APPENDIX P TRAFFIC AND TRANSPORT ASSESSMENT

TRANSPORT ASSESSMENT

Victoria Park / Barrambin Master Plan
Local Government Infrastructure Designation

Prepared for:

Brisbane City Council

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Brisbane City Council (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
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620.30321-R01	6 April 2023	Michael Pollard | Kris Stone	Kris Stone	Kris Stone (RPEQ 24687)

DOCUMENT REFERENCES

TABLES

FIGURES

APPENDICES

Executive Summary

SLR Consulting (SLR) has been engaged by Brisbane City Council (**the Applicant**) to prepare this Traffic and Transport Assessment (TIA) to support a Local Government Infrastructure Designation (LGID) that is made over part of the Victoria Park / Barrambin Master Plan site.

The LGID is made over part of the site to give statutory effect and facilitate the delivery of elements of the Victoria Park / Barrambin Master Plan (Master Plan) which is intended to transform the 64 -hectare parkland into a multi-function metropolitan park, with various spaces for passive and active recreation, along with opportunities to host an expanded range of diverse events and activations. The Master Plan sets out the roadmap for the park's redevelopment following community and stakeholder consultation and various technical studies, whereas the LGID will be the planning approval which allows elements of the Master Plan to be delivered.

The proposal seeks to designate the premises for various infrastructure purposes, in accordance with Schedule 5 of the Planning Regulation 2017 ('the Planning Regulation'). Specifically, the LGID seeks endorsement for the following infrastructure categories:

- 2 – Transport Infrastructure;
- 3 – community and cultural facilities:
- 11 – facilities for parks and recreation;
- 17 – sporting facilities; and
- 20 – storage and works depots and similar facilities, including administrative facilities relating to the provision or maintenance of infrastructure stated in this part.

The purpose of this TIA is to inform the assessment of the Victoria Park / Barrambin LGID by the State and Brisbane City Council (in its role as **the Designator**), by identifying and addressing the key relevant traffic and transport matters. The key assessment findings are summarised as:

- The existing site access to Herston Road must be upgraded consistent with the concept plan prepared by Bornhorst + Ward which includes provision for AUL and CHR auxiliary turning lane treatments.
- The upgraded site access intersection will operate within typically accepted capacity thresholds at the assessed 2031 and 2041 design horizons.
- The proposed development will integrate with the existing and planned public transport network including Cross River Rail and Brisbane Metro. This will support sustainable travel mode share choice.
- The proposed development will enable safe and convenient active travel to, from and through the site and will significantly improve the broader sub-regional network. This will support sustainable travel mode share choice.
- The proposed development is not anticipated to materially impact the safety or operational performance of the surrounding road network.
- The proposed 664 off-street parking spaces is considered satisfactory on balance of consideration of the strategic principles outlined in the *Transport Plan for Brisbane*, the Transport, access, parking and servicing Planning Scheme Policy (TAPS PSP) acceptable and performance outcomes, and a first-principles assessment. This provision will support increased sustainable travel mode share choice compared to the existing situation.
- The movement components of the proposed site layout are considered to accord with the TAPS PSP design specifications and/or the relevant Australian Standards. Furthermore, the layout is considered to reasonably accommodate all user groups.

1.0 Introduction

SLR Consulting (SLR) has been engaged by Brisbane City Council (**the Applicant**) to prepare this Traffic and Transport Assessment (TIA) to support a Local Government Infrastructure Designation (LGID) that is made over part of the Victoria Park / Barrambin Master Plan site.

The LGID is made over part of the site to give statutory effect and facilitate the delivery of elements of the Victoria Park / Barrambin Master Plan (Master Plan) which is intended to transform the 64 -hectare parkland into a multi-function metropolitan park, with various spaces for passive and active recreation, along with opportunities to host an expanded range of diverse events and activations. The Master Plan sets out the roadmap for the park's redevelopment following community and stakeholder consultation and various technical studies, whereas the LGID will be the planning approval which allows elements of the master plan to be delivered on site.

The Plan of Designation illustrates the part of the site which is included in the Master Plan over which the LGID request applies (a shown in Figure 1 below). For clarity, the part of the Master Plan area where statutory effect is sought through the LGID process will be referred interchangeably herein as the 'the site, premises and the Designation Area'.

Figure 1 Plan of Designation

Source: Urbis, 2023

The Illustrative Master Plan included at Appendix A includes areas that extend beyond the proposed Designation Area, and existing elements within the Designation Area which are not intended to be subject to change as a consequence of the LGID. These areas do not form part of this LGID request.

Specific exclusions from the LGID include:

- The south-western part of the Master Plan area, which includes land at 15, 36, 40, 40A, 40B, 40C, 40D, 40E, 40F, 50 70, 70A & 77 Gilchrist Avenue, Herston, 1A Ithaca Street, Kelvin Grove and 51A College Road, Spring Hill.
- Three small allotments at the southern side of the rail line, located at 140, 410 and 412 Gregory Terrace, Spring Hill.
- The western bridge connection from the south-western part of the Master Plan area to Brisbane Girls Grammar School;
- Old Club House at 309 Herston Road, Herston.

The existing uses and buildings associated with the Victoria Park Bistro, driving range (other than some changes to levels resulting from proposed earthworks), putt-putt, Function Centre and Centenary Pool located within the Designation Area are proposed to be retained.

The proposal seeks to designate the premises for various infrastructure purposes, in accordance with Schedule 5 of the Planning Regulation 2017 ('the Planning Regulation'). Specifically, the LGID seeks endorsement for the following infrastructure categories:

- 2 – Transport Infrastructure;
- 3 – community and cultural facilities:
- 11 – facilities for parks and recreation;
- 17 – sporting facilities; and
- 20 – storage and works depots and similar facilities, including administrative facilities relating to the provision or maintenance of infrastructure stated in this part.

1.1 Property Summary

The Victoria / Barrambin LGID site comprises a number of land parcels, including:

- 290 Gilchrist Avenue, Herston QLD 4006.
- 271 Gilchrist Avenue, Herston QLD 4006.
- 223 Herston Road, Herston QLD 4006.
- 454 Gregory Terrace, Spring Hill 4000.
- 74 Gregory Terrace, Spring Hill 4000.
- 278 Gregory Terrace, Spring Hill 4000.
- 400 Gregory Terrace, Spring Hill 4000.
- 77A Victoria Park Road, Herston QLD 4000.

1.2 Purpose and Scope of Report

The purpose of this TIA is to inform the assessment of the Victoria Park / Barrambin LGID by the State and Brisbane City Council (in its role as **the Designator**), by identifying and addressing the key relevant traffic and transport matters. This assessment addresses the following:

- Vehicle site access performance and design
- On-site circulation, movement, and parking design
- On-site servicing requirements
- Car and bicycle parking provision
- Geometric adequacy of the layout
- Public and active transport facilities
- Traffic impacts on the external road network.

The “Illustrative Victoria Park / Barrambin Master Plan” is included at Appendix A.

2.0 Overview of Current Site Characteristics

2.1 Movement Network

Table 1 summarises the characteristics of the road infrastructure surrounding the Victoria Park / Barrambin site.

Table 1 Key Surrounding Road Networks

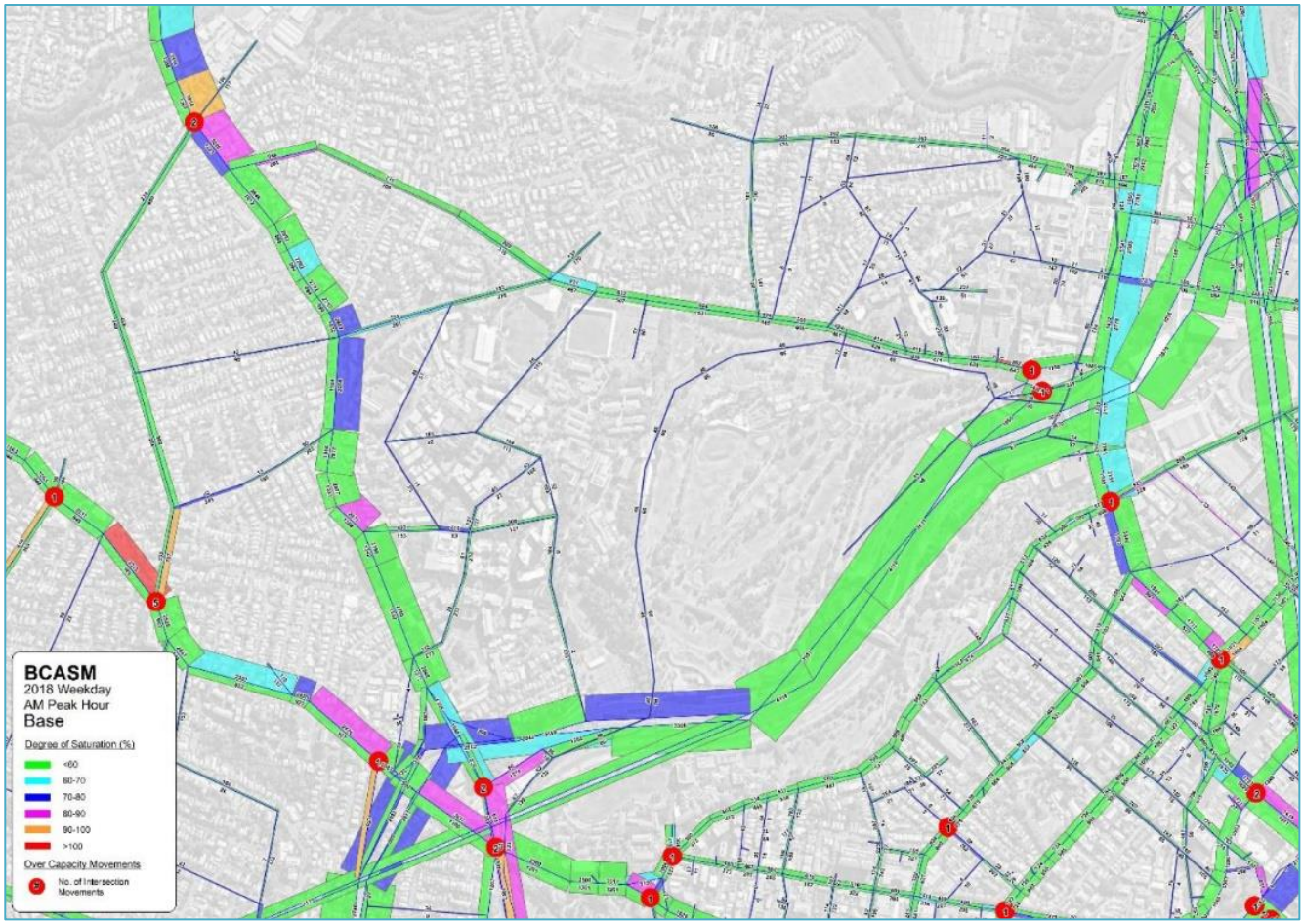
Road Name	Classification	Authority	Existing Form	Posted Speed
Herston Rd	District Road	BCC	Two-lane, undivided, urban road with kerbside car parking	60km/hr
Gilchrist Av	Neighbourhood Road	BCC	Two-lane, undivided, urban street with time limited kerbside car parking	50km/hr (default - not signed)
Inner City Bypass	Motorway	BCC	Eight-lane, divided, urban motorway with no parking	50km/hr
Bowen Bridge Rd	Arterial Road	BCC	Six-lane, divided, urban road with limited on-street parking	60km/h
Aberleigh Rd	Neighbourhood Road	BCC	Two-lane, undivided urban residential street formation with kerbside parking and BAZ pavement marking	50km/h
Kelvin Grove Rd	Arterial	BCC	Six-lane, divided, urban road with time limited on-street kerbside parking	60km/h
Victoria Park Rd	District Road	BCC	Two-lane, undivided, urban street with time limited on-street kerbside car parking	40km/h

2.2 Existing Road Network Performance

Transport modelling of the existing baseline situation was undertaken in 2021 and 2022. This work generally concluded that there was congestion already present in the surrounding area during peak periods, including Herston Road/Gilchrist Avenue, Enoggera Road, Kelvin Grove Road, Bowen Bridge Road, and the Inner-City Bypass.

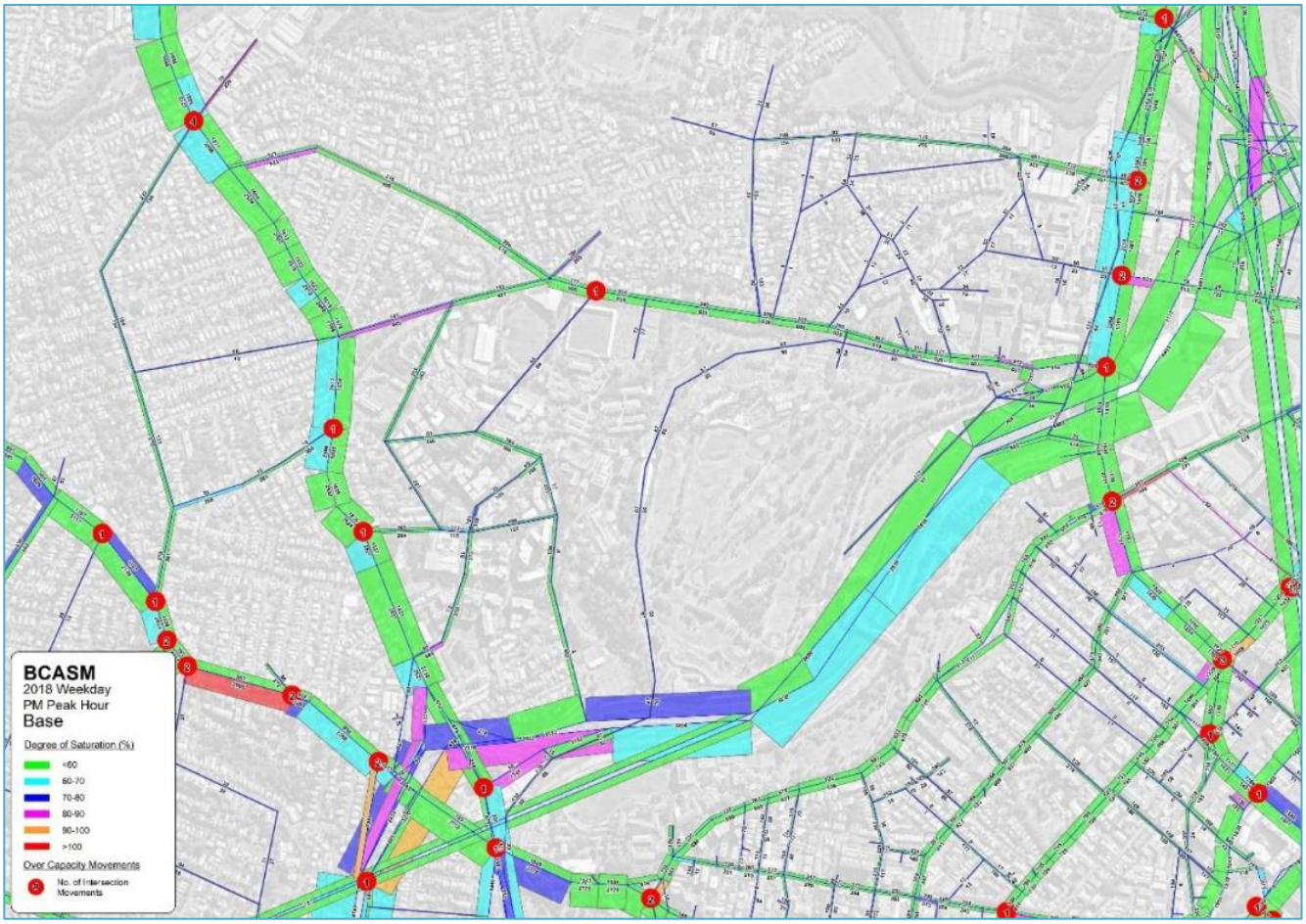
Overall, the modelling concluded that analysis of congestion levels shows that the core of the study area, including Herston Road, are generally acceptable. The previously modelled network performance figures are reproduced at Figure 2 and Figure 3.

Figure 2 2018 AM Peak Network Performance



Source: BCC, February 2021

Figure 3 2018 PM Peak Network Performance



Source: BCC, February 2021

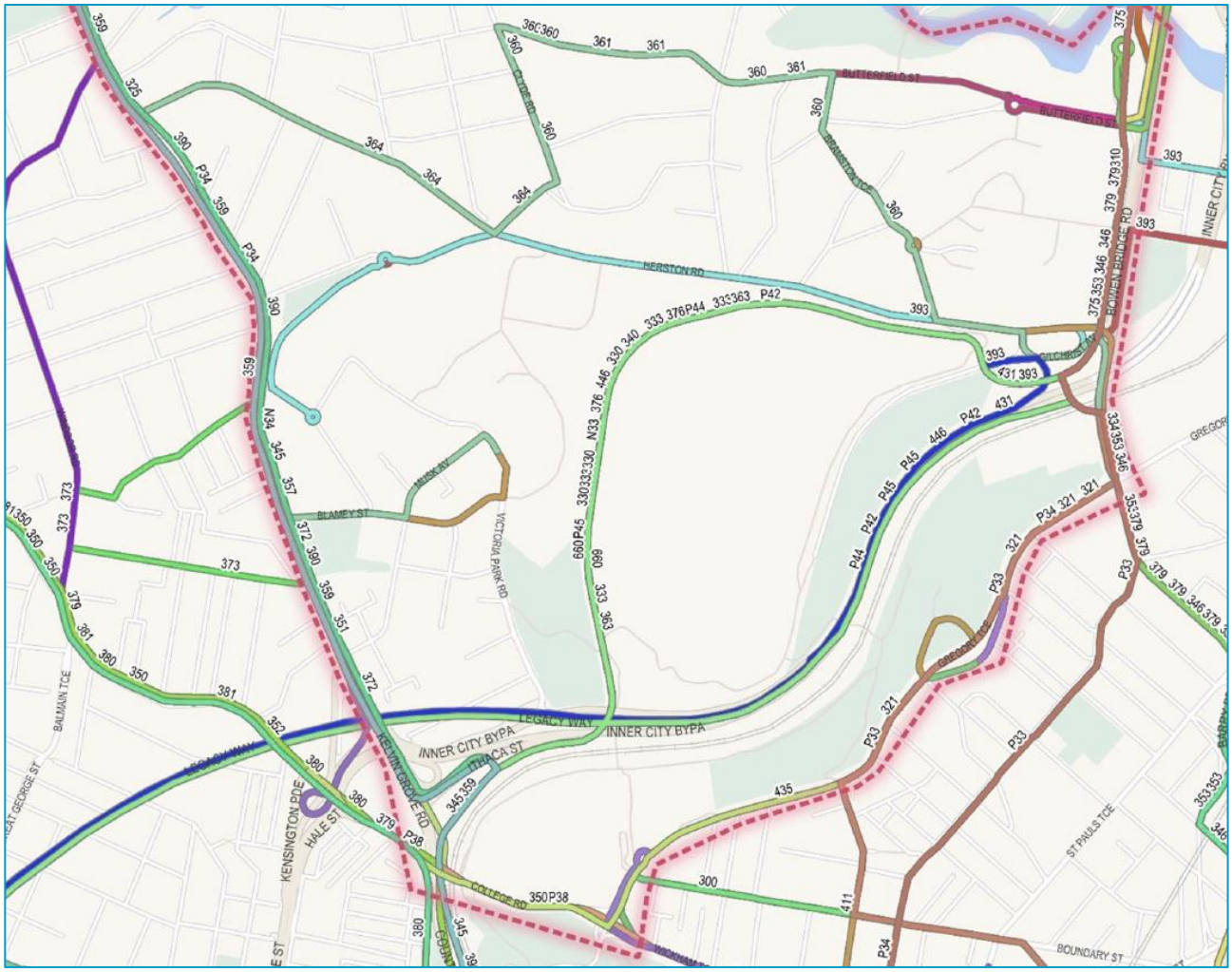
The SIDRA capacity analysis of the existing Herston Road access intersection identified that the existing unsignalised form is operating well within typically accepted capacity thresholds.

2.3 Public Transport Network

The Victoria Park / Barrambin site is currently accessible by existing busway stations at Royal Brisbane and Women's Hospital, Herston, and QUT Kelvin Grove bus stations. Local bus routes that service the adjacent and surrounding region are illustrated at Figure 4.

The existing busway services operate directly around the park, with four high frequency routes including the 330, 333, 340 and 66 operating on the busway. These services stop at both QUT Kelvin Grove and Herston bus stations providing direct access into the park. There are also over 10 other rapid routes (limited stops) that use the busway. All other services around the park are either connector or local services routes with service frequencies over 30 minutes.

Figure 4 Existing Bus Routes



Source: BCC, February 2021

2.4 Active Travel Network

The Victoria Park / Barrambin site is a critical junction for active transport, with key strategic active transport routes between the CBD and northern suburbs traversing the site (Figure 5).

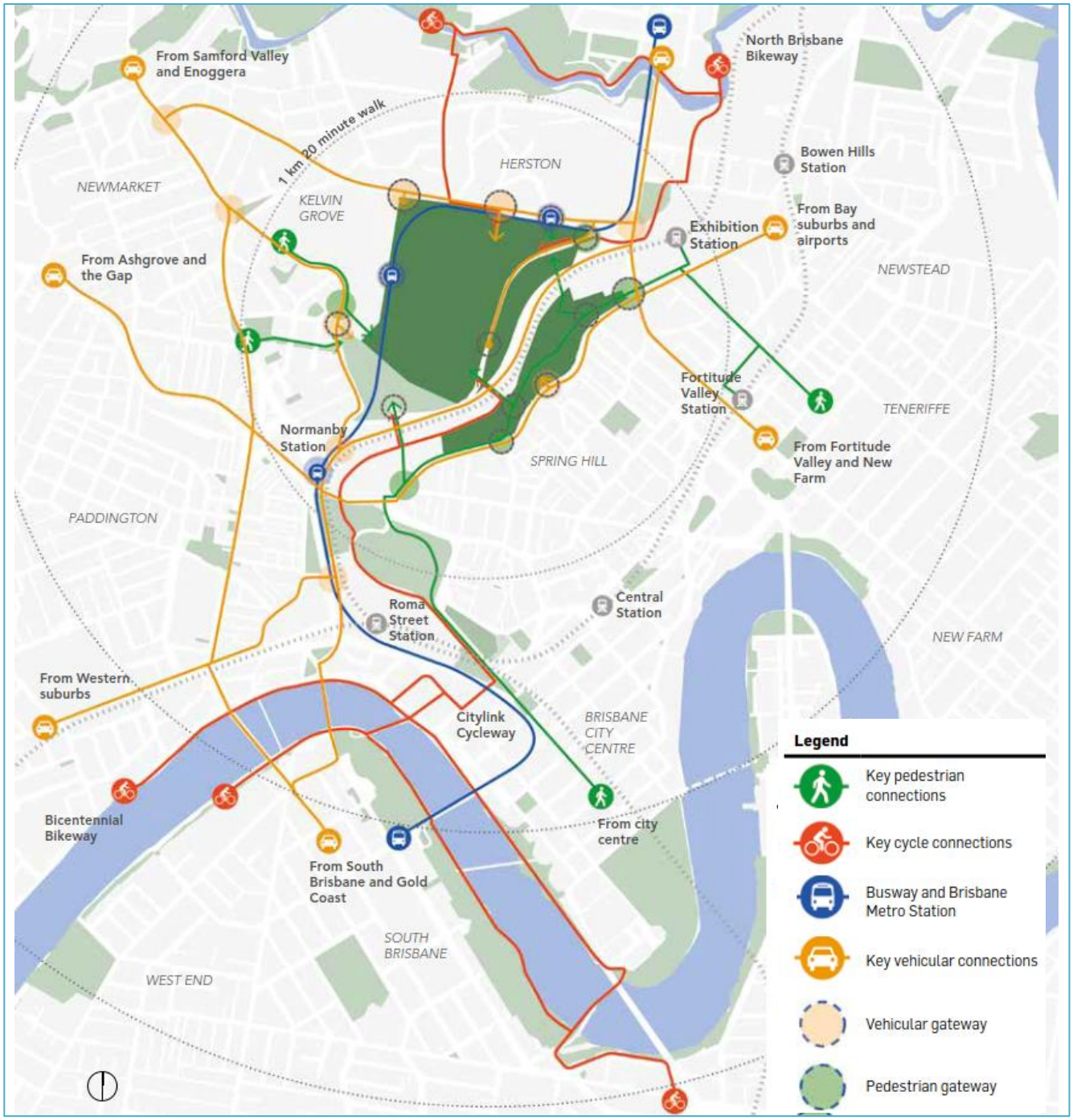
The existing routes are already high quality; however, they are indirect and impacted by the steep topography of the site. There is major demand for north-south movement through the site; however, the existing network traverses the edge of the former golf course resulting in a longer and steep route (a hilly detour of more than 1km or an extra 4 minutes).

Figure 5 Existing Active Transport Network

Source: Urbis, 2023

There is currently direct connection to the site from the Fortitude Valley/Bowen Hills/Spring Hill precinct (Figure 6).

Figure 6 Transport Connections Strategic Context



Source: Urbis 2023

Current user volumes on the existing active transport network continue to grow. Based on Council and State collected data, pedestrian and cyclist demand over the existing land bridge over the Inner-City Bypass have been surveyed as approximately 1400 cyclists and 500 pedestrians on a weekday and 500 cyclists and 200 pedestrians on a weekend day respectively.

The majority of all survey locations north of the Victoria Park / Barrambin site have recorded average cyclist demand exceeding 500 users on a weekday. The growth of e-mobility in Brisbane will also increase demands on the surrounding active transport network.

3.0 Overview of Key Aspects of the Master Plan

3.1 Transport Principles

The strategic directions outlined in Council's *Transport Plan for Brisbane* (Table 2) have been considered in developing the Victoria Park / Barrambin Master Plan.

Table 2 Transport Plan for Brisbane – Transport Principles

Transport Principle	Description
People first	Transport must meet people's needs and provide suitable choices for movement of people and goods, taking a customer first approach.
Safety	Support the safety of people using our transport networks and those who may be impacted by our networks.
Equity	The benefits and cost of transport should be shared equitably within and across existing and future generations.
Accessibility	Provide accessible transport options to meet the needs of all residents and visitors.
Sustainability	Make transport decisions that are financially, socially and environmentally sustainable.
Environmental management	Manage transport to protect and enhance the city's air, water, vegetation and natural habitats.
Effectiveness	Transport infrastructure and services should be fit-for-purpose and deliver intended outcomes.
Connectivity	Transport provides easily understood and connected paths of travel from trip start to finish.
Reliability	Transport networks and services shall have a high reliability and resilience to external impacts.
Integration	Transport networks and services must work together and operate in partnership with land use and economic activities.
Demand management	Manage demands and influence transport choice for movement of people and goods to improve network efficiencies and reduce or delay the need for new infrastructure.
Asset utilisation	Address transport performance and whole-of-life economic, social and environmental costs and reduce or delay the need for new infrastructure

An interpretation of these principles into key directions for Victoria Park / Barrambin have been developed as follows:

- The site will play a key role in the strategic active transport network.
- Victoria Park / Barrambin will be well served by high quality public transport.
- Direct and convenient access by all modes should be facilitated but in a sustainable manner.
- Access to the site needs to be safe, efficient with minimum impact on surrounding areas.

3.2 Patronage Demand

For the purposes of this traffic assessment, the future site patronage has been adopted as 1.5, 1.71 and 1.96 million annual visitations in 2024, 2031 and 2041 respectively based on Victoria Park project team input.

3.3 Public Transport

Victoria Park / Barrambin is already highly accessible by public transport. High frequency bus already services the site via the Inner Northern Busway and other fronting roads. The Brisbane Metro will increase the frequency and capacity of the existing busway facility. Herston and Kelvin Grove busway stations, both of which will form part of the Brisbane Metro network, provide direct access to the site. Forecasts indicate that there will be services arriving/leaving these stations (from both directions) every one-two minutes during peak periods. The patronage at these stations is expected to double with the introduction of Brisbane Metro (not including Victoria Park / Barrambin Master Plan demands).

This busway network will be supported by new services at Exhibition station. The key elements of the public transport network that will support the park are (shown on Figure 16):

- Line haul/trunk high frequency (turn up and go network) provided as part of the Northern Busway with stations at Herston and Kelvin Grove directly serving the park, and the Cross River Rail service with regular services being provided at Exhibition rail station.
- High frequency supporting public transport with services on Kelvin Grove Road and Bowen Bridge Road (BUZ routes).
- Local bus routes with local services connecting surrounding suburbs to the subject site along Gregory Terrace, Herston Road and Bowen Bridge Road.

Figure 7 Existing Public Transport Network

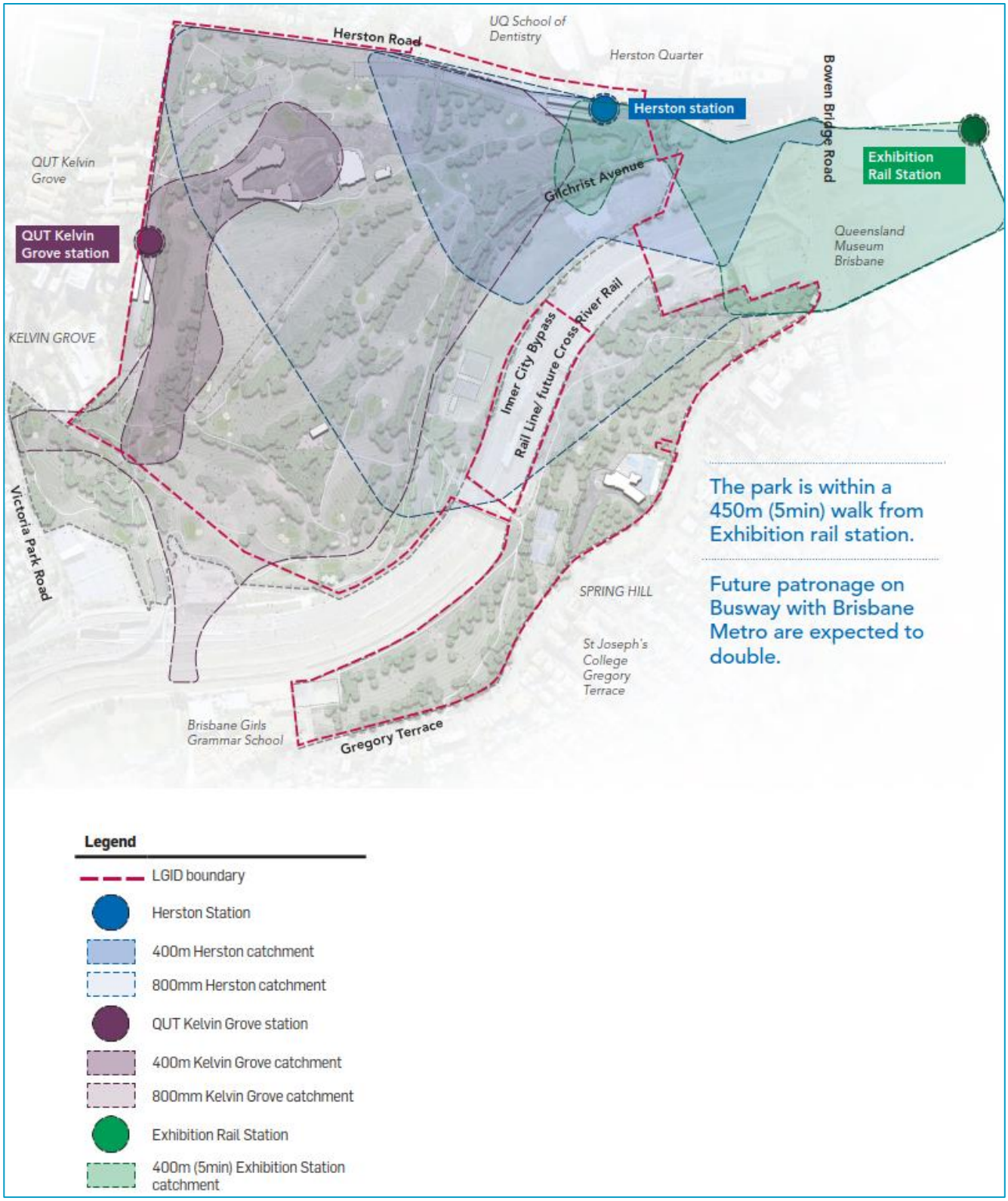
The majority of the Herston side of the Victoria Park / Barrambin site will be accessible within 10-minute walk (800m) from the Brisbane Metro stations. Key destinations like the Tree House and lookout are within a five minutes' walk (400m) (Figure 8).

Direct, legible and convenient access between the Metro stations and the Victoria Park / Barrambin site should be provided.

The future Cross River Rail Exhibition Station is also within walking distance of the site, improving public transport access to both the Spring Hill and Herston parts of the site. Two potential routes leading both north of the station and along the existing bikeway or south of the station along Gregory Terrace will provide access to the park. The new station is proposed to operate all year around and deliver higher frequency services. Local bus services also support these major trunk public transport services.

Providing direct, accessible and legible access to these major access points to/from the site will be important to the internal pathway design and layout. Relocating the proposed Inner-City Pedestrian and Cycle Bridge closer to Bowen Bridge Road can better meet desire lines to the stations, as well as internal site movement.

Figure 8 Major Public Transport Catchment Analysis



Source: Urbis 2023

3.4 Active Transport

As outlined in Section 2.4, the Victoria Park / Barrambin site is located at a critical junction for active transport, with key strategic active transport routes between the city and northern suburbs traversing the site. Once developed as a public park, Victoria Park / Barrambin will become a destination in its own right, introducing a variety of new walking and cycling demands to, from and through the park.

This section summarises the (existing and future) walking and cycling desire lines that interface with Victoria Park / Barrambin, followed by proposed changes to the walking and cycling hierarchy classifications that have been developed by Council to be updated to include Victoria Park / Barrambin.

3.4.1 Walking and Cycling Desire Lines

Destinations within and external to the site have been identified as attracting high, medium or low demand for walking and cycling trips. Key desire lines that have been assessed for Victoria Park / Barrambin include:

- External attractors – external destinations within walking/cycling distance of Victoria Park / Barrambin, including major attractors generating high demand (QUT Kelvin Grove, Herston Health Precinct, Fortitude Valley/Bowen Hills and Roma Street Parkland) to attractors generating lower, but still significant, demand (such as the Brisbane Boys and Girls Grammar Schools, Kelvin Grove Urban Village and the CBD and Fortitude Valley employment areas).
- Public transport – predominantly walking trips to and from major public transport stations (Kelvin Grove and Herston busway and Exhibition railway stations) and local bus stops (e.g., on Gregory Terrace and Kelvin Grove Road).
- Local connections – local walking and cycling trips from the external network into the Victoria Park / Barrambin site at access points around the park boundary and surrounding road network.
- Strategic cycling connections – longer distance cycling trips that don't have Victoria Park / Barrambin as a destination but travel through or near the park.

Additional information and maps showing the above desire lines is in Appendix G.

The delivery of infrastructure to enable these trips should consider the differing needs of people walking, cycling and using e-mobility (i.e., privately owned or shared e-scooters and e-bikes). Further information on the opportunities for e-mobility in Victoria Park / Barrambin is also in Appendix G.

The Figure 9 active travel connections hierarchy plan shows the broader strategic/key routes. A more detailed map showing the local routes, challenges and opportunities specific to the site, as well as a table outlining the active transport network plan's hierarchy definitions and how it applies to Victoria Park / Barrambin can be found at Appendix G.

Figure 9 Proposed Active Transport Network Hierarchy Plan (key routes)

Source: Urbis 2023

3.5 Vehicle Access

Vehicular access to the Victoria Park / Barrambin site is comprised of multiple interfaces, summarised in Table 3.

Table 3 Vehicular Access Summary

Access Type/ Hierarchy	Access Location	Access Form	Access Purpose
Main Site Access	Herston Road	Signalised intersection (Existing priority-controlled upgrade)	Main car parking, main passenger set-down/pick-up, Tree House, bus and ride-share facilities, site maintenance depot, Function Centre and associated development components
Secondary Site Access	Herston Road	Driveway crossover (new)	Minor car parking associated with Pump Track development component
	Gregory Terrace	Signalised intersection (Existing)	Minor car parking associated with Valley Pool development component
Emergency Site Access	Gilchrist Avenue	To be determined, but likely traversable kerb	For emergency purposes only

3.6 Car Parking

The Victoria Park / Barrambin Illustrative Master Plan depicts a total off-street car parking supply totalling 664 spaces as outlined in Table 4.

Table 4 Proposed Off-street Car Parking Supply

Location	Parking Supply (spaces)
Victoria Park / Barrambin main site	488
Herston Road – local pump track	16
Centenary Pool	131
Cross River Rail access road	29
Total	**664 spaces**

It should be noted, that at the time of preparing this report, the Master Plan site currently provides off-street parking for 447 vehicles (Table 8, first column), as follows:

- 137 sealed spaces within main Victoria Park / Barrambin car park.
- Approx 150 informal overflow spaces on the main Victoria Park / Barrambin site.
- 66 spaces adjacent to the driving range/pro-shop on the main Victoria Park / Barrambin site.
- 89 spaces on the Centenary Pool site (excludes BOH lease spaces).
- 5 spaces on the Cross River Rail access road.

The current overflow area is often heavily used and while it hasn't been quantified, anecdotal evidence suggests that a large proportion of these users are associated with the nearby Royal Brisbane Hospital (RBH). There are however periods, when during major site events, the majority of this parked demand are bonafide patrons.

Accordingly, the Master Plan proposes an incremental off-street parking supply change of 217 spaces (664 minus 447) which equates to approx. 49% of the current 447 off-street spaces inclusive of the unsealed overflow area.

It is noted also that the Victoria Park / Barrambin Master Plan proposes modifications to Gilchrist Avenue and other existing access roads that will reduce the current on-street parking supply. Furthermore, the proposed signalisation of the Herston Road site access will also reduce on-street parking. The incremental change on the net parking supply is summarised in Table 5.

Table 5 Proposed Net Car Parking Supply (including on-street)

Location	Parking Supply (spaces)
Victoria Park – Off-street (from Table 5)	664
Gilchrist Avenue on-street loss	Approx. -60
Herston Road on-street loss	Approx. -35
Net Total	**Approx. 569 spaces**

The resultant nett 569 spaces equate to an incremental change of 122 spaces or approx. 27% of the current 447 off-street spaces.

4.0 Traffic and Transport Operational Assessment

4.1 Scope

This assessment only evaluates the typical “day-to-day" function and operations of the Master Plan. It is highly likely that the site will host an array of events of varying scale, intensity and duration. Technical consideration of such varied events is outside of the scope of this assessment and would be subject to individual evaluations that would be informed by more timely and accurate information and would otherwise be require Council approval anyway.

Any major event should be accompanied by an Event Management Plan or similar which should consider methods and actions that:

- Minimise operational impacts on the road network by maximising public and active transport travel.
- Minimise car parking demand by maximising public and active transport travel.

4.2 Transport Mode Share

The future Victoria Park / Barrambin site travel mode share has been estimated using two separate, but related approaches that each make assumptions regarding:

- The geographic location of visitor demand.
- The likely mode share by location.

The assessment completed to date does not consider the type or demographics of visitors, i.e., families, interstate visitors etc.

A selection of publicly documented mode share data for a range of Brisbane locales is reproduced in Table 6.

Table 6 Brisbane Mode Share Comparisons

Area	Car	Public Transport	Active Transport	Source
South Bank	32%	19% (1)	58% (1)	South Bank Corporation
Greater Brisbane	72.2%	13.7%	14.1%	BCC Transport Plan for Brisbane Strategic Directions
Brisbane’s Inner 5km	58.9%	20.1%	21.0%	
Greater Brisbane	79%	10%	11%	DTMR How Queensland Travels
Brisbane based recreation trips	68.9%	3.7%	26.2%	DTMR SEQ Travel Survey
Greater Brisbane	79%	10%	11%	

(1) SLR acknowledges that the sum of 32%, 19% and 58% is 109%. These are the values reported by MRCagney but the report also states separately that the combined public + active transport mode share is 77%.

It can be concluded from Table 6 that the private car mode share for greater Brisbane and recreation trips is in the order of 70-80%. It is also clear from this data that the most well-connected and accessible areas like South Bank still have a private vehicle mode share greater than 30%.

The mode share scenario estimates outlined in Table 7 were made using the two separate, but related methods.

Table 7 Mode Share Estimates for Assessment

Method	Car	Public Transport	Active Transport
1	60%	25%	15%
2	60-65%	17-19%	17-21%

The upper-bound 65% has been adopted for the 2031 design horizon and the lower-bound 60% for the 2041 design horizon. The car estimates are intended to be conservative to ensure that the 'worst-case' traffic and parking outcome is evaluated.

4.2.1 Method 1

Using Method 1, a private vehicle mode share of 60% was derived for the future design horizon. Method 1 is summarised as follows:

1. Source Australian Bureau of Statistics (ABS) population data for each of 131 statistical areas surrounding the site.
2. Determine a variable weighting and score for each of the ABS statistical areas with respect to:
    a. Bus accessibility.
    b. Train accessibility.
    c. Proximity to the site.
    d. Competing nearby facilities.
3. Estimate proportional amount of private vehicle, public and active transport patronage.

4.2.2 Method 2

Using Method 2, a private vehicle mode share of 65% was estimated for the future design horizon. Method 2 is described as follows:

1. Develop a series of rings distanced 0-1km, 1-5km, 5-10km, 10-20km, and 20km+ from the subject site.
2. Derive the population within each of the assessment rings based on ABS data.
3. Determine a range of mode share estimates for each assessment ring based on the Table 9 information and professional engineering judgment.

4.3 Car Parking

4.3.1 Comparison to Existing and Vision Arrangements

As outlined in Section 3.6, the Victoria Park / Barrambin Master Plan proposes a total off-streetcar parking supply totalling 664 spaces. Table 8 outlines a comparison to the existing and Victoria Park 'vision' arrangements.

