# TRAFFIC & PARKING IMPACT ASSESSMENT

Kogarah War Memorial Swimming Pool 78 Carwar Avenue, Carss Park

 Reference:
 20.374r01v04

 Date:
 March 2021



COLOR HANGE

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# DOCUMENT VERIFICATION

Job Number	20.374	20.374											
Project	Kogarah War Memc	Kogarah War Memorial Swimming Pool											
Client	SJB Planning	SJB Planning											
Revision	Date	Prepared By	Checked By	Signed									
v04	09/03/2021	Neil Caga	Vince Doan										

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TRAFFIX TRAFFIC & TRANSPORT PLANNERS

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director: Graham Pindar acn: 065132961 abn: 66065132961

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Reference: 20.374r01v04

9 March 2021

SJB Planning Level 2, 490 Crown Street SURRY HILLS NSW 2010

Attention: Mr Michael Baker, Director

#### Re: Kogarah War Memorial Swimming Pool (DA16/1029) 78 Carwar Avenue, Carss Park Traffic and Parking Impact Assessment

Dear Michael,

TRAFFIX has been commissioned by SJB Planning to undertake a traffic and parking analysis in relation to construction works for the demolition of the existing pool complex and associated structures Kogarah of War Memorial Swimming Pool at 78 Carwar Avenue, Carss Park.

This statement documents the parking analysis during the proposed construction activities and should be read in conjunction with any other construction documentation prepared by the applicant.

Reference should be made to the pre-lodgement phone conference held on 17 August 2020 with the pre-lodgement letter provided on 4 September 2020 (PRE2020/0106).

### ) Location and Site

The subject site known as the Kogarah War Memorial Swimming Pool at 78 Carwar Avenue, Carss Park is located approximately 7.4 kilometres southwest of the Sydney Airport. More specifically, it is situated adjacent the Carss Park Flats carpark and approximately 70 metres north of the Carss Cottage Museum at Carss Point. The site legally forms part or all of the following:

- Lot 1 in DP125981;
- Lot 376 in DP1118749;
- Lot 511 in DP752056; and
- Unreserved Crown Land.

Vehicular access to the site is currently provided to the Carss Park Flats public carpark situated to the immediate west of the site and is accessible via Carwar Avenue through separated entry and egress vehicular accesses. A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**.



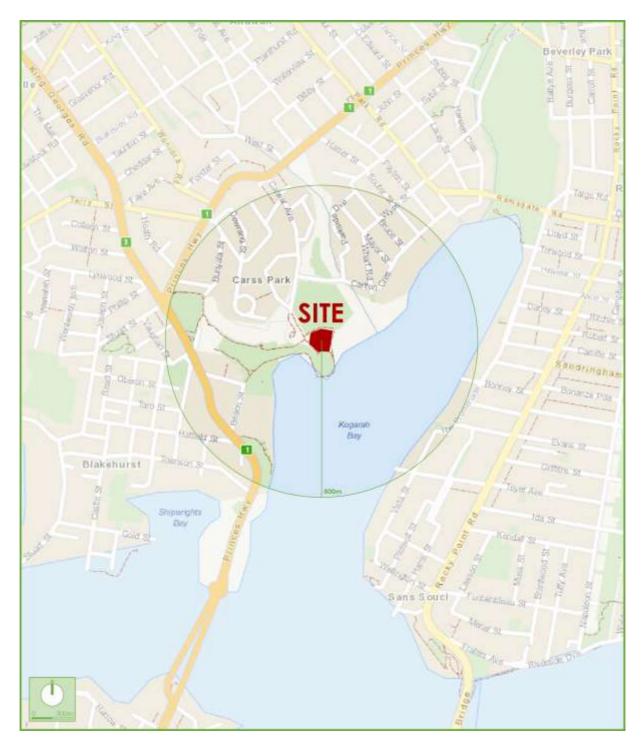


Figure 1: Location Plan





Figure 2: Site Plan



# ) Existing Parking Capacity

The available parking areas in the vicinity of Carss Park Flats are shown in Figure 3 with the following carpark areas of particular interest:

