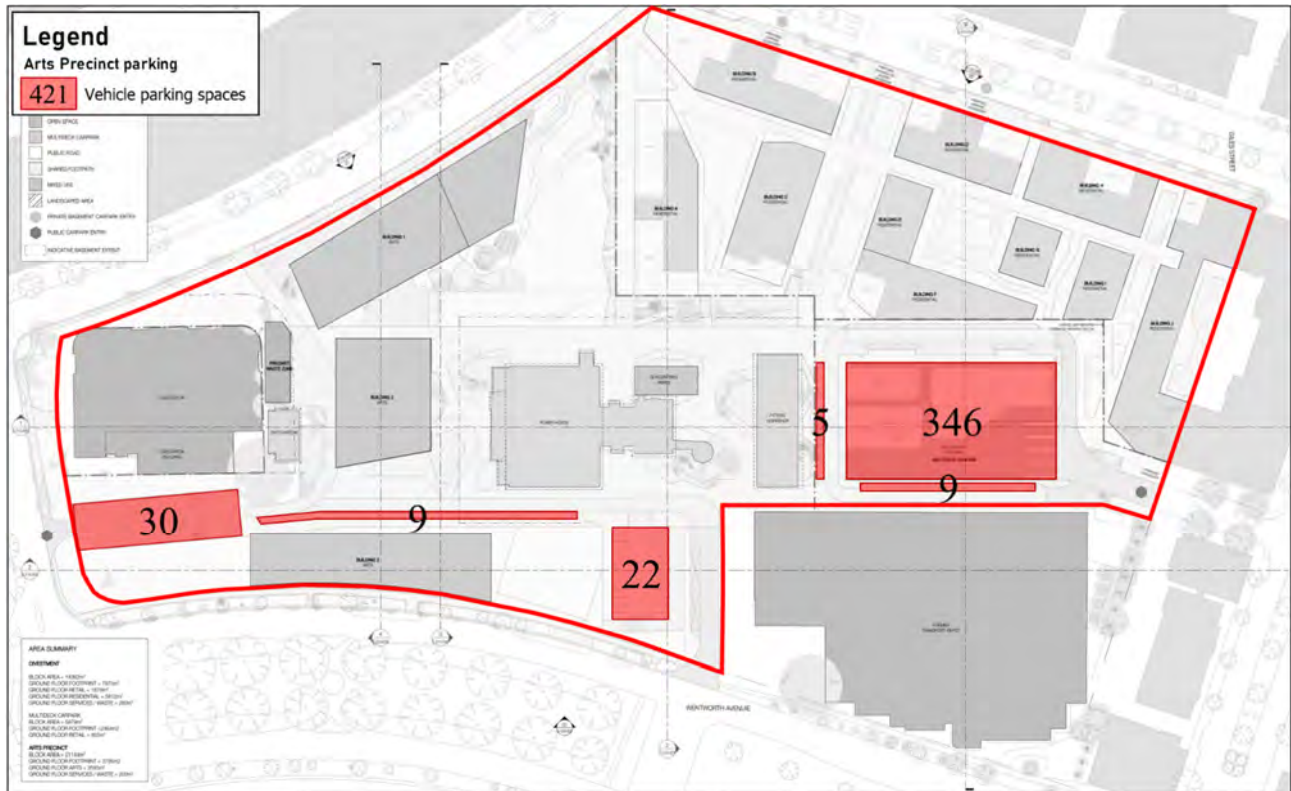


Figure 19: Arts Precinct parking layout

3.6.2 Mixed use residential parcel

The minimum parking requirements for the mixed use residential parcel based on the *Planning (Commercial Zones) Technical Specifications 2023* is presented in Table 11. Based on the specification, 519 parking spaces are required for the mixed use residential parcel.

Table 11: Car parking requirements for mixed use residential parcel

Land use	Units / GFA (m ²)	Minimum parking rate	Parking spaces required
Residential	99 x 1 bed	1 / dwelling	432
	99 x 2 bed	1.5 / dwelling	
	60 x 3 bed	2 / dwelling	
	Visitor	0.25 / dwelling	
	Accessibility space	3% of visitor spaces	2
Retail	1,700 m ²	5 / 100 m ²	85
Total			519

Vehicle parking in the mixed use residential parcel is provided across two basement levels as shown in Figure 20. These levels are dedicated to residential, visitor, and retail parking for developments within the mixed use residential parcel.

In total, the mixed use residential basement would provide 570 parking spaces (435 spaces for residents/visitors and 135 spaces for the retail, the allocation of spaces is to be finalised at a later stage). This

provision provides an excess of 51 spaces above the required 519 spaces in the *Planning (Commercial Zones) Technical Specifications 2023*. Note a portion of the excess spaces would be dedicated to visitor parking to facilitate parking demand for nearby uses in the Kingston Foreshore Precinct (discussed further in Section 3.6.3).

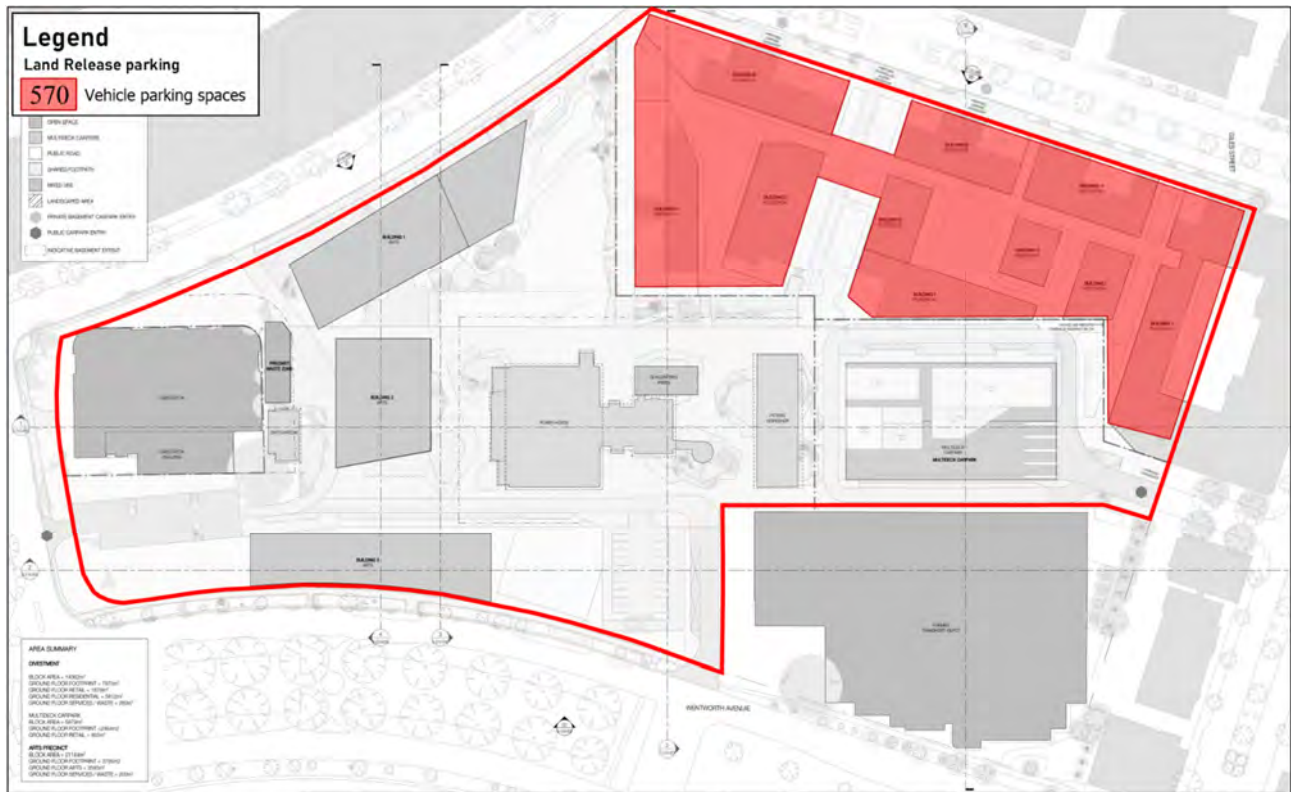


Figure 20: Mixed use residential parking layout (over 2 basement level)

3.6.3 Nearby uses in the Kingston Foreshore Precinct

The existing Site currently includes several car parks which service nearby developments in the Kingston Foreshore Precinct. As part of the Proposal, these car parks would be removed or relocated in the Site.

To quantify the parking demands of nearby uses in the Kingston Foreshore Precinct, a parking survey was undertaken to generate a parking demand profile for the Site. A detailed parking assessment is attached in Appendix A and the key findings are summarised below.

- The peak parking demand of nearby uses is expected to be 430 vehicles during the weekend, generated by the Old Bus Depot Market.
- The temporal distribution of car parking demand of the various uses of the Proposal and nearby uses would allow parking facilities to be utilised efficiently throughout the day. The peak demand for the Proposal and nearby uses occurs on the weekend and is 537 parking spaces, which can be accommodated by the 421 spaces provided in the multi-story carpark and 135 spaces retail provide in the mixed use residential basement car park (combined total of 556 spaces).

Therefore, the proposed provision of 421 parking spaces for the Arts Precinct and the excess of 135 spaces in the mixed use residential parcel over the requirements in the *Planning (Commercial Zones) Technical Specifications 2023* is expected to accommodate parking demand for nearby uses.

4. Transport impact assessment

4.1 Modelled intersections and scenarios

This section investigates the likely impacts the site would have on road safety and capacity of the road network, including consideration of cumulative traffic impacts at key intersections. The road network analysis considers the key access intersections as well as the proposed vehicle accesses identified in Section 3.2.2. These modelled intersections are shown in Figure 21 (note Intersection 8 will be relocated to Intersection 9 as part of the Proposal).