Table 8 Master Plan Spatial Concept Plan – Off-Street Car Parking Supply

Location	Existing Parking Supply (spaces)	Vision Parking Supply (spaces)	Proposed Master Plan Supply (spaces)
Victoria Park / Barrambin main site	203	470	488

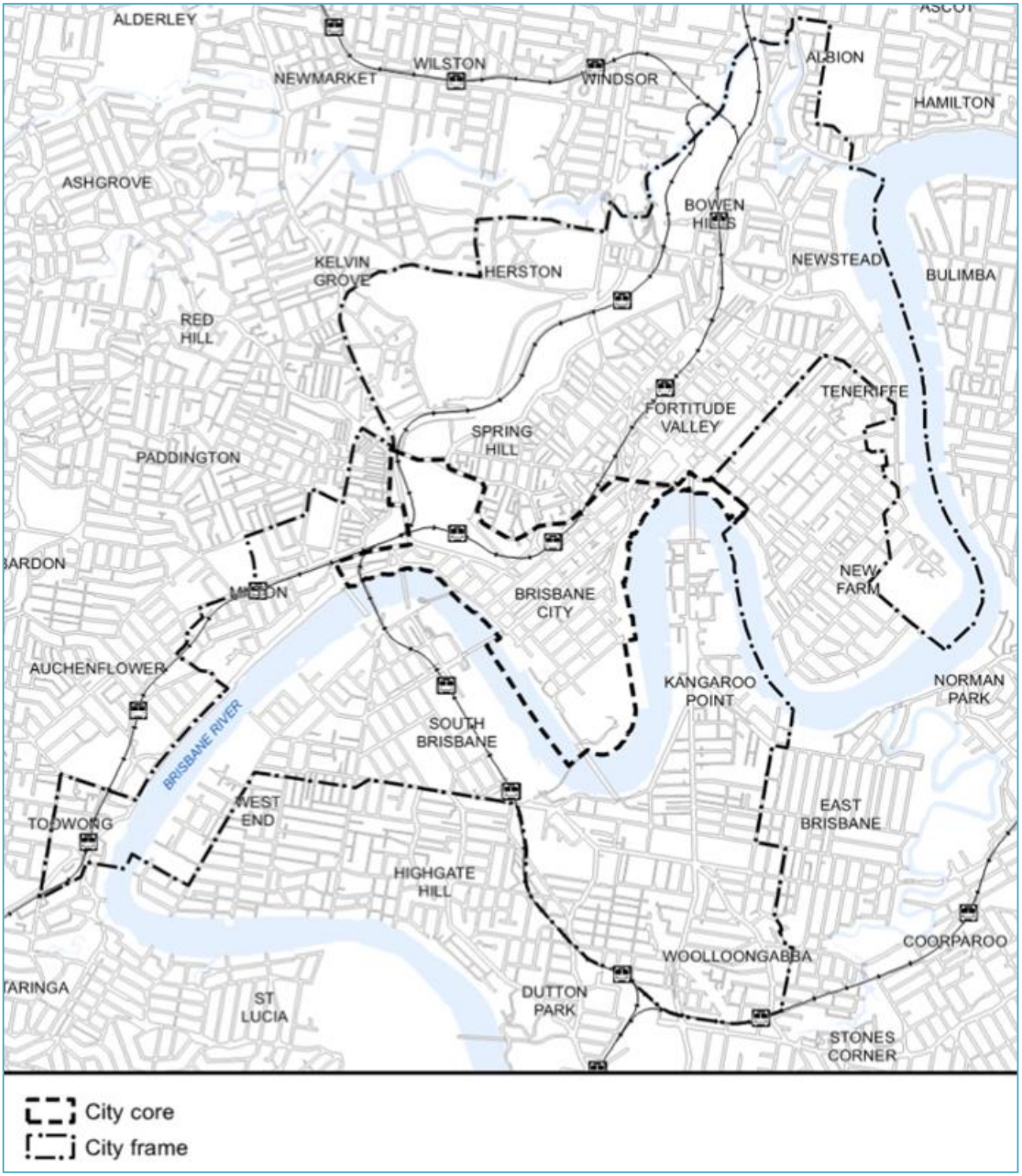
Location	Existing Parking Supply (spaces)	Vision Parking Supply (spaces)	Proposed Master Plan Supply (spaces)
Victoria Park / Barrambin overflow	150	0	0
Herston Road – Urban pump track	0	0	16
Centenary Pool	89	134	131
Cross River Rail access road	5	0	29
Total	**447**	**604**	**664**

The proposed 664 spaces are approx. 10% greater than that forecast as part of the prior vision arrangements.

4.3.2 Statutory Requirement

The Victoria Park / Barrambin site is located wholly within, but bordering, the northern boundary of the City Frame area as specified in *Figure a* of the Transport, Access, Parking and Servicing (TAPS) Code of Brisbane City Plan 2014 (City Plan) (**Figure 10**).

Figure 10 Council City Plan 2014 – City Frame Area



Source: Brisbane City Plan (accessed 2023)

The City Plan designates the Victoria Park / Barrambin LGID site within the SR3 Sport and Recreation (Metropolitan) Zone.

Table 9 reproduces the relevant Performance Outcome (PO) and Acceptable Outcome (AO) from Council's *Transport, Access, Parking and Servicing (TAPS) Code* for development located in the City Frame area.

Table 9 Transport, Access, Parking and Servicing (TAPS) Code – PO12/AO12

Performance Outcome	Acceptable Outcome
PO12 Development in the City core and City frame provides car parking spaces at rates to discourage private car use and encourage walking, cycling and the use of public transport.	AO12 Development in the City core and City frame provides maximum car-parking rates in compliance with the standards in the Transport, access, parking and servicing planning scheme policy. Note—For accepted development subject to compliance with identified requirements including an existing premises, no reduction to existing car parking is required to comply with a maximum car-parking rate in the Transport, access, parking and servicing planning scheme policy.

4.3.2.1 Acceptable Outcome Consideration

The "maximum car parking rates" referenced in AO12 are prescribed in Table 13 of the Transport, access, parking and servicing planning scheme policy (TAPS PSP). Importantly, the section specific to the City Frame only documents rates relevant to dwelling type uses and those with Gross Floor Area (GFA). Neither of these are relevant to the vast majority of the proposed Master Plan uses.

In the absence of any specific guidance for non-dwelling and non-GFA development within the City Frame area, it is understood that the Table 13 rates prescribed for development outside the City Frame must be considered instead. The alternative would be to not consider these uses at all.

Furthermore, the TAPS PSP (Table 13) does not specify parking rates for several of the Outdoor Sports and Recreation uses including Driving Range, Putt-Putt and Cricket Nets. The following rates have been adopted for these uses:

- Putt-putt – 4 parking spaces per hole (City of Gold Coast Gold City Plan 2016 and Cairns Regional Council CairnsPlan 2016).
- Driving range – 1 parking space per tee (CairnsPlan 2016).
- Cricket nets – 1.5 parking spaces per pitch (first principles assumption).

Table 10 summarises the representative 'acceptable outcome' for car parking derived from the TAPS PSP and also other local government planning instrument rates posited for the undocumented Outdoor Sports and Recreation uses.

Table 10 Acceptable Outcome for Parking – City Frame

Development Area/Use		Yield	Parking Rate	Parking Requirement
Victoria Park (north of Gilchrist Av)				
Park		1 Metro Park	50 spaces/park	50.0
Lease A – Putt-Putt		18 holes	4 spaces/hole *	72.0
Lease A - Driving Range		53 bays	1 space/bay *	53.0
Lease B - Marquee / Bistro		2,718 sq.m	1 space/100sq.m	27.2
Lease C - Pro Shop		849 sq.m	1 space/100sq.m	8.5
Lease H - Garden Marque		417 sq.m	1 space/100sq.m	4.2
Main Function Building	Lease 1-4 - Lower	459 sq.m	1 space/100sq.m	4.6
	Lease 5 - Ground	1,165 sq.m	1 space/100sq.m	11.7
	Lease 6 - Mezz	11 sq.m	1 space/100sq.m	0.1
	Lease G - External	76 sq.m	1 space/100sq.m	0.8
	Lease J - External	100 sq.m	1 space/100sq.m	1.0
Tree House		432 sq.m	1 space/100sq.m	4.3
Parkway Kiosk		250 sq.m	1 space/100sq.m	2.5
Education Hub		434 sq.m	1 space/100sq.m	4.3
Victoria Park (south of Gilchrist Av)				
Football		1 field	50 spaces/field	50.0
Cricket		20 nets	1.5 spaces/field *	30.0
Spring Hill				
Park		1 Metro Park	50 space/park	30.0
Centenary Pool		1	15 spaces + 1 space/100sq.m	63.0
Basketball Court		1	20 spaces/court	20.0
Tennis Courts		8	6 spaces/court	48.0
Total				**485.2 (486)**

** Non-Council TAPS PSP rates derived from other local government planning instruments and first principles consideration*

The 664 (gross) off-street Victoria Park / Barrambin parking supply does exceed the **Table 10** estimate; however, the following should be noted:

- The TAPS PSP rate of 50 spaces for a metropolitan park is by design, a crude one size fits all approach to a land use that can vary significantly in scale and context. The question arises, when should a park comprising multiple distinct parks, each serving a different user type or theme be considered as two, three or more parks. The **Table 10** estimate assumes only one metropolitan park for the main Victoria Park site (first calculation row). Given the scale and significance of the site, it would not be unreasonable to consider the Victoria Park / Barrambin site is comprised of several parks of varying hierarchies for car parking calculation purposes.
- Using New Farm Park as another example of a metropolitan park located in the City Frame area, the provision of a maximum 50 parking spaces would not be feasible. The actual car parking supply and demand for New Farm Park far exceeds the 50-space maximum despite having very good access to public transport and active travel infrastructure. The provision of 50 spaces would impact the adjoining community or would result in the park not being used to its potential.

- The Victoria Park / Barrambin site shares a boundary with the northern edge of the City Frame area. If the site was hypothetically assessed as being outside the City Frame, AO13 would apply and a minimum parking requirement exceeding 1,000 spaces would be needed to comply with TAPS PSP rates.
- The nett increase in car parking accounting for on-street losses is 569 spaces which is 17% greater than the PSP maximum.

4.3.2.2 Performance Outcome Consideration

Performance Outcome (PO) 12 of the TAPS PSP states the following:

> *"Development….in the City Frame….provides car parking spaces at rates to discourage private car use and encourage walking, cycling and the use of public transport."*

The Victoria Park / Barrambin Master Plan parking supply is considered to achieve the intent of *discouraging private vehicle travel* based on the following:

- The extremely well-connected active travel network facilitates travel to/from the site and also through it the site as part of the broader pathway network.
- The extremely well-connected public transport system with direct connections to the improved Kedron and Herston Metro stations.
- The parking supply could accommodate 53% mode share by private vehicle based on the SLR first-principles assessment. This mode share is 23% lower than that reported for recreation trips made in Brisbane and 9% lower than that reported for all trips made within the 5km Brisbane inner ring.
- The implementation of parking controls (i.e., time restrictions or hourly cost) may be explored to further encourage sustainable travel modes by park patrons and avoid use by non-bonafide (external) users.

4.3.2.3 Current Situation Observations

The following existing on-site car parking supplies were identified by Council in 2021:

- Herston side of Victoria Park / Barrambin = 210 parking spaces.
- Centenary Pool = 112 parking spaces.

The above totals were determined prior to a series of modification made by Council which has had the effect of reducing the supply (See Table 8). The 210 spaces did not include the grassed overflow parking (~150-185 spaces) which are heavily used on a daily occurrence.

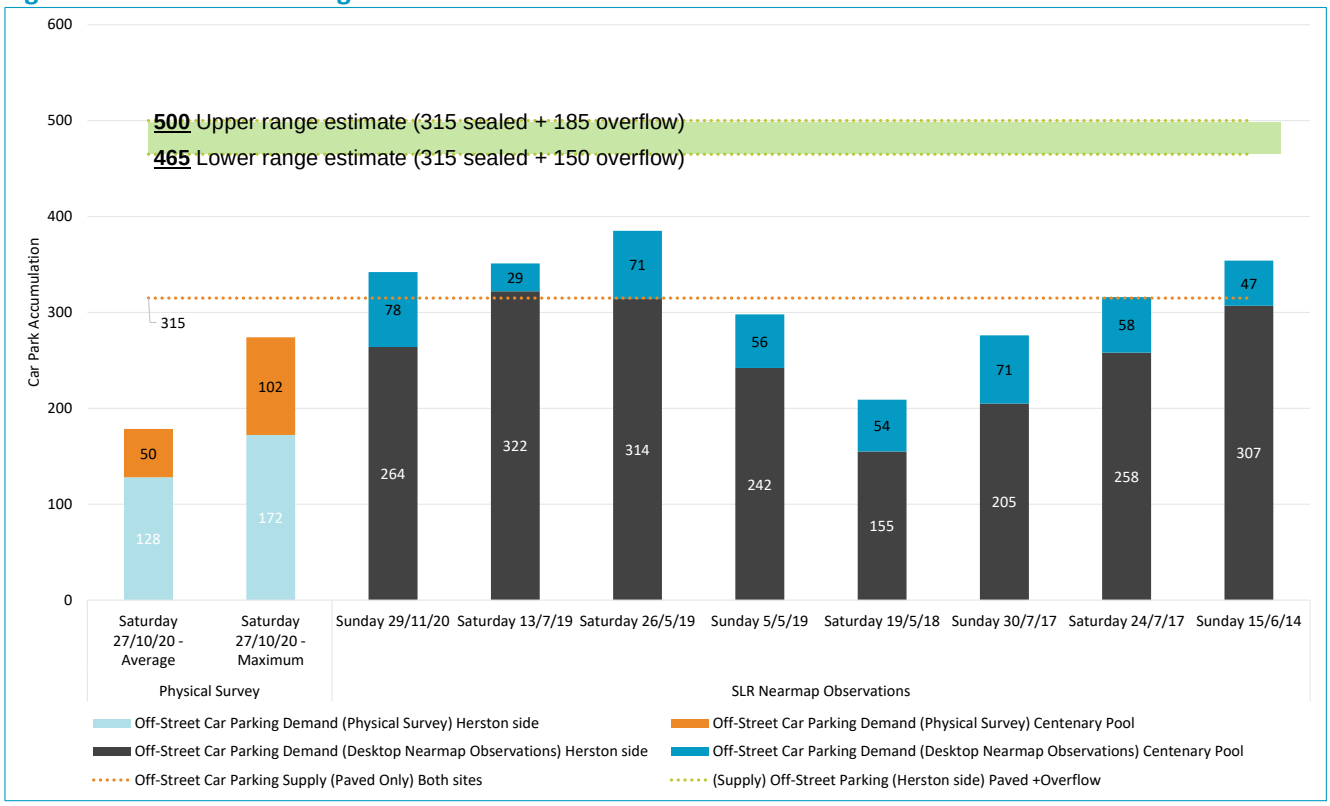
A maximum combined parking demand of 425 vehicles was observed across the Herston side (322 spaces) and Spring Hill side (102 spaces) of the Victoria Park / Barrambin site based on 16 observations made via Nearmap imagery and the surveys. The 16 samples comprised seven weekdays and nine weekend days during the period 2014-2020.

It should be noted that the 14 Nearmap observations are singular 'snapshots' and are not confirmation of peak demand. The findings are considered somewhat robust given the Nearmap images were collected on average at 11:35AM (weekday) and 12:24PM (weekend) which is consistent with the anticipated peak period for parking. Table 11 and Figure 11 summarise the Nearmap parking observation findings.

Table 11 Existing (Historic) Parking Demand

Location	Weekday Parking Demand (parked vehicles)			Weekend Parking Demand (parked vehicles)		
	Average	90th Percentile	Maximum	Average	90th Percentile	Maximum
Main site - Herston side	200	292	323	244	316	322
Spring Hill Centenary Pool	58	76	80	57	83	102

Figure 11 Weekend Parking Demand Observations



The observations summarised in Table 11 were made when the golf course was still operational and should therefore be conservative when applied in the context of the current post-golf course closure scenario. Based on documented traffic engineering guidance, the golf course had the potential to generate approx. 72 parked cars depending on the day-of-week and time-of-day.

It should also be noted that some proportion of the demand observed during 2014-2020, especially that occurring in the overflow area, was associated with the RBH precinct. It is understood that this has been reduced in more recent times following Council parking regulation activities.

The number of Nearmap images captured since the golf course closed in mid-2021 isn't enough to make statistically significant findings; however, a qualitative review does indicate demands (average and maximum) are lower than the Table 11 sample.

The significant discrepancy between the actual observations and the Council TAPS PSP derived requirement suggest that a first principles approach may be better at determining actual demand.

4.3.3 First Principles Assessment of Future Situation

The parking demand profile was forecast for the Victoria Park / Barrambin Master Plan based on the following inputs and assumptions:

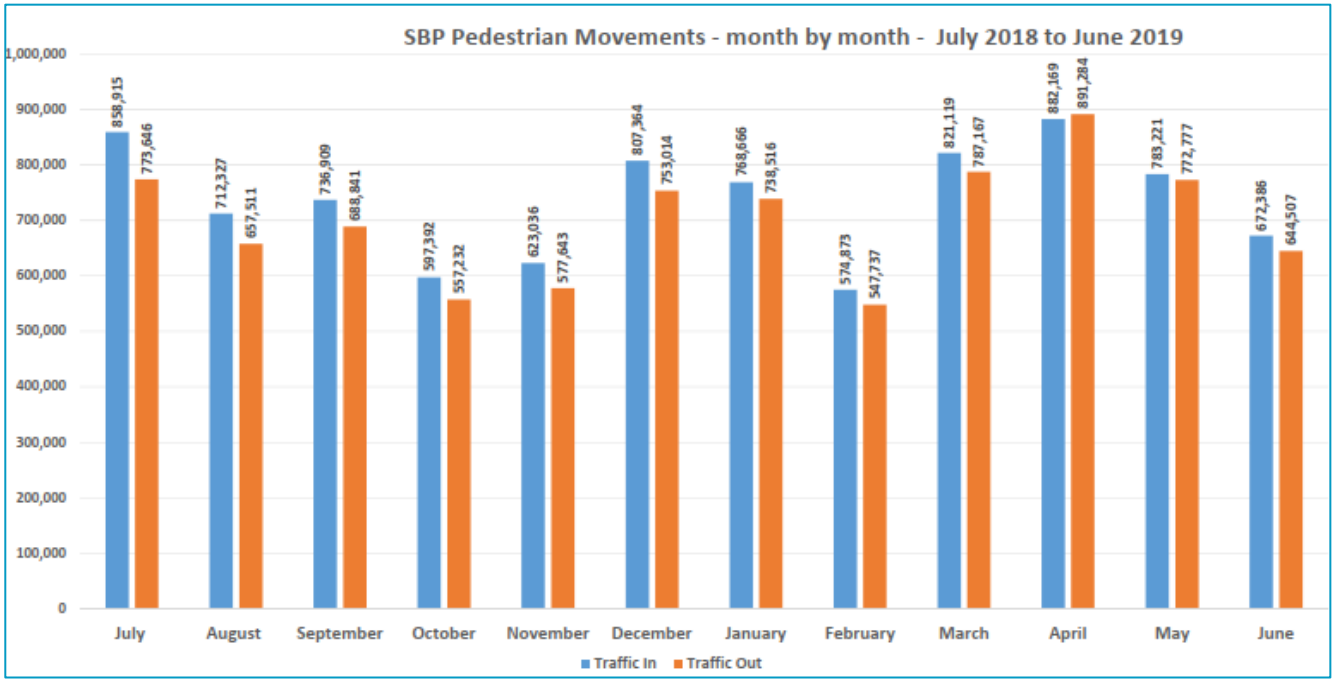
- Patronage estimates and forecast visitation profiles.
- Average duration of stay.
- Average vehicle occupancy.
- Travel mode share.

4.3.3.1 Daily Patronage and Visitation Profile

For the purposes of this traffic assessment, the future site patronage has been adopted as 1.5, 1.71 and 1.96 million annual visitations in 2024, 2031 and 2041 respectively based on Victoria Park project team input. These annual patronage estimates were used to derive visitor numbers for the traffic and transport analysis as follows:

1. Annual patronage = 1,963,000 persons in 2041.
2. Design week patronage = 42,796 persons (2.18% of annual patronage) based on annual South Bank patronage visitation profile data (Figure 12).

Figure 12 Annual Visitation Profile – South Bank Example



3. Design weekday patronage = 4,544 persons per day (10.6% of design week patronage) based on Google analytics data sourced for comparable sites including South Bank, Rocks Riverside Park, Roma Street Parklands, and Kings Park (WA).
4. Design weekend day patronage = 10,039 persons per day (23.5% of design week patronage) based on Google analytics data sourced for comparable sites including South Bank, Rocks Riverside Park, Roma Street Parklands, and Kings Park (WA).
5. Design patronage arrival profile = as per Table 12.

Steps #3-5 determined with reference to Google analytics data sourced for comparable sites including Rocks Riverside Park, Kings Park (WA) and Roma Street Parklands.

Table 12 Design Patronage Profile (Person Arrivals) - 2041

Time of Day	Patron Arrival by Hour (persons and %)					
	Weekday		Saturday		Sunday	
0600-0700	77	1.7%	404	4.0%	100	1.0%
0700-0800	154	3.4%	547	5.5%	201	2.0%
0800-0900	270	5.9%	404	4.0%	376	3.8%
0900-1000	327	7.2%	547	5.5%	627	6.3%
1000-1100	424	9.3%	737	7.3%	828	8.3%
1100-1200	443	9.7%	904	9.0%	1079	10.8%
1200-1300	443	9.7%	928	9.2%	1079	10.8%
1300-1400	404	8.9%	904	9.0%	1004	10.0%
1400-1500	366	8.1%	856	8.5%	929	9.3%
1500-1600	347	7.6%	880	8.8%	904	9.0%
1600-1700	347	7.6%	952	9.5%	954	9.5%
1700-1800	424	9.3%	999	10.0%	979	9.8%
1800-1900	520	11.4%	975	9.7%	979	9.8%
Daily Total	**4,544**		**10,039**		**10,039**	

4.3.3.2 Duration of Stay

The assessment adopted the following with regard to assumed duration of stay:

- 2hr average between 0600-0800 and 1600-1800.
- 3hr average between 0800-1600.

These assumptions were made based on professional judgement and discussions with the project team.

4.3.3.3 Average Vehicle Occupancy

The assessment assumes an average private vehicle occupancy of 2.5 persons per vehicle. This assumption was made based on observations of similar large-scale parks and our professional engineering judgement.

4.3.3.4 Mode Share

The future mode share was estimated using the two approaches outlined earlier herein in Section 4.1:

- Method 1 private vehicle mode share = 60%.
- Method 2 private vehicle mode share = 65%.

4.3.3.5 First Principles Demand Assessment Results

The parking demand findings are illustrated in Figure 13 and Figure 14 for Method 2 and 1 respectively with the 100% (664 spaces) and 95% (631 spaces) capacity thresholds.

Figure 13 Parking Demand Profile (2041) | Method 2 (65% Private Vehicle Mode Share)

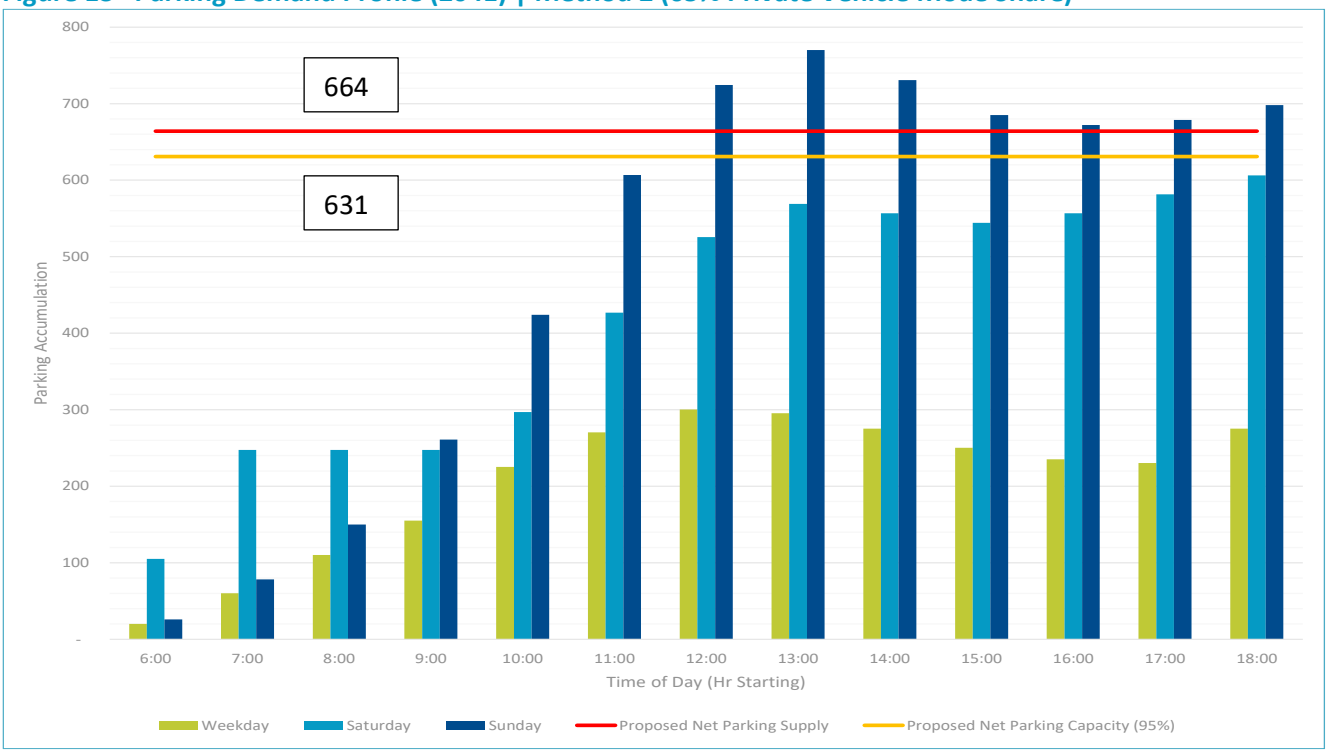


Figure 14 Parking Demand Profile (2041) | Method 1 (60% Private Vehicle Mode Share)

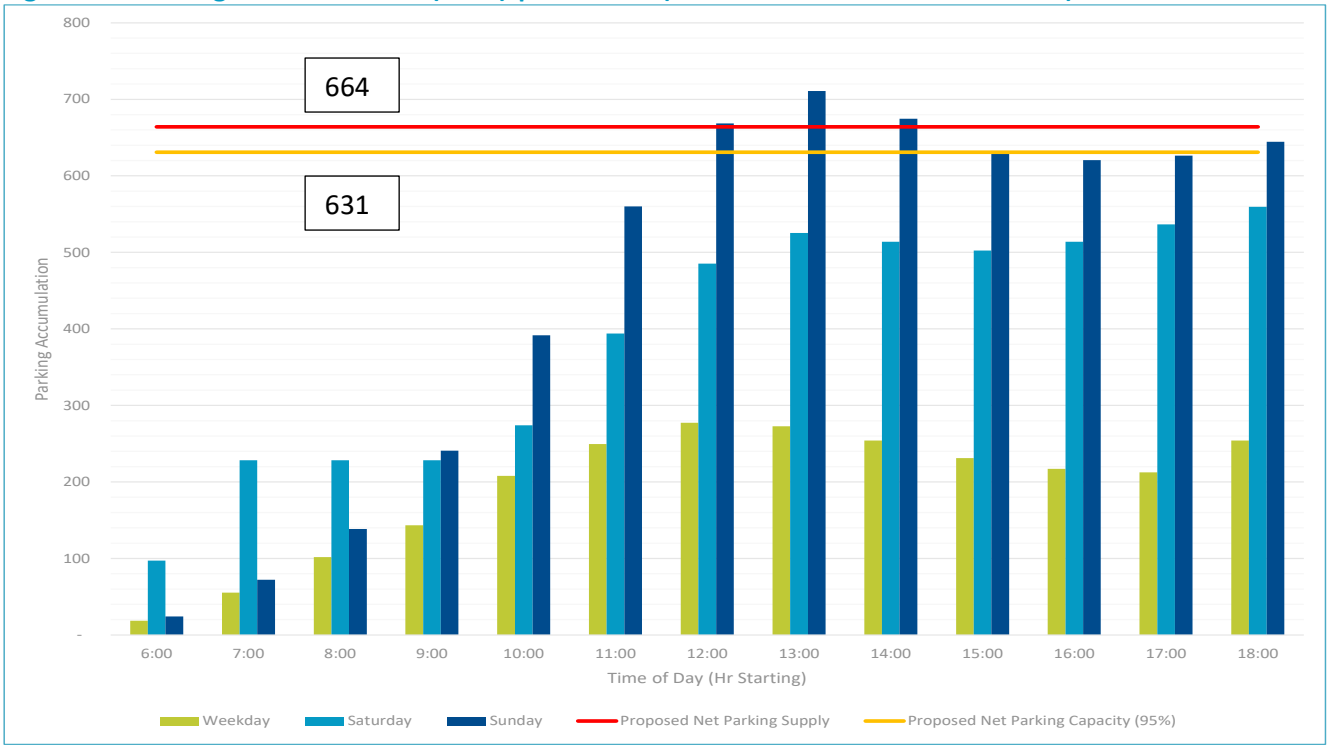
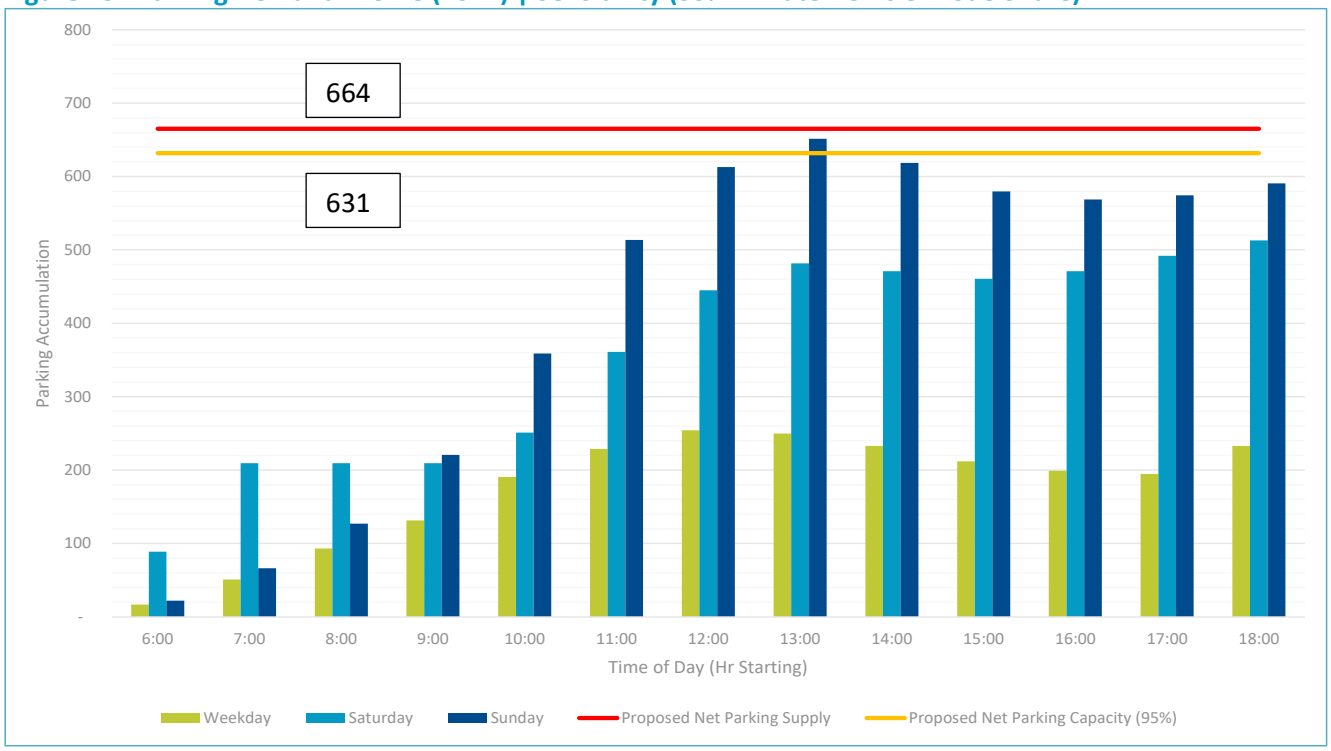


Figure 13 and Figure 14 both illustrate that the 664 (gross) off-street parking space supply would not accommodate the peak demand forecast based on an assumed 60-65% private vehicle mode share.

A sensitivity analysis was completed to determine the private vehicle mode 'threshold' that could be accommodated by the proposed parking supply. Figure 15 illustrates the resultant parking demand profile based on an assumed 53% private vehicle mode share.

Figure 15 Parking Demand Profile (2041) | Sensitivity (53% Private Vehicle Mode Share)



The 'threshold' 53% mode share is approx. 20% lower than the 68.9% reported for all Brisbane recreation trips (Table 6) but it is generally consistent with the 58.9% reported for trips made to/from/within the 5km inner-ring (Table 6). Based on these comparative findings, the proposed parking supply is considered to sufficiently "discourage private car use."

Additionally, whist it hasn't been considered herein, any peak weekend parking demands that occur could also utilise the fronting reconfigured parking in Gilchrist Avenue which are generally underutilised on weekends when the nearby RBH is not fully staffed.

4.3.4 PWD Parking Requirements

Section 6 (g) of the Council TAPS PSP prescribes that parking for PWD should be provided at a rate of 1 space per 50 ordinary spaces. This rate of provision is the relatively high compared to that required by the National Building Code for other public uses.

Accordingly, no fewer than 14 PWD spaces should be provided consistent with the AS2890.6 design specification. This is a minimum provision and could be increased based on Council's position towards provision for persons with a disability. Generally, any additional two PWD spaces equates to a loss of one parking space so as to accommodate the shared space between the PWD spaces. The minimum provision can be accommodated in the Master Plan.

4.4 Road Network Operations

4.4.1 Traffic Demands

4.4.1.1 Existing Situation

Traffic surveys were undertaken by Council in October-November 2020 and March 2022 (Appendix D).

4.4.1.2 Future Year Base Traffic Demands

Base future year traffic demands were derived from the Brisbane Central Area SATURN Model (BCASM) referred to earlier herein. The 2021 and 2031 design scenarios were reviewed to establish the forecast background growth during this period. Supplementary future growth forecasts were made for the period 2031-2041 based on dwelling and job projections reported by the ABS. The following annual growth rates have been adopted:

- Herston Road through traffic:
  - 4% for the period 2018-2031.
  - 1% for the period 2031-2041.
- Local residential catchment = 0.5%.
- QUT Sports Lane = 5%.

The future year traffic demands were derived by applying the above growth rates to the traffic movements surveyed in 2021 and 2022.

4.4.1.3 Redevelopment Traffic Demands

The traffic generation potential of a development is typically estimated by surveying traffic generated by other comparable development. This approach is not valid in this instance given the significant variance in geographic contexts, purpose, and type/scale of the Victoria Park / Barrambin site compared to any other possible exemplar site.

A first principles approach was adopted which referenced future annual patronage projections and the previously reported 'worst-case' 65% threshold private vehicle mode share.

Two traffic generation scenarios were assessed for completeness.

- Scenario 1 = SLR first principles = Traffic generation based on the first principles car parking demand profile reported earlier herein.
- Scenario 2 = Sensitivity scenario = Traffic generation based on a very conservative assumption that, on a weekend day, 80% of the car parking 'turns over' in the peak hour period.

Table 13 summarises the forecast peak hour traffic generation for each scenario.

Table 13 Traffic Generation Estimate

Scenario	Traffic Generation (vph)		
	Weekday AM	Weekday PM	Saturday Mid-day
1 = SLR first principles	90	205	444
2 = Sensitivity	162	369	800

The first scenario is considered the primary and most reasonable estimate of the potential resultant traffic generation for the main site. It is based on a first principles assessment that is informed by real world data.

The second scenario was derived for sensitivity purposes only and is considered very conservative, it is based on the crude assumption that 80% of the approx. 500 car spaces located on the main site will 'turn over' in the weekend peak hour, i.e., 80% of spaces will generate one entry and one exit movement. For comparison, the traffic flow data reviewed for the largest Brisbane urban recreational area, South Bank, identified a maximum generation of approx. 350vph during the midday Saturday peak during the December school holiday period.

A 'common sense' check was conducted whereby the existing Victoria Park / Barrambin traffic generation was surveyed as 84vph and 269vph for the weekday and weekend day peak periods. This equates to a maximum vehicle generation rate of 0.76vph per space based on the existing approx. 353 spaces (including overflow). The application of this rate to the 488 spaces proposed on the Herston site of the park would equate to 371vph. For comparison, this is less than half of the 800vph assumed by the second sensitivity scenario.

4.4.1.4 Redevelopment Traffic Directional Split

The Table 13 development traffic generation was split into inbound and outbound trips in accordance the proportions summarised in Table 14. These proportions were determined based on a review of survey data including that collected for the South Bank site.

Table 14 Site Traffic Directional Split

Direction	Entry/Exit Directional Split		
	Weekday AM	Weekday PM	Weekend Mid-day
Entry	70%	40%	55%
Exit	30%	60%	45%

4.4.1.5 Redevelopment External Traffic Distribution

The entirety of the assumed traffic generation described above is assumed to travel to/from the main component of the site via the Herston Road vehicular access. This traffic has been assigned to the external road network using the distribution summarised in Table 15. This distribution was determined based on the prior strategic modelling (February 2021, Section 7.3.2 and 7.3.3) and qualitative evaluation of the possible travel routes.

Table 15 External Traffic Distribution

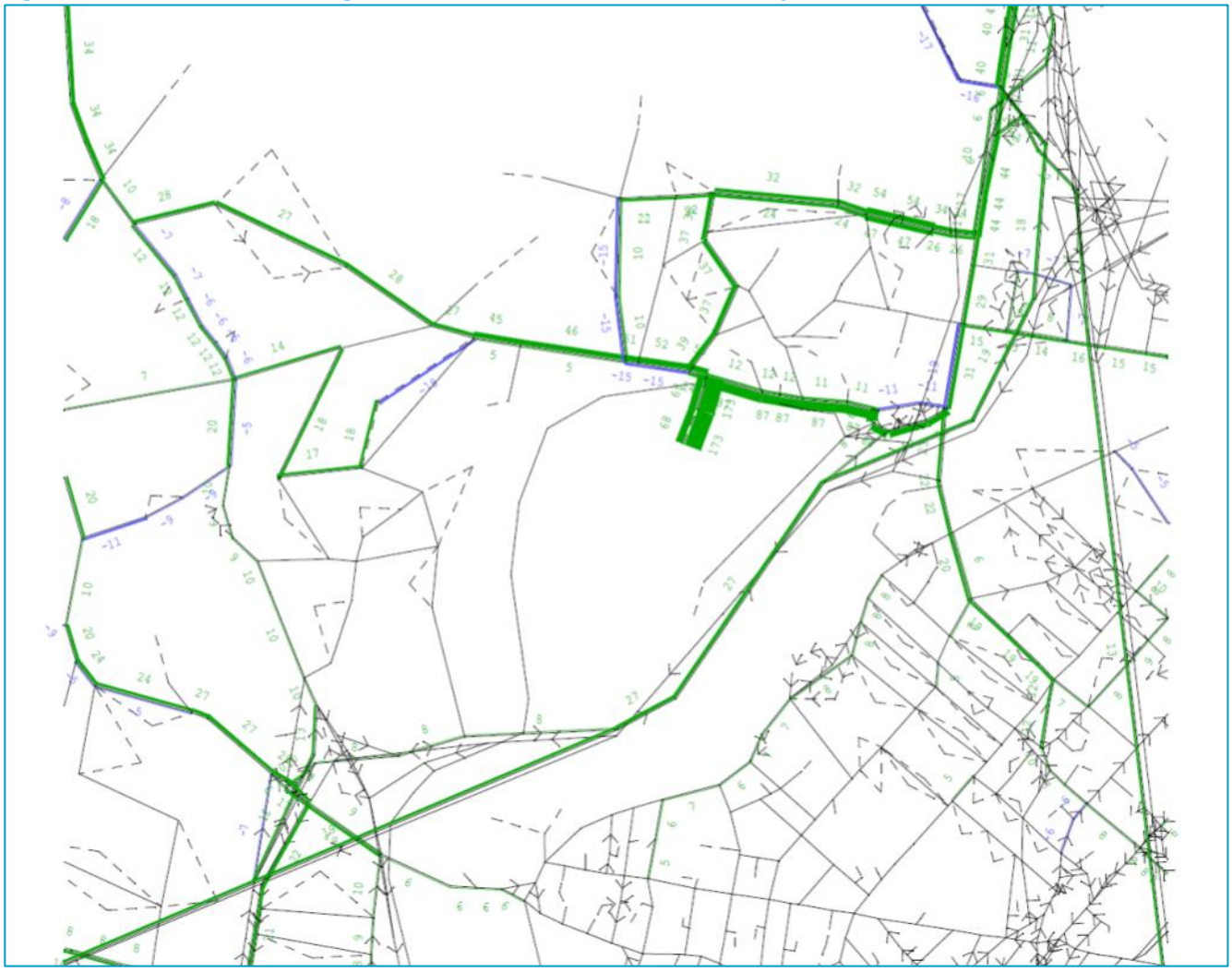
Direction	Development Traffic Proportion
North	5%
East via Herston Rd	57.5%
West via Herston Rd	37.5%
Total	100%

The relative traffic increase generated at the Spring Hill site accessed via Gregory Terrace has not been assessed given the minimal difference forecast to occur from the current situation.

4.4.1.6 Redevelopment Traffic Model Outputs

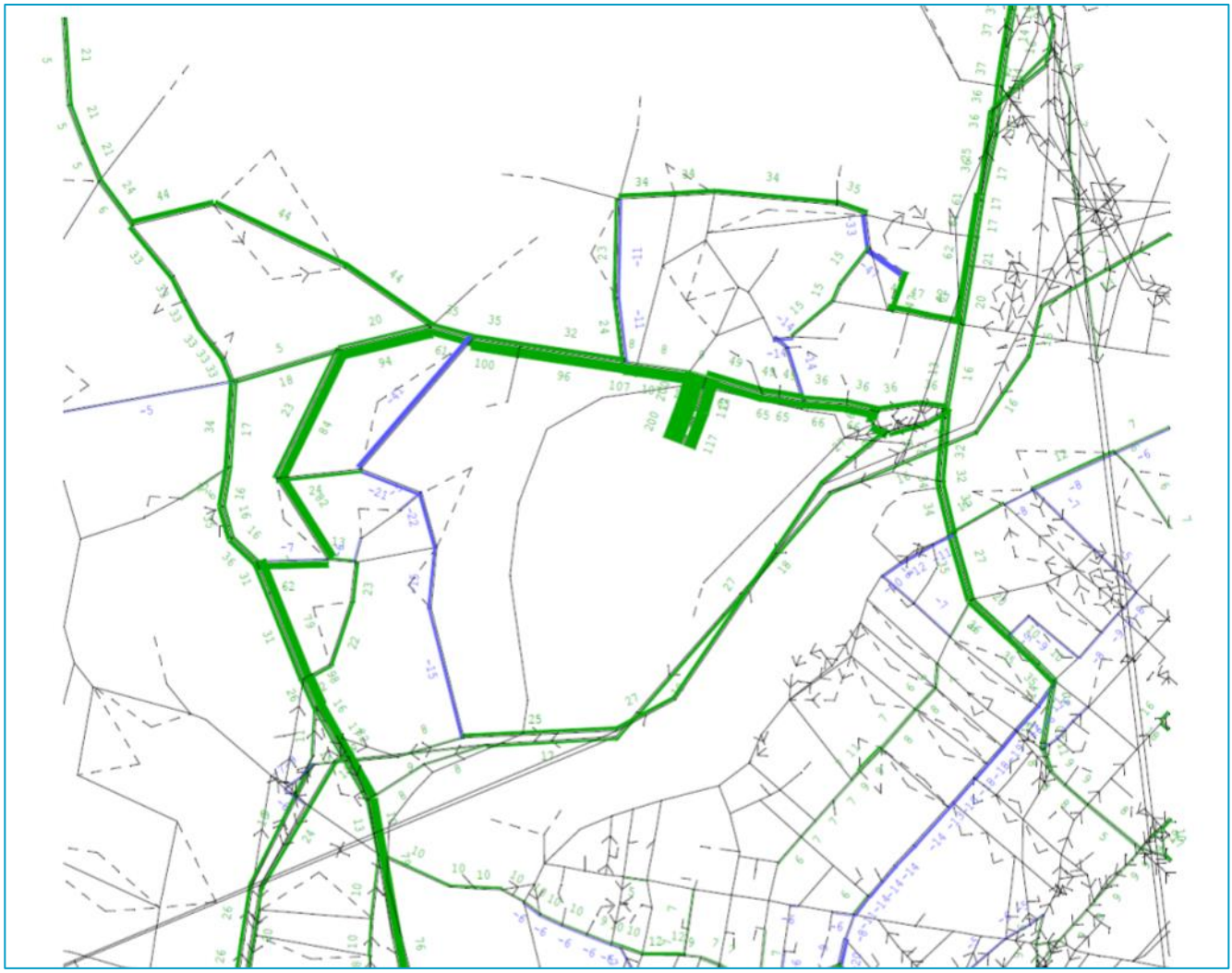
Prior Council modelling has evaluated the nett change in peak hour traffic flows for an alternate traffic generation scenario that is 2-3 times greater than that derived as part of this assessment (Table 13). The nett change in traffic flows in the AM and PM peak hours is illustrated in Figure 16 and Figure 17 respectively.