# Public Carpark Areas

•	Carss Park Flat:	a public carpark situated to the immediate west of the site that is able to accommodate a total of 80 unrestricted parking spaces during all days of the week. This carpark provides line-marked spaces in the form of 90° angled spaces and is accessible from Carwar Avenue via separate entry-only and egress-only in the south.
•	Carwar Avenue (west):	a public carpark situated adjacent the vehicular accesses of the Carss Park Flat carpark that is able to accommodate a total of 10 unrestricted parking spaces during all days of the week. This carpark provides line-marked spaces in the form of parallel spaces, with spaces accessible via a turning area at the end of Carwar Avenue
•	Carss Life Saving Hall:	a public carpark situated to the immediate east of the Carss Park Life Saving Hall that is able to accommodate a total of 22 unrestricted parking spaces during all days of the week. This carpark provides line- marked spaces in the form of 45° and 90° angled spaces and is accessible from Carwar Avenue in the south, with egress in the north.
•	Carss Bush Park Hill:	a public carpark situated to the immediate north of the Carss Park Life Saving Hall that is able to accommodate a total of 55 unrestricted parking spaces during weekends and special events. This carpark provides line-marked spaces in the form of 90° angled spaces and is accessible from Carwar Avenue, south of the Allawah Avenue intersection.
<u>Or</u>	n-Street Parking	
•	Carwar Avenue (east):	on-street parking situated along the western frontage of the Carss Park Flats that is able to accommodate a total of 26 unrestricted parking spaces. This area provides on-street kerbside parking during all days of the week.
•	Carwar Avenue (west):	on-street parking across the road from Carss Park Flats that is able to accommodate a total of 13 unrestricted parking spaces. This area provides on-street kerbside parking during all days of the week.
•	Carlton Crescent (south):	on-street parking situated along the northern frontage of the Carss Park Flats that is able to accommodate a total of 19 unrestricted parking spaces. This area provides on-street kerbside parking during all days of the week.
•	Carlton Crescent (north):	on-street parking across the road from Carss Park Flats that is able to accommodate a total of 18 unrestricted parking spaces. This area provides on-street kerbside parking during all days of the week.

It can be seen from the above that there is a total capacity for 188 spaces during all days of the week, with an additional 55 spaces available during weekends and special events.





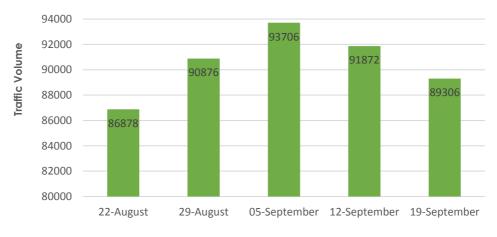
**Figure 3: Parking Areas** 



#### ) **Parking Surveys**

In order to determine the parking demand in the locality, parking surveys were conducted at the abovementioned parking areas. It should be noted that the Carss Park Flats parking demands are envisaged to occur seasonally, that is increased demand during the warmer seasons (September to February) and a reduced parking demand during the colder seasons (March to August). As such, an increased parking demand in the warmer seasons are envisaged, with this general trend also recognised by the Georges River Council and is consistent with the NSW National Parks and Wildlife Service Managed Parks and Reserves 2016 report, which identified a relationship with increased park visitations and higher temperatures. These surveys were conducted at the start of September, with the following aspects noteworthy:

- All surveys were conducted after the closure of the Koggrah War Memorial Pool (closed since July 2019) and during the utilisation of the adjacent sports field by St George Football on 05/09/2020;
- Weekday surveys were undertaken on 2 September 2020 (Wednesday) and 4 September 2020 (Friday) between 9:00am and 6:00pm at 30-minute intervals;
- The parking demands of the Men's Shed (8:00am-12:00pm during weekdays) were recorded within the Wednesday (02/09/2020) and Friday (04/09/2020) parking surveys, noting that it is not operational on weekends; and
- Weekend survey was undertaken on 5 September 2020 (Saturday) between 9:00am and 4:00pm at 30-minute intervals. It is noted that this Saturday survey was undertaken during 'Father's Day' weekend, which is envisaged to have an increased demand for parking for the Carss Park Flats, given the following:
  - In accordance with the Australian Bureau of Meteorology, the survey was conducted during relatively good weather, with a temperature of 16.2°C (9:00am), 21.6°C (3:00pm) and 9.8 hours of sunlight recorded throughout the day. As such, this good weather in conjunction with Father's Day are envisaged to result in an increased number of parked vehicles utilising the car park area at the time of the survey; and
  - A permanent RMS traffic counter near the vicinity of the site (King Georges Road 40041) recorded the Saturday 2020 traffic volumes during the time of the survey, as shown in Chart 1.