Figure 21: Modelled intersections (note Intersection 8 will be relocated to Intersection 9 as part of the Proposal)

The following scenarios have been considered in this assessment for the weekday AM and PM and weekend peak hours.

- Existing 2024 scenario (discussed in Section 2.8)
- 2027 future base (year of opening without the proposal)
- 2027 plus development (with the addition of traffic generation of the development)
- 2032 future base (+5 years)
- 2032 plus development

The following additional scenarios were also assessed to consider the cumulative impacts of the Proposal and the nearby proposed Causeway Precinct (discussed in Section 2.9).

- 2027 plus development and Causeway
- 2032 plus development and Causeway

4.2 Future traffic volumes without the Proposal

To estimate future background traffic volumes without the proposal, a background traffic growth rate was assumed. Following discussions with Transport Canberra and City Services (TCCS) in 2024, a growth rate of 0.75% per year has been assumed based on the Canberra Strategic Transport Model (CSTM). This growth rate has been applied to existing roads in the study area.

4.3 Trip generation of the Proposal

The assumed AM, PM and weekend peak hour vehicle trip generation of the Proposal has been estimated based on the various land uses in the Arts Precinct and mixed use residential parcel and summarised below. The assumed vehicle trip generation rates are based on the Transport for NSW *Guide to Traffic Generating Developments* (RTA, 2002) and *TDT 2013/04a* (RMS, 2013), and further refined and agreed with TCCS in 2024.

4.3.1 Arts Precinct

The assumed vehicle trip generation rates of the Arts Precinct are shown in Table 12. The resulting vehicle trip generation is shown in Table 13.

Table 12: Vehicle trip generation rates – Arts Precinct

Land use	GFA (m ²)	Parking Spaces	Trip rate factors	Trip Rates		
				AM	PM	Wknd
Community Activity Centre & Craft workshop	4,628 m ²	139	Inbound: AM: 10% of parking spaces, PM: 50% of parking spaces, Weekend: 60% of parking spaces. Outbound: AM/PM: 10% of inbound Weekend: 50% of inbound	0.1	0.5	0.6
Cultural Facility	3,659 m ²	37	Inbound: AM: 10% of parking spaces, PM: 50% of parking spaces, Weekend: 60% of parking spaces. Outbound: AM/PM: 10% of inbound Weekend: 50% of inbound	0.1	0.5	0.6
Office	2,052 m ²	41	per 100m2 GFA Weekend rate assumed	1.6	1.2	0.5
Theatre (80 seats)	213 m ²	7	Inbound: AM: 10% of parking spaces, PM: 50% of parking spaces, Weekend: 60% of parking spaces. Outbound: AM/PM: 10% of inbound Weekend: 50% of inbound	0.1	0.5	0.6
Artist Accommodation	923 m ² 10 units 7 x 1 bed 2 x 2 bed 1 x 3 bed	7	Daily trips: 3 per parking spaces AM & PM is 10% of daily Weekend is 25% of daily	0.3	0.3	0.75
Retail 500 NFA	710 m ²					
Shop	242 m ²	12	per 100m2 GLFA	2.1	3.9	4.6
Food & Beverage	302 m ²	31	per 100m2 GFA (90% trip chaining)	0	5	5

Land use	GFA (m ²)	Parking Spaces	Trip rate factors	Trip Rates		
				AM	PM	Wknd
Office	166 m ²	3	per 100m2 GFA Weekend rate assumed	1.6	1.2	0.5
Retail 1500 NFA	2,130 m²					
Shop	724 m ²	36	per 100m2 GLFA	2.1	3.9	4.6
Food & Beverage	905 m ²	90	per 100m2 GFA (90% trip chaining)	0	5	5
office	501 m ²	10	per 100m2 GFA Weekend rate assumed	1.6	1.2	0.5
Retail (Arts Org)	128 m ²	6	Based on staff only (visitors are generated by the other attractors) AM (IB only): 1 per 100 m2 GFA PM (OB only): 50% of AM	1	0.5	0

Table 13: Vehicle trip generation – Arts Precinct

Land use	AM peak hour		PM peak hour		Wknd peak hour	
	In	Out	In	Out	In	Out
Community Activity Centre & Craft workshop	14	1	70	7	83	42
Cultural Facility	4	0	19	2	22	11
Office	26	7	5	20	5	5
Theatre (80 seats)	1	0	4	0	4	2
Artist Accommodation	1	1	1	1	3	3
Retail 500 NFA						
Shop	3	3	5	5	6	6
Food & Beverage	0	0	1	1	1	1
Office	2	1	0	2	0	0
Retail 1500 NFA						
Shop	8	8	14	14	17	17
Food & Beverage	0	0	2	2	2	2
Office	6	2	1	5	1	1
Retail (Arts Org)	1	0	0	1	0	0
Total trips	66	23	122	60	144	90

4.3.2 Mixed use residential parcel

The assumed vehicle trip generation rates of the mixed use residential parcel are shown in Table 14. The resulting vehicle trip generation is shown in Table 15.

Table 14: Vehicle trip generation rates – mixed use residential parcel

Land use	Units / GFA (m ²)	Parking Spaces	Trip rate factors	Trip Rates		
				AM	PM	Wknd
Residential	258 units 99 x 1 bed 99 x 2 bed 60 x 3 bed	432	per dwelling	0.6	0.6	0.3
Retail	1,700 m ²	85	per 100m ² GFA	2.1	3.9	4.6

Table 15: Vehicle trip generation – mixed use residential parcel

Land use	AM peak hour		PM peak hour		Wknd peak hour	
	In	Out	In	Out	In	Out
Residential	31	124	124	31	39	39
Retail	18	18	33	33	39	39
Total trips	49	142	157	64	78	78

4.3.3 Overall trip generation

The overall trip generation of the Arts Precinct and mixed use residential parcel is shown in Table 16.

Table 16: Vehicle trip generation – Arts Precinct and mixed use residential parcel

Land use	AM peak hour		PM peak hour		Wknd peak hour	
	In	Out	In	Out	In	Out
Arts Precinct	66	23	122	60	144	90
Mixed use residential	49	142	157	64	78	78
Total trips	115	165	279	124	222	168

4.4 Trip distribution

The assumed inbound and outbound split of trips have been assumed across the various site accesses as shown in Figure 22. This split has been assumed based on the proportion of car parking provided in the Site as discussed in Section 3.6.

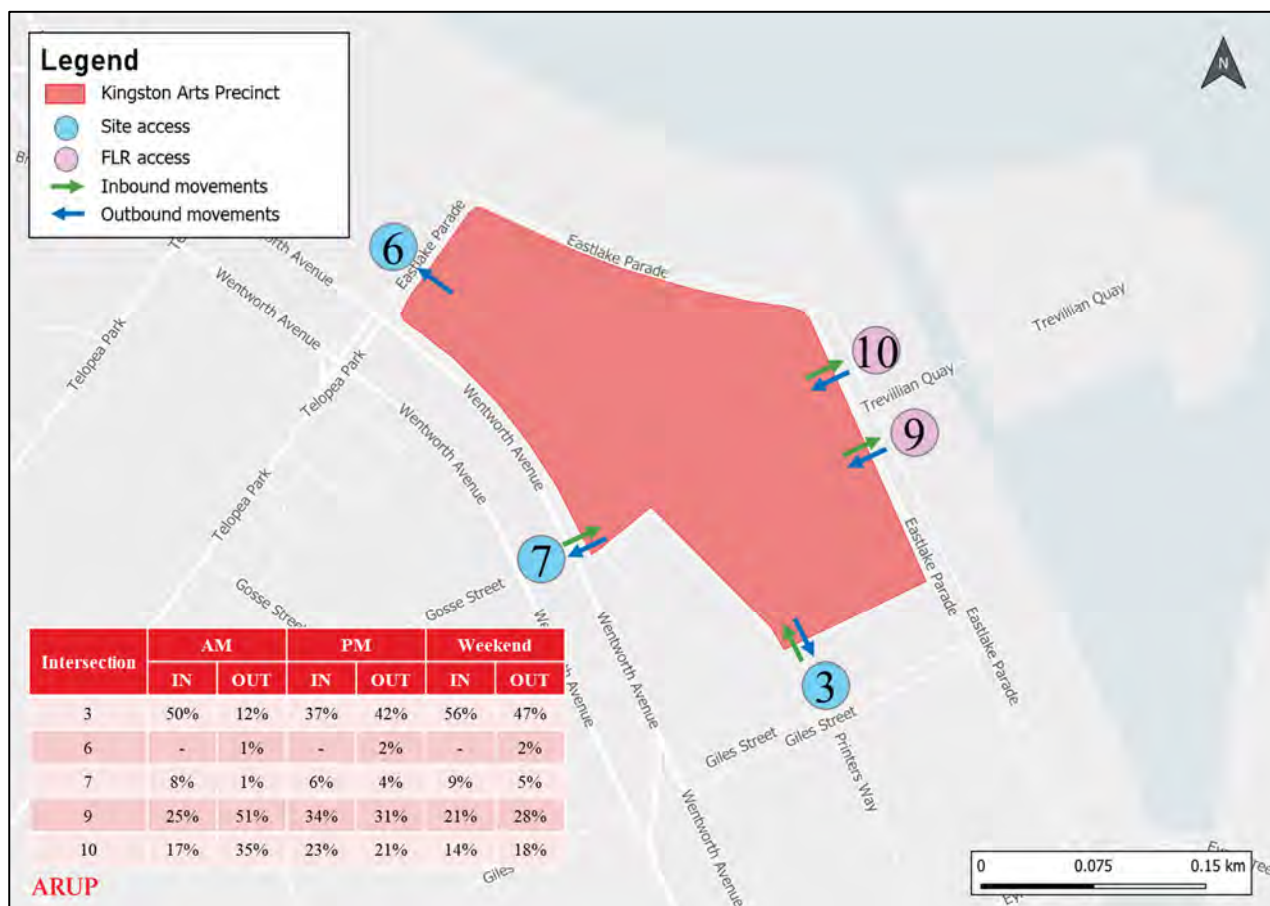


Figure 22: Inbound and outbound trip distribution – Arts Precinct and mixed use residential parcel

The origins and destinations of trips to the north (Canberra) and south (South Canberra) have been assumed as shown in Table 17.