Figure 16 Network Nett Change in Traffic with Master Plan (Weekday AM)



Source: BCC 2021

Figure 17 Network Nett Change in Traffic with Master Plan (Weekday PM)



Source: BCC 2021

4.4.2 Herston Road Main Site Access

4.4.2.1 SIDRA Capacity Assessment

The scope of the SIDRA analysis documented herein is limited to the Herston Road site frontage. The broader network-wide consideration of possible traffic impacts has otherwise been addressed by prior strategic network modelling, a selection of results of which are reproduced herein (Section 4.3.3).

It was assumed that the Victoria Park / Barrambin redevelopment would commence in a staged manner from 2022 although it may not be materially 'complete' and generating planned patronage for number of years. To ensure a conservative analysis, a 2041 design horizon was adopted.

The proposed access intersection has been assessed using SIDRA Intersection 8 (SIDRA), which is an industry recognised analysis tool used to estimate the capacity and operational performance of intersections based on a variety of input parameters including geometric data and traffic volumes. SIDRA provides an estimate of an intersection's delays, queues as well as Degree of Saturation (DOS), which has historically been used as the primary measure of intersection performance.

The DOS thresholds summarised in Table 16 were adopted. These thresholds are in line with those specified in industry practice and that used by Council in planning future road infrastructure.

Table 16 SIDRA Intersection Performance Thresholds

Intersection Control Type	DOS Threshold
Signals	Less than or equal to 0.90
Roundabout	Less than or equal to 0.85
Priority-controlled (i.e., give way or stop control)	Less than or equal to 0.80

DOS values exceeding those listed in Table 16 indicate that an intersection is functioning close to its operational capacity and upgrade works may be required. Users of such an intersection are likely to experience exponential growth in delays and queue lengths as traffic demand increases.

It is also noted that Clause (d)(v) of Section 4.4.2.1 within the TAPS PSP also specifies a desired standard of service for road infrastructure, being a level of service C where the road network is not highly constrained. This represents a critical delay threshold of 35 seconds for a priority-controlled intersection.

Default SIDRA input parameters were adopted; however, the 'extra bunching' factor was modified to account for the nearby up and downstream signalised intersections and associated vehicle platooning.

The proposed Herston Road site access intersection is illustrated Figure 18 and the SIDRA analysis findings are summarised in Table 17. Detailed SIDRA analysis outputs for the proposed access intersection are included at Appendix E and electronic files can be provided on request.

Figure 18 Herston Road / Site Access – Upgraded Intersection Formation

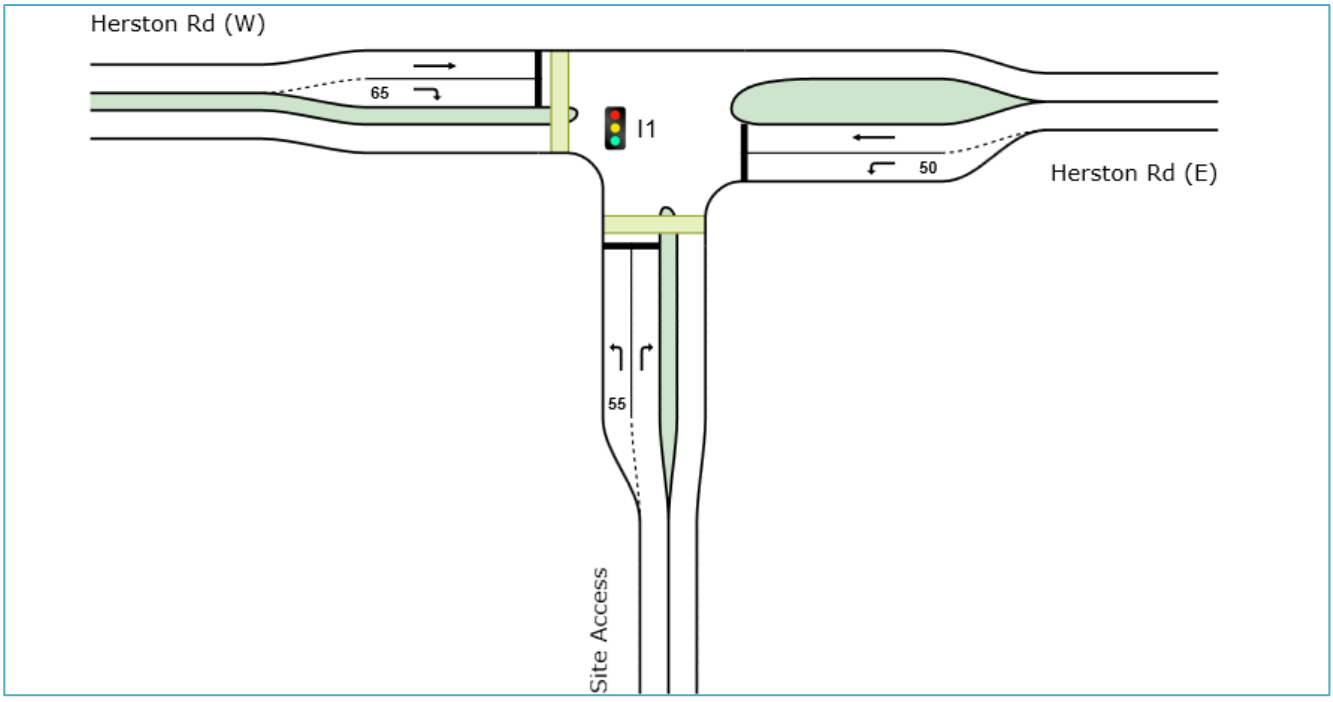


Table 17 Proposed Signalised (Upgrade) Herston Road / Site Access – SIDRA Analysis Summary

Traffic Generation Scenario	Design Year	Peak Period	DOS	Average Delay (sec)	95th %ile Queue Length (m)
1 SLR first principles	2041	Weekday AM	0.608	2.4	20
		Weekday PM	0.693	6.9	38
		Saturday	0.512	11.1	62
2 Sensitivity		Weekday AM	0.608	3.4	20
		Weekday PM	0.715	11.2	70
		Saturday	0.673	16.8	94

The results in Table 17 indicate that the proposed signalised intersection would operate within typical capacity thresholds, inclusive of Victoria Park / Barrambin redevelopment, regardless of the traffic generation scenario.

The DOS and delays are well within typically accepted performance thresholds, and the 95th percentile queues are contained within the fronting road system and should not extend beyond nearby up and downstream signalised intersections (Sports Lane approx. 500m west and Bramston Terrace approx. 200m east).

4.4.3 Network Capacity Assessment

The network-wide consideration of traffic impacts has been assessed with the prior strategic modelling completed in 2021. The modelling adopted Council's Brisbane Central Area Saturn Model (BCASM) which incorporates forecast traffic growth and planned infrastructure upgrades. The network assessment evaluated two traffic generation scenarios including the second sensitivity scenario referenced earlier herein.

Modelling was informed by South Bank survey data of the Grey Street intersections that facilitate access to the South Bank basement and Little Grey Street.

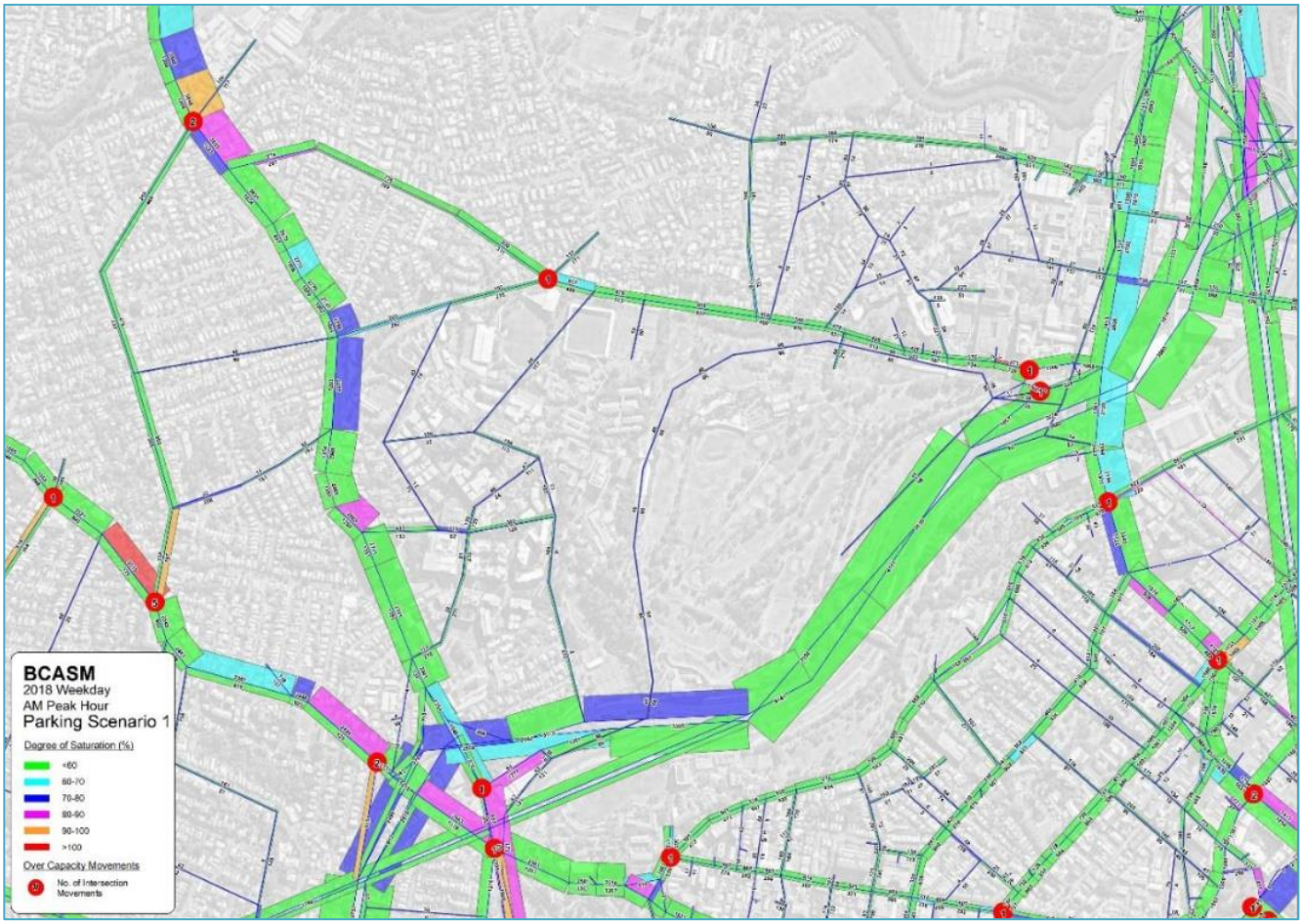
The results are reproduced and discussed herein as they are the most relevant, despite assuming a Victoria Park / Barrambin generation that is approx. 2-3 times greater than that forecast herein.

The following can be concluded from the modelling with respect to the AM findings:

- The incremental traffic generated by the site disperses relatively quickly as it distributes through the traffic network to/from its origin or destination.
- Some additional vehicles are observed to travel via Hetherington Street and Butterfield Street, rather than via Herston Road.
- Compared to the Base case, incremental congestion appears limited to the Herston Road / Scott Road intersection which is shown to be operating over capacity. This could possibly be improved with signal optimisation.

Figure 19 reproduces the BCASM graphical output for the AM peak hour period.

Figure 19 Network Performance with Master Plan (Weekday AM)



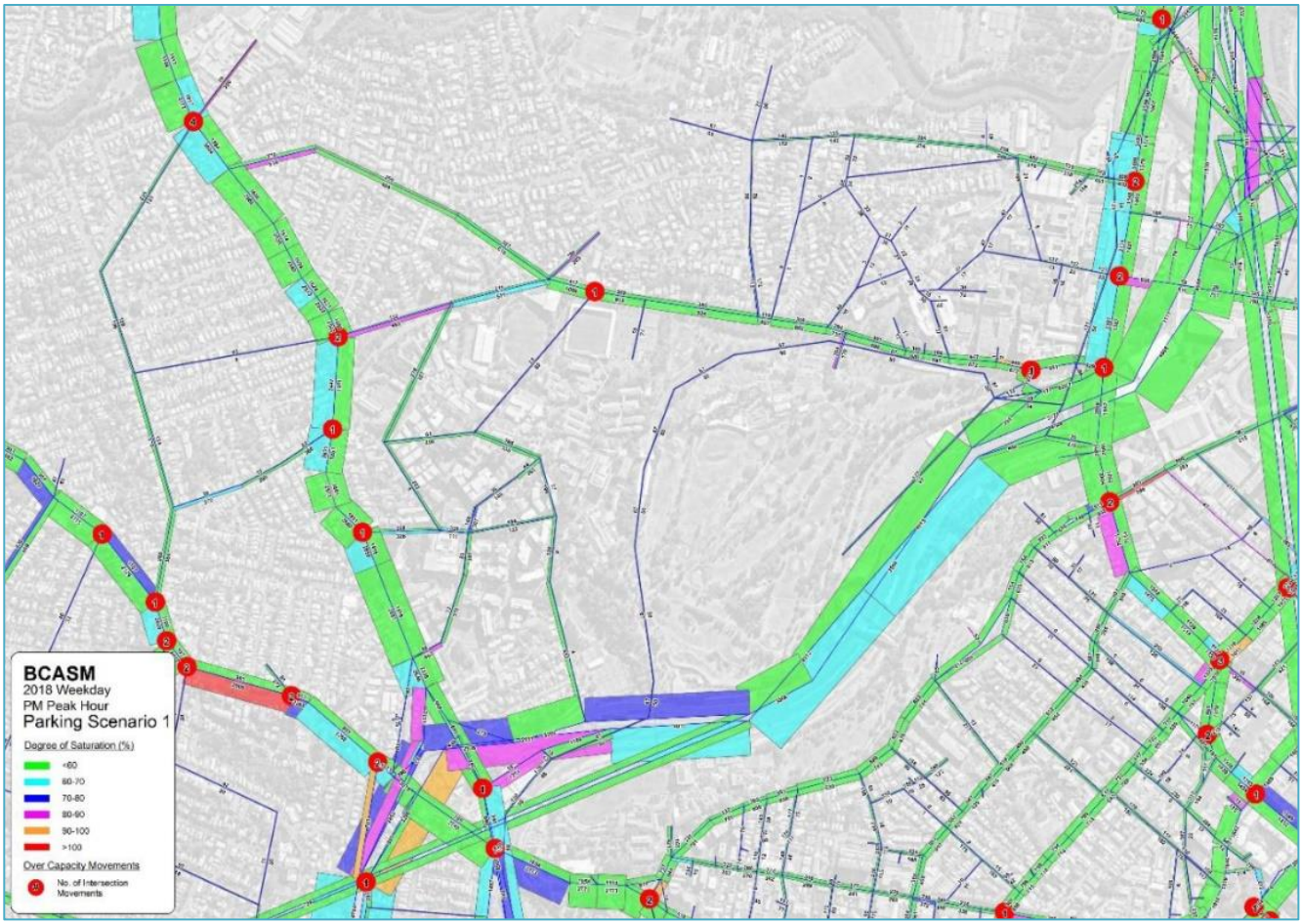
Source: BCC 2021

The study concluded the following with respect to the PM modelled results:

- Similar to the AM, the incremental traffic flows disperse relatively quickly as they propagate throughout the network.
- Compared to the Base case, there are some minor noticeable congestions impacts, including:
  - The movement from Herston Road onto the roundabout exceeds capacity.
  - Two movements at the Lorimer Terrace / Kelvin Grove Road exceed capacity; this could possibly be improved with signal optimisation.

Figure 20 reproduces the BCASM graphical output for the PM peak hour period.

Figure 20 Network Performance with Master Plan (Weekday PM)



Source: BCC 2021

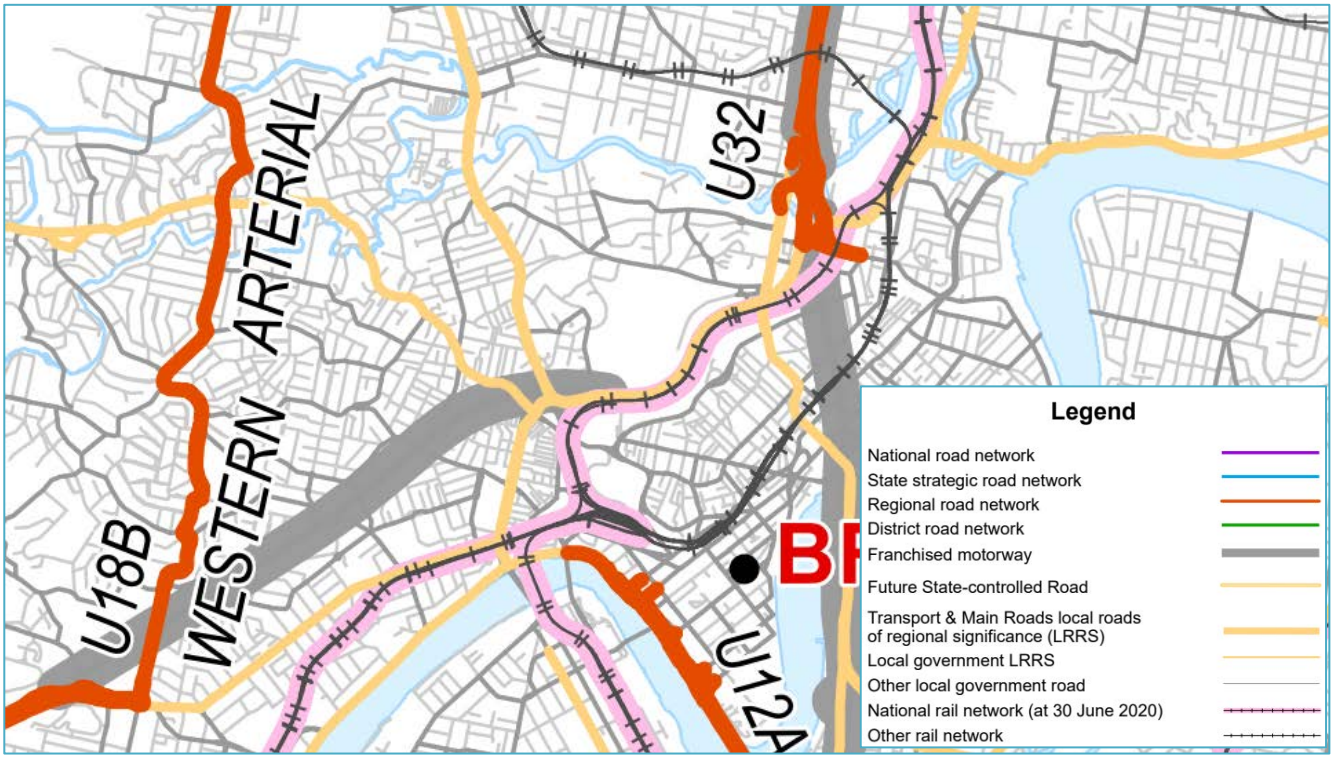
The following can be concluded from the modelling with respect to the Base and Victoria Park / Barrambin analyses:

- Analysis of congestion levels show that the core of the study area, including Herston Road, are generally acceptable. However, there are several locations around the perimeter of the study area where congestion issues exist, they include:
  - Herston Road between Bramston Terrace and Bowen Bridge Road; including the roundabout with Gilchrist Avenue.
  - Bowen Bridge Road between Butterfield Street and Gregory Terrace.
  - College Road and its approaches.
- These areas of congestion are forecast by the traffic models to worsen over time.
- Sensitivity testing of increased traffic demand loading on to the network via Herston Road suggests that the study area can potentially handle an increase in demand with only a minor worsening of conditions; however greater detail of the likely developments and their individual demand characteristics are required for a more thorough analysis.

With respect to this modelling, SLR is of the opinion that the results confirm that the incremental traffic demand arising from the Victoria Park / Barrambin development can be readily accommodated on the external road network without significant capacity modifications (beyond the site access). To reiterate, the prior strategic modelling assumed an AM and PM Victoria Park / Barrambin traffic generation that is as much as 2-3 times greater than that forecast using a first-principles approach informed by patronage forecasts and visitation profiles. Accordingly, the issues noted above likely overstate the impact attributable to the actual additional traffic generation.

With respect to the State-controlled road network (Figure 21), the nearest relevant State transport infrastructure is U32 (Airport Link) and U12A (Pacific Motorway). With reference to Figures 16-17, the conservative incremental peak hour traffic movements forecast at these locations are less than 5%, and therefore assessment of State network impacts is not required in accordance with the *Guide to Traffic Impact Assessment* (Department of Transport and Main Roads, December 2018).

Figure 21 State Controlled Road Network



Source:https://www.tmr.qld.gov.au/travel-and-transport/maps-and-guides/queensland-state-controlled-roads-and-region-maps

4.5 Safety assessment

A desktop assessment of the historic crash record reported for the surrounding transport network was completed for Council in 2020.

It can be concluded from that study that there were no singular or recurring road safety issue that would preclude redevelopment of intensification of the subject site. A similar finding was made by Council in 2021.

The proposed signalisation upgrade of the site access intersection will be required to support the meaningful development of the Victoria Park / Barrambin site. Based on the cumulative traffic analyses, the current priority-controlled formation likely has 3-4 years remaining before right turn movements reach or exceed a critical delay that could be considered a safety concern.

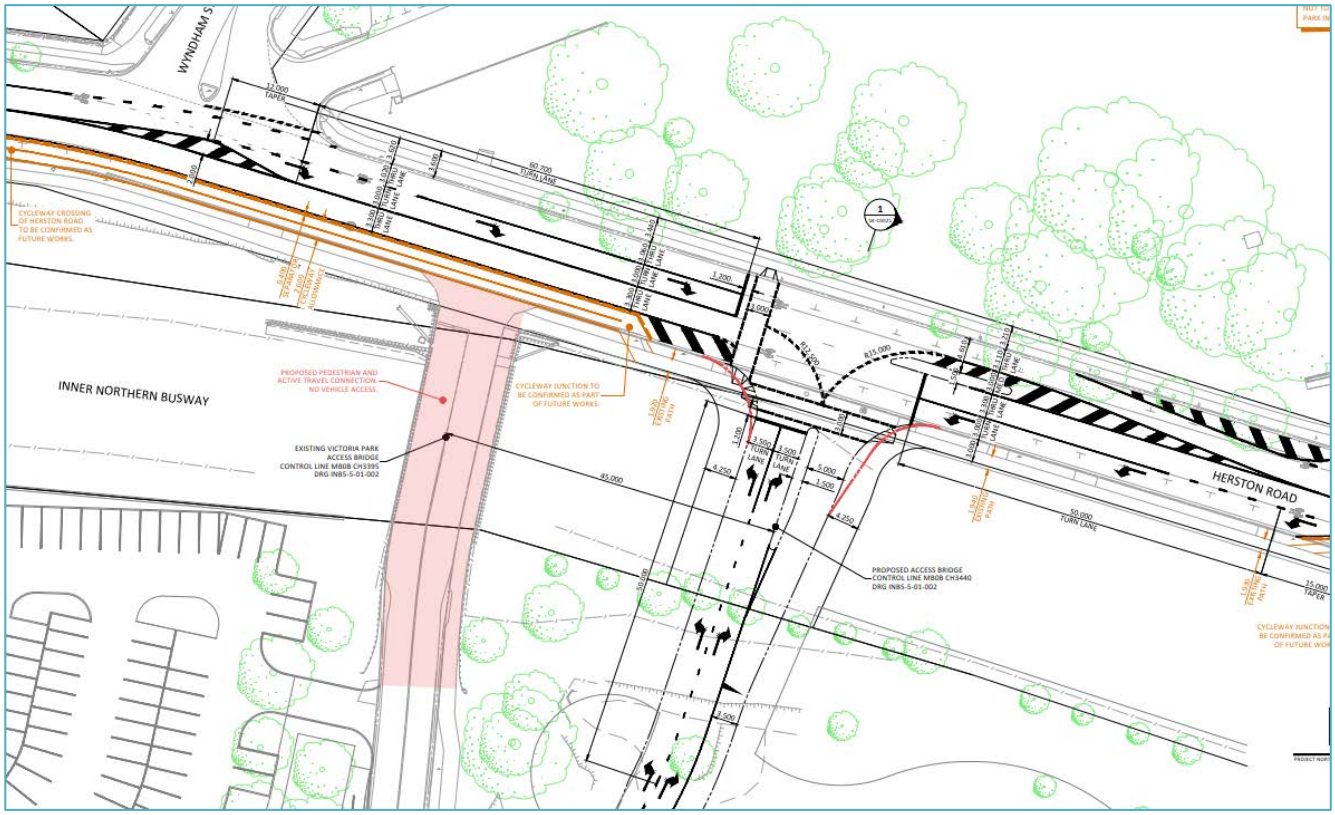
5.0 Traffic and Transport Design

5.1 Vehicles

5.1.1 Site Access

See the technical reporting prepared by Bornhorst + Ward regarding the upgraded signalised access intersections reported in Section 4.3.2 herein. An extract of the Bornhorst + Ward design (20341 SK-C0020 C) is included below at Figure 22. The Bornhorst + Ward design including swept path assessments is included at Appendix B

Figure 22 Proposed Herston Road / Site Access Signalised Intersection Upgrade



Source: Bornhorst + Ward 20341 SK-C0020 C, 2023

The intersection arrangement has been developed consistent with discussions with Council officers, particularly with reference to the following:

- Provision for bicycle facilities (tracks and paths) along Herston Road including the preference for an auxiliary left turn entry lane.
- Provision for pedestrian crossing facilities on only the southern and western approaches.

The Bornhorst + Ward plan shows a 2.6m cycle track with physical separation to Herston Road. This facility width could be increased to 3m; however, this would require narrower traffic lanes and/or land resumptions.

Furthermore, the remainder verge cannot be widened given the adjacent Inner Northern Busway.

5.1.2 Road Cross-Sections

Figure 23 and Table 18 summarise the internal movement network hierarchy and design arrangements for routes by which vehicles can access, circulate and manoeuvre within site.

Figure 23 Internal Traffic Hierarchy and Design

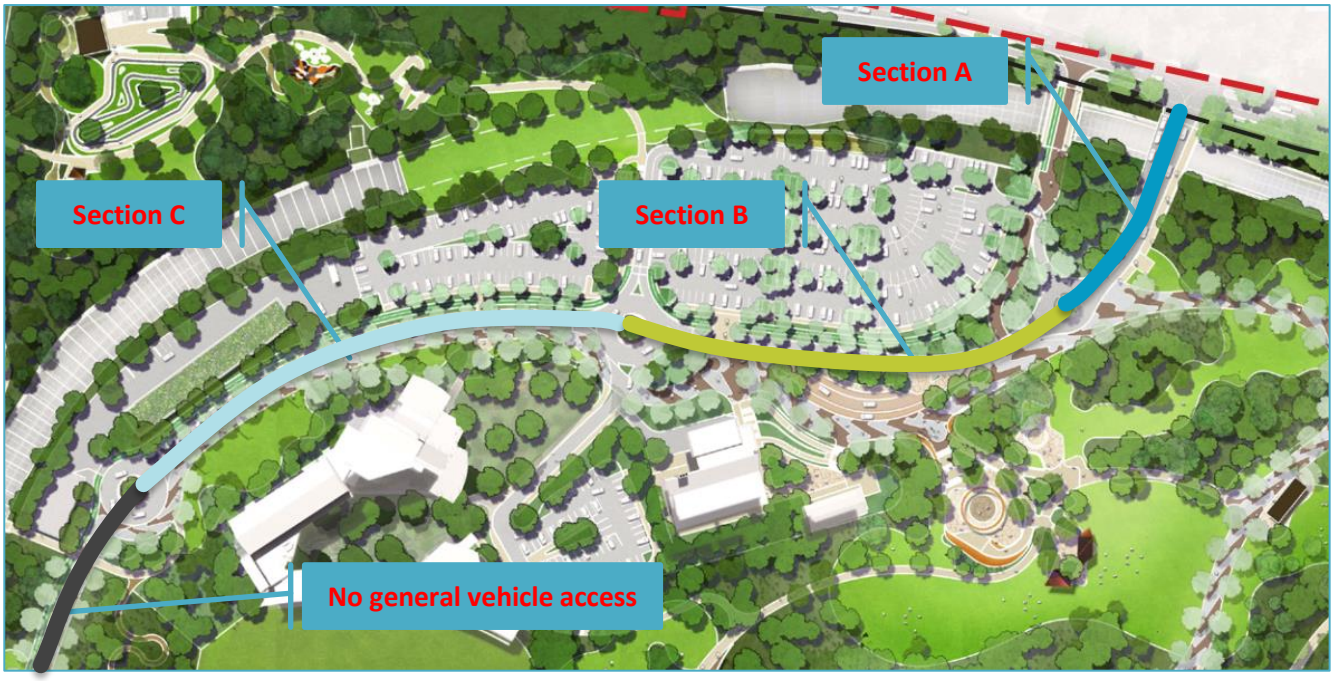


Table 18 Internal Traffic Hierarchy and Design

Road/ Movement Section	Cross-section (excludes verge)	Formation	Comment
A Herston Rd – 50m internal to site	~13.3m (varies)	Road with kerbs. 2 * 3.5m exit lanes, 1 * 1.8m median, 1 * 4.5m entry lane	Primary road for entering and exiting traffic. Posted ~40km/h speed limit (internal). Typical asphalt surface.
B Entry precinct – first roundabout	7.0m	Road with alternating raised/flush kerbs with contrasting pavement. 2 * 3.5m traffic lanes.	Main circulation for traffic and access to/from car parking and passenger set down. Priority crossing for pedestrian movement to/from car parking. Contrasting pavement with posted 20km/h limit.
C First roundabout – second roundabout	7.2m	Road with kerbs and contrasting pavement. 2 * 3.6m lanes	Secondary circulation to Tree House and Kelvin Grove Metro Station, access to/from car parking. Contrasting pavement with posted 20-30km/h limit.

Regular vehicular access to the general public is not accommodated south of the third roundabout at the southernmost end of Section C.

5.1.3 Car Parking

The traffic engineering design of car parking and associated circulation areas has been developed in accordance with the TAPS PSP and the relevant suite of Australian Standards (AS2890). The site use is considered to accord with AS2890.1 Type 2 or 3 turnover, and as such, parking areas should be able to achieve the following minimum dimensions summarised in Table 19.

Table 19 Geometric Configuration Review

Design Component	Proposed Design	AS2890 Compliant	TAPS PSP Compliant
PWD parking space dimensions	2.4m * 5.4m parking space with similar 2.4m * 5.4m shared space adjacent	✓	✓
Coach parking bay dimensions	✓ Determined by swept path	✓	Deemed to comply by swept path design
Parking space and aisle dimensions (User Class 2)	2.6m * 5.4m with 5.8m parking aisle (minimum)	✓	✓ 7.44 (1)

5.1.4 Development Servicing

Table 20 reproduces the TAPS PSP specification of minimum design vehicles for the defined land use.

Table 20 Statutory Design Vehicle Requirement

Land Use	Design Vehicle	
	Access Design (Occasional Access)	Internal Design (Regular Access – Major Road
Park where in a District zone precinct or where a district park	12.5m Coach	Refuse Collection Vehicle

The location of maintenance depot vehicle accesses has been developed to minimise conflict with other vehicle, pedestrian and cyclist movement.

The swept path assessment prepared by SLR has adopted the various design vehicles, including the TAPS PSP 12.5m single-unit truck, a 14.5mbus, and a 10.2m RCV. The swept path assessment drawings are included at Appendix C and confirm that the Master Plan design is generally reasonable and functionable. It is noted that some refinement of traffic islands will need to be explored to better accommodate the Appendix C swept paths which show some of the 14.5m bus movements conflict with indicative internal kerbs and traffic islands. These modifications would not alter the intent.

5.1.5 Taxi, Coach, Drop off and Ride-share.

The main site set-down/pickup facility incorporates a combined ~80m (13-14 passenger cars) of vehicle storage via two parallel parking lanes either side of the through circulation lane. The following dimensions have been adopted based on the findings of a swept path assessment:

- Main circulation lane = 5.0m.
- Passenger set down/pickup lanes = 3.0m.

The facility should be signed to allow any user to stop and stand with a maximum time limit of two minutes. A particular segment of the facility could be signed for the exclusive use of buses.

Similar passenger set-down and pickup facilities are proposed at the end of the reconfigured Gilchrist Avenue for approx. 60m vehicle storage (~10-11 passenger cars).

5.1.6 Vehicle Queuing

The TAPS PSP (Table 10) outlines a minimum queue provision of seven (7) plus 1% of capacity over 250 spaces for a public car parking area without a control device.

A total of 502 parking spaces are proposed to be accessed by the main Herston Road site access. This parking supply would equate to 10 queued vehicles or approximately 50-60m. Based on a review of the plans, this distance can be achieved and satisfies Acceptable Outcome 15 (AO15).

5.1.7 Car Parking Management

It is intended that the off-street car parking be able to provide an element of time or cost restrictions to regulate parking in the long-term to discourage use by non-park (external) users. Council is currently progressing arrangements to enable this to occur. The car parking nodes have been designed such that physical devices to control access/egress could be installed at some time when Council can confirm future parking management arrangements.

5.2 Public Transport

The internal circulation layout has been developed to accommodate regular movement of 12.5m and 14.5m buses. Principally, buses will traverse the part of the site between Herston Road and the main passenger set-down and pickup facility. Furthermore, the modified Gilchrist Avenue set-down and pickup facility may accommodate buses.

The swept path assessment drawings illustrating the bus movement within the site are included at Appendix C.

5.3 Active Transport

5.3.1 Site Access

Victoria Park / Barrambin is bounded by several major roads, including Herston Road, Bowen Bridge Road, Gregory Terrace and Victoria Park Road. It is bisected by the Inner-City Bypass (ICB) and to the west it has the Queensland University of Technology (QUT) Kelvin Grove campus as a major neighbour. Connections to external road, walking, cycling and public transport networks will be important to the success of the Master Plan, even though some of these connectivity issues cannot be addressed or delivered by the Master Plan itself.

Pedestrian and cyclist access to/from Herston Road (to be implemented as part of the Master Plan) is proposed via two routes:

- In verge-based facilities on the new road bridge proposed to facilitate vehicle access
- Retention of the existing bridge exclusively for active travel use.

Both of these routes are illustrated on the functional concept design prepared by Bornhorst + Ward (Appendix B).

Future improvements to the external network that will support public and active transport access to Victoria Park / Barrambin to the area east of Bowen Bridge Road (e.g., Exhibition Precinct/train station and Bowen Hills PDA) are outside the scope of the Master Plan area yet have been an important consideration in the development of the internal walking and cycling connections. The key internal connections that will provide walking and cycling access to the Exhibition precinct include:

- Inner City Pedestrian and Bicycle Bridge (connecting Herston Busway station across the ICB to the Gregory Terrace/Bowen Bridge Road intersection)
- North Brisbane Bikeway underpass of Bowen Bridge Road (directly to the north of the ICB)
- Shared paths through Victoria Park / Barrambin on the southern side of the ICB (from the ICB land bridge to the Gregory Terrace/Bowen Bridge Road intersection)
- Gregory Terrace bicycle lanes.

Several reports/plans/strategies have been developed to guide planning and infrastructure provision in the Exhibition precinct – a summary of the relevant documents relating to active transport is provided in Appendix G.

5.3.2 Facility Types and Design

Table 21 summarises the five key walking and cycling facility types proposed within the Victoria Park / Barrambin site.

Table 21 Active Transport Facility Types

Facility type	Description
Cycle Track	A bicycle facility for cyclists only which is physically separated from motor vehicles either in the road verge (off-road) or on the road carriageway (on-road). Can be two-way for bicycles (on one side of the road) or one-way for bicycles (on one or both sides of the road).
Bicycle only pathway	A bicycle path which is off-road and for cyclists only.
Separated pathway	A path which is off-road and has separated space for pedestrians and cyclists, usually defined through line-marking/signage and/or landscaping.
Shared pathway	A path which is off-road and is shared space with pedestrians and cyclists.
Shared zone	A zone with the speed limit applied to an area or length of road that is shared by vehicles, cyclists and pedestrians. A speed limit of 10 km/h applies.

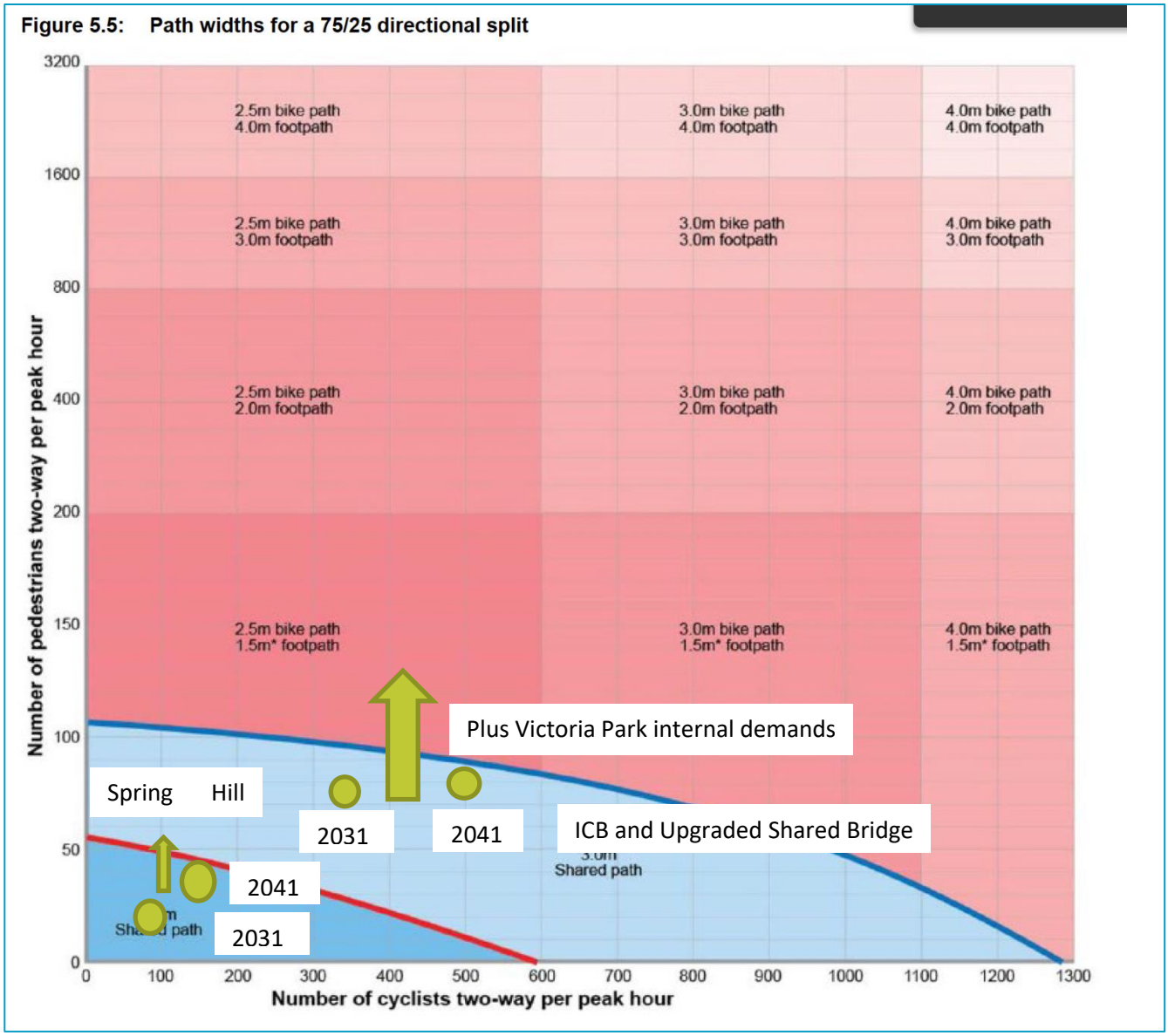
The forecast demands were used to estimate facility types and widths. The majority of the internal paths will be shared paths, catering for slower speed cyclists and high numbers of pedestrians. This is appropriate as the high-speed cyclists should be encouraged to the higher speed routes on the edge of the Victoria Park / Barrambin site.

One of the key decisions for the active transport network is when to separate pedestrian and cycle paths. *Austroads Guide to Road Design Part 6A* provides some guidance for when to separate paths based on pedestrian and cyclist volumes. The Austroads table is based on peak hour flows. The existing count data indicates that the AM peak on the Inner-City Bypass land bridge is 20% of the daily volumes. Figure 24 shows the equivalent peak hour flows of the following estimated daily volumes mapped on the path widths graph from Austroads:

- New pedestrian and cycle bridge (Grammar schools) - 1700 cyclists per day and 385 pedestrians per day in 2031 and 2470 cyclists per day and 450 pedestrians per day in 2041 plus medium level internal Victoria Park / Barrambin demands.
- Inner City Bypass land bridge - 1700 cyclists per day and 385 pedestrians per day in 2031 and 2470 cyclists per day and 450 pedestrians per day in 2041 plus medium level internal Victoria Park / Barrambin demands.
- Spring Hill side Inner City Bypass land bridge to Bowen Bridge Road - 380 cyclists/190 pedestrians in 2031 and 550 cyclists/270 pedestrians daily in 2041) plus low-level internal Victoria Park / Barrambin demands.

The 2031 and 2041 AM estimated volumes have been plotted on the Austroads chart. It is noted that internal demands within Victoria Park / Barrambin increase the demands on these links, although peak demands at Victoria Park / Barrambin are unlikely to correlate with the commuter peaks.

