



# The Value of Community Sport & Active Recreation Infrastructure

Prepared for Sport and  
Recreation Victoria



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### Methodological limitations

#### In addition to the inherent limitations outlined above:

- This report does not represent a detailed technical report, but instead provides an overview of the process, methodology and outcomes of the investigation into the value of community sport and active recreation infrastructure in Victoria. The level of detail provided within this report has been deliberately reduced in order to support the broad digestibility of the narrative and conclusions of this project.
- The methodology used to quantify the value of community sport and active recreation infrastructure that is summarised within this report has relied on currently available data and research, and where required these inputs and data points have been extrapolated across geographical locations, sports and facility types.
- It is acknowledged that there are a number of disbenefits associated with community sport and active recreation infrastructure and associated activity, including the incidence of injuries that occur through participation in sport, and the potential for sport and community sport infrastructure to facilitate anti-social behaviour such as the consumption of alcohol and junk food. These disbenefits have been considered as part of the development of the methodology for this study, however insufficient evidence and data was found to quantify these impacts.



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# The value of **community sport & active recreation** infrastructure in Victoria

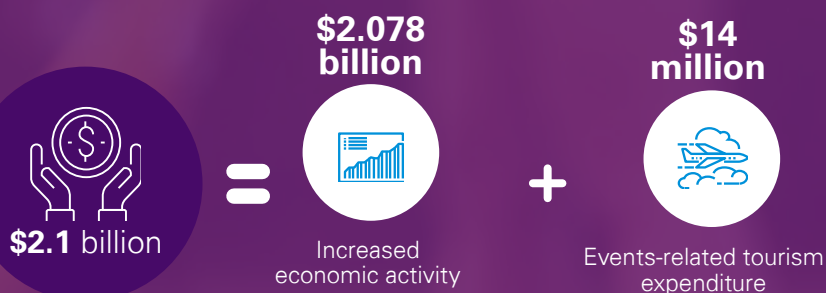


The **annual  
value** supported by  
community sport  
and active recreation  
infrastructure in  
Victoria is at least

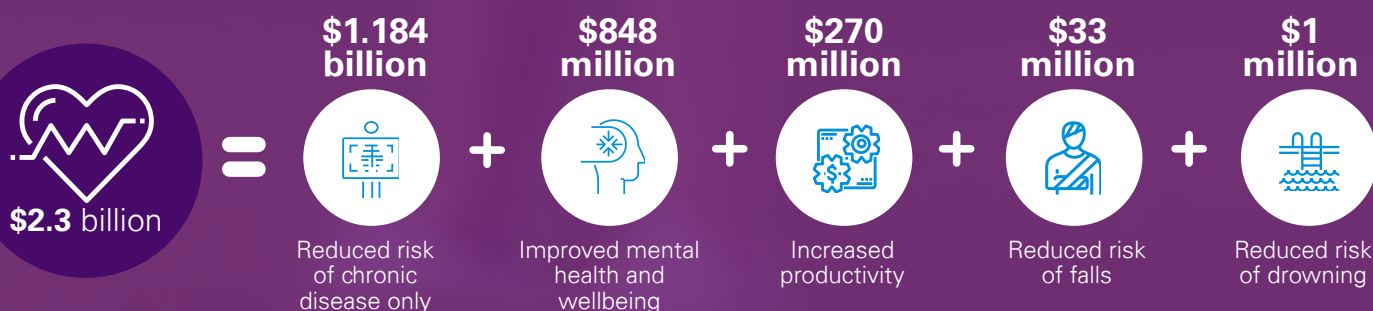
**\$7.04  
billion**



#### Economic benefits



#### Health benefits



#### Social benefits



## Qualitative benefits including:



Increased social connectedness, inclusion and networking



Increased levels of trust in others



Reduced anti-social behaviour



Community pride



Greater national and elite sporting outcomes



The creation of a community hub



# 01 Introduction

**KPMG has been engaged by Sport and Recreation Victoria to articulate the value that community sport and active recreation infrastructure adds to the state.**

This report looks at the economic, health and social benefits that accrue to individuals, communities and society more broadly. These benefits are generated through the construction and operation of these facilities and spaces and the activities that take place within them.

Collecting and articulating these benefits has the potential to broaden the discussion of investment into community sport and active recreation facilities to include a more holistic view of the value delivered to communities, and ensure decision makers are better informed when setting the most appropriate policy and investment and outcomes measurement frameworks.

With busy lives and long lists of competing priorities, people need support now more than ever to be physically active. A recent report funded by the World Health Organisation found that Australian teenagers are the sixth least active out of 146 countries with 89% not meeting current guidelines.<sup>1</sup>

Alongside declining levels of physical activity, our understanding of the risks and burdens this imposes on our health and wellbeing has grown, with physical inactivity contributing 2.5% to the total disease burden in Australia in 2015.<sup>2</sup>

1 Guthold, R et al. (2019). 'Global trends in insufficient physical activity among adolescents: a pooled analysis of 298 population-based surveys with 1.6 million participants'. The Lancet (published online).

2 Australian Institute of Health and Welfare. (2019). Australian Burden of Disease Study 2015: Interactive data on risk factor burden. Retrieved from <https://www.aihw.gov.au/reports/burden-of-disease/interactive-data-risk-factor-burden/contents/physical-inactivity>.





While the solution to Australia's inactivity epidemic will need to be multifaceted, investing in well-designed, accessible and safe infrastructure at a community level is an important piece of the puzzle. In 2018, KPMG prepared a report for Sport Australia which highlighted not only the role that community sport infrastructure plays in delivering and enabling physical activity, but the plethora of other health, social and economic benefits it can bring to individuals and communities.

Acknowledging that people are increasingly looking to active recreation to meet their physical activity needs, this report provides an assessment of the value of community sport and active recreation infrastructure in a Victorian context.

## What is community sport and active recreation infrastructure?

For the purposes of this report, we looked to capture the value created by any infrastructure maintained for the primary purpose of allowing and enabling the community to be active. For community sports facilities, the boundaries and parameters of what is in and out of scope are relatively clear cut.

Community sport infrastructure is considered to be any of the following that supports local, regional or state based sport or sporting activities:

1. Indoor sport and recreation facilities;
2. Indoor and outdoor aquatic facilities;
3. Outdoor sport and recreation facilities (including playing fields, ovals and courts);
4. Multi-use sporting hubs; and
5. Amenities and facilities associated with the above.<sup>3</sup>

For this report, active recreation has been defined as activities engaged in for the purpose of health, wellbeing or enjoyment with the primary activity requiring physical exertion, and the primary focus on human activity. Active recreation is, by nature, unstructured, often not taking place in buildings or designated spaces but still enabled by built environments and open space. It is here that the purpose for which these spaces and infrastructure are maintained becomes important. Spaces which are maintained primarily for physical activity would include public parks and playgrounds, skate parks and BMX tracks.

