



@leisure - Population Study Input

About this document

This document provides @leisure’s input to the GPGSAC Population Study.

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Context

There are multiple methods to measure and model the population of activity areas within GPGSAC. For the benefits of Council and the design team @leisure have produced estimated annual visitor numbers for each of the key activity areas.

These numbers can guide key design issues and support the work of other consortia that have produced details on BCA regulations, peak bather loads and maximum daily bather loads.

The annual visitor numbers will represent the 'average' occupancy for each area. The 'maximum' will be based on BCA regulations and the 'minimum' for each is zero.

We have also estimated a peak month, week and day loading for each activity areas within GPGSAC.

Appendix 1 shows the various sources and assumptions that support the data.

Base Data

A 2km catchment from the centre was used as the base figures for this study. An additional 5% of the population living between 2km and 5km was also added.

The 2km catchment is a typical user travelling limit for an aquatics facility. As the GPGSAC will have multiple offerings, including a 50m pool, the catchment was extended further. However it should be acknowledged there are also multiple competing venues within a 10km radius of the site (please see the Park Uses Study for further details). There is also a lack of substantial dedicated Centre parking, which is likely to have a significant effect on travel to the Centre during peak times.

Forecasted population figures for 2021 and 2031 were used, provided from the Bureau of Transport Statistics for NSW. 2021 was used in agreement with Council as it was the closest year to the proposed 2019 opening date for GPGSAC.

There is likely to be significant demand from local workers who do not live in the immediate vicinity. This has been addressed by adding 20% of the total workers within a 2km catchment. This allows for the multiple employment categories in the source data and typical consumer habits.

Table 1 shows a summary of the population base data.

Table 1: Population base data

Base Data	2021 Population Projection	2031 Projected Population
2km catchment from GPGSAC	94,797	116,672
5% of the 5km catchment from GPGSAC	19,089	21,444
20% of 2km worker catchment from GPGSAC	11,955	13,479
Total population for study calculations	125,841	151,595

Activity Areas

Visits to each of the GPGSAC's various activity areas were estimated for 2021 and 2031. These were calculated using data from Australian Bureau of Statistics (ABS) and Exercise Recreation and Sports Statistics (ERASS) [2 & 3 – See References section]. The following sections provide a summary for each main area. Appendix 1 shows the various sources and assumptions that support the data further.

Outdoor Activity Areas

The following table shows the estimated users per annum for the key visitable outdoor facilities that will be provided at GPGSAC in 2021 and 2031.

Table 2: Outdoor activity area visitations

Outdoor Activity Area	Estimated Visits 2021	Estimated Visits 2031
Multipurpose Synthetic Field	184,548	203,002
Perimeter Trail	435,330	535,796
Fitness Stations	43,966	53,222
Barbeque Facilities	17,724	24,360

The Park User Study details how a well-programmed synthetic field will show high utilisation for a range of sporting activities (it should be noted the visitor number is reduced due to the dimension of the proposed synthetic surface). The expected increase in the local population by 2031 is likely to result in more casual/social use of the synthetic field out with programed hours.

Walking and jogging have some of the highest exercise participation rates in NSW with 33.5% and 8.8% respectively. If there is a dedicated exercise circuit of over 600 metres it is likely to attract significant use.

If the fitness station areas are well equipped and positioned, they are likely to receive considerable use.

Should three BBQ stations be provided in sheltered, visually appealing and well lit/safe locations throughout the site they are likely to attract high usage from the local residents, business community and sporting groups.

Swimming Activity Areas

The following table shows the estimated users per annum for each of the swimming activity areas. The sources and further assumptions are outlined in Appendix 1.

Table 3: Swimming activity area visitations

Swimming Activity Area	Estimated User Visits in 2021	Estimated User Visits in 2031
Indoor leisure water	93,212	112,264
Outdoor leisure water	39,948	48,113
Indoor 25m program pool	106,899	137,445
Outdoor 50m pool	167,543	202,798
Hydrotherapy pool	33,120	39,330
Total Swimming User Visits	440,722	539,949

Although many users may visit several activity areas on each visit these numbers have attempted to reflect their main purpose for attending the centre (e.g. exercise, social/casual play, swimming lesson etc.).