Figure 24 Future Active Transport Demands



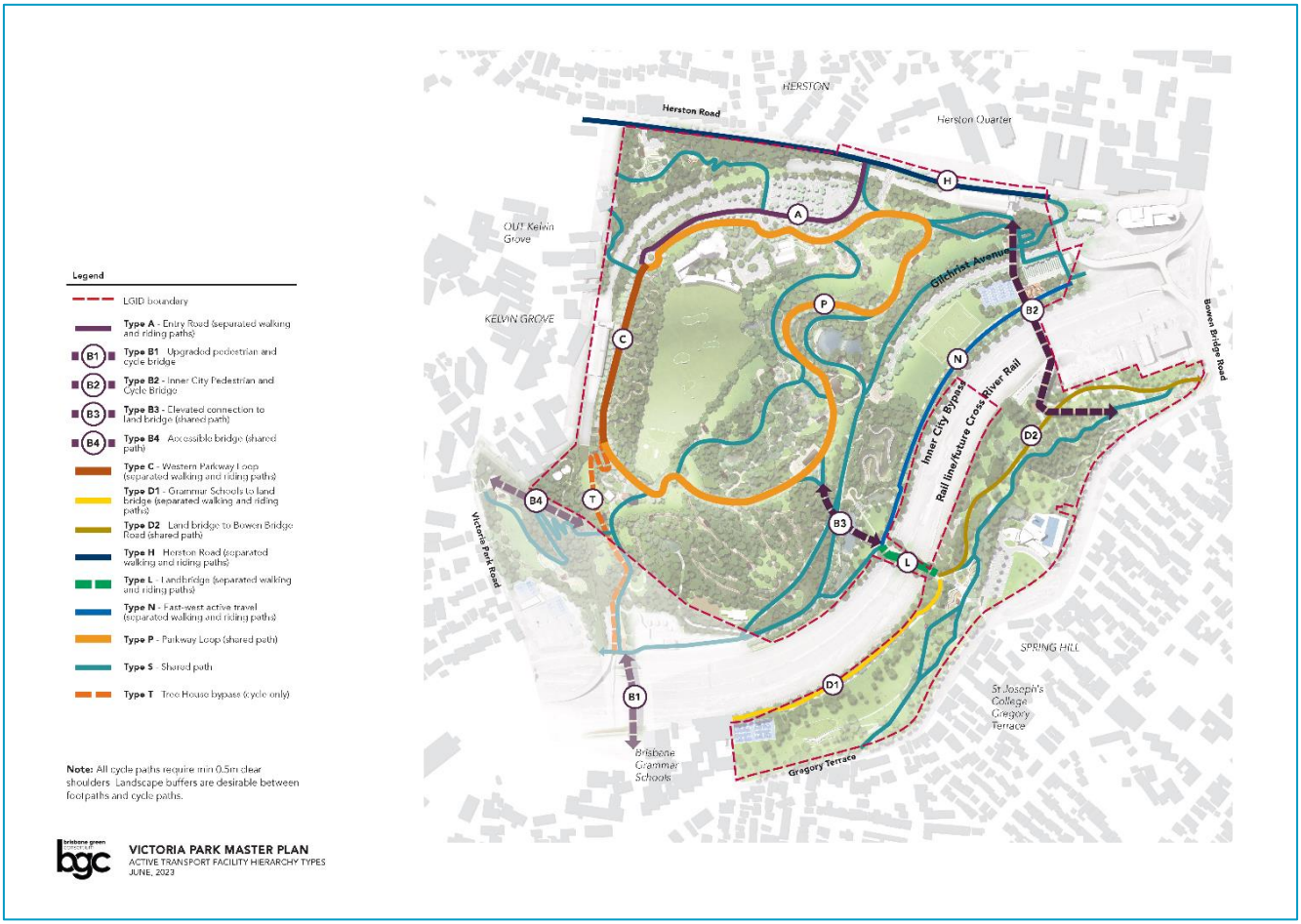
Source: Austroads Guide to Road Design, Part 6A, 2021

Both the upgraded shared bridge and Inner-City Bypass land bridge, once Victoria Park / Barrambin demands are added, qualify for separation. Due to the opportunity to provide high quality facilities in Victoria Park / Barrambin site, wider dimensions then indicated on the above graph are recommended based on experiences from other active transport bridges and pathways in Brisbane. Separation will be particularly important on the primary north south route to Enoggera Creek (and beyond to Chermside) and the primary east west route to the northern bikeway. These routes will experience high demand from high-speed commuter cyclists, e-mobility vehicles and people walking and separation is recommended.

The hierarchy of cycling routes and pedestrian spines in the Active Transport Network Plan guides the facility types and cross-sections i.e., the higher order routes are likely to require greater separation between modes and therefore wider cross-sections. Each route within the Victoria Park / Barrambin site has been assessed based on the forecast demand, site constraints, Master Plan intent, and user types likely present on each route.

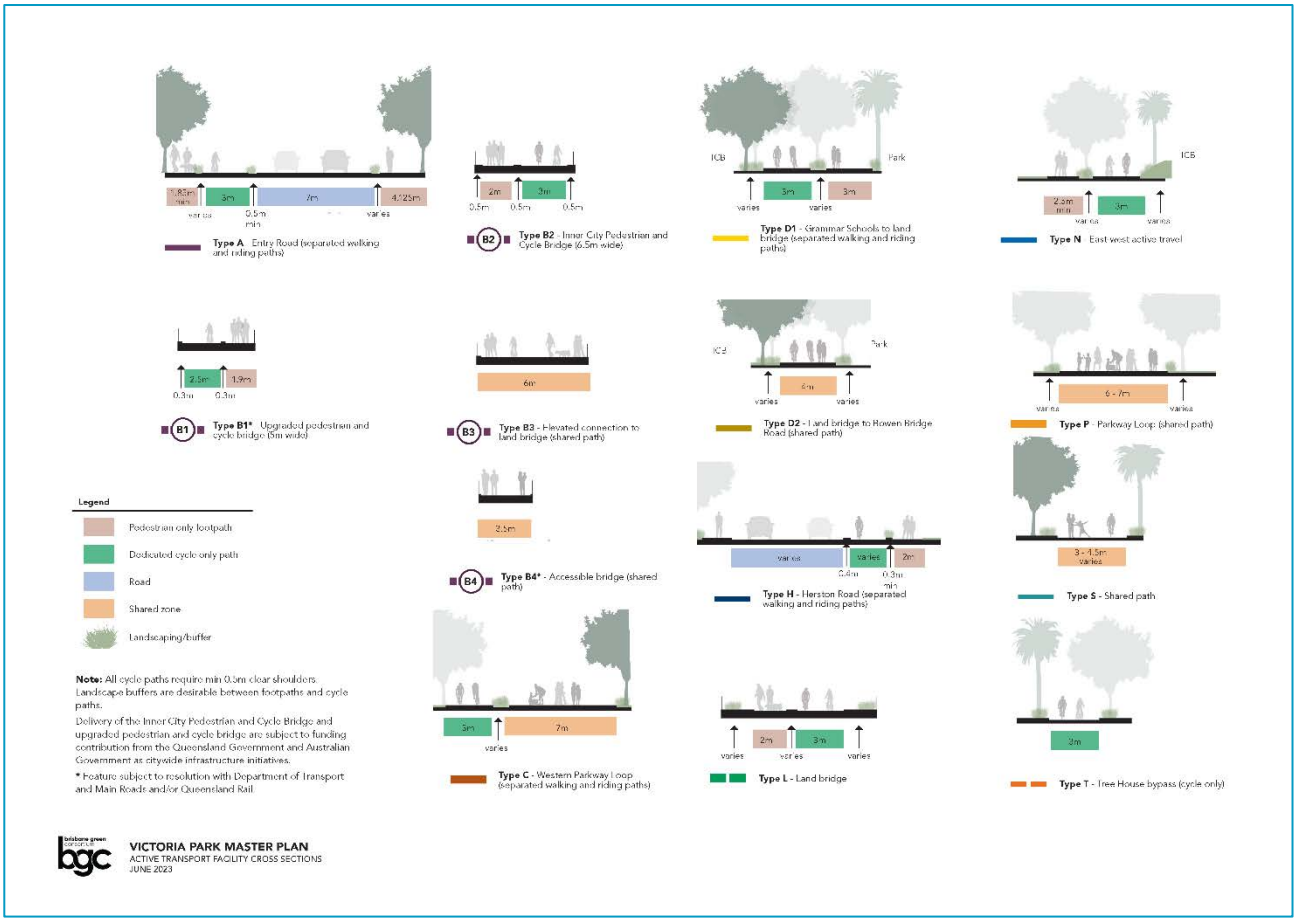
Each of the various facility types is illustrated on Figure 25 and the proposed cross-sections on Figure 26.

Figure 25 Active Transport Facility Hierarchy Type



Source (base image): Urbis 2023

Figure 26 Active Transport Facility Type Cross-Sections



Source: Urbis 2023

The cross sections take into the account the following:

- New pedestrian and cycle bridge (type B1) is the narrowest bridge proposed. This considers the lower potential demands for Victoria Park / Barrambin on the link, but also the physical constraints in constructing this bridge. The 5m is consistent with its location (e.g., not a major inner city bridge across the Brisbane River). There are several ways this narrower facility could be treated, either:
  - Separation of bicycle and pedestrian users as per B1 in Figure 26; or
  - Shared use by bicyclists and pedestrians with no separation.

  There is sufficient flexibility that either of these outcomes could be implemented as the design is resolved.
- Type B2 – is the widest bridge proposed (Inner City Pedestrian and Cycle Bridge). Although demand estimation shows lower volumes on this bridge, future demands from the Fortitude Valley / Bowen Hills area were unable to be estimated. In addition, the demands have not taken into account that this iconic bridge will be a destination within itself, and recreational trips were also not properly estimated in the methodology (such as loops and trips for pleasure).
- Type D2 - does not currently quality for separation based on the demand analysis undertaken, however space to allow this path to be separated in the future is recommended.

The above cross-sections illustrate the ideal/desirable outcome for the ultimate active transport network in Victoria Park / Barrambin. Facilities may also be delivered using a staged approach, with path widening and upgrades (e.g., from shared to separated paths) to occur as demand warrants and/or funding becomes available. If a path is currently a shared path but it proposed to be upgraded to a separated path, a clear corridor must be preserved free of obstructions (light poles, infrastructure etc.). Schedule 6.16 of the City Plan's Infrastructure Design PSP (Chapter 4 Pathway design outside the road corridor) outlines bicycle route corridor widths as per Table 22 below. Paths widths would be narrower after accounting for lighting, landscaping, bins etc.

Table 22 Corridor Width for Routes Identified by the Bicycle Network

Bicycle route	Unconstrained corridor width	Constrained corridor width
Primary	9m	8m
Secondary	7m	6m
Local	6m	5m

Source: BCC City Plan (accessed 2023)

5.3.2.1 Bicycle Parking

Bicycle parking includes bicycle racks and rails, and bicycle shelters. Bicycle racks and rails are suitable for short- and medium-term parking. Bicycle shelters are secure shared enclosures that provide a medium level of security and are suitable for locations where a large number of cyclists park their bicycles for long periods.

The following locations should be considered for short-term bicycle parking (bicycle racks):

- Tree house and lookout.
- Bistro.
- Kiosk(s).
- Community sporting infrastructure e.g., sports field, cricket nets, tennis courts.
- Playground(s).

The exact location, form and quantum of short-term parking should be determined at detailed design stage.

Furthermore, single bicycle rails (that can hold up to two bicycles) should be installed at regular locations throughout the site, such as near pedestrian/lower order paths or bicycle inaccessible paths that connect to park attractions. Bicycle rack and rail design and installation details can be found at Brisbane Standard Drawings 5000 series - Pedestrian and cyclist facilities.

Longer term bicycle parking should be considered at the two metro stations (Herston and Kelvin Grove). TransLink provides bike racks and facilities for public use at bus stations and park 'n' rides. Further discussions with TransLink should occur around new opportunities for bicycle parking, given cycling access to the two metro stations will be greatly improved with the Victoria Park / Barrambin redevelopment.

The detailed design of these bicycle parking facilities is not feasible at this time and there is sufficient flexibility to incorporate convenient, good quality facilities throughout the site.

6.0 Summary and Recommendations

SLR Consulting (SLR) has been engaged by Brisbane City Council (**the Applicant**) to prepare this Traffic and Transport Assessment (TIA) to support a Local Government Infrastructure Designation (LGID) that is made over part of the Victoria Park / Barrambin Master Plan site.

The LGID is made over part of the site to give statutory effect and facilitate the delivery of elements of the Victoria Park / Barrambin Master Plan (Master Plan) which is intended to transform the 64 -hectare parkland into a multi-function metropolitan park, with various spaces for passive and active recreation, along with opportunities to host an expanded range of diverse events and activations. The Master Plan sets out the roadmap for the park's redevelopment following community and stakeholder consultation and various technical studies, whereas the LGID will be the planning approval which allows elements of the Master Plan to be delivered on site.

The proposal seeks to designate the premises for various infrastructure purposes, in accordance with Schedule 5 of the Planning Regulation 2017 ('the Planning Regulation'). Specifically, the LGID seeks endorsement for the following infrastructure categories:

- 2 – Transport Infrastructure;
- 3 – community and cultural facilities;
- 11 – facilities for parks and recreation;
- 17 – sporting facilities; and
- 20 – storage and works depots and similar facilities, including administrative facilities relating to the provision or maintenance of infrastructure stated in this part.

The purpose of this TIA is to inform the assessment of the Victoria Park / Barrambin LGID by the State and Brisbane City Council (in its role as **the Designator**), by identifying and addressing the key relevant traffic and transport matters. The key assessment findings are summarised as:

- The existing site access to Herston Road must be upgraded consistent with the concept plan prepared by Bornhorst + Ward which includes provision for AUL and CHR auxiliary turning lane treatments.
- The upgraded site access intersection will operate within typically accepted capacity thresholds at the assessed 2031 and 2041 design horizons.
- The proposed development will integrate with the existing and planned public transport network including Cross River Rail and Brisbane Metro. This will support sustainable travel mode share choice.
- The proposed development will enable safe and convenient active travel to, from and through the site and will significantly improve the broader sub-regional network. This will support sustainable travel mode share choice.
- The proposed development is not anticipated to materially impact the safety or operational performance of the surrounding road network.
- The proposed 664 off-street parking spaces is considered satisfactory on balance of consideration of the strategic principles outlined in the *Transport Plan for Brisbane*, the Transport, access, parking and servicing Planning Scheme Policy (TAPS PSP) acceptable and performance outcomes, and a first-principles assessment. This provision will support increased sustainable travel mode share choice compared to the existing situation.

- The movement components of the proposed site layout are considered to accord with the TAPS PSP design specifications and/or the relevant Australian Standards. Furthermore, the layout is considered to reasonably accommodate all user groups.

7.0 RPEQ Certification

This TIA report has been prepared under the direction of a Registered Professional Engineer of Queensland (RPEQ) who is experienced in traffic engineering and transport planning. The report is endorsed by that RPEQ accordingly.

Kris Stone

Principal Consultant – Transport Advisory

RPEQ No: 24687

APPENDIX A

Illustrative Master Plan

The Master Plan

NORTH

1. Urban pump park
2. Park administration and operations
3. Adventure Valley with mountain bike track and high ropes course
4. The Tree House and lookout
5. Kelvin Grove busway access
6. Green waste storage
7. Parkway loop
8. York's Hollow (revitalised)
9. Elevated connection to land bridge
10. Nature water play gully
11. Education Hub
12. Lower wetlands and boardwalk
13. Adventure playground
14. Parkway kiosk
15. Naturalised waterholes
16. Community sports precinct including a sports field, multi-purpose court, cricket nets, and tennis courts
17. Gilchrist Avenue drop-off zone
18. Upper wetlands
19. Function centre, driving range, bistro and putt putt
20. Main car park
21. Parkland arrival
22. Main parkland entry (with signalised intersection)
23. Herston busway access
24. Old Clubhouse
25. Inner City Pedestrian and Cycle Bridge
26. Commuter bikeway/active transport connection
27. Lift to accessible elevated walkway*
28. Dog park*
29. Upgraded pedestrian and cycle bridge*
30. Commuter bikeway/active transport connection*

SOUTH

31. Community tennis courts
32. Spring Hill Common
33. Community edible garden and connection to land bridge
34. Centenary Pool with upgraded car park
35. Dog park
36. Gundoo Memorial Grove (rehabilitated)

* New features subject to resolution with Department of Transport and Main Roads and/or Queensland Rail

LGID boundary

Master Plan boundary

The Master Plan

LGID boundary

Master Plan boundary

APPENDIX B

Herston Road Site Access Functional Intersection Concept Design (Bornhorst + Ward)

NOTE

CYCLEWAY INFRASTRUCTURE SHOWN IN ORANGE IS INCLUDED FOR DESIGN CONSIDERATION ONLY. NOT TO BE DELIVERED AS PART OF THE VICTORIA PARK INTERSECTION UPGRADE WORKS.

WYNDHAM ST

12.000 TAPER

2.000

3.600

3.620 3.020 3.000 THRU LANE

3.000 TURN LANE

3.300 THRU LANE

60.700 TURN LANE

3.440 3.060 3.000 THRU LANE

3.000 TURN LANE

3.300 THRU LANE

1.200

3.000

CYCLEWAY CROSSING OF HERSTON ROAD TO BE CONFIRMED AS FUTURE WORKS.

0.400 SEPARATOR

2.600 CYCLEWAY ALLOWANCE

1 / SK-C0021

R12.500

R15.000

4.610

1.500

3.210 3.110 THRU LANE

3.000 WD

3.300 THRU LANE

3.000 TURN LANE

3.000

INNER NORTHERN BUSWAY

PROPOSED PEDESTRIAN AND ACTIVE TRAVEL CONNECTION. NO VEHICLE ACCESS.

CYCLEWAY JUNCTION TO BE CONFIRMED AS PART OF FUTURE WORKS.

1.920 EXISTING PATH

1.200

3.500 TURN LANE

3.500 TURN LANE

4.250

5.000

1.500

4.250

45.000

50.000

EXISTING VICTORIA PARK ACCESS BRIDGE
CONTROL LINE MB0B CH3395
DRG INB5-5-01-002

PROPOSED ACCESS BRIDGE
CONTROL LINE MB0B CH3440
DRG INB5-5-01-002

3.500

1.940 EXISTING PATH

50.000 TURN LANE

HERSTON ROAD

1.930 EXISTING PATH

15.000 TAPER

0.400 SEPARATOR

2.600 CYCLEWAY ALLOWANCE

CYCLEWAY JUNCTION TO BE CONFIRMED AS PART OF FUTURE WORKS.

PLAN

SCALE 1:250

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PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES

A1 UNREDUCED
A3 REDUCED

SCALES

UNREDUCED / REDUCED

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1 : 250 / 1 : 500

STATUS

PRELIMINARY

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B	27.06.22	UPDATED INTERSECTION LAYOUT	JD	JD		
A	16.06.22	FOR INFORMATION	JD	JD		

ASSOCIATED CONSULTANTS

APPROVED
. . . . . RPEQ
DATE

CHECKED
. . . . . .
DATE

BORNHORST +WARD
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CLIENT
BRISBANE GREEN CONSORTIUM

PROJECT
VICTORIA PARK MASTER PLAN

SUBJECT
HERSTON ROAD INTERSECTION

PROJECT No. 20341

DRAWING No. SK-C0020

REVISION C

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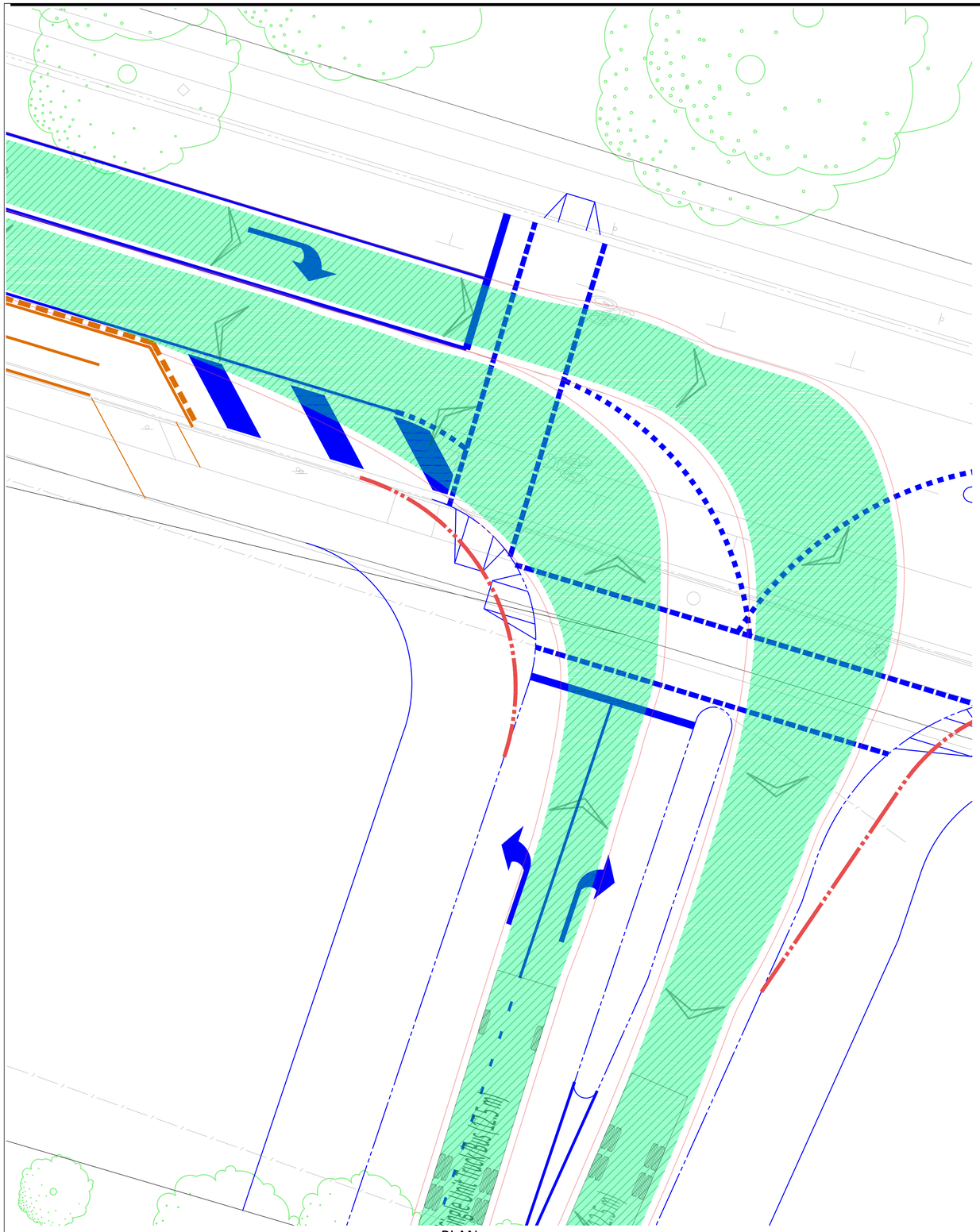

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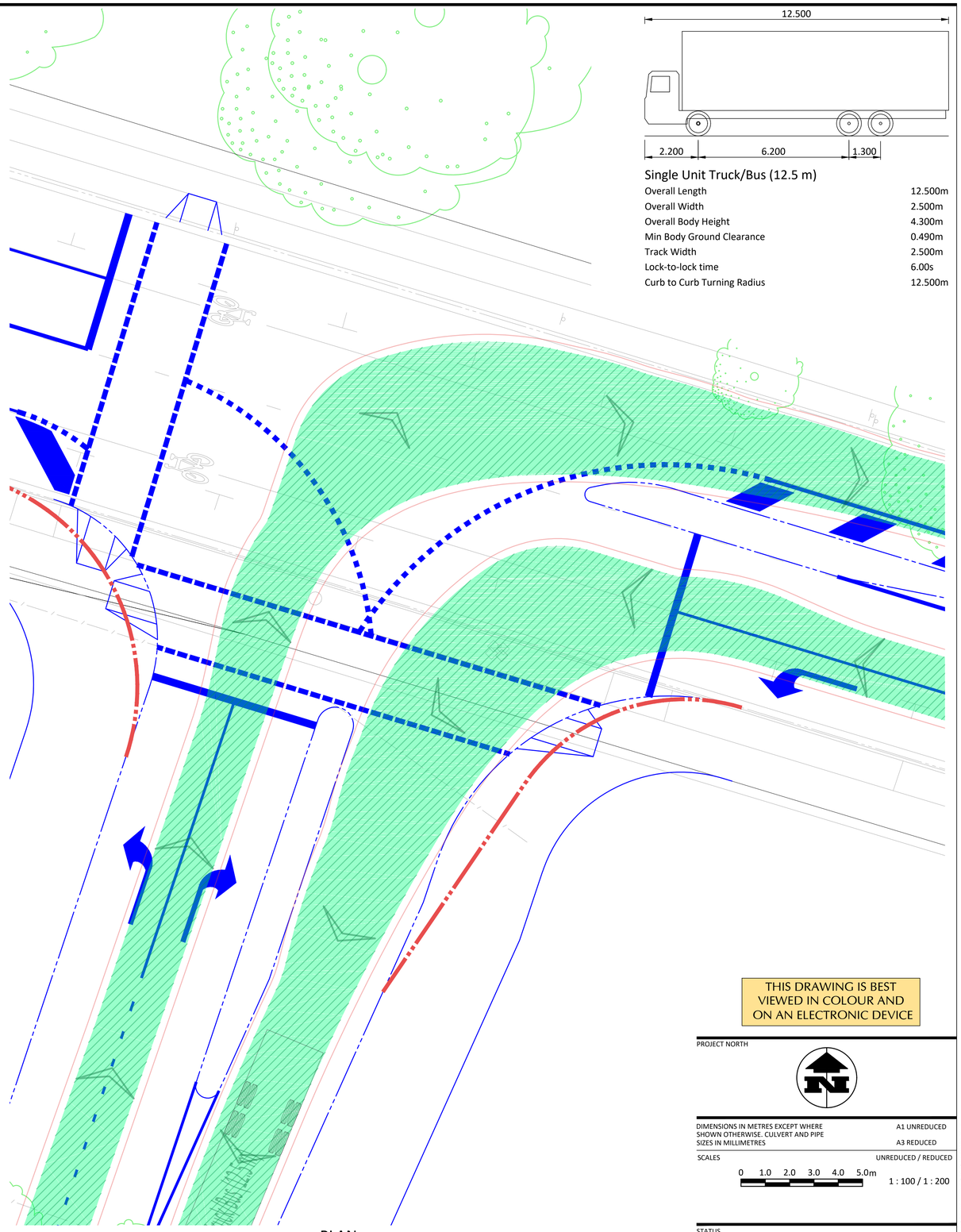

PLAN
SCALE 1:100

Single Unit Truck/Bus (12.5 m)

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.490m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES — A1 UNREDUCED, A3 REDUCED

SCALES — UNREDUCED / REDUCED

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STATUS

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CLIENT
BRISBANE GREEN CONSORTIUM

PROJECT
VICTORIA PARK MASTER PLAN

SUBJECT
HERSTON ROAD 12.5M BUS-TRUCK SWEPT PATHS

PROJECT No. 20341

DRAWING No. SK-C0022 REVISION A

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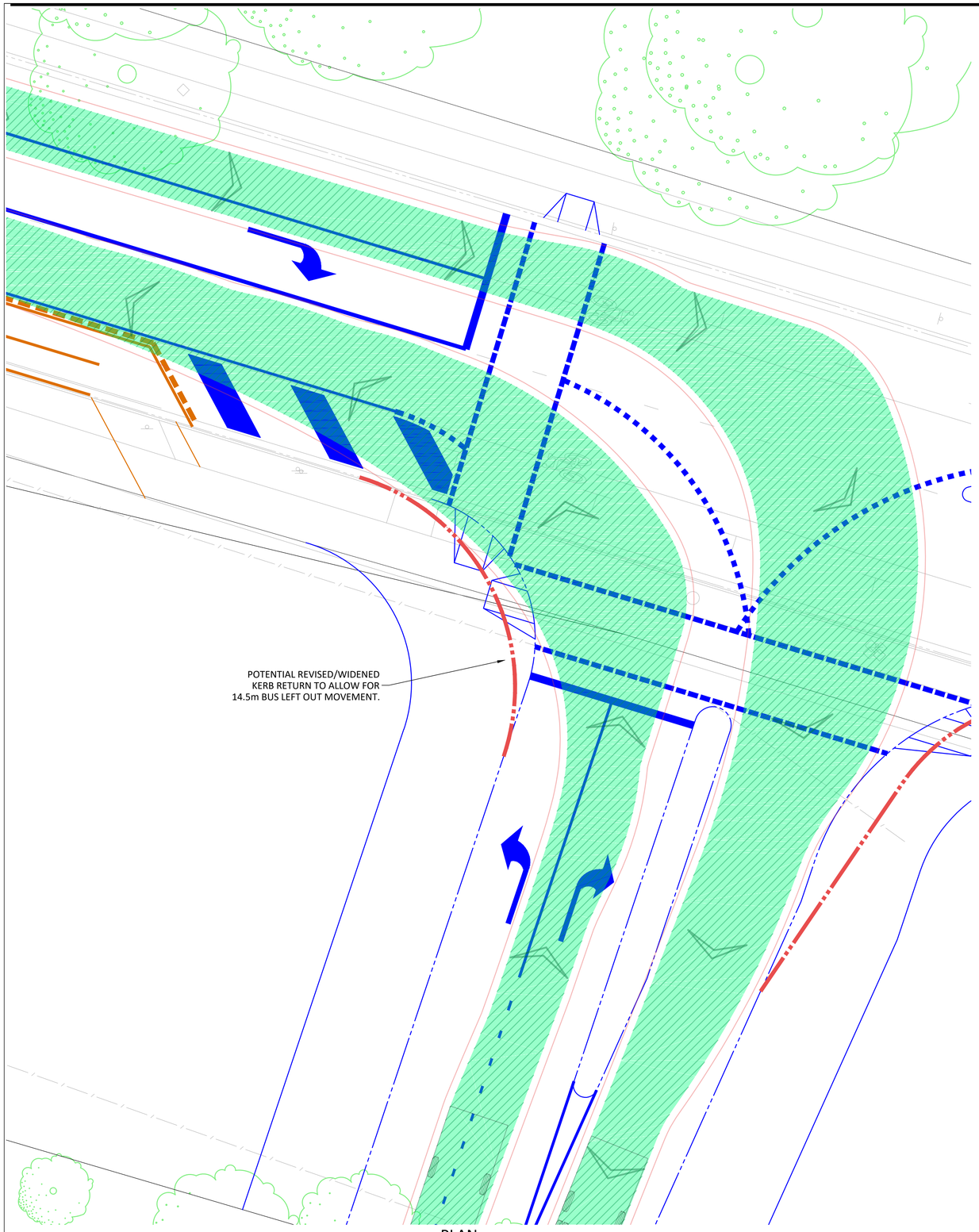

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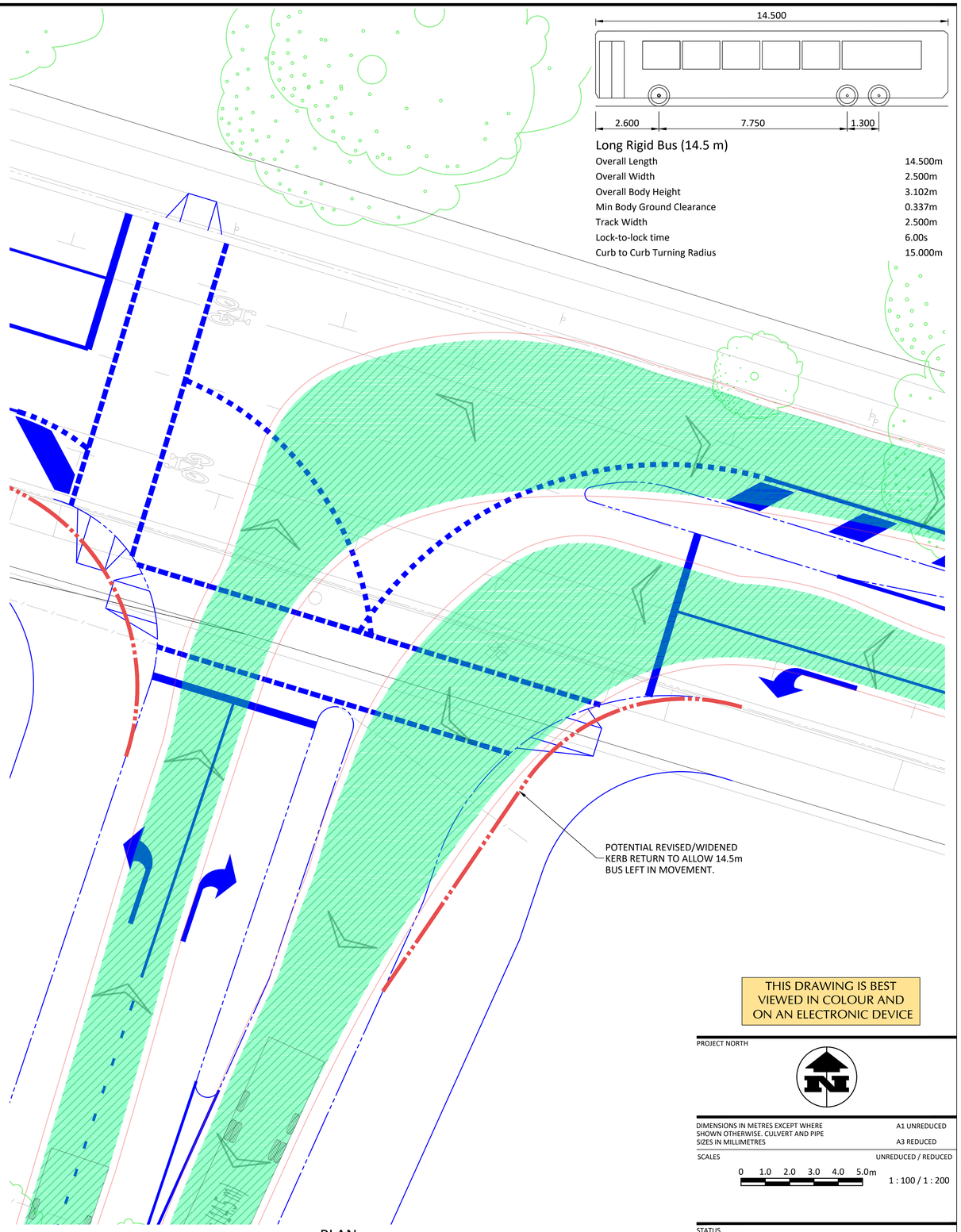

PLAN
SCALE 1:100

Long Rigid Bus (14.5 m)

Overall Length	14.500m
Overall Width	2.500m
Overall Body Height	3.102m
Min Body Ground Clearance	0.337m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	15.000m

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PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES — A1 UNREDUCED, A3 REDUCED

SCALES — UNREDUCED / REDUCED

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STATUS

PRELIMINARY

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ASSOCIATED CONSULTANTS

APPROVED . . . . . RPEQ . . . . . DATE

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CLIENT: BRISBANE GREEN CONSORTIUM

PROJECT: VICTORIA PARK MASTER PLAN

SUBJECT: HERSTON ROAD 14.5M BUS SWEPT PATHS

PROJECT No. 20341

DRAWING No. SK-C0023 REVISION A

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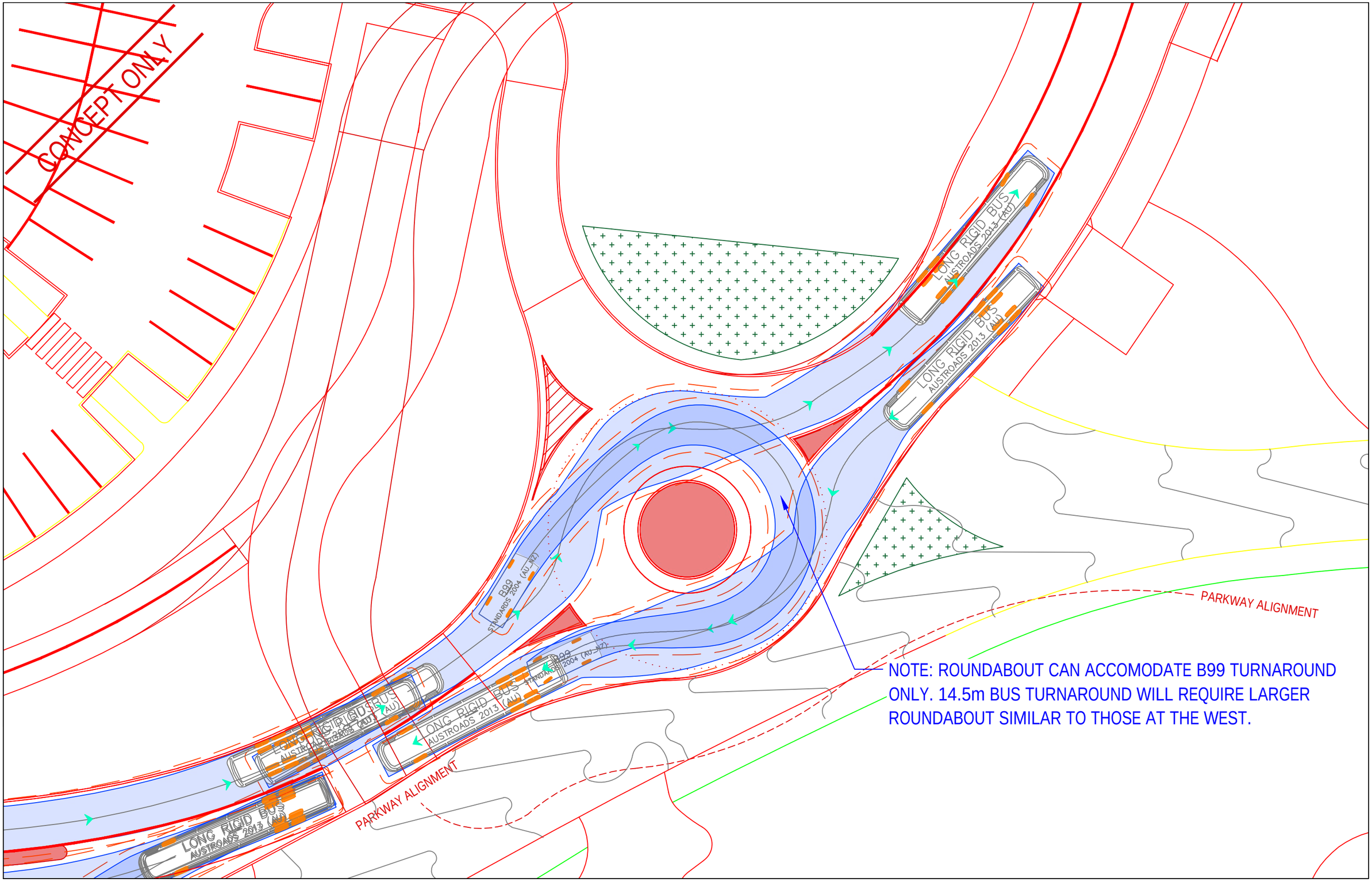
APPENDIX C

Swept Path Assessment (SLR)



SLR
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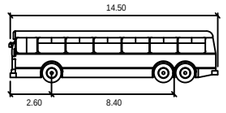
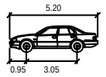
Projection:	-

SWEPT PATH LEGEND
- Vehicle Path
- Vehicle Body
- Body Clearance
- Front Wheels



LONG RIGID BUS

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 46.4



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

N

0.0 2.5 5 7.5 10
METRES

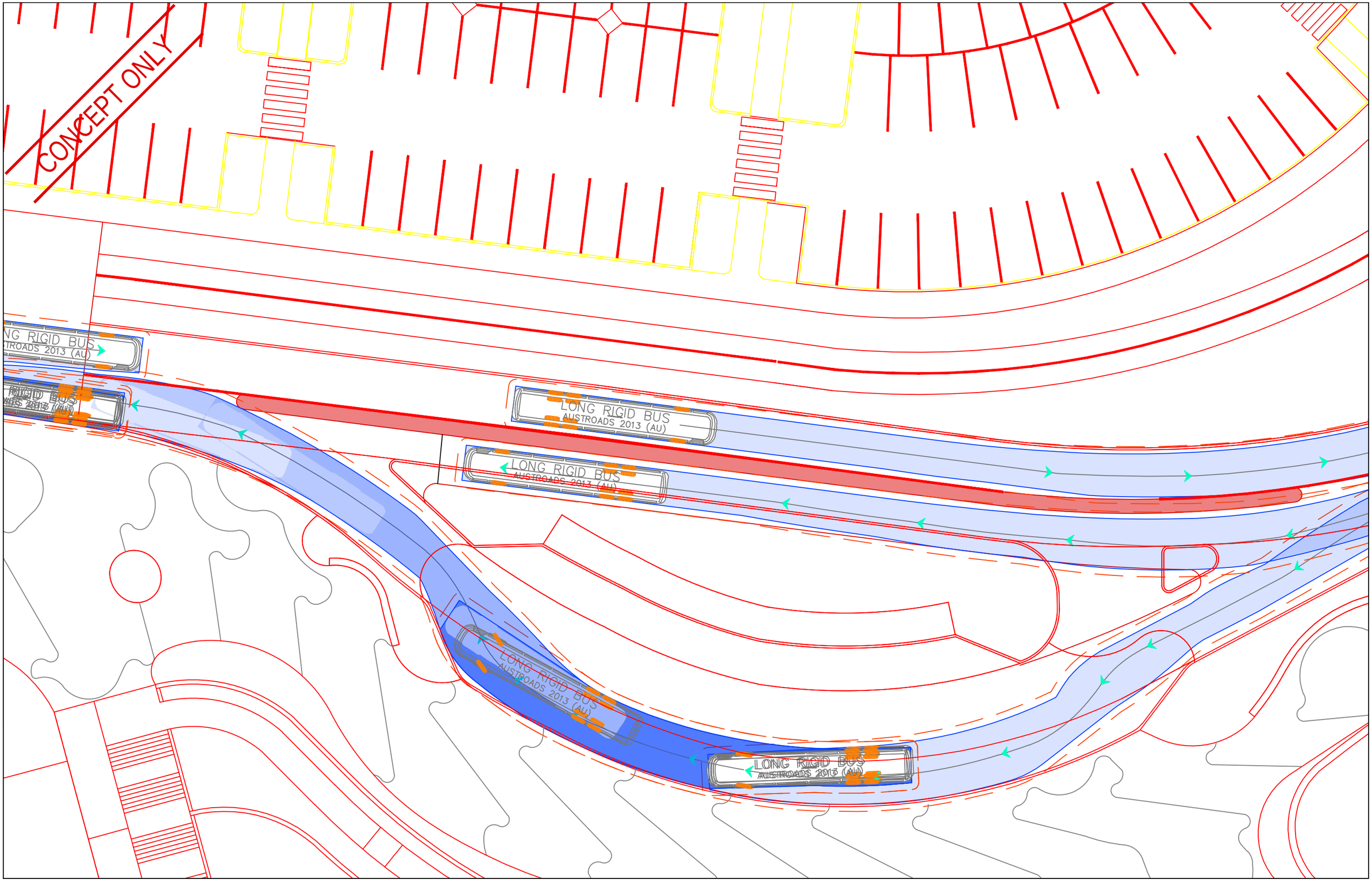
SCALE 1:250

Brisbane City Council

Victoria Park Masterplan

Swept Paths

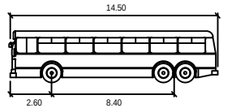
FIGURE SK01-SP



SLR
L16 175 EAGLE STREET
BRISBANE CITY 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

Project No:	620.30321
Date:	21/3/2023
Drawn by:	DM
Scale:	AS SHOWN
Sheet Size:	A3
Projection:	–

SWEPT PATH LEGEND
- Vehicle Path
- Vehicle Body
- Body Clearance
- Front Wheels



LONG RIGID BUS

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 46.4

N

0.0 2.5 5 7.5 10
METRES

SCALE 1:250

Brisbane City Council

Victoria Park Masterplan

Swept Paths

FIGURE SK02-SP

CONCEPT ONLY

14.5m BUS U-TURN OK.