However, it would not include national or state parks or other spaces primarily maintained for conservation or other objectives. A separate piece of work commissioned by Parks Victoria and the Department of Environment, Land, Water and Planning has estimated the amenity value of parks in Melbourne and Greater Melbourne at between \$21 million and \$28 million with the value of tourism expenditure estimated at \$1.4 billion.<sup>4</sup>

## The benefits of community sport and active recreation infrastructure

The value of community sport and active recreation infrastructure captured in this report is the sum of economic, health and social benefits.



It is for ease of understanding and reporting that the benefits have been classified and divided in this way. However, there are a number of benefits which could fit in more than one benefits stream and consideration has been given to the primary drivers of each benefit in order to categorise them.

<sup>3</sup> This is the definition adopted by KPMG for the 2018 Value of Community Sport Infrastructure report prepared for Sport Australia.

<sup>4</sup> Parks Victoria. (2015). Valuing Victoria's Parks. Retrieved from <https://www.parks.vic.gov.au/about-us/valuing-victorias-parks>.

The value delivered and supported by community sport and active recreation infrastructure in Victoria has been estimated at **(at least) \$7.04 billion on an average annual basis** and is comprised of:



**\$2.1  
billion**

- Employment creation
- Increased economic activity
- Events-related tourism expenditure



**\$2.3  
billion**

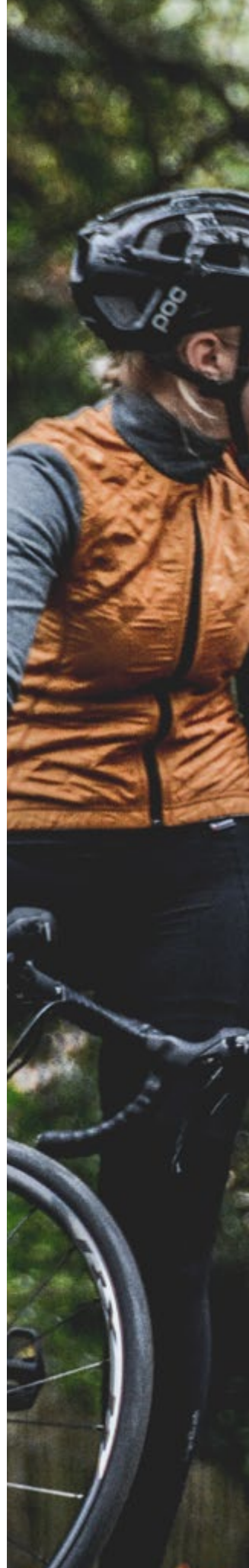
- Increased productivity
- Reduced risk of chronic diseases
- Improved mental health and wellbeing
- Reduced risk of falls
- Reduced risk of drowning



**\$2.6  
billion**

- Human capital uplift
- Increased social connectedness, inclusion and networking
- Increased levels of trust in others
- Reduced anti-social behaviour
- Volunteering benefits
- Community pride
- Greater national and elite sporting outcomes
- Urban renewal and increased public amenity
- The creation of a community hub

This number is conservative. As outlined above, while a number of impacts are only explored qualitatively within the assessment, they are material and have well understood links to community sport and active recreation. In addition, the methodology and approaches which underpin this assessment have been developed with a view that where there is uncertainty around the magnitude of certain measures, a conservative estimate is preferred. This does not mean that key considerations such as causality, independence and the robustness of evidence have been ignored but reflects difficulties in assessing the quantum of impacts.









## 02 Methodology

The methodology adopted to measure the value of community sport and active recreation infrastructure in Victoria is consistent with that used to develop the 2018 Sport Australia value assessment. That report was the first of its kind to attempt to quantify and document the benefits of sporting infrastructure at this level.

However, adjustments have been made to tailor the approach for the Victorian context and extend the scope of the value assessment to include active recreation.

Additionally, some minor changes in inputs have resulted from new research and data which has been made available since the finalisation of the 2018 report.

All dollar values in this report are presented in 2019 terms.





## The evidence base

While the many benefits generated by community sport and active recreation infrastructure may be obvious to those within the sector who see them firsthand, the maturity of the evidence base which could be used to support a value assessment varies significantly across the categories of benefit. For this reason, many of the benefits listed are not quantified and for those that are, conservative approaches have been taken.

Every effort was made to ensure that the benefits included in this report are underpinned by objective evidence. However, in some cases, anecdotal evidence and case studies were considered sufficient for inclusion. The development of this value assessment was informed by an extensive literature review, community consultation through a series of workshops with sport and active recreation service providers and a survey.

The literature review was broad based, looking at evidence from a variety of disciplines. A summary of the evidence which supports each of the benefits is provided in the body of this report while a full reference list is attached as an appendix.

It is important to note that many of the benefits outlined in this report are supported, rather than directly generated, by community sport and active recreation infrastructure. They are a result of the activities that take place in or on the infrastructure. The drivers of the benefits of community sport and active recreation infrastructure are explored further below.





## Identifying the benefits of community sport and active recreation infrastructure

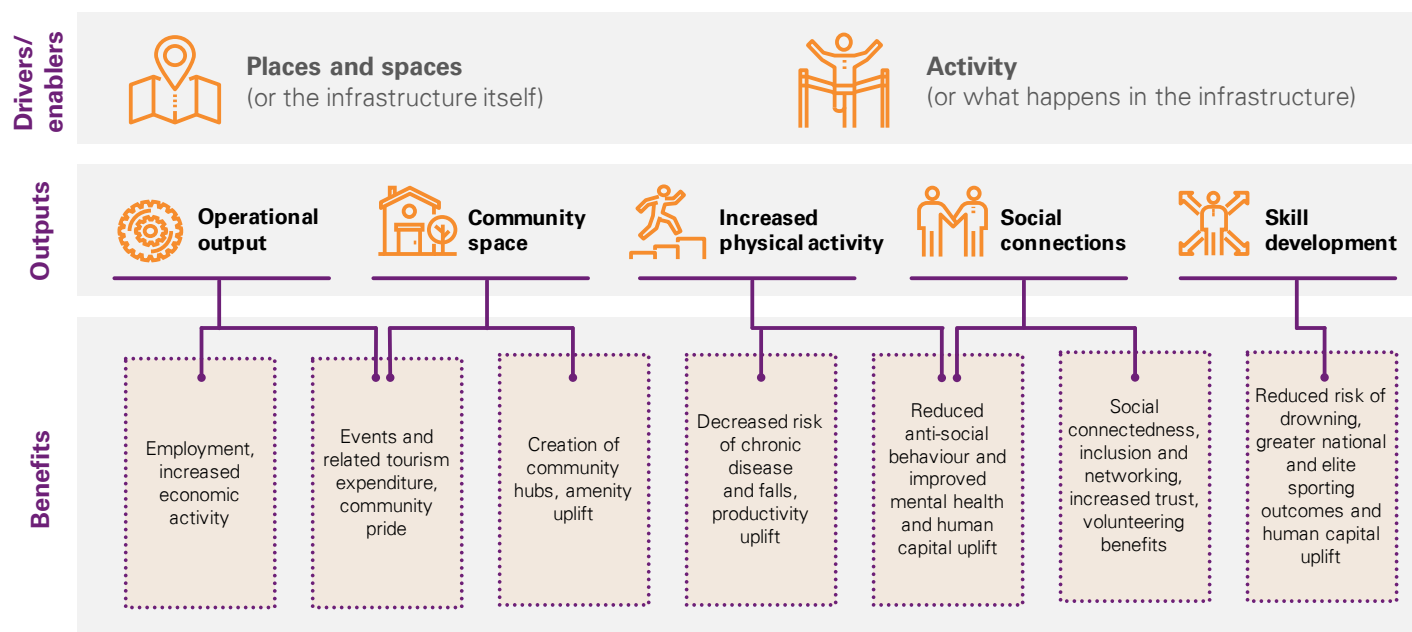
A four-stage process has been adopted to quantify the benefits of community sport and active recreation infrastructure.