Indoor Physical Activity Areas

Table 4 shows the estimated users per annum for the main indoor physical activity areas. These are based on participation rates and local catchment where possible. A probable program for the Spin was considered to estimate visitation in this area.

With an estimated 22.4% of adults taking part in fitness or aerobics activities on average 1.5 times per week, these facilities are likely to be in high demand.

It should be noted that this is a highly competitive market, with numerous competing providers and although the increase in local population will increase visitor numbers it will not be linear as the fitness rooms are likely to reach capacity at peak times. This in turn may put potential visitors off.

Table 4: Health & fitness visitations

Health & Fitness Area	Estimated User Visits in 2021	Estimated User Visits in 2031
Gym, cardio room, dry fitness studio	288,015	347,202
Spin room	14,560	17,472
Weights room	27,638	33,317
Total Health and Fitness Visits	330,213	397,992

Total Centre Visits

Based on the above the total number of visits per year for indoor and outdoor aquatics and fitness (no outdoor activity areas) is shown below.

Table 5: Project Centre visits

	2021	2031
Total estimated from sources for GPGSAC	770,935	937,941

Peak Attendance

Based on other CoS Aquatic Centres (C+PP, ITAC and VPP), there is a relatively flat overall attendance throughout the year. Therefore the monthly average of visits is estimated to be approximately 64,250 in 2021.

There is potential to have peaks at different activity centres e.g. increased outdoor swimming use in summer, however depending on geographical considerations this may not always be the case e.g. more people may choose to go to the beach etc.

Based on previous projects and @leisure staff experience we have assumed that the maximum attendance at swimming activity centres in a 1-month period will be between 14.5% to 16.66% of the annual attendance (approximately 80% to 100% additional loading versus the average), and 9% to 12.5% for health and fitness activity centres (35% to 50% additional loading versus the average).

The lower limit being for areas that are likely to reach maximum capacity during peak periods of the day.

These figures can be used as a guide, but should be update as the design and management model develops.

It should be noted the busiest month for each activity area is likely to differ.

The peak week was calculated based on being a maximum of 30% of a peak month.

Saturday is likely to be the busiest day at each activity centre (based on benchmarking and @leisure staff experience). We have assumed that the maximum 1-day attendance at any swimming activity centre will be between 1% and 1.16% of the annual attendance and between 0.75% and 0.87% for health & fitness areas (both approximately 25% to 30% of a peak week).

The following tables shows the estimated peak monthly, weekly and daily visits at indoor activity centres:

Table 6: Monthly peak visitations

Activity Area	Estimated Peak Visits 2021	Estimated Peak Visits 2031
Indoor leisure water	15,529	18,703
Outdoor leisure water	6,655	8,016
Indoor 25m program pool	17,809	22,898
Outdoor 50m pool	24,294	29,406
Hydrotherapy pool	5,518	6,552
Gym, cardio room, dry fitness studio	25,921	31,248
Spin room	1,820	2,184
Weights room	3,455	4,165

Table 7: Weekly peak visitations

Activity Area	Estimated Peak Visits 2021	Estimated Peak Visits 2031
Indoor leisure water	4,659	5,611
Outdoor leisure water	1,997	2,405
Indoor 25m program pool	5,343	6,870
Outdoor 50m pool	7,288	8,822
Hydrotherapy pool	1,655	1,966
Gym, cardio room, dry fitness studio	7,776	9,374
Spin room	546	655
Weights room	1,036	1,249

Table 8: Daily peak visitations

Activity Area	Estimated Peak Visits 2021	Estimated Peak Visits 2031
Indoor leisure water	1,081	1,302
Outdoor leisure water	463	558
Indoor 25m program pool	1,240	1,594
Outdoor 50m pool	1,675	2,028
Hydrotherapy pool	384	456
Gym, cardio room, dry fitness studio	2,160	2,604
Spin room	127	152
Weights room	282	337

Conclusion

The actual number of GPGSAC users will be determined by a number of factors including management model, programing, marketing, and promotional activities, competing facilities and the GPGSAC design features.