Table 17: Origins and destinations of trips – Arts Precinct and mixed use residential parcel

Land use	Direction	AM peak hour		PM peak hour		Wknd peak hour	
		In	Out	In	Out	In	Out
Arts Precinct	To/from the north	35%	65%	50%	35%	50%	
	To/from the south	65%	35%	50%*	65%	50%	
Mixed use residential	To/from the north	35%	65%	65%	35%	50%	
	To/from the south	65%	35%	35%	65%	50%	

*Accounts for visitors to the Arts Precinct in the PM peak hour traveling in the opposite direction to peak hour traffic

4.5 Traffic modelling

4.5.1 2027 and 2032 future base and plus development scenarios

The traffic modelling results for the 2027 and 2032 ‘future base’ and ‘plus development’ scenarios are summarised in Table 18 to Table 20.

In the 2027 and 2032 ‘future base’ scenarios, all modelled intersections are expected to operate at a satisfactory LoS D or better during the AM, PM and weekend peak hours. During the AM and PM peak hours, the Wentworth Avenue / Eastlake Parade / Telopea Park and Wentworth Avenue / Giles Street intersections carry a high volume of traffic on Wentworth Avenue and begin to approach capacity in the AM and PM peak hours.

In the 2027 and 2032 ‘plus development’ scenarios, most modelled intersections are expected to operate at a satisfactory LoS D or better. The exception is the Wentworth Avenue / Eastlake Parade / Telopea Park intersection, which is expected to operate at LoS E in the 2032 PM peak hour. An intersection upgrade could be considered to improve this performance to LoS D or better (discussed further in Section 4.5.1.1).

Table 18: SIDRA modelling results – 2027 and 2032 future base and plus development scenarios – AM peak hour

Intersection	Scenario	DoS	Delay (s)	LoS	95 th percentile queue
1. Wentworth Avenue / Eastlake Parade / Telopea Park (east approach)	2027 future base	0.79	19	B	225m
	2027 plus development	0.90	33	C	245m
	2032 future base	0.80	20	B	224m
	2032 plus development	0.92	37	C	245m
1. Wentworth Avenue / Eastlake Parade / Telopea Park (west approach)	2027 future base	0.70	30	C	135m
	2027 plus development	0.90	49	D	189m
	2032 future base	0.77	32	C	150m
	2032 plus development	0.92	54	D	212m
2. Wentworth Avenue / Giles Street	2027 future base	0.78	28	B	200m
	2027 plus development	0.78	31	C	217m
	2032 future base	0.77	29	C	214m
	2032 plus development	0.77	32	C	239m
3. Giles Street / Printers Way / Southern Site Access	2027 future base	0.08	10	A	2m
	2027 plus development	0.13	10	A	3m
	2032 future base	0.09	10	A	2m
	2032 plus development	0.13	10	A	3m
4. Giles Street / Eastlake Parade	2027 future base	0.12	10	A	4m
	2027 plus development	0.12	10	A	4m
	2032 future base	0.13	10	A	4m
	2032 plus development	0.13	10	A	4m
5. Eastlake Parade / Trevillian Quay	2027 future base	0.11	6	A	3m
	2027 plus development	0.16	6	A	3m
	2032 future base	0.11	6	A	3m
	2032 plus development	0.16	7	A	3m
6. Eastlake Parade / Northern Site Access	2027 future base	0.30	6	A	1m
	2027 plus development	0.44	6	A	1m
	2032 future base	0.31	7	A	1m
	2032 plus development	0.45	6	A	1m
7. Wentworth Avenue / Gosse Street / Western Site Access	2027 future base	0.59	17	B	2m
	2027 plus development	0.55	19	B	60m

Intersection	Scenario	DoS	Delay (s)	LoS	95 th percentile queue
	2032 future base	0.50	18	B	2m
	2032 plus development	0.57	21	B	99m
9. Eastlake Parade / Relocated Eastern Site Access	2027 future base	0.12	3	A	1m
	2027 plus development	0.13	4	A	2m
	2032 future base	0.12	3	A	1m
	2032 plus development	0.14	4	A	2m
10. Eastlake Parade / Northeastern Site Access	2027 future base	Not part of existing road network			
	2027 plus development	0.19	3	A	1m
	2032 future base	Not part of existing road network			
	2032 plus development	0.20	3	A	1m

Table 19: SIDRA modelling results – 2027 and 2032 future base and plus development scenarios – PM peak hour

Intersection	Scenario	DoS	Delay (s)	LoS	95 th percentile queue
1. Wentworth Avenue / Eastlake Parade / Telopea Park (east approach)	2027 future base	0.65	17	B	74m
	2027 plus development	0.69	18	B	80m
	2032 future base	0.68	17	B	75m
	2032 plus development	0.62	20	B	87m
1. Wentworth Avenue / Eastlake Parade / Telopea Park (west approach)	2027 future base	0.83	29	C	249m
	2027 plus development	0.97	54	D	408m
	2032 future base	0.86	33	C	285m
	2032 plus development	0.98	66	E	496m
2. Wentworth Avenue / Giles Street	2027 future base	0.65	30	C	162m
	2027 plus development	0.82	40	C	229m
	2032 future base	0.68	31	C	172m
	2032 plus development	0.81	42	C	229m
3. Giles Street / Printers Way / Southern Site Access	2027 future base	0.10	10	A	2m
	2027 plus development	0.26	12	A	7m
	2032 future base	0.11	10	A	2m
	2032 plus development	0.26	12	A	6m
4. Giles Street / Eastlake Parade	2027 future base	0.19	11	A	7m
	2027 plus development	0.23	11	A	7m
	2032 future base	0.20	11	A	7m
	2032 plus development	0.22	11	A	7m

Intersection	Scenario	DoS	Delay (s)	LoS	95 th percentile queue
5. Eastlake Parade / Trevillian Quay	2027 future base	0.20	7	A	5m
	2027 plus development	0.20	7	A	5m
	2032 future base	0.21	7	A	5m
	2032 plus development	0.21	7	A	5m
6. Eastlake Parade / Northern Site Access	2027 future base	0.21	6	A	2m
	2027 plus development	0.23	6	A	2m
	2032 future base	0.22	6	A	2m
	2032 plus development	0.23	6	A	1m
7. Wentworth Avenue / Gosse Street / Western Site Access	2027 future base	0.22	7	A	1m
	2027 plus development	0.24	7	A	1m
	2032 future base	0.22	7	A	1m
	2032 plus development	0.24	8	A	1m
9. Eastlake Parade / Relocated Eastern Site Access	2027 future base	0.15	3	A	1m
	2027 plus development	0.20	4	A	5m
	2032 future base	0.15	3	A	1m
	2032 plus development	0.20	4	A	5m
10. Eastlake Parade / Northeastern Site Access	2027 future base	Not part of existing road network			
	2027 plus development	0.18	3	A	3m
	2032 future base	Not part of existing road network			
	2032 plus development	0.18	3	A	3m

Table 20: SIDRA modelling results – 2027 and 2032 future base and plus development scenarios – Weekend peak hour

Intersection	Scenario	DoS	Delay (s)	LoS	95 th percentile queue
1. Wentworth Avenue / Eastlake Parade / Telopea Park (east approach)	2027 future base	0.44	18	B	90m
	2027 plus development	0.49	20	B	109m
	2032 future base	0.48	18	B	95m
	2032 plus development	0.51	21	B	113m
1. Wentworth Avenue / Eastlake Parade / Telopea Park (west approach)	2027 future base	0.60	31	C	117m
	2027 plus development	0.62	26	B	137m
	2032 future base	0.64	31	C	126m
	2032 plus development	0.64	27	B	144m
2. Wentworth Avenue / Giles Street	2027 future base	0.48	27	B	93m
	2027 plus development	0.82	47	D	170m
	2032 future base	0.50	28	B	97m

Intersection	Scenario	DoS	Delay (s)	LoS	95 th percentile queue
	2032 plus development	0.85	49	D	183m
3. Giles Street / Printers Way / Southern Site Access	2027 future base	0.10	10	A	3m
	2027 plus development	0.42	17	B	14m
	2032 future base	0.11	10	A	3m
	2032 plus development	0.46	17	B	15m
4. Giles Street / Eastlake Parade	2027 future base	0.22	10	A	8m
	2027 plus development	0.21	10	A	8m
	2032 future base	0.23	10	A	9m
	2032 plus development	0.22	10	A	8m
5. Eastlake Parade / Trevillian Quay	2027 future base	0.18	7	A	3m
	2027 plus development	0.18	7	A	3m
	2032 future base	0.18	7	A	3m
	2032 plus development	0.18	7	A	3m
6. Eastlake Parade / Northern Site Access	2027 future base	0.23	6	A	4m
	2027 plus development	0.21	6	A	1m
	2032 future base	0.24	6	A	4m
	2032 plus development	0.21	6	A	1m
7. Wentworth Avenue / Gosse Street / Western Site Access	2027 future base	0.21	7	A	1m
	2027 plus development	0.27	8	A	1m
	2032 future base	0.21	7	A	1m
	2032 plus development	0.28	9	A	1m
9. Eastlake Parade / Relocated Eastern Site Access	2027 future base	0.16	3	A	1m
	2027 plus development	0.16	4	A	2m
	2032 future base	0.16	3	A	1m
	2032 plus development	0.16	4	A	2m
10. Eastlake Parade / Northeastern Site Access	2027 future base	Not part of existing road network			
	2027 plus development	0.16	3	A	2m
	2032 future base	Not part of existing road network			
	2032 plus development	0.17	3	A	1m

4.5.1.1 2032 plus development scenario – with upgrade

To improve performance of the Wentworth Avenue / Eastlake Parade / Telopea Park intersection in the 2032 PM peak hour in the ‘plus development’ scenario, the provision of an additional left-turn short approach lane from the west approach could be considered. This upgrade layout is shown in Figure 23.