1. Identifying the drivers or enablers: What are the key drivers of the value of community sport and active recreation infrastructure?
2. Identifying the outputs: What impact do these drivers make? How would the world be different if these drivers did not exist?
3. Identifying the benefits: What is the benefit of these outputs to society, communities or individuals?
4. Identifying the methodology for quantification: How can this benefit be measured (in monetary or non-monetary terms)?

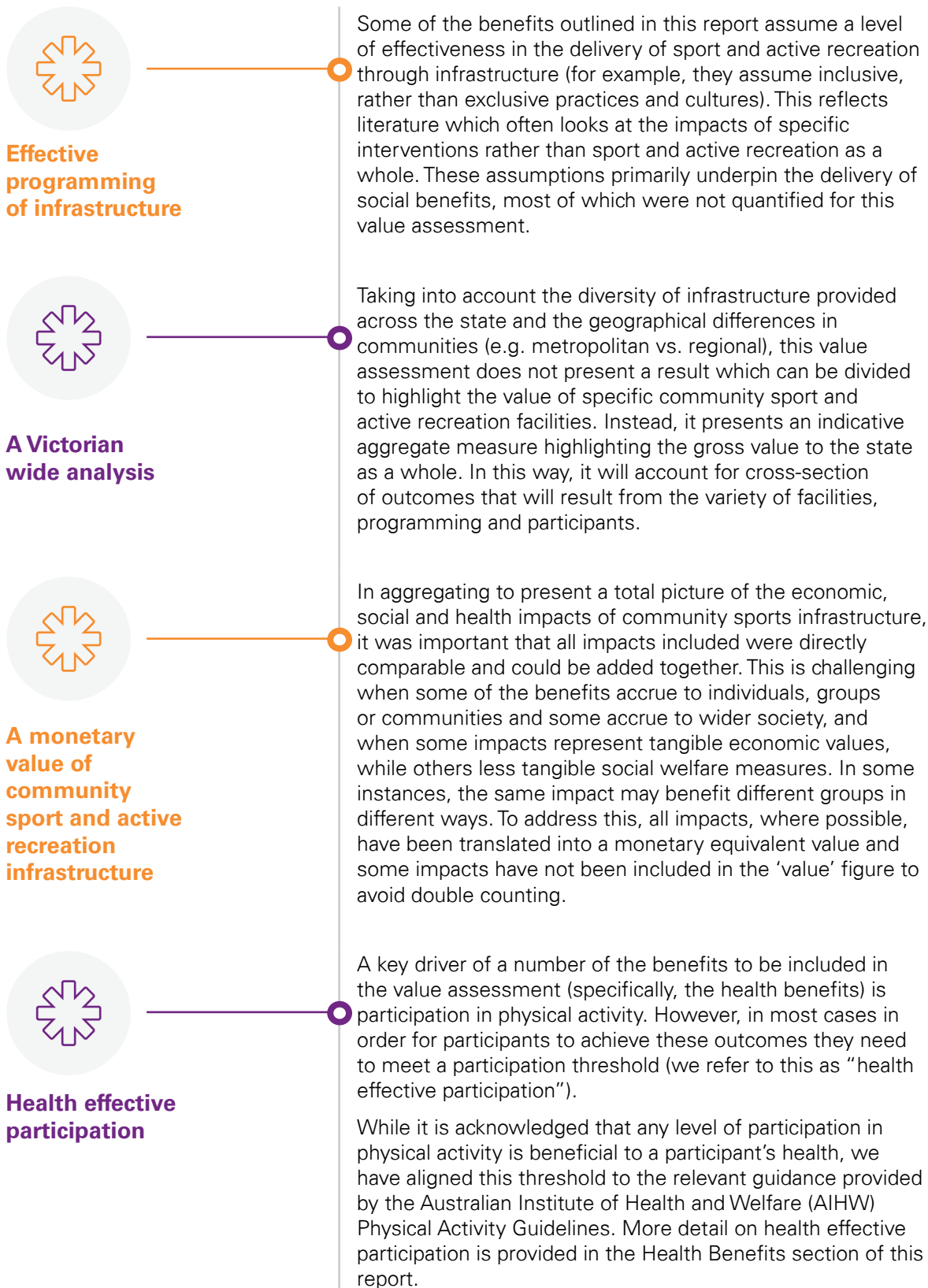
The relationship between the drivers, outputs and benefits of community sport and active recreation infrastructure is outlined in the diagram below.



## Community sport and active recreation infrastructure



## Key methodological assumptions



**Figure 1:** Key drivers of the benefits of community sport and active recreation infrastructure



# 03 Economic benefits

**The construction and operation of community sport and active recreation infrastructure makes a direct impact on Victoria's economy through a number of different channels.**

These facilities create employment and generate economic activity both through spend on and at the facilities and by attracting events (and therefore tourists) into Victoria.

The economic benefits supported by community sport and active recreation infrastructure in Victoria have been estimated at (at least) \$2.1 billion on an average annual basis.



\*Numbers may not add up due to rounding.

While an estimate of the number of jobs supported by the operation of community sport and active recreation facilities across the state is provided below, it should be noted that the economic value of these jobs is included within the broader estimate of the economic activity supported.

This section only looks at the direct economic benefits of the construction, operations or programming of community sports and active recreation infrastructure. The productivity increases that result from the improved health and wellbeing of physically active people and the value of the volunteer output that this infrastructure supports are explored in the Health and Social Benefits chapters respectively.

## Employment creation

It is estimated that 13,052 full-time equivalent positions are sustained through the delivery of sport and active recreation through community sports infrastructure operations, programming and events in Victoria<sup>5</sup>. By way of example, these jobs include roles such as groundskeeper, coach, physiotherapist or food and beverage attendant.

Many more jobs are created and supported by both the construction of these facilities and the ongoing repairs and maintenance. However, there are challenges associated with isolating the influence of these activities within the broader construction and building sector, and therefore they have not been separately identified. The economic contribution of these jobs is however included within the estimate of economic activity.

