



Brisbane 2032 Olympic and Paralympic Games

**Preliminary economic, social
and environmental analysis**

SUMMARY REPORT

Department of Tourism, Innovation and Sport

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kpmg.com.au

Preliminary economic, social and environmental analysis of a potential 2032 Olympic and Paralympic Games - Key findings

This Summary Report provides a high-level analysis of the potential economic, social and environmental impacts of hosting a 2032 Games in Queensland. The analysis considers impacts over a 20 year time period including the 10 years leading up to the Games, the Games event, and the 10 years post the Games (i.e. 2022 to 2042).

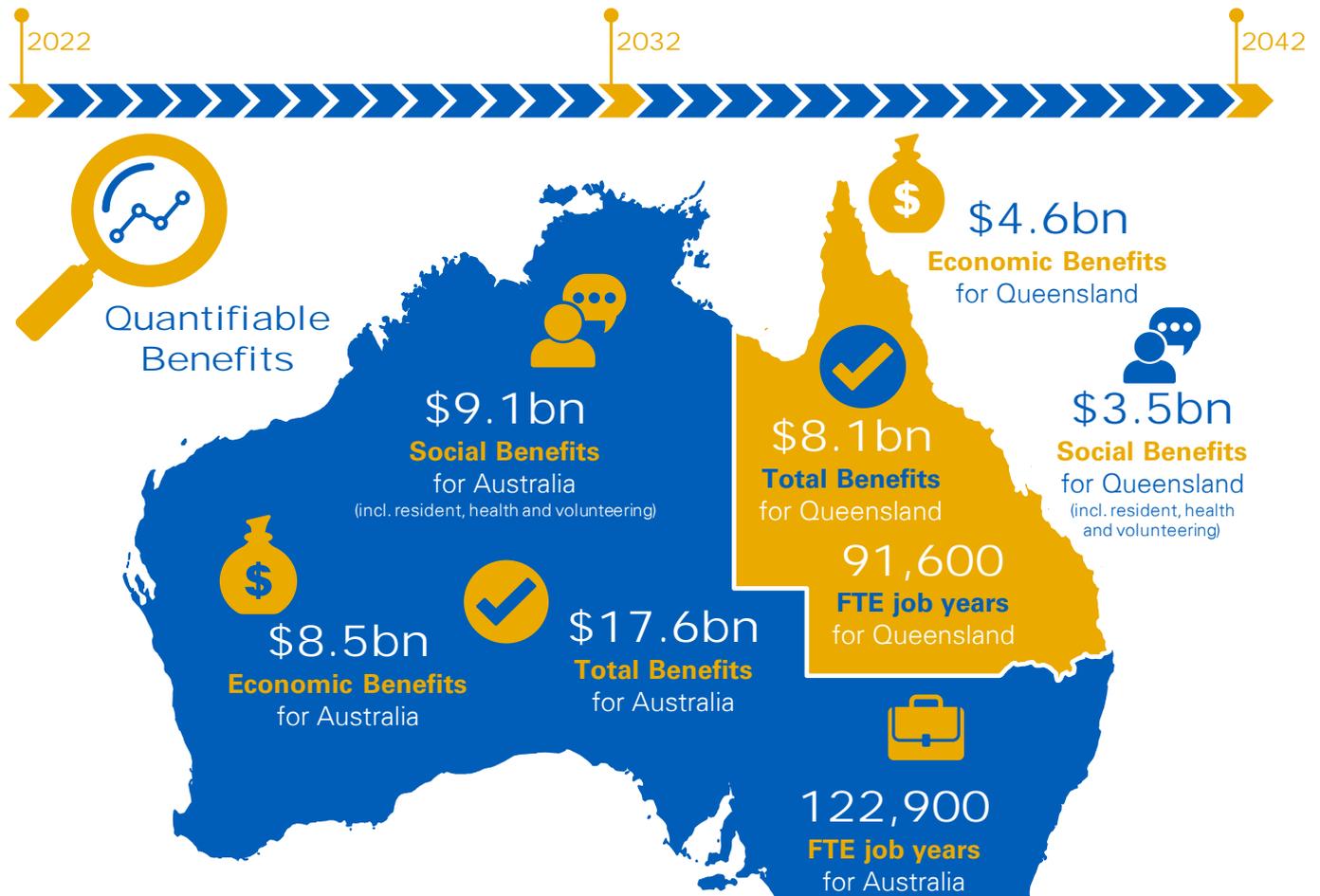
Initial analysis of the potential impacts of a 2032 Games commenced in 2019. Since then, the COVID-19 pandemic has caused profound and far-reaching impacts – affecting almost every sector and region, creating local and global challenges and compromising community health and well-being. Analysis and findings have therefore been updated.

Key findings include:

- Quantifiable economic and social benefits are estimated to be up to \$8.10 billion for Queensland and \$17.61 billion for Australia.
- The estimated impact of the new expenditures resulting from the Games (including induced tourism and trade, event operations and infrastructure) is projected to result in the creation of approximately 122,900 full-time equivalent (FTE) job years at a national level and approximately 91,600 FTE job years in Queensland over the 20 year evaluation period.
- Economic benefits, resulting from a Games-induced uplift in international tourism and trade, are estimated to be in the order of \$4.60 billion, with an estimated \$8.50 billion in benefits at the national level.
- Quantifiable social benefits are estimated to be in the order of up to \$3.50 billion for Queensland, and up to \$9.11 billion at the national level, including:
 - Resident benefits: Intangible benefits to residents of a host city / country associated with legacy, community spirit, prestige and civic pride associated with hosting a Games.
 - Health benefits: Benefits resulting from leveraging a 2032 Games to increase participation in physical activity across Queensland and the nation, including lowering the risk of chronic diseases, improving mental health outcomes and enhancing productivity for Queenslanders and Australians.
 - Volunteering benefits: Benefits accruing to volunteers themselves (such as self-improvement and altruistic value) and the benefits that accrue to the broader community (such as the increased likelihood of future volunteering, or the direct benefits of the activities undertaken by volunteers in support of the Games).
- The Games opportunity aligns with the six key areas of focus of the Economic Recovery Plan and has the potential to fast-track and attract investment, facilitate economic growth, increase Queensland's domestic share of tourism visitation and optimise State Government policy settings.
- Optimising and aligning State Government policy settings could deliver a range of additional social benefits, including: civic pride and social cohesion; improved elite sporting pathways; enhanced partnerships between industry and governments; and ensuring the Games is inclusive for all.
- The Queensland Government is proposing to minimise and mitigate against environmental impacts and deliver against the Climate Positive commitments required to host the 2032 Games through a range of initiatives including: Repurposing and upgrading existing infrastructure with enhanced green star credentials; encouraging behavioural change towards climate friendly policies and practices; reducing waste and pollution through reducing, reusing and recycling initiatives; and minimising congestion and emissions through greater use of public transport and other transport-related initiatives.
- The focus of this report is on the economic and social benefits of a 2032 Games. Delivery of the 2032 Games will entail disbenefits in the form of economic opportunity costs associated with operations and legacy infrastructure. Preliminary analysis indicates that the economic and social benefits of hosting the 2032 Games outweigh the disbenefits.

Potential benefits of a 2032 Queensland Games

Analysis of the potential economic, social and environmental benefits of hosting a 2032 Games suggests there is a significant opportunity to deliver material benefits for Queenslanders and Australians.



Delivering additional social benefits including:

- ENHANCED** sense of community pride and social cohesion
- IMPROVED** elite sporting pathways
- ENHANCED** partnerships between industry and government
- ENSURING** the Games is inclusive for all

Delivering a Climate Positive Games through:

- REPURPOSING AND UPGRADING** existing infrastructure with enhanced environmental credentials
- ENCOURAGING** behavioural change towards climate friendly policies and practices
- IMPLEMENTING** reducing, reusing and recycling initiatives
- MINIMISING** congestion and emissions through initiatives such as greater use of public transport

Executive summary

Introduction

Brisbane was recently identified by the International Olympic Committee (IOC) as the preferred host of the 2032 Olympic and Paralympic Games (the Games). Contributing to this decision was the State's base of sporting and transport infrastructure, coupled with its proven record of hosting major events (including the Gold Coast 2018 Commonwealth Games).

In considering a bid to host the Games, KPMG, supported by the University of Queensland, was engaged to determine the potential economic, social and environmental benefits of hosting a 2032 Games in Queensland. The analysis considers a 20 year time period including the 10 years leading up to the Games, the Games event, and the 10 years post the Games (i.e. 2022 to 2042).