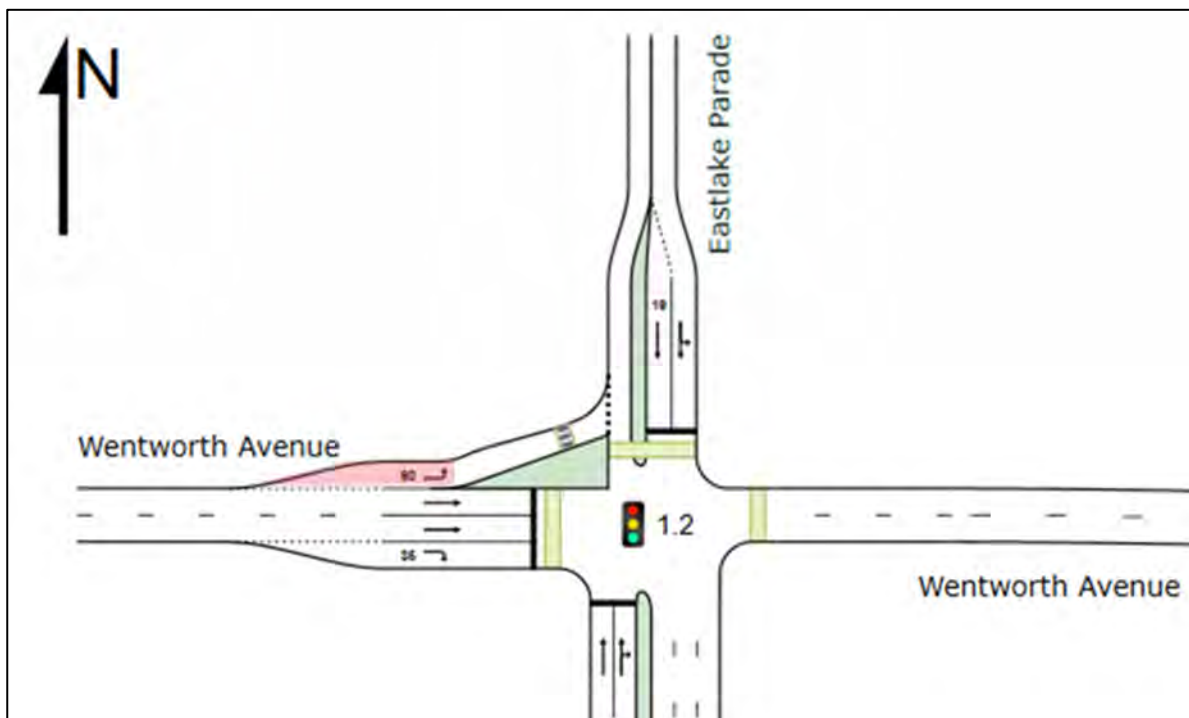


Figure 23 Proposed upgrade at Wentworth Avenue / Eastlake Parade / Telopea Park intersection (marked in red)

The traffic modelling results with the upgrade for the 2032 ‘plus development’ scenario are summarised in Table 21. Note only Intersections 1, 2 and 7 are shown as the other modelled intersections generally operate similarly to the scenario without the upgrade.

With the upgrade, all modelled intersections are expected to operate at a satisfactory LoS D or better during the AM, PM and weekend peak hours for the 2027 and 2032 ‘plus development’ scenarios.

Table 21: SIDRA modelling results – 2032 plus development scenario – with upgrade

Intersection	Peak hour	DoS	Delay (s)	LoS	95 th percentile queue
1. Wentworth Avenue / Eastlake Parade / Telopea Park (east approach)	AM	0.93	39	C	245m
	PM	0.56	19	B	92m
	Weekend	0.54	22	B	121m
1. Wentworth Avenue / Eastlake Parade / Telopea Park (west approach)	AM	0.93	45	D	160m
	PM	0.80	29	C	219m
	Weekend	0.55	23	B	107m
2. Wentworth Avenue / Giles Street	AM	0.81	31	C	230m
	PM	0.83	39	C	229m
	Weekend	0.85	47	D	180m
7. Wentworth Avenue / Gosse Street / Western Site Access	AM	0.57	21	B	133m
	PM	0.24	8	A	1m
	Weekend	0.28	9	A	1m

4.5.2 2027 and 2032 plus development and Causeway scenarios

To assess the cumulative impacts of the Proposal and the proposed nearby Causeway Precinct (discussed in Section 2.9), a ‘plus development and Causeway’ scenario was assessed.

The traffic modelling results for the 2027 and 2032 ‘plus development and Causeway’ scenarios are summarised in Table 22 and Table 23. Note only Intersections 1, 2 and 7 are shown as the other modelled intersections generally operate similarly to the scenario without the Causeway, and only the AM and PM peak hours are shown as traffic generation was only available for the AM and PM peak hours (which reflect the periods of highest traffic volume in the modelled area).

In the 2027 and 2032 ‘plus development and Causeway’ scenarios, most modelled intersections are expected to operate at a satisfactory LoS D or better. The exception is the Wentworth Avenue / Giles Street intersection in the 2032 AM peak hour, and the Wentworth Avenue / Eastlake Parade / Telopea Park intersection in the 2027 and 2032 PM peak hours, which are expected to operate at LoS F.

It should be noted that Wentworth Avenue currently carries a high volume of traffic, with long queues currently observed in the 2024 base scenario. A combination of future background traffic growth in South Canberra as well as the Proposal and Causeway Precinct is expected to reduce intersection performance on Wentworth Avenue. Given the high background traffic volumes, potential mitigation measures to reduce demand and increase capacity on the network have preliminary been discussed with TCCS, which include:

- Travel demand management measures to reduce traffic demand on Wentworth Avenue, such as enabling mode shift for background trips and trips associated with the Proposal to public transport or walking and cycling.
- Realigning the Wentworth Avenue / Eastlake Parade / Telopea Park intersection to one intersection (rather than the two-stage intersection currently proposed). This change would remove stops lines and median storage in the middle of the intersection and enable more efficient traffic signal phasing, such as diamond phasing for right-turns (similar to the Wentworth Avenue / Giles Street intersection).
- Increasing traffic capacity on Wentworth Avenue by providing additional lanes.

These proposed measures will require further consultation with TCCS throughout the project design and into the future.

Table 22: SIDRA modelling results – 2027 and 2032 future base and plus development and Causeway scenarios (with upgrade) – AM peak hour

Intersection	Scenario	DoS	Delay (s)	LoS	95 th percentile queue
1. Wentworth Avenue / Eastlake Parade / Telopea Park (east approach)	2027 future base	0.79	19	B	225m
	2027 plus development and Causeway (with upgrade)	0.96	45	D	245m
	2032 future base	0.80	20	B	224m
	2032 plus development and Causeway (with upgrade)	0.96	46	D	245m
1. Wentworth Avenue / Eastlake Parade / Telopea Park (west approach)	2027 future base	0.70	30	C	135m
	2027 plus development and Causeway (with upgrade)	0.96	44	D	164m
	2032 future base	0.77	32	C	150m
	2032 plus development and Causeway (with upgrade)	0.98	49	D	180m
2. Wentworth Avenue / Giles Street	2027 future base	0.78	28	B	200m
	2027 plus development and Causeway (with upgrade)	1.04	53	D	427m
	2032 future base	0.77	29	C	214m
	2032 plus development and Causeway (with upgrade)	1.13	115	F	768m
	2027 future base	0.59	17	B	2m

Intersection	Scenario	DoS	Delay (s)	LoS	95 th percentile queue
7. Wentworth Avenue / Gosse Street / Western Site Access	2027 plus development and Causeway (with upgrade)	0.68	30	C	121m
	2032 future base	0.50	18	B	2m
	2032 plus development and Causeway (with upgrade)	0.62	24	B	173m

Table 23: SIDRA modelling results – 2027 and 2032 future base and plus development and Causeway scenarios – PM peak hour

Intersection	Scenario	DoS	Delay (s)	LoS	95 th percentile queue
1. Wentworth Avenue / Eastlake Parade / Telopea Park (east approach)	2027 future base	0.65	17	B	74m
	2027 plus development and Causeway (with upgrade)	0.72	17	B	100m
	2032 future base	0.68	17	B	75m
	2032 plus development and Causeway (with upgrade)	0.79	17	B	102m
1. Wentworth Avenue / Eastlake Parade / Telopea Park (west approach)	2027 future base	0.83	29	C	249m
	2027 plus development and Causeway (with upgrade)	1.13	131	F	803m
	2032 future base	0.86	33	C	285m
	2032 plus development and Causeway (with upgrade)	1.14	142	F	847m
2. Wentworth Avenue / Giles Street	2027 future base	0.65	30	C	162m
	2027 plus development and Causeway (with upgrade)	0.88	42	C	229m
	2032 future base	0.68	31	C	172m
	2032 plus development and Causeway (with upgrade)	0.89	43	D	229m
7. Wentworth Avenue / Gosse Street / Western Site Access	2027 future base	0.22	7	A	1m
	2027 plus development and Causeway (with upgrade)	0.28	9	A	1m
	2032 future base	0.22	7	A	1m
	2032 plus development and Causeway (with upgrade)	0.29	9	A	1m

4.6 Impacts On Parking and Access

As discussed in Section 3.6.3, the provision of parking spaces in the Arts Precinct and mixed use residential parcel is expected to accommodate parking demand of the Proposal as well as existing parking demand for nearby uses in the Kingston Foreshore Precinct.