LONG RIGID BUS
AUSTROADS 2013 (AU)

LONG RIGID BUS
AUSTROADS 2013 (AU)

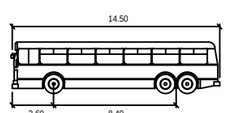
LONG RIGID BUS
AUSTROADS 2013 (AU)

SLR
L16 175 EAGLE STREET
BRISBANE CITY 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

Project No:	620.30321
Date:	21/3/2023
Drawn by:	DM
Scale:	AS SHOWN
Sheet Size:	A3
Projection:	-

SWEPT PATH LEGEND

- Vehicle Path
- Vehicle Body
- Body Clearance
- Front Wheels



LONG RIGID BUS

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 46.4

N

0,0 2,5 5 7,5 10
METRES

SCALE 1:250

Brisbane City Council

Victoria Park Masterplan

Swept Paths

FIGURE SK03

CONCEPT ONLY

LONG RIGID BUS
AUSTROADS 2013 (AU)

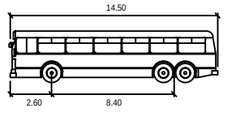
LONG RIGID BUS
AUSTROADS 2013 (AU)

SLR
L16 175 EAGLE STREET
BRISBANE CITY 4000
AUSTRALIA
T: 61 7 3858 4800
www.slrconsulting.com

Project No:	620.30321
Date:	21/3/2023
Drawn by:	DM
Scale:	AS SHOWN
Sheet Size:	A3
Projection:	-

SWEPT PATH LEGEND

- Vehicle Path
- Vehicle Body
- Body Clearance
- Front Wheels



LONG RIGID BUS

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 46.4

N

0.0 2.5 5 7.5 10
METRES

SCALE 1:250

Brisbane City Council

Victoria Park Masterplan

Plan Markup & Swept Paths

FIGURE SK05

APPENDIX D

Traffic Survey (Austraffic and Matrix)

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 1 **Weather:** Fine

Location: Herston Road/Victoria Park access, Herston

Day/Date: Wednesday, 23 March 2022

Summary: 17 Hour Volumes : *6:00 AM to 11:00 PM*

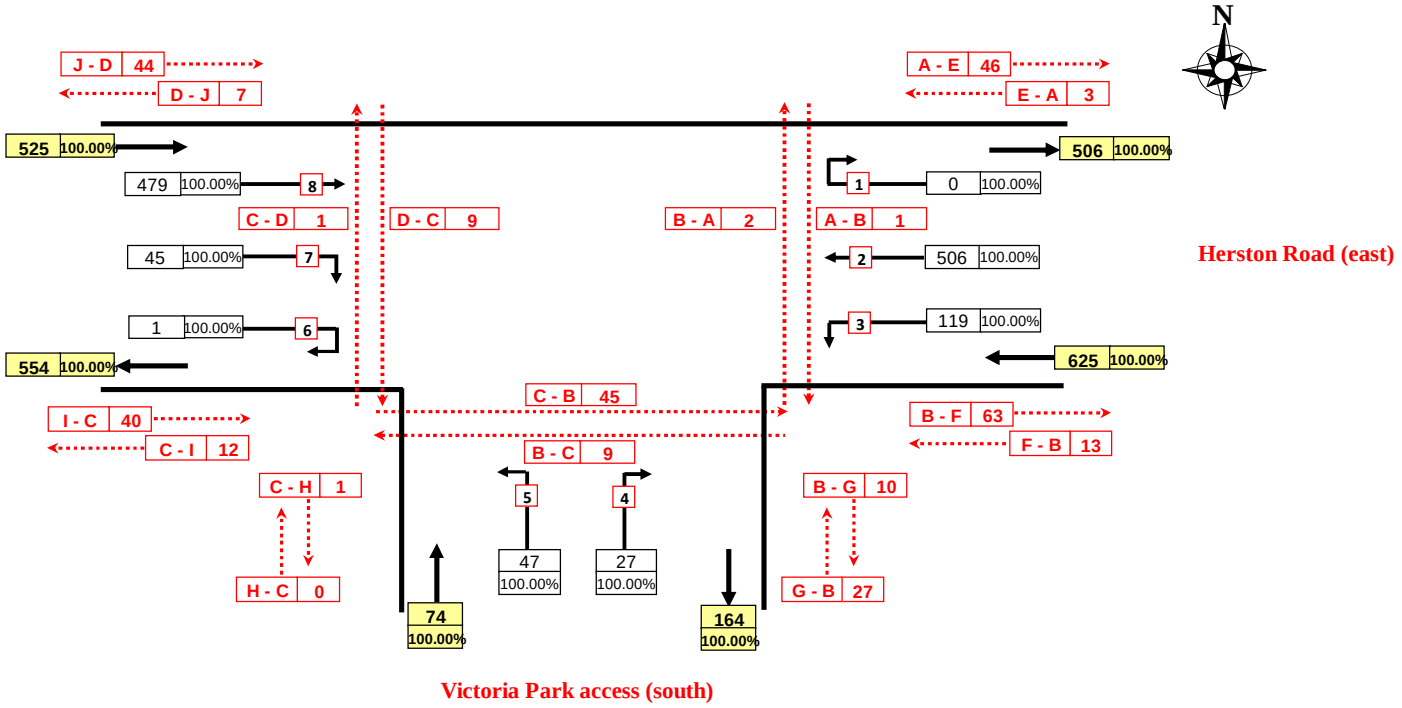
AM Peak : *Hour ending - 9:00 AM*

PM Peak : *Hour ending - 6:00 PM*

Hour Ending: 9:00 AM

On-road classification: Total Vehicles

Off-road classification: Total Ped & Cyclists



Note: 3.28% = proportion of selected vehicle classification as a percentage of total vehicles

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 1 **Weather:** Fine

Location: Herston Road/Victoria Park access, Herston

Day/Date: Wednesday, 23 March 2022

Summary: 17 Hour Volumes : *6:00 AM to 11:00 PM*

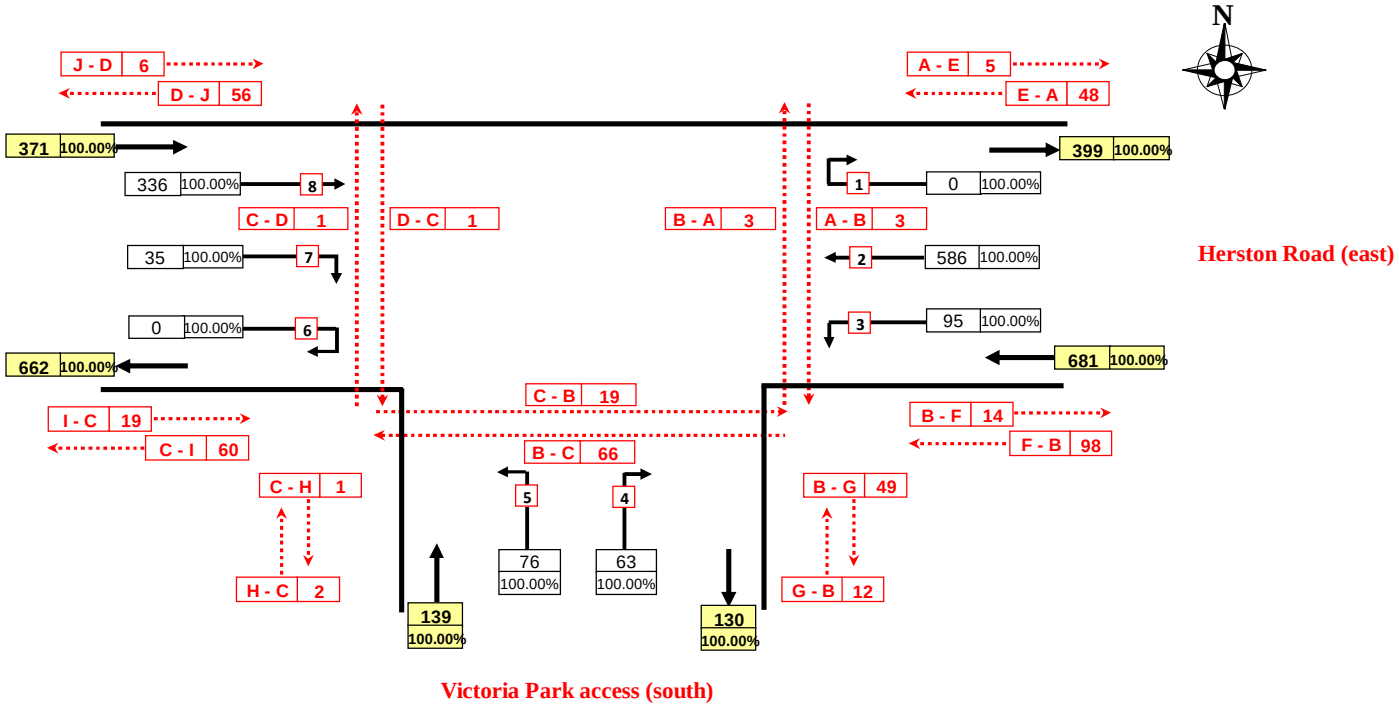
AM Peak : *Hour ending - 9:00 AM*

PM Peak : *Hour ending - 6:00 PM*

Hour Ending: 6:00 PM

On-road classification: Total Vehicles

Off-road classification: Total Ped & Cyclists

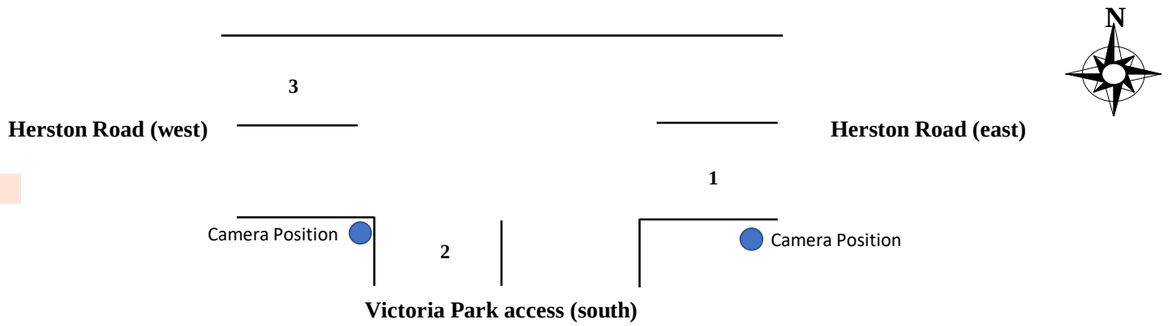


Note: 3.28% = proportion of selected vehicle classification as a percentage of total vehicles

AUSTRAFFIC QUEUE LENGTH COUNT

Site No.: 1 **Weather:** Fine
Location: Herston Road/Victoria Park access, Herston
Day/Date: Wednesday, 23 March 2022

Comment: Queue extends back from Herston Road & Wyndham Street



AM

Time period	Maximum queue length (no. of vehicles)		
	1	2	3
6:30 - 6:45	0	1	1
6:45 - 7:00	0	2	4
7:00 - 7:15	0	1	8
7:15 - 7:30	0	1	2
7:30 - 7:45	0	2	6
7:45 - 8:00	0	1	5
8:00 - 8:15	0	3	10
8:15 - 8:30	0	1	5
8:30 - 8:45	7	3	5
8:45 - 9:00	0	3	11
9:00 - 9:15	0	5	5
9:15 - 9:30	0	4	2
Average	**1**	**2**	**5**
Maximum	**7**	**5**	**11**

PM

Time period	Maximum queue length (no. of vehicles)		
	1	2	3
14:30 - 14:45	0	3	2
14:45 - 15:00	0	4	0
15:00 - 15:15	0	5	1
15:15 - 15:30	0	1	1
15:30 - 15:45	0	3	2
15:45 - 16:00	0	1	5
16:00 - 16:15	0	4	12
16:15 - 16:30	0	4	8
16:30 - 16:45	0	3	10
16:45 - 17:00	0	4	2
17:00 - 17:15	0	6	7
17:15 - 17:30	0	3	11
17:30 - 17:45	0	3	2
17:45 - 18:00	0	2	4
18:00 - 18:15	0	3	1
18:15 - 18:30	0	4	1
Average	**0**	**3**	**4**
Maximum	**0**	**6**	**12**

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 1 **Weather:** Fine

Location: Herston Road/Victoria Park access, Herston

Day/Date: Saturday, 26 March 2022

Summary: 17 Hour Volumes : *6:00 AM to 11:00 PM*

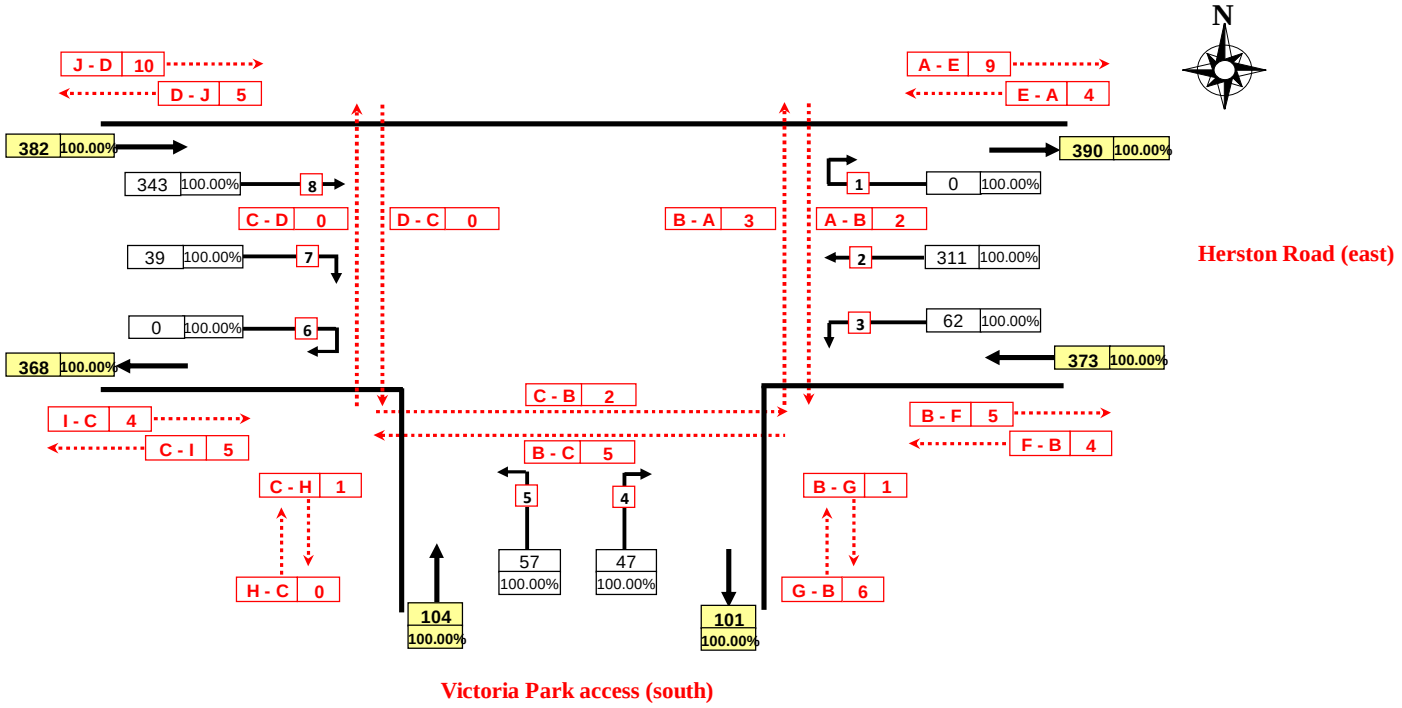
AM Peak : *Hour ending - 12:00 PM*

PM Peak : *Hour ending - 12:15 PM*

Hour Ending: 12:15 PM

On-road classification: Total Vehicles

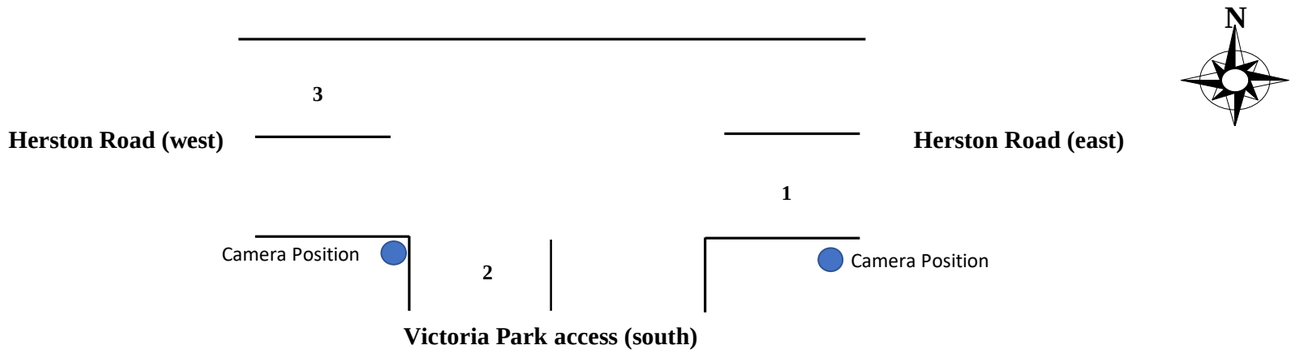
Off-road classification: Total Ped & Cyclists



Note: 3.28% = proportion of selected vehicle classification as a percentage of total vehicles

AUSTRAFFIC QUEUE LENGTH COUNT

Site No.: 1 **Weather:** Fine
Location: Herston Road/Victoria Park access, Herston
Day/Date: Saturday, 26 March 2022



Time period	Maximum queue length (no. of vehicles)		
	1	2	3
10:00 - 10:15	0	3	2
10:15 - 10:30	0	2	1
10:30 - 10:45	0	3	1
10:45 - 11:00	0	3	4
11:00 - 11:15	0	2	3
11:15 - 11:30	0	3	6
11:30 - 11:45	0	3	1
11:45 - 12:00	0	3	1
12:00 - 12:15	0	3	4
12:15 - 12:30	0	2	4
12:30 - 12:45	0	6	0
12:45 - 13:00	0	2	3
13:00 - 13:15	0	2	4
13:15 - 13:30	0	3	1
13:30 - 13:45	0	2	2
13:45 - 14:00	0	2	0
Average	**0**	**3**	**2**
Maximum	**0**	**6**	**6**

JOB NUMBER 188666-1 - 1

Suburb Herston

CLIENT Brisbane City Design

SITE Victoria Park Access Road, South of Herston Road

SURVEY DATE Mon, 21 Mar 22 Until Sun, 27 Mar 22

		DIRECTION OF TRAVEL		
		TWO-WAY	Northbound	Southbound
TRAFFIC VOLUME:	Weeks Days Only	2,788	1,380	1,407
[VEH/DAY]	7 Days Average	2,761	1,371	1,390
PEAK HOUR **AM**	7:00	206	29	176
VOLUME: **PM**	17:00	239	131	108
TOTAL SPEEDS:	85th Percentile	36.6	38.0	35.3
Km/Hr	Average	29.0	30.0	28.1
PACE SPEED	15Km/h Upper Limit	38.0	39.0	37.0
% COMM. VEHICLES:	CLASS 3> %	5.4%	5.9%	4.8%

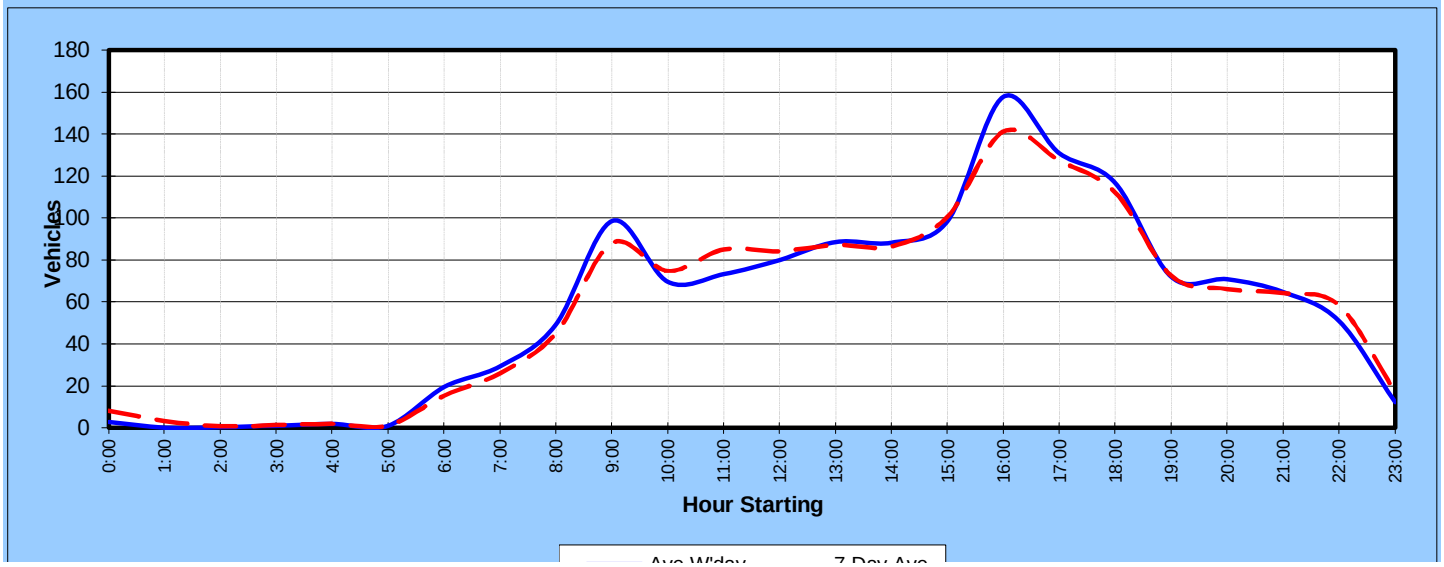
NOTES : (OBSERVATIONS)

* CLASS 1 - Short Vehicles up to 5.5m

Road	Victoria Park Access Road, Herston	
Location	South of Herston Road	
Site No.	1	
Start Date	Monday	21-Mar-22
Direction	Northbound	

Average Weekday	1380
7 Day Average	1371
Weekday Heavy's	6.1%
7 Day Heavy's	5.9%

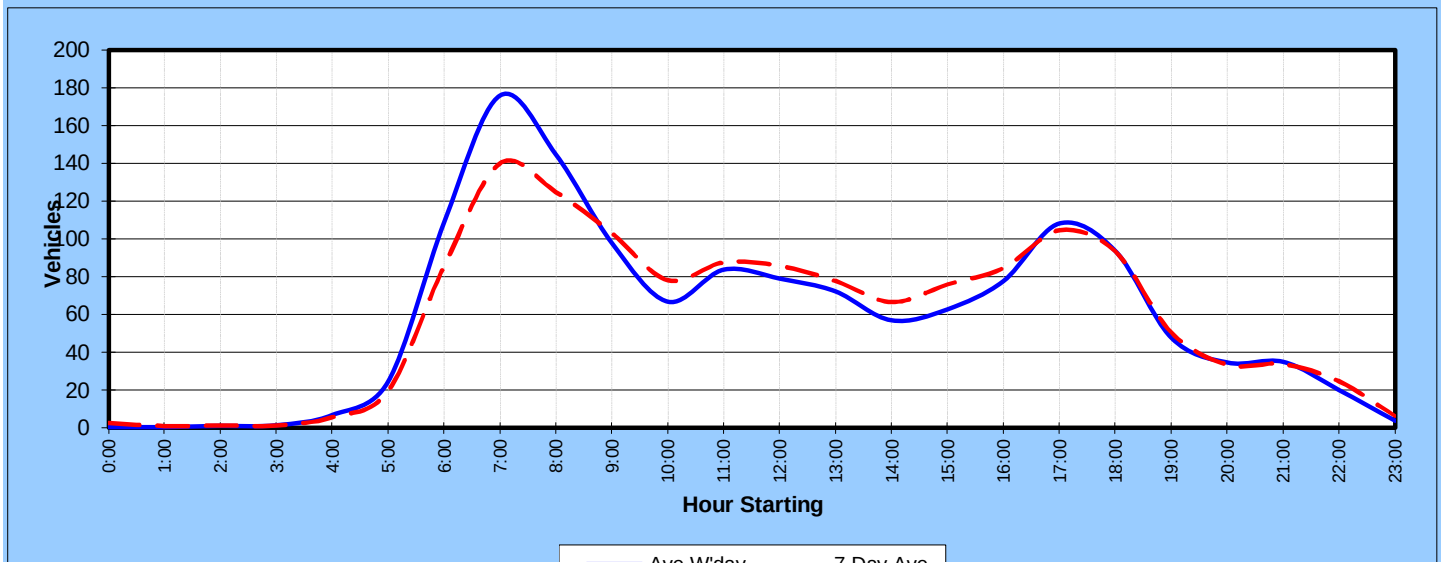
	Day of Week							Ave	7 Day
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	W'day	Ave
Time	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar		
AM Peak	91	78	174	144	62	94	136		
PM Peak	141	182	152	146	206	140	111		
0:00	0	1	1	0	13	3	40	3	8
1:00	0	0	0	0	1	1	22	0	3
2:00	0	0	0	1	1	1	3	0	1
3:00	0	3	0	2	1	2	2	1	1
4:00	1	2	4	1	2	3	1	2	2
5:00	0	1	1	2	2	0	3	1	1
6:00	35	8	21	22	12	6	4	20	15
7:00	45	26	23	22	31	13	23	29	26
8:00	43	46	75	46	36	35	36	49	45
9:00	91	43	174	144	42	53	70	99	88
10:00	23	71	90	102	62	87	89	70	75
11:00	75	78	76	78	59	94	136	73	85
12:00	85	79	90	66	81	97	92	80	84
13:00	71	107	111	82	72	91	77	89	87
14:00	77	84	96	83	102	88	76	88	87
15:00	99	111	94	87	103	113	98	99	101
16:00	141	182	127	146	193	89	111	158	141
17:00	95	156	152	117	135	136	101	131	127
18:00	75	108	95	100	206	128	74	117	112
19:00	38	72	117	70	63	92	56	72	73
20:00	53	64	76	95	66	64	46	71	66
21:00	56	46	108	57	57	87	39	65	64
22:00	10	15	27	41	163	140	13	51	58
23:00	5	4	7	23	22	60	0	12	17
Total	1118	1307	1565	1387	1525	1483	1212	1380	1371
% Heavies	5.6%	6.0%	5.2%	6.6%	7.2%	6.2%	4.5%	6.1%	5.9%



Road	Victoria Park Access Road, Herston		
Location	South of Herston Road		
Site No.	1		
Start Date	Monday	21-Mar-22	
Direction	Southbound		

Average Weekday	1407
7 Day Average	1390
Weekday Heavy's	5.7%
7 Day Heavy's	4.8%

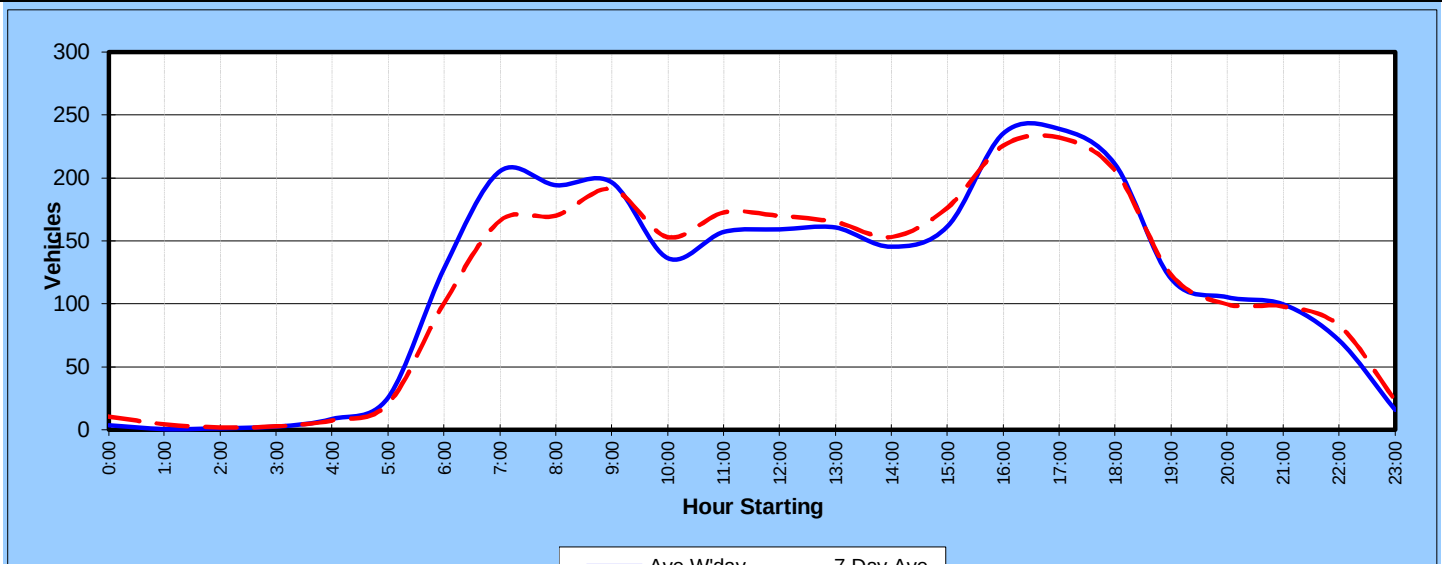
	Day of Week							Ave	7 Day
	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
Time	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	W'day	Ave
AM Peak	209	147	218	192	167	113	120		
PM Peak	74	98	135	88	192	139	102		
0:00	0	1	0	0	2	0	15	1	3
1:00	0	0	1	2	0	0	5	1	1
2:00	1	0	0	1	3	3	1	1	1
3:00	2	2	0	3	1	2	0	2	1
4:00	6	7	12	4	5	4	2	7	6
5:00	16	13	34	37	23	5	10	25	20
6:00	209	58	115	103	61	29	25	109	86
7:00	169	143	218	192	159	40	60	176	140
8:00	68	147	166	177	167	66	84	145	125
9:00	72	119	119	100	79	113	120	98	103
10:00	27	94	81	68	65	94	119	67	78
11:00	61	106	92	75	86	98	96	84	88
12:00	74	78	82	82	80	103	102	79	86
13:00	53	98	81	71	58	93	91	72	78
14:00	39	49	62	66	69	100	82	57	67
15:00	52	74	60	74	55	116	101	63	76
16:00	58	81	73	79	98	123	81	78	85
17:00	57	69	135	88	192	139	53	108	105
18:00	52	71	103	86	157	133	52	94	93
19:00	34	56	61	36	53	91	24	48	51
20:00	36	26	38	32	41	43	19	35	34
21:00	5	3	15	12	140	60	2	35	34
22:00	0	4	4	10	83	68	4	20	25
23:00	0	1	1	11	6	25	1	4	6
Total	1091	1300	1553	1409	1683	1548	1149	1407	1390
% Heavies	5.8%	6.3%	5.3%	6.8%	4.6%	2.8%	1.8%	5.7%	4.8%



Road	Victoria Park Access Road, Herston		
Location	South of Herston Road		
Site No.	1		
Start Date	Monday	21-Mar-22	
Direction	Combined		

Average Weekday	2788
7 Day Average	2761
Weekday Heavy's	5.9%
7 Day Heavy's	5.4%

	Day of Week							Ave	7 Day
	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
Time	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	W'day	Ave
AM Peak	244	193	293	244	203	192	232		
PM Peak	199	263	287	225	363	275	199		
0:00	0	2	1	0	15	3	55	4	11
1:00	0	0	1	2	1	1	27	1	5
2:00	1	0	0	2	4	4	4	1	2
3:00	2	5	0	5	2	4	2	3	3
4:00	7	9	16	5	7	7	3	9	8
5:00	16	14	35	39	25	5	13	26	21
6:00	244	66	136	125	73	35	29	129	101
7:00	214	169	241	214	190	53	83	206	166
8:00	111	193	241	223	203	101	120	194	170
9:00	163	162	293	244	121	166	190	197	191
10:00	50	165	171	170	127	181	208	137	153
11:00	136	184	168	153	145	192	232	157	173
12:00	159	157	172	148	161	200	194	159	170
13:00	124	205	192	153	130	184	168	161	165
14:00	116	133	158	149	171	188	158	145	153
15:00	151	185	154	161	158	229	199	162	177
16:00	199	263	200	225	291	212	192	236	226
17:00	152	225	287	205	327	275	154	239	232
18:00	127	179	198	186	363	261	126	211	206
19:00	72	128	178	106	116	183	80	120	123
20:00	89	90	114	127	107	107	65	105	100
21:00	61	49	123	69	197	147	41	100	98
22:00	10	19	31	51	246	208	17	71	83
23:00	5	5	8	34	28	85	1	16	24
Total	2209	2607	3118	2796	3208	3031	2361	2788	2761
% Heavies	5.7%	6.1%	5.3%	6.7%	5.9%	4.5%	3.2%	5.9%	5.4%



JOB NUMBER 18866 - 2

Suburb Herston

CLIENT Brisbane City Design

SITE Victoria Park Access, East of Garden Marquee

SURVEY DATE Mon, 21 Mar 22 Until Sun, 27 Mar 22

		DIRECTION OF TRAVEL		
		TWO-WAY	Eastbound	Westbound
TRAFFIC VOLUME:	Weeks Days Only	2,199	1,098	1,101
[VEH/DAY]	7 Days Average	2,306	1,151	1,155
PEAK HOUR **AM**	8:00	156	56	100
VOLUME: **PM**	18:00	199	107	92
TOTAL SPEEDS:	85th Percentile	24.1	25.4	22.8
Km/Hr	Average	19.7	21.0	18.5
PACE SPEED	15Km/h Upper Limit	27.0	29.0	27.0
% COMM. VEHICLES:	CLASS 3> %	4.4%	5.8%	3.0%

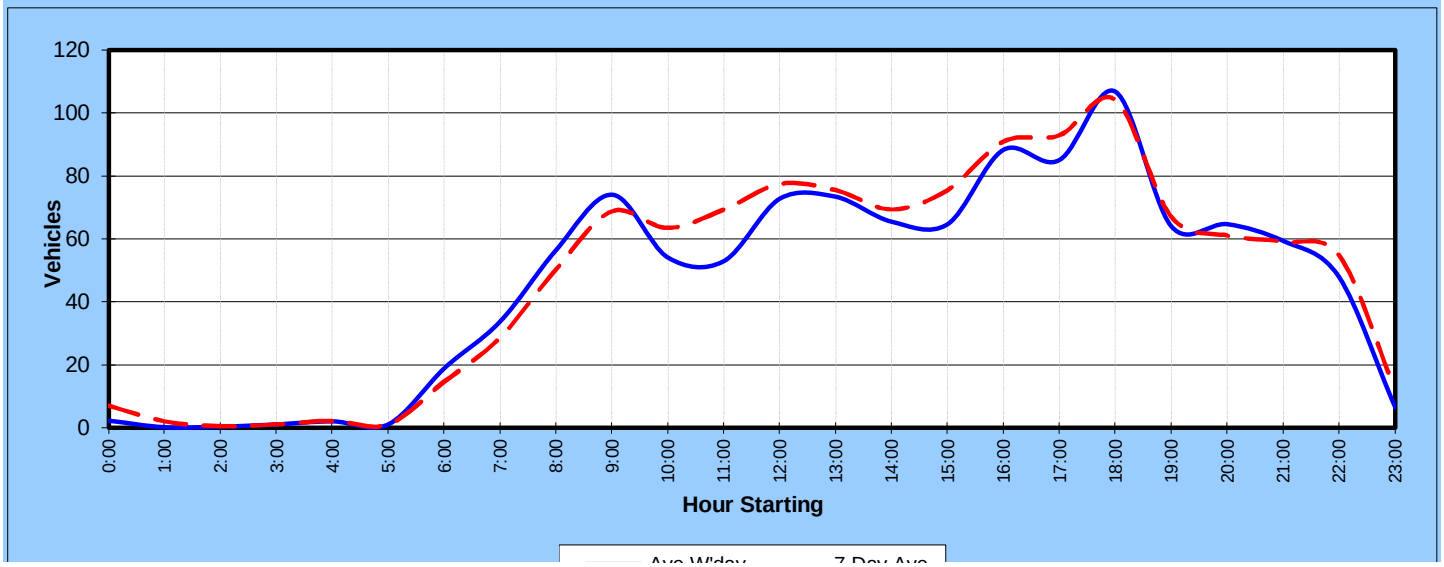
NOTES : (OBSERVATIONS)

* CLASS 1 - Short Vehicles up to 5.5m

Road	Victoria Park Access, Herston	
Location	East of Garden Marquee	
Site No.	2	
Start Date	Monday	21-Mar-22
Direction	Eastbound	

Average Weekday	1098
7 Day Average	1151
Weekday Heavy's	6.5%
7 Day Heavy's	5.8%

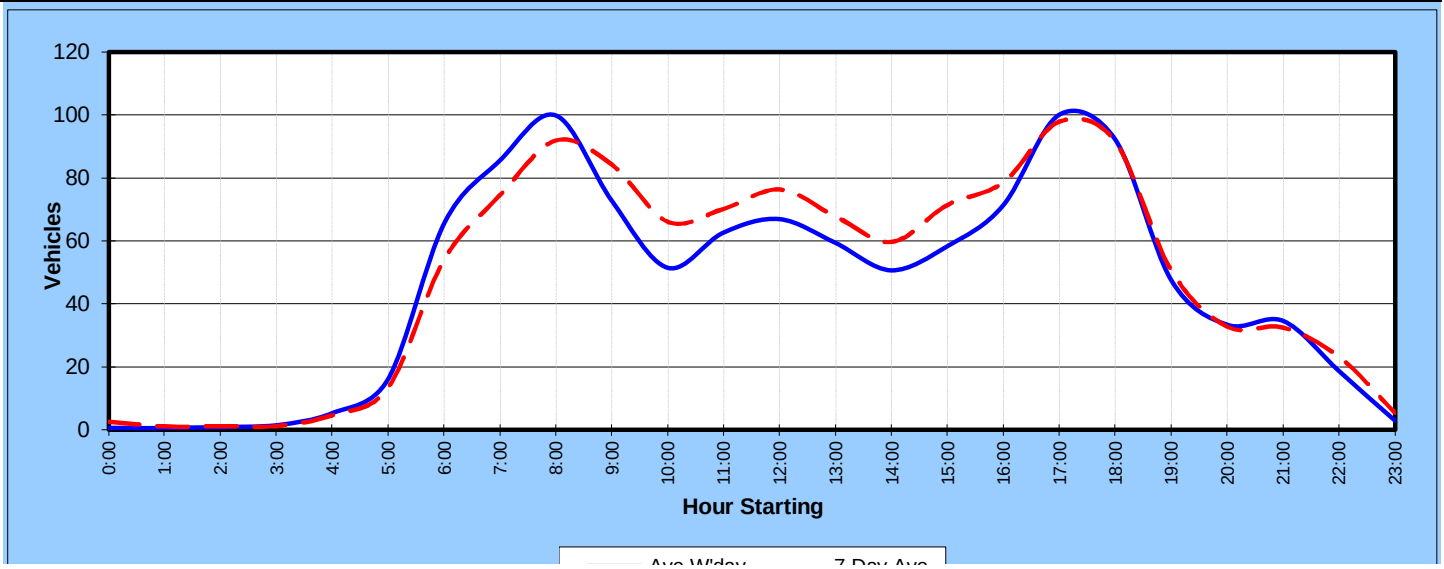
	Day of Week							Ave	7 Day
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	W'day	Ave
Time	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar		
AM Peak	62	68	140	136	57	92	129		
PM Peak	76	102	106	87	234	134	106		
0:00	0	1	1	0	10	1	37	2	7
1:00	0	0	0	0	1	0	14	0	2
2:00	0	0	0	1	1	1	1	0	1
3:00	0	3	0	2	1	1	1	1	1
4:00	0	3	5	1	2	5	0	2	2
5:00	0	3	1	1	1	0	2	1	1
6:00	37	8	20	19	11	5	3	19	15
7:00	62	21	27	25	34	12	20	34	29
8:00	55	44	82	63	38	36	35	56	50
9:00	16	39	140	136	40	49	62	74	69
10:00	6	61	77	76	51	85	89	54	64
11:00	3	68	67	70	57	92	129	53	69
12:00	66	69	79	64	86	90	89	73	78
13:00	57	86	97	72	55	90	72	73	76
14:00	55	62	74	59	78	85	73	66	69
15:00	71	72	62	53	66	110	95	65	76
16:00	76	98	55	83	130	89	106	88	91
17:00	57	102	93	67	106	127	99	85	93
18:00	51	82	81	86	234	128	68	107	104
19:00	32	69	102	64	54	94	55	64	67
20:00	45	64	71	87	57	60	44	65	61
21:00	46	37	106	52	56	78	39	59	59
22:00	8	12	21	38	161	134	10	48	55
23:00	2	1	0	19	11	54	0	7	12
Total	745	1005	1261	1138	1341	1426	1143	1098	1151
% Heavies	5.5%	7.0%	6.0%	7.4%	6.5%	4.8%	3.4%	6.5%	5.8%



Road	Victoria Park Access, Herston	
Location	East of Garden Marquee	
Site No.	2	
Start Date	Monday	21-Mar-22
Direction	Westbound	

Average Weekday	1101
7 Day Average	1155
Weekday Heavy's	3.3%
7 Day Heavy's	3.0%

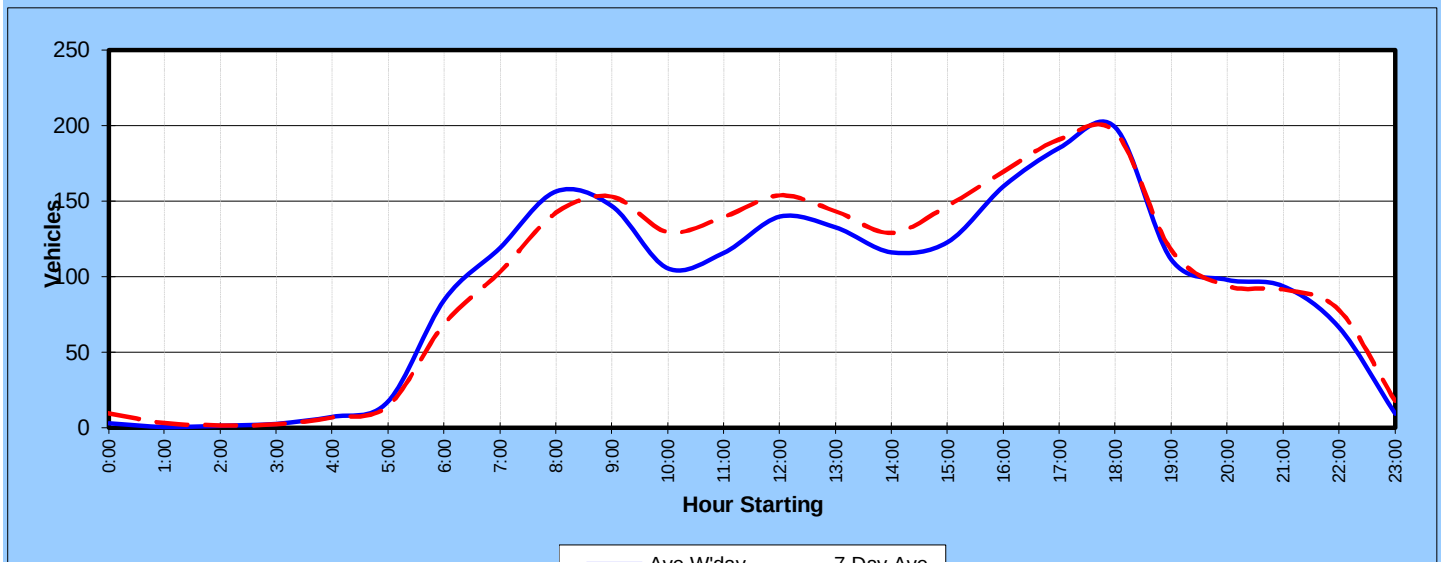
	Day of Week							Ave	7 Day
	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
Time	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	W'day	Ave
AM Peak	110	90	131	121	114	109	118		
PM Peak	64	86	129	87	174	132	102		
0:00	0	1	0	0	3	0	15	1	3
1:00	0	0	1	2	0	0	5	1	1
2:00	0	0	0	1	4	3	1	1	1
3:00	0	3	0	3	2	1	0	2	1
4:00	0	7	11	4	5	5	1	5	5
5:00	0	13	24	30	14	5	9	16	14
6:00	110	25	88	72	34	28	22	66	54
7:00	93	63	94	100	78	39	55	86	75
8:00	44	90	131	121	114	61	83	100	92
9:00	17	88	105	94	59	109	118	73	84
10:00	0	74	71	62	51	93	112	52	66
11:00	0	90	81	64	79	92	86	63	70
12:00	64	63	64	64	80	98	102	67	76
13:00	38	86	66	59	48	91	87	59	68
14:00	35	43	54	61	61	90	74	51	60
15:00	45	71	56	69	51	112	97	58	72
16:00	54	74	69	71	89	113	81	71	79
17:00	51	60	129	87	174	132	53	100	98
18:00	52	70	97	86	156	130	50	92	92
19:00	34	56	62	35	51	92	25	48	51
20:00	34	26	37	32	38	44	19	33	33
21:00	5	3	15	12	138	53	2	35	33
22:00	1	2	2	9	80	66	3	19	23
23:00	0	1	0	10	4	24	0	3	6
Total	677	1009	1257	1148	1413	1481	1100	1101	1155
% Heavies	4.1%	3.6%	2.3%	3.7%	3.2%	3.2%	1.2%	3.3%	3.0%