What can be determined by this study is that there is a large potential market and the Centre is likely to be in high demand based on likely catchment and state exercise participation statistics.

References

1. Southern Area Wet & Dry Leisure Centre Business Feasibility Study – SGL Group 2007
2. Australian Bureau of Statistics (ABS) 2012
 - 4177 - Participation in Sport and Physical Recreation New South Wales 2011-12
 - 4901 - Children's Participation in Cultural and Leisure Time Activities
3. Australian Sports Commission 2010 - Exercise Recreation and Sports Statistics (ERASS)
 - Frequency of participation in physical activities
 - Frequency of participation in non-organised physical activity
 - Frequency of participation in organised physical activity
4. Bureau of Transport Statistics for NSW
 - Population Forecasts
 - Employment Forecasts

Appendix 1: Sources and Assumptions

Population Projections

Population Forecasts

Forecasted population figures for 2021 and 2031 were used, provided from the Bureau of Transport Statistics for NSW, September 2014 release. In both years the age range was from 0 to 85, inline with likely participation limits.

The Bureau of Transport Statistics for NSW Workforce forecasts, September 2014 release, was used as a base for employee numbers in the GPGSAC catchment. 20% of this total number was used in calculations to allow for those who are residents already captured in population forecasts, the reduced parking and to allow for consumer habits e.g. employees who will be members of a gym close to their home etc.

Catchments

A 2km catchment from the centre was used. Several industry indicators recognise that a large percentage of an aquatics facility users will be from within this catchment. As the GPGSAC will have multiple offerings, including a 50m pool, the catchment was extended further to include 5% of the population from 2km to 5km. There are several competing facilities within this catchment and parking availability at GPGSAC may be limited at peak times, making the Centre less attractive for families or visitors who can not easily access the Centre by public transport, therefore it was assumed 5% is a fair estimate.

A catchment of 2km was allowed for the workforce as it is assumed users are unlikely to travel further than this.

Outdoor Activity Area	Sources and Assumptions
Multipurpose Synthetic Field	Figure based on Park User Study, Estimated Program – Option 1B. Additional 10% allowance in 2031 for increased usage through local population increase.
Perimeter Paths for Running & Walking	2km population catchment of 15 to 85 year olds x participation rates for walking. 2km population catchment of 19 to 54 year olds x participation rates for running/jogging. To allow for high use of alternate local routes ABS Frequency reduced to an average of once per week and 25% of full potential local participation in 2021 and 2031.
Fitness Stations	Allowance for 9.5 visits to fitness stations per hour x average 13 hours per day (11.5 visits in 2031).
Barbeque Facilities	Based on 3 BBQ facilities being utilized 22 times per week each during a 32 week 'peak' and 7 times a week during 20 weeks off-peak. Average of 7 users per visit. Increased to 28/week peak and 9/week off-peak in 2031.