Initial analysis of the potential benefits of a 2032 Games commenced in 2019. Since then, the COVID-19 pandemic has caused profound and far-reaching impacts – affecting almost every sector and region, creating local and global challenges and compromising community health and well-being.

In response, the Queensland Government developed its Unite and Recover Economic Recovery Plan – an economic stimulus package, and plan for the recovery ahead. **The opportunity that the Games presents aligns with the six key areas of focus of the Economic Recovery Plan and has the potential to fast-track and attract investment, facilitate economic growth, increase Queensland's domestic share of tourism visitation and optimise State Government policy settings.**

With the pandemic and recovery efforts in Queensland coinciding with the assessment of the Queensland Government bid for the 2032 Games and announcement of Brisbane as the preferred host, it is necessary to consider the potential benefits of a 2032 Games in the light of the current and potential future economic environment.

This Summary Report provides a high-level analysis of the potential benefits of hosting the event, including some benefits that cannot be monetised at this point in time.

Economic benefits

Induced tourism and trade are the two key potential economic benefits associated with hosting the Games that have been explored. **A Games-induced uplift in international tourism and trade is estimated to contribute to an uplift in Queensland's Gross State Product (GSP) in the order of \$4.60 billion, which is more than half the estimated \$8.50 billion uplift in overall GDP at the national level.**

Social benefits

In addition to the economic benefits of hosting the Games, there are other long-term, quantifiable and non-quantifiable social benefits that are anticipated to be significant contributors to the success of the Games and should be considered as part of the analysis.

Social benefits that have been quantified within this report include:

- **Resident benefits** are the intangible benefits to residents of a host city / country associated with legacy, community spirit, prestige and civic pride associated with hosting a Games. These benefits have been estimated using a willingness to pay measure.

- **Health benefits** relate to the impacts of leveraging a 2032 Games to increase participation in physical activity across Queensland and the nation which in turn is anticipated to result in lowering the risk of chronic diseases, improving mental health outcomes and enhancing productivity for Queenslanders and Australians.
- **Volunteering benefits** include those that accrue to volunteers themselves (such as self-improvement and altruistic value) and the benefits that accrue to the broader community (such as the increased likelihood of future volunteering, or the direct benefits of the activities undertaken by volunteers in support of the Games).

Collectively, the total potential value associated with quantified social benefits is estimated to be up to \$3.50 billion for Queensland and up to \$9.11 billion for Australia.

In addition to the quantified social benefits, a number of other social benefits have been considered on a qualitative basis. By optimising and aligning State Government policy settings in relation to these impacts, social benefits can be created over the medium and long-term, including:

- **Civic pride and social cohesion** - enhancing community spirit and cohesion to increase wellbeing and support for the Games.
- **Elite sporting pathways** - providing emerging athletes with world-class training facilities and coaching locally to create the environment for high performance.
- **Partnerships with industry and governments** - industry and governments working together locally and globally to deliver on shared objectives, fast track investment and facilitate economic growth.
- **Diversity and inclusion** - investing early to bring together diverse groups and create an inclusive Games experience for all, including further building upon the State's reconciliation efforts with First Nations communities.

The potential disbenefit of displacement of investment and resources are anticipated to be mitigated through a range of policies, mechanisms and interventions, including partnering with local and small businesses across the State and seeking to ensure investment and resources are shared across Queensland.

Environmental impacts

It is acknowledged that mega-events such as the Olympic and Paralympic Games have traditionally come with a significant environmental footprint. However, **the Queensland Government is proposing to minimise and mitigate against environmental impacts and deliver against the Climate Positive commitments required to host the 2032 Games through a range of initiatives** such as:

- **Repurposing and upgrading existing infrastructure** – where possible using and repurposing existing infrastructure for the Games, including upgrading existing assets through the use of recycled materials and lower carbon options to support Queensland's 30 per cent target in reduction in emissions by 2030.
- **Behavioural change** - building on Queensland's environmental credentials and policies in recycling, waste and hydrogen to overcome short-term environmental impacts (such as those arising from transport congestion) and creating long term behaviour change by leveraging sport as a social influencer.
- **Pollution and waste management incentives** – Focusing on reducing, reusing and recycling incentives and behaviours to limit waste, litter and pollution in the lead up to and during the event.
- **Transport planning** – greater use of public transport, detailed transport planning and co-location of events to minimise congestion and emissions during the Games.

Quantification of environmental impacts in an economic sense (i.e. in monetary terms) was not achievable within the scope and timeframe of this project.

Summary of potential quantifiable benefits

The following table presents a summary of the quantified benefits, for the 20 year period 2022 to 2042, as identified throughout this Summary Report. It is noted the numbers reported in the table should be read in conjunction with the analytical approach and limitations and exclusions as outlined in sections 1.2 and 1.3 and elsewhere throughout this report.

Overall, the total estimated potential quantified benefits to Queenslanders from hosting a 2032 Games are up to approximately \$8.10 billion. At the national level, total quantified benefits are estimated to be up to \$17.61 billion.

Table 1: Summary of potential quantifiable benefits (\$ billion)

	Queensland	Australia
Economic benefits	4.60	8.50
Social benefits	3.50	9.11
Total quantifiable economic and social benefits	8.10	17.61

Note: The numbers presented in the table should be interpreted in the context of the analytical approach and its limitations and the various exclusions as outlined in sections 1.2 and 1.3 and elsewhere throughout this report. To summarise: a formal CBA has not been undertaken; the quantifiable benefits include both market and non-market benefits; the non-market benefits presented in the table represent the higher bound of estimates prepared; the uncertainty in the timing of benefits has not been accounted for by discounting; a degree of uncertainty surrounds the benefit estimates, particularly benefits measured on the basis of non-market valuation techniques; and benefits that may continue to accrue after the end of the evaluation period (i.e. 2042) have not been considered.

Source: KPMG analysis

The focus of this report is on the economic and social benefits of a 2032 Games. Delivery of the 2032 Games will entail disbenefits in the form of economic opportunity costs associated with operations and legacy infrastructure. Preliminary analysis indicates that the economic and social benefits of hosting the 2032 Games outweigh the disbenefits.

Consideration has also been given to the potential employment impacts associated with the increased economic activity resulting from hosting a 2032 Games. **The estimated impact of the new expenditures resulting from the Games (including induced tourism and trade, event operations and legacy infrastructure) is projected to result in the creation of approximately 122,900 full-time equivalent (FTE) job years at a national level and approximately 91,600 FTE job years in Queensland over the 20 year evaluation period.**

Critical success factors

The analysis of potential economic, financial, social and environmental impacts suggests there is a significant opportunity, subject to effective planning and execution of the event and associated legacy programs and activities, to deliver material benefits for Queenslanders and Australians. **Further, Queensland can draw upon its previous significant experience from the Gold Coast 2018 Commonwealth Games, and previous research and analysis of hosting mega-events (such as the Olympic and Paralympic Games and the FIFA World Cup), to maximise benefits and minimise disbenefits through appropriate policy settings and partnerships.**

Past mega-events suggest the following critical success factors will contribute to, and underpin the delivery of, a successful 2032 Games:

- Effective cross-government collaboration, coordination and planning to:
 - Manage and mitigate cost risks (capital and operations);
 - Enhance and amplify the short and longer-term economic and social benefits; and
 - Ensure as best as possible that benefits are shared amongst all Queenslanders.

- Alignment of Games activities with meaningful and strategic long-term policy directions that deliver positive social and environmental impacts to Queenslanders and mitigate against key identified risks;
- Greater partnership and collaboration with the private sector (e.g. construction, property development, etc.) to share the costs and find sustainable options that maximise opportunities and minimise risks;
- Provide industry with the confidence and clarity to invest by developing policy settings that enable local investment and growth (e.g. local procurement, long-term planning and enabling knowledge transfer of new skills);
- Gain a deep understanding of the social licence for the 2032 Games by unearthing current perceptions and attitudes in Queensland and Australia and building a compelling narrative and value proposition that demonstrates social licence and support for the Games;
- Effective engagement with, and inclusion of, the Queensland community in the planning and organisation of the event which is understood to increase the likelihood of positive outcomes and enhance the success of legacy programs;
- Market Queensland to the world as a healthy and safe place in which to trade, invest, do business and visit;
- Clear and effective governance structures, including agreed strategies/plans, robust evaluation frameworks, measurable targets, transparent evaluation against these targets and clear lines of accountability for delivery against intended outcomes; and
- Leverage the considerable experience and learnings from past similar events, such as the Gold Coast 2018 Commonwealth Games.

