LAKE MACQUARIE CITY COUNCIL

SPORTS STRATEGY – DEMAND ANALYSIS

SUPPORTING VOLUME TO THE LAKE MACQUARIE SPORTS STRATEGY

APRIL 2021

LAKE MACQUARIE CITY

Prepared by Otium Planning Group Pty Ltd
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We remember and respect the Ancestors who cared for and nurtured this Country. Dhumaan ngayin ngarrakalu kirraanan barayidin.

It is in their footsteps that we travel these lands and waters. Ngarrakalumba yuludaka bibayilin barayida baaduka.

Lake Macquarie City Council acknowledges the Awabakal people and Elders past, present and future. Lake Macquarie City Council dhumaan Awabakala ngarrakal yalawaa, yalawan, yalawanan.

Wording by the Aboriginal Reference Group and translated by Miromaa Aboriginal Language and Technology Centre.

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Summary Findings

Demand for facilities currently and into the future has been determined utilising a range of data inputs, benchmarks and predictive models developed by Otium Planning Group. The modelling has been completed for the City as a whole and for each of the defined planning catchments.

The findings are expressed as need for:

- land (ha) for development for fields and ovals
- number of courts – indoor and outdoor
- number of spaces for indoor and outdoor specialised facilities

The following table outlines the categorisation of sports/ activity spaces into these broad facility types.

Table 1: Facility Types by Sport/ Activities

Facility type	Sports and Activities Included
Oval	Athletics, Australian Rules, Cricket
Rectangle	Football, Hockey (grass), Rugby League, Rugby Union, Touch sports
Outdoor Courts	Netball, Tennis
Indoor Courts	Badminton, Basketball, Futsal, Netball, Volleyball
Outdoor Specialty	Baseball, Bocce, Bowls, Croquet, Hockey (synthetic), Softball
Indoor Specialty	Boxing, Dancing, Fencing, Gymnastics, Indoor Cricket, Martial Arts, Squash, Table Tennis, Yoga/ Pilates

The findings from the modelling indicate that Lake Macquarie City Council (LMCC) at a Local Government Area (LGA) wide level, has sufficient current supply of land for fields and ovals. However, additional supply will be required by 2026. This 'supply' could be obtained by distributing utilisation rates and/or by improving the field yield from some venues, before looking to acquire new land.

For both outdoor court types (netball and tennis), LMCC has sufficient supply currently and to 2041. The utilisation and true capacity of tennis courts needs to be understood prior to any decisions on development of new courts. The existence of three netball associations and the number of courts that support their operation has placed the City in a unique situation.

The planned development of a ten-court indoor sport facility at Hillsborough means that LMCC will meet current demand. However, in context of the proposed management arrangements and the site's catchment expanding beyond Lake Macquarie, existing supply caters for current demand. Modelling indicates this will grow to shortfall of one court by 2041. It is noted that indoor courts within schools that are (or could be) available for community use have not been included in this assessment.

The analysis of existing outdoor specialty facilities indicates that across Lake Macquarie the overall supply of these facilities is sufficient for the current and projected population. The exceptions being softball diamonds and synthetic hockey surfaces. Any determination to develop facilities to close the deficit needs to consider the regional role of the Newcastle District Softball Association diamonds at Stevenson Park, Mayfield West and the Newcastle International Hockey Centre at Broadmeadow. Consideration is also required to existing hockey and softball facilities in the Central Coast Local Government Area, south of Lake Macquarie.

The analysis of demand for indoor specialty spaces is not considered to be complete, due to lack of complete supply data and the wide use of community centres for these uses/ activities. However, the results indicate the level of demand for these spaces and is to be used as one data layer when planning for future facility provision.

It needs to be noted that this analysis considers supply and demand only, not condition, quality or accessibility of the facilities.

1. Demand Analysis Modelling

This section models land area requirements for playing fields and needs for future outdoor, indoor courts and specialised facilities. Future demand for playing fields and courts to 2031 and to 2041 has been assessed using predictive models developed by Otium Planning Group which are described in more detail below.