# Chart 1: Saturday 2020 Traffic Volumes

#### **Recorded Saturdays 2020**

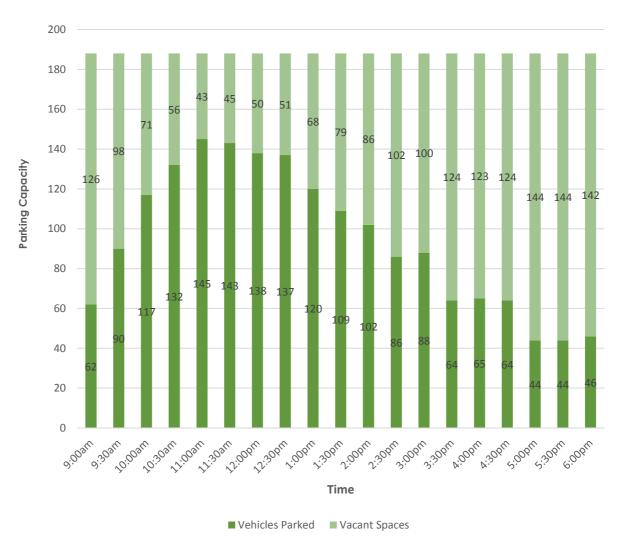
It can be seen from Chart 1 that traffic volumes near the vicinity of the site increased on the day of the survey, noting reduced volumes two (2) weeks before and after the survey date.



Accordingly, the parking surveys are considered conservative, with traffic and parking envisaged to be increased during the surveyed period. The results of these parking surveys are summarised as follows with parking data provided in **Attachment 1**.

### Wednesday Parking Survey

This survey was conducted on 2 September 2020 between 9:00am and 6:00pm, noting a total capacity for 188 spaces, given the Carss Bush Park Hill carpark is only open on weekends and for special events. The results of this survey are outlined in **Chart 2** below.

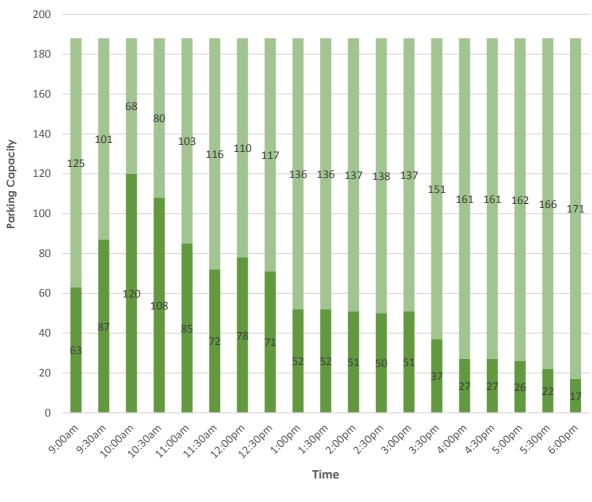


# Chart 2: Parking Capacity on Wednesday, 2 September 2020

It can be seen from **Chart 2** that the peak parking demand was for 145 parked vehicles (77.1%) which occurred at 11:00am, with 43 vacant spaces (22.9%). On average, there were 95 parked vehicles (50.3%), with 93 vacant spaces (49.7%) between 9:00am and 6:00pm.

### Friday Parking Survey

This survey was conducted on 4 September 2020 between 9:00am and 6:00pm, noting a total capacity for 188 spaces, given the Carss Bush Park Hill carpark is only open on weekends and for special events. The results of this survey are outlined in Chart 3 below.



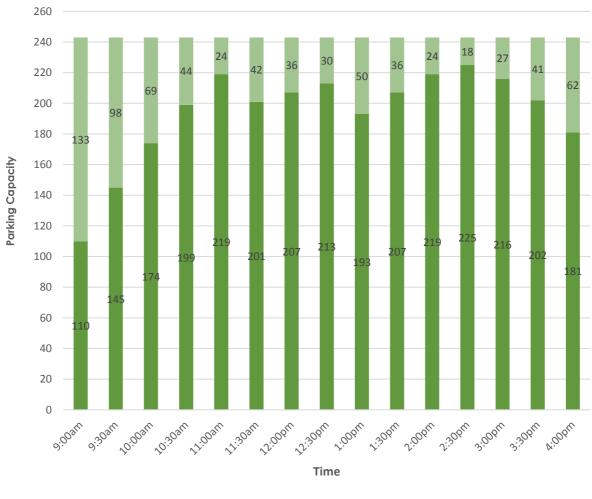
# Chart 3: Parking Capacity on Friday, 4 September 2020

Vehicles Parked Vacant Spaces

It can be seen from Chart 3 that the peak parking demand was for 120 parked vehicles (63.8%) which occurred at 10:00am, with 68 vacant spaces (36.2%). On average, there were 58 parked vehicles (30.7%), with 130 vacant spaces (69.3%) between 9:00am and 6:00pm.

