



The socio-economic impact of the 2030 Olympic and Paralympic Winter Games

**Report prepared by PwC for The Canadian Olympic
Committee**

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This Report was developed in accordance with our engagement letter dated August 23, 2022 and is subject to the terms and conditions included therein.

Our work was limited to the specific procedures and analysis described herein and was based only on the information made available at the time we prepared the report. Accordingly, changes in circumstances after the date of this Report could affect the findings outlined herein.

We are providing no opinion, attestation or other form of assurance with respect to our work and we did not verify or audit any information provided to us.

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The analysis and observations presented in this document are based on information provided to us by COC, which has not been verified by PwC.

All dollar values are in 2022 Canadian undiscounted dollars (“\$”), unless otherwise specified.

Limitations associated with this report are found in Appendix B and form an integral part of this report.

Background

Working under the leadership of Lilwat (Lilwat), xwməθkwəy əm (Musqueam), Skwxwú7mesh Úxwumixw (Squamish) and səilwətał (Tsleil-Waututh) Nations, the Canadian Olympic Committee 2030 Feasibility Team (“Feasibility Team”) is exploring the possibility of hosting the 2030 Olympic and Paralympic Winter Games (“the Games” or “Games”) in British Columbia (“BC”).

As part of this process, the Feasibility Team has prepared preliminary financial estimates associated with both capital and operating expenditures necessary to host the Games. The broad categories of anticipated expenditures identified by the Feasibility Team include:

- Sporting event venue (“Venue”) capital upgrades;
- Olympic Village (“Village”) new construction projects;
- Organizing Committee operations; and
- Public Safety and Security while hosting the Games.

Within this context, the COC commissioned PricewaterhouseCoopers LLP (“PwC”, “we”, or “us”), to conduct a socio-economic analysis of the potential impacts associated with hosting the Games in BC.

As estimated by the Feasibility Team, the anticipated cumulative public and private expenditures associated with hosting the Games ranges from \$4.6 to \$4.9 billion.¹



Hosting the Games would create a significant economic footprint in BC and the rest of Canada through its impacts on GDP, employment and tax revenues in the years leading to and during the Games. In addition, the Games also have the potential to generate a diverse range of wider socio-economic benefits for the province before, during and after the Games.

For the purposes of estimating the economic footprint, we have modelled the economic impacts associated with each expenditure category separately. The economic footprint associated with these expenditures has been estimated between 2022 and 2030, which spans expenditures incurred leading up to and while hosting the Games.

The wider socio-economic benefits were assessed by us based on our understanding of the plans for the Games, experience from the 2010 Winter Olympics in Vancouver, and literature review on the benefits of sport events.

Proposed Games Expenditures

The table below provides a breakdown of the proposed expenditure categories associated with hosting the Games. This includes estimates of total spend, summary descriptions and projected timelines for each expenditure category.

Expenditure Category	Proposed Cumulative Spend (\$ M)*	Details	Timing of expenditure
 Venue capital upgrades	\$660 - \$700	Venue upgrades include significant capital improvements to modernize existing multi-sport facilities across BC within Vancouver, Whistler and Sun Peaks regions. Part of these expenditures also include broadcast centres, medals plazas and training facilities.	2025 - 2030
 Village construction	\$850**	Village construction includes the development of new Olympic Villages within Vancouver, Whistler and Sun Peaks as well as community and First Nation housing legacies. Following the Games, the Vancouver and Whistler Villages will support affordable housing initiatives within their respective regions.	2026 - 2029
 Organizing Committee operations	\$2,500 - \$2,800	The Organizing Committee is responsible for the development of the Games concepts including cultural engagement, ceremony and torch relay planning, logistics as well as delivery of the Games.	2022 - 2030
 Public Safety and Security	\$560 - \$583	Public Safety and Security includes the provision of additional security and surveillance services within Venues across the Vancouver, Whistler and the Sun Peaks regions during the Games.	2030

*Estimated by the Feasibility Team. We note that proposed Venue upgrades and Village construction cumulative spend figures include both owner investments and publicly funded capital upgrade and construction options.

**Expenditures associated with new Village construction are presented as a standalone figure as the Feasibility Team has identified these projects will not include additional construction options. Refer to endnote ² and endnote ⁵ for further details.

Overview of modelling approach

In order to conduct our socio-economic impact analysis of the Games within BC and the rest of Canada, we have relied on information provided by the Feasibility Team including the following:

- A description of all proposed Venue capital upgrades and new Village construction projects currently considered as part of the 2030 Hosting Concept prepared by the Feasibility Team.
- Estimated ranges of cumulative capital expenditures associated with Venue capital upgrades including investments made by owners as well as publicly funded investment options.
- Estimated capital expenditures associated with new Village construction projects which comprise of investments made by Village owners.
- Estimated ranges of cumulative operating data related to the Games Organizing Committee including major expenditures incurred leading up to and while hosting the Games.
- Estimated ranges of Public Safety and Security operating expenditures and associated employment needs while hosting the Games.
- Discussions with Feasibility Team representatives on the potential wider socio-economic impacts of the Games as well research on the socio-economic benefits of large sport event and in particular the 2010 Vancouver Olympic Games.

Input-Output modelling framework: The economic footprint of each proposed expenditure type has been estimated at the direct, indirect and induced impact levels using an Input-Output (“IO”) modelling approach. These impacts, individually and collectively, represent how the proposed activities associated with estimated capital and operating expenditures related to hosting the Games would ripple throughout the BC and Canadian economy. The fundamental philosophy behind Input-Output analysis is that spending on goods and services has attendant impacts throughout the economy. For instance, capital upgrades to existing Venues within Vancouver would generate demand for the inputs to this process, such as labour and raw materials, which in turn generates additional demand that extends beyond the initial spending.

For the purposes of this analysis, we have modelled the economic footprint of capital and operating expenditures that would be incurred in order to host the Games. To this extent, revenue generated through ticket sales, broadcasting and sponsorship have not been included in our economic modelling framework but are instead addressed as part of a separate wider socio-economic impact analysis discussion. We also note that a significant portion of existing infrastructure built for the 2010 Vancouver Olympic Games will be leveraged and modernized via capital upgrades as opposed to completely new builds. While leveraging existing infrastructure reduces the total cost of hosting the Games, this also reduces the total economic footprint associated with hosting the Games.

Economic footprints associated with each expenditure category were estimated for the following measures of economic activity: GDP, Employment, Labour income, Taxes on production and products, Personal income tax (“PIT”) and Corporate income tax (“CIT”). For definitions on each of the above estimated measures of economic activity and further discussion on modelling methodology and key assumptions, refer to **Appendix A**.

Expenditure categories: The estimated economic footprint for each expenditure category, aside from new Village construction projects, is presented as a range and on a cumulative basis between 2022 and 2030, with each based on proposed expenditures and timings provided by the Feasibility Team. The economic footprints presented encompass the following:

1. Capital Expenditures

- a. Capital upgrades to existing Venues throughout BC (i.e. between 2025 and 2030)
- b. New construction of Villages throughout BC (i.e. between 2026 and 2029)

2. Operating Expenditures

- a. Organizing Committee operations leading up to and during the Games (i.e. between 2022 and 2030)
- b. Public Safety and Security (i.e. while hosting the Games in 2030)

Estimating capital expenditure impacts: To model the economic footprint of proposed capital expenditures associated with hosting the Games, we have relied on information provided by the Feasibility Team related to the proposed total capital outlays required to upgrade existing Venues and construct new Villages between 2025 and 2030.