## Increased economic activity

The economic activity estimate presented in this report represents the value added (i.e. the total economic contribution of an industry or sector less the value of intermediate goods or the inputs used).

This can be thought of as the contribution to Gross State Product (GSP), and in simplistic terms represents the sum of wages, profits and net taxes resulting from the activity.

This has been estimated for two distinct sources of economic activity; that relating to the sport and active recreation programming and operations, and that relating to the construction and maintenance of sport and active recreation infrastructure.

<sup>5</sup> This employment estimate is based on KPMG analysis of ABS 5209.0.55.001 - Australian National Accounts



KPMG has developed these estimates by analysing the Australian National Accounts data to isolate the Victorian<sup>6</sup> component of the Sport and Recreation Industry (IOIG 9101) that relates to community sport and active recreation infrastructure<sup>7</sup>.

**The direct economic activity generated by the operation, construction and maintenance of community sport and active recreation infrastructure in Victoria has been estimated at \$2.1 billion annually.**

## Events-related tourism expenditure

The variety, quality and size of community sports infrastructure available in Victoria has meant that the state regularly attracts a number of nationally significant events, both sporting and non-sporting. Each of these events draws people from around the country (participants, coaches, families and spectators) who spend money in local Victorian economies.

Of specific relevance to this study, Victoria commonly hosts national level championships for a number of sports within community sports infrastructure, which involve teams from across the country travelling to Victoria (see basketball case study as an example). While Victoria also hosts a number of larger scale sporting events at major venues, these have not been included in the analysis as they are not community level events.

The value of this community level events-related tourism expenditure is estimated at (at least) \$14.1 million on an average annual basis.

This value was estimated by approximating the following:

- The number of such events held in Victorian community facilities in a year using data supplied to SRV or that is publicly available;
- The number of attendees and spectators an average event attracts, using a combination of benchmarks and primary source data;
- The average length of stay of interstate visitors for these events, again using a combination of benchmarks and primary source data; and
- Average spend, using benchmark information supported by Tourism Research Australia average overnight expenditure data.<sup>8</sup>

It should be noted that this value only captures the value add benefits of events-related tourism expenditure associated with attendees and spectators from outside of Victoria.

<sup>6</sup> Victorian share of economic data isolated using income-weighted state employment shares for the Sport and Recreation industry developed from 2016 Census data.

<sup>7</sup> To align with the definition of sport and active recreation infrastructure, we have attributed only the component of IOIG 9101 that relates to the AZSIC classes 9111, 9112 and 9113. This attribution has been undertaken using income-weighted employment shares developed from 2016 Census data.

<sup>8</sup> Domestic Overnight Visitor Expenditure Data sourced through Business Victoria's analysis of Tourism Research Australia National Visitor Survey data



### CASE STUDY:

#### The 2016 Australian U16 Junior Basketball Championships hosted in Kilsyth

In 2016, this national basketball championship was held at the Kilsyth Sports Centre. Teams from every state and territory in Australia as well as two New Zealand based teams attended. The Victoria Metro teams won both the Men's and Women's title and the event attracted 11,600 people into the region. It is estimated that the total economic impact of this event on the local and surrounding community exceeded \$ 1.2 million in 2016 terms. The event was able to showcase the quality of Victorian basketball facilities. The Kilsyth Sports Centre, which was redeveloped just under a decade ago and has a combination of football, cricket, netball, badminton, basketball and table tennis facilities (with six multi-purpose indoor courts) went on to host the U14 Australian Club Championships two years later.



## 04 Health benefits

The health benefits of community sport and active recreation infrastructure are **driven by the physical activity this infrastructure supports.**

While many of the health benefits of being physically active are well documented and understood (including the benefits estimated in this report) the literature testing the impacts that physical activity has on physical and mental wellbeing grows daily and it is safe to assume that there are many more benefits that are not included here. Over time, additional benefits could be included in this type of analysis as the evidence base matures.





## Health effective participation

As introduced in the Methodology section of this report, most of these benefits rely on what we have called “health effective participation,” a minimum physical activity threshold which in an Australian context has been set in guidelines provided by the Commonwealth Department of Health, which are outlined below (for adults).<sup>9</sup>

The Guidelines recommend that people undertake the following:

**150 to 300 minutes**  
of moderate intensity  
physical activity per week; or

**75 to 150 minutes**  
of vigorous intensity  
physical activity per week; or

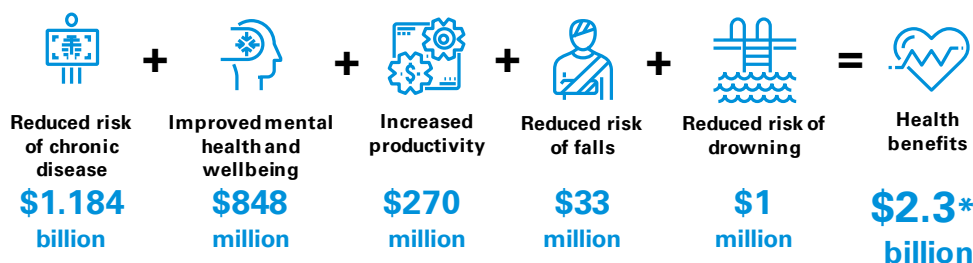
An equivalent  
combination of the two.

In many cases, information about participants’ exact levels of physical activity is not available. For this reason, KPMG has modelled health benefits based on profiles of participation levels from a combination of national and state averages and information about the activities participants have engaged in.

This value captures:

- The improved standard of living that individuals experience from either a reduction in the symptoms of a health condition or from not developing that condition at all estimated by approximating the number of disability adjusted life years (DALYs) avoided. One DALY can be thought of as the equivalent of a lost year of healthy life. The DALYs have been given a monetary value using the value of a statistical life year provided by the Commonwealth Department of Prime Minister and Cabinet, as per best practice guidance.<sup>10</sup>
- The savings generated across the health system by fewer people having and being treated for the health conditions included, measured using the Australian average health system costs of these health conditions.
- The value generated by increased levels of productivity that are driven by a healthier, physically active workforce.

The health benefits supported by community sport and active recreation infrastructure have been estimated at (at least) \$2.3 billion on an average annual basis.



\*Numbers may not add up due to rounding.

9 Department of Health. (2019). Australia’s Physical Activity and Sedentary Behaviour Guidelines and the Australian 24-Hour Movement Guidelines. Retrieved from <https://www1.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-phys-act-guidelines#npa1864>.

10 See Department of Prime Minister and Cabinet Best Practice Regulation Guidance Note from December 2014, available at [https://www.pmc.gov.au/sites/default/files/publications/Value\\_of\\_Statistical\\_Life\\_guidanc76e\\_note.pdf](https://www.pmc.gov.au/sites/default/files/publications/Value_of_Statistical_Life_guidanc76e_note.pdf).

## Increased productivity

By being physically active, individuals are mentally and physically healthier and have enhanced cognitive performance and as a result, are more productive. This increased productivity is delivered through a number of mechanisms, including a lower number of sick days, better health while at work and increases in personal skills and ability.