### Saturday Parking Survey

This survey was conducted on 5 September 2020 between 9:00am and 4:00pm, noting a total capacity for 243 spaces, given the Carss Bush Park Hill carpark is open on weekends. The results of this survey are outlined in Chart 4 below.



# Chart 4: Parking Capacity on Saturday, 5 September 2020

Vehicles Parked Vacant Spaces

It can be seen from Chart 4 that the peak parking demand was for 225 parked vehicles (92.6%) which occurred at 2:30pm, with 18 vacant spaces (7.4%). On average, there were 194 parked vehicles (79.9%), with 49 vacant spaces (20.1%) throughout the day.



# ) Proposed Activities

In summary, the demolition of existing pool and ancillary structures, tree removal, remediation of contaminated land, earthworks and associated landscaping is proposed to involve the utilisation of the Carss Park Flats carpark as a site compound for the duration of works as presented in **Figure 4**, noting the following key aspects:

- Construction is proposed to occur for an estimated 3-4-month period, with no construction works to occur during weekends;
- Utilisation of 83 total car parking spaces, including:
  - 😑 80 x spaces within the Carss Park Flat carpark; and
  - 3 x spaces Carwar Avenue (west) for construction vehicle egress manoeuvres, noting that these spaces will be available during weekends.
- Carss Bush Park Hill carpark (55 unrestricted spaces) is proposed to remain open for public use on weekdays during the construction period; and
- Provision of an off-street car park area (approximately 60 spaces) on weekends via a temporary at-grade car park north of Carlton Crescent adjacent to Kogarah Bay Creek.



Figure 4: Parking Provisions and Utilisation during Construction Stages



# ) Parking Assessment

The proposed demolition and remediation works at the Kogarah War Memorial Pool site would therefore result in the utilisation of 83 car parking spaces (3 of these spaces can be utilised on weekends) for an estimated 3-4 month period. The parking demand during the proposed construction period have been assessed as follows:

### Weekday Parking Assessment

In reference to the weekday parking surveys, the results identified the following periods where the parking vacancy was recorded below 83 spaces:

- Wednesday survey indicates a four (4) hour period between 10:00am-2:00pm, with a minimum of 43 vacant spaces at 11:00am; and
- Friday survey indicated a one (1) hour period between 10:00am-11:00am, with a minimum of 68 vacant spaces at 10:30am.

Although, the construction period is proposed to occur for 3-4 months, the Carss Bush Park Hill carpark is proposed to remain open for public use during the construction period. The Carss Bush Park Hill Parking is an existing car park that is currently only open during weekends and special events with no additional traffic management. Accordingly, this carpark will provide an additional 55 unrestricted parking spaces that would readily be able to accommodate the parking demands during the construction period, with no additional traffic management measures required.

#### Weekend Parking Assessment

In reference to the Saturday parking survey, the parking vacancy was generally below 83 spaces (being loss of parking during construction) between 10:00am-4:00pm, with an average of 49 vacant spaces and a minimum of 18 vacant spaces. It is emphasised that this parking survey was undertaken during good weather and in conjunction with Father's Day weekend, where the parking demand are considered to be higher than normal.

Nevertheless, an off-street car park area (accommodates approximately 60 spaces) is proposed to be provided on weekends (via a temporary at-grade car park north of Carlton Crescent adjacent to Kogarah Bay Creek). As mentioned above, the critical car parking survey on Saturday, 5 September 2020 showed that the peak parking demand occurred at 2:30pm with 18 vacant spaces only occurring for a maximum of 30 minutes with all other demand periods having 24 vacant spaces or more. As a result, the proposed temporary car park and the utilisation of the existing car parking areas are considered sufficient to cater for the parking demands associated with the closure of the Carss Park Flats car park. Reference should be made to the reduced plans for the temporary car park area provided in **Attachment 2**.