As part of these capital outlays, the Feasibility Team has provided both the anticipated investments made by each Venue owner as well as a range of publicly funded investment options. The range of publicly funded investment options consider different capital upgrade and new construction scenarios for each Venue and Village. To this extent, the estimated economic footprint associated with capital expenditures consider total spend on Venue capital upgrades regardless of where the funds are sourced from. For the construction of new Villages, the Feasibility Team has provided anticipated investments made by each Village owner. Expenditures associated with new Village construction are standalone figures that do not include additional construction options as identified by the Feasibility Team. Refer to endnote ² and endnote ⁵ for further details.

We note that the proposed capital expenditures presented by the Feasibility Team include other anticipated costs such as marketing or tax costs which have been excluded from our economic analysis in order to capture only expenditures directly associated with construction.

Estimating operating expenditure impacts: To model the economic footprint of proposed operating expenditures associated with hosting the Games, we have relied on information provided by the Feasibility Team related to Organizing Committee operations leading up to and while hosting the Games between 2022 and 2030 as well Public Safety and Security expenditures while hosting the Games. The operating expenditures provided by the Feasibility Team have been presented as a range based on anticipated financial outlays.

Summary economic footprint of the 2030 Olympic and Paralympic Winter Games in BC

The proposed total capital and operating expenditures assumed for the purpose of this analysis range from \$4.6 to \$4.9 billion cumulatively between 2022 to 2030 and include Venue capital upgrades, new Village construction projects, Organizing Committee operations as well as Public Safety and Security while hosting the Games.³ The resulting cumulative economic footprint associated with BC-based expenditure* for each category is presented below on a range basis according to required investments anticipated by the Feasibility Team leading up to and during the Games.

We estimate that between 2022 and 2030, the proposed BC-based capital expenditures associated with hosting the Games could generate a total economic footprint in BC of between \$1.25 and \$1.28 billion in GDP, employment of between 10,732 and 10,965 individuals, between \$711 and \$727 million in associated labour income and between \$190 and \$194 million in tax revenue collected by BC provincial and local governments.

We estimate that between 2022 and 2030, the proposed BC-based operating expenditures associated with hosting the Games could generate a total economic footprint in BC of between \$2.3 and \$2.6 billion in GDP, the employment of between 27,380 and 30,041 individuals, between \$1.3 and \$1.5 billion in associated labour income and between \$276 and \$304 million in tax revenue collected by BC provincial and local governments,

Combined, the total economic footprint of the anticipated BC-based capital and operating expenditures associated with hosting the Games could generate a total economic footprint in BC equal to between \$3.6 and \$3.8 billion in GDP, the employment of between 38,112 and 41,006 individuals, between \$2.1 and \$2.2 billion in labour income and between \$466 and \$498 million in BC provincial and local taxes between 2022 and 2030.

For estimates of the total contributions to the Canadian economy associated with the Games as well as a breakdown of each expenditure category by direct, indirect and induced Canadian impacts, refer to **Appendices C and D**.

Total economic footprint of the 2030 Olympic and Paralympic Winter Games by expenditure category - BC

In 2022 \$CAD, cumulative between 2022 and 2030**

	GDP (\$ millions)	Labour income (\$ millions)	Employment (Headcount)	Tax revenue*** (\$ millions)
Venue Capital Upgrades	\$555 - \$582	\$324 - \$340	4,709 - 4,942	\$82 - \$86
Village Construction	\$696	\$387	6,023	\$108
<i>Subtotal, Capital expenditures</i>	<i>\$1,251 - \$1,278</i>	<i>\$711 - \$727</i>	<i>10,732 - 10,965</i>	<i>\$190 - \$194</i>
Organizing Committee	\$1,723 - \$1,933	\$972 - \$1,091	19,053 - 21,372	\$207 - \$232
Public Safety and Security	\$607 - \$632	\$364 - \$379	8,327 - 8,669	\$69 - \$72
<i>Subtotal, Operating expenditures</i>	<i>\$2,330 - \$2,564</i>	<i>\$1,336 - \$1,469</i>	<i>27,380 - 30,041</i>	<i>\$276 - \$304</i>
Total impact	\$3,581 - \$3,842	\$2,047 - \$2,196	38,112 - 41,006	\$466 - \$498

*Total capital and operating expenditures are based on data provided by the Feasibility Team. It was estimated by the Feasibility Team that for each expenditure category, a proportion of total spend would occur within the province of BC and the remainder would occur either throughout the rest of Canada or internationally.

**Due to rounding, the totals may not always add up to the sum of the items. Employment impacts associated with each expenditure category detail the number of jobs created or supported based on the proposed expenditures. Proposed project timelines are based on preliminary projections and subject to change.

***Tax revenue figures presented are BC-based only and include the sum of corporate income tax, personal income tax as well as taxes on production and products.



Economic footprint of Venue capital upgrades

The total anticipated capital upgrades necessary to modernize Venues assumed for the purpose of this analysis range from \$660 to \$700 million between 2025 and 2030 and include investments made by select Venue owners in addition to publicly funded upgrade options. The resulting cumulative economic footprint associated with BC-based expenditure is presented below on a range basis according to required investments anticipated by the Feasibility Team leading up to and during the Games.⁴

We estimate the proposed BC-based expenditures related to Venue capital upgrades could generate a total economic footprint in BC of between \$555 and \$582 million in GDP, the employment of between 4,709 and 4,942 individuals, between \$324 and \$340 in associated labour income and between \$82 and \$86 million in tax revenue collected by BC provincial and local governments.

Total economic footprint of Venue capital upgrades - BC

In 2022 \$CAD, cumulative between 2025 and 2030*

	GDP (\$ millions)	Labour income (\$ millions)	Employment (headcount)	Tax revenue** (\$ millions)
Direct	\$269 - \$282	\$181 - \$189	2,393 - 2,510	\$40 - \$43
Indirect	\$149 - \$157	\$94 - \$99	1,327 - 1,394	\$15 - \$16
Induced	\$137 - \$143	\$49 - \$52	988 - 1,037	\$27 - \$28
Total	\$555 - \$582	\$324 - \$340	4,709 - 4,942	\$82 - \$86



Economic footprint of Village construction

The anticipated capital expenditures necessary to develop new Villages assumed for the purpose of this analysis total \$850 million between 2026 and 2029 which comprise of investments made by each Village owner.² The resulting cumulative economic footprint associated with BC-based expenditures is presented below according to required investments anticipated by the Feasibility Team leading up to and during the Games.⁵

We estimate the proposed BC-based expenditures related to new Village construction could generate a total economic footprint in BC of approximately \$696 million in GDP, the employment of 6,023 individuals, \$387 in associated labour income and approximately \$108 million in tax revenue collected by BC provincial and local governments.

Total economic footprint of Village construction - BC⁶

In 2022 \$CAD, cumulative between 2026 and 2029*

	GDP (\$ millions)	Labour income (\$ millions)	Employment (headcount)	Tax revenue** (\$ millions)
Direct	\$362	\$218	3,197	\$60
Indirect	\$180	\$113	1,713	\$19
Induced	\$154	\$55	1,114	\$30
Total	\$696	\$387	6,023	\$108

For a breakdown of the total tax impacts at both the provincial and federal levels, including corporate income tax, personal income tax as well as taxes on production and products, refer to **Appendices E and F**.