While there are a number of studies which have examined the relationship between physical activity and productivity and have shown that physically active employees tend to have greater sense of wellbeing and a better mood, reduced risk of burnout and a higher level of output,<sup>11</sup> little work has been done to quantify this relationship. Much of the existing literature on the value of physical activity in increasing productivity is underpinned by KPMG-Econtech's 2008 report 'The cost of physical inactivity' prepared for Medibank Private which looks at the relationship between productivity loss and illness/ailments, and then the relationship between physical inactivity and increased risks of developing those illnesses and other health conditions. It estimates the impact of absenteeism – where employees do not come to work due to illness – and presenteeism – where employees come to work but are not performing at their best due to illness or other conditions at a loss of 1.8 working days per worker per year.<sup>12</sup>

Building on the work of the KPMG-Econtech report, the value of increased productivity (i.e. reduced absenteeism and presenteeism) associated with physical activity supported by community sport and active recreation infrastructure is (at least) \$270 million on an average annual basis.



## Reduced risk of chronic disease

There is strong evidence supporting the link between physical activity and a reduced risk of developing a number of chronic diseases including:

- Cardiovascular disease;<sup>13</sup>
- Breast cancer;<sup>14</sup>
- Bowel cancer;<sup>15</sup>
- Type II diabetes;<sup>16</sup> and
- Dementia.<sup>17</sup>

These risk reductions are significant with literature suggesting they range from around 20% for breast cancer and dementia to 30% for bowel cancer. The annual average health benefit for individuals associated with this reduced risk due to physical activity supported by community sport and active recreation infrastructure has been estimated at \$909 million while the health system savings have been estimated at \$275 million.

## Improved mental health and wellbeing

Strong links have been shown between being physically active and lower rates of depression, anxiety and other mental illness as well as an improved sense of wellbeing. Physical activity can act both to prevent the development of the symptoms of these conditions<sup>18</sup> and as a treatment.<sup>19</sup> While the social relationships, diversion from boredom and improved self-esteem and confidence which can come from being physically active are important drivers of this relationship, physical activity can also cause the release of chemicals in the brain which improve mood.<sup>20</sup>

11 See Brown et al. (2012); Schwarz & Hasson (2011); Jans et al. (2007) and McKenna et al. (2008).

12 Medibank Private. (2008). The cost of physical inactivity. Retrieved from [http://www.medibank.com.au/client/documents/pdfs/the\\_cost\\_of\\_physical\\_inactivity\\_08.pdf](http://www.medibank.com.au/client/documents/pdfs/the_cost_of_physical_inactivity_08.pdf).

13 See AIHW (2019) and Oakley (1999).

14 See AIHW (2015) and Brenner (2014).

15 See Ballard-Barbash et al. (1990).

16 See Al Tunajji et al. (2014) and Greg et al. (2003).

17 See Mandolesi (2018); Wu (2008) and Blondell et al. (2014).

18 See Choi et al. (2019); Sibold et al. (2015); Willis (2018) and Brown et al. (2012).

19 See Craft & Perna (2003); Kremer et al. (2014) and Dunn et al. (2005).

20 Peluso, M. et al. (2005). 'Physical activity and mental health: the association between exercise and mood'. Clinics, 60(1): 61-70.



### Example evidence: exercise lowers individuals' mental health burdens

Chekroud's 2018 cross-sectional study, which looked at the relationship between exercise and mental health in 1.2 million Americans, concluded that all types of exercise were associated with a lower mental health burden, with those who had already been diagnosed with depression having a 34.5% lower burden if active than those who were not active. The study found that physical activity was more significant in reducing mental health burdens than a person's level of education, obesity or household income.

To ensure the mental health benefits are not double counted, only the treatment impact of physical activity supported by community sport and active recreation infrastructure has been estimated in this report. Due to their prevalence in the literature, only the impacts of treating anxiety and depression-related disorders have been captured.

The annual average personal health benefit of the alleviation of symptoms associated with anxiety and depression has been estimated at \$764 million while the health system savings have been estimated at \$85 million.

## Reduced risk of falls

There is a growing body of literature which demonstrates a relationship between being physically active and a reduced risk of falling, particularly in elderly participants for which falls often have serious long-term consequences. Participation in physical activity allows older persons to increase their physical fitness, muscle strength and bone density and improve their balance, all of which can reduce their risk of falling significantly. This reduction in risk is significant with studies suggesting the risk reduction is in the order of between 20-40%.<sup>21</sup> The literature suggests that exercise which specifically targets balance is most effective.<sup>22</sup>

For the purposes of this report, a midway point of a 30% risk reduction factor has been assumed to ensure the estimate is conservative. Using this risk reduction factor, the annual average personal health benefit of the reduction in the risk of falls associated with physical activity supported by community sport and active recreation infrastructure has been estimated at \$18 million while the health system savings have been estimated at \$14 million.

## Reduced risk of drowning

Between July 2018 and June 2019, 276 people drowned in Australian waterways (a 10% increase on the previous year), while there were a further 584 non-fatal drowning incidents during the same period.<sup>23</sup>

While the body of literature is not highly developed, there is evidence to suggest that swimming lessons and swim safety programs (like VICSWIM) can significantly reduce the risk of drowning. A study in the United States estimated that childhood swimming lessons reduced the risk of drowning by as much as 88%.<sup>24</sup> Further research shows that there is undoubtedly a relationship between swimming education and a reduction in risk, although the size of this relationship may be dependent on a number of factors, including the design of the lessons and several environmental or contextual factors<sup>25</sup>. These programs, often hosted in community pools and aquatic and leisure centres, are vital in helping prevent water deaths.

For the sake of methodological robustness, only the impact of avoided drowning deaths has been captured in this report. This impact has been calculated using the DALY approach outlined earlier. It is estimated that the benefit that the reduced risk of drowning deaths has on individuals is **\$1 million** on an average annual basis.

<sup>21</sup> See Sherrington et al and Rose 2016

<sup>22</sup> Sherrington et al and Thibaud

<sup>23</sup> Royal Life Saving Society Australia. (2019). *Royal Life Saving National Drowning Report 2019*. Sydney: Royal Life Saving Society. Retrieved from [https://www.royallifesaving.com.au/\\_data/assets/pdf\\_file/0003/25833/rlssa-ndr-2019-digital.pdf](https://www.royallifesaving.com.au/_data/assets/pdf_file/0003/25833/rlssa-ndr-2019-digital.pdf).

<sup>24</sup> Brenner, R. Tangeja, G. Haynie, D. Trumble, Ann. Qian, C. Klinger, R. Klebanoff. M. (2009). Association Between Swimming Lessons and Drowning in Childhood: A Case-Control Study. *Archives of Pediatrics & Adolescent Medicine*, 163(3), 201-210.

<sup>25</sup> Oliveria, L., Aranha, A., Resende, R., Cardoso, E., Pimenta, N & Garrido, N. 2013. 'Can we test swimming lessons skills in drowning prevention'. *British Journal of Sports Medicine* 47(3), 7.