No impacts to access to surrounding properties are expected as a result of the Proposal.

4.7 Impacts On Public Transport, Walking and Cycling

As discussed in Section 3.2.1, comprehensive internal walking and cycling networks would be provided within the Site and connect to the wider regional walking and cycling network. Pedestrians would be able to access the Site via seven access points, and key cyclist access routes would be provided to connect to bicycle parking.

Minimal impacts to public transport, walking and cycling are expected as a result of additional traffic generated by the proposed development. No impacts to the operation of existing bus stops, footpaths and cycleways are expected.

5. Outline Green Travel Plan

5.1 Objectives

A Green Travel Plan (GTP) is a package of measures put in place by an employer or building manager to encourage more sustainable travel whilst commuting to and from a development. It allows an organisation to demonstrate a commitment and a proactive step towards improving environmental sustainability by reducing the environmental impact associated with travel to and from the development.

The key element of this plan is reducing reliance on private vehicles and maximising the use of public transport and other sustainable modes of transport. The GTP would contribute to a healthier and higher quality of life for building tenants, staff and visitors whilst reducing air and noise pollution. A GTP would apply to all staff and visitors who travel to and from the Site.

As a constantly evolving strategy, the success of the plan will rely on ongoing monitoring and review. A robust governance structure could include a nominated GTP representative or committee consisting of tenants and/or building management. Objectives can act as measures of success and may also be used to identify potential refinements.

The objectives of a GTP typically cover the following:

- **Encourage the use of more sustainable transport modes** i.e. walking, cycling, public transport and carpooling in place of higher energy consumption travel modes such as single occupant car travel and taxi.
- **Raise awareness of sustainable modes of transportation** for employees or visitors who commute to, from and within the site.
- **Reduce traffic congestion and air pollution** around the site to enhance safer and more enjoyable journeys.
- **Travel Demand Management (TDM)** which includes management measures to reduce travel demand, such as by remodeling, reducing or retiming trips.
- **Develop, implement, monitor, evaluate and review** the progress of the travel plan strategy.

A framework of potential management measures is also outlined to help achieve the objectives of the GTP.

5.2 Potential measures

The package of measures has been provided to encourage more sustainable travel while travelling to and from the Site. Physical and behavioural measures are two potential measures to introduce into a viable GTP. Physical measures will prioritise sustainable transport via walking, cycling, public transport or car share whereas behavioural measures aim to provide soft strategies which influence travel behaviours for those who will travel to and from the site.

To meet the objectives and targets of a GTP, this section outlines the potential management measures that could be considered for implementation at the proposed development. The measures have been grouped into the principles of remode and reduce, which are the most relevant to this GTP as they focus specifically on sustainable travel or reducing travel altogether. These principles are discussed below.

5.2.1 Remode

The principle of remode aims to promote non-private vehicle modes of travel, such as public transport, walking or cycling, or more fuel-efficient vehicles such as electric vehicles (EVs) or small vehicles. Measures to remode travel are discussed below.

5.2.1.1 Education and awareness

Education and awareness of the availability of sustainable travel modes would be crucial in encouraging staff, visitors and residents at the Site to adopt travel plan measures. It is important that staff, visitors and residents are made aware of the need to reduce car dependency where possible.

A new development provides an opportunity to offer staff advice on travel modes to and from the Site. At this time, new travel habits are being established and people may particularly welcome information about the travel services and facilities available to them.

Potential measures to encourage education and awareness include:

- Provide travel information for visitors travelling to and from the site using sustainable forms of transport, as well as outlining the benefits, objectives and measures of the wider GTP. A website or app associated with the development could include links to the Canberra websites to promote sustainable travel.
- A Travel Access Guide (TAG) could also be provided to staff and visitors to highlight sustainable travel methods. The purpose of a TAG is to highlight sustainable travel methods in a legible and easy to read format and would include the following:
 - Map showing key public transport, walking and cycling routes to the development.
 - Information on end of trip facilities, events and programs.
- Provide an overview of the GTP and TAG as part of all staff induction programs. Induction may also include a visit to bicycle parking and end of trip facilities to increase awareness.
- Events such as ‘National Bike Week’, ‘Bike2Work Days’ and ‘Walk to Work Day’ could be promoted to staff.
- Other incentives to encourage sustainable travel may also include discount vouchers for a local bicycle retailer.

5.2.1.2 Promotion of public transport

The use of train and bus services could be promoted by outlining public transport services in a TAG to enable staff and visitors to assess route options and to plan a public transport route to work.

Links to journey planning websites (such as Transport Canberra websites) and real-time public transport service data on a website or app associated with the development. All user groups should be provided with a user-friendly map describing the surrounding public transport links. Maps can be distributed via a range of digital platforms including email or mobile phone application. These maps would advertise and promote public transport and prompts staff, visitors and residents to consider public transport as their first transport option when travelling to and from the Site. These public transport maps should also include information on accessible transport routes for staff, visitors and residents with special access needs.

5.2.1.3 Promotion of walking

Walking could be promoted via the following measures:

- Staff, visitors and residents should have access to a legible map outlining surrounding public transport linkages, local outlets and attractions within a reasonable walking distance. Maps can be distributed via a range of digital platforms including email, mobile phone application or information boards within the Site. Walking networks can be presented in a TAG and paths to key destinations such as nearby bus stops and serviced routes are indicated clearly.
- Participate in regular events such as ‘Walk to Work Day’.

5.2.1.4 *Promotion of cycling*

As discussed in Sections 2.5 and 3.5, the proposed development is located near the wider off-road cycling network and will provide easily accessible bicycle parking and end of trip facilities for cyclists. The provision of secure bicycle parking and end of trip facilities are expected to encourage staff, visitors and residents to cycle.

Cycling could also be promoted via the following measures:

- Outline cycling facilities in the TAG to enable cyclists to assess route options and to plan how to cycle to work.
- Facilitate a bike-sharing program within the proposed development. Bikes could be made available to all staff and residents, which would be booked for a specific period of time. A bike-sharing program would provide access to a bike for staff or residents who do not own one and could encourage long-term adoption of cycling.
- Form a Cycling Group consisting of staff who cycle to work regularly. The Cycling Group could advocate for cycling for all tenants, including organising cycling events and notifying building management of maintenance and issues relating to the provision of on-site cycling facilities.
- Participate in regular events such as ‘Ride to Work Day’.
- Provide bicycle maps showing surrounding cycleways and infrastructure via a mobile phone application, the development’s website or as physical wayfinding. This will allow cyclists to assess route options and plan how they cycle to the Site. As the surrounding area has high quality cycling infrastructure, cycling to and from the site can be an enjoyable and sustainable method of travel.

5.2.1.5 *Car parking management*

Car parking management strategies could be considered to reduce private vehicle demand or a shift to more fuel-efficient private vehicles via the following measures:

- Provision of EV charging infrastructure or provision of ‘small car’ parking spaces to facilitate the uptake of EVs and small cars. EVs and small cars generally have lower exhaust emissions than typical internal combustion engine or larger vehicles during operation.
 - To further encourage EV uptake and small cars, small car parking spaces or spaces with EV charging infrastructure can be located in the most desirable parking spaces near access points to the development.
- Unbundled parking is a travel demand management strategy where parking spaces are rented, leased or sold separately from each tenancy. Unbundled parking allows tenants and residents to choose whether they need and want to pay for parking spaces, rather than paying whether they use them or not. This measure can encourage tenants and residents to consider and potentially reduce their parking and private vehicle demand.

5.2.2 *Reduce*

The principle of reduce aims to reduce the overall number of trips generated. Measures to reduce travel are discussed below.

5.2.2.1 *Carpooling*

Carpooling (or ride sharing) involves carrying additional vehicle passengers while undertaking a journey with low additional distance. Carpooling enables a reduction in separate vehicle trips to a similar destination and is generally cost-effective, particularly to and from areas that are not well served by public transport.

Carpooling could be facilitated in the proposed development by building management to connect staff and residents travelling to and from a similar destination.

5.2.2.2 *Working from home*

Working from home can help to reduce the overall travel demand generated by the office component of the Proposal. Instead of commuting to and from work, office staff may choose to work from home.

Building management could work with tenants to enable working from home. Working from home would be dependent on the type of job and whether employers can accommodate flexible work arrangements.

5.3 **Monitoring and review**

The GTP is a live document and its successful implementation would rely on ongoing monitoring and review. Although the objectives of the GTP would not change, targets and measures may be changed to reflect an ambition for continued progress.

Monitoring mechanisms could include periodic travel surveys to understand the travel behaviour of tenants and success of the measures. The survey could be distributed 3 months post-occupation as well as yearly or following key transport network changes (such as new bus routes).

A key part of an effective GTP is to nominate personnel to champion and administer the plan. A robust governance structure would contribute to the success of the plan and could include a nominated GTP representative or committee. A representative or committee could consist of tenants and/or building management, who would:

- Manage and implement the GTP measures.
- Periodically update the GTP as new or safer transport routes become available.
- Engage with stakeholders, promote the GTP and solicit feedback.
- Achieve target mode shares, monitor performance and make decisions on the GTP.
- Raise improvements to public transport or walking and cycling facilities with Council or Transport Canberra.

6. Conclusion

This report has been prepared to support the estate SDA for the proposed Kingston Arts Precinct. The key findings of the report are summarised below.