*Due to rounding, the totals may not always add up to the sum of the items. Employment impacts associated with each expenditure category detail the number of jobs created or supported based on the proposed expenditures. Proposed project timelines are based on preliminary projections and subject to change.

**Tax revenue figures presented are BC-based only and include the sum of corporate income tax, personal income tax as well as taxes on production and products.



Economic footprint of Organizing Committee operations

The total anticipated Organizing Committee operating expenditures assumed for the purpose of this analysis range from \$2.5 to \$2.8 billion cumulatively between 2022 and 2030. The resulting cumulative economic footprint associated with BC-based Organizing Committee operating expenditure is presented below on a range basis leading up to and during the Games.⁷

We estimate that BC-based Organizing Committee operations could generate a total economic footprint in BC of between \$1.7 and \$1.9 billion in GDP, the employment of between 19,053 and 21,372 individuals, between \$972 million and \$1.1 billion in associated labour income and between \$207 and \$232 million in tax revenue collected by BC provincial and local governments.

Total economic footprint of Organizing Committee operations - BC

In 2022 \$CAD, cumulative between 2022 and 2030*

	GDP (\$ millions)	Labour income (\$ millions)	Employment (headcount)	Tax revenue** (\$ millions)
Direct	\$1,019 - \$1,143	\$645 - \$723	12,783 - 14,339	\$96 - \$108
Indirect	\$308 - \$345	\$186 - \$208	3,411 - 3,827	\$34 - \$38
Induced	\$396 - \$444	\$142 - \$159	2,859 - 3,207	\$77 - \$86
Total	\$1,723 - \$1,933	\$972 - \$1091	19,053 - 21,372	\$207 - \$232



Economic footprint of Public Safety and Security

The total anticipated expenditures associated with Public Safety and Security assumed for the purpose of this analysis range from \$560 to \$583 million. The resulting economic footprint presented below is associated with BC-based Public Safety and Security anticipated spend incurred in 2030 during the Games.⁸

We estimate that BC-based Public Safety and Security expenditures could generate a total economic footprint in BC of between \$607 and \$632 million in GDP, the employment of between 8,327 and 8,669 individuals, between \$364 million and \$379 million in associated labour income and between \$69 and \$72 million in tax revenue collected by BC provincial and local governments.

Total economic footprint of Public Safety and Security - BC

In 2022 \$CAD, during the Games in 2030*

	GDP (\$ millions)	Labour income (\$ millions)	Employment (headcount)	Tax revenue** (\$ millions)
Direct	\$338 - \$352	\$248 - \$258	6,079 - 6,329	\$24 - \$25
Indirect	\$82 - \$86	\$49 - \$52	902 - 939	\$9 - \$9
Induced	\$186 - \$194	\$67 - \$69	1,346 - 1,401	\$37 - \$38
Total	\$607 - \$632	\$364 - \$379	8,327 - 8,669	\$69 - \$72

For a breakdown of the total tax impacts at both the provincial and federal levels, including corporate income tax, personal income tax as well as taxes on production and products, refer to **Appendices E and F**.

*Due to rounding, the totals may not always add up to the sum of the items. Employment impacts associated with each expenditure category detail the number of jobs created or supported based on the proposed expenditures. Public Safety and Security expenditures are incurred in 2030 only.

**Tax revenue figures presented are BC-based only and include the sum of corporate income tax, personal income tax as well as taxes on production and products.

In addition to the economic impacts previous outlined, there are a number of wider socio-economic opportunities associated with hosting the games that should be considered.



Wider socio-economic benefits associated with hosting the Games

The Games have the potential to generate a diverse range of wider socio-economic benefits for Vancouver and BC. These wider socio-economic benefits can materialize during the hosting of the Games (and the period leading up to hosting) or are longer term in nature, materializing post-completion of the Games. These benefits are grouped as such below and expanded upon in following pages.

Hosting the Games could generate the following socio-economic benefits for Vancouver and BC:

	Indigenous-led governance and planning	Host First Nations will have an equal voice at the table with respect to activities taking place on their traditional, ancestral territories, facilitating progress with respect to BC's <i>Declaration on the Rights of Indigenous Peoples Action Plan</i> .
	Climate and Sustainability leadership	The Games will be the first Climate Positive Games and will compensate both its direct and indirect carbon emissions, and implement lasting zero-carbon solutions (e.g. clean transportation and renewable energy solutions), supporting BC's <i>CleanBC Roadmap to 2030</i> .
	Local Tourism	Local tourism markets are expected to witness a boost from a mix of domestic and international visitors that visit the region to attend the Games and make associated local visitation expenditures. This can also support long-term tourism (see City brand and profile below).
	Regional economic development	The Games will provide training, skills and experience for youth and under-employed residents. There will be an effort to prioritize the use of local businesses and experts to supply the Games products and services. This has the potential to increase the BC economic footprint estimated in this report and to create new businesses in BC.
	Community cohesion	The volunteering efforts associated with Games, in conjunction with the the community spirit and civic pride associated with hosting the Games, could contribute to enhancing cohesion across the broader community.
	Inclusivity and diversity	Provides an opportunity to deliver an inclusive event that connects communities and increases awareness of a range of cultures, ages, genders, and abilities to celebrate diversity and share it with others.
	Liveability and housing	These Games have the potential to improve liveability within the city by creating affordable and accessible housing legacies from Games' accommodation, which aligns with Provincial housing priorities focused on increased affordable and middle-income housing.
	City brand and profile	Hosting the Games can enhance Vancouver and BC's international profile and position it as a desirable place to live, work, study, and visit, building on the City and Province's existing brand that was enhanced by the 2010 games.
	Transportation infrastructure	As witnessed in the wake of the 2010, the Games could accelerate desired investments in transportation infrastructure including roadways, active transportation (e.g. bike lanes), and public transit.
	Elite sporting pathways	The availability and marketing of world-class facilities and the prestige of the Games will continue the provision of elite training centres and coaching locally to create an environment for high performing emerging athletes and facilitate community sport participation.
	Impact and Legacy	Providing legacy endowment fund(s) for future generations, beyond legacy elements that are included in the capital program.

During Games

Post-Games



Indigenous-led governance and planning: Host First Nations will have an equal voice at the table with respect to activities taking place on their traditional, ancestral territories, facilitating progress with respect to BC's Declaration on the Rights of Indigenous Peoples Action Plan.



As the first Indigenous-led bid exploration, the Games can represent a unique opportunity for First Nations to lead everything from governance to planning to hosting the Games. The work would involve Indigenous processes and protocols and adhere to the global human and family values, propelling meaningful reconciliation for all people from all cultures.

At the core of the concept of the 2030 Games is the reinforcement of fundamental Indigenous values of respect and a sense of community. This is in line with The United Nations Declaration of the Rights of Indigenous Peoples ("UNDRIP") and allows for a concrete step for the province of BC in the direction

of purposeful reconciliation and eradicating barriers to sport as well as increasing accessibility through inclusion. According to the Feasibility Team, BC was the first province to implement the UNDRIP through legislation and aims to create an understanding of the importance of reconciliation and the pivotal role it plays in helping the province uncover its economic, cultural and social potential. The 2030 Games can open avenues for Indigenous and non-Indigenous people to work together and contribute to its success. The Feasibility Team is seeking that the Games would exhibit a global model of reconciliation, community and inclusivity. Meaningful steps towards reconciliation are embedded within each objective as outlined in the 2030 Initial Hosting Concept.