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Disclaimer

Inherent Limitations

This Summary Report has been prepared as outlined in the Introduction Section. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently no opinions or conclusions intended to convey assurance have been expressed.

This Summary Report provides a summary of KPMG's findings during the course of the work undertaken for the Department of Tourism, Innovation and Sport under the terms of KPMG's contract dated 18 March 2021. Further information regarding the analysis are contained in KPMG's final detailed report, issued to the Department of Tourism, Innovation and Sport in May 2021, which contains some material which is commercial in confidence.

KPMG does not make any representation or warranty as to the accuracy, completeness, reasonableness, or reliability of the information included (whether directly or by reference) in the report, statements, representations and documentation provided by the Department of Tourism, Innovation and Sport's management and stakeholders consulted as part of the process, and / or the achievement or reasonableness of any plans, projections, forecasts, management targets, prospects or returns described (whether express or implied) in the report. There will usually be differences between forecast or projected and actual results, because events and circumstances frequently do not occur as expected or predicted, and those differences may be material. Additionally, KPMG does not make any confirmation or assessment of the commercial merits, technical feasibility or compliance with any applicable legislation or regulation of Brisbane hosting the 2032 Olympic and Paralympic Games.

KPMG have indicated within this Summary Report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the Summary Report.

KPMG is under no obligation in any circumstance to update this Summary Report, in either oral or written form, for events occurring after the Summary Report and / or KPMG's detailed report have been issued in final form.

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This Summary Report is solely for the purpose set out the Introduction section and for the Department of Tourism, Innovation and Sport's information, and is not to be used for any other purpose of distributed to any other party without KPMG's prior written consent.

This Summary Report has been prepared at the request of the Department of Tourism, Innovation and Sport in accordance with the terms of KPMG's contract dated 18 March 2021. Other than our responsibility to the Department of Tourism, Innovation and Sport, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this Summary Report. Any reliance placed is that party's sole responsibility.

1 Introduction

1.1 Background and context

After extensive initial analysis and consultation (including a feasibility assessment undertaken by the South East Queensland Council of Mayors), Queensland has been identified as possessing the appropriate base of sporting and transport infrastructure required to host a modern Olympic and Paralympic Games. This, coupled with Queensland's proven record of hosting major events (including the Gold Coast 2018 Commonwealth Games), suggests that the State is well placed to deliver a successful Games in 2032.

Following an initial assessment undertaken by the South-East Queensland Council of Mayors, the Queensland Government established a cross-government taskforce, entitled the 2032 Taskforce (the Taskforce), to lead the investigation of, and develop a Value Proposition Assessment (VPA) for, the feasibility and potential legacy of a 2032 Games.

The VPA was completed in late 2019 and included the findings of a range of preliminary assessments into the potential economic and social impacts¹ of hosting the Games in Queensland, one of which was undertaken by KPMG, in partnership with the University of Queensland.

The VPA outlines five key principles that shape the Queensland Government's proposal to host a 2032 Games in Queensland, including:

- **Legacy-led** – There must be a strong legacy arising from and catalysed by a 2032 Games to pursue a Candidature.
- **Two decades of opportunity** – Consideration must not be related to just a few weeks of sport, but to two decades of opportunity.
- **A Games inclusive for all Queenslanders** – There must be benefits for all Queenslanders.
- **Fiscally responsible** – The approach to budgeting and delivery must find innovative solutions that minimise net expenditure, in accordance with the *New Norms* philosophy developed by the IOC.
- **A partnership** – A successful Games will only be possible with full alignment between the three levels of Government.

These principles underpin the analytical framework for this report.

The VPA formed the basis of a submission and presentation to the International Olympic Committee (IOC) Future Host Commission (FHC). Subsequently, on 23 February 2021, the IOC Executive Board received a presentation from the FHC in relation to candidatures for the 2032 Games. Following that presentation, the Board instructed the FHC to enter into 'Targeted Dialogue' with the Brisbane candidature which received preferred host status.

During the Targeted Dialogue phase KPMG was engaged to update the preliminary analysis previously undertaken in 2019 to reflect new information (e.g. changes to the Games Masterplan) and, more importantly, to consider any potential impacts of the COVID-19 pandemic on the analysis. This Summary Report presents the high level findings of this updated analysis.

¹ The term 'impact' is used throughout this report to collectively refer to benefits (i.e. positive impacts) and disbenefits (i.e. negative impacts).

1.2 Analytical approach

This analysis has sought to identify and estimate, on a preliminary basis, the economic, social and environmental impacts of the Games from the perspective of whole-of-society welfare.

The evaluation within this report is primarily undertaken with respect to:

- **A specific community of interest** – Queensland residents, enterprises and governments (State and local);
- **An identified time horizon** – commencing in 2022 (i.e. 10 years prior to the Games) and ending in 2042 (10 years after the Games); and
- **A base case scenario** – the likely experience of Queensland without hosting the Games.

The concept of the base case is critical to the analysis presented in this report as only those benefits incremental to the base case can truly be considered directly associated with hosting the Games. This also allows for effective consideration of opportunity costs, such as transfers between economic agents within the community of interest. In addition to the above, consideration has also been given to the potential benefits accruing at the national level (i.e. as if Australia was the community of interest).

Typically, within an analysis of this nature benefits would be measured in monetary terms, even for benefits that do not have a market value. Given the information and time constraints for this analysis, however, this has not been possible for all potential benefits of a 2032 Games. As such, the preliminary analysis presented in this report includes a combination of both monetised potential benefits as well as a qualitative discussion of benefits that are not able to be monetised at this time.

Where a potential benefit has been monetised, values are presented in 2020-dollar terms with no consideration of escalation between 2020 and the time the benefit is realised.

It is noted that no distinction has been made as to the timing of benefits, other than to limit the analysis to those that will be realised within the specified time horizon. No detailed programming or cash flow was available at the time of this report; therefore, no discounted cash flow analysis has been undertaken.

In addition to consideration of the potential benefits of hosting the 2032 Games, consideration has also been given to the potential employment impacts of a 2032 Games.

1.3 Limitations and exclusions

While all efforts have been made to ensure this study provides a considered analysis of potential impacts of hosting the Games, it is important to note the following limitations:

- KPMG's work has been informed primarily by information provided by the Taskforce. KPMG has relied upon this information in good faith and has not sought to verify or validate its accuracy unless otherwise stated;
- In many cases, the information developed and provided by the Taskforce was not initially developed with an economic appraisal framework in mind, e.g. in some cases, there is limited consideration of the 'base case' or identification of beneficiaries of benefits;
- The time horizon of the analysis spans 20 years forward from 2022 to 2042. There are many factors that could influence both the base case and the 2032 Games scenario over this time period which are subject to change, fluctuation and a high degree of uncertainty;
- Information with respect to the likely timing of potential benefits is not currently uniformly available. As such, the analysis has not been able to adjust for the time value of money through a discounted cash flow analysis;
- Both KPMG and the Taskforce were operating under extremely tight timeframes to deliver this analysis and undertake other activities relevant to the Targeted Dialogue phase. As such, there are a number of potential variations to the overall 2032 Games proposition and delivery model. This

analysis reflects the information provided to KPMG at the time of this report. However, it is noted this may be subject to change; and

- Prior to the new approach to awarding the Games, the Games have typically been hosted in cities significantly larger than Brisbane. The Games is also a significantly larger event than the Gold Coast 2018 Commonwealth Games.

Given the above, the analysis should be considered preliminary and indicative in nature and is likely to be subject to change depending upon a range of factors influencing the final 2032 Games solution.

It is also noted that this analysis specifically excludes any assessment of impacts related to associated transport infrastructure projects.

2 Opportunities arising from COVID-19

The impacts of COVID-19 have been profound and far-reaching – affecting almost every sector and region. COVID-19 has presented the opportunity for businesses to adapt how they operate in response to new ways of working, changing travel patterns, rapid technological change and disrupted global supply chains. While this has created challenges both globally and locally, a range of opportunities have risen to the forefront in Queensland.

The Queensland Government has been focussed on capitalising on emerging opportunities that unlock and fast-track investment and growth for the State. The Government's Unite and Recover Economic Recovery Plan outlines an economic stimulus package, and plan for the recovery, underpinned by the key themes of protecting the community's health, creating jobs and working together to respond to health, social and economic impacts (Queensland Government, 2020). The 2032 Games provides Queensland with an opportunity to further diversify its economy and build on its advantage as one of the fastest rebounding economies globally. It also aligns with the six key areas of focus outlined in the Queensland Government's Economic Recovery Plan.