Road	Victoria Park Access, Herston	
Location	East of Garden Marquee	
Site No.	2	
Start Date	Monday	21-Mar-22
Direction	Combined	

Average Weekday	2199
7 Day Average	2306
Weekday Heavy's	4.9%
7 Day Heavy's	4.4%

	Day of Week							Ave	7 Day
	Mon	Tue	Wed	Thu	Fri	Sat	Sun		
Time	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	W'day	Ave
AM Peak	155	158	245	230	152	184	215		
PM Peak	130	172	222	172	390	259	192		
0:00	0	2	1	0	13	1	52	3	10
1:00	0	0	1	2	1	0	19	1	3
2:00	0	0	0	2	5	4	2	1	2
3:00	0	6	0	5	3	2	1	3	2
4:00	0	10	16	5	7	10	1	8	7
5:00	0	16	25	31	15	5	11	17	15
6:00	147	33	108	91	45	33	25	85	69
7:00	155	84	121	125	112	51	75	119	103
8:00	99	134	213	184	152	97	118	156	142
9:00	33	127	245	230	99	158	180	147	153
10:00	6	135	148	138	102	178	201	106	130
11:00	3	158	148	134	136	184	215	116	140
12:00	130	132	143	128	166	188	191	140	154
13:00	95	172	163	131	103	181	159	133	143
14:00	90	105	128	120	139	175	147	116	129
15:00	116	143	118	122	117	222	192	123	147
16:00	130	172	124	154	219	202	187	160	170
17:00	108	162	222	154	280	259	152	185	191
18:00	103	152	178	172	390	258	118	199	196
19:00	66	125	164	99	105	186	80	112	118
20:00	79	90	108	119	95	104	63	98	94
21:00	51	40	121	64	194	131	41	94	92
22:00	9	14	23	47	241	200	13	67	78
23:00	2	2	0	29	15	78	0	10	18
Total	1422	2014	2518	2286	2754	2907	2243	2199	2306
% Heavies	4.9%	5.3%	4.2%	5.6%	4.8%	4.0%	2.3%	4.9%	4.4%



APPENDIX E

SIDRA Intersection Analysis Outputs (SLR)

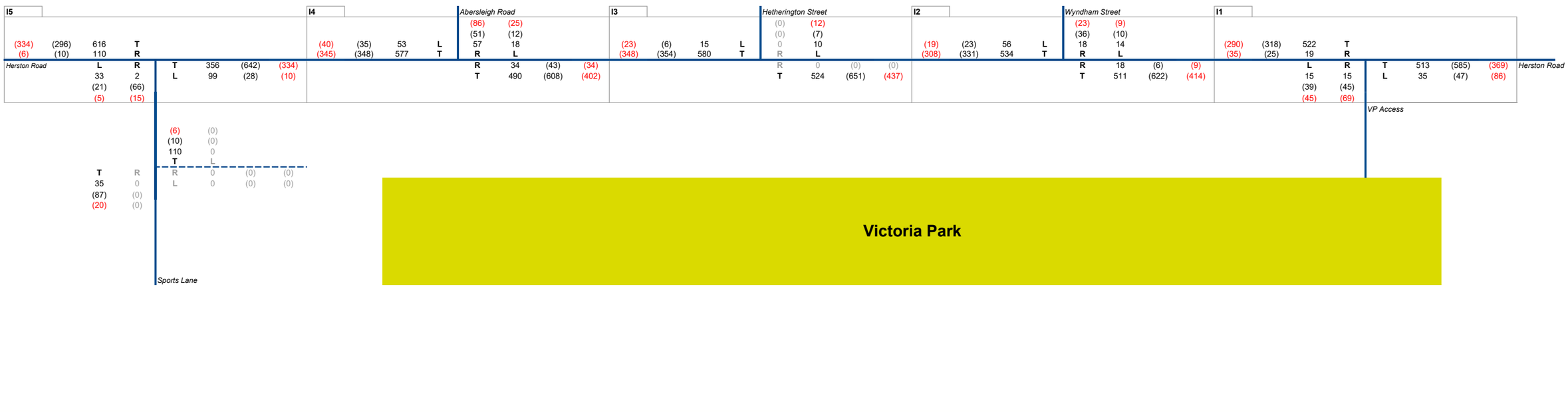
SA2	Population			Daily Trips (/ person)	Daily Trips			% Recreation	Recreation Trips			Accessibility Assessment					Vic Park Accessibility Score	Net Site Trips			PT Accessibility Score		Walkability Score		CAR
	2016	2031	2041		2016	2031	2041		2016	2031	2041	Bus 25%	Train 15%	Proximity 40%	Proximity JZ Ring	Competing Facilities 40%		2016	2031	2041					
Albany Creek	15,800	16,655	16,617		40,545	42,738	42,641		5,676	5,983	5,970	1	0	2	2	3	45%	2,554	2,693	2,686	6%	168	0%	-	94%
Albion	2,793	4,460	6,534		7,167	11,446	16,768		1,003	1,602	2,347	2	5	4	4	4	89%	893	1,426	2,089	31%	653	40%	836	29%
Alderley	6,000	6,979	7,218		15,397	17,910	18,522		2,156	2,507	2,593	4	5	4	4	3	91%	1,962	2,282	2,360	44%	1,032	40%	944	16%
Algester	8,432	8,925	9,173		21,638	22,902	23,538		3,029	3,206	3,295	2	0	1	2	2	34%	1,030	1,090	1,120	13%	140	0%	-	88%
Annerley	11,388	12,799	13,235		29,223	32,845	33,964		4,091	4,598	4,755	2	2	3	3	3	64%	2,618	2,943	3,043	20%	609	0%	-	80%
Ascot	5,142	6,284	7,428		13,195	16,126	19,062		1,847	2,258	2,669	2	4	4	4	4	86%	1,589	1,942	2,295	28%	631	40%	918	33%
Ashgrove	13,313	14,727	15,089		34,163	37,792	38,722		4,783	5,291	5,421	3	0	4	4	2	63%	3,013	3,333	3,415	19%	640	40%	1,366	41%
Aspley	12,315	12,654	12,838		31,602	32,472	32,944		4,424	4,546	4,612	5	0	2	3	2	57%	2,522	2,591	2,629	31%	822	0%	-	69%
Auchenflower	5,498	6,533	6,888		14,109	16,765	17,675		1,975	2,347	2,474	4	5	4	4	3	91%	1,797	2,136	2,252	44%	985	40%	901	16%
Bald Hills	7,274	7,274	7,210		18,666	18,665	18,502		2,613	2,613	2,590	1	3	2	2	3	54%	1,411	1,411	1,399	18%	245	0%	-	83%
Balmoral	4,227	4,897	5,094		10,847	12,566	13,071		1,519	1,759	1,830	2	0	3	4	4	66%	1,002	1,161	1,208	13%	151	0%	-	88%
Bardon	9,717	11,073	11,626		24,935	28,415	29,834		3,491	3,978	4,177	2	0	4	4	2	58%	2,025	2,307	2,423	13%	303	40%	969	48%
Belmont - Gumdale	7,371	7,307	7,074		18,915	18,751	18,154		2,648	2,625	2,542	1	0	2	2	4	53%	1,404	1,391	1,347	6%	84	0%	-	94%
Boondall	9,218	10,452	10,997		23,655	26,820	28,221		3,312	3,755	3,951	2	4	2	2	3	62%	2,053	2,328	2,450	28%	674	0%	-	73%
Bracken Ridge	16,935	18,689	20,573		43,458	47,960	52,793		6,084	6,714	7,391	5	0	2	2	2	57%	3,468	3,827	4,213	31%	1,317	0%	-	69%
Bridgeman Downs	8,145	11,150	13,433		20,901	28,613	34,470		2,926	4,006	4,826	3	0	2	2	4	63%	1,844	2,524	3,040	19%	570	0%	-	81%
Brighton (Qld)	9,476	10,675	11,103		24,317	27,394	28,492		3,404	3,835	3,989	1	0	1	2	3	37%	1,260	1,419	1,476	6%	92	0%	-	94%
Brisbane Airport	192	212	212		493	544	543		69	76	76	2	5	2	2	5	81%	56	62	62	31%	19	0%	-	69%
Brisbane City	10,189	16,930	20,826		26,147	43,446	53,443		3,661	6,082	7,482	5	5	5	4	1	88%	3,221	5,353	6,584	50%	3,292	50%	3,292	0%
Brisbane Port - Lytton	9	9	9		23	23	23		3	3	3	0	0	1	2	5	48%	2	2	2	0%	-	0%	-	100%
Brookfield - Kenmore Hills	6,752	6,754	6,579		17,327	17,332	16,882		2,426	2,426	2,364	2	0	2	2	3	50%	1,213	1,213	1,182	13%	148	0%	-	88%
Bulimba	6,698	8,906	9,872		17,188	22,855	25,334		2,406	3,200	3,547	2	0	3	4	3	58%	1,396	1,856	2,057	13%	257	0%	-	88%
Camp Hill	11,178	12,697	13,122		28,685	32,581	33,672		4,016	4,561	4,714	3	0	3	3	2	55%	2,209	2,509	2,593	19%	486	0%	-	81%
Cannon Hill	5,720	7,639	8,648		14,678	19,602	22,192		2,055	2,744	3,107	2	3	3	3	3	67%	1,377	1,839	2,082	24%	494	0%	-	76%
Carina	11,029	12,382	12,844		28,302	31,774	32,961		3,962	4,448	4,614	2	0	3	3	2	50%	1,981	2,224	2,307	13%	288	0%	-	88%
Carina Heights	6,547	7,376	7,557		16,801	18,928	19,392		2,352	2,650	2,715	2	0	3	3	2	50%	1,176	1,325	1,357	13%	170	0%	-	88%
Carindale	15,706	16,995	16,926		40,304	43,612	43,435		5,643	6,106	6,081	3	0	2	2	2	47%	2,652	2,870	2,858	19%	536	0%	-	81%
Carseldine	9,033	11,019	12,824		23,180	28,276	32,908		3,245	3,959	4,607	5	3	2	2	4	82%	2,661	3,246	3,778	43%	1,606	0%	-	58%
Cashmere	18,805	29,493	31,514		48,257	75,685	80,870		6,756	10,596	11,322	1	0	1	2	4	45%	3,040	4,768	5,095	6%	318	0%	-	94%
Chapel Hill	10,310	10,878	11,014		26,457	27,914	28,264		3,704	3,908	3,957	2	0	3	3	3	58%	2,148	2,267	2,295	13%	287	0%	-	88%
Chelmer - Graceville	7,410	8,200	8,436		19,015	21,043	21,647		2,662	2,946	3,031	1	4	3	3	3	65%	1,730	1,915	1,970	21%	419	0%	-	79%
Chermside	9,319	13,545	20,415		23,914	34,758	52,388		3,348	4,866	7,334	5	0	3	3	2	65%	2,176	3,163	4,767	31%	1,490	0%	-	69%
Chermside West	6,251	6,849	7,065		16,041	17,576	18,129		2,246	2,461	2,538	3	0	3	3	3	63%	1,415	1,550	1,599	19%	300	0%	-	81%
Clayfield	10,473	11,785	12,137		26,875	30,241	31,145		3,763	4,234	4,360	3	4	4	3	3	83%	3,123	3,514	3,619	34%	1,221	40%	1,448	26%
Coopers Plains	5,483	6,984	7,300		14,070	17,922	18,733		1,970	2,509	2,623	2	4	2	2	4	70%	1,379	1,756	1,836	28%	505	0%	-	73%
Coorparoo	16,037	20,548	23,557		41,154	52,729	60,451		5,761	7,382	8,463	3	4	4	3	3	83%	4,782	6,127	7,024	34%	2,371	40%	2,810	26%
Corinda	4,865	5,683	6,417		12,484	14,583	16,466		1,748	2,042	2,305	3	4	2	2	3	67%	1,171	1,368	1,545	34%	521	0%	-	66%
Darra - Sumner	4,933	6,145	6,786		12,659	15,770	17,414		1,772	2,208	2,438	2	3	2	2	4	67%	1,187	1,479	1,633	24%	388	0%	-	76%
Deagon	3,674	4,045	4,251		9,428	10,381	10,908		1,320	1,453	1,527	2	4	2	2	3	62%	818	901	947	28%	260	0%	-	73%
Durack	7,952	8,650	9,035		20,406	22,197	23,184		2,857	3,108	3,246	2	0	2	2	4	58%	1,657	1,802	1,883	13%	235	0%	-	88%
Eagle Farm - Pinkenba	822	3,990	7,246		2,109	10,238	18,595		295	1,433	2,603	2	0	3	3	5	74%	219	1,061	1,926	13%	241	0%	-	88%
East Brisbane	5,783	6,813	8,024		14,840	17,484	20,591		2,078	2,448	2,883	3	0	4	4	3	71%	1,475	1,738	2,047	19%	384	40%	819	41%
Eatons Hill	7,972	8,525	8,654		20,457	21,877	22,206		2,864	3,063	3,109	1	0	1	2	4	45%	1,289	1,378	1,399	6%	87	0%	-	94%
Eight Mile Plains	15,161	17,509	18,423		38,906	44,932	47,276		5,447	6,290	6,619	4	0	2	2	3	60%	3,268	3,774	3,971	25%	993	0%	-	75%
Enoggera	8,160	10,143	10,904		20,940	26,028	27,980		2,932	3,644	3,917	3	4	3	4	4	83%	2,433	3,024	3,251	34%	1,097	0%	-	66%
Enoggera Reservoir	26	26	26		67	66	66		9	9	9	0	0	1	3	4	40%	4	4	4	0%	-	0%	-	100%
Everton Park	8,795	10,405	10,753		22,569	26,701	27,595		3,160	3,738	3,863	3	0	3	3	3	63%	1,991	2,355	2,434	19%	456	0%	-	81%
Fairfield - Dutton Park	4,790	6,567	7,462		12,292	16,853	19,148		1,721	2,359	2,681	4	5	4	3	3	91%	1,566	2,147	2,439	44%	1,067	40%	976	16%
Fig Tree Pocket	4,044	4,548	4,888		10,378	11,671	12,543		1,453	1,634	1,756	2	0	2	2	3	50%	726	817	878	13%	110	0%	-	88%
Fortitude Valley	7,142	16,188	20,070		18,328	41,542	51,504		2,566	5,816	7,211	5	5	5	4	4	112%	2,874	6,514	8,076	50%	4,038	50%	4,038	0%
Geebung	4,323	4,543	4,593		11,094	11,659	11,787		1,553	1,632	1,650	4	4	3	3	3	80%	1,242	1,306	1,320	40%	528	0%	-	60%
Grange	4,247	4,741	4,940		10,898	12,166	12,677		1,526	1,703	1,775	4	0	4	4	3	76%	1,160	1,294	1,349	25%	337	40%	540	35%
Greenslopes	9,121	12,209	13,924		23,406	31,330	35,732		3,277	4,386	5,003	3	0	4	3	2	63%	2,064	2,763	3,152	19%	591	40%	1,261	41%
Hamilton (Qld)	6,289	8,105	9,034		16,139	20,798	23,183		2,259	2,912	3,246	2	0	4	4	4	74%	1,672	2,155	2,402	13%	300	40%	961	48%
Hawthorne	4,972	5,687	5,817		12,759	14,593	14,928		1,786	2,043	2,090	2	0	3	4	4	66%	1,179	1,348	1,379	13%	172	0%	-	88%
Hendra	4,654	5,442	5,612		11,943	13,964	14,401		1,672	1,955	2,016	2	0	4	3	4	74%	1,237	1,447	1,492	13%	186	40%	597	48%
Highgate Hill	6,328	7,262	7,670		16,239	18,636	19,681		2,273	2,609	2,755	3	0	4	4	4	79%	1,796	2,061	2,177	19%	408	40%	871	41%
Holland Park	8,306	9,361	9,752		21,315	24,022	25,026		2,984	3,363	3,504	3	0	3	3	2	55%	1,641	1,850	1,927	19%	361	0%	-	81%
Holland Park West	6,337	7,243	7,566		16,262	18,587	19,415		2,277	2,602	2,718	3	0	3	3	3	63%	1,434	1,639	1,712	19%	321	0%	-	81%
Inala - Richlands	18,007	28,953	36,489		46,209	74,297	93,637		6,469	10,402	13,109	3	4	2	2	2	59%	3,817	6,137	7,734	34%	2,610	0%	-	66%
Indooroopilly	12,139	14,558	18,635		31,151	37,358	47,822		4,361	5,230	6,695	3	4	3	3	3	75%	3,271	3,923	5,021	34%	1,695	0%	-	66%
Jindalee - Mount Ommaney	7,513	7,608	7,443		19,280	19,524	19,099		2,699	2,733	2,674	2	0	2	2	2	42%	1,134	1,148	1,123	13%	140	0%	-	88%
Kangaroo Point	8,213	11,774	14,039		21,076	30,215	36,026		2,951	4,230	5,044	3	0	4	4	3	71%	2,095	3,003	3,581	19%	671	40%	1,432	41%
Kedron - Gordon Park	13,715	16,226	17,114		35,195	41,639	43,917		4,927	5,829	6,148	4	0	3	3	3	68%	3,351	3,964	4,181	25%	1,045	0%	-	75%
Kelvin Grove - Herston	10,079	12,890	13,240		25,864	33,078	33,975		3,621	4,631	4,757	5	0	5	5	4	97%	3,512	4,492	4,614	31%	1,442	50%	2,307	19%
Kenmore	8,766	9,785	10,091	2.5661633	22,495	25,110	25,895	14%	3,149	3,515	3,625	2	0	3	2	3	58%	1,827	2,039	2,103	13%	263	0%	-	88%
Keperra	7,082	7,391	7,341		18,174	18,965	18,838		2,544	2,655	2,637	2	5	2	3	4	73%	1,857	1,938	1,925	31%	602	0%	-	69%
Macgregor (Qld)	5,846	7,041	7,728		15,002	18,068	19,832		2,100	2,529	2,777	2	0	2	2	2	42%	882	1,062	1,166	13%	146	0%	-	88%
Manly - Lota	7,425	8,202	8,507		19,054	21,048	21,829		2,668	2,947	3,056	2	4	2	2	2	54%	1,440	1,591	1,650	28%	454	0%	-	73%
Manly West	11,431	12,685	12,983		29,334	32,552	33,317		4,107	4,557	4,664	2	0	2	2	3	50%	2,053	2,279	2,332	13%	292	0%	-	88%
Mansfield (Qld)	8,725	9,383	9,617		22,390	24,078	24,678		3,135	3,371	3,455	3	0	2	2	2	47%	1,473	1,584	1,624	19%	304	0%	-	81%
McDowall	7,539	8,260	8,406		19,346	21,196	21,571		2,708	2,967	3,020	3	0	3	3	2	55%	1,490	1,632	1,661	19%	311	0%	-	81%
Middle Park - Jamboree Heights	7,066	6,993	6,804		18,133	17,945	17,459		2,539	2,512	2,444	2	0	2	2	4	58%	1,472	1,457	1,418	13%	177	0%	-	88%
Mitchelton	8,360	11,449	12,298		21,453	29,380	31,560		3,003	4,113	4,418	4	5	3	3	3	83%	2,493	3,414	3,667	44%	1,604	0%	-	56%
Moorooka	10,423	12,173	12,798		26,747	31,238	32,842		3,745	4,373	4,598	2	4	3	3	3	70%	2,621	3,061	3,219	28%	885	0%	-	73%
Morningside - Seven Hills	12,613	14,946	16,052		32,367	38,353	41,192		4,531	5,369	5,767	2	4	3	3	2	62%	2,809	3,329	3,575	28%	983	0%	-	73%
Mount Coot-tha	0	0	0		0	0	0		0	0	0	1	0	3	3	1	37%	0	0	0	6%	-	0%	-	94%
Mount Gravatt	14,942	18,410	21,210		38,344	47,243	54,428		5,368	6,614	7,620	3	0	3	2	3	63%	3,382	4,167	4,801	19%	900	0%	-	81%
Murarrie	4,118	6,118	6,442		10,567	15,700	16,531		1,479	2,198	2,314	2	4	3	3	3	70%	1,036	1,539	1,620	28%	446	0%	-	73%
New Farm	12,787	14,186	14,558		32,814	36,404	37,357		4,594	5,097	5,230	3	0	4	4	2	63%	2,894	3,211	3,295	19%	618	40%	1,318	41%
Newmarket	4,978	5,595	5,821		12,774	14,357	14,936		1,788	2,010	2,091	4	5	4	4	2	83%	1,484	1,668	1,736	44%	759	40%	694	16%
Newstead - Bowen Hills	10,639	23,252	29,538		27,301	59,669	75,800		3,822	8,354	10,612	2	4	5	4	4	94%	3,593	7,852	9,975	28%	2,743	50%	4,988	23%
Norman Park	6,302	7,145	7,459		16,172	18,334	19,140		2,264	2,567	2,680	3	4	3	4	2	67%	1,517	1,720	1,795	34%	606	0%	-	66%
Northgate - Virginia	6,591	7,290	7,591		16,914	18,708	19,480		2,368	2,619	2,727	3	4	3	3	3	75%	1,776	1,964	2,045	34%	690	0%	-	66%
Nudgee - Banyo	9,618	11,999	12,967		24,681	30,791	33,275		3,455	4,311	4,658	2	4	3	2	4	78%	2,695	3,362	3,634	28%	999	0%	-	73%
Nundah	12,231	14,295	16,743		31,387	36,684	42,966		4,394	5,136	6,015	4	4	3	3	3	80%	3,515	4,109	4,812	40%	1,925	0%	-	60%
Oxley (Qld)	7,819	9,282	9,432		20,065	23,820	24,204		2,809	3,335	3,389	2	4	2	2	3	62%	1,742	2,068	2,101	28%	578	0%	-	73%
Paddington - Milton	10,788	13,395	14,561		27,684	34,373	37,365		3,876	4,812	5,231	3	4	4	4	3	83%	3,217	3,994	4,342	34%	1,465	40%	1,737	26%
Pallara - Willawong	4,701	8,200	15,610		12,064	21,043	40,058		1,689	2,946	5,608	1	0	1	2	4	45%	760	1,326	2,524	6%	158	0%	-	94%
Pinjarra Hills - Pullenvale	5,403	5,315	5,172		13,865	13,639	13,273		1,941	1,909	1,858	1	0	2	2	3	45%	873	859	836	6%	52	0%	-	94%
Red Hill (Qld)	5,746	7,253	7,924		14,745	18,612	20,334		2,064	2,606	2,847	3	0	5	4	4	87%	1,796	2,267	2,477	19%	464	50%	1,238	31%
Riverhills	4,043	4,192	4,142		10,375	10,757	10,629		1,452	1,506	1,488	2	0	2	2	3	50%	726	753	744	13%	93	0%	-	88%
Robertson	5,102	5,577	5,780		13,093	14,312	14,832		1,833	2,004	2,077	3	0	2	2	4	63%	1,155	1,262	1,308	19%	245	0%	-	81%
Rochedale - Burbank	6,318	11,423	20,147		16,213	29,314	51,702		2,270	4,104	7,238	2	0	1	2	4	50%	1,135	2,052	3,619	13%	452	0%	-	88%
Rocklea - Acacia Ridge	9,559	10,558	10,892		24,530	27,094	27,950		3,434	3,793	3,913	2	5	2	2	3	65%	2,232	2,466	2,543	31%	795	0%	-	69%
Runcorn	14,482	16,513	17,416		37,163	42,374	44,693		5,203	5,932	6,257	3	5	2	2	2	62%	3,226	3,678	3,879	38%	1,455	0%	-	63%
Salisbury - Nathan	7,183	8,048	8,308		18,433	20,654	21,319		2,581	2,892	2,985	3	4	2	2	3	67%	1,729	1,937	2,000	34%	675	0%	-	66%
Sandgate - Shorncliffe	6,781	7,422	7,653		17,401	19,046	19,639		2,436	2,666	2,750	3	4	2	2	2	59%	1,437	1,573	1,622	34%	547	0%	-	66%
Seventeen Mile Rocks - Sinnamon Park	9,557	10,277	10,393		24,525	26,373	26,671		3,433	3,692	3,734	2	0	2	2	2	42%	1,442	1,551	1,568	13%	196	0%	-	88%
Sherwood	5,637	7,018	7,296		14,465	18,010	18,724		2,025	2,521	2,621	2	4	3	3	3	70%	1,418	1,765	1,835	28%	505	0%	-	73%
South Brisbane	7,229	24,797	31,127		18,551	63,633	79,876		2,597	8,909	11,183	5	5	4	4	1	80%	2,078	7,127	8,946	50%	4,473	40%	3,578	10%
Spring Hill	6,066	9,767	11,874		15,566	25,065	30,471		2,179	3,509	4,266	3	0	5	4	2	71%	1,547	2,491	3,029	19%	568	50%	1,514	31%
St Lucia	12,575	13,737	13,686		32,270	35,251	35,120		4,518	4,935	4,917	3	0	3	3	2	55%	2,485	2,714	2,704	19%	507	0%	-	81%
Stafford	6,513	7,428	7,714		16,713	19,062	19,796		2,340	2,669	2,771	3	0	3	4	2	55%	1,287	1,468	1,524	19%	286	0%	-	81%
Stafford Heights	6,855	6,917	6,809		17,591	17,751	17,474		2,463	2,485	2,446	3	0	3	3	3	63%	1,552	1,566	1,541	19%	289	0%	-	81%
Strathpine - Brendale	12,266	14,964	17,589		31,477	38,400	45,137		4,407	5,376	6,319	2	4	2	2	3	62%	2,732	3,333	3,918	28%	1,077	0%	-	73%
Sunnybank	8,856	9,917	10,151		22,726	25,448	26,050		3,182	3,563	3,647	2	5	2	2	2	57%	1,814	2,031	2,079	31%	650	0%	-	69%
Sunnybank Hills	18,087	20,188	21,385		46,414	51,806	54,878		6,498	7,253	7,683	2	0	2	2	3	50%	3,249	3,626	3,841	13%	480	0%	-	88%
Taigum - Fitzgibbon	12,155	16,232	18,069		31,192	41,653	46,368		4,367	5,831	6,491	5	3	2	2	2	66%	2,882	3,849	4,284	43%	1,821	0%	-	58%
Taringa	8,453	10,875	12,214		21,692	27,907	31,344		3,037	3,907	4,388	4	4	3	3	3	80%	2,429	3,126	3,511	40%	1,404	0%	-	60%
Tarragindi	10,674	11,730	12,021		27,391	30,101	30,847		3,835	4,214	4,319	2	0	3	3	2	50%	1,917	2,107	2,159	13%	270	0%	-	88%
The Gap	16,474	17,644	18,150		42,275	45,278	46,576		5,918	6,339	6,521	3	0	3	3	2	55%	3,255	3,486	3,586	19%	672	0%	-	81%
Thorneside	3,764	4,348	4,358		9,659	11,159	11,183		1,352	1,562	1,566	1	4	1	2	2	41%	554	641	642	21%	136	0%	-	79%
Tingalpa	8,705	9,735	10,172		22,338	24,982	26,104		3,127	3,497	3,654	3	0	2	2	2	47%	1,470	1,644	1,718	19%	322	0%	-	81%
Toowong	10,803	14,703	18,152		27,722	37,730	46,582		3,881	5,282	6,521	4	4	4	4	1	72%	2,794	3,803	4,695	40%	1,878	40%	1,878	20%
Upper Kedron - Ferny Grove	9,907	11,075	11,951		25,423	28,420	30,668		3,559	3,979	4,293	2	5	3	2	2	65%	2,313	2,586	2,791	31%	872	0%	-	69%
Upper Mount Gravatt	9,392	14,546	21,728		24,101	37,328	55,758		3,374	5,226	7,806	4	0	2	2	2	52%	1,755	2,717	4,059	25%	1,015	0%	-	75%
Wacol	5,813	5,909	6,011		14,917	15,164	15,426		2,088	2,123	2,160	1	4	1	2	4	57%	1,190	1,210	1,231	21%	262	0%	-	79%
Wakerley	8,998	9,759	10,078		23,090	25,043	25,861		3,233	3,506	3,621	2	0	2	2	4	58%	1,875	2,033	2,100	13%	262	0%	-	88%
Wavell Heights	9,785	10,954	11,494		25,110	28,111	29,496		3,515	3,936	4,129	3	0	3	3	3	63%	2,215	2,479	2,602	19%	488	0%	-	81%
West End	9,618	21,432	28,345		24,681	54,998	72,739		3,455	7,700	10,183	3	0	4	4	3	71%	2,453	5,467	7,230	19%	1,356	40%	2,892	41%
Westlake	4,351	4,421	4,297		11,165	11,346	11,027		1,563	1,588	1,544	2	0	2	2	3	50%	782	794	772	13%	96	0%	-	88%
Wilston	3,937	4,401	4,538		10,103	11,294	11,645		1,414	1,581	1,630	3	5	4	4	2	78%	1,103	1,233	1,272	38%	477	40%	509	23%
Windsor	7,187	9,115	10,408		18,443	23,392	26,708		2,582	3,275	3,739	5	5	4	4	3	96%	2,479	3,144	3,589	50%	1,795	40%	1,436	10%
Wishart	10,817	11,759	12,002		27,758	30,175	30,799		3,886	4,225	4,312	3	0	2	2	3	55%	2,137	2,324	2,372	19%	445	0%	-	81%
Woolloongabba	5,526	13,644	16,877		14,181	35,014	43,310		1,985	4,902	6,063	4	5	4	4	4	99%	1,965	4,853	6,003	44%	2,626	40%	2,401	16%
Wooloowin - Lutwyche	9,746	13,152	14,491		25,010	33,750	37,185		3,501	4,725	5,206	5	5	4	4	4	104%	3,641	4,914	5,414	50%	2,707	40%	2,166	10%
Wynnum	13,230	16,119	18,961		33,950	41,364	48,658		4,753	5,791	6,812	2	4	2	2	2	54%	2,567	3,127	3,679	28%	1,012	0%	-	73%
Wynnum West - Hemmant	14,792	16,976	17,833		37,959	43,562	45,762		5,314	6,099	6,407	2	3	2	2	3	59%	3,135	3,598	3,780	24%	898	0%	-	76%
Yeronga	9,486	13,429	13,840		24,343	34,461	35,517		3,408	4,825	4,972	3	5	3	3	2	70%	2,386	3,377	3,481	38%	1,305	0%	-	63%
Zillmere	8,968	10,165	10,440		23,013	26,084	26,791		3,222	3,652	3,751	5	4	3	2	2	77%	2,481	2,812	2,888	46%	1,336	0%	-	54%
Total	**1,100,176**	**1,367,484**	**1,518,236**		**2,823,231**	**3,509,187**	**3,896,042**		**395,252**	**491,286**	**545,446**							**253,187**	**321,466**	**358,999**	24%	99,184	10%	53,632	66%
Source:	QGSO, 2018			BCC, 2020; Qld HTS, 2019				Qld HTS, 2019																	

Car	66%
PT	24%
AT	10%
	100%

JZ Ring	Population
1	13240
2	394459
3	436733
4	673804
5	0

Ring ID	1	1-5	5-10	10-20	20+	
	1%	26%	29%	44%	0%	
Ring population (visits)	13,240	394,459	436,733	673,804	-	1,518,236
Car	10%	30%	58%	80%	88%	
PT	10%	20%	25%	15%	10%	
AT	80%	50%	17%	5%	2%	
	100%	100%	100%	100%	100%	
Car	0%	8%	17%	36%	0%	60%
PT	0%	5%	7%	7%	0%	19%
AT	1%	13%	5%	2%	0%	21%
	1%	**26%**	**29%**	**44%**	**0%**	**100%**

Ring ID	1	1-5	5-10	10-20	20+	
	1%	21%	24%	36%	18%	
Ring population (visits)	13,240	394,459	436,733	673,804	*336,902*	1,855,138
Car	10%	30%	58%	80%	88%	
PT	10%	20%	25%	15%	10%	
AT	80%	50%	17%	5%	2%	
	100%	100%	100%	100%	100%	
Car	0%	6%	14%	29%	16%	65%
PT	0%	4%	6%	5%	2%	17%
AT	1%	11%	4%	2%	0%	17%
	1%	**21%**	**24%**	**36%**	**18%**	**100%**



Legend

- **L** Left Turn
- **T** Through
- **R** Right turn
- **U** U-turn
- **00** Weekday AM Peak Hour Volumes
- **(00)** Weekday PM Peak Hour Volumes
- (00) Weekend Midday Peak Hour Volumes

Figure: A1

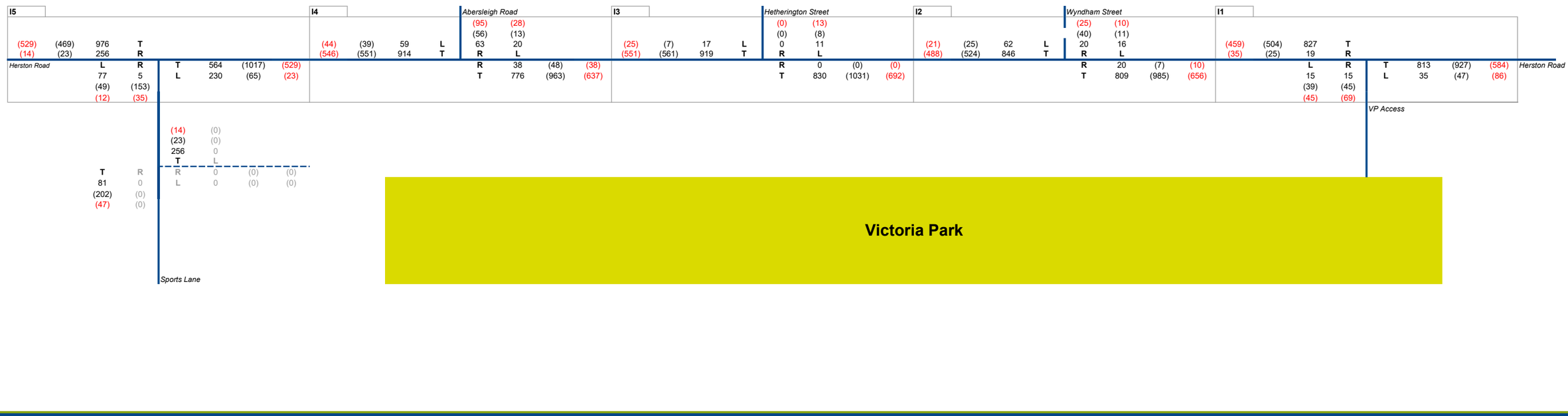
2020 Base (survey) Traffic Movements

620.30321

Victoria Park Master Plan

11-08-2022

SLR



Legend

L Left Turn
T Through
R Right turn
U U-turn

00 Weekday AM Peak Hour Volumes
(00) Weekday PM Peak Hour Volumes
(00) Weekend Midday Peak Hour Volumes

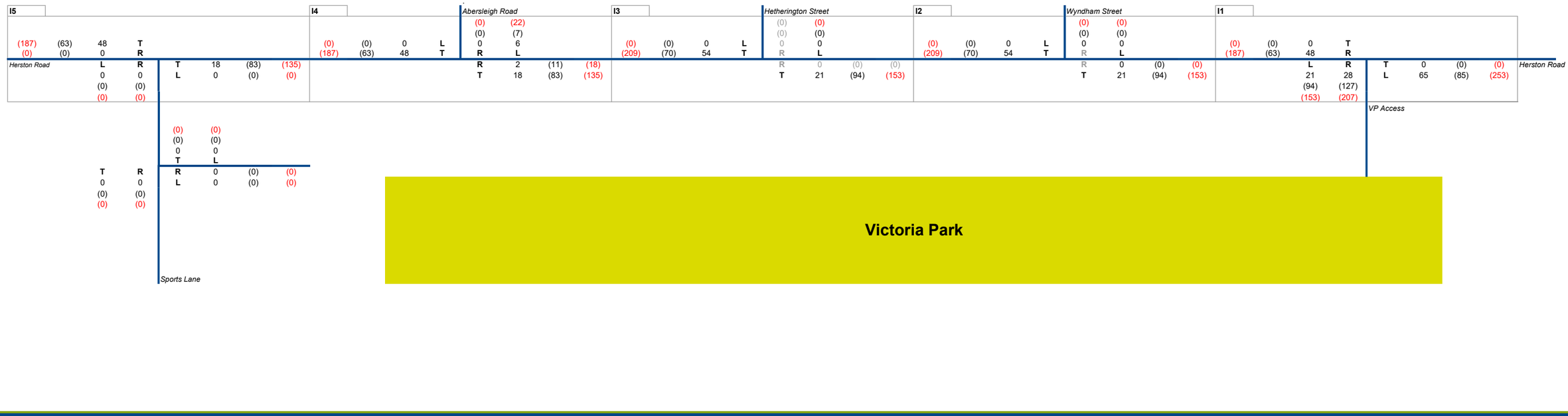
Figure: A2

2041 Base Traffic Movements

620.30321
Victoria Park Master Plan
11-08-2022

SLR

Development Scenario: Council Scenario 2 (800vph weekend)



Legend

L Left Turn	**00** Weekday AM Peak Hour Volumes
T Through	**(00)** Weekday PM Peak Hour Volumes
R Right turn	(00) Weekend Midday Peak Hour Volumes
U U-turn	

Figure: A3

2041 Master Plan Redevelopment Traffic Movements - Council Scenario 2 (weekend)

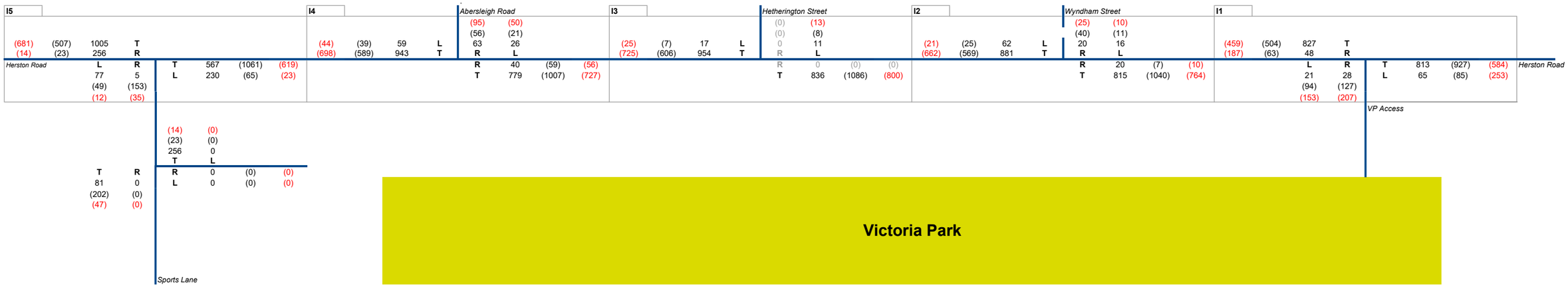
620.30321

Victoria Park Master Plan

11-08-2022

SLR

Development Scenario: Council Scenario 2 (800vph weekend)



Legend

- **L** Left Turn
- **T** Through
- **R** Right turn
- **U** U-turn
- **00** Weekday AM Peak Hour Volumes
- **(00)** Weekday PM Peak Hour Volumes
- (00) Weekend Midday Peak Hour Volumes

Figure: A4

2041 Base + Master Plan Traffic Movements

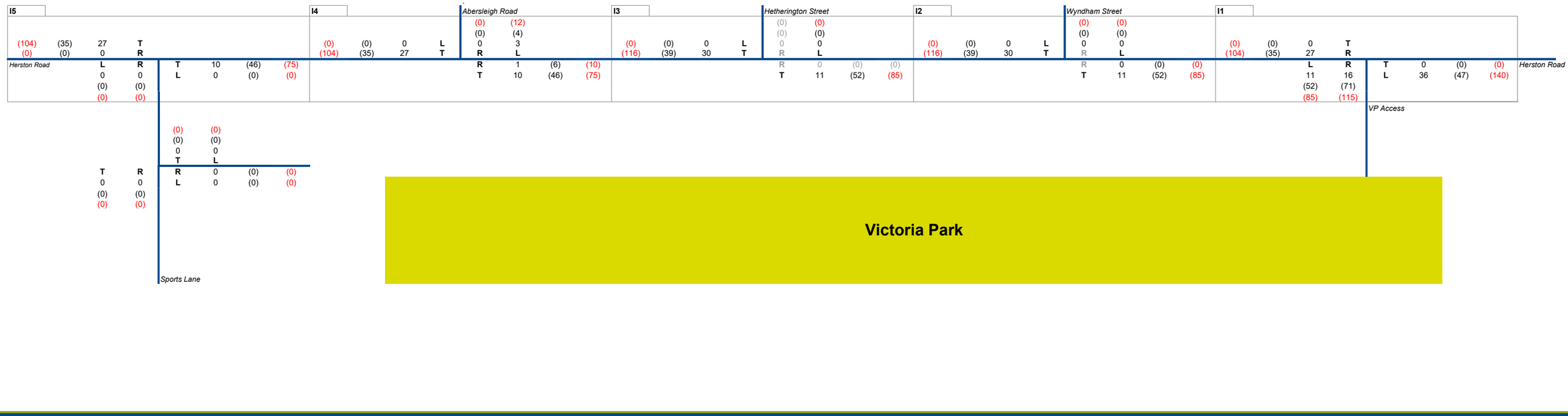
620.30321

Victoria Park Master Plan

11-08-2022

SLR

Development Scenario: SLR Scenario (first principles)



Legend

L Left Turn	**00** Weekday AM Peak Hour Volumes
T Through	**(00)** Weekday PM Peak Hour Volumes
R Right turn	(00) Weekend Midday Peak Hour Volumes
U U-turn	

Figure: A5

2041 Master Plan Redevelopment Traffic Movements - SLR Scenario

620.30321

Victoria Park Master Plan

11-08-2022

SLR

Development Scenario: SLR Scenario (first principles)

Legend

L Left Turn	**00** Weekday AM Peak Hour Volumes
T Through	**(00)** Weekday PM Peak Hour Volumes
R Right turn	(00) Weekend Midday Peak Hour Volumes
U U-turn	