- **Social Inclusion and Accessibility:** Entails increasing understanding about reconciliation between Indigenous and non-Indigenous people in Canada; reducing barriers to increase accessibility to community programs and working together as a community for a common goal
- **Economic prosperity:** Leveraging local businesses for goods and services; transferring skills to youth and under-employed people and strengthening tourism including Indigenous tourism
- **Environmental Stewardship and Action:** The Games' sustainability framework for the Climate Positive games includes taking purposeful action towards reconciliation. Steps would include investing in clean transportation, restoring natural resources and land and enabling the sport sector to take climate action.
- **Community resilience and affordability:** Use the Games as a catalyst to invest in affordable housing which is a priority of the government and First Nations.
- **Sport Participation and Development:** Expand accessibility and participation to more people, creating an inclusive environment based on Indigenous principles. Supporting more diverse teams and creating legacies to promote an active and healthy lifestyle.
- **Cultural Enrichment:** Indigenous culture would be the highlight of the Games, embedded in every benefit area and celebrated throughout the Games between Indigenous and non-Indigenous peoples.

In addition, formal propositions as part of the Games Master Plan include the 2030 Culture and Education Program Concept, which focus on aiding Canadian understanding of the reconciliation journey. The goals of this program are:

- Help Canadians become more well-informed on reconciliation through increased visibility of Indigenous peoples in BC and Canada
- Expand activities of the Host First Nations to clearly illustrate where the Games are taking place
- Infuse Indigenous culture into every element of the Games and for all people who visit and participate in person or remotely
- Celebrate the diversity of the Indigenous peoples and all Canadians to strength a resilient community, share learnings and create a more inclusive Canada.



Climate and Sustainability leadership: The Games will be the first Climate Positive Games and will compensate both its direct and indirect carbon emissions, and implement lasting zero-carbon solutions (e.g, clean transportation and renewable energy solutions), supporting BC's CleanBC Roadmap to 2030.

The 2030 Olympic and Paralympic Winter Games will be the first climate positive Games. The Games present the opportunity to engage in significant economic activity with net-zero impact and model BC as a global leader in climate action. Objectives for the Games include investing in clean and active transportation and renewable energy solutions such as alternative fuels and power for homes; and restoring important natural areas to increase the environment's capacity to absorb carbon. The Feasibility Team's 2030 Climate Positive Concept is detailed below:

2030 Climate Positive Concept

The 2030 Games Organizing Committee has been set up to plan and deliver the 2030 Olympic and Paralympic Winter Games. This committee will build out a Climate Positive concept that incorporates the following principles:

- Deliver Climate Positive Games as required by the International Olympic Committee ("IOC")
- Minimize direct and indirect emissions and compensate (offset) unavoidable emissions to achieve a net-zero emissions result for the Games
- Ensure lasting zero carbon solutions beyond the Games to achieve a Climate Positive outcome
- Align with and accelerate progress on Canada, BC, Host Nations and local climate action plans
- Adopt a "shared responsibility" approach to carbon management – all Games participants, from athletes, sponsors, and spectators, to government agencies, security partners and media, take responsibility for their climate impact within their organizations and communities
- Identify opportunities to use Canadian clean technology and nature-based solutions for emission reductions, compensation/offset projects, long term zero carbon solutions
- Commit to UN Sport for Climate Action framework – engage the Canadian Sport sector to act
- Employ transparent best practices based on recognized standards for carbon management and climate action – footprint calculation, reporting, action, compensation, engagement

Carbon Management Framework

Further to this, the Organizing Committee will follow the IOC Carbon Management Framework (2018) to:

- **Understand:** Define scope, activities and responsibilities; identify baseline quantitative assessment (carbon footprint), range of impacts, and factors that influence it
- **Take Action:** Avoid/substitute/reduce emissions, influence partners, compensate/offset, report
- **Educate and Inspire:** Inform stakeholders/public on climate actions, encourage others to act.

2030 Sustainability Concept

The concept of the Seventh Generation Principle is highlighted as a key tenant underpinning the Feasibility Team's 2030 Sustainability Concept. This principle entails that today's actions will impact seven generations from now in the same way that today's actions are guided by the learnings of seven generations that have come before today. In order to adhere to this principle, the Organizing Committee has stated that it intends to:

- Align with and deliver on UN Sustainable Development Goals with their 2030 targets
- Apply sustainability principles and practices across all aspects of the Games
- Work collaboratively with Host Nations, sport, corporate, community and government partners
- Employ a sustainability management system to assign responsibilities, monitor progress, adjust and report accomplishments over the Games' life cycle
- Communicate and engage with stakeholders to define sustainability outcomes and provide transparent, timely performance reporting



Local Tourism: *Local tourism markets are expected to witness a boost from a mix of domestic and international visitors that visit the region to attend the Games and make associated local visitation expenditures. This can also support long-term tourism (discussed as part of City brand and profile).*

The 2030 Games present a unique opportunity for tourism agencies and the government to strategize on propelling growth of tourism in BC and promoting the attractiveness of the City as a desirable place to visit. As per the Feasibility Team, multiple stakeholders including sponsors, future organizing committees, and territories can set up hospitable accommodations to promote tourism. The media familiarity tours would provide an opportunity to highlight the country and the province to media and offer photo coverage and high-quality footage of the people and venues. They would also shed light on local stories and propose ideas of conveying them to the media. Invitations for the Games can be sent to foreign dignitaries to foster international relations. The 2030 Feasibility Team has met with several surrounding communities, tourism and sport organizations as part of the feasibility work. The 2030 Games provide an opportunity to accelerate BC's economy through tourism, job creation and an increase in opportunities for local businesses.



Regional economic development: *In addition to the economic benefits outlined previously, the Games will provide training, skills and experience for youth and under-employed residents and use local businesses and experts (where possible) to supply Games products and services to support the regional economy.*

PwC's previous analysis on the 2010 Games indicates that the BC economy saw long term benefits from the Games. Statistics Canada data showed that BC GDP per capita in 1981 was 107% that of Canada and since then had been on a declining trend reaching a low of 86% in 2001. Since 2002 the trend reversed and reached 98% in 2020. While there is no doubt other factors were at play, the fact that the trend reversal coincided with the time at which preparations for the 2010 Games started may support the notion that the games had some lasting impact on economic activity in the province.

Once again, the 2030 Games present an opportunity in the path of economic prosperity and development. Building on the 2010 experience, the Games can create employment opportunities where skill training can be provided to youth and underemployed people which would help them gain vital experience to be leveraged post-Games. Youth development programs can connect local Indigenous youth with peers from across Canada presenting a unique opportunity to work and learn together. The use of local businesses and expertise to supply Games products and services is another avenue to support the region's economic growth and gives these businesses a chance to be part of an important multi-sport event and showcase their brand names. Tourism agencies and the government can work together to discuss a strategic plan to promote the culture and history of the region. Business leaders can be invited to hold discussions on business development objectives and strategies. The Games create an excellent platform for connecting with executives from the IOC and International Paralympic Committee ("IPC") sponsors and foster relationships beyond the event. In the presence of various stakeholders and entities, the government can promote BC as a place to live, work and invest.