- A comprehensive internal walking and cycling network would be provided within the Site and connect to the wider regional walking and cycling network. Pedestrians would be able to access the Site via seven access points, and key cyclist access routes would be provided to connect to bicycle parking.
- Minimal impacts to public transport, walking and cycling are expected as a result of additional traffic generated by the proposed development. No impacts to the operation of existing bus stops, footpaths and cycleways are expected.
- Bicycle parking would be provided for the Arts Precinct and mixed use residential parcel in accordance with the ACT Planning and Land Authority's *Bicycle Parking General Code 2013*.
- The provision of parking spaces in the Arts Precinct and mixed use residential parcel is expected to accommodate parking demand of the Proposal as well as existing parking demand for nearby uses in the Kingston Foreshore Precinct.
- No impacts to access to surrounding properties are expected as a result of the Proposal.
- With an upgrade the Wentworth Avenue / Eastlake Parade / Telopea Park intersection (additional left-turn short approach lane from the west approach), the modelled surrounding road network is expected to operate at satisfactory LoS D or better during the AM, PM and weekend peak hours for the 2032 'plus development' scenario (with both the Arts Precinct and mixed use residential parcel).
- In the 2027 and 2032 'plus development and Causeway' scenarios, most modelled intersections are expected to operate at a satisfactory LoS D or better. The exception is the Wentworth Avenue / Giles Street intersection in the 2032 AM peak hour, and the Wentworth Avenue / Eastlake Parade / Telopea Park intersection in the 2027 and 2032 PM peak hours.
 - It should be noted that Wentworth Avenue currently carries a high volume of traffic, with long queues currently observed in the 2024 base scenario. A combination of future background traffic growth in South Canberra as well as the Proposal and Causeway Precinct is expected to reduce intersection performance on Wentworth Avenue.
 - Given the high background traffic volumes, potential mitigation measures have been discussed with TCCS and could include travel demand management measures, realigning the Wentworth Avenue / Eastlake Parade / Telopea Park intersection to one intersection and updating the signals and/or increasing traffic capacity on Wentworth Avenue.

Appendix A

Kingston Arts Precinct Nearby Uses Parking Assessment

Memorandum

To	Matt Pirrie NH Architecture Wurundjeri Country Level 7, Cannons House 12-20 Flinders Lane, Melbourne 3000
Date	8 February 2024
Copies	Tanja Klocker, Lucinda Arundel
Reference number	294419
From	James Edwards
File reference	
Subject	KAP Revised Parking Requirements_Rev5.2

Parking reassessment

Following a car parking review with Arup, Purdon, RPS and NH on 30 Jan 2024, Arup reassessed the KAP Parking Requirements on the understanding that the SoA had provided Net Floor Areas (NFA) for the respective land uses. These figures had been incorrectly interpreted as Gross Floor Area (GFA) and then applied directly to determining the parking requirements in accordance with the Territory Plan 2023 Commercial Zone Technical Specification.

The Phase 2 Functional Design Brief Update Schedule of Areas (SoA) has been used to determine the GFA using the assumed Master Planning stage grossing factor of 42% as noted in the SoA. The SoA includes some areas not previously considered in the parking assessment, as well as changes to the floor areas in other cases, resulting in an overall uplift to the areas and parking assessment. Due to local zoning conditions, Community Activity Centres and Craft Workshop spaces have been combined into a single category.

Results

The recalculation shows the parking requirement for the Arts Precinct has been reassessed to be 419 bays overall. This assessment includes 2,840m² GFA (2000m² NFA) of dedicated retail space (including 668m² GFA of co-working and other office space), requiring a total of 182 parking spaces. Another 128m² GFA of retail space is designated as shops accompanying gallery space. A summary of the parking bay requirement by land use is provided for reference, showing where efforts to reduce parking might be best targeted.

This increase in parking requirement is primarily attributed to a more detailed assessment of the retail provision, including an allocation for food and beverage outlets which attract a higher rate of parking demand compared to retail shop outlets. More detail on the retail parking assessment is provided in the *temporal assessment* section on page 2.

Table 1 KAP Parking requirements by land use category, according to the Territory Plan CZ Technical Specification

Summary	GFA (m ²)	Rate per 100m ² GFA	Parking bays
Community Activity Centre & Craft workshop	4,628	3.0	139
Cultural facility	3,659	1.0	37
Office	2,052	2.0	41
Retail (shop)	966	5.0	48
Retail (F&B)	1,207	10.0	121
Retail (office)	667	2.0	13
Retail (Arts Org)	128	5.0	6
Store	1,464	0.0	0
Theatre (80 seats)	213	1 per 12 seats	7
Artist Accommodation	923	0.5 per bedroom	7
Total	15,907		419

The GFA value above differs from the Total GFA value quoted in the SoA as it excludes land use categories that are not considered for parking assessment. Table 2 includes the full list of land uses and total area contribution.

Some refinement to floor area assessments may be possible in future stage assessment. It is not uncommon to disregard lobby and foyer spaces where they are not actively used as gathering spaces or otherwise directly attributable to trip generation and parking demand. Cultural Facility and Community Activity Centre & Craft Workshop spaces are the two largest areas within the precinct and there may be some opportunity to rationalise the space attribution, and again discount some areas if they are not directly responsible for trip generation and parking demand. There is some expectation that Office spaces will be rationalised in future revisions of the SoA and layout plans. Overall, these refinements are anticipated to result in further reduction of the total parking requirement.

Temporal assessment

In general, the temporal profiles developed by Purdon (Town Planner) have been replicated to determine a more detailed parking demand assessment and allow for sharing of the facilities where suitable.

Following discussions with Purdon and NH (Principal Design Consultant), it was determined that retail areas attached to individual Arts Organisations would be expected to have a different operational profile from the general retail space. These areas were separated, and different temporal profiles have been applied, as described in Table 2.

ArtsACT has also advised that flexible working conditions apply across many of the Arts Organisations which allows for reduced parking during weekday peak periods, effectively

reducing the overall requirement. For the assessment below in Table 2, utilisation factors (shown as percentage utilisation in grey) have been applied to many of the land uses depending on the day and time of use.

Retail land uses have been refined to show a breakdown to shops, food and beverage and office retail such as shared working spaces, as detailed in the SoA. If the main retail space is reduced to from 2,000m² to 500m² NFA (710m² GFA), as per NH Precinct Concept Design Report recommendation (23 Jan 2024) and consistent with the Retail Strategy assessment, and the proportional distribution of retail shop, food and beverage outlets and co-working space is kept consistent, the overall KAP parking requirement falls to 283 bays, with the retail component (including retail office) requiring only 46 bays.

Table 2 includes the parking requirements for a 500m² NFA retail provision, and for the additional 1,500m² NFA (2,130m² GFA). Utilisation factors have been applied to the various retail categories based on expected offerings and customer base, and have been applied consistently across the retail size scenarios at this stage. It is assumed that on-site F&B offerings will largely be targeted to the local working population during the normal working week, but will attract a wider customer base outside these times. There is likely to be some variance in the offerings between these scenarios which would flow through to opening times and therefore utilisation factors. This level of detail will be reassessed in future parking analysis.

Surrounding land use parking

Previous development in the Kingston Foreshore Precinct has awarded concessions on parking with the KAP site being used to cover this shortfall, referred to as 'historic shortfall' and 'legacy' parking requirements at various stages of this project. This 412 parking bay concession was based on the difference between on-site parking provisions and planning requirements for commercial retail and visitor parking at the time of development.

A recent traffic survey of the roadways surrounding the KAP site included analysis of vehicle traffic accessing the site and has been used to generate a parking demand profile for the site, as detailed in Traffic Memo MEM_TR003 *Kingston Foreshore maximum parking demand* dated 20 December 2023.

The results of this assessment have been taken as representation of parking demand for the surrounding land uses, and therefore a replacement for the calculated shortfall of 412 parking spaces. This value is included in Table 2 as the *Surrounding land uses* line item and is included in temporal assessment for weekday and weeknight scenarios.

Table 2 Temporal parking assessment for land uses within the proposed KAP development

Use	GFA (m ²)	Requirement	New Territory Plan	Weekday (9am to 5pm)	Weeknight (5pm+)	Saturday Day	Sunday Day^^	Weekend Evening
Community Activity Centre & Craft workshop	4,628	3/100m ²	139	104	42	104	42	42
utilisation				75%	30%	75%	30%	30%
Cultural Facility	3,659	1/100m ²	37	37	0	37	37	37
Office	2,052	2/100m ²	41	41	4	21	8	0
utilisation				100%	10%	50%	20%	0%
Retail 500 NFA	710		46	12	40	42	1	0
Shop	242	5/100m ²	12	6	9	9	0	0
utilisation				50%	75%	75%	0%	75%
F&B	302	10/100m ²	31	3	31	31	0	0
utilisation				10%	100%	100%	0%	100%
Office	166	2/100m ²	3	3	0	2	1	0
utilisation				100%	10%	50%	20%	0%
Retail 1500 NFA	2130		136	37	118	122	2	0
Shop	724	5/100m ²	36	18	27	27	0	0
utilisation				50%	75%	75%	0%	75%
F&B	905	10/100m ²	90	9	90	90	0	0
utilisation				10%	100%	100%	0%	100%
Office	501	2/100m ²	10	10	1	5	2	0
utilisation				100%	10%	50%	20%	0%
Retail (Arts Org)	128	5/100m ²	6	6	0	6	3	0
utilisation				100%	0%	100%	50%	0%
Store	1,464	0/100m ²	0	0	0	0	0	0
Theatre (80 seats)	213	1/12 seats	7	4	7	7	7	7
Artist Accommodation 10 units (7x1b & 2x2b & 1x3b)	923	0.5 per bedroom	7	7	7	7	7	7
Visitor		No requirement	0	0	0	0	0	0
JF Locomotive	113.6	No requirement	0	0	0	0	0	0
Precinct Amenities	695.8	No requirement	0	0	0	0	0	0
Precinct Back of House	213	No requirement	0	0	0	0	0	0
TOTAL (NEW)	16,929		419	248	218	346	107	93
Surrounding land uses				180	282			
Existing Brodburger	150	5/100m ²		-7	-7			
utilisation				100%	100%			
Existing Megalo	720	3/100m ²		-16	-6			
utilisation				75%	30%			
OBDM							430	
TOTAL (NEW AND SURROUNDING)			419	405	487	346	537	93