1.1 Facility Utilisation Model

The **Utilisation Model** assesses the current utilisation of sportsgrounds against capacity benchmarks and population projections to determine the actual playing area required (expressed in hectares, excluding ancillary space[1]).

This has been developed by scrutinising data obtained from user groups and management committees on utilisation of sports parks, courts and greens and applying models relating to current and future demand. It should be noted that usage data has been recorded on a 'field by field' basis.

Playing field utilisation and surface condition have a direct and inseparable relationship. Accepted industry standards suggest that any use of more than 25 hours a week will contribute to a deterioration of the playing surface and require a more intensive maintenance regime.

The intensity of use (number of players per field and spread of hours) is much more relevant in the winter season than the summer season, as this is when demand reaches its peak and supply is at its most tenuous due to growing conditions for natural turf.

Council's facility inventory identifies 136 playing fields, 17 netball facilities and 23 tennis centres across 95 venues.

Key considerations and assumptions for this model are outlined below:

- Council owned or managed facilities – only facilities included in the Council-supplied inventory
- Actual usage data is based on self-reporting by user groups and represents average weekly hours of use (training and competition)
- Standard weekly use benchmarks – analysis is based on a typical or average week of reported utilisation and compared against a range of notional capacity benchmarks:
    - Natural turf field 25 hours (benchmark figure that a number of turf specialists have indicated as a threshold before significant deterioration of surface quality occurs and more rigorous maintenance is required)
    - Synthetic surfaces 54 hours (based on available peak hours across a week under lights – 4-10pm x 5days + 12hours /day on weekend days.
- School use is not included
- Other informal sport or recreational use is not generally recorded and has not been taken into account
- It is recognised that not all use is equal. That is, higher impact sports (greater numbers, game play and footwear) and user types (adults v children) may result in higher or lower surface deterioration. The utilisation data available does not make these distinctions.

There are a number of facilities that form part of the supply of sports fields (n=80) for which usage data was not obtained (30 or 37% of total[2]). In order to avoid assessing these fields as zero usage (and therefore risking an underestimate of demand) the average of other fields (26.4 hours/ week) was applied to these fields.

Figure 1 indicates that based on data received from user groups, 25% of playing fields are used in excess of the benchmark capacity of 25 hours per week – some well in excess of this figure (e.g. Ulinga Park, Fassifern Oval, Chapman Oval, Aitchison Reserve, Alan Davis Field and Feighan Oval). The majority of sports fields (53%) are

[1] Based on Otium Planning Group experience, ancillary areas such as car parks, amenities, landscaping, pathways and informal open space would require an additional 70% of the actual playing area.

[2] The inventory has 136 fields, in collecting the utilisation data this has been provided in some instances for all fields as one, and at other venues individually for all fields, therefore the data is provided for 80 fields.

approaching the 25 hours per benchmark (including the fields with the average applied (37%)). A further (23%) are utilised below the benchmark capacity of 25 hours - in some cases (7) well below (fewer than 10 hours per week).

It is important to acknowledge that this use is self-reported. Additionally, some facilities are used by low impact and low participation sports. For example, Archery at Fassifern Oval.