Community Cohesion: *The volunteering efforts associated with Games, in conjunction with the the community spirit and civic pride associated with hosting the Games, could contribute to enhancing cohesion across the broader community.*

The Games will bring community members together to share a common vision and work together through various stages of the organization of the Games and hosting of the Games. It would lead to increased engagement in volunteering and community building activities and an integration of various community groups. It will also serve as a reminder for the volunteers, and all stakeholders involved that they are all working together in 'one canoe' for a shared purpose. The Games provide an opportunity for a rich cultural exchange and sharing of learnings and experiences as visiting delegations can each share their own talents and history. There can be celebration sites which can be gathering points for people to see live coverage of the Games. Whether it is at the international, national, regional or community level, the Games can be a platform for building relationships, and this civic pride and community strength will serve as a legacy beyond the Games, for generations to come.



Inclusivity and Diversity: *Provides an opportunity to deliver an inclusive event that connects communities and increases awareness of a range of cultures, ages, genders, and abilities to celebrate diversity and share it with others.*

As planned by the Feasibility Team, Indigenous-led values of mutual respect, tolerance and inclusivity can aid the development of a decision-making framework for removing barriers to accessibility and build resilience in the community. Coupled with a number of other wider socio-economic aspects previously outlined, the inclusivity and diversity aspects of the Games will showcase and build on BC's globally respected ESG brand. Through the Feasibility Team's engagement with community-based social agencies, the Games intends to provide an inclusive experience to all people, regardless of their cultural background, gender, age and ability. This can be an integral platform in the process of supporting social change on key issues such as reconciliation, gender equality, LGBTQ+, mental health, disabilities and human rights. The 2030 Games can prove to be a catalyst for the community to follow these practices beyond the Games, creating a much larger legacy impact.



Liveability and housing: *These Games have the potential to increased liveability within the city by creating affordable and accessible housing legacies from Games' accommodation, which aligns with Provincial housing priorities focused on increased affordable and middle-income housing.*

The Games-time workforce accommodation strategy is in line with the Host Nations priority as well as the three orders of the government as outlined in the 2030 Initial Hosting Concept. A key part of the Games' power legacy would be to utilize the Games as an opportunity to invest in affordable and accessible housing projects sooner. To execute this, the Vancouver Village Working Group is developing a proposal which details the number of non-market units as an affordable housing legacy, funding requirements, a development schedule, and additional information. The Whistler Village is building out its proposal to achieve the legacy of affordable workforce housing. Spectator accommodation will be supported by traditional families and friends programs, along with Airbnb, an IOC international sponsor. Additionally, investing in an affordable housing strategy can help the government of BC to curb the housing challenges of affordability and accessibility that the province is currently facing.



City brand and profile: *Hosting the Games can enhance Vancouver and BC's international profile and position it as a desirable place to live, work, study, and visit, building on the City and Province's existing brand that was enhanced by the 2010 games.*

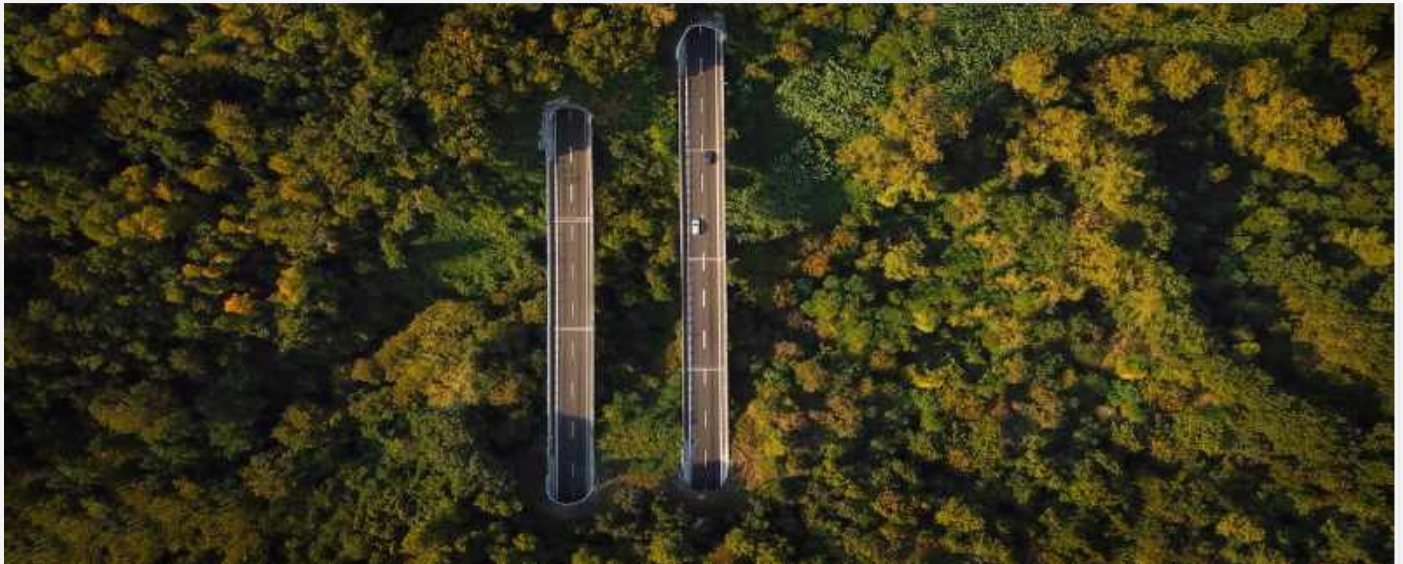
The Olympic Games is one of the most prestigious, well recognized and largest multi-sport events in the world. The host city linked with the Games gets the opportunity to gain global recognition and promote its profile to an international audience. As per the IOC, in 2010, Vancouver was the first to set up a not-for-profit organisation during the bid process to develop long-term legacies for the wider community. Some legacies from the 2010 Vancouver Olympic Games include job creation during a global recession of 2009, increased awareness on environmental sustainability and an enhanced spirit of inclusivity and community. Additionally, the Canadian Tourism Commission's analysis of the 2010 Games suggested that Vancouver's tourism industry experienced a 7.2% increase in the months following the 2010 Games and grew for six years leading up to 2018. The 2010 Games will be remembered as a momentous event, reaching a target audience of 3.8 billion people globally and approximately 1.8 billion viewers, according to IOC.

The 2030 Games provide the opportunity to further build on these legacies and improve the city's already established transportation, social and recreational infrastructure. Similar to 2010, the Games presents a unique opportunity to increase employment opportunities and leverage BC and Canadian businesses for goods and services. The Games can also provide a platform to expedite investments in infrastructure upgrades and build on the existing popularity of BC and Canada as a location to visit and explore. In order to reinforce and extend relationships fostered during the 2010 Games, trade and investment conferences can be arranged for visitors to educate them about programs that encourage working with Indigenous businesses and Nations. Cultural exchanges and workshops can aid connectivity and communication between people and stakeholders and help continue the conversation on the strengths of the region of BC and Canada as a desirable and inclusive place to live.



