



Sport Facility Provision Research Report November 2014

Executive Summary

This report provides an analysis and summary of the provision of sport x facilities and courts in Victoria.

There were considerable differences in the provision of facilities and courts per players and per the population across Victorian local government areas (LGAs).

Some of the variance in the provision of sport x facilities and courts relates to higher population density in Metropolitan compared to non-metropolitan regions.

Across Victorian LGAs the average...

- number of persons per facility was 14,573.
- number of persons per court was 5,045.
- number of players per facility was 225.
- number of players per court was 75.

There was a positive correlation between the provision of courts per 1,000 persons and the sport x participation rate. This means that LGAs with higher/lower rates of participation tend to have more/fewer sport x facilities per head of population.

The benchmark for an LGA to be in the top two-thirds of LGAs with regard to provision of facilities was 100 players per facility for all LGAs, 255 players per facility for metropolitan LGAs and 77 players per facility for non-metropolitan LGAs.

Sport Facility Provision

Access to sports facilities is an important factor with regard to participation in sport¹. The presence of and proximity to facilities for physical activity and sport has been found to be positively associated with participation levels^{2, 3}. This report provides an analysis and summary of the provision of sport x facilities and courts in Victoria.

A sport x facility is defined as a facility that is associated with Sport x Victoria. The data sources are an audit of sport facilities conducted during 2011-2012 by Sport and Recreation Victoria, Department of Transport, Planning and Local Infrastructure (SRV), and validated by local government authorities, player registration data provided by AFL, and 2012 estimated resident population (ERP) figures for each local government area (LGA) from the Australian Bureau of Statistics.

Some designated facilities have multiple courts, and so counts of both facilities and courts have been used in preparing this report.

Three types of measure are presented:

Participation: expressed as the number of membership registrations per 1,000 persons in the population.

Facility provision: expressed as the number of facilities or ovals per persons or per registrations.

Facility need/demand: expressed as the number of persons or registrations per facility or oval.

The measures of facility provision and facility need/demand carry the same information – mathematically each is the reciprocal of the other. Table 1 includes both types of measure, but in accordance with common usage by sports, LGAs and SRV, the key points regarding Table 1 are framed in terms of measures of facility/court need/demand. Figure 1 and Table 3 are also based on court need/demand.

However, in examining and discussing the relationships with rates of participation (Table 2), it is more intuitive to refer to rates of facility/court provision.

Key Points

Table 1, Figure 1, Table 3

- **Across Victorian LGAs, the average number of persons per facility was 14,573.** The average was much higher among metropolitan (32,626 persons per facility) than non-metropolitan areas (2,913 persons per facility). This is a consequence of the sparser population distribution within non-metropolitan LGAs.
- **Across Victorian LGAs, the average number of persons per court was 5,045.** The average was much higher among metropolitan (10,648 persons per court) than non-metropolitan areas (1,426).
- Figure 1 shows eight outlying values in the Metropolitan area where the need/demand rate of persons per court was particularly high. These were Brimbank, Port Phillip, Moreland, Banyule, Whittlesea, Bayside, Gen Eira and Boroondara.

- Nine non-metropolitan LGAs had demand/need as high as the lowest metropolitan LGAs. These were Ballarat, Mansfield, Macedon Ranges, Greater Geelong, Alpine, Greater Bendigo, Surf Coast, Moorabool and Horsham, which includes the three largest non-metropolitan cities.
- There were marked differences in the range of persons per facility (707-96,833) and persons per court (424-4,38,733) across the different LGAs.
- There were also considerable differences in the number of players per facility, which ranged from 24-1,950 across the different LGAs, with an **average of 225 players per facility**.
- There were also considerable differences in the number of players per court, which ranged from 13,325 across the different LGAs, with an **average of 75 players per court**.
- The bottom, middle and top thirds of a set of data are referred to as the first, second and third 'tertiles'. The cutoff between the first and second tertiles, i.e. the minimum level to be classified in the top two-thirds of LGAs, might provide a benchmark or target level for provision of facilities. **Overall, this benchmark figure was 100 players per facility; for metropolitan LGAs it was 255 players per facility; for non-metropolitan LGAs it was 77 players per facility.**