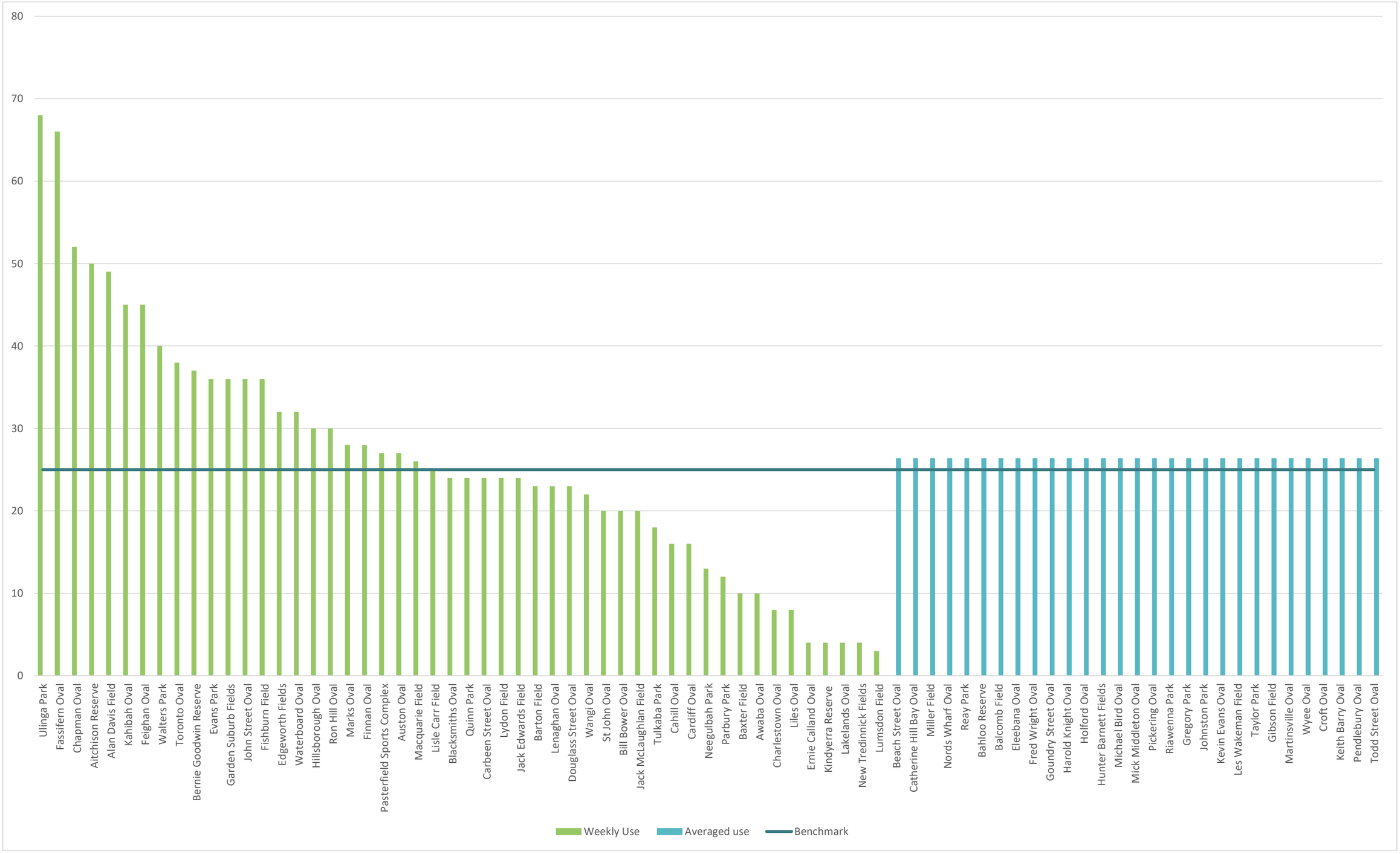

Figure 1: Utilisation of Fields and Ovals

1.2 Demand Assessment Model

Otium Planning Group has developed a **Demand Assessment Model** based on participation data, facility capacity, user requirements and a number of variables calibrated for the specific population.

This proprietary model allows a projection of the number of facilities required and the area needed to accommodate the demand. Using the model provides a tool to test provision scenarios for future populations as well as assess the adequacy of current supply in terms of current or modelled demand. Demand for sporting facilities is modelled using a combination of the following data:

- Available sport activity participation data for the population.
- Modelling of the capacity of fields, courts or other facilities in terms of the number of users they can accommodate.
- Determination of the areas required to accommodate actual playing surface and ancillary space required for different facilities.
- Setting parameters for the modelled facilities around hours of operation, differences between training and competition use and average lengths of seasons relative to each sport.

The Demand Assessment Model does not consider accessibility and travel time. Catchment mapping according to the sport infrastructure hierarchy has been undertaken separately to the demand modelling.