Transportation Infrastructure: *As witnessed in the wake of the 2010, the Games could accelerate desired investments in transportation infrastructure including roadways, active transportation (e.g. bike lanes), and public transit.*

The precedent set in 2010 indicates that the Games can expedite investment in transportation and infrastructure projects and catalyze the efficiency of public transit. Hosting the 2010 Vancouver Olympic Games acted as a catalyst for TransLink, Vancouver's transit agency. As reported by IOC, an expansion plan was launched, including 48 new SkyTrain cars, a new SeaBus and implementation of 18 new diesel-electric hybrid buses. Along with this, a new route, the Canada Line, was constructed to link Richmond and Downtown Vancouver and upgrades were made in terms of speed and safety to the Sea-to-Sky highway between Vancouver and Whistler which was once considered one of the most dangerous in Canada. The IOC also reported that mass transit ridership increased by 50% during the Games. These infrastructural investments have left legacies that have helped the province lower emissions due to increased efficiency and fewer trips by private transport and have also added to the ease of taking transit for the general public.



Elite Sporting Pathways: *The availability and marketing of world-class facilities and the prestige of the Games will continue the provision of elite training centres and coaching locally to create an environment for high performing emerging athletes.*

Hosting the Games can generate positive legacies by building the international reputation of the region through enhanced sporting success at the elite level and expanding access to sports by removing barriers through social inclusion. The provision of upgraded fitness facilities and sporting infrastructure enhances the training opportunities for elite athletes and increases access to physical activity for all community members (including the young, elderly, minority ethnic groups and disabled). It can lead to increased community participation in training and high-quality sport, specifically among the young community as they continue to feel motivated and inspired by their athletic role models. Elite sporting success can also present an opportunity for BC to attract athletes to establish themselves in the region to provide a Canadian base for key sports, which would bring investment and prestige to the region. The Games can be used as a platform where government initiatives around health and wellness can be highlighted or accelerated, which can also aid people's understanding of an active and healthy lifestyle.





Impact and Legacy: *Providing legacy endowment fund(s) for future generations, beyond legacy elements that are included in the capital program.*

Impact and Legacy is a concept central to the Games which acts as a catalyst to accomplish regional and national objectives so that present and future generations can benefit from its legacies. This notion follows the guiding principles that entail being financially and environmentally responsible and aims at amplifying positive impacts and mitigating negative impacts. The Feasibility Team highlights that the Impact and Legacy plan is strategic with measurable targets and will be built over the coming months while discussions are ongoing with government partners, and other stakeholders.



Legacy funds present the opportunity to seek public funding to leave behind wider economic and social legacies post-Games. As per the 2030 Initial Hosting Concept, these include but are not limited to:

- Building community resilience by modelling reconciliation and inclusivity
- Purposeful action in climate change and increased investment in clean transportation
- Regional economic development through job creation, increase in affordable housing, boost in tourism and upgrades in transportation infrastructure
- Improvement in community wellbeing through social inclusion and increased sport participation at the community level

Example of Legacy funds, as outlined in the 2030 Initial Hosting Concept - Financial Estimates, include:

- **Vancouver 2010 Winter Olympics:** Aboriginal Youth Sport Legacy Fund that supported physical activity, sport and recreation for Indigenous youth, and the Games Operating Trust to support ongoing operations of the Whistler Sliding Centre, Whistler Olympic Park and the Richmond Olympic Oval.
- **Toronto 2015 Pan & Parapan American Games:** Sport Legacy Fund that contributed to the operation and maintenance costs of designated Legacy Facilities.
- **Calgary 2026 Winter Olympics Bid:** Envisioned a fund to support Indigenous youth, disadvantaged youth, sport development and high performance sport (including specific Para Sport priorities) and cultural programs.



Appendix A: Data sources and modelling approach

Data sources

Data on ranges of anticipated capital and operating expenditures associated with the Games between 2022 and 2030 as well as Public Safety and Security employment were provided by the Feasibility Team. PwC allocated capital and operating spend to industry categories based on line item descriptions provided by the Feasibility Team.

We did not verify or audit the above data or the assumptions associated with it (refer to **Appendix B**).

Input output analysis

To estimate the economic footprint of hosting the Games, we have conducted an economic impact analysis that applied Statistics Canada's Input-Output multipliers to expenditure data provided by the Feasibility Team.

The fundamental philosophy behind Input-Output analysis is that spending on goods and services has attendant impacts throughout the economy. For instance, capital upgrades to existing Venues within Vancouver would generate demand for the inputs to this process, such as labour and raw materials, which in turn generates additional demand that extends beyond the initial spending. Our analysis permits the estimation of this cascading effect by using the Input-Output model of the Canadian economy.

The Input-Output model used for the purpose of this report estimates the relationship between economic activity for a given good or service and the resulting impacts throughout the economy (including demand for other goods and services and tax revenues). For the purpose of this report, economic impacts were estimated for the following measures of economic activity:

- **GDP (also known as value added)** – the value added to the economy, or the output valued at basic prices less intermediate consumption⁹ valued at market prices. GDP includes only final goods to avoid the double counting of products sold during a certain accounting period.
- **Employment** – the number of jobs created or supported.
- **Labour income** – the amount earned by the employment expected to be generated (including social benefits such as employer contributions towards pensions and employment insurance).
- **Taxes on Production and Products** – the amount of tax revenues generated from taxes on products and production (e.g. gas tax, sales taxes, and excise taxes) at the federal and provincial levels
- **Personal Income Tax** – the amount of federal and provincial tax revenues generated from taxes on the income of employees and self-employed individuals.
- **Corporate Income Tax** – the amount of federal and provincial tax revenues generated from taxes on the profits of corporations.

An economic footprint is typically estimated at the direct, indirect, and induced levels:

- **Direct impacts** result directly from a company's expenditures on labour and capital as well as gross operating profits.
- **Indirect impacts** arise from the activities of the firms providing inputs to the company's suppliers (in other words, the suppliers of its suppliers).
- **Induced impacts** are the result of consumer spending by employees of the businesses stimulated by direct and indirect expenditures.

In applying the Input-Output analysis, we made the following key assumptions:

- Note that revenue generated as a result of hosting the Games including ticket sales, broadcasting and sponsorships have not been included in our analysis.
- We have relied on Canada-wide multipliers to assess the economic footprint of the rest of Canada capital and operating expenditures. Furthermore, due to data limitations, we have assumed that all indirect and induced impacts associated with rest of Canada and outside of Canada initial expenditures would have no impact on the BC economy. In practice, we expect some indirect and induced impacts of such spending to occur within BC and consequently, the estimated BC economic impacts may be understated.
- We have relied on the Feasibility Team's estimates for procurement sourcing. Of the total anticipated capital and operating spend, the following splits were applied:
 - **Venues (\$660 - \$700 million):** 90% is expected to be spent within BC, 5% in the rest of Canada and 5% internationally;
 - **Villages (\$850 million):** 90% is expected to be spent within BC, 5% in the rest of Canada and 5% internationally;
 - **Organizing Committee (\$2.5 - \$2.8 billion):** 70% is expected to be spent within BC, 20% in the rest of Canada and 10% internationally;
 - **Public Safety and Security (\$560 - \$583 million):** *Human resources* - 87% is expected to be spent within BC, 13% in the rest of Canada; and *Technology* - 100% is expected to be spent within BC.
- Anticipated capital and operating expenditures associated with the Games are expected to be sourced both privately and publicly. For the purposes of our analysis, the source of funds is not considered.
- Note that the Games will be held in 2030, however, we have modelled all impacts based on the Feasibility Team's anticipated expenditures in 2022 \$CAD given inflation forecasts for extended time horizons are unable to fully capture future economic uncertainties.