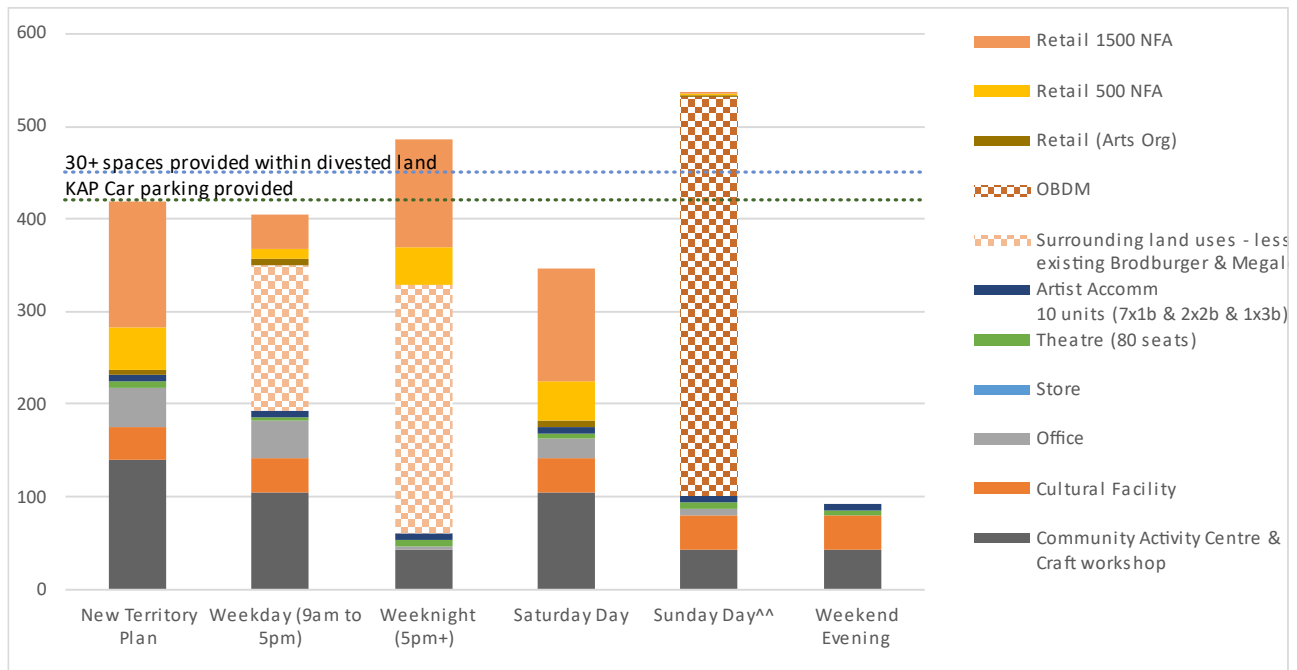


Figure 1: Graphical representation of temporal parking demand for the KAP site

The column graph above shows the 500m² NFA plus Arts Org Retail demand is contained within the 420 on-site parking provision during peak weekday and weeknight periods, with the larger retail floorspace requiring additional parking contributions on weeknights. The graph indicates a need for the future divested land development to deliver a minimum of 30 visitor parking bays within a residential development supporting approximately 236 dwellings. Additional public parking of approximately 67 publicly accessible parking bays should be mandated as part of this development's contribution to the precinct if the full retail allocation of 2,128m² NFA is pursued in the precinct.

This graph demonstrates that with considered planning, overall car parking provision is being managed, while spreading temporal demand so that the parking facilities are not underutilised throughout the working week, meeting the requirements of both the KAP development and the existing Kingston Foreshore businesses.

Summary

The parking assessment for the Kingston Arts Precinct shows a calculated requirement, in accordance with the 2023 Territory Plan, Commercial Zone Technical Specification, of 419 car parking spaces on site. A temporal assessment of parking demand for the KAP site yields a peak demand of 346 during the day on Saturday.

Previous assessment has quantified the existing demand to support surrounding land uses at a peak of 282 spaces recorded on a Friday evening, replacing the 412 shortfall established from historic planning assessments and parking concessions.

Combining the temporal demand and existing parking demand for on- and off-site surrounding land uses, the weekday demand is calculated to be 405 parking bays, increasing to 487 on weekday evenings.

Peak demand for parking on the site is recognised as being connected to the Old Bus Depot Markets, held on most Sundays in the southern corner of the site. It is understood that parking demand for this land use fluctuates throughout the year. The 430 space demand shown in Table 2 is based on a traffic survey taken in October 2023.

This assessment shows that the planned parking provision of 420 parking bays meets the technical requirements for the arts component of the site in accordance with the SoA, and by applying temporal demand profiles, also meets the weekday daytime demand, and can meet the weeknight demand with a lesser retail offering, or a contribution from the future divested land development of approximately 67 publicly accessible parking bays.

Next steps

Figure 1 demonstrates the large demand generated by retail parking. The NH Precinct Concept Design Report (23 Jan 2024), consistent with the Retail Strategy assessment, recommended that retail land area on the site be reduced to approximately 500m² NFA.

As design of the Kingston Arts Precinct progresses, further detailed refinement will provide a basis for reassessment of the parking requirements and temporal profiles. Experience shows that this tends to result in an overall reduction of parking requirements, reflecting a conservative approach taken in initial master planning phases.

Further site planning will also consider setting requirements for supplementary parking to be provided on the divestment land, as suggested in the commentary following Figure 1.

Old Bus Depot parking

16 parking bays, one large vehicle loading bay and two accessible parking bays are observed to be currently provided on the north-eastern face of the Old Bus Depot Market building. These bays have not been included in the current provision to date, but future consideration of the Gosse Street precinct access will assess the possibility to retain this parking and allow it to be counted among the future on-site parking provision.

Appendix B

Technical Note: Additional Traffic Responses

Technical Note

Project title Kingston Arts Precinct
Job number 294419-26
File reference 250604 Kingston Arts Precinct Traffic Reponses
cc Sylvia Jones
Prepared by Matthew Hanania, Bryony Dalton
Date 2 June 2025
Subject Traffic Reponses

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Arup submitted a Traffic Impact Assessment (TIA) in 2024 to support the estate Subdivision Development Application (SDA) for the Kingston Arts Precinct. Arup has prepared this Technical Note to respond to the outstanding traffic comments from Transport Canberra and City Services (TCCS) following the meeting on 27th May 2025.

1. **Comment ID 160**

ACT comment:

Section 2.3.2, pg. 5 – Why wasn't the most recent crash data up to December 2024 when the report was drafted analysed. The crash data analysed is up to the year 2022. The dates of the crash data analysed are also unclear. Is it from 1st Jan 2012 to 31st December 2022?

Arup response:

Confirm original TIA analysed data between 1st January 2012 to 31st December 2022.

A review of crash data in Kingston and Barton between 1st January 2023 and 2nd May 2025 was undertaken to fill in this gap. Refer below for table and map summarising all crashes within this time period. There were no fatal car crashes recorded within this period.

Table 1: Summary of crash data for Kingston and Barton between 1st January 2023 and 2nd May 2025

Crash Type	Number of Crashes
Fatal	0
Injury	24
Property Damage Only	186
Total	210

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Figure 1: Map of crash data for Kingston and Barton between 1st January 2023 and 2nd May 2025

Of the total 210 car crashes:

- 181 occurred during daylight;
- 4 included on/off road pedestrian collision; and
- 191 occurred on 'good dry surface' conditions.

Several injury crashes have occurred near the proposed site. Along Wentworth Avenue, there were four incidents, including a pedestrian struck on-road, a right turn into oncoming vehicle, and two right angle collisions. Eyre Street experienced three injury crashes - one same direction side swipe and two other vehicle-to-vehicle collisions. Dawes Street recorded one injury crash involving a right. These incidents do not follow any discernible pattern.

2. Comment ID 161

ACT comment:

Section 2.3.2, pg. 5 – Information of the types of crashes are missing in addition to any safety concerns that likely resulted in the crashes.

Arup response:

Details on the crashes recorded from 1st January 2023 and 2nd May 2025 are provided against comment 160 above. Updated crash data analysis will be provided at detailed design phase and any improvements will be incorporated where feasible.

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3. Comment ID 162

Comment:

Section 2.7, pg. 10 – It is understood the 2016 Census was used to understand travel behaviour and mode share. How does the data compare to the 2021 Census and why wasn't the 2021 Census used? In addition, the 2022 Household Travel Survey can be used to understand mode share and travel destinations. Link to the survey here: <https://www.transport.act.gov.au/planning-for-the-future/household-travel-survey>.

Response:

2021 Census Data

The 2021 Australian Bureau of Statistics (ABS) Census data is not considered representative of typical travel behaviour due to the significant impact of the COVID-19 pandemic and the widespread shift to working from home (WFH) during that period. In contrast, the 2016 ABS Census data is regarded as a more accurate reflection of expected future workplace travel patterns.

A comparison between the 2016 and 2021 datasets for Kingston SA2 (Figure 2) was undertaken to assess the impact of COVID-19 on work-related travel. The total number of recorded Place of Work (PoW) entries increased from 2,496 in 2016 to 3,353 in 2021. Notably, the proportion of individuals working from home rose from 3.2% in 2016 to 20.5% in 2021. While this elevated level of WFH was typical during the 2021 Census period, it is unlikely to represent long-term or future norms, therefore the 2016 Census data was used.