# 05 Social benefits

The social benefits of community sport and active recreation infrastructure can be driven by two factors. The first of these is the social connections that this infrastructure creates through events, programs and activities. The second is the role that infrastructure plays in communities in which it is located.

The social benefits supported by community sport and active recreation infrastructure have been estimated at (at least) \$2.6 billion on an average annual basis.

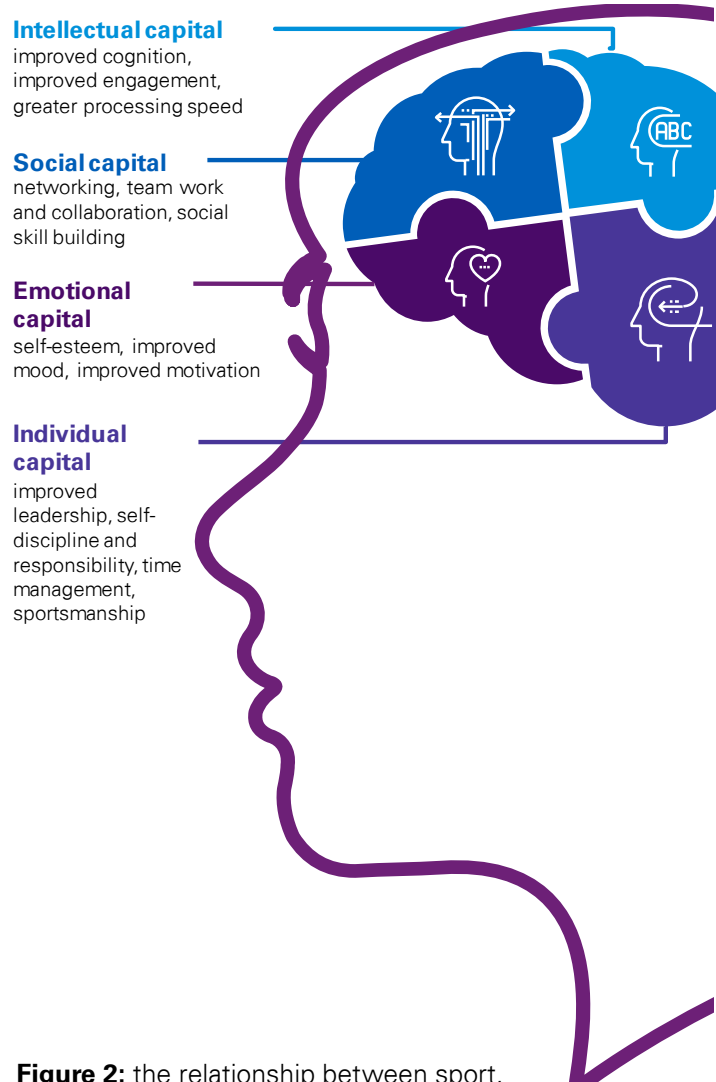


\*Numbers may not add up due to rounding.

However, this value is highly conservative as the lack of maturity of the literature which explores a number of the social benefits examined in this report means that they have only been included qualitatively.

## Human capital uplift

Human capital is the skills, knowledge and experience each person accumulates which determines their ability to perform the tasks asked of them, whether for work, school or more broadly. Participation in sport and physical activity contributes to the development of human capital in a multitude of ways. The relationships between these channels and the different aspects of human capital they contribute to are complex. The diagram below aims to simplify these concepts.



**Figure 2:** the relationship between sport, physical activity and human capital.<sup>26</sup>

<sup>26</sup> This diagram has been modified from a diagram included in an article by Bailey et al. in 2013 titled "Physical Activity: An Underestimated Investment in Human Capital?" (full reference provided in the reference list).



A review of literature revealed evidence of this human capital uplift translating into both higher educational outcomes and improved employment outcomes. A summary of evidence relating to these outcomes is provided below.

Given the complexities outlined above, any quantification of this human capital uplift is incomplete. However, in order to capture at least some of this value, increased lifetime earnings have been used as a proxy.

### Improved educational outcomes

The impact of physical activity and sport has been investigated across a range of education outcomes, from exam results to university entrance scores, retention and educational aspirations in students. Many of the studies relating to the impacts of physical activity on educational outcomes examine the role of exercise interventions during class time with numerous studies showing that reducing academic learning time in favour of increased physical activity has no negative impact on outcomes and may even improve results.<sup>27</sup>

It does this through a number of mechanisms including improving on-task behaviour, improving cognition and neural function, increasing the level of engagement in learning and encouraging young people to stay in school for longer, improving relationships between teachers and students and improving confidence.<sup>28</sup>

### Improved employment outcomes

There are a number of studies which suggest that participation in sport or physical activity has a bearing on employability and success within employment.



#### Example evidence: putting sport on your resume can improve your callback rates and earning potential <sup>29</sup>

One study which sent fictitious applications to real jobs in the Swedish labour market found that applications which signalled the applicant had played sport had a 2% higher callback rate (for men) than those without, controlling for other factors. This is equivalent to 1.5 additional years of work experience. Similarly, the same study uncovered a 'fitness premium' by linking adult earnings to physical fitness at age 18, showing an increase of 4-5% with fitness levels which closely corresponds to the author's estimate of the return of one additional year of schooling (around 5%).

Other studies have shown similar results with sport being linked to higher incomes and increasing the probability of being in full-time employment.<sup>30</sup>

When trying to understand the reasons for these results, a number of factors suggest themselves. One of these is that participants benefit from employers' expectations that participation in sport means that a candidate will have certain skills which make them more desirable employees. However, it is also likely that participation in sport helps people develop skills which help them in employment (including teamwork skills and life skills).<sup>31</sup>

Another possibility is that the social networks developed through sport generate additional employment opportunities and chances for advancement.<sup>32</sup>

<sup>27</sup> Ibid.

<sup>28</sup> See Watson (2017); Kohl & Cook (2013); Sandford et al. (2008) and Rosewater (2009).

<sup>29</sup> Rooth, D. (2010). *Work Out or Out of Work: The Labor Market Return to Physical Fitness and Leisure Sport Activities*. Bonn: Institute for the Study of Labor; Discussion Paper No. 4684.

<sup>30</sup> See Allen et al. (2013) and Lechner (2009).

<sup>31</sup> See Ress and Sabia (2010); Papacharisis & Goudas (2007) and Gould et al. (2012).

<sup>32</sup> Jackson, M.O. (2011). An Overview of Social Networks and Economic Application, In *Handbook of Social Economics*, edited by J. Benhabib, A. Bisin, and M. O.Son, 511–585. Amsterdam: Elsevier.

### Example evidence: the Value of a Community Football Club<sup>33</sup>

A 2015 evaluation of the Value of a Community Football Club prepared for the AFL by La Trobe University found that clubs provide individuals (particularly those aged 15 to 24 years) with significantly increased chances of securing employment through social networks created.