### ) Traffic Generation

The Kogarah War Memorial Swimming Pool has a total site area of approximately 12,200m<sup>2</sup> including a hard surfaced car park with an area of approximately 2,460m<sup>2</sup>. The subject site is currently vacant, however, has historically been utilised as an aquatic centre comprising a 50 metre Olympic swimming pool, toddlers pool, administration, change rooms and associated plant/equipment structures.

#### **Existing Traffic Generation**

The RMS Guide to Traffic Generating Developments 2002 (RMS Guide) and RMS Technical Direction 2013/04a (RMS TDT) do not provide traffic generation rates for aquatic centres. With this in mind,



TRAFFIX has had experience with comparable developments, with interview surveys conducted at a comparable aquatic centre identifying a traffic generation rate of 0.4 vehicle trips per 100m<sup>2</sup> site area excluding car park. Application of this rate to the site area of 9,740m<sup>2</sup> (minus car park) results in the following existing traffic generation:

- 39 vehicle trips per hour during the morning peak period; and
- 39 vehicle trips per hour during the evening peak period.

### **Development Traffic Generation**

The consideration of this issue needs to be viewed in the context where open space areas generate peak activity levels during the day and do not coincide with commuter peak periods, such that trip rates are moderated by low background traffic volumes on the network.

This is likely one reason that the RMS Guideline 2002 and RMS TDT 2013 do not specify traffic generation rates for a community/park open space areas. It is noted that the community/park open space areas comprises many different uses which have a high degree of interaction. The proposed open space area has an approximate area of 9,740m<sup>2</sup> (minus car park) and will form part of the existing Carss Park area with an approximate area of 160,000m<sup>2</sup> (minus bushland area for a conservative assessment).

The proposed open space area represents approximately 6% of the total Carss Park area. It is emphasised that this is an established recreational area with existing picnic facilities, beach, bush walks, exercise and sporting facilities, St Georges Men Shed, playground and other recreational uses. As such, the anticipated traffic generation of the proposed open space area is in the order of 6% of the existing overall trip generation. This is expected to be minimal with negligible traffic impacts on the surrounding area.

In summary, traffic impacts associated with this use are manageable and able to be accommodated on the road network and carpark following completion of work.

### ) Summary

On the basis of the above, the parking and traffic impacts associated with the proposed demolition of existing pool and ancillary structures, tree removal, remediation of contaminated land, earthworks and associated landscaping is considered appropriate, given the additional off-street car parking areas proposed during 3-4 month construction period.

We trust the above is of assistance and please don't hesitate to contact the undersigned should you have any queries.

Yours faithfully,

Traffix

Vince Doan **Executive Engineer** Encl: Attachment 1 – Parking Survey Data Attachment 2 – Temporary Car Park Reduced Plans

# ATTACHMENT 1

Parking Survey Data





# Kogarah War Memorial Pool

	Street Names	Zone	Parking Restrictions	No. of	Spaces
1	Carlton Cresent - North		No Restriction	18	Bays
2	Carlton Cresent - South		No Restriction	19	Bays
3	Carwar Avenue - East		No Restriction	26	Bays
4	Carwar Avenue - West		No Restriction	13	Bays
5	Carwar Avenue - East		No Restriction	10	Bays
6	Carwar Avenue - West		No Parking	0	Bays
7	Carss Bush Park Hill Parking		Open weekend/special event only	0	Bays
8	Carss Park Life Saving Hall		No Restriction	22	Bays
9	Carss Park Flats Parking		No Restriction	80	Bays
	Total Capacity			188	Bays

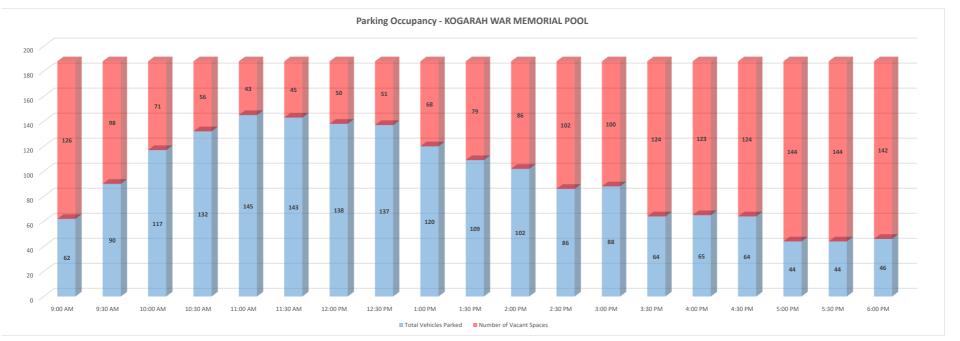
# Traffic Information Specialist ABN: 42 613 389 923