Figure 2: Kingston SA2 (2016 and 2021)

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Table 2: 2016 vs 2021 ABS Census, Mode Share to Work for Kingston SA2

Mode	2016 ABS Census		2021 ABS Census		Difference	
	Number	Proportion	Number	Proportion	Number	Proportion
Train	5	0.2%	4	0.2%	-1	-0.1%
Bus	109	4.5%	144	5.4%	+35	0.9%
Ferry	0	0.0%	0	0.0%	0	0.0%
Light Rail	0	0.0%	10	0.4%	+10	0.4%
Taxi or Rideshare	7	0.3%	12	0.5%	+5	0.2%
Car (Driver)	1973	81.6%	2122	79.7%	+149	-2.0%
Car (Passenger)	144	6.0%	145	5.4%	+1	-0.5%
Truck	10	0.4%	7	0.3%	-3	-0.2%
Motorbike or Scooter	19	0.8%	14	0.5%	-5	-0.3%
Bicycle	30	1.2%	30	1.1%	0	-0.1%
Walked Only	111	4.6%	170	6.4%	+59	1.8%
Other Mode	9	0.4%	6	0.2%	-3	-0.1%
Total	2417	100%	2664	100%	+247	0.0%
<i>Work from Home</i>	<i>79</i>	<i>3.2%</i>	<i>689</i>	<i>20.5%</i>	<i>610</i>	<i>+17.4%</i>

Note: Work from Home (WFH) was not part of the original mode share analysis.

2022 Household Travel Survey

The ACT and Queanbeyan Household Travel Survey (HTS) was conducted between October and December 2022. This weekday survey was collected over 2,000 households which were asked to complete a travel diary for a single day. The 2021 census indicates there are an estimated 175,000 occupied private dwellings across ACT, the HTS therefore accounts for just over 1% of households within the ACT. The study area encompasses Queanbeyan and the ACT, segmented by ABS Statistical Area Level 3 (SA3) boundaries. South Canberra SA3, which includes the proposed site, is one of these defined areas (Figure 3).

The HTS reports mode share by place of residence (e.g. South Canberra), not by place of work or specific trip purpose. As a result, the data is skewed by non-work trips, particularly education, evidenced by high proportions of walking and car passenger trips. While many people working in

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South Canberra also live there, the HTS does not isolate mode share for work trips to South Canberra, limiting its relevance for this analysis.

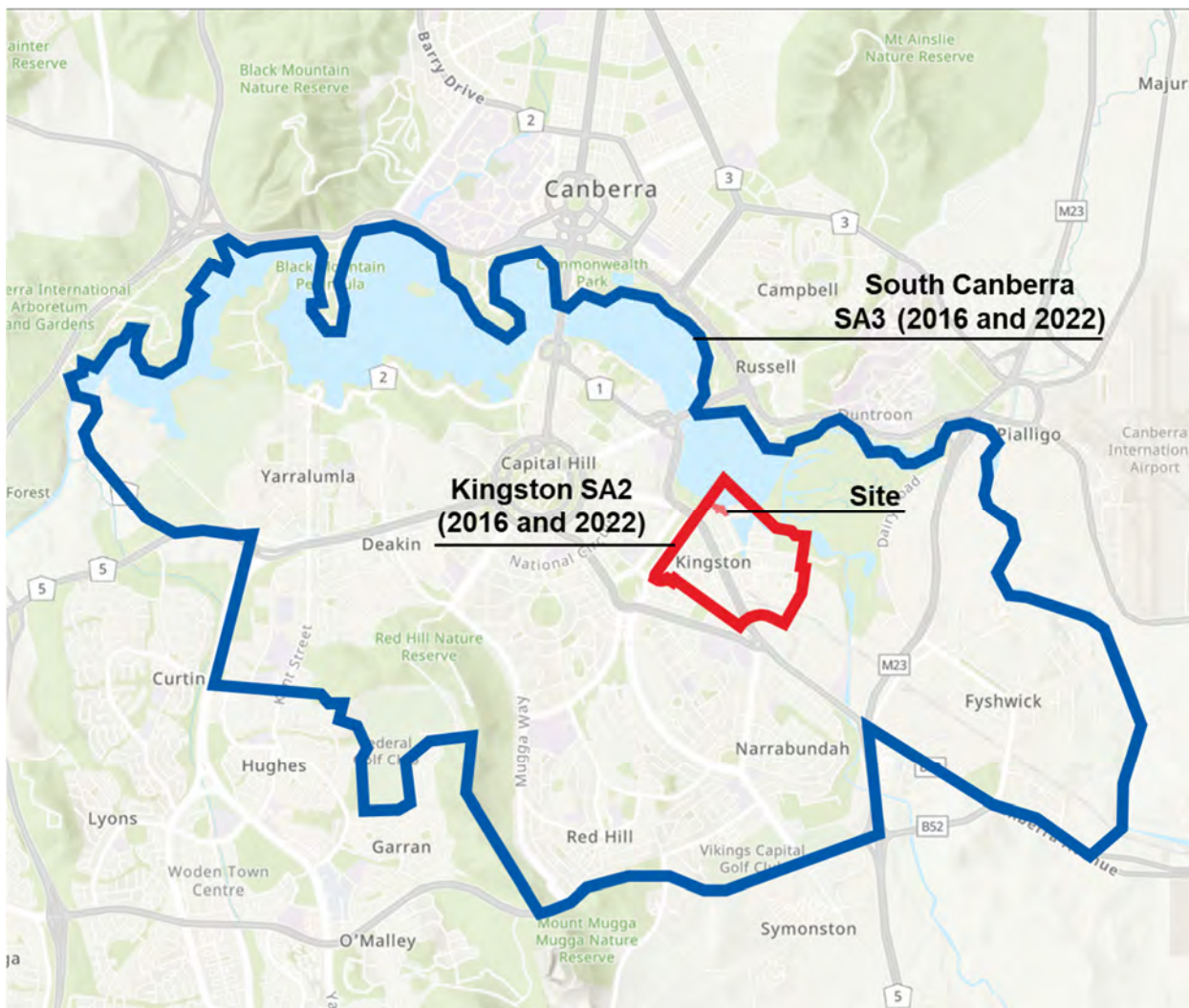


Figure 3: South Canberra SA3 and Kingston SA2 (2016 and 2021)

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To further understand travel destinations for those living in the Kingston SA2, a comparison between the HTS and the original TIA trip distribution for mixed use residential was made. An excerpt from the HTS details what the destinations for trips that begin in the South Canberra SA3 are as shown below.

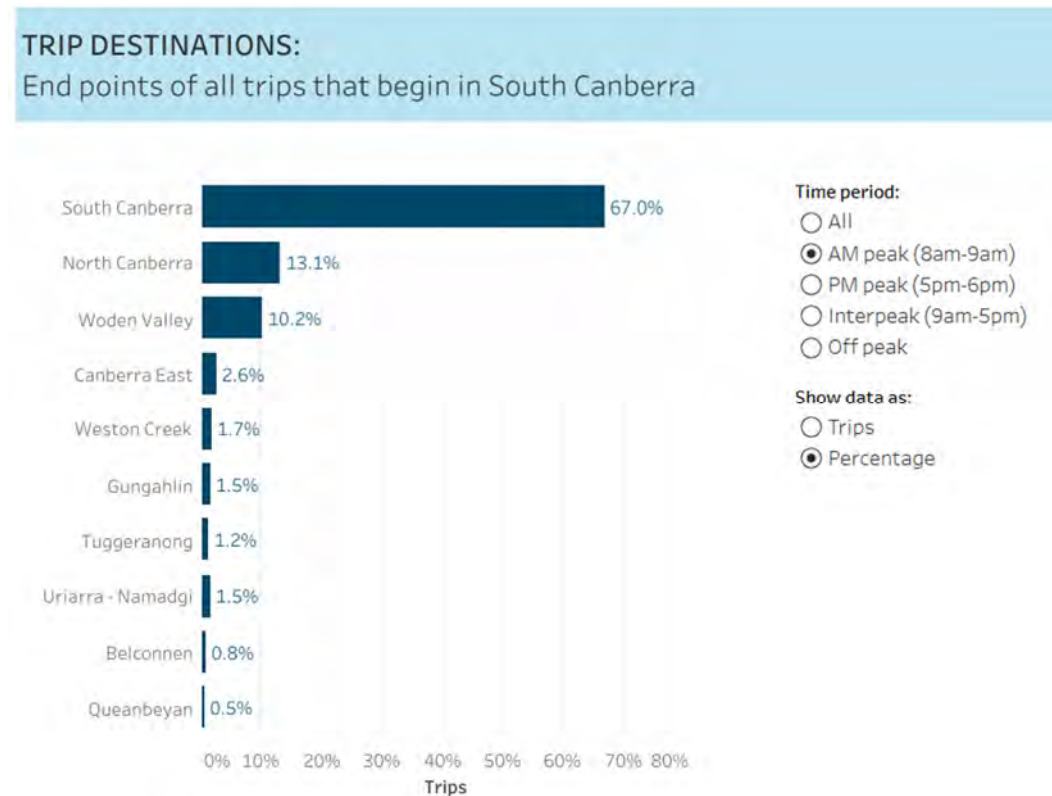


Figure 4: 2022 HTS Trip Destination beginning in South Canberra SA3 AM Peak (8 AM – 9 AM)

An exercise was undertaken to determine which direction a resident would typically take to reach these destinations, with a comparison to the original TIA route distribution. There is a strong correlation between the HTS and original TIA assumption as shown below.

Table 3: Comparison of trip distribution

To	Household Travel Survey (HTS)	Original TIA Mixed Use Residential
North	64%	65%
South	36%	35%
Total	100%	100%

The 2016 ABS Census data is considered to be the most appropriate dataset for this analysis, as it specifically focuses on journeys at the SA2 level. This geographic scale (SA2) aligns closely with

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the proposed site's area, providing a more accurate representation of commuter patterns relevant to the project. In contrast, the Household Travel Survey (HTS) covers a much larger area—South Canberra SA3— and a smaller sample size and therefore is not considered as accurate as the 2016 ABS data. Similarly, while the 2021 ABS data is more recent, it may be less reliable when considering travel patterns as it was heavily affected by the COVID-19 pandemic, further reinforcing the suitability of the 2016 ABS data for this project.