The value of the human capital uplift supported by community sport and active recreation infrastructure in Victoria has been estimated at (at least) \$1.4 billion on an average annual basis.



## Volunteering benefit

The value of volunteer time can be considered an economic output. Volunteers at community sport and active recreation facilities contribute to the size and growth of the overall economy through the work that they do. They are also vital in the delivery of community sport and active recreation activities, as administrators, managers, coaches, officials or organisers. The General Social Survey showed that volunteers giving their time to sport and physical recreation organisations in Victoria donated 47.4 million hours of time in the year in which the survey was taken. This was more than the number of hours given to any other category of organisation except for religious.<sup>34</sup> SRV estimates that there are over 580,000 people volunteering in sport and recreation in the state.<sup>35</sup>

However, while volunteers give this time at no financial cost, there is an opportunity cost to volunteers themselves (that is to say, they could direct this time towards other activities). For this reason, an estimate of the dollar value of this time is a proxy for an estimate of the benefit that volunteers derive from this time. For this report, the current Australian minimum adult wage<sup>36</sup> has been used as this proxy, representing a conservative estimate of the income that volunteers could be earning if they spent their time working in paid employment instead.

The value of volunteer time associated with sport and active recreation in Victoria has been estimated at (at least) \$596 million on an average annual basis.

<sup>33</sup> La Trobe University. (2015). Value of a Community Football Club. Melbourne, Australia: AFL Victoria. Retrieved from <https://www.aflvic.com.au/wp-content/uploads/2015/02/Latrobe-Value-of-a-Community-Football-Club-Final-PDF.pdf>.

<sup>34</sup> Australian Bureau of Statistics. (2014). *General Social Survey, Summary Results*. Retrieved from <https://www.abs.gov.au/ausstats/abs@.nsf/mf/4159.0>.

<sup>35</sup> Sport and Recreation Victoria. (2017). *Volunteering in Sport*. Retrieved from <https://sport.vic.gov.au/our-work/industry-development/workforce-development/volunteering-sport>.

<sup>36</sup> A casual loading rate of 25% was added to the current minimum wage to represent the minimum that an Australian adult would be paid for an hour of casual work.



## Increased social connectedness, inclusion and networking

Community sport has been shown to create what is called bridging social capital between different communities. In other words, it can facilitate connection building between parts of the community which might not otherwise have any reason to interact.

For example, by facilitating participation in sport for young people with a disability, through accessible infrastructure and programming, community sport and active recreation infrastructure can assist in improving peer-to-peer integration and the development of social skills.<sup>37</sup> Community sport may improve engagement across people from different levels of society and different cultural backgrounds and help to overcome language barriers.<sup>38</sup> More generally, there are strong links between participation in sport and a reduction in loneliness for individuals.<sup>39</sup>



### Case study: Lagunta Sisters, the Korin Gamadji Institute netball program

Netball Connect is a resource provided by Netball Australia for netball associations and clubs. The resource helps them in providing netball opportunities all with specific focusses on culturally and linguistically diverse inclusion, Indigenous inclusion and inclusion of those with diverse abilities. In the Victorian context, under the umbrella of 'Netball For All', Netball Victoria has a number of programs and partnerships to improve accessibility to netball and provide opportunities for those from diverse backgrounds to play together.

One example of this is the Lagunta Sisters, a team of Indigenous netball players who represent the Korin Gamadji Institute at Richmond Football Club. The Lagunta Sisters program is open to Aboriginal and Torres Strait Islander females between the ages of 13 and 17. The team members play in the State Koorie Football Carnival, participate in day clinics which build netball and fitness skills and are involved in cultural and leadership sessions which provide an opportunity for female mentorship<sup>40</sup>. The program has been identified and supported by Netball Victoria as important for closing the gap between Indigenous and non-Indigenous Australians within the sport.<sup>41</sup>



37 See McConkey et al. (2012); Taub & Greer (2000) and Kristen et al. (2003).

38 See Elmoose-Osterlund, K & van der Roest, J. (2017); Tonts (2005) and Oliver (2014).

39 See Yousefi & Hasani (2012) and Pels & Kleinert (2016).

40 The Korin Gamadji Institute. (2019). Lagunta Sisters Netball Program. Retrieved from <https://www.kgi.org.au/lagunta-sisters-netball-program/>.

41 Netball Victoria. (2019). Indigenous Netball. Retrieved from <https://vic.netball.com.au/indigenous-netball/>.

It should be noted, however, that the effectiveness of community sport in delivering these outcomes is highly dependent on the design of the programming and the culture of teams, clubs and groups. Given a lack of mechanisms to measure this impact, the value of increased social connectedness, inclusion and networking has not been quantified for this value assessment.

## Increased levels of trust in others

The social connectedness and inclusion which community sport promotes, as well as the team dynamics that many sports facilitate, have suggested that community sport may be responsible for the strengthening of generalised trust (i.e. trust in strangers). Generalised trust is vital for the functioning of society and higher levels of trust have been shown to support higher levels of civic participation and stronger citizen networks.<sup>42</sup>

Trust is difficult to measure and attempts to measure a correlation between levels of generalised trust and participation in sport have met challenges. However, a study by Brown, Hoyer and Nicholson (2014) was able to show a positive association between generalised trust scores and membership in community sports organisations.<sup>43</sup> The value of increased levels of trust in others has not been quantified for this value assessment.

## Community pride

The role of community sport and active recreation infrastructure in fostering a heightened sense of community pride is based on the premise that hosting sporting events and developing new infrastructure or programs engenders feelings of pride amongst individuals in communities in which these events are held (or these facilities are built). This relationship is fairly well accepted amongst policy makers and the sport and recreation sector. While there has not been, to date, any successful attempts at quantification, there is evidence that the relationship between community pride and sporting events is positive.<sup>44</sup> However, given the lack of tools for measuring this impact, the value of an uplift in community pride has not been quantified for this value assessment.

## Greater national and elite sporting outcomes

Community sport and active recreation are key building blocks in the development of Victoria's (and Australia's) high performance and professional athletes and as such, so is the infrastructure which enables sport and recreation to take place. Evidence about the impact that professional and high performance sport has at a society-wide level is mixed. However, a 2013 study published in *Sport Management Review* found that hosting major international sporting events has a positive impact on subjective well-being.<sup>45</sup> More broadly, Boston Consulting Group's 2017 report *Intergenerational Review of Australian Sport* argued that sport helps build 'Brand Australia' by building Australia's international profile and reach.



<sup>42</sup> See Putnam (1995; 200); LaPorta et al (1998) and Rothstein & Uslaner (2005).

<sup>43</sup> Brown, K., Hoyer, R. & Nicholson, M. (2014). Sport involvement and generalized trust. *Journal of Sociology*, 50(4), 437-457.

<sup>44</sup> Kim, W., Jun, H.M., Walker, M. & Drane, D. (2015). Evaluating the perceived social impacts of hosting large-scale sport tourism events: Scale development and validation. *Tourism Management*, 48, 21-32.