ABN: 42 613 389 923 Email info@tistraffic.com.au



Location	Kogarah War Memorial Pool
Suburb	KOGARAH
Client	TRAFFIX
Job No/Name	20074
Survey Duration	9 Hours
Day/Date	Wednesday, 2 September 2020

	Location	Capacity	Parking Restriction	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM	4:30 PM	5:00 PM	5:30 PM	6:00 PM
1	Carlton Cresent - North	18	No Restriction	8	10	10	9	10	10	11	12	10	10	10	10	20	10	9	9	6	4	1
2	Carlton Cresent - South	19	No Restriction	3	12	12	12	2	3	2	2	3	2	2	2	3	3	8	6	2	2	5
3	Carwar Avenue - East	26	No Restriction	10	7	12	13	16	15	15	18	16	13	12	9	9	7	6	9	4	7	12
4	Carwar Avenue - West	13	No Restriction	5	4	4	4	9	7	6	7	6	7	5	5	6	6	7	7	5	5	5
5	Carwar Avenue - East	10	No Restriction	5	9	10	10	9	10	10	9	10	9	10	9	9	4	7	6	3	1	1
6	Carwar Avenue - West	0	No Parking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Carss Bush Park Hill Parking	0	Open weekend/special event only	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Carss Park Life Saving Hall	22	No Restriction	20	21	22	22	21	22	22	22	22	20	20	19	14	14	11	13	13	13	12
9	Carss Park Flats Parking	80	No Restriction	11	27	47	62	78	76	72	67	53	48	43	32	27	20	17	14	11	12	10
-	Total Vehicles Parked	188		62	90	117	132	145	143	138	137	120	109	102	86	88	64	65	64	44	44	46
	Number of Vacant Spaces	-		126	98	71	56	43	45	50	51	68	79	86	102	100	124	123	124	144	144	142
	% of Capacity Used			33.0%	47.9%	62.2%	70.2%	77.1%	76.1%	73.4%	72.9%	63.8%	58.0%	54.3%	45.7%	46.8%	34.0%	34.6%	34.0%	23.4%	23.4%	24.5%

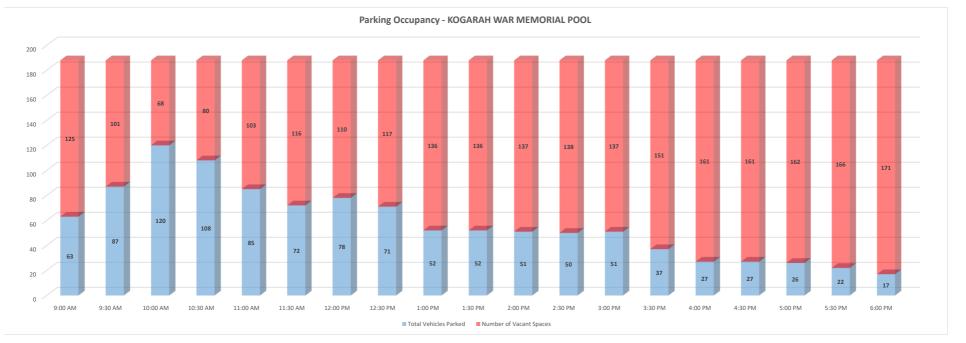


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Location	Kogarah War Memorial Pool
Suburb	KOGARAH
Client	TRAFFIX
Job No/Name	20074
Survey Duration	9 Hours
Day/Date	Friday, 4 September 2020