1.2.1 Developing the Model for Lake Macquarie

Every time the Demand Assessment Model is developed, there are a number of individual calibrations undertaken to ensure it recognises the local context. The Model has been applied to Lake Macquarie in order to determine the current future demand for sports fields and courts in five-year periods to 2031 and then 2041; the following assumptions have been applied to the model for this project:

1.2.1.1 Participation Data

Lake Macquarie participation data for this model is sourced from AusPlay data (as at July 2020). Though there are some issues with sample sizes and confidence levels for some individual sports within the Ausplay data, these individual results are of limited concern when participation data is aggregated for all sports using a particular type of field (e.g. oval fields). To explain, while we can be less certain about the exact numbers playing a particular sport, we can be reasonably confident that total participation in oval-based sports as a whole is reasonably robust.

For the purpose of this model, AusPlay data for Athletics includes jogging and running, which in our view is not a true representation of participation in the “sport of athletics” and hence could skew the demand for formal athletics facilities. AusPlay data is separated into organised and unorganised participation modes and indicates the venue type used for the activity. Therefore, the participation rate for Athletics is based on ‘organised’ participation undertaken at a sports club or association.

In addition to modelling demand based on Lake Macquarie AusPlay data, a ‘Local’ model has also been conducted using membership data for sport in Lake Macquarie. This data has been sourced from local associations and compared with data held by ActiveExchange[3], in some cases the data has not agreed, in these instances the higher figure has been used[4]. In those instances where data has not been available through either source, the default is the AusPlay data for that sport.

[3] The SportsEye Platform by ActiveExchange (2020) has been used to supplement data. This platform contains membership numbers of Lake Macquarie residents affiliated with state sporting organisations.

[4] The higher figure has been used representing a conservative or higher level estimate of demand so that the modelled projections do not deliver a significant under-estimate.

1.2.1.2 Variables Adjusted for this Model

For every model a number of variables are adjusted to reflect the local conditions. These variables also allow testing of future provision scenarios (e.g. the impact of changing the amount of lit fields). For this model the following variables have been applied:

Data	Variables
Year of population data	2016
Total Population	202,232
% 5-14 Y.O.	12.2%
% 15+ Y.O.	81.8%
% of facilities lit for night use	
Field Sport	85%
Outdoor Courts	90%
Season Length	
Winter	20
Summer	20
All year round	40
Average use Hours/week	
Lit fields and outdoor courts	40
Unlit fields and courts (winter)	19.5
Unlit fields and courts (summer)	27

1.2.2 Understanding the Model

The Demand Assessment Model has been developed using a complex set of relational data. However, in simple terms, the model calculates demand around three fundamental calculations. Firstly, each sport, based on the needs of its participants, will require access to a facility for an average number of hours per year per participant. Secondly, each sport will have a maximum number of users per hour that can be accommodated, on average, at a single field or court (or other facility type). Thirdly, a facility has an available capacity of hours per season/ year. The model assumes that each facility is used to capacity before another is needed.

This means that modelling the facility demand uses the available participation data to determine how many facilities are required to meet the annual demand generated by that participation. The model also uses the spatial variables to identify the amount of land needed to accommodate the facilities and ancillary space required to meet this demand.

1.2.3 Calculating Facility Numbers

The model focuses on the **facility** type overall and seasonality, which ensures that demand for facilities that are generally used by different sports in different seasons (e.g. AFL and Cricket shared oval fields) is not over projected. The model assumes that all field sharing across seasons and between sports is the norm.

In projecting facility needs it is assumed that when shared between summer and winter users the peak demand (i.e. the season with the highest demand) can then accommodate demand from the opposing season. For example: if AFL requires 5 fields and Cricket requires 4 fields, developing 5 multi-use facilities can accommodate for both Cricket and AFL, as they (usually) operate in separate seasons. This peak seasonal demand combines with year-round demand to generate a total number of facilities required to meet annual demand. Therefore, calculating facility demand is the sum of all-year round needs and the “higher” need of either summer or winter users.

1.2.4 Using the "Standard Facilities" Measures

To accommodate the variance in the size and shape of playing areas and to acknowledge that in many cases facilities are provided as overlays (e.g. two touch fields overlay onto a single rugby field), a "standard" facility as a special measure has been adopted. In general, this is the larger of the possible layouts and the model has adjusted for this overlay and shared use effect. The standard facilities are defined as:

1. Oval field- based on senior AFL playing area footprint (2.47 Ha)
2. Rectangle field – based on senior Rugby Union (1.26 Ha)

As the model calculates demand it determines the number of individual facilities required for a specific sport as well as the number of "standard" facilities to simplify planning for multi-use facilities. The added advantage of this approach is that it recognises that facilities need to be flexible and able to be reconfigured as participation trends and demand changes over time. Using the standard footprint means that overall demand (for example for sports using rectangular fields) can be accommodated with a certain level of provision regardless of the potential for changing participation between the codes that use rectangular fields.