Figure: A6

2041 Base + Master Plan Traffic Movements (SLR)

620.30321

Victoria Park Master Plan

11-08-2022

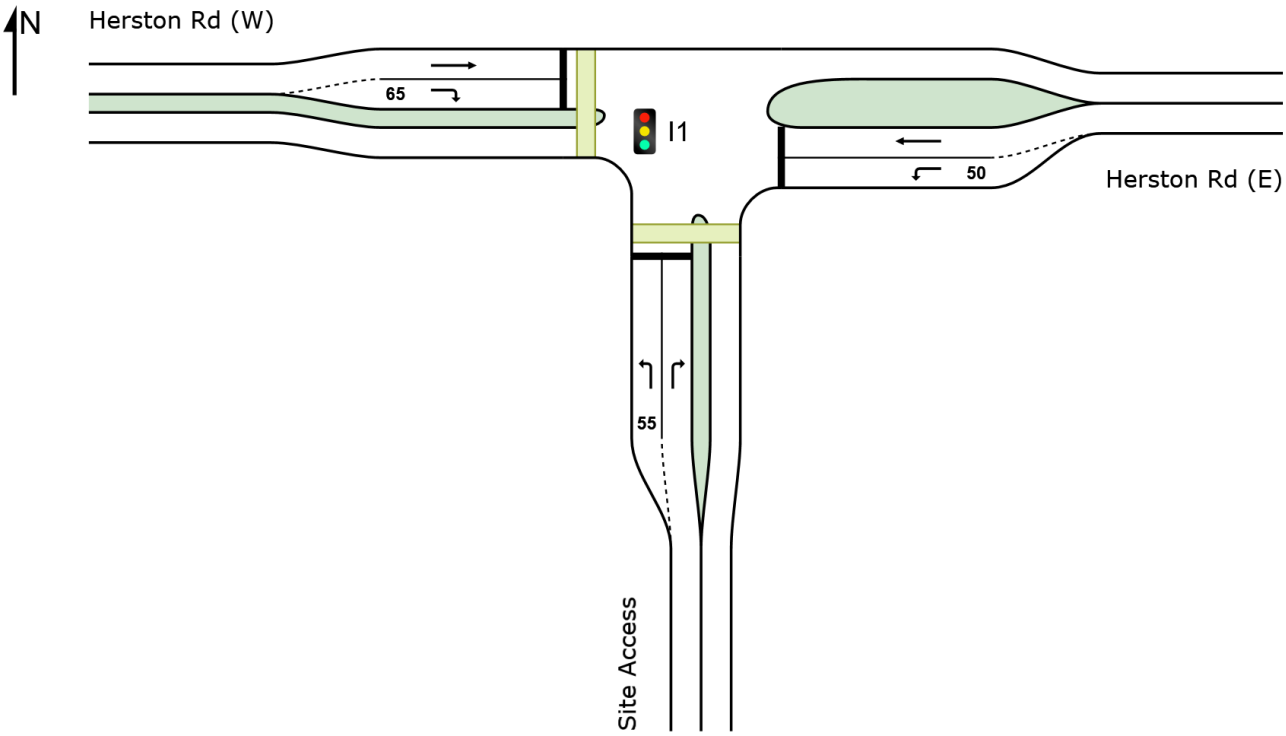
SLR

SITE LAYOUT

Site: I1 [I1 - 2041 BG+DEV1 - AM (Site Folder: Single Access - SLR)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: I1 [I1 - 2041 BG+DEV1 - AM (Site Folder: Single Access - SLR)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Site Access														
1	L2	11	2.0	12	2.0	0.104	68.7	LOS E	0.8	5.8	0.97	0.67	0.97	14.5
3	R2	16	2.0	18	2.0	* 0.105	64.1	LOS E	1.1	8.1	0.95	0.67	0.95	15.6
Approach		27	2.0	30	2.0	0.105	66.0	LOS E	1.1	8.1	0.96	0.67	0.96	15.1
East: Herston Rd (E)														
4	L2	36	2.0	40	2.0	0.043	14.1	LOS A	0.7	4.7	0.35	0.64	0.35	22.7
5	T1	813	3.0	856	3.0	* 0.608	0.8	LOS A	2.8	20.3	0.05	0.05	0.05	58.2
Approach		849	3.0	896	3.0	0.608	1.4	LOS A	2.8	20.3	0.07	0.08	0.07	52.2
West: Herston Rd (W)														
11	T1	827	3.0	871	3.0	0.554	0.6	LOS A	2.5	18.2	0.05	0.04	0.05	58.8
12	R2	27	2.0	30	2.0	* 0.092	22.4	LOS B	0.8	5.7	0.44	0.67	0.44	20.7
Approach		854	3.0	901	3.0	0.554	1.3	LOS A	2.5	18.2	0.06	0.07	0.06	53.6
All Vehicles		1730	2.9	1826	2.9	0.608	2.4	LOS A	2.8	20.3	0.08	0.08	0.08	49.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Site Access												
P1	Full	100	105	64.4	LOS F	0.4	0.4	0.96	0.96	230.9	216.5	0.94
West: Herston Rd (W)												
P4	Full	100	105	64.4	LOS F	0.4	0.4	0.96	0.96	227.3	211.8	0.93
All Pedestrians		200	211	64.4	LOS F	0.4	0.4	0.96	0.96	229.1	214.2	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: I1 [I1 - 2041 BG+DEV1 - PM (Site Folder: Single Access - SLR)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Site Access														
1	L2	52	2.0	58	2.0	0.491	71.7	LOS F	4.0	28.6	1.00	0.75	1.00	14.3
3	R2	71	2.0	79	2.0	*0.464	67.3	LOS E	5.3	37.6	0.99	0.77	0.99	15.3
Approach		123	2.0	137	2.0	0.491	69.1	LOS E	5.3	37.6	0.99	0.76	0.99	14.9
East: Herston Rd (E)														
4	L2	47	2.0	52	2.0	0.053	12.6	LOS A	0.7	5.3	0.31	0.64	0.31	23.0
5	T1	927	3.0	976	3.0	*0.693	0.9	LOS A	4.1	29.2	0.07	0.06	0.07	58.0
Approach		974	3.0	1028	2.9	0.693	1.5	LOS A	4.1	29.2	0.08	0.09	0.08	51.4
West: Herston Rd (W)														
11	T1	504	3.0	531	3.0	0.338	0.4	LOS A	1.1	7.6	0.03	0.03	0.03	59.1
12	R2	35	2.0	39	2.0	*0.131	20.4	LOS B	1.0	7.0	0.41	0.67	0.41	21.1
Approach		539	2.9	569	2.9	0.338	1.8	LOS A	1.1	7.6	0.06	0.07	0.06	49.6
All Vehicles		1636	2.9	1734	2.9	0.693	6.9	LOS A	5.3	37.6	0.15	0.14	0.15	39.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Site Access												
P1	Full	100	105	64.4	LOS F	0.4	0.4	0.96	0.96	230.9	216.5	0.94
West: Herston Rd (W)												
P4	Full	100	105	64.4	LOS F	0.4	0.4	0.96	0.96	227.3	211.8	0.93
All Pedestrians		200	211	64.4	LOS F	0.4	0.4	0.96	0.96	229.1	214.2	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: I1 [I1 - 2041 BG+DEV1 - SAT (Site Folder: Single Access - SLR)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 102 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Site Access														
1	L2	85	2.0	94	2.0	0.478	48.2	LOS D	4.6	32.9	0.98	0.77	0.98	16.5
3	R2	115	2.0	128	2.0	* 0.508	45.8	LOS D	6.1	43.5	0.97	0.78	0.97	17.4
Approach		200	2.0	222	2.0	0.508	46.8	LOS D	6.1	43.5	0.98	0.77	0.98	17.0
East: Herston Rd (E)														
4	L2	140	2.0	156	2.0	0.155	10.0	LOS A	1.4	10.1	0.32	0.66	0.32	23.5
5	T1	584	3.0	615	3.0	* 0.512	5.6	LOS A	8.6	62.0	0.31	0.28	0.31	49.5
Approach		724	2.8	770	2.8	0.512	6.5	LOS A	8.6	62.0	0.31	0.35	0.31	37.1
West: Herston Rd (W)														
11	T1	459	3.0	483	3.0	0.339	0.4	LOS A	0.7	5.1	0.03	0.03	0.03	59.1
12	R2	104	2.0	116	2.0	* 0.279	18.4	LOS B	2.5	18.0	0.50	0.71	0.50	21.4
Approach		563	2.8	599	2.8	0.339	3.9	LOS A	2.5	18.0	0.12	0.16	0.12	39.7
All Vehicles		1487	2.7	1591	2.7	0.512	11.1	LOS A	8.6	62.0	0.33	0.34	0.33	30.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Site Access												
P1	Full	100	105	45.4	LOS E	0.3	0.3	0.95	0.95	211.9	216.5	1.02
West: Herston Rd (W)												
P4	Full	100	105	45.4	LOS E	0.3	0.3	0.95	0.95	208.3	211.8	1.02
All Pedestrians		200	211	45.4	LOS E	0.3	0.3	0.95	0.95	210.1	214.2	1.02

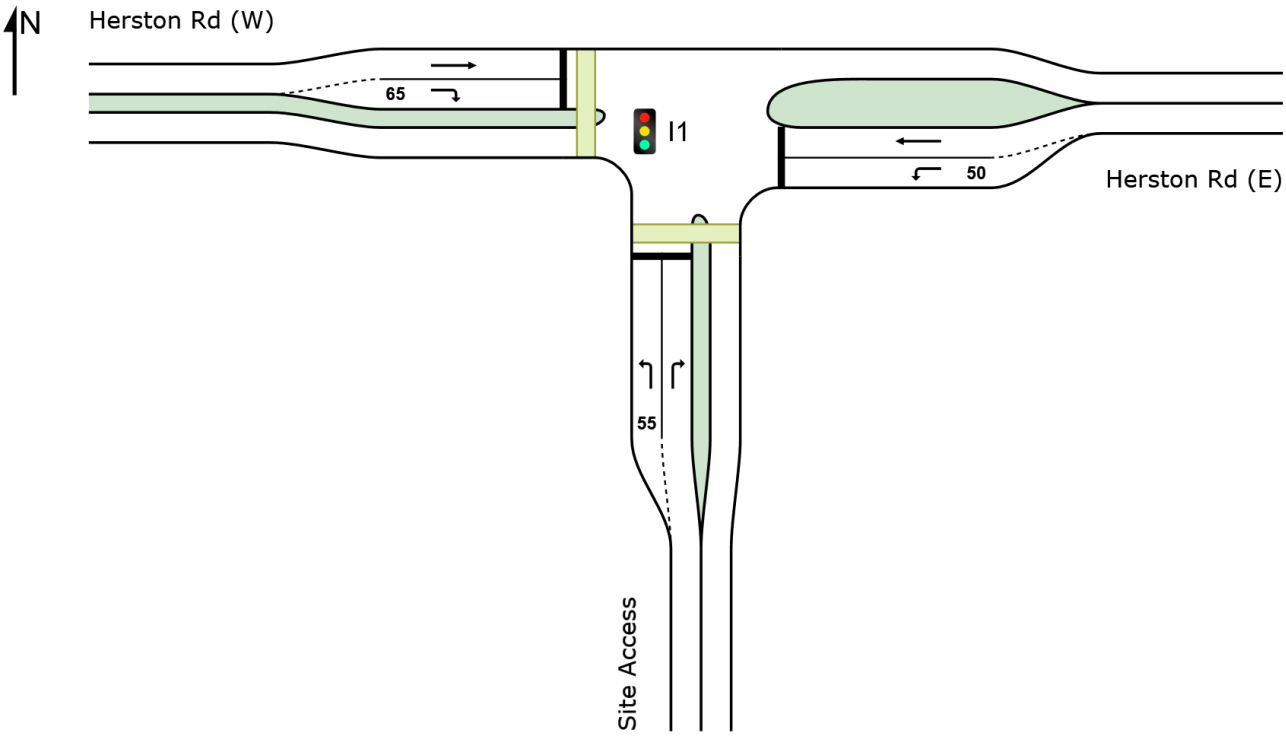
Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

SITE LAYOUT

Site: I1 [I1 - 2041 BG+DEV1 - AM (Site Folder: Single Access - Council S2)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: I1 [I1 - 2041 BG+DEV1 - AM (Site Folder: Single Access - Council S2)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 140 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Site Access														
1	L2	21	2.0	23	2.0	0.198	69.6	LOS E	1.6	11.2	0.98	0.70	0.98	14.5
3	R2	28	2.0	31	2.0	*0.183	64.9	LOS E	2.0	14.3	0.96	0.70	0.96	15.5
Approach		49	2.0	54	2.0	0.198	66.9	LOS E	2.0	14.3	0.97	0.70	0.97	15.1
East: Herston Rd (E)														
4	L2	65	2.0	72	2.0	0.068	10.5	LOS A	0.8	5.7	0.25	0.63	0.25	23.4
5	T1	813	3.0	856	3.0	*0.608	0.8	LOS A	2.8	20.3	0.05	0.05	0.05	58.2
Approach		878	2.9	928	2.9	0.608	1.6	LOS A	2.8	20.3	0.07	0.10	0.07	49.0
West: Herston Rd (W)														
11	T1	827	3.0	871	3.0	0.554	0.6	LOS A	2.5	18.2	0.05	0.04	0.05	58.8
12	R2	48	2.0	53	2.0	*0.151	16.9	LOS B	1.1	8.1	0.35	0.67	0.35	21.7
Approach		875	2.9	924	2.9	0.554	1.5	LOS A	2.5	18.2	0.07	0.08	0.07	51.0
All Vehicles		1802	2.9	1906	2.9	0.608	3.4	LOS A	2.8	20.3	0.09	0.11	0.09	45.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Site Access												
P1	Full	100	105	64.4	LOS F	0.4	0.4	0.96	0.96	230.9	216.5	0.94
West: Herston Rd (W)												
P4	Full	100	105	64.4	LOS F	0.4	0.4	0.96	0.96	227.3	211.8	0.93
All Pedestrians		200	211	64.4	LOS F	0.4	0.4	0.96	0.96	229.1	214.2	0.93

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: I1 [I1 - 2041 BG+DEV1 - PM (Site Folder: Single Access - Council S2)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 136 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Site Access														
1	L2	94	2.0	104	2.0	0.705	70.0	LOS E	7.2	51.2	1.00	0.90	1.11	14.4
3	R2	127	2.0	141	2.0	*0.699	66.2	LOS E	9.5	67.4	1.00	0.87	1.07	15.4
Approach		221	2.0	246	2.0	0.705	67.8	LOS E	9.5	67.4	1.00	0.88	1.09	15.0
East: Herston Rd (E)														
4	L2	85	2.0	94	2.0	0.087	9.7	LOS A	0.9	6.5	0.23	0.63	0.23	23.6
5	T1	927	3.0	976	3.0	*0.715	2.4	LOS A	9.7	70.0	0.17	0.16	0.17	55.0
Approach		1012	2.9	1070	2.9	0.715	3.0	LOS A	9.7	70.0	0.17	0.20	0.17	46.2
West: Herston Rd (W)														
11	T1	504	3.0	531	3.0	0.346	0.4	LOS A	1.0	7.4	0.03	0.03	0.03	59.0
12	R2	63	2.0	70	2.0	*0.226	17.8	LOS B	1.6	11.6	0.39	0.68	0.39	21.5
Approach		567	2.9	601	2.9	0.346	2.5	LOS A	1.6	11.6	0.07	0.11	0.07	45.2
All Vehicles		1800	2.8	1916	2.8	0.715	11.2	LOS A	9.7	70.0	0.25	0.26	0.26	33.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Site Access												
P1	Full	100	105	62.4	LOS F	0.4	0.4	0.96	0.96	228.9	216.5	0.95
West: Herston Rd (W)												
P4	Full	100	105	62.4	LOS F	0.4	0.4	0.96	0.96	225.3	211.8	0.94
All Pedestrians		200	211	62.4	LOS F	0.4	0.4	0.96	0.96	227.1	214.2	0.94

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

Site: I1 [I1 - 2041 BG+DEV1 - SAT (Site Folder: Single Access - Council S2)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 104 seconds (Site Optimum Cycle Time - Minimum Degree of Saturation)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Site Access														
1	L2	153	2.0	170	2.0	0.568	44.4	LOS D	8.2	58.3	0.97	0.79	0.97	16.9
3	R2	207	2.0	230	2.0	* 0.653	43.2	LOS D	11.1	78.9	0.98	0.83	0.99	17.7
Approach		360	2.0	400	2.0	0.653	43.7	LOS D	11.1	78.9	0.98	0.81	0.98	17.4
East: Herston Rd (E)														
4	L2	253	2.0	281	2.0	0.280	10.4	LOS A	2.9	20.5	0.36	0.68	0.36	23.4
5	T1	584	3.0	615	3.0	* 0.673	9.9	LOS A	13.1	94.4	0.46	0.41	0.46	43.6
Approach		837	2.7	896	2.7	0.673	10.1	LOS A	13.1	94.4	0.43	0.50	0.43	31.6
West: Herston Rd (W)														
11	T1	459	3.0	483	3.0	0.365	2.0	LOS A	2.8	20.1	0.13	0.11	0.13	55.7
12	R2	187	2.0	208	2.0	* 0.577	28.1	LOS B	7.4	52.8	0.77	0.80	0.77	19.8
Approach		646	2.7	691	2.7	0.577	9.9	LOS A	7.4	52.8	0.32	0.32	0.32	32.0
All Vehicles		1843	2.6	1987	2.6	0.673	16.8	LOS B	13.1	94.4	0.50	0.50	0.50	26.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance

Mov ID	Crossing	Input Vol. ped/h	Dem. Flow ped/h	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Ped ped	Dist] m	Prop. Que	Effective Stop Rate	Travel Time sec	Travel Dist. m	Aver. Speed m/sec
South: Site Access												
P1	Full	100	105	46.4	LOS E	0.3	0.3	0.95	0.95	212.9	216.5	1.02
West: Herston Rd (W)												
P4	Full	100	105	46.4	LOS E	0.3	0.3	0.95	0.95	209.3	211.8	1.01
All Pedestrians		200	211	46.4	LOS E	0.3	0.3	0.95	0.95	211.1	214.2	1.01

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)
Pedestrian movement LOS values are based on average delay per pedestrian movement.
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

APPENDIX F

City Plan Code Responses (SLR)

9.4.11 Transport, access, parking and servicing code

9.4.11.1 Application

1. This code applies to assessing:
    a. operational work which is assessable development if this code is identified as a prescribed secondary code in the assessment benchmarks column of a table of assessment for operational work (section 5.8); or
    b. a material change of use or reconfiguring a lot if:
        i. assessable development where this code is identified as a prescribed secondary code in the assessment benchmarks column of a table of assessment for a material change of use (section 5.5) reconfiguring a lot (section 5.6), or an overlay (section 5.10); or
        ii. impact assessable development, to the extent relevant.
2. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code contains performance outcomes or acceptable outcomes that relate to:

- crime prevention through environmental design principles, guidance is included in the Crime prevention through environmental design planning scheme policy;
- design for the reduction of graffiti, guidance is provided and the Graffiti prevention planning scheme policy;
- infrastructure design and construction works, guidance is provided in the Infrastructure design planning scheme policy;
- refuse and recycling, guidance is provided in the Refuse planning scheme policy;
- transport, access, parking and servicing standards and guidelines are contained in the Transport, access, parking and servicing planning scheme policy and the Infrastructure design planning scheme policy.

Note—If involving a standard format lot with common property such as requiring a community management scheme under the *Body Corporate and Community Management Act 1997*, the development contains a reconfiguring a lot aspect of development and the Subdivision code will apply.

9.4.11.2 Purpose

1. The purpose of the Transport, access, parking and servicing code is to assess the suitability of the transport, access, parking and servicing aspects of development.
2. The purpose of the code will be achieved through the following overall outcomes:
    a. Development provides for access, circulation, parking and vehicle-based services for all relevant transport modes, including walking, cycling and public transport relevant to the nature of the proposed development and its location in relation to the transport network and surrounding existing and future land uses.
    b. Development enhances the potential for trip making other than by private vehicle.
    c. Development provides safe access for all transport modes that does not impact adversely on the efficiency and safety of the transport network or diminish the amenity of nearby land uses.
    d. Development ensures that impacts on amenity caused by traffic generation is consistent with the community's reasonable expectations for the intended use.
    e. Development provides site access arrangements to ensure that any adverse impacts on other development, the transport network and those who use it, are minimised to maintain amenity of the area and the safety and efficiency of the transport system.

f. Development ensures that access, parking and servicing arrangements and impacts such as noise, are consistent with the community's reasonable expectations and avoid risk of damage to people, property and vehicles.
g. Development maximises safety in the use of the transport network, particularly for the most vulnerable users (children, pedestrians, persons with disabilities and cyclists) so that all transport modes are safe and convenient.
h. Development provides for walking and cycling routes and end-of-trip facilities for pedestrians and cyclists, designed and located to make walking and cycling attractive and viable transport options.
i. Development envisaged by the planning scheme, which will potentially have an adverse impact on the operation of the transport network, is designed and of a scale that maintains the safety and efficiency of the transport network.
j. Development provides for on-site parking and manoeuvring areas for cars, motorcycles, bicycles and service vehicles which:
    i. are safe and convenient to use;
    ii. if outside the City core and the City frame identified in Figure a are adequate to meet the design peak-parking demands without significant overflow to adjacent premises or the generation of excessive on-street car parking demand, taking into account the requirements of other road users.
k. Development provides for on-site servicing that is safe, convenient to use, but discrete, and adequate to meet the reasonably expected demands generated by the development, without significant adverse impacts on the external road system or adjacent premises.
l. Development accommodates future road upgrades and widenings ensuring the ongoing capacity, efficiency and safety of the transport network.

9.4.11.3 Performance outcomes and acceptable outcomes

Table 9.4.11.3—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
PO1 Development is designed: a. to include a technically competent and accurate response to the transport and traffic elements of the development; b. in accordance with the standards in the Transport, access, parking and servicing planning scheme policy; c. to ensure the efficient operation and safety of the development and its surrounds. Note—The acceptable outcome and performance outcome can be demonstrated through a development application that:	**AO1** Development complies with the standards in the Transport, access, parking and servicing planning scheme policy.	Complies with PO and AO SLR Traffic and Transport Assessment prepared under direction of RPEQ with approx. 20 yrs experience. Assessment completed with regard to the TAPS PSP and evaluates the operation and safety of the surrounding network.

• is accompanied by sufficient information, including computer modelling input and output data, to allow the proposed development to be properly assessed against the requirements of this code and the standards and guidelines of the Transport, access, parking and servicing planning scheme policy; • is certified by a Registered Professional Engineer Queensland that all plans, documents and dimensioned drawings comply with the requirements of this code and the standards and guidelines of the Transport, access, parking and servicing planning scheme policy; • ensures that any computer modelling input and output data are accurate, reasonable and carried out in accordance with sound traffic engineering practices.		
PO2 Development of a major size incorporates on-site provision for integration with the public transport network and the management of vehicles, public transport, pedestrians and cyclists, including providing appropriate pedestrian and cyclist linkages to adjoining uses, public areas and the transport network consistent with the planning by the Queensland Government and Council.	**AO2** No acceptable outcome is prescribed.	Complies with PO See Traffic and Transport Assessment for detail. Proposed redevelopment includes provision for all movement types including bus (Metro), vehicles, pedestrians and cyclists.
PO3 Development provides vehicle access that is located and designed so as to have no significant impact on the safety, efficiency, function, convenience of use or capacity of the road network.	**AO3.1** Development provides site access that is located and designed in compliance with the standards in the Transport, access, parking and servicing planning scheme policy. **AO3.2** Development provides an easement for a vehicular access benefiting all adjoining landowners and the Council if the vehicular access services more than an individual development or premises.	Complies with PO Proposed Herston Rd site access has been located and designed to accommodate traffic movements and reduce impact on existing network. AO3.2 N/A
PO4 Development provides walking and cycle routes through the site which:	**AO4.1** Development provides walking and cycle routes which are constructed on the carriageway or through the site to:	Complies with PO and AO.

a. link to the external network and pedestrian and cyclist destinations such as schools, shopping centres, open space, public transport stations, shops and local activity centres along the safest, most direct and convenient routes; b. encourage walking and cycling; c. ensure pedestrian and cyclist safety; d. provide a direct and legible network. Note—The Infrastructure design planning scheme policy provides additional guidance on how to comply with this performance outcome.	a. create a walking or cycle route along the full frontage of the site; b. connect to public transport and existing cycle and walking routes at the frontage or boundary of the site.	New and upgraded walking and cycling infrastructure is proposed adjacent and throughout the site. See Traffic and Transport Assessment for detail.
	AO4.2 Development provides walking and cycle routes that are constructed in compliance with the standards in the Transport, access, parking and servicing planning scheme policy and the Infrastructure design planning scheme policy.	Complies with AO4.2
	AO4.3 Development provides walking and cycle routes which do not include a potential entrapment area, blind corner or sudden change in level that restrict sightlines.	Considered to comply with AO4.3. The Masterplan is at a high level of detail but the current arrangements have considered entrapment areas, blind corners and sightlines but these items will have to be confirmed by detailed design.
PO5 Development provides secure and convenient bicycle parking which: a. for visitors is obvious and located close to the building's main entrance; b. for employees is conveniently located to provide secure and convenient access between the bicycle storage area, end-of-trip facilities and the main area of the building; c. is easily and safely accessible from outside the site; d. does not impact adversely on visual amenity; e. does not impede the movement of pedestrians or other vehicles; f. is designed to comply with a recognised standard for the construction of bicycle facilities.	**AO5.1** Development provides on-site bicycle parking spaces in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.	Complies with PO and AO Bicycle parking for visitors and guests should be provided throughout.
	AO5.2 Development provides bicycle parking spaces for employees which are co-located with end-of-trip facilities (shower cubicles and lockers) in compliance with the Transport, access, parking and servicing planning scheme policy and AS 2890.3-1993 Bicycle parking facilities.	The Masterplan is at a high level of detail and does not currently identify specific bicycle parking areas; however, these facilities should be provided throughout in convenient and logical locations.
	AO5.3 Development ensures that the location of visitor bicycle parking is discernible either by direct view or using signs from the street.	This can be confirmed by detailed design. Bicycle parking for staff related to new (incremental) commercial land uses should be provided in accordance with TAPS requirement as part of the building envelope.
	AO5.4	

Note—For a performance outcome relating to the number of bicycle parking spaces provided, the application must demonstrate how the needs of the intended users of the site differ from the standard rates in the Transport, access, parking and servicing planning scheme policy.	Development provides visitor bicycle parking which does not impede pedestrian movement. **AO5.5** Development provides bicycle parking which is constructed in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.	
PO6 Development provides shower cubicles and lockers in sufficient numbers to meet the needs and volume of predicted pedestrian and cyclist users. Note—For a performance outcome the application must demonstrate how the needs of the intended users of the site differ from the standard rates in the Transport, access, parking and servicing planning scheme policy.	**AO6** Development provides shower cubicles and lockers for pedestrians and cyclists in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.	Can be conditioned to comply with PO and AO. The Masterplan is at a high level of detail and does not currently identify specific end of trip facilities like showers and lockers. Bicycle end of trips facilities for staff related to new (incremental) commercial land uses should be provided in accordance with TAPS requirement as part of the building envelope.
PO7 Development provides pedestrian and cyclist access to the site which is designed to provide safe movement and avoid unnecessary conflict between pedestrians, cyclists and motor vehicles.	**AO7** Development provides pedestrian and cycle access that is designed and constructed in compliance with the site access design guidelines, pedestrian facilities standards and cyclist facilities standards in the Transport, access, parking and servicing planning scheme policy.	Complies with PO and AO. See Traffic and Transport Assessment for detail.
PO8 Development provides pedestrian and cyclist access to and from the site which is located to take advantage of safe crossing points of the adjacent road system, key destinations and public transport facilities.	**AO8** No acceptable outcome is prescribed.	Complies with PO. See Traffic and Transport Assessment for detail.
PO9	**AO9.1**	Complies with PO and AO.

Development provides access driveways in the road area that are located, designed and controlled to: a. minimise adverse impacts on the safety and operation of the transport network, including the movement of pedestrians and cyclists; b. ensure the amenity of adjacent premises, from impacts such as noise and light.	No acceptable outcome for access is prescribed, for a major development (as described in the Transport, access, parking and servicing planning scheme policy).	AO9.1 No 'Access Driveways' proposed for major development component, only intersections. Only minor development (Herston Rd Pump Track) proposes 'Access Driveway' type crossover.
	AO9.2 Development which is not a major development (as described in the Transport, access, parking and servicing planning scheme policy) provides a single site access driveway in the road area to the lowest order road to which the site has frontage.	AO9.2 Single 'Access Driveway' proposed for Herston Road Pump Track (minor development). Crossover is situated on the only available road frontage.
	AO9.3 Development ensures that sight distances to and from all proposed access driveways in the road area and intersections are in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.	AO9.3 The Herston Rd Pump Track 'Access Driveway' is proposed as left in/left out. Some modification to existing on-street car parking is required to enable unrestricted sight distance complying with TAPS.
	AO9.4 Development provides access driveways in the road area which: a. are located, designed and controlled in compliance with the standards in the Transport, access, parking and servicing planning scheme policy; b. are not provided through a bus stop, taxi rank or pedestrian crossing or refuge.	AO9.4 The Herston Rd Pump Track 'Access Driveway' is consistent with TAPS and not located at/near a bus stop, taxi rank or pedestrian crossing/refuge.
	AO9.5 Development makes provision for shared access arrangements particularly where it is necessary to limit access points to a major road.	N/A. Shared access arrangement not required or proposed.
PO10 Redevelopment provides for: a. the closure of all access driveways in the road area that no longer comply with the standards in	**AO10** No acceptable outcome is prescribed.	Complies with PO10 Any redundant crossover should be closed.

the Transport, access, parking and servicing planning scheme policy; b. the reinstatement of adjacent footpaths.		
PO11 Development provides that an internal approach to an access driveway in the road area is designed and located to provide for the safety of pedestrians and cyclists using paths adjacent to the frontage of the site, and motorists.	**AO11.1** Development provides sight distances to and from all proposed access driveways in the road area and intersections which are in compliance with the standards in the Transport, access, parking and servicing planning scheme policy. **AO11.2** Development ensures that convex mirrors are only used in a site: a. as a secondary support at access driveways; b. in addition to acceptable sight splays that comply with the sight distances standards in the Transport, access, parking and servicing planning scheme policy.	
PO12 Development in the City core and City frame as identified in Figure a provides car parking spaces at rates to discourage private car use and encourage walking, cycling and the use of public transport.	**AO12** Development in the City core and City frame as identified in Figure a provides maximum car-parking rates in compliance with the standards in the Transport, access, parking and servicing planning scheme policy. Note—For accepted development subject to compliance with identified requirements including an existing premises, no reduction to existing car parking is required to comply with a maximum car-parking rate in the Transport, access, parking and servicing planning scheme policy.	Complies with PO and considered to comply with expanded consideration of AO12. See Traffic and Transport Assessment for detail.
PO13 Development outside of the City core and City frame as identified in Figure a provides on-site car parking spaces to accommodate the design peak parking demand without any overflow of car parking to an adjacent premises or adjacent street.	**AO13** Development outside of the City core and City frame as identified in Figure a: a. provides on-site car parking spaces in compliance with the standards in the Transport, access, parking and servicing planning scheme policy; or	N/A. Site located within the City Frame

	b. for accepted development subject to compliance with identified requirements, does not result in on-street car parking if no parking standard is identified in the Transport, access, parking and servicing planning scheme policy. Note—For accepted development subject to compliance with identified requirements including an existing premises, no reduction to existing car parking is required to comply with a maximum car-parking rate in the Transport, access, parking and servicing planning scheme policy.	
PO14 Development ensures that the number of car parking spaces and design of the car parking area: a. meet the combined design peak parking demand for residential, visitor and business parking; b. allow for the temporal sharing of car-parking spaces for uses with different peak parking demands. Note—In order to demonstrate that adequate car parking is provided, a traffic impact assessment prepared in compliance with the Transport, access, parking and servicing planning scheme policy is to identify the appropriate number of car parking spaces to be provided.	**AO14.1** Development provides a number of car parking spaces on site equalling the sum of the maximum design peak parking demand for the individual uses at any point in time. **AO14.2** Development involving mixed use provides a non-residential car parking area with shared parking for all the businesses in the development.	Considered to comply with PO and AO. See Traffic and Transport Assessment for detail.
PO15 Development provides a car park layout which allows for on-site vehicle parking that: a. is clearly defined, safe and easily accessible; b. is designed to contain potential adverse impacts within the site; c. does not detract from the aesthetics or amenity of an area; d. discourages on-street parking if parking has an adverse traffic management safety or amenity impact; e. is consistent with safe and convenient pedestrian and cyclist movement.	**AO15** Development provides parking bays, queue areas and manoeuvring areas which are designed for the design service vehicle to the standards in the Transport, access, parking and servicing planning scheme policy.	Complies with PO and AO. See Traffic and Transport Assessment for detail. Internal traffic layout provides for various movement user types with different levels of hierarchy as deemed appropriate.

PO16 Development creates a safe environment by incorporating the key elements of crime prevention through environmental design.	**AO16** Development incorporates the key elements of crime prevention through environmental design in its layout, building and structure design and landscaping by: a. facilitating casual surveillance opportunities and including good sightlines to publicly accessible areas such as car parks, pathways, public toilets and communal areas; b. defining different uses and ownerships through design and restricting access from non-residential uses into private residential dwellings; c. promoting safety and minimising opportunities for graffiti and vandalism through exterior building design and orientation of buildings and use of active frontages; d. ensuring publicly accessible areas such as car parks, pathways, public toilets and communal areas are well lit; e. including way-finding cues; f. minimising predictable routes and entrapment locations near public spaces such as car parks, public toilets, ATMs and communal areas. Note—For guidance in achieving the key elements of crime prevention through environmental design, refer to the Crime prevention through environmental design planning scheme policy.	Can be conditioned to comply with PO and AO or and/or subject to ongoing detail design. The Masterplan is not currently at a level of design consideration to confirm CPED specifics.
PO17 Development minimises the potential for graffiti and vandalism through access control, canvas reduction and easy maintenance selection.	**AO17** Development incorporates graffiti and vandalism prevention techniques in its layout, building and structure design and landscaping, by: a. denying access to potential canvases through access control techniques; b. reducing potential canvases through canvas reduction techniques; c. ensuring graffiti can be readily and quickly removed through easy maintenance selection techniques.	Can be conditioned to comply with PO and AO or and/or subject to ongoing detail design. The Masterplan is not currently at a level of design consideration to confirm CPED specifics.

	Note—For guidance on graffiti and vandalism prevention techniques, refer to the Graffiti prevention planning scheme policy.	
PO18 Development is serviced by an adequate number and size of service vehicles.	**AO18** Development ensures that the number and size of design service vehicles selected for the site is in compliance with the standards in the Transport, access, parking and servicing planning scheme policy.	Complies with PO and AO. Provision made for design vehicles in accordance with TAPS PSP Table 1.
PO19 Development layout provides for services which: a. are wholly within the site, other than service vehicle manoeuvring areas which may overhang the verge on a minor road where use of the footpath is not adversely affected; b. are clearly defined, safe and easily accessible; c. are designed to contain potential adverse impacts of servicing within the site; d. do not detract from the aesthetics or amenity of the surrounding area.	**AO19.1** Development ensures that a service bay provided on site: a. is provided and designed to comply with the design vehicle table and service area design standards in the Transport, access, parking and servicing planning scheme policy; b. is located away from street frontages and screened from adjoining premises. **AO19.2** Development provides on-site servicing facilities and associated on-site vehicle manoeuvring areas which are designed in compliance with the service area design standards in the Transport, access, parking and servicing planning scheme policy.	Complies with PO and AO. Servicing is proposed to occur entirely on-site with no reliance of on-street loading facilities.
	AO19.3 Development provides service areas for refuse collection in compliance with the standards in the Refuse planning scheme policy, Transport, access, parking and servicing planning scheme policy and the Infrastructure design planning scheme policy.	
PO20 Development provides service vehicle access routes to and from the site which minimise the impact on: a. amenity and safety in residential areas;	**AO20** Development ensures that service vehicles use the shortest and most direct route to the major road network in compliance with the heavy vehicle standards in the	Complies with PO and AO.

b. streets not constructed to a standard that accommodate increased heavy vehicle movements.	Transport, access, parking and servicing planning scheme policy.	Service vehicles will travel to/from the site via the highest order fronting roads such that their movement is consistent with the road hierarchy, form and function.
If for development which is required to be serviced by a b-double (Austroad class 10 vehicle), multi-combination vehicle, over-dimensioned vehicle or any other vehicle identified by the Queensland Government as requiring a permit to operate on the road (freight-dependent development)		
PO21 Development which is freight-dependent development ensures that the traffic generated by the development does not impact on: a. the operation of the transport network; b. the safety and amenity of a residential area; c. a road not constructed to accommodate a non-standard vehicle such as a road only constructed to accommodate a vehicle that has a legal right of access to all roads including Austroads vehicles classes 1–9.	**AO21.1** Development which is freight-dependent development is located on a site which: a. has frontage to or direct access to the freight network in the Road hierarchy overlay via roads in a zone in the Industry zones category; or b. can be serviced by a route that can act as a primary freight access route and connect to an existing primary freight route without impacting on the safe operation of the road network in compliance with the heavy vehicle standards in the Transport, access, parking and servicing planning scheme policy. **AO21.2** Development which is freight-dependent development provides any necessary upgrade to a road used as an access route in compliance with the Infrastructure design planning scheme policy.	N/A. B-double truck movement is not anticipated.

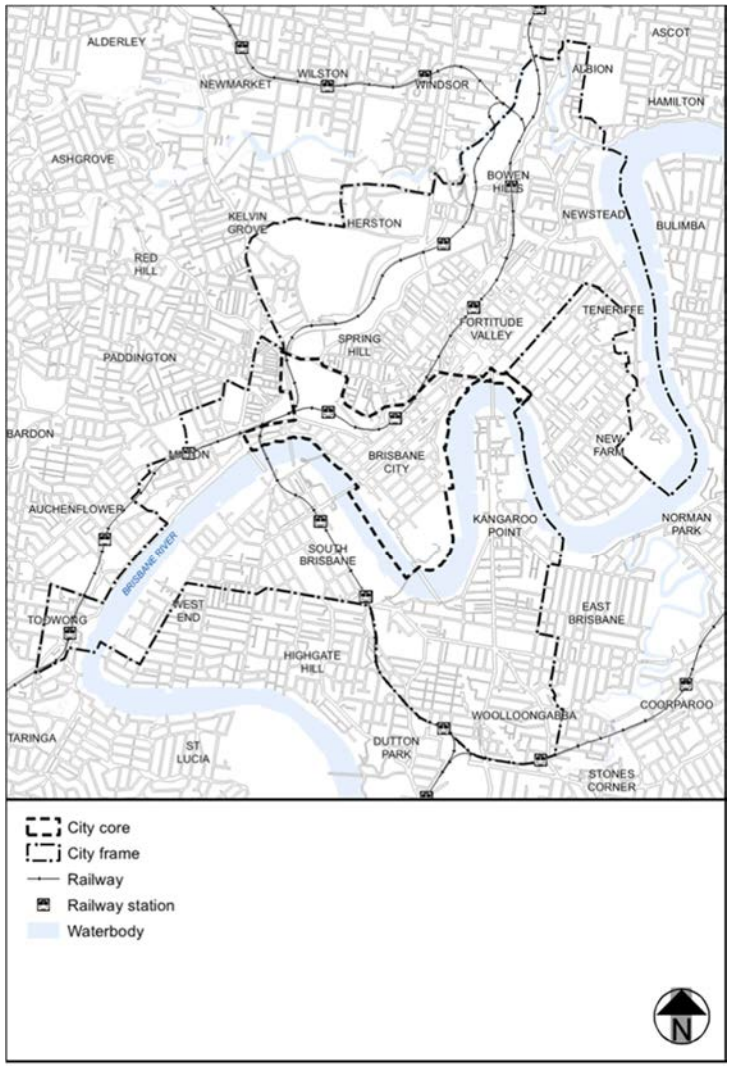


Figure a—City core and City frame

View the high resolution of Figure a–City core and City frame

8.2.18 Road hierarchy overlay code

8.2.18.1 Application

1. This code applies to assessing development on of land adjoining or having frontage or access to roads identified in the Road hierarchy overlay, if:
   a. accepted development subject to compliance with identified requirements, where acceptable outcomes of this code are identified requirements in a table of assessment for an overlay (section 5.10); or
   b. assessable development, where this code is an applicable code identified in the assessment benchmarks column of a table of assessment for an overlay (section 5.10); or
   c. impact assessable development.
2. The Road hierarchy overlay map identifies the following sub-categories:
   a. Motorway sub-category;
   b. Arterial road sub-category;
   c. Suburban road sub-category;
   d. District road sub-category;
   e. Neighbourhood road sub-category;
   f. Local road sub-category;
   g. Future motorway sub-category;
   h. Future arterial road sub-category;
   i. Future suburban road sub-category;
   j. Future district road sub-category;
   k. Primary freight route sub-category;
   l. Primary freight access sub-category.
3. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to road types, traffic impact reports and hierarchy design and construction, guidance is provided in the Infrastructure design planning scheme policy.

Note—Laneways are a type of public road identified in the Road hierarchy overlay and are required in locations where specified in the Streetscape hierarchy overlay map.

Editor's note—The desired standard of service for the provision of trunk infrastructure is specified in the Local government infrastructure plan.

Editor's note—For a proposal to be accepted development subject to compliance with identified requirements, it must meet all the identified acceptable outcomes of this code that relate to the applicable sub-category and any other applicable code. Where it does not meet all identified acceptable outcomes, the proposal becomes assessable development and a development application is required. Where a development application is triggered, only the specific acceptable outcomes that the proposal fails to meet need to be assessed against the corresponding assessable acceptable outcomes or performance outcomes and relevant overall outcomes. Other identified acceptable outcomes that are met are not assessed as part of the development application.

8.2.18.2 Purpose

1. The purpose of the Road hierarchy overlay code is to:
   a. Implement the policy direction in the Strategic framework, in particular:
      i. Theme 4: Brisbane's highly effective transport and infrastructure and Element 4.1 – Brisbane's transport infrastructure networks;
      ii. Theme 2: Brisbane's outstanding lifestyle and Element 2.1 – Brisbane's identity.
   b. Provide for the assessment of the suitability of development in the Road hierarchy overlay.
2. The purpose of the code will be achieved through the following overall outcomes:
   a. Development contributes to the safe and efficient operation of the existing and planned road hierarchy and to the function of the road as part of Brisbane's public domain.
   b. Development accessing roads is consistent with and does not compromise the road hierarchy in its use, function, flow, or capacity by buses, pedestrians and cyclists.
   c. Development that changes the function of a road by generating traffic does so such that the new function of the road in the hierarchy is compatible with the surrounding road hierarchy and where necessary is reconstructed to meet its new design parameters.
   d. Development that provides a new road internal and connecting to the road hierarchy complements or completes the existing road hierarchy.
   e. Development does not compromise the completion of the road hierarchy.
   f. Development ensures that land uses are located to support and implement a safe and efficient road hierarchy facilitating the efficient movement of people and goods.

8.2.18.3 Performance outcomes and acceptable outcomes

Table 8.2.18.3—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
Section A—If for accepted development subject to compliance with identified requirements (acceptable outcomes only) or assessable development for a material change of use		
PO1 Development ensures that: a. vehicle access is provided to each premises, which has no significant impact on the safety, efficiency, function, convenience of use or capacity of:	**AO1.1** Development ensures that an access driveway is provided from: a. a minor road; b. a district road or suburban road if the development has high traffic-generating potential.	Complies with PO and AO. See Traffic and Transport Assessment for detail. AO1.1 Access to Herston Rd is existing and defined as a District Road. Access to Centenary Pool site is existing via Gregory Terrace (Suburban Rd); however, this is the only road frontage.

i. the road hierarchy shown on the Road hierarchy overlay map; ii. public transport operations; iii. pedestrian and cyclist movement; b. the safety and efficiency of primary freight routes are protected and enhanced, supporting major industry areas; c. site access driveways in the road area accommodate all turns only when such arrangements are safe and can be demonstrated to not inhibit transport system operation.	**AO1.2** Development ensures that an access driveway is not provided to or from a primary freight route identified on the Road hierarchy overlay map.	AO1.2 Access to Herston Rd and Gregory Terrace is existing and not defined as a primary freight routes.
	AO1.3 Development ensures that a use other than a use with high traffic-generating potential gains all vehicular access, other than for service vehicles, via the lowest order road in the road hierarchy to which the site has frontage.	AO1.3 Proposed redevelopment has a high traffic-generating potential, hence main access via Herston Rd (District Rd) is appropriate. Access to Centenary Pool site is via Gregory Terrace (Suburban Rd) which is the only available road frontage.
	AO1.4 Development ensures that a turn to and from a major road is restricted to a left turn only.	AO1.4 Existing movement to/from site at Herston Rd and Gregory Terrace permits right turns. Right turns are proposed to be retained, albeit controlled by signalized intersection movement post development. Solution otherwise complies with PO.
	AO1.5 Development ensures that vehicle access is provided to an abutting site that only has frontage to an arterial road, to facilitate access to the abutting site via an alternative street.	A01.5 N/A
Section B—If for assessable development for a material change of use		
PO2 Development does not compromise the safety, efficiency and function of the road hierarchy and addresses all the impacts to the road network.	**AO2.1** Development ensures that the traffic generated by the development is consistent with the road hierarchy classification, function and expected traffic flows for the area.	Complies with PO and AO. See Traffic and Transport Assessment for detail. AO2.1 Development movements facilitated by higher order road connections.
	AO2.2 Development mitigates an impact on the road hierarchy if the development: a. is for a major development; or b. involves an access driveway to a major road; or c. involves an access driveway within 100m of a signalised intersection.	AO2.2 Development site access proposed to be upgraded to accommodate movements whilst minimizing impacts. Network-wide modelling prepared by Council indicates no major impacts warranting mitigation.