	Location	Capacity	Parking Restriction	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM	4:30 PM	5:00 PM	5:30 PM	6:00 PM
1	Carlton Cresent - North	18	No Restriction	11	10	10	11	10	11	11	11	11	9	9	9	8	7	6	5	5	1	0
2	Carlton Cresent - South	19	No Restriction	6	9	10	7	7	7	7	7	6	7	7	6	8	7	6	5	3	3	1
3	Carwar Avenue - East	26	No Restriction	7	7	13	14	11	9	7	8	6	6	4	4	6	4	5	5	4	3	3
4	Carwar Avenue - West	13	No Restriction	3	3	3	5	3	3	3	2	2	2	2	2	3	4	3	3	3	3	5
5	Carwar Avenue - East	10	No Restriction	5	8	10	7	6	3	5	5	5	5	6	6	4	1	1	1	0	0	0
6	Carwar Avenue - West	0	No Parking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Carss Bush Park Hill Parking	0	Open weekend/special event only	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Carss Park Life Saving Hall	22	No Restriction	14	19	20	20	15	18	21	20	16	18	18	16	16	10	4	6	9	8	5
9	Carss Park Flats Parking	80	No Restriction	17	31	54	44	33	21	24	18	6	5	5	7	6	4	2	2	2	4	3
-	Total Vehicles Parked	188		63	87	120	108	85	72	78	71	52	52	51	50	51	37	27	27	26	22	17
	Number of Vacant Spaces	-		125	101	68	80	103	116	110	117	136	136	137	138	137	151	161	161	162	166	171
	% of Capacity Used			33.5%	46.3%	63.8%	57.4%	45.2%	38.3%	41.5%	37.8%	27.7%	27.7%	27.1%	26.6%	27.1%	19.7%	14.4%	14.4%	13.8%	11.7%	9.0%

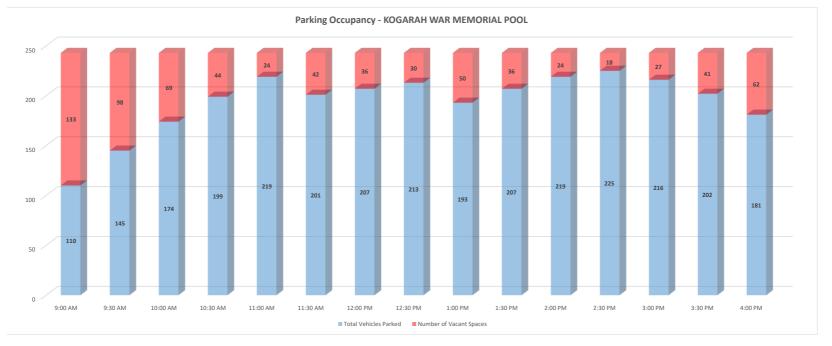


Traffic Information Specialist ABN: 42 613 389 923 Email info@tistraffic.com.au



Location	Kogarah War Memorial Pool
Suburb	KOGARAH
Client	TRAFFIX
Job No/Name	20074
Survey Duration	7 Hours
Day/Date	Saturday, 5 September 2020

	Location	Capacity	Parking Restriction	9:00 AM	9:30 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM
1	Carlton Cresent - North	18	No Restriction	10	16	17	15	15	13	17	18	15	14	16	15	15	16	14
2	Carlton Cresent - South	19	No Restriction	12	17	17	19	19	16	15	19	13	17	18	19	17	20	17
3	Carwar Avenue - East	26	No Restriction	20	20	21	21	22	23	23	23	21	23	23	23	22	21	17
4	Carwar Avenue - West	13	No Restriction	8	9	12	12	21	11	11	15	12	12	13	14	10	13	11
5	Carwar Avenue - East	10	No Restriction	8	8	10	10	10	10	10	10	10	11	10	10	10	10	10
6	Carwar Avenue - West	0	No Parking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Carss Bush Park Hill Parking	55	Open weekend/special event only	4	9	13	21	30	29	29	26	24	28	39	41	39	31	26
8	Carss Park Life Saving Hall	22	No Restriction	21	21	20	22	22	20	22	22	24	23	22	23	23	23	23
9	Carss Park Flats Parking	80	No Restriction	27	45	64	79	80	79	80	80	74	79	78	80	80	68	63
	Total Vehicles Parked	243		110	145	174	199	219	201	207	213	193	207	219	225	216	202	181
	Number of Vacant Spaces	-		133	98	69	44	24	42	36	30	50	36	24	18	27	41	62
	% of Capacity Used			45.3%	59.7%	71.6%	81.9%	90.1%	82.7%	85.2%	87.7%	79.4%	85.2%	90.1%	92.6%	88.9%	83.1%	74.5%



Traffic Information Specialist ABN: 42 613 389 923 Email info@tistraffic.com.au

# ATTACHMENT 2

Temporary Car Park Reduced Plans