1.2.5 Calculating Spatial Outputs

The model also generates a demand output based on a combination of the actual space required for the playing surface and the additional land required to accommodate buffers, amenities, parking etc that make sporting spaces functional.

Ancillary land needs for fields and facilities have been incorporated into the model based on analysis undertaken in several states around the average total land footprints accommodating sporting fields or facilities. The development of the average rate of ancillary land is based on real-world examples where land parcels are neither a perfect shape nor of perfect quality. This means that while the actual playing space may be only 1 Ha, the total land needed for a functional outcome equals the playing surface plus the ancillary space.

Analysis from projects in a number of cities across NSW, Qld, and ACT has found that generally:

- For field sports an additional 70% (of the playing space) is required
- For built facilities and courts an additional 50% is required.

1.3 Assessment of Modelling Outputs

1.3.1 Playing Fields Demand Modelling

The mid-point of both **Utilisation Model** and the **Demand Assessment Model** outputs was calculated, which Otium typically utilises to determine the demand for sports fields and ovals for Lake Macquarie as a whole (refer Table 2) and within each planning catchment (refer Table 3).

Table 2: Summary of Demand Analysis – Surplus or Deficit of Sports field playing area[5]

Modelling Results	Current Supply (Ha)	2016	2021	2026	2031	2041
		Surplus / Deficit				
Utilisation Model	131.89	-9.9	-11.7	-16.7	-22.1	-32.1
Demand Assessment Model	131.89	+19.9	+16.8	+11.8	+7.4	+0.6
Mid-point Output (Playing Area Only)		+5.0	+2.5	-2.5	-7.4	-15.7
Mid-point Output (Playing Area + allowance for ancillary space)		+8.5	+4.3	-4.2	-12.5	-26.7

Both models indicate that in terms of total supply, the existing level of provision is adequate to meet current demand to 2021, additional supply (land and facilities) will need to be acquired by 2026 to meet future demand. Supply should

5 Playing area/ current supply refers to actual playing area and run-off areas only, not ancillary facilities such car parks, amenities, landscaping, pathways and informal open space.

take into account the distribution of facilities as well as overall quantum, particularly given the development pattern of Lake Macquarie.

The analysis of sports field demand was completed for the planning catchments, this is shown in Table 3 and expressed as full land requirements, comprising the playing area plus 70% allowance for ancillary space supporting the sport use. Ancillary land needs for fields and facilities have been incorporated into the model based on analysis undertaken in several states around the average total land footprints accommodating sporting fields or facilities. The development of the average rate of ancillary land is based on real-world examples where land parcels are neither a perfect shape nor of perfect quality. This means that while the actual playing space may be only 1 Ha, the total land needed for a functional outcome equals the playing surface plus the ancillary space.

This analysis takes no account of the supply for Lake Macquarie from surrounding local authorities and that many sport competitions are organised across the region.

Table 3: Summary of Demand Analysis (Median of Modelling Scenarios) – Surplus or Deficit of Land for Fields and Ovals

Sports field playing area	Existing Playing Space (Ha)	2016	2021	2026	2031	2041
		Surplus / Deficit (Ha)				
Lake Macquarie (LGA)	**131.89**	**+8.5**	**+4.3**	**-4.2**	**-12.5**	**-26.7**
Belmont	21.04	+4.3	+3.1	+2.7	+2.3	-0.6
Charlestown	34.42	-3.1	-3.1	-4.4	-4.8	-5.0
Glendale	45.12	+7.5	+3.8	+0.6	-2.8	-8.3
Morisset	9.83	-6.3	-7.1	-10.8	-12.0	-16.8
Toronto	21.46	-1.5	-2.5	-3.3	-4.4	-6.6

Future Planned Provision: Undeveloped sites and master plans

The above modelling excludes future planned provision. It is acknowledged that subject to funding and implementation, that the following proposed sites will comfortably address the identified shortfall in playing field provision. Aligning the below proposed developments with timing of the proposed shortfall is recommended.