Table 2

- The rates of provision of sport x facilities and courts per 1,000 persons within an LGA in Victoria were positively correlated with the rate of participation in sport x. **This means that LGAs with higher/lower rates of participation tend to have more/fewer sport x facilities per head of population.** The correlation was stronger for non-metropolitan than metropolitan LGAs.
- With regard to the rates of provision of sport x facilities and courts per 1,000 players within an LGA, the relationship with the rate of participation in sport x was more complex.
 - Taken across all Victorian LGAs, the correlations were positive, but much weaker than for the rate of provision per person.
 - For the non-metropolitan region, the correlations were positive but small, indicating a weak tendency for LGAs with higher/lower rates of participation to have more/fewer sport x facilities per player.
 - However for the metropolitan region, the provision of facilities per sport x player was negatively correlated with the participation rate i.e. LGAs with higher/lower participation rates tended to have fewer/more facilities per player. This may be regarded as an 'economy of scale' effect. Economies of scale in facility provision are applicable in metropolitan LGAs, where population densities are generally relatively high and spatially homogeneous, and utilisation of available facilities is high. This is not the case in non-metropolitan LGAs, where population densities are generally relatively low and spatially heterogeneous, and so facilities in some rural towns are needed but not necessarily fully utilised. From another perspective, it may also be related to less land being available in the metropolitan region compared to the non-metropolitan region.
- These relationships are further complicated by the fact that participation rates were much higher in non-metropolitan LGAs (mean 37.8 registrations per 1,000 persons; range 17.2-66.7) than in metropolitan LGAs (mean 13.5; range 3.8-23.3).

Table 1. Participation rate and facility rates: summary statistics by region

Indicator	All (n=79)			Metropolitan (n=31)			Non-metropolitan (n=48)		
	Mean	Standard Deviation	Range	Mean	Standard Deviation	Range	Mean	Standard Deviation	Range
Participation rate									
Registrations per 1,000 persons	28.3	15.3	3.8-66.7	13.5	6.0	3.8-23.3	37.8	11.4	17.2-66.7
Facility provision									
Facilities per 1,000 persons	0.31	0.31	0.01-1.41	0.05	0.04	0.01-0.19	0.48	0.29	0.11-1.41
Courts per 1,000 persons	0.67	0.60	0.03-2.36	0.15	0.10	0.03-0.46	1.00	0.55	0.23-2.36
Facilities per 1,000 players	9.23	6.73	0.51-41.66	4.25	3.21	0.51-12.49	12.45	6.44	4.59-41.66
Courts per 1,000 players	20.40	11.75	3.08-74.98	12.33	7.48	3.08-32.46	25.61	11.07	7.41-74.98
Facility need/demand									
Persons per facility	14,573	20,721	707-96,833	32,626	23,595	5,339-96,833	2,913	1,841	707-9,157
Range of middle tertile			2,563-11,795			20,607-36,170			2,050-3,035
Persons per court	5,045	7,273	424-38,733	10,648	9,090	2,164-38,733	1,426	973	424-4,408
Range of middle tertile			1,262-4,408			6,298-8,972			846-1,540
Players per facility	225	291	24-1,950	424	389	80-1,950	98	42	24-218
Range of middle tertile			100-168			255-503			77-104
Players per court	75	64	13-325	120	80	31-325	47	23	13-135
Range of middle tertile			40-74			74-120			33-45

Table 2. Correlations between participation rate and facility rates: by region

Facility provision	Participation rate: registrations per 1,000 persons		
	All (n=79)	Metro (n=31)	Mon-metro (n=48)
Facilities per 1,000 persons	.802**	0.286	.633**
Courts per 1,000 persons	.865**	.510**	.756**
Facilities per 1,000 players	.476**	-.436*	0.097
Courts per 1,000 players	.511**	-0.313	0.258