<sup>45</sup> Pawlowski, T., Downard, P & Rasciute, S. (2014). Does national pride from international sporting success contribute to well-being?. *Sport Management Review*, 17, 121-132.



## Reduced crime and antisocial behaviour

As acknowledged by the Australian Institute of Criminology in its 2003 report *Sport, Physical Activity and Antisocial behaviour in youth*, sport and physical activity interventions can be highly effective in preventing or reducing crime and other anti-social behaviours (such as substance use, homelessness, unemployment, mental health, truancy and early school leaving).<sup>46</sup>

The literature suggests a number of channels through which sport and physical activity are effective in reducing criminal and anti-social behaviour, both directly and indirectly.<sup>47</sup> Most of these are a result of the social connections created which improve self-esteem and emotional skills, increase positive peer associations and facilitate good communication between family members. However, sport further acts to decrease the amount of unsupervised leisure time (and therefore the time available to take part in anti-social behaviour), reduce boredom and improve cognition.

Of particular benefit to youth, sport plays a role not only in preventing individuals from committing their first crime, but also past criminals from additional offences.

Substance abuse is another channel through which sport and physical activity can impact antisocial behaviour. While the literature is still relatively immature, researchers have hypothesised and found early evidence to support that physical activity works through a number of channels to treat substance abuse disorder. These include reducing cravings, improving mood and reducing anxiety, depression and stress (which may act as triggers for substance abuse), stimulating pleasure responses in the brain which could replace the responses the brain is seeking from the substances and improve self-discipline.<sup>48</sup>



### Case study: Black Rhinos Basketball program

The Black Rhinos Basketball program is a community crime prevention program in the City of Greater Dandenong. The program provides holistic resettlement and reintegration case management support to young African Australians who are at risk of offending or reoffending.

It is underpinned by the Positive Change Model and the African philosophy of Ubuntu, which is an understanding that humanity of the self is promoted through the humanity of others and is often described by the maxim “I am, because we are; and since we are, therefore I am”.<sup>49</sup>

The program has grown from 15 to approximately 60 participants and is committed to using basketball as the conduit to increasing social connectivity and wellbeing outcomes for at-risk African youth. By using basketball as a diversion technique, the program steers its participants away from criminal activities into an environment that is safe, inclusive and supportive.

46 Australian Institute of Criminology. (2003). *Sport, physical activity and antisocial behaviour in youth*. Trends & issues in criminal justice no. 249. Canberra: AIC.

47 Sport England. (2017). *Crime Reduction and Community Safety*. London: Sport England. Retrieved from <https://www.sportengland.org/research/benefits-of-sport/the-value-of-sport-monitor/crime-reduction-and-community-safety/>.

48 See Zschucke (2011) and (Thompson, 2018).

49 Luka, S. & Onsando, G. (2019). *The Black Rhinos Basketball Program: An Innovative Approach for Reintegrating Young African Australians Using the Concept of Ubuntu and Positive Change Model*. ANZSOC 2019 Conference.



## Urban renewal and increased public amenity

Investment in the redevelopment or construction of new sport and active recreation infrastructure can improve amenity, transforming underutilised sites and improving safety. There are a number of academic studies that highlight the association between improvements in the public realm and greater social outcomes. A number of studies have demonstrated the positive and important impacts of urban renewal and development on the overall wellbeing of participant residents.<sup>50</sup>

More specifically, open, public green spaces are a vital piece of the infrastructure ecosystem which supports active recreation, particularly in urban environments. However, as important as green space is for recreation, people's use of these spaces to be physically active reinforces their significance in urban landscapes and helps to ensure these spaces are preserved.

The many benefits of green space – from using it, being near it or simply having it – have been explored fairly extensively. Evidence suggests that having access to green space may have mental health and wellbeing benefits, including stress reduction, improved spiritual wellbeing and coping with life events, regardless of what the space is used for.<sup>51</sup> It may also create social cohesion by encouraging social participation.<sup>52</sup>

Acknowledging that studies of the benefits of green space are more developed than infrastructure more broadly, the value of green space in Victoria's urban environments has been estimated using a 2013 study which looked at the impact green space has on the life satisfaction of residents in Australia's capital cities. The authors were able to calculate an implicit willingness-to-pay metric for public green space at \$1,168 in annual household income for a 1% increase in public green space using a combination of self-reported life satisfaction and Household, Income and Labour Dynamics survey information.<sup>53</sup>

This value was applied to a highly conservative estimate of the quantum of public green space in metropolitan Victoria to generate an estimated green space value of at least \$579 million on an average annual basis.

<sup>50</sup> Mehdipanah et al. (2014) and Krefis et al. (2018).

<sup>51</sup> Townsend, M., Henderson-Wilson, C., Warner, E. & Weiss, L. (2015). *Healthy Parks Healthy People: the state of the evidence 2015*. Geelong: Deakin University.

<sup>52</sup> Ibid.

<sup>53</sup> Ambrey, C & Fleming, C. (2012). *Public greenspace and life satisfaction in urban Australia*. Donvale: Australian Agricultural & Resource Economics Society. Retrieved from <https://ageconsearch.umn.edu/bitstream/124302/2/2012AC%20Fleming%20CPdf>.



## The creation of community hubs

While these facilities may be built primarily for sport and active recreation, infrastructure is often used for a variety of purposes by entire communities. These uses include a place to host meetings and events and where local governments can run community safety programs and health clinics. Community sports facilities can also act as assembly points during natural disasters and as a central point for the provision of services. There are many examples where community sport and active recreation infrastructure has been used for an entirely non-sporting purpose. One of these is outlined below.



### Case study: Norm Minns Oval

The Norm Minns Oval is a football and cricket ground located in the Victorian country town of Wangaratta. The venue has played host to a number of pre-season AFL and first-class cricket matches. The venue also has a bicycle track, and floodlighting suitable for night matches. In addition to hosting sporting events, the Norm Minns Oval is also used for a range of community and entertainment activities. Notably, the Wangaratta Show is held annually at the venue which offers a range of activities in entertainment, agriculture and horticulture to 8,000 local and interstate visitors.



# Conclusion

This report, building on the work commissioned by Sport Australia, demonstrates the importance that community sport and active recreation infrastructure holds not only for those who use it but for communities and for society as a whole.

**The economic, social and health value supported by community sport and active recreation infrastructure in Victoria is at least \$7.04 billion.** As outlined, this value captures only a proportion of the benefits that the infrastructure supports.

This work makes the case that community sport and active recreation infrastructure can be used as a mechanism to deliver outcomes that extend into almost all facets of Victorian life, making people happier, healthier and more productive, improving social cohesion and contributing directly and indirectly to a stronger economy.

There is a significant benefit that can be realised through investment in community sport and active recreation infrastructure. Moreover, there are opportunities to further explore a number of these benefits, such as improved social capital, reduced crime and anti-social behaviour and greater national and elite sporting outcomes, which cannot currently be measured.





# Appendix



## Appendix | Reference List

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