Table 4 - Undeveloped sites and master plan upgrades

Name	Suburb	Catchment
Harold Knight Field - Extension	Gateshead	Charlestown
Croudace Bay Sports Complex - Extension	Croudace Bay	Charlestown
Cameron Park - New	Edgworth	Glendale
Cooranbong Park - New	Coorabong	Morisset
North Corranbong Land Release - New	Corranbong	Morisset
Wyee Sports Complex site - New	Wyee	Morisset
Mirrabooka Quarry Site - New	Mirrabooka	Morisset
Griffen Road - - New	Teralba	Toronto

1.3.2 Netball Court Demand Modelling

There is no single adopted industry standard for the provision of outdoor netball courts. Netball competitions are centralised on an Association basis, with the vast majority of competitions historically played on Saturdays. Data on the current utilisation of the three Association netball competition venues was not provided/ obtained. The demand for netball courts has been determined by population growth projections and assumed a linear growth in netball participation.

The mid-point of provision benchmarking[6] and Demand Analysis Modelling of netball participation was applied to calculate current and future competition court demands (refer Table 5). This analysis indicates that the current supply of competition netball courts exceeds demand and will continue to do so beyond 2041.

Table 5: Summary of Demand Analysis (Median of Modelling Scenarios) – Surplus or Deficit of Facilities

Netball Courts competition courts)	Current Supply (# of competition courts)	2016	2021	2026	2031	2041
		Surplus / Deficit				
Demand Assessment Model	65	+33	+33	+32	+31	+30

A similar analysis was conducted for the supply of all netball courts (training and competition) across the City and within each planning catchment, refer Table 6.

Table 6: Summary of Demand Analysis (Median of Modelling Scenarios) – Surplus or Deficit of Facilities

Netball Courts (All Courts)	Current Supply (# of all courts)	2016	2021	2026	2031	2041
		Surplus / Deficit				
Lake Macquarie (LGA)	**106**	**+71**	**+70**	**+70**	**+69**	**+67**
Belmont	34	+28	+28	+28	+28	+28
Charlestown	36	+26	+26	+26	+26	+25
Glendale	18	+9	+9	+8	+8	+7
Morisset	2	-1	-1	-2	-2	-3
Toronto	16	+11	+11	+11	+11	+10

In addition, a comparative analysis of player to competition court provision was undertaken with a select number of sites surrounding Lake Macquarie and using data provided by Netball NSW. This is provided in the table below.

Table 7: Comparative analysis: Player to competition court

	No. of sealed competition courts	2019 Players	Player to Competition Court Ratio
Wyong	27	2,544	**94**
Newcastle	30	3,673	**122**
Maitland	32	2,132	**67**
Gosford	27	2,397	**89**
Westlakes	12	640	**53**
Lakeside	27	1278	**47**
Charlestown	26	934	**36**

Whilst participation of netball within Lake Macquarie is high, the current provision rate of netball facilities far exceeds current and forecast demands. However, consideration for additional training facilities in Morisset is required. This will be addressed through planned future provision outlined in Table 6 above.

[6] Lake Macquarie as a whole has a provision rate of 1 court per 3,113 people (competition courts) and 1:1,909 (all courts). Netball NSW provision benchmark for competition courts is 1:3,500. Demand Analysis Modelling undertaken by Otium Planning Group for Lake Macquarie indicates a demand ratio of 1:9,635.

1.3.3 Tennis Court Demand Modelling

Comparing the supply with population and club membership indicates that the per capita provision of tennis courts in Lake Macquarie is 1:2,890. There is no single adopted industry standard for the provision of outdoor tennis courts and the amount of social play makes demand more difficult to assess.

The mid-point of a range of benchmarks for tennis court provision and Otium Demand Analysis Modelling for tennis participation was applied to calculate future tennis court demands in the City and within each planning catchment, refer Table 8.