**Correlation is significant at the 0.01 level

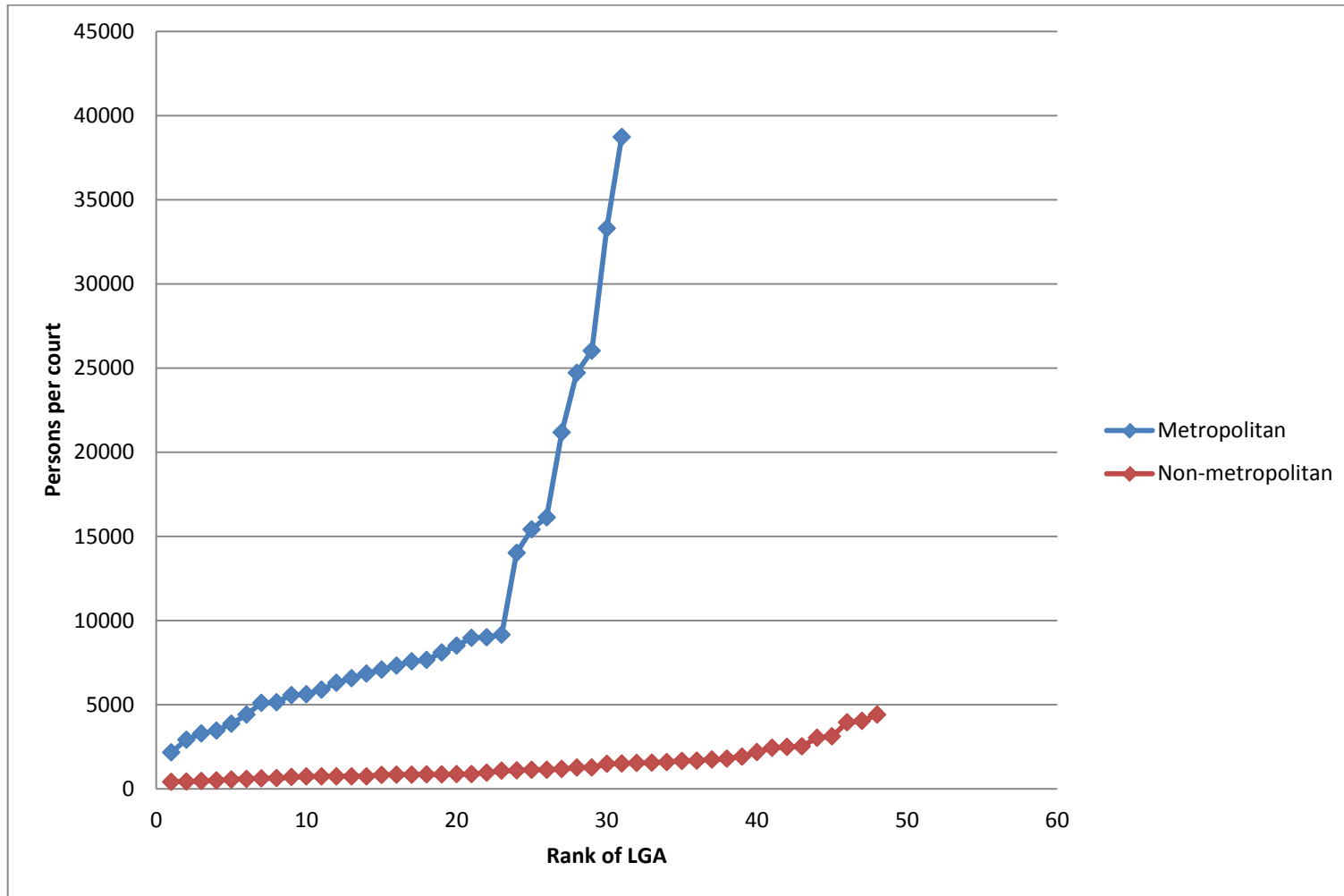


Figure 1. Court rate: by LGA

Table 3. Court rate: by LGA

LGA name	Persons per court	Rank ¹	LGA name	Persons per court	Rank ¹	LGA name	Persons per court	Rank ¹
Metropolitan			Whitehorse (C)	7,571	17	Indigo (S)	1,922	39
Banyule (C)	24,709	28	Whittlesea (C)	21,184	27	Latrobe (C)	1,540	32
Bayside (C)	16,137	26	Wyndham (C)	8,972	21	Loddon (S)	627	7
Boroondara (C)	14,024	24	Yarra (C)	7,328	16	Macedon Ranges (S)	3,954	46
Brimbank (C)	38,733	31	Yarra Ranges (S)	3,466	4	Mansfield (S)	4,034	47
Cardinia (S)	2,164	1	Non-metropolitan			Mildura (RC)	1,740	37
Casey (C)	7,654	18	Alpine (S)	3,035	44	Mitchell (S)	1,510	31
Darebin (C)	9,005	22	Ararat (RC)	1,262	28	Moira (S)	562	5
Frankston (C)	6,577	13	Ballarat (C)	4,408	48	Moorabool (S)	2,446	41
Glen Eira (C)	15,423	25	Bass Coast (S)	1,800	38	Mount Alexander (S)	1,489	30
Greater Dandenong (C)	8,511	20	Baw Baw (S)	1,268	29	Moyne (S)	737	10
Hobsons Bay (C)	6,298	12	Benalla (RC)	858	19	Murrindindi (S)	1,679	36
Hume (C)	6,847	14	Buloke (S)	424	1	Northern Grampians (S)	855	18
Kingston (C)	4,411	6	Campaspe (S)	637	8	Pyrenees (S)	845	16
Knox (C)	2,918	2	Central Goldfields (S)	740	11	Queenscliffe (B)	1,550	33
Manningham (C)	5,572	9	Colac-Otway (S)	1,091	24	South Gippsland (S)	959	22
Maribyrnong (C)	5,106	7	Corangamite (S)	443	2	Southern Grampians (S)	745	14
Maroondah (C)	5,148	8	East Gippsland (S)	1,598	34	Strathbogie (S)	743	13
Melbourne (C)	8,106	19	Gannawarra (S)	742	12	Surf Coast (S)	2,487	42
Melton (S)	5,898	11	Glenelg (S)	706	9	Swan Hill (RC)	874	20
Monash (C)	5,617	10	Golden Plains (S)	1,079	23	Towong (S)	495	4
Moonee Valley (C)	7,078	15	Greater Bendigo (C)	2,530	43	Wangaratta (RC)	879	21
Moreland (C)	26,027	29	Greater Geelong (C)	3,119	45	Warrnambool (C)	1,137	26