Safeguarding our health and jobs by keeping Queensland 'pandemic ready'

Queensland's response to COVID-19 provides an opportunity for the Government to promote the State as clean, healthy and safe. This globally desirable reputation can be leveraged to attract visitors and inbound investment, and drive exports to further diversify the economy, particularly through tourism marketing, investment attraction activities and incentives, and promoting the State's access and ease of doing business through reduced regulatory barriers.

The 2032 Games presents an opportunity to fast track and build upon the existing Queensland Government commitments including its \$50 million stimulus to assist existing tourism icons recover and accelerate new projects. The branding and exposure that could be achieved by a scalable and global event, like a successful 2032 Games bid, could see an opportunity for Queensland to gain a larger share of this international demand.

Helping small business, the backbone of our economy, thrive in a changing environment

The increasing local-first approach amongst consumers, arising from changes in behaviour during the COVID-19 pandemic, presents a strong opportunity for the 2032 Games to support small businesses across Queensland. Throughout 2020 and 2021, the world has revised the concept of globalisation. Consumers are shifting their purchasing preferences towards smaller businesses, closer to home (Herbert and Lanfranconi, 2020). The Government has supported this through the update of procurement policies and associated principles to 'put Queenslanders first', enabling local, small to medium businesses to thrive and remain competitive.

A successful 2032 Games bid could provide the confidence and certainty needed to trigger increased investment and unlock innovation. The acceleration of a new wave of start-ups, whilst driving greater self-sufficiency and resilience for Queensland will be supported by the Government's \$200 million Small Business COVID-19 Adaption Grant Program and Advance Queensland agenda.

Growing manufacturing across traditional and new industries, making new products in new ways and creating new jobs

The 2032 Games presents a strong opportunity to build upon a core element of Queensland's economic recovery - increasing investment to drive diversification and build on the State's strengths, while developing resilient markets and industries. Queensland's supply chains have diversified to manage risk, build resilience and avoid over-dependency on particular countries or regions (Herbert and Lanfranconi, 2020). 'Supply chain sovereignty' has been, and will continue to be, critical, with the Government balancing the retention of key capabilities and support key industries as it pursues the creation of more jobs in more industries.

A successful 2032 Games would provide even greater certainty and confidence for businesses to continue investing in new skills, capacity and supply chains needed over the forward years, particularly in relation to local manufacturing for critical industries. This re-invigoration of local manufacturing has been compounded by the increasing customer desire to support local businesses. Local manufacturing and supply chains in the construction sector have adapted quickly to deliver investments, such as Cross River Rail and Queen's Wharf.

Driving investment in the infrastructure that supports our recovery, resilience and future prosperity

Hosting the 2032 Games would build upon the significant investment across Queensland's road network which has been unlocked and fast-tracked through the State's economic recovery commitment to bring forward \$400 million in road network improvements and a \$23 billion pipeline of transport and road upgrades over the next four years. Programs, such as the Building Acceleration Fund, the State's \$51.8 billion infrastructure guarantee and the streamlining of planning approvals, provide industry with the confidence to invest and create certainty for the private sector to invest and unlock future growth opportunities.

A commitment to the 2032 Games provides the private sector with a catalyst to accelerate investment in the critical infrastructure Queensland needs. It will also be critical to connect the precincts that will serve the Games and beyond. Confidence around the construction projects that will continue beyond the Games, and link to projects like Queen's Wharf, Cross River Rail and Brisbane Metro, will be essential to continued investment and further support growth in the State's traditional sectors of construction, manufacturing and tourism to improve Queensland's productivity and create jobs.

Helping Queensland's regions grow by attracting people, talent and investment, and driving sustainable economic prosperity

The Games provide Queensland with an opportunity to build a sense of renewed confidence and optimism about the future prosperity of the State, ultimately encouraging investment and preparation for increased activity. It would encourage supply chains to come together to foster growth precincts and power regional development in traditional and emerging sectors. This will keep the economy moving and create more jobs in diverse sectors, while also positioning the State for the new normal.

Queensland has seen significant inbound migration from interstate and accelerated regional relocation, placing additional pressure on the State's existing infrastructure, and this could be heightened over the next decade as global travel restrictions ease. Addressing emerging housing shortages and supply constraints through considered planning and policy settings, such as the Growth Areas Team and Queensland's housing strategy, will enable further investment and partnership with the construction sector in key growth areas across the State.

Ensuring Queenslanders have the skills they need to find meaningful jobs and set up pathways for the future

The planning, preparation and delivery of the Games will require the input of thousands of Queenslanders with various skills and expertise. From the construction workers who will be critical to the infrastructure that underpins the events and the State's transport network, through to the event staff, tourism workforces and beyond, it is critical that the Games supports as many local

employment opportunities as possible. All levels of Government will need to be focussed on ensuring that Queenslanders have the skills required to capitalise on these employment opportunities. Additionally, leveraging existing expertise from the recent Gold Coast Commonwealth Games will be critical to enabling this capacity and ensuring the early identification and execution of the skills required to deliver a successful 2032 Games.

The State Government's significant investment in free training and expanding TAFE courses can further support Queenslanders to reskill and realign their careers to build the skills needed to support the Games. This skills investment can build business' resilience and productivity as they adapt and innovate to the new normal.

3 Economic benefits

This section of the report considers the key potential economic benefits of hosting a 2032 Games, including potential induced tourism expenditure and potential induced trade.

3.1 Induced tourism

Induced tourism is often cited as a significant legacy of major events and therefore an assessment has been undertaken to analyse the potential for the 2032 Games to generate an economic benefit for the Queensland economy through induced tourism before, during and after the event. The assessment is based on insights derived from the literature and KPMG's broader knowledge base acquired through completion of numerous relevant assignments globally.

The tourism industry has been severely impacted by the COVID-19 pandemic, particularly those parts of the industry that rely on international tourists. The COVID-19 pandemic and the policy responses implemented to manage the health and economic impacts have the potential to disrupt tourist flows and businesses that rely on tourism for some time to come.

Below we consider the potential for the Games to induce an uplift in international tourism and then discuss the sensitivity of Games-induced tourism to the impacts of COVID-19.

Potential impact of the Games on tourism

The drivers of tourism are complex and region-specific. The limits of models and datasets are tested in estimating the uplift in visitation and expenditure induced by an event such as the Games in the year of, and in the years preceding and following the event. Findings in the literature are mixed about the size of the estimated tourism legacy benefits and the ability of major events to induce international tourism. Key findings from relevant studies attempting to estimate the extent of induced tourism from previous Games include:

- Over a 40 per cent increase in international tourist arrivals in the Games year and an average of almost 26 per cent in the eight years before and 20 years following the event (Vierhaus, 2019);
- Sydney experienced a persistent uplift of 15.5 per cent in international visitors for the 10 years after the bid was won and a 22.4 per cent uplift in the Games year (Mizuho Research Institute, 2014);
- Beijing recorded a 30 per cent decline in international tourists and, similarly, arrivals to the United Kingdom were six per cent lower, during the Olympics year (Baade and Matheson, 2016); and
- No support for the existence of an induced tourism effect was found in a retrospective study of the Sydney 2000 Olympic Games (Giesecke and Madden, 2007).

KPMG acknowledges the gap between research findings relating to anticipated tourism impacts of future major events and research findings relating to the realised tourism impacts of major events that have been held previously. As summarised earlier, in a post-Games analysis, Giesecke and Madden (2007) found no evidence of an induced-tourism effect for the Sydney Games. A key driver that post-Games analyses, such as that by Giesecke and Madden (2007), cannot easily capture is the quantum and quality of the investments made by stakeholders in the tourism industry to leverage the Games to boost activity in the tourism industry.

There are positive returns to investments made by stakeholders in the tourism industry to develop and improve offerings and promote the region and visitor opportunities. The Games offers stakeholders a call-to-action to maximise the opportunity of leveraging their investment through the

global exposure generated by the Games. Securing an event of this scale presents Queensland with an opportunity to leverage its investments in promoting the State as a global destination. Independently of the Games, Tourism and Events Queensland (TEQ) have identified significant opportunities for boosting international visitation to Queensland through increasing awareness and enhancing the brand. TEQ recently launched its *State of Regeneration – Travel for Good* program targeting international awareness and brand perception. The Games provide an opportunity for programs like TEQ's program to take advantage of a global audience and leverage the effectiveness, measured as an uplift in visitation (and/or spend) over and above the projections that justified the investment in the first place.

KPMG has adopted a balanced view of the potential Games-induced tourism uplift where we have assumed that stakeholders in the industry will work together to maximise the potential returns to investments designed to leverage the global exposure generated by the Games.