Utilisation information for tennis courts has not been obtained for this study. Further information on the utilisation of existing courts across Lake Macquarie will be required to make accurate determinations on future retention, expansion or disposal of courts. The analysis that has been completed indicates that the current supply of tennis courts across the City exceeds demand and will continue to do so by 2031. Consideration might be given to new court development in the Morisset Glendale planning catchments; noting that across the City, sufficient supply is already available.
Tennis NSW is currently in the process of completing audits of existing facilities in Lake Macquarie which will also help inform future directions including possible consolidation opportunities where supply is high.

Table 8: Summary of Demand Analysis (Median of Modelling Scenarios) – Surplus or Deficit of Facilities

Tennis Courts	Current Supply (# of courts)	2016	2021	2026	2031	2041
		Surplus / Deficit				
Lake Macquarie (LGA)	**70**	**+11**	**+9**	**+7**	**+5**	**+1**
Belmont	21	+13	+12	+12	+12	+11
Charlestown	21	+3	+3	+3	+3	+3
Glendale	15	-2	-3	-4	-4	-6
Morisset	3	-2	-2	-3	-3	-5
Toronto	10	+1	+1	0	0	0

1.3.4 Indoor Sport Courts Demand Modelling

There is no single adopted industry standard for the provision of indoor court facilities. A number of considerations have been taken into account to estimate future demand. These include a range of benchmarks, utilisation of the Demand Analysis model; and analysis of provision ratios from other research[7]. This analysis does not take account of any indoor courts within schools adding to the supply.

Overall indoor facility provision needs have been assessed at the whole of LGA level and includes the facility planned for development at Hillsborough. Further information on the utilisation of existing courts across Lake Macquarie will be required to make accurate determinations However, the results of this analysis indicate that with the development of the 10-court facility at Hillsborough, Lake Macquarie will meet current demand, which with population growth and no further court development, will become a potential deficit of multi-court indoor sporting facilities by 2041.

Table 9: Summary of Demand Analysis – Surplus or Deficit of Indoor Sport Courts

Indoor Courts	Current Supply (# of courts)	2016	2021	2026	2031	2041
		Surplus / Deficit				
Median of modelling scenarios	19	+3	+3	+2	+2	0

It is understood that the planned Hillsborough Regional Indoor Centre will cater almost exclusively for basketball servicing. To account for this, a more defined model has been generated that excludes provision of and demand for

[7] Previous studies undertaken by Otium Planning Group in metropolitan areas indicate a sports court provision ratio of 1 court to between 11,000 and 15,000 people; A 2014 research report by Sport and Recreation Spatial (Victorian University ISEAL) found a court provision ratio in metropolitan Victoria of one court per 10,648 people.

basketball. A number of considerations have been taken into account to estimate future demand. These include a range of benchmarks, utilisation of the Demand Analysis model; and analysis of provision ratios from other research[8]. This analysis indicates that the current supply is meeting demand catering for the balance of indoor sports across the City, with a deficit of court supply by 2041, refer Table 10. As per Table 1, the indoor sports (other than basketball) included in this analysis are badminton, netball, futsal and volleyball.

Table 10: Summary of Demand Analysis for Indoor sport courts (excluding Basketball) - Surplus or Deficit of Indoor Sport Courts

Indoor Courts	Current Supply (# of courts)	2016	2021	2026	2031	2041
		Surplus / Deficit				
Median of modelling scenarios	9	0	0	0	0	-1

1.3.5 Outdoor Specialty Demand Modelling

This category consists a range of activities and facility types that by the nature of the facility design or the attributes of the activity are usually single use facilities. An analysis of existing facility supply and OPG Demand modelling indicates that across Lake Macquarie the overall supply of these facilities is sufficient for the current and projected population. The obvious exceptions to this are softball diamonds and synthetic hockey surfaces. Any determination to develop facilities to close the deficit needs to consider the regional role of facilities within Newcastle City and Central Coast (neighbouring local government areas); e.g the Newcastle District Softball Association diamonds at Stevenson Park (Mayfield West), the Newcastle International Hockey Centre (Broadmeadow) and the Central Coast Hockey Centre (Wyong).