Mornington Peninsula (S)	3,866	5	Greater Shepparton (C)	1,176	27	Wellington (S)	846	17
Nillumbik (S)	3,297	3	Hepburn (S)	1,135	25	West Wimmera (S)	469	3
Port Phillip (C)	33,297	30	Hindmarsh (S)	828	15	Wodonga (RC)	1,665	35
Stonnington (C)	9,153	23	Horsham (RC)	2,184	40	Yarriambiack (S)	593	6

¹ In ascending order of persons per facility within each region.

References

1. Eime, R., J. Harvey, M. Craike, C. Symons, W. Payne. Family support and ease of access link socio-economic status and sports club membership in adolescent girls: A mediation study. *International Journal of Behavioral Nutrition and Physical Activity* 2013; 10(50).
2. Limstrand, T. Environmental characteristics relevant to young people's use of sports facilities: a review. *Scandinavian Journal of Medicine & Science in Sports* 2008; 18:275-287.
3. Grow, H., B. Saelens, J. Kerr, N. Durant, G. Norman, J. Sallis. Where are youth active? Roles of proximity, active transport, and built environment. *Medicine and Science in Sports and Exercise* 2008; 40(12):2071-2079.

This report was prepared by Rochelle Eime, Jack Harvey, and Melanie Charity.

Contact **Associate Professor Rochelle Eime**
VicHealth Research Practice Fellow- Physical Activity
Victoria University and Federation University, Australia
r.eime@federation.edu.au
(03) 5327 9687

Data accuracy

This report is based on facility data collected during 2011-2012 by Sport and Recreation Victoria, Department of Transport, Planning and Local Infrastructure, and validated by local government authorities, together with 2012 Estimated Resident Population, Australian Bureau of Statistics. Data screening checks have led to anomalies being identified in a small proportion of the facility data records, and these have been resolved. The results in this report are based on the dataset as it stands at the date of publication.