A potential benefit that is often overlooked in the context of mega-events, like the Games, is retained expenditure. Some Australians will attend the Games on a regular basis regardless of where they are held. Therefore, if Queensland did not endeavour to host the Games, there would not be an opportunity to reduce the expenditure leakage to other States or countries.

Games-induced tourism and COVID-19 risks

COVID-19 will have lasting implications for society and the economy, impacting major international events like the Games. The potential impacts of COVID-19 range from those that are obvious and direct, such as the propensity of people to travel internationally, to those that are less obvious, such as perceptions of how safe particular destinations are based on observations about how different jurisdictions handled the pandemic.

The COVID-19 pandemic has brought to the fore a risk that has always been present but never realised in such a widespread and pervasive manner. In recent history, coronaviruses such as Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS) and the H1N1 influenza virus gave a glimpse of how health risks could disrupt economies. A fuller appreciation of these risks has been provided by the COVID-19 pandemic, which has had a more dramatic impact around the globe. In the context of the Games, the postponement of the Tokyo Games in 2020 is particularly pertinent.

As the pandemic is gradually being brought under control around the globe with targeted social distancing policies and the roll-out of mass vaccination programs, there is increasing focus on what the lasting impacts of the virus might be.

In considering the induced tourism impacts of the 2032 Games, there are two key risks that are relevant. The first risk relates to how the baseline projections for international visitation and expenditure have been impacted by the pandemic. The baseline projection captures the expected growth in international visitation and expenditure in the absence of the Games. In previous work, it was assumed that projections published by Tourism Research Australia (TRA) in 2019 constituted a reasonable baseline. TRA has not updated these projections since 2019, although scenarios relating to the near-term recovery of international visitation have been provided. The working assumption is that the baseline projections provided by TRA remain reasonable beyond 2023, and that international tourism numbers will substantially recover by the end of that year².

The risks to the expectation that visitor numbers will bounce back are balanced. Australia may be viewed more favourably as a destination because of its response to the COVID-19 pandemic, providing tourists with a level of confidence that public health and safety standards are high and that the health system is world-class and highly effective.

² A study of international visitation trends following the outbreak of Severe Acute Respiratory Syndrome (SARS) by Mao, Ding and Lee (2010) found a relatively quick recovery in inbound visitation numbers to Taiwan (to pre SARS levels) after the World Health Organisation removed Taiwan from its list of SARS-affected areas. The study examined and compared the post-SARS recovery patterns of inbound arrivals to Taiwan (for the purpose of recreation) from Japan, Hong Kong and the USA. In the case of visitors from Hong Kong and the US, the numbers of visitors bounced back to the pre-SARS level shortly after the removal of the SARS alert in Taiwan, while in the case of Japanese visitors, it took around one year to recover visitor numbers to the pre-SARS level.

The second risk relates specifically to the propensity of international tourists to visit Queensland because of the Games. It has been assumed that the COVID-19 legacy will not have a material impact on the propensity of the Games to induce tourism, particularly in the pre and post-Games periods. In the early pre-Games period from 2022, it may be possible for Queensland to leverage its status as host of the 2032 Games jointly with Australia's record of handling the pandemic to encourage international tourists to choose Queensland and Australia as a place to visit.

If it is possible to bring forward any Games-induced tourism uplift, it is likely to be more beneficial to Queensland than if the uplift occurs closer to, or after, the Games. This is because the tourism industry is expected to be operating well below capacity until international tourism numbers recover to the levels projected by TRA in 2024 and beyond.

The COVID-19 pandemic has raised risks that have the potential to reduce the induced tourism impact of the Games. However, these risks are unlikely to be material as they are mitigated by Queensland's, and Australia's, response to the COVID-19 pandemic.

Assuming Australia's international borders are open in 2022 then the Games-induced uplift in international tourists in the period 2022 – 2024 may generate a larger benefit in terms of value added and jobs than is the case on average over the 20 year period under consideration. This is because there is likely to be excess capacity in the tourism sector over this short-term period, which means that the multiplier effects are likely to be larger than would be the case in a more normal economic environment. While the estimated uplift in tourist numbers is small in the next few years any near term uplift in international tourism would be highly valued for its contribution to the recovery of the hard-hit tourism sector, and the Queensland economy more generally, following the COVID-19 pandemic. This observation also suggests that there are economic pay-offs to any efforts to bring forward the Games-induced uplift in international visitors.

3.2 Induced trade

The mechanisms through which mega-events, such as the Games, can boost trade are usually not well-defined. KPMG has not formally modelled the induced trade impacts of the Games. However, in the absence of a primary evidence base, insights have been gained from literature and KPMG's broader knowledge base.

After considering the impact of the 2032 Games on trade, we discuss how the COVID-19 pandemic may change the baseline projection for the potential uplift in trade induced by the Games.

Potential impact of Games on trade

Trade and Investment Queensland (TIQ) have adapted an estimate from the Pham, Becken and Powell (2019) analysis of the Gold Coast 2018 Commonwealth Games. The authors assume that, across the four years following the Games, there will be a 0.2 per cent Games-induced boost to exports. Pham, Becken and Powell (2019) acknowledge that this estimate is arbitrary, but maintain that it is a plausible target³.

An estimated uplift in exports of non-mining merchandise (e.g. agriculture and manufacturers) and all services other than those sold to international tourists on holiday or visiting friends and relatives (e.g. professional services and education) of less than one per cent and will achieve the export uplift projected by TIQ. This is a reasonable projection.

The process of bidding and hosting the Games can also impose a discipline on, and provide an incentive to, governments and businesses to make trade-enhancing changes to policy and business practices. This may include amending trade policies and business practices that are below global best

³ Rose and Spiegel (2011) find a sizeable trade boost (around 20 per cent) for countries that host the Games. The authors also find a sizeable trade impact for countries that make unsuccessful bids to host the Games. The hypothesis is that this impact is due to the trade-expanding potential and openness-to-trade signals that a country gives when becoming involved in a Games bid. It is inferred that simply being a contender for hosting a future Games may be sufficient to induce positive trade effects. In contrast, Maenning and Richter (2012) challenge this signal effect and, using an alternative modelling approach, find no significant positive effects on exports resulting from countries hosting or even bidding for the Games.

practice standards and promoting credentials in free and fair trade, environmental responsibility and tackling social issues.

Games-induced trade and COVID-19 risks

The COVID-19 pandemic has resulted in sharp contractions in economic activity across the globe. Queensland's exports and imports declined significantly in 2020. Exports of goods fell by 3.5 per cent in the year to June 2020, and exports of services fell by more than 17 per cent over the same period. The decline in services exports was driven by the closure of international borders, which severely impacted tourism-associated leisure activities and services associated with visitors from overseas for education or business purposes.

The Queensland Government is projecting that international exports and imports will fall in FY20-21 (Queensland Government, 2020). As the global economy recovers, Queensland's trade is expected to rebound across the remainder of the forward estimates period until FY23-24 (Queensland Government, 2020). The latest forecasts by the International Monetary Fund in April 2021 provide an improved outlook for the global economy, including Queensland's major export markets. The global economy is projected to rebound six per cent in 2021 and grow 4.4 per cent in 2022, before growth moderates to 3.3 per cent over the medium term. With Australia's international borders expected to remain closed for some time to come, the recovery in services exports will lag behind merchandise exports.

The expectation is that trade will recover over the next two to three years and converge to levels consistent with the TIQ pre-COVID-19 baseline. However, it is reasonable to assume that a lasting legacy of the COVID-19 pandemic is that the composition of trade may change faster than previously expected. In dealing with the pandemic, businesses and governments around the world accelerated their use of technology and adoption of different work practices. This is likely to bring forward the transition to more advanced manufacturing and automation practices including adoption of "Industry 4.0", change demand for office and retail space and transport services, and tilt preferences towards sourcing processed and unprocessed foods from suppliers that can demonstrate the provenance and health benefits of their products. In addition, the delivery of services may change in ways that has flow-on effects to trade. For example, the delivery of education services to foreign students may move more towards online delivery, having a significant impact on the bundle of goods and services that is exported to foreign students located in Australia.

The possible changes in the composition of international trade offer Queensland and Australian businesses non-traditional exporting opportunities, allowing expansion and diversification. This change may happen in the baseline, which does not include the hosting of the Games. However, the 2032 Games may provide global exposure that makes it easier for Queensland and Australian businesses to access new opportunities that will emerge in the post-COVID-19 environment.