Refer to **Appendix B** for further information on Report limitations.

Appendix B: Limitations

Limitations

Data limitations and verification: PwC has relied on the information provided by the Feasibility Team regarding the estimates and allocations of capital and operating expenditures associated with hosting the Games.

PwC has relied upon the completeness, accuracy, and fair presentation of all information and data obtained from the Feasibility Team and the various sources set out in our report, which were not audited or otherwise verified.

The findings in this report are conditional upon such completeness, accuracy, and fair presentation, which have not been verified independently by PwC. Accordingly, we provide no opinion, attestation, or other form of assurance with respect to the results of this study.

Receipt of new data or facts: PwC reserves the right at its discretion to withdraw or revise this report, should we receive additional data or be made aware of facts existing at the date of the report that were not known to us when we prepared this report. The findings are as of September 2022, and PwC is under no obligation to advise any person of any change or matter brought to its attention after such date, which would affect our findings.

Input-Output analysis: Input-Output analysis does not address whether the inputs have been used in the most productive manner or whether the use of these inputs in this industry promotes economic growth more than their use in another industry or economic activity. Nor does Input-Output analysis evaluate whether these inputs might be employed elsewhere in the economy if they were not employed in this industry at the time of the analysis. Input-Output analysis calculates the direct, indirect, and induced economic impacts that can reasonably be expected to affect the economy based on historical relationships within the economy. This analysis does not take into account fundamental shifts in the relationships within the economy that may have taken place since the last estimation of multipliers by Statistics Canada in 2018, nor shifts that may take place in the future.

Use limitations: This report has been prepared solely for the use and benefit of, and pursuant to a client relationship exclusively with COC.

We understand that our deliverable will be shared among the COC's staff and could also be shared with the COC's stakeholders (e.g. government) and further that you may also wish to make our deliverable public. You may make our deliverable public, provided that the deliverable is published in its entirety, including relevant disclaimers. Further, if you seek to make this report public, you will let us know of your intention to do so at least a month prior to your planned release to enable PwC to conduct an independence review. We note that while we do not expect this under the circumstances, the results of the independence review may disallow such release. Should you want to use excerpts from our deliverable or post your own statements describing our deliverable, you would need to concurrently provide a clear link to our entire deliverable and get PwC's consent to release such excerpts or statements, which consent shall not be unreasonably withheld, delayed or conditioned. In that context, PwC will provide its comments to a draft statement produced by you within five working days of receiving such draft statement.

PwC accepts no duty of care, obligation or liability, if any, suffered by any third party that reads our deliverable, any excerpts from our deliverable or statements describing our deliverable. Further, no person or entity, other than COC, shall place any reliance upon the accuracy or completeness of the statements made in our deliverable.

This report and related analysis must be considered as a whole: Selecting only portions of the analysis or the factors considered by us, without considering all factors and analysis together, could create a misleading view of our findings. The preparation of our analysis is a complex process and is not necessarily susceptible to partial analysis or summary description. Any attempt to do so could lead to undue emphasis on any particular factor or analysis.

We note that significant deviations from the above-listed major assumptions may result in a significant change to our analysis findings.

Appendix C: Total economic footprint of the 2030 Winter Games, Canada-wide impacts

This appendix presents the total estimated economic footprint throughout Canada associated with Venue capital upgrades, new Village construction projects, Organizing Committee operations as well as Public Safety and Security while hosting the Games.

The figures presented include the estimated economic footprint associated with both BC-based expenditure as well as expenditures throughout the rest of Canada. Taken together, the impacts associated with each expenditure category represent the cumulative economic footprint in Canada of the 2030 Winter Games between 2022 and 2030.

Total economic footprint of the 2030 Olympic and Paralympic Winter Games by expenditure category - Canada

In 2022 \$CAD, cumulative between 2022 and 2030*

	GDP (\$ millions)	Labour income (\$ millions)	Employment (Headcount)	Tax revenue** (\$ millions)
Venue Capital Upgrades	\$701 - \$736	\$405 - \$425	5,955 - 6,252	\$178 - \$187
Village Construction	\$887	\$491	7,635	\$230
<i>Subtotal, Capital expenditures</i>	<i>\$1,588 - \$1,623</i>	<i>\$896 - \$916</i>	<i>13,590 - 13,887</i>	<i>\$408 - \$417</i>
Organizing Committee	\$2,529 - \$2,836	\$1,440 - \$1,615	27,582 - 30,939	\$542 - \$608
Public Safety and Security	\$774 - \$806	\$471 - \$490	10,254 - 10,675	\$168 - \$175
<i>Subtotal, Operating expenditures</i>	<i>\$3,303 - \$3,642</i>	<i>\$1,911 - \$2,105</i>	<i>37,836 - 41,614</i>	<i>\$710 - \$783</i>
Total impact	\$4,891 - \$5,265	\$2,807 - \$3,021	51,426 - 55,501	\$1,118 - \$1,200

*Due to rounding, the totals may not always add up to the sum of the items. Employment impacts associated with each expenditure category detail the number of jobs created or supported based on the proposed expenditures. Proposed Venue and Village timelines are based on preliminary projections and subject to change. Public Safety and Security expenditures are incurred in 2030 only.

**Tax revenue figures presented include the sum of corporate income tax, personal income tax as well as taxes on production and products at both the federal and provincial levels.

Appendix D: Breakdown of 2030 Winter Games expenditure impacts, Canada-wide impacts

This appendix presents a breakdown of the estimated economic footprint throughout Canada associated with Venue capital upgrades, new Village construction projects, Organizing Committee operations as well as Public Safety and Security while hosting the Games.

The figures presented include the estimated economic footprint associated with both BC-based expenditure as well as expenditure throughout the rest of Canada. Taken together, the impacts associated with each expenditure category represent the cumulative economic footprint in Canada of the 2030 Winter Games between 2022 and 2030.

Total economic footprint of Venue capital upgrades - Canada

In 2022 \$CAD, cumulative between 2025 and 2030*

	GDP (\$ millions)	Labour income (\$ millions)	Employment (headcount)
Direct	\$284 - \$298	\$192 - \$201	2,540 - 2,663
Indirect	\$222 - \$233	\$138 - \$145	1,956 - 2,056
Induced	\$195 - \$204	\$76 - \$80	1,460 - 1,532
Total	\$701 - \$736	\$405 - \$425	5,955 - 6,252

Total economic footprint of Village capital expenditures - Canada

In 2022 \$CAD, cumulative between 2026 and 2029*

	GDP (\$ millions)	Labour income (\$ millions)	Employment (headcount)
Direct	\$383	\$231	3,396
Indirect	\$280	\$172	2,556
Induced	\$224	\$88	1,683
Total	\$887	\$491	7,635

Total economic footprint of Organizing Committee operations - Canada

In 2022 \$CAD, cumulative between 2022 and 2030*

	GDP (\$ millions)	Labour income (\$ millions)	Employment (headcount)
Direct	\$1,302 - \$1,460	\$845 - \$948	16,649 - 18,675
Indirect	\$563 - \$631	\$334 - \$374	5,897 - 6,615
Induced	\$664 - \$745	\$261 - \$292	5,036 - 5,649
Total	\$2,529 - \$2,836	\$1,440 - \$1,615	27,582 - 30,939

Total economic footprint of Public Safety and Security - Canada

In 2022 \$CAD, during the Games in 2030*

	GDP (\$ millions)	Labour income (\$ millions)	Employment (headcount)
Direct	\$381 - \$397	\$291 - \$303	6,919 - 7,204
Indirect	\$130 - \$135	\$77 - \$81	1,357 - 1,413
Induced	\$264 - \$274	\$103 - \$107	1,977 - 2,059
Total	\$774 - \$806	\$471 - \$490	10,254 - 10,675

*Due to rounding, the totals may not always add up to the sum of the items. Employment impacts associated with each expenditure category detail the number of jobs created or supported based on the proposed expenditures. Proposed Venue and Village timelines are based on preliminary projections and subject to change. Public Safety and Security expenditures are incurred in 2030 only.