Table 11: Summary of Demand Analysis – Surplus or Deficit of Facilities

Outdoor Specialty Facilities	Current Supply (# of courts)	2016	2021	2026	2031	2041
		Surplus / Deficit				
Bowls	33	+29	+29	+29	+28	+28
Croquet	9	+8	+8	+8	+8	+8
Bocce						-1
Hockey (Synthetic)		-3	-3	-3	-3	-4
Baseball	6	+4	+4	+4	+4	+4
Softball	0	-1	-1	-1	-1	-1
Median of modelling scenarios	**48**	**+41**	**+40**	**+40**	**+40**	**+40**

It is noted that the current supply of sports bowls and croquet are a result of historic high participation. Whilst the quantity analysis may indicate an overprovision from a participation demand perspective, it does not consider other key criteria such as travel time distribution. The future planning of bowls and croquet should carefully consider local participation, distribution, ageing population and club sustainability. Bocce is not currently provided for in Lake Macquarie, future provision or development of a facility should be considered in response to community demand.

1.3.6 Indoor Specialty – Demand Modelling

This category consists a range of special-facility activities and others that have flexible or non-standardised facility dimension needs. An analysis of existing facility supply and OPG Demand modelling is difficult to finalise as the total supply of these facilities is not known or included in the scope of the study. Table 12 includes data derived from the demand assessment modelling indicating demand for number of indoor specialty spaces to accommodate the listed activities.

[8] Previous studies undertaken by Otium Planning Group in metropolitan areas indicate a sports court provision ratio of 1 court to between 11,000 and 15,000 people; A 2014 research report by Sport and Recreation Spatial (Victorian University ISEAL) found a court provision ratio in metropolitan Victoria of one court per 10,648 people.

Table 12: Summary of Demand Analysis – Demand for Facility Spaces

Indoor Specialty Spaces	2016	2021	2026	2031	2041
	Required Number of Facility Spaces				
Squash	7	7	7	8	8
Cricket (indoor)	1	1	2	2	2
Boxing	3	3	3	3	3
Martial Arts	5	6	6	6	6
Table Tennis	1	1	1	1	1
Dancing (Recreational)	10	10	11	11	12
Fencing	0	0	0	0	0
Yoga/ Pilates	14	15	15	16	17

Gymnastics is an activity that could be considered separately due to high levels of participation particularly for young girls. Five gymnastics centres have been noted in the supply assessment. Demand modelling for gymnastics spaces (refer Table 13) indicates that current supply is sufficient to meet demand to 2041. There could be a gap in the supply data with gymnastics centres in many communities operating from privately owned buildings/ properties.

Table 13: Summary of Demand Analysis – Surplus or Deficit of Facilities

Gymnastics	Current Supply (# of spaces)	2016	2021	2026	2031	2041
		Surplus / Deficit				
Median of modelling scenarios	5	+2	+2	+2	+2	+2

1.3.7 Other Sports

Other sports were analysed based on current utilisation and capacity of their facility in consultation with peak sporting bodies. For example, analysis of BMX identified that the current facility provided capacity of the existing facility can accommodate future growth based on current participation levels against the forecast population projections.

2. Warranties and Disclaimers

The information contained in this report is provided in good faith. While Otium Planning Group has applied their own experience to the task, they have relied upon information supplied to them by other persons and organisations.

We have not conducted an audit of the information provided by others but have accepted it in good faith. Some of the information may have been provided 'commercial in confidence' and as such these venues or sources of information are not specifically identified. Readers should be aware that the preparation of this report may have necessitated projections of the future that are inherently uncertain and that our opinion is based on the underlying representations, assumptions and projections detailed in this report.

There will be differences between projected and actual results, because events and circumstances frequently do not occur as expected and those differences may be material. We do not express an opinion as to whether actual results will approximate projected results, nor can we confirm, underwrite or guarantee the achievability of the projections as it is not possible to substantiate assumptions which are based on future events.

Accordingly, neither Otium Planning Group, nor any member or employee of Otium Planning Group, undertakes responsibility arising in any way whatsoever to any persons other than client in respect of this report, for any errors or omissions herein, arising through negligence or otherwise however caused.