The key risk COVID-19 poses for Queensland and Australian exports is the reversion to protectionist practices by governments around the world. However, there are calls for countries and businesses to mitigate the risk of future supply disruptions by diversifying supply sources and stockpiling essential items. The self-sufficiency versus redundancy debate will play out over time and will have different implications for Queensland and Australian businesses.

In contrast, mitigating supply risk through redundancy offers Queensland and Australian businesses opportunities to access new markets. In this context, local businesses can leverage exposure the Games will provide to promote their capacity and capability to foreign businesses seeking to diversify their supply sources. Queensland and Australian businesses can seek to diversify their export markets so they are less vulnerable to shocks from particular markets.

The pre-COVID-19 baseline projections for trade made by TIQ remain valid in the medium to longer-term. Trade has been negatively affected due to COVID-19, but most economies have bounced back strongly and are expected to consolidate their recovery over the next two years, underpinned by the roll-out of vaccination programs. The assessment is that globalisation will not be stalled and a reversion to protectionist policies will be resisted.

In summary, the COVID-19 pandemic may have a significant legacy effect on trade. To estimate the quantitative impact of the COVID-19 pandemic on Games-induced trade outcomes requires sophisticated modelling that separates the trade impacts that will occur in the baseline in any event

from those that will only occur if Queensland hosts the Games. In the absence of detailed modelling, we can be reasonably confident that, if the lasting impacts of the COVID-19 pandemic include changing the composition of international trade, importers and exporters placing higher value on diversity of supply sources and destination markets and/or reduced trade volumes then the potential trade-related benefits of hosting the Games are likely to be greater than would have been the case in the absence of the COVID-19 pandemic. This is because the global exposure provided by the Games may be more valuable to businesses, and the multiplier effects of any given Games-induced benefit may potentially be greater.

4 Social benefits

Research suggests hosting a mega-event such as the Games could result in a number of social benefits. Three of these benefits have been quantified (resident benefits, health benefits and volunteering benefits), with the remainder of the social benefits considered on a qualitative basis.

Overall, the potential social benefits of an Olympic Games hosted in Queensland are considered to be significant.

4.1 Resident benefits

Resident benefits consider the net benefit to Queensland residents as consumers of the goods and services (including legacy goods and services) that are provided by the Games.

Often bidding countries (or committees) undertake economic analysis to examine measurable outcomes of hosting an Olympics, such as employment gains or increases in expenditure, referred to as 'tangible effects'. While there is research and evidence to support such effects, such economic analyses often ignores 'intangible' impacts, such as legacy, community spirit, prestige and civic pride (Walton et al., 2008).

For example, studies have shown that staging the Games generates a range of beneficial social consequences for host regions (Gratton and Dobson, 1999), including strengthening local values and traditions (Hall, 1992), generating patriotism and cultivating a sense of community belonging (Wait, 2003). It has also been reported that positive social impacts, such as feelings of excitement, national pride and a sense of community belonging, develop in the host region (Jarvis, 1995). The extent of these positive impacts can stretch beyond the host city to a national level on some occasions. For example, research following the Beijing Olympics argues that the reinforcement of pride of local residents was one of the most positive impacts of the Games (Zhou and Ap, 2009). Similar results from studies following the Atlanta and Sydney Olympics also point to the importance of civic pride and suggest that there are links between increases in civic pride seen and residents' quality of life and well-being related to these events.

Valuing such intangible impacts can be challenging given there is no 'market' for these outcomes. However, there are a range of accepted methodologies which do allow for the measurement (in dollar terms) of an individual's willingness to pay (WTP) for, or improvement of an individual's subjective wellbeing related to, intangible impacts.

In particular, a number of studies have been undertaken to investigate the WTP, or improvements in subjective wellbeing, of host city and country residents related to hosting an Olympic Games. Such a study has not been done in the context of a 2032 Games in Queensland and therefore WTP estimates have been determined by borrowing results from such prior studies, noting these results have been adjusted for potential differences such as population size, income levels, etc. This is referred to in the literature as a benefits transfer approach. Specifically, the analysis has considered differing levels of WTP for residents in hosting locations when compared to residents in non-hosting regions for the Games.

4.2 Health benefits

The Queensland Government's *Activate! Queensland* strategy shows the Government's commitment to increasing participation in physical activity across the State, recognising the numerous health benefits that result from a more active population (Queensland Government, 2019).

Queenslanders are currently less physically active than the rest of Australians with the most recent National Health Survey (2017-2018) showing that 86 per cent of Queenslanders are not meeting the recommended level of physical activity (ABS, 2018). Moreover, there is evidence to suggest that the COVID-19 pandemic has had a depressive effect on activity levels. While research into these impacts is in its infancy as the pandemic is ongoing, some recent qualitative Australian studies suggest that the pandemic has resulted in a loss of motivation to keep fit, even as restrictions have lifted (Elliot et al., 2021).

The burden of physical inactivity consists largely of negative health impacts, which are borne by both individuals and the broader community and economy. Physically inactive persons have a higher risk of developing chronic diseases, have poorer mental health outcomes, are less productive and die earlier. This often leads to lower quality and shorter lives, a higher burden on the health system and depressed economic output. Conversely, those persons who undertake sufficient physical activity have materially improved health outcomes, and this is further pronounced for those who are consistently undertaking sufficient physical activity over a sustained period.

There is an opportunity, therefore, to leverage the 2032 Games to boost physical activity levels over the long term by encouraging participation in sport and active recreation. In particular, the Taskforce has identified a range of opportunities for additional communications and promotions (marketing in-kind) to support a healthy lifestyle focus, including meeting the recommended physical activity targets. This could add to Government spend on health promotion already envisaged under the base case and within identified legacy budgets. Specifically, it is considered that the 2032 Games could be the enabler for Australia and Queensland to implement the first fully integrated, sustained healthy lifestyle campaign, at scale. It would be designed to specifically target physical activity, healthy body weight and the reduction and prevention of related chronic illness.

The estimation of potential health benefits has included consideration of both:

- Improving the physical activity levels of Queenslanders to be more in-line with the national average, including alternative targets; and
- Alternative levels of attribution of quantified benefits directly to a Games, acknowledging that the Queensland and Federal Governments are likely to be making significant investment into healthy lifestyle promotional campaigns and other sport-related health programs under the non-Games base case.

Benefits included in the quantitative analysis, include:

- **Lower risk of chronic disease** – including personal and health system benefits associated with reducing the risk of developing chronic diseases such as cardiovascular disease, breast and bowel cancers, type two diabetes and dementia;
- **Improved mental health outcomes** – including personal and health system benefits associated with reducing the symptoms associated with depression (and other affective disorders) and anxiety; and
- **Improved productivity** – including greater worker output resulting from lower levels of absenteeism and presenteeism.

In addition to the health benefits that have been quantified in the analysis, there are also a number of broader benefits that are generated by increased levels of physical activity. It is noted however, that some of these benefits require more than just physical activity in order to be generated, such as social connections, the existence of teamwork through team sports, or tailored and specific programs. These broader benefits are outlined below, noting that some are also discussed in more detail in later sections of the report.

Human Capital

Human capital is the skills, knowledge and experience each person accumulates which determines their ability to perform the tasks required of them, whether for work, school or more broadly within their lives. Participation in sport and physical activity contributes to the development of human capital in a multitude of ways, including improved cognition, soft skill development (e.g. teamwork and leadership), habit development (e.g. self-discipline and time management) and improvements in self-esteem and motivation. This in turn leads to greater educational and employment outcomes.

Reduced risk of falls

There is a relationship between being physically active and a reduced risk of falling, particularly in the elderly for which falls often have serious consequences.

Increased social connectedness, inclusion and networking

Sport and physical activities have been shown to create what is called bridging social capital between different communities. For example, it can improve the connectedness of disadvantaged communities within society or provide opportunities for the inclusion of young people with disabilities.

Increased levels of trust

Improvements in social capital, such as those above, lead to general advances in the social fabric of society, and more specifically, have been shown to align with improvements in the trust level within a community.

Greater national and elite sporting outcomes

A greater number of physically active persons within Queensland, particularly where that activity exists within traditional sporting pathways, would support the development of more representative and professional athletes, leading to greater national and elite sporting outcomes.

Reductions in crime and anti-social behaviour

There is supporting evidence for the link between participation in sport and physical activity, and improvements in the behaviour of at-risk cohorts, leading to reductions in crime and anti-social behaviour. It is noted that, while sport or physical activity is a vehicle to assist with these outcomes, they often require additional supporting programs.