Swimming Activity Area	Sources and Assumptions
Indoor leisure water	<ul style="list-style-type: none"> • Total catchment x state swimming participation rates • ABS frequency allowance of 0.6 visits per week (supported by the Southern Area Wet & Dry Leisure Centre Business Feasibility Study) • Private use & competing facility reduction factor (30%) • Estimated ratio of indoor to outdoor casual use 70:30 • 35% of pool users will use leisure pool for social activities/play (based on Southern Area Wet & Dry Leisure Centre Business Feasibility Study)
Outdoor leisure water	<ul style="list-style-type: none"> • Total catchment x state swimming participation rates • ABS frequency allowance of 0.6 visits per week (supported by the Southern Area Wet & Dry Leisure Centre Business Feasibility Study) • Private use & competing facility reduction factor (30%) • Estimated ratio of outdoor to indoor casual use 30:70 • 35% of pool users will use leisure pool for social activities/play (based on Southern Area Wet & Dry Leisure Centre Business Feasibility Study)
Indoor Program 25m pool	<ul style="list-style-type: none"> • Total catchment x state swimming participation rates • ABS frequency allowance of 0.6 visits per week (supported by the Southern Area Wet & Dry Leisure Centre Business Feasibility Study) • Private use & competing facility reduction factor (30%) • 65% of pool users are likely to swim for exercise/learn to swim so likely to use lap pools - Southern Area Wet & Dry Leisure Centre Business Feasibility Study. • Estimated 65% will use outdoor facilities due to 50m length - 35% indoor 25m • Additional school use based on 200 school visits per week over 32 weeks (50% in 25m pool). • Learn to swim program - 20,000 conservative annual visits based on benchmarking (allowing for other visits to be captured in participation rates). 30,000 in 2031 due to increase in local catchment of young children.

Swimming Activity Area	Sources and Assumptions
Outdoor 50m pool	<ul style="list-style-type: none"> Total catchment x state swimming participation rates ABS frequency allowance of 0.6 visits per week (supported by the Southern Area Wet & Dry Leisure Centre Business Feasibility Study) Private use & competing facility reduction factor (30%) 65% of pool users are likely to swim for exercise/learn to swim so likely to use lap pools - Southern Area Wet & Dry Leisure Centre Business Feasibility Study. Estimated 65% will use outdoor facilities due to 50m length ~ 35% indoor 25m Additional school use based on 200 school visits per week over 32 weeks (50% in 50m pool) Club users of 75 per week for 48 weeks (125 per week allowance in 2031)
Hydrotherapy pool	<ul style="list-style-type: none"> Based on an average of 8 users per hour, with 12 hours a day use by 345 days per annum. This assumes the facility can be used for paid clinical clients attending with a physiotherapist and it is also open for public use.
Indoor Physical Activity Areas	Sources and Assumptions
<ul style="list-style-type: none"> Gym, cardio room, dry fitness studio 	<ul style="list-style-type: none"> Total catchment x ERASS participation rates. Frequency of 1 visit per week assumed on average. Due to the nature of the gym and fitness industry a 75% reduction for competing facilities was allowed in both 2021 and 2031. A further reduction of 2.5% assumed due to lack of parking at peak times.
<ul style="list-style-type: none"> Spin room 	<ul style="list-style-type: none"> 4 classes per day x 10 participants per class. Increased to 12 participants per class in 2031.
<ul style="list-style-type: none"> Weights room 	<ul style="list-style-type: none"> Total catchment x ERASS Weightlifting Participation. Average use once per week. Due to the nature of the gym industry a 75% reduction for competing facilities was allowed in both 2021 and 2031.

Peak Attendance Calculations

Overall attendance at the centre is likely to be relatively flat if criteria like price, design, quality of service etc. meet customer demands. A flat attendance rate would be 8.33% of the total visitations. Based on previous projects and @leisure staff experience we have assumed that the maximum attendance at the swimming activity centres in a 1-month period will be 16.66% of the annual attendance (100% additional loading versus the average). We reduced this for the outdoor 50m pool to 14.5% to allow for reduced use at peak times each day e.g. lap lanes likely to reach capacity.

This method allows for the potential significant variation in the indoor versus outdoor use during seasonal weather changes. It should be noted that it is unlikely that the indoor and outdoor pools would be at peak attendance at the same point.

Health and fitness activities are less effected by weather or seasonal variation, however there is potential for peaks e.g. during promotions, New Year resolutions etc.

The peak week was calculated by allowing 30% of a peak month.

Saturday is generally the busiest day across the industry and we have assumed that a 25% to 30% loading of a peak week would form a peak day.