	Note—This can be demonstrated in a transport impact assessment report prepared and certified by a Registered Professional Engineer Queensland in accordance with the Transport, access, parking and servicing planning scheme policy.	
Section C—If for assessable development for a material change of use or reconfiguring of a lot		
PO3 Development makes provision for the extension, expansion and widening of the existing and future road network where required.	**AO3** No acceptable outcome is prescribed.	N/A No road widening of fronting roads identified as required.
PO3A Development provides for the payment of extra trunk infrastructure costs for the following: a. for development completely or partly outside the priority infrastructure area in the Local government infrastructure plan; b. for development completely inside the priority infrastructure area in the Local government infrastructure plan involving: i. trunk infrastructure that is to be provided earlier than planned in the Local government infrastructure plan; ii. long term infrastructure for the road network which is made necessary by development that is not assumed future urban development; iii. other infrastructure for the road network associated with development that is not assumed future urban development which is made necessary by the development. Editor's note—The payment of extra trunk infrastructure costs for development completely inside the priority infrastructure area in the Local government infrastructure plan is to be worked out in accordance with the Charges Resolution. Editor's note—See section 130 Imposing Development conditions (Conditions for extra trunk infrastructure costs) of the *Planning Act 2016*.	**AO3A** No acceptable outcome is prescribed.	N/A Any infrastructure required to be brought forward will be enabled by the development, not via infrastructure contributions.

If on a site in or adjacent to the District road sub-category which has a width less than 20 metres, or to the Suburban road sub-category or to the Arterial road sub-category		
PO4 Development protects a corridor for the road network shown on the Road hierarchy overlay map to ensure the following are not compromised: a. the long term infrastructure for the road network in the Long term infrastructure plans; b. the existing and planned infrastructure for the road network in the Local government infrastructure plan; c. the provision of long term, existing and planned infrastructure for the road network which: i. is required to service the development or existing and future urban development in the planning scheme area; or ii. is in the interests of rational development or the efficient and orderly planning of the general area in which the site is situated. Editor's note—A condition which requires a proposed development to keep permanent improvements and structures associated with the approved development clear of the area of long term infrastructure, may be imposed.	**AO4** Development protects a corridor for the road network shown on the Road hierarchy overlay map in compliance with the following: a. for the long term infrastructure for the road network, the Long term infrastructure plans; b. for existing and planned infrastructure for the road network, the Local government infrastructure plan; c. the standards for the road network in the Infrastructure design planning scheme policy.	Complies with PO and AO No road widening of fronting roads identified as required.
Section D—If reconfiguring a lot or involving an extension or change to the road hierarchy		
PO5 Development ensures that a new road connection provides: a. safe, efficient and convenient connectivity of the new road to the major road network; b. a minimum number of intersections to the major road network.	**AO5** Development provides access to the road network in a manner that preserves the function of the road hierarchy and addresses all impacts to the road network.	N/A Reconfiguration of Lot application and/or extension/change of existing public road hierarchy not proposed.
PO6 Development ensures that an extension of or change to the road network:	**AO6.1** Development ensures that a new or upgraded road is designed and constructed in accordance with its road	N/A

a. provides internal connectivity and connects to the external road network; b. provides pedestrian connectivity to facilitate ease of access by the shortest reasonable route to neighbourhood facilities, parks, schools, shops, bus routes, transport facilities or open space systems; c. provides cycle connectivity to facilitate ease of access by the shortest reasonable distance to the next higher order cycle route; d. includes the provision of bus routes that provide ease of access to bus customers; e. minimises vehicle volumes and speed in residential streets while providing connectivity to major roads in a reasonable travel time; f. provides a street layout that minimises travel time and traffic volumes on minor roads; g. provides high permeability for pedestrian and cycle networks; h. provides safe accessibility to lots by having more than one street providing access to the area; i. preserves the function of the road hierarchy and addresses all impacts to the road network.	hierarchy classification as shown on the Road hierarchy overlay and the standards in the Infrastructure design planning scheme policy. **AO6.2** Development preserves the function of the road hierarchy and addresses all impacts on the road network. Note—This can be demonstrated in a transport impact assessment report prepared and certified by a Registered Professional Engineer Queensland in accordance with the Transport, access, parking and servicing planning scheme policy and the Infrastructure design planning scheme policy (Traffic impact assessment and definitions section).	Reconfiguration of Lot application and/or extension/change of existing public road hierarchy not proposed.
PO7 Development ensures that premises and vehicle access are located and controlled so as to have no significant impact on the safety, efficiency, function, convenience of use or capacity of the major road network and preserves the function of the road hierarchy.	**AO7** Development ensures that residential lots are laid out to ensure a future use does not directly ingress from or egress to a major road.	N/A Reconfiguration of Lot application and/or extension/change of existing public road hierarchy not proposed.
PO8 Development ensures that an intersection is designed and constructed in accordance with its hierarchical classification as shown on the Road hierarchy overlay map.	**AO8** Development ensures that an intersection is designed to the standard of the highest order road at the point of intersection in accordance with the road design standard in the Infrastructure design planning scheme policy.	N/A Reconfiguration of Lot application and/or extension/change of existing public road hierarchy not proposed.

8.2.3 Bicycle network overlay code

8.2.3.1 Application

1. This code applies to assessing development of land adjoining or having frontage to (i.e. where the overlay sub-category is located in adjoining road reserve, public land or river), or traversed by, cycle routes or Riverwalks identified in the Bicycle network overlay map, if:
   a. assessable development where this code is an applicable code identified in the assessment benchmarks column of a table of assessment for an overlay (section 5.10); or
   b. impact assessable development.
2. The Bicycle network overlay map identifies the following sub-categories:
   a. Primary cycle route sub-category;
   b. Secondary cycle route sub-category;
   c. Local cycle route sub-category;
   d. Riverwalk – Typology 1 (City reaches north and south) sub-category;
   e. Riverwalk – Typology 2 (Urban reaches) sub-category;
   f. Riverwalk – Floating walkway (Riverwalk connection subject to future construction) sub-category.
3. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:
- bicycle network design and construction, guidance is provided in the Infrastructure design planning scheme policy;
- planting species selection, guidance is provided in the Planting species planning scheme policy.

Editor's note—The desired standard of service for the provision of trunk infrastructure is specified in the Local government infrastructure plan.

8.2.3.2 Purpose

1. The purpose of the Bicycle network overlay code is to:
   a. Implement the policy direction in the Strategic framework in particular:
      i. Theme 2: Brisbane's outstanding lifestyle and Element 2.1 – Brisbane's identity;
      ii. Theme 4: Brisbane's highly effective transport and infrastructure networks and Element 4.1 – Brisbane's transport infrastructure networks.
   b. Provide for the assessment of the suitability of development in the Bicycle network overlay.
2. The purpose of the code will be achieved through the following overall outcomes:
   a. Development contributes to the safe and efficient operation of the existing and planned bicycle network.
   b. Cycle routes and pathways are integrated, connected, direct, convenient, legible, safe and suitably shaded to cater for cyclists of all skill levels.
   c. Cycle routes are designed and constructed to fulfil the transit functions corresponding to their network classification allowing commuter and recreation cyclists to travel efficiently and safely.

d. The Riverwalk component of the bicycle network provides a continuous inner-Brisbane riverside publicly dedicated shared pedestrian and cyclist pathway; including pavement, shade trees, furniture and lighting; as well as public amenity outcomes such as shade structures, public art and viewing platforms at key locations.
e. Development does not compromise the completion of the bicycle network.

8.2.3.3 Performance outcomes and acceptable outcomes

Table 8.2.3.3—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
General		
PO1 Development contributes to the safe and efficient provision and operation of the bicycle network.	**AO1** Development provides cycle routes in accordance with the bicycle network classification and design standard identified on the Bicycle network overlay map and set out in the road corridor design and off-road pathways standards of the Infrastructure design planning scheme policy. Note—On a site not traversed or adjoining a route on the Bicycle network overlay map, pedestrian and cyclist movement and permeability is addressed by the Subdivision code (for reconfiguring a lot) and Centre or mixed use code or residential codes (for material change of use).	Complies with PO and AO. See Traffic and Transport Assessment for detail regarding bicycle network and hierarchy.
PO2 Development protects a cycle route or Riverwalk for the bicycle network shown on the Bicycle network overlay map to ensure the following are not compromised: a. the long term infrastructure for the bicycle network in the Long term infrastructure plans; b. the existing and planned infrastructure for the bicycle network in the Local government infrastructure plan; c. the provision of long term, existing and planned infrastructure for the bicycle network which:	**AO2** Development protects a cycle route or Riverwalk for the bicycle network shown on the Bicycle network overlay map in compliance with the following: a. for long term infrastructure for the bicycle network in the Long term infrastructure plans; b. the existing and planned infrastructure for the bicycle network in the Local government infrastructure plan; c. the standards for the bicycle network in the Infrastructure design planning scheme policy.	N/A Not relevant

i. is required to service the development or existing and future urban development in the planning scheme area; or ii. is in the interests of rational development or the efficient and orderly planning of the general area in which the site is situated. Editor's note—A condition which requires a proposed development to keep permanent improvements and structures associated with the approved development clear of the area of long term infrastructure, may be imposed.		
PO3 Development provides for the payment of extra trunk infrastructure costs for the following: a. for development completely or partly outside the priority infrastructure area in the Local government infrastructure plan; b. for development completely inside the priority infrastructure area in the Local government infrastructure plan involving: i. trunk infrastructure that is to be provided earlier than planned in the Local government infrastructure plan; ii. long term infrastructure for the bicycle network which is made necessary by development that is not assumed future urban development; iii. other infrastructure for the bicycle network associated with development that is not assumed future urban development which is made necessary by the development. Editor's note—The payment of extra trunk infrastructure costs for development completely inside the priority infrastructure area in the Local government infrastructure plan is to be worked out in accordance with the Charges Resolution. Editor's note—See section 130 Imposing Development conditions (Conditions for extra trunk infrastructure costs) of the Planning Act 2016.	**AO3** No acceptable outcome is prescribed.	N/A Not relevant

Additional performance outcomes and acceptable outcomes for a site adjacent to or traversed by the Riverwalk–Typology 1 sub-category or Riverwalk–Typology 2 sub-category		
PO4 Development contributes to the creation of publicly accessible riverfront by providing a shared, continuous riverside pathway.	**AO4** Development fronting the river provides a publicly accessible riverfront pathway via a linear land dedication of 10m width as measured from the riverfront ambulatory boundary.	N/A Not relevant
PO5 Development provides a high-quality, vibrant and safe riverside path with a strong pedestrian and cyclist amenity focus.	**AO5.1** Development designs and constructs Riverwalk for the full river frontage of its site, including tree planting, furniture, lighting, balustrading and pavement treatments in compliance with the off-road pathways and public riverside facilities standards in the Infrastructure design planning scheme policy. **AO5.2** Development ensures that new Riverwalk sections are designed and constructed to connect to existing adjoining sections of the Riverwalk.	N/A Not relevant
	AO5.3 Development provides connections between the Riverwalk and adjoining riverfront premises, street networks, pathways, public infrastructure and other destinations in compliance with the public riverside facilities standards in the Infrastructure design planning scheme policy.	
PO6 Development ensures that Riverwalk contributes to the sense of place and cultural significance of the river with inclusion of public art to highlight: a. activity nodes; b. entrances and gateways; c. landmarks and features of interest;	**AO6** Development includes public art along the Riverwalk where specified in a neighbourhood plan, in compliance with the public art standards in the Infrastructure design planning scheme policy.	N/A Not relevant

d. visual connectors to the river.		
PO7 Development protects existing native riparian vegetation and enhances the Brisbane River's landscape values.	**AO7.1** Development retains and enhances existing riparian vegetation through the design and construction of Riverwalk. **AO7.2** Riverwalk and adjoining development is planted with large subtropical riparian tree species that are complementary in scale and height to the adjacent built form. Note—For suitable plant species, refer to the Planting species planning scheme policy.	N/A Not relevant
PO8 Development adjoining Riverwalk: a. contributes to the creation of a vibrant and active waterfront; b. provides direct access to Riverwalk; c. allows for visual interaction and surveillance of the public domain.	**AO8.1** Development adjoining land in the Riverwalk – Typology 1 sub-category incorporates active frontages at the ground storey for a minimum of 90% of the riverside frontage. **AO8.2** Development adjoining land in the Riverwalk – Typology 2 sub-category orientates living areas, balconies and private open space at the ground storey to the Riverwalk frontage for passive surveillance.	N/A Not relevant
PO9 Development ensures that the interface between the Riverwalk and the Brisbane River: a. supports a safe and publicly accessible waterfront; b. enhances the views of the river, both near and far.	**AO9.1** Development ensures that the design and construction of any structure over water is in compliance with the standards in the Infrastructure design planning scheme policy. **AO9.2** Development ensures that any revetment wall: a. minimises impact on the riparian edge; b. is constructed in compliance with the standards in Infrastructure design planning scheme policy.	N/A Not relevant

8.2.20 Streetscape hierarchy overlay code

8.2.20.1 Application

1. This code applies to assessing development of land adjoining or having frontage to (i.e. where the overlay sub-category is located in adjoining road reserve or public land), or traversed by or containing, any of the overlay sub-categories identified in the Streetscape hierarchy overlay map, if:
   a. accepted development subject to compliance with identified requirements, where acceptable outcomes of this code are identified requirements in a table of assessment for an overlay (section 5.10); or
   b. assessable development where this code is an applicable code identified in the assessment benchmarks column of a table of assessment for an overlay (section 5.10); or
   c. impact assessable development.
2. The Streetscape hierarchy overlay map identifies the following sub-categories:
   a. Subtropical boulevard – in centre verge width 6m sub-category;
   b. Subtropical boulevard – in centre verge width 5m sub-category;
   c. Subtropical boulevard – in centre verge width 3.75/4.25m sub-category;
   d. Subtropical boulevard – out of centre verge width 6m sub-category;
   e. Subtropical boulevard – out of centre verge width 5m sub-category;
   f. Subtropical boulevard – out of centre verge width 3.75/4.25m sub-category;
   g. Centre street major sub-category;
   h. Centre street minor sub-category;
   i. Neighbourhood street major sub-category;
   j. Neighbourhood street minor sub-category;
   k. Industrial street sub-category;
   l. Pathway link sub-category;
   m. Corner land dedication sub-category;
   n. Locality street sub-category;
   o. Laneway sub-category;
   p. Wildlife movement solution sub-category.
3. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

- design of public realm, guidance is provided in the Infrastructure design planning scheme policy.
- crime prevention through environmental design, guidance is provided in the Crime prevention through environmental design planning scheme policy.

Editor's note—The desired standard of service for the provision of trunk infrastructure is specified in the Local government infrastructure plan.

Editor's note—For a proposal to be accepted development subject to compliance with identified requirements, it must meet all the identified acceptable outcomes of this code that relate to the applicable sub-category and any other applicable code. Where it does not meet all identified acceptable outcomes, the proposal becomes assessable development and a development application is required. Where a development application is triggered, only the specific acceptable outcomes that the proposal fails to meet need to be assessed against the corresponding assessable acceptable outcomes or performance outcomes and relevant overall outcomes. Other identified acceptable outcomes that are met are not assessed as part of the development application.

8.2.20.2 Purpose

1. The purpose of the Streetscape hierarchy overlay code is to:
   a. Implement the policy direction in the Strategic framework, in particular:
      i. Theme 2: Brisbane's outstanding lifestyle and Element 2.1 – Brisbane's identity;
      ii. Theme 4: Brisbane's highly effective transport and infrastructure and Element 4.1 – Brisbane's transport infrastructure networks.
   b. Provide for the assessment of the suitability of development in the Streetscape hierarchy overlay.
2. The purpose of the code will be achieved through the following overall outcomes:
   a. Development ensures that verges are wide enough to support high levels of pedestrian movement and have sufficient space to accommodate large subtropical street tree plantings.
   b. Development ensures that existing street trees are retained and new subtropical tree species in the verge make a significant contribution to shade tree cover and carbon sequestration.
   c. Development ensures that subtropical planting reinforces city gateways, thresholds and nodes.
   d. Development ensures that verges comprise consistent and high-quality treatments with improved footpaths and increased shade and shelter appropriate to their anticipated pedestrian use and where the use will change from the current zone.
   e. Development protects and contributes to safe, direct and convenient access for pedestrians and cyclists of all ages and abilities throughout sites and throughout neighbourhoods.
   f. Development maintains options for the safe movement of wildlife along a corridor.

8.2.20.3 Performance outcomes and acceptable outcomes

Table 8.2.20.3.A—Performance outcomes and acceptable outcomes

Performance outcomes	Acceptable outcomes	Comments
Section A—If for accepted development subject to compliance with identified requirements (acceptable outcomes only) or assessable development		
PO1 Development must improve pedestrian movement and amenity by providing for verges to a width that is	**AO1** Development ensures that a verge is provided via a linear land dedication to create a minimum verge width as	Complies with PO Existing road frontages are constrained by unrelated land and/or the Inner Busway tunnel. Pedestrian

appropriate to accommodate large subtropical street tree planting and high levels of pedestrian movement.	specified in Table 8.2.20.3.B and the streetscape locality advice and road corridor design standards in the Infrastructure design planning scheme policy.	movement is proposed to be improved by widening the existing verge footpath as much as possible.
PO2 Development must construct verges including street tree planting, street furniture, paving, lighting and verge and kerb treatments that establish a high-quality subtropical streetscape with a strong pedestrian amenity focus.	**AO2.1** Development ensures that existing street trees are retained and protected. **AO2.2** Development ensures that street tree planting, street furniture, paving, lighting and verge and kerb treatment are designed and constructed in compliance with the specifications of the streetscape locality advice and road corridor design standards in the Infrastructure design planning scheme policy.	Can be conditioned to comply with PO and/or AO. SLR is not aware of this level of detail being resolved yet for the existing road frontages.
Section B—If for assessable development		
PO3 Development ensures that the design of a corner land dedication identified on the Streetscape hierarchy overlay map: a. facilitates a high level of pedestrian movement and activity; b. enforces the sense of arrival to individual precincts and major connections; c. provides a landmark definition through its materials and landscaping including deep-planting feature trees, seating and public art that integrates with the public realm.	**AO3.1** Development ensures that a corner land dedication is provided: a. where identified in the Streetscape hierarchy overlay map; b. in compliance with a neighbourhood plan and the road corridor design and streetscape locality advice standards in the Infrastructure design planning scheme policy. **AO3.2** Development ensures that landscaping including a large feature tree and seating is provided in a corner land dedication area in compliance with the specifications and standards in the road corridor design and streetscape locality advice standards in the Infrastructure design planning scheme policy.	N/A. No corner land dedication proposed or required.
	AO3.3	

	Development ensures that public art is provided in a corner land dedication area where identified in a neighbourhood plan and in compliance with the specifications and standards in the streetscape locality advice and public art standards in the Infrastructure design planning scheme policy.	
If in or on a site adjoining the Wildlife movement solution sub-category		
PO4 Development incorporates effective wildlife movement infrastructure that enables safe wildlife movement across and past transport infrastructure.	**AO4** Development ensures that infrastructure solutions are: a. provided at the locations identified on the Streetscape hierarchy overlay map; b. designed to: i. account for daily and seasonal movement needs of native wildlife, such as foraging, breeding, predator and natural disaster avoidance; ii. achieve physical separation of native wildlife and the road; iii. adopt designs and treatments known to be used by native species, including significant fauna species listed in the Biodiversity area overlay code. Note—Refer to the Infrastructure design planning scheme policy for further guidance of the design of wildlife movement solutions.	N/A

Table 8.2.20.3.B—Required verge widths for the streetscape hierarchy

Streetscape type	Required width
Subtropical boulevard – in centre verge width 6m	6m
Subtropical boulevard – in centre verge width 5m	5m

Subtropical boulevard – in centre verge width 3.75/4.25m	3.75m or 4.25m for new roads
Subtropical boulevard – out of centre verge width 6m	6m
Subtropical boulevard – out of centre verge width 5m	5m
Subtropical boulevard – out of centre verge width 3.75/4.25m	3.75m or 4.25m for new roads
Centre street major	5m
Centre street minor	3.75m or 4.25m for new roads
Neighbourhood street major	3.75m or 4.25m for new roads
Neighbourhood street minor	3.75m or 4.25m for new roads
Industrial street	3.75m or 4.25m for new roads
Pathway link	In compliance with Chapter 4 Pathway design outside the road corridor of the Infrastructure design planning scheme policy
Corner land dedication	Range $25m^2$ to $81m^2$
Locality street	In compliance with the Infrastructure design planning scheme policy
Laneway	In compliance with the Infrastructure design planning scheme policy

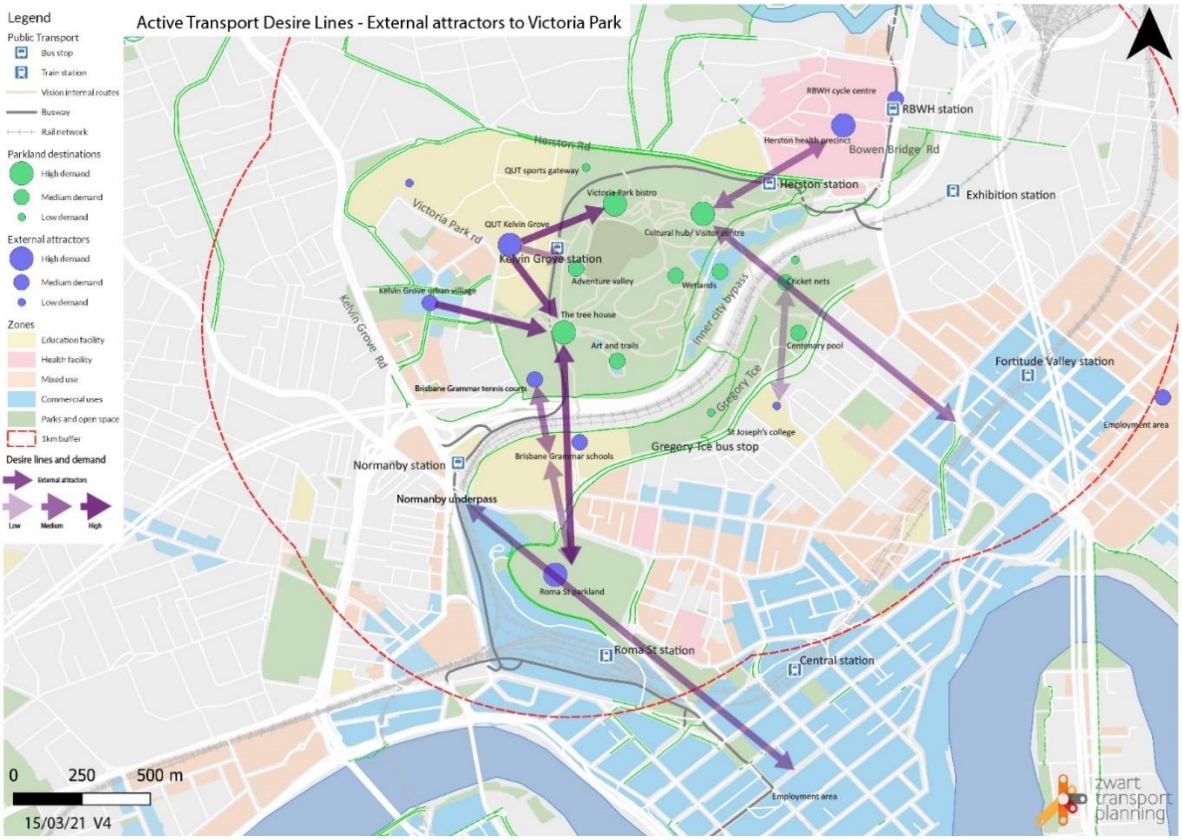
APPENDIX G

Active Transport – additional information

Active transport desire lines

The following four maps show the various walking, cycling and micro-mobility desire lines of relevance to Victoria Park / Barrambin, with the fifth map showing all the desire lines combined.

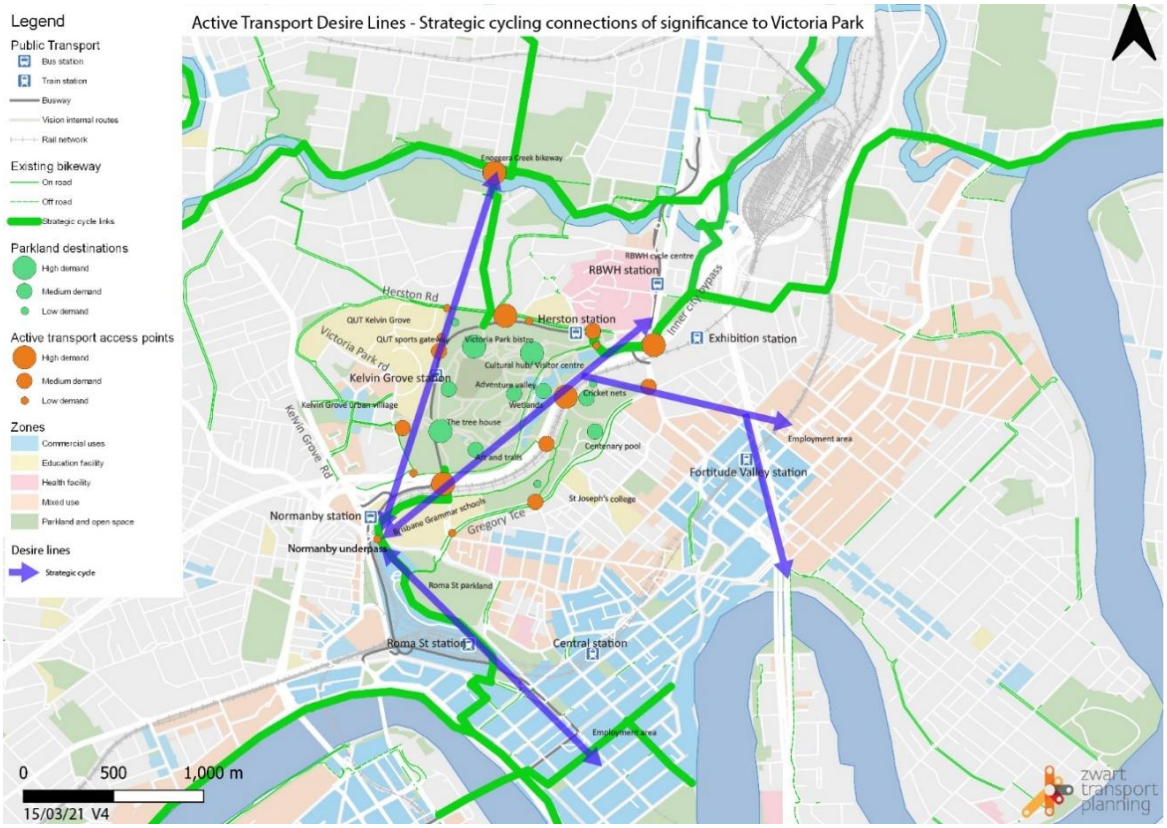
G 1: External attractors desire lines map



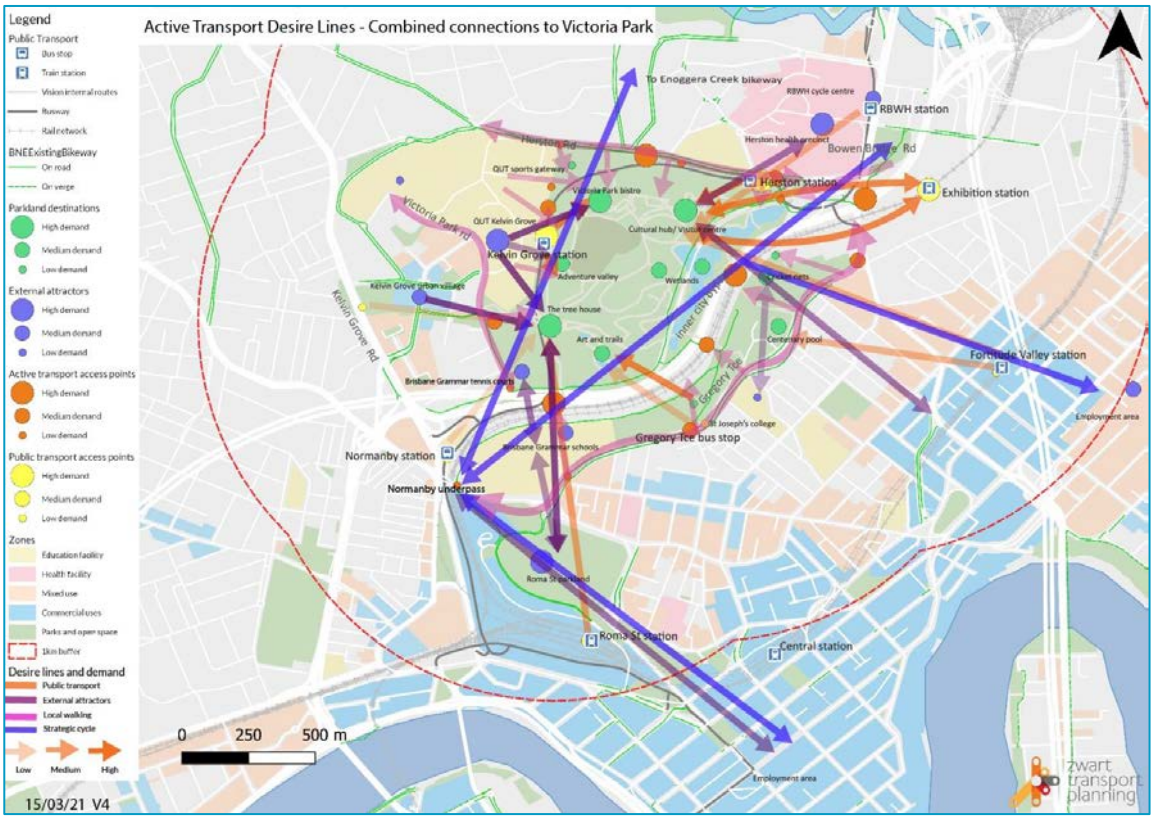
G 2: Public transport desire lines map

G 3: Local connections desire lines map

G 4: Strategic cycling desire lines map



G 5: Active Transport Desire Lines – All Demands to Victoria Park / Barrambin



The final map above map shows the walking, cycling and micro-mobility desire lines that will be generated by the opening/ongoing development of Victoria Park / Barrambin are complex. The development of walking and cycling facilities to support these trips will need to consider the differing needs of people walking, cycling and using e-mobility (i.e., privately owned or shared e-scooters and e-bikes). Facility design will need to address conflict points where pedestrian and cyclist desire lines cross. Ensuring connections to public transport and the three pedestrian/bicycle bridges across the ICB are well-designed, direct and convenient will be essential to support the highest possible public and active transport mode share for Victoria Park / Barrambin.

Local access

In addition to the strategic active transport context, local movement into Victoria Park / Barrambin will be important to improving accessibility of the Park. There is high demand for convenient and direct access to Victoria Park / Barrambin for local walking, cycling and e-mobility trips:

- around 26,000 people live within 1km of Victoria Park / Barrambin (2016 Census)
- around 24,000 people work in the immediate areas surrounding Victoria Park / Barrambin (2021 BSTM)
- around 32,000 students are enrolled in education facilities in the immediate area, with approximately two thirds of these at QUT Kelvin Grove (2021 BSTM)
- these numbers will continue to grow into the future.

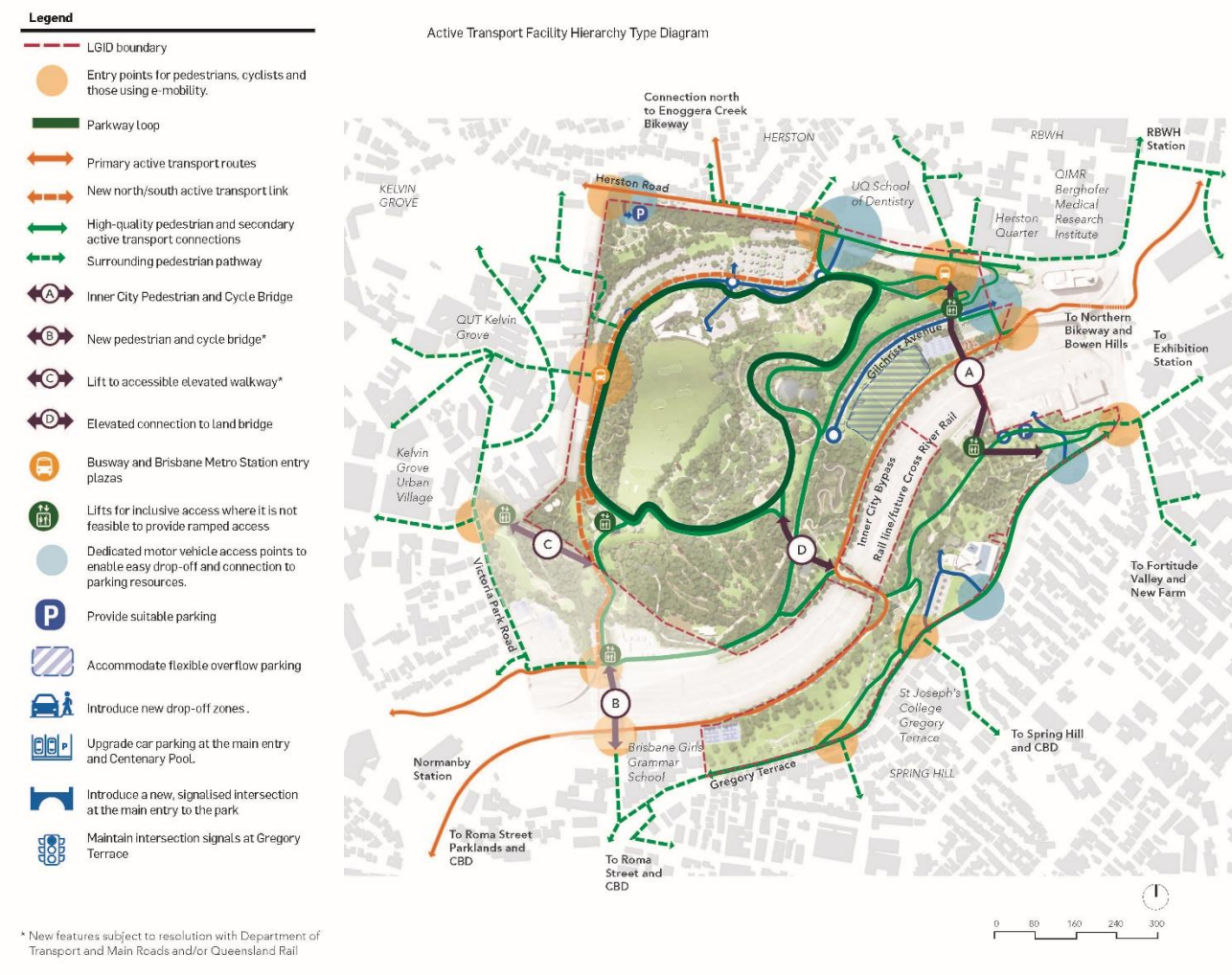
Local access from the immediate surrounds by people living and working in the area should predominately be by active modes. Current permeability into the site from the surrounding local area is restricted by major infrastructure such as the Inner-City Bypass, rail lines, busways, QUT and site topography reducing access points into the site. Direct physical access into Victoria Park / Barrambin is limited to a few key gateways and urban interface edges. The Inner-City Bypass exacerbates this, bisecting the park into two and leaving whole edges of the park inaccessible.

Active Transport Network Plan hierarchy

The table below documents the active transport network plan's hierarchy definitions and how it fits within the overall active transport plan for Victoria Park / Barrambin, based on Brisbane City Council's Active Transport Network Plan Hierarchy (2019).

Walking and access for people with a disability has also been planned for and incorporated in the development of the Master Plan to date. Pedestrian spines are incorporated within the hierarchy table below.

G 6: Active transport facility types and hierarchy



G 7: Active Transport Network Plan - hierarchy for Victoria Park / Barrambin (based on ATNP 2019)

Hierarchy Level Definition	Destinations Served	Victoria Park / Barrambin
Primary cycle route is a high-volume cycle route that links major destinations such as major employment centres, regional activity centres and other key regional destinations such as public transport, education, tourist, cultural and recreation facilities. The primary network was primarily based on the Principal Cycle Network.	• Principal Regional Centres • Major Centres • Major Industrial and Employment Areas • Metropolitan Sport and Recreation • Metropolitan Open Space • Tertiary Education Facilities (Universities, e.g., UQ, QUT, Griffith University) • Major Health care facilities • Specialised centres • Major Public Transport Stations and Interchanges • Major Tourism Destinations (e.g., Southbank, Botanic Gardens, Riverwalk, Moreton	Major destinations (immediate area) • Victoria Park / Barrambin (Metropolitan open space) • QUT Kelvin Grove • Royal Brisbane and Women's Hospital • Kelvin Grove and Herston Busway Stations and Exhibition Station Major destinations (broader area) • CBD • Fortitude Valley/Bowen Hills

Hierarchy Level Definition	Destinations Served	Victoria Park / Barrambin
	Bay Cycleway, River loop, Queens Wharf Brisbane IRD)	Proposed primary routes. • North Brisbane Bikeway (CBD to Kedron Brook Bikeway using ICB bridge) • Upgraded shared bridge behind Grammar schools and north-south link to Herston Road (CBD to Enoggera Creek Bikeway, and beyond to Chermside) • Herston Connector Bridge (Fortitude Valley to RBWH, Herston Busway Station and Exhibition rail station) • Herston Road (direct connection between three primary routes above and direct link to RBWH, Herston Quarter, Herston Busway, Exhibition Station and Victoria Park / Barrambin).
Secondary cycle route provides a link between local cycle routes and primary cycle routes, and to suburban destinations such as schools, suburban centres, cultural activity areas and recreational facilities.	• District Centres • District industrial/employment areas • Schools (primary, secondary and P-12) • District Sport and Recreation • District Open Space • Remaining Public Transport nodes	Relevant external destinations • Kelvin Grove Urban Village (District Centre) • Kelvin Grove State College (P-12) • Major (BUZ) bus stop Kelvin Grove Road Within Victoria Park / Barrambin • The Tree House Proposed secondary routes • Kelvin Grove access into Vic Park • Gregory Terrace • Loop path between Tree House, bus stations and car parking areas
Local cycle route is a low volume cycle route that provides a link between individual properties or residential catchments and local amenities and destinations.	• Neighbourhood centres • Local Sport and Recreation • Local Open Space .	• QUT into Kelvin Grove secondary • QUT Sports Lane and C&K into local park

Hierarchy Level Definition	Destinations Served	Victoria Park / Barrambin
		• All remaining paths in Vic Park that allow cycling.
Pedestrian spine is a key spine providing access to and between major destinations (centres, universities, major PT hubs and other attractors – similar to primary destinations for bicycles). Supports efficient movement.	• Primary transport route • Majority commuters or utility • Most direct, logical and convenient route • Good links to public transport • Comfort a priority • May include a number of facilities or nodes along the spine • May include scenic routes along spine to take advantage of existing features.	Major destinations (immediate area) • Victoria Park / Barrambin (Metropolitan open space) • QUT Kelvin Grove • Royal Brisbane and Women's Hospital • Kelvin Grove and Herston Busway Stations and Exhibition Station Proposed pedestrian spines • Three bridges over ICB • Internal routes connecting to PT stations (including the 'Parkway Loop' – see info below) • Surrounding major roads.

The Parkway Loop

A central move of the Master Plan is the delivery of a looping path, the Parkway Loop, around the site which will be designed to meet the needs of people of all abilities and provides clear internal park movement and connects all of the major destinations in the park. The Parkway Loop is a shared access path for people with a disability, slower speed bicycle riders and e-mobility users, as well as occasional maintenance and emergency vehicles.

This main pedestrian spine will be supported by a hierarchy network of walking and cycling paths.

Higher speed bicycle riders travelling to destinations outside the park will have separate paths closer to the park's edges to help reduce conflict with people walking in the park. Large, open plaza areas at the Kelvin Grove and Herston busway stations will ensure there is enough space for bicycle riders to travel through the area without conflicting with people accessing the public transport stations.

The easy-to-navigate pathway network will be supported by attractive and intuitive wayfinding signage.

Personal Mobility Devices (PMDs) / e-mobility

E-mobility will be another option for visitors to travel to and move around Victoria Park / Barrambin.

E-mobility includes electric bicycles (e-bikes), electric scooters (e-scooters, which may be privately owned or used as part of a shared/hire scheme), electric skateboards and other emerging, sustainable e-mobility travel options. These can help overcome some of the existing barriers to cycling such as distance and topography (both of which are issues in Victoria Park / Barrambin) and they provide significant travel time benefits. Travelling by e-bike can be competitive with public transport and cars (during peak time) in terms of travel time. Cycling (by e-bike or conventional bike) also has the added benefit of door-to-door travel, avoiding the need to walk to and from the bus stop or car park and associated costs of fuel, public transport fares or car parking.

Since 2018, it has been legal to use e-scooters in Queensland on:

- footpaths
- shared pathways
- bicycle only pathways
- local streets with a speed limit of 50km/h or less and no dividing line or median strip.

PMD legislative changes have been in place since November 2022, with the Queensland Government introducing a range of new laws and law reforms for the use of PMDs. These new laws change how and where people can use PMDs such as e-scooters, including how fast these devices can travel on different types of pathways. The following should be noted:

- The new laws do not change rules for cycling, including the use of e-bikes.
- the default speed limit on all footpaths, shared pathways and crossings has been reduced to 12km/h.
- the maximum speed that e-scooters can travel at on permitted local roads and dedicated bike infrastructure, such as bikeways, will continue to be 25km/h.
- The Queensland Government has created the option for local councils to apply for increased speed limits on shared pathways of up to 25km/h in certain locations that meet key safety guidelines.

E-mobility provides many benefits, and the Victoria Park / Barrambin Master Plan can capitalise on these by planning for and managing any potential impacts. The pathway cross-sections (outlined in Section 5.3.2) have been developed to consider the varying needs and demands that will be placed on the active transport network by people walking, riding bicycles and riding PMDs.

The shared e-mobility providers in Brisbane (Beam and Neuron, which both provide e-bikes and e-scooters, including within Victoria Park / Barrambin) are required to limit speeds in high pedestrian areas such as at South Bank and the City Botanic Gardens to 12km/h. Geofencing technology should be used to ensure slower speeds on the accessible 'Parkway Loop' and minor paths within Victoria Park / Barrambin, as well as at higher pedestrian areas around the Tree house, once these stages of the master plan are implemented and pedestrian demand increases.

E-mobility Parking management

We recommend considering designated e-scooter and e-bike parking areas be identified within Victoria Park / Barrambin with scheme operators to incentivise users to park their devices in designated parking areas. These should be in high demand locations, including at the two Metro stations and at key park attractions.

The opportunity to allow other innovative and non-motorised transport hire services within the park, such as cargo bikes, accessible trikes and bicycle trailers, should also be considered and space provided where possible. E-bike charging stations should also be considered in locations where people are likely to park their bikes for longer periods of time and where power (mains or solar) can be readily provided.

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