4.3 Volunteering

The Volunteering program at the 2032 Games will support a variety of benefits. These benefits include those that accrue to volunteers themselves such as self-improvement and altruistic value, the benefits that accrue to the broader community such as the increased likelihood of future volunteering, or the direct benefits of the activities undertaken by volunteers in support of the Games.

Volunteering enables individuals to develop a variety of skills and abilities that could be transferred to future paid and non-paid employment. These include customer service, teamwork, communication and interpersonal skills, and the ability to work under pressure. Literature also suggests that volunteers derive several personal benefits, including altruism benefits (i.e. benefit derived from giving back) and from improved well-being.

A meta-analysis of volunteering following the 2012 London Olympic Games showed that 45 per cent of volunteers intended to continue volunteering after the conclusion of the event. This would be of significant benefit to the local community as residents feel more connected to their communities and have a greater sense of self-worth given the contributions they are making to society.

The Taskforce has estimated that approximately 50,000 volunteer roles would be required to support the delivery of both the Olympic Games and the Paralympic Games, with each volunteer role consisting of multiple volunteer shifts / days.

Quantification of the value of volunteering for a 2032 Games has been undertaken using a wage replacement methodology. This methodology develops a conservative estimate of the amount of wages that would have to be incurred should the volunteer hours applied to support the delivery of the Games instead be paid labour hours. Alternatively, the calculated volunteering benefits could be thought of as an estimate of the value that volunteers place on their contribution to the Games, as they have chosen to forgo other uses of their time to volunteer.

4.4 Civic pride and social cohesion

Civic pride and social cohesion for residents is one of the most positive social impacts of hosting the 2032 Games. Olympic Games have been found to have a positive relationship with residents' levels of civic pride in the host city, non-host city and across the country (Gratton and Dobson, 1999). In Australia, sport is often named as a key component of Australia's national and cultural identity, with the country's sporting successes inextricably linked to its international standing and part of its education curricula⁴.

Research following the Beijing, Atlanta and Sydney Olympic Games and FIFA World Cups suggests enhanced community spirit, community cohesion and belonging, local values, pride and perceived quality of life and well-being all increased following these major events (Jarvis, 1995). These intangible effects can also contribute to an increased image of the host country, such as making it an attractive destination for tourists and visitors after the Games (Kaplanidou and Karadakis, 2010).

There is little evidence to suggest that there are any negative impacts on civic pride from successfully hosting an Olympic Games. However, a critical success factor is gaining pre-event support through local community involvement in the planning, organisation and execution of the event. Residents who are initially supportive of the 2032 Games are more likely to consider the event successful than residents who are initially unsupportive.

This impact has not been quantified specifically, although it may be partially represented within the quantification of resident benefits.

4.5 Elite sporting pathways

The declaration of a home country Olympic Games provides emerging elite athletes with the pathways, training facilities and opportunity to compete on the world stage in front of their families and friends. Australia's performance at the two Games prior to Sydney in 2000 were significantly more successful than previous Olympic cycles and, while performance peaked in 2000, it started declining in subsequent Olympic Games (Chen, Zheng and Dickson, 2018).

There is a wide body of literature examining the success of various approaches to athlete development. While this research is broad reaching, there are some common factors which improve the effectiveness of high-performance pathways. These can be summarised as follows:

- Engagement in sport from early childhood is important with the development of fundamental motor skills, important for future sporting success (Cupples, O'Connor and Cobley, 2018);
- Significant and broad reaching investment (psychological and physical) is required to support athlete development (Gublin et al., 2010);
- The physical investment required is substantial with time and practice as much responsible for positive outcomes as high-quality coaching and other factors (Gublin et al., 2010); and
- Athlete transition (i.e. the transition of athletes from novice to elite) is equally if not more important than initial talent identification with key factors influencing transition and retention. These factors include early and ongoing success, a satisfying social setting, the influence of parents and coaches and opportunities for international competition (Morley et al., 2012).

⁴ See the Personal Development, Health and Physical Education Syllabus in New South Wales

Improving pathways for elite athletes can be achieved through additional funding dedicated to improved sporting infrastructure (e.g. talent academies), coaching and training and equitable access to elite and community-based training facilities dispersed across Queensland (Edwards, 2015).

Institutes like the Queensland Academy of Sport (QAS) and other state institutes have the responsibility to deliver critical, frontline services to athletes and coaches prior to the 2032 Games. This presents an opportunity to build a world-leading, high-performance centre, with expertise that will retain and attract local, national and international sporting professionals to Queensland. Enhancing Queensland's high-performance knowledge and expertise will draw national sporting teams and related performance industries to Queensland, not only increasing the elite sporting pathways but spurring greater commercial activity and creating jobs.

Strong performance in a sport or the exposure of new sports to an international market may also result in commercial/economic growth for Australian sport. In a recent analysis for the Department of Health, KPMG identified an opportunity to explore assisting content owners and broadcasters with reaching international markets (KPMG and Launchvic, 2019). The Games present Queensland and Australia with a unique opportunity to showcase excellence in particular sports that have an international audience. This has the potential to put Queensland on the map in terms of hosting regular international competitions in targeted sports in the future that could be packaged and sold to an international audience. Indeed, if the standard of domestic competition is high and is showcased at the Games, it may generate opportunities for producing content that can be sold to international audiences.

This impact has not been quantified economically (i.e. as a monetary value).

4.6 Partnerships with industry and government

Hosting scalable and global events like the 2032 Games may lead to increased networks and connections globally for government, business, residents and non-host regions provided entities share common values and an aligned purpose. For example, new trade deals, business venture ecosystems, alliances and innovation, together with strengthened international relationships and increased levels of soft power and diplomacy, are positive impacts which may result from hosting the 2032 Games (Grix, Brannagan and Houlihan, 2015; Preuss, 2007). This can also be cascaded down to increased collaboration and greater partnerships across the three levels of government in Australia to achieve common objectives (e.g. through the execution of the City Deal). Working in partnership and alongside the private sector can also foster and fast-track investment, stimulating and encouraging economic growth.

Positive change in Queensland community sentiment and perceptions in relation to trade, investment, talent and the role Queensland plays in the global economy are further potential benefits of hosting the 2032 Games. However, without a shared purpose through commitment and co-ordination, stakeholder and business tension could cause unhealthy competition and adversely impact network development and collaboration (Werner, Dickson and Hyde, 2015). A defined and widely accepted objective and values can help overcome these tensions and lead to greater alignment and mutual benefit.

The potential disbenefit of displacement of investment and resources is acknowledged, however, is anticipated to be mitigated through a range of policies, mechanisms and interventions, including partnering with local and small businesses across the State and seeking to ensure investment and resources are shared across Queensland.

This impact has not been quantified economically (i.e. as a monetary value).

4.7 Diversity and inclusion

Hosting a 2032 Games provides an opportunity to deliver an event, and promote a society and culture, that is fundamentally inclusive for all, regardless of (for example) age, culture, gender or ability.

A number of studies demonstrate that residents consider social inclusion and tolerance of diversity as important legacies in both pre and post-event measures. However, individuals from diverse groups commonly find themselves excluded from networks of information and opportunity, with communities often reverting to existing ethnic and cultural divisions or segregation post-event.

Perceived improvement in inclusion and diversity has a direct positive influence on residents' quality of life and support for hosting the event, provided expectations are met. Early engagement with diverse populations from non-English speaking backgrounds, along with promotion and emphasis on the Paralympic Games, has the potential to overcome negative impacts and create greater inclusivity in the lead-up to and post the event.

The Paralympic Games in particular present an opportunity to further enhance the positive perception of disability in society. The positive media coverage of the Paralympic Games, along with the articulation and championing of athlete stories, provides a strong positive influence on societal perceptions of disability. Paralympic athletes are not only role models for other aspiring athletes, especially for those with a disability, but are also admired by society as a whole for their achievements.

Through specific focus on diversity and inclusion, there may also be an opportunity to further build the State's reconciliation efforts with First Nations communities. Specifically, consideration could be given to profiling First Nations athletes along with greater promotion of First Nations history and culture through key events, such as the Opening and Closing ceremonies. Insights from the Sydney 2000 Olympic Games and Gold Coast 2018 Commonwealth Games could be used to tailor an agenda of inclusive activities.

This impact has not been quantified economically (i.e. as a monetary value).

5 Environmental impacts

Research has also been undertaken to understand the potential environmental impacts of hosting a 2032 Games. Potential mitigations, including linkages to current Queensland Government policy which could be used to overcome many of the short-term impacts, are identified below.

Initiatives focussed on limiting negative environmental impacts and enhancing positive environmental impacts will support the Climate Positive commitments required as part of hosting the 2032 Games.

Quantification of environmental impacts economically (i.e. as a monetary value) was not achievable within the scope and timeframe of this project.

5.1 Repurposing and upgrading existing infrastructure

Mega events provide the opportunity for environmentally conscious, physical infrastructure such as stadia, transport infrastructure and upgrades in water and sewage services that might not have been feasible or necessary without the event (Dodourus and James, 2004). KPMG's understanding is that the Queensland Government has made an allowance of 3.5 per cent of capital costs in its budgeting to ensure that legacy infrastructure is delivered at a 6 Green Star rating or equivalent.

Event-related construction, improvement of transport infrastructure and urban renewal causes inconvenience to the residents of an Olympic host city (Cashman, 2002). Other costs to residents may also include increased safety and security risks, increased risk of petty theft, and excessive media coverage of Olympic events (Atkinson et al., 2008). While fast tracking investment is a benefit, the scale of infrastructure required to support a mega event will likely create ecological and resident impacts.

In order to build infrastructure in an environmentally conscious way, there are opportunities to repurpose and enhance existing assets where practicable, delivering on the State's existing *recycling policy for building and civil infrastructure*. In the case of Berlin, Rome and Tokyo, the host cities reconstructed and expanded existing facilities, constructed landmark buildings and generally improved existing infrastructure in order to enhance urban amenity (Chen and Spaans, 2009). This will require local identification of potential sites and infrastructure that can be repurposed or updated along with opportunities to partner with the Queensland construction industry to become more sustainable. A greater emphasis on procuring and promoting low carbon options, greater use of recyclable materials and new technologies to reduce emissions (such as the State's focus and investment to drive an economically sustainable and competitive hydrogen industry) could be considered. This would further support and align to the Government's 50 per cent renewable energy target by 2030.

The drive to deliver legacy infrastructure with a 6 Green Star rating or equivalent will generate direct benefits in terms of energy savings, water savings and reductions in CO₂ emissions. While it is very difficult to estimate the value of these benefits for the assets and facilities that will be developed, a sense of their potential magnitude can be obtained from analysis of Green Buildings⁵. At a broad level, it is estimated that a 40- 60 per cent improvement in energy efficiency and a 30-40 per cent water saving can be achieved by moving from a 4 Green Star (industry best practice) to a 6 Green Star

⁵ See, for example, Green Star in focus: The business case. <https://gbca-web.s3.amazonaws.com/media/documents/gbca-green-star-in-focus-the-business-case-v1-r6-digital-spreads-reduced-size.pdf>

(world leading practice) building standard. While the direct benefits of delivering 6 Green Star Games infrastructure are likely to be substantial, the indirect benefits may be significantly larger. The demonstration effect of delivering 6 Green Star rated infrastructure may bring forward the transition to widespread adoption of the higher building standards. The relevant skills and supply chains developed in the course of delivering the Games legacy infrastructure would potentially make a more rapid and wide-spread transition more viable.

5.2 Behavioural change

Although there are various short-term environmental challenges associated with hosting a mega event, there is also a great opportunity due to the scale and visibility of the event to promote more environmentally sustainable practices and encourage ongoing behavioural change.

Mega-events have the potential to impact local ecosystems by bringing pollution and waste into biologically and culturally diverse areas; utilising reserves of natural capital; releasing carbon emissions and the high consumption of energy and water during the event (Ahmed and Pretorius, 2010). The impacts of pollution can be mitigated through various community incentives, including incentivising recycling behaviours, free refill stations for water bottles and a conscious focus on limiting single use items. Supplementing the Government's plastic pollution reduction plan and net zero emissions by 2050, an even greater focus on reducing, reusing and recycling could be implemented for the Games. This could incentivise behavioural change and see a pattern of long-term sustainability emerge.

Sport can be a powerful social influencer with unique communication channels to actively engage event visitors, suppliers and the public. Events could be used to demonstrate best practice models in waste management and to change public attitudes and habits (Allen, O'Toole, McDonnell and Harris, 2002). For example, in the Sydney Olympic Games, a detailed set of 'green' guidelines (including 90 ecologically sustainable development principles) that governed the design, layout and construction of the Games was published. The inherent link between a clean environment and sports participation makes sport a powerful enabler for communicating and influencing communities about the need to be more environmentally conscious and sustainable.

A conscious effort and focus on branding the 2032 Games as environmentally sustainable, supported by a range of Government policies and commitments as outlined above, may help mitigate some of the short-term environmental impacts. This can be reinforced through building on Queensland's existing environmental credentials and policy decisions (e.g. banning single use plastics, expanding the Containers for Change scheme and ongoing commitment to transition to a zero-carbon economy), and the commitment to delivering 6 Green Star infrastructure projects as part of the Games, to catalyse pro-environmental behavioural change for communities and businesses alike.

5.3 Pollution and waste management incentives

Mega-events have the potential to impact local ecosystems by bringing pollution and waste into some of the world's most biologically and culturally diverse areas; utilising reserves of natural capital; releasing carbon emissions and the high consumption of energy and water during the event (Ahmed and Pretorius, 2010).

The impacts of pollution can be mitigated through various community incentives, including incentivising recycling behaviours, free refill stations for water bottles and a conscious focus on limiting single use items. Supplementing the Government's plastic pollution reduction plan and net zero emissions by 2050, an even greater focus on reducing, reusing and recycling could be implemented for the Games. This would involve renting (rather than purchasing) equipment and donating any unused or dismantled materials/equipment back into the community, limiting the environmental effects resulting from the production and disposal of hundreds of thousands of items (UEFA Euro, 2016). Initiatives such as these could support the Climate Positive commitments for the Games.

5.4 Transport planning

Traffic congestion and increased emissions are two of the most cited impacts of hosting the Games (Ahmed and Pretorius, 2010). This can include consumption of fuel and pollution by vehicle emissions, which can accrue to substantial environmental and social impacts. Most of these impacts are short-term and will not persist beyond the event.

While congestion may impact local resident amenity and connectivity for a period of time, advanced notice of traffic impacts for local residents, additional public transport services and transport planning will all assist with reducing these impacts. The theme of sustainability can be addressed by situating many Games facilities within walking distance of each other, reducing the dependence on motor vehicles and other modes of travel. Lessons learned and applied from the transport planning and execution during the Gold Coast 2018 Commonwealth Games will also be an important consideration.

6 Summary of potential quantifiable benefits

Overall, the total estimated potential quantified benefits to Queenslanders from hosting a 2032 Games is up to approximately \$8.10 billion. This is presented in the following table.

Table 2: Summary of potential quantifiable benefits (\$ billion)

	Queensland	Australia
Economic benefits	4.60	8.50
Social benefits	3.50	9.11
Total quantifiable economic and social benefits	8.10	17.61

Source: KPMG analysis

At the national level, total quantified benefits are estimated to be up to \$17.61 billion.

The focus of this report is on the economic and social benefits of a 2032 Games. Delivery of the 2032 Games will entail disbenefits in the form of economic opportunity costs associated with operations and legacy infrastructure. Preliminary analysis indicates that the economic and social benefits of hosting the 2032 Games outweigh the disbenefits.

It is noted that the numbers presented in in Table 2 should be interpreted in the context of the analytical approach and its limitations and the various exclusions as outlined in sections 1.2 and 1.3 and elsewhere throughout this report. To summarise:

- A formal cost benefit analysis (CBA) has not been completed;
- The quantifiable benefits include both market and non-market benefits;
- The non-market benefits presented in the table represent the higher bound of estimates prepared;
- The uncertainty in the timing of benefits has not been accounted for by discounting;
- A degree of uncertainty surrounds the benefit estimates, particularly benefits measured on the basis of non-market valuation techniques; and
- Benefits that may continue to accrue after the end of the evaluation period (i.e. 2042) have not been considered.

Consideration has also been given to the potential employment impacts associated with the increased economic activity resulting from hosting a 2032 Games. The estimated impact of the new expenditures resulting from the Games (including induced tourism and trade, event operations and infrastructure) is projected to result in the creation of approximately 122,900 full-time equivalent (FTE) job years at a national level and approximately 91,600 FTE job years in Queensland over the 20 year evaluation period.

The analysis assumes that additional investment in Queensland induced by the 2032 Games is financed by Queensland, interstate and international capital, including foreign direct investment (FDI). Hosting the 2032 Games has the potential to lift Queensland's profile amongst international investors and present tangible opportunities to attract FDIs. Relative to other forms of investment FDIs may also generate additional benefits to Queenslanders.

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