Appendix E: Tax impacts of 2030 Winter Games expenditures, provincial

This appendix presents a breakdown of estimated BC provincial and local government tax impacts associated with Venue capital upgrades, new Village construction projects, Organizing Committee operations as well as Public Safety and Security while hosting the Games.

Total tax impacts of Venue capital upgrades - BC (provincial)

In 2022 \$CAD, cumulative between 2025 and 2030*

	Corporate Income Taxes (\$ millions)	Personal Income Taxes (\$ millions)	Taxes on Production & Products (\$ millions)	Total Tax revenue (\$ millions)
Direct	\$3.3 - \$3.5	\$12.9 - \$13.6	\$23.9 - \$25.4	\$40.2 - \$42.5
Indirect	\$2.9 - \$3.1	\$6.8 - \$7.1	\$5.2 - \$5.4	\$14.8 - \$15.6
Induced	\$3.7 - \$3.9	\$3.5 - \$3.7	\$19.5 - \$20.5	\$26.7 - \$28.0
Total	\$9.9 - \$10.4	\$23.2 - \$24.4	\$48.6 - \$51.3	\$81.7 - \$86.1

Total tax impacts of Village capital expenditures - BC (provincial)

In 2022 \$CAD, cumulative between 2026 and 2029*

	Corporate Income Taxes (\$ millions)	Personal Income Taxes (\$ millions)	Taxes on Production & Products (\$ millions)	Total Tax revenue (\$ millions)
Direct	\$5.5	\$15.6	\$38.9	\$60.0
Indirect	\$3.4	\$8.1	\$7.0	\$18.5
Induced	\$4.2	\$4.0	\$21.7	\$29.8
Total	\$13.0	\$27.7	\$67.6	\$108.3

Total tax impacts of Organizing Committee operations - BC (provincial)

In 2022 \$CAD, cumulative between 2022 and 2030*

	Corporate Income Taxes (\$ millions)	Personal Income Taxes (\$ millions)	Taxes on Production & Products (\$ millions)	Total Tax revenue (\$ millions)
Direct	\$19.7 - \$22.1	\$46.2 - \$51.8	\$30 - \$33.7	\$95.9 - \$107.5
Indirect	\$6.1 - \$6.9	\$13.3 - \$14.9	\$14.4 - \$16.2	\$33.8 - \$37.9
Induced	\$10.7 - \$12	\$10.2 - \$11.4	\$56.2 - \$63	\$77.0 - \$86.4
Total	\$36.5 - \$40.9	\$69.6 - \$78.1	\$100.6 - \$112.8	\$206.7 - \$231.9

Total tax impacts of Public Safety and Security - BC (provincial)

In 2022 \$CAD, during the Games in 2030*

	Corporate Income Taxes (\$ millions)	Personal Income Taxes (\$ millions)	Taxes on Production & Products (\$ millions)	Total Tax revenue (\$ millions)
Direct	\$1.5 - \$1.6	\$17.7 - \$18.5	\$4.3 - \$4.4	\$23.5 - \$24.5
Indirect	\$1.7 - \$1.7	\$3.5 - \$3.7	\$3.7 - \$3.9	\$8.9 - \$9.3
Induced	\$5 - \$5.3	\$4.8 - \$5	\$26.8 - \$27.9	\$36.6 - \$38.1
Total	\$8.2 - \$8.5	\$26.1 - \$27.1	\$34.8 - \$36.2	\$69.0 - \$71.9

*Due to rounding, the totals may not always add up to the sum of the items. Proposed Venue and Village timelines are based on preliminary projections and subject to change. Public Safety and Security expenditures are incurred in 2030 only.

Appendix F: Tax impacts of 2030 Winter Games expenditures, federal

This appendix presents a breakdown of the estimated Canadian federal tax impacts associated with Venue capital upgrades, new Village construction projects, Organizing Committee operations as well as Public Safety and Security while hosting the Games.

Total tax impacts of Venue capital upgrades - Canada (federal)

In 2022 \$CAD, cumulative between 2025 and 2030*

	Corporate Income Taxes (\$ millions)	Personal Income Taxes (\$ millions)	Taxes on Production & Products (\$ millions)	Total Tax revenue (\$ millions)
Direct	\$5.3 - \$5.6	\$28 - \$29.4	\$7.3 - \$7.8	\$40.6 - \$42.7
Indirect	\$6.8 - \$7.1	\$20.1 - \$21.2	\$2.3 - \$2.4	\$29.2 - \$30.6
Induced	\$7.7 - \$8.1	\$11.1 - \$11.7	\$7.6 - \$8	\$26.4 - \$27.7
Total	\$19.8 - \$20.8	\$59.2 - \$62.2	\$17.1 - \$18.1	\$96.2 - \$101.0

Total tax impacts of Village capital expenditures - Canada (federal)

In 2022 \$CAD, cumulative between 2026 and 2029*

	Corporate Income Taxes (\$ millions)	Personal Income Taxes (\$ millions)	Taxes on Production & Products (\$ millions)	Total Tax revenue (\$ millions)
Direct	\$8.7	\$33.8	\$12.0	\$54.5
Indirect	\$8.5	\$25.1	\$3.1	\$36.7
Induced	\$8.8	\$12.8	\$8.7	\$30.4
Total	\$26.0	\$71.7	\$23.9	\$121.6

Total tax impacts of Organizing Committee operations - Canada (federal)

In 2022 \$CAD, cumulative between 2022 and 2030*

	Corporate Income Taxes (\$ millions)	Personal Income Taxes (\$ millions)	Taxes on Production & Products (\$ millions)	Total Tax revenue (\$ millions)
Direct	\$36.4 - \$40.9	\$123.6 - \$138.6	\$11.2 - \$12.6	\$171.2 - \$192.1
Indirect	\$17.7 - \$19.9	\$48.8 - \$54.7	\$7.3 - \$8.2	\$73.8 - \$82.8
Induced	\$25.8 - \$29	\$38.1 - \$42.7	\$26.4 - \$29.6	\$90.3 - \$101.3
Total	\$80.0 - \$89.8	\$210.4 - \$236.0	\$44.9 - \$50.4	\$335.3 - \$376.2

Total tax impacts of Public Safety and Security - Canada (federal)

In 2022 \$CAD, during the Games in 2030*

	Corporate Income Taxes (\$ millions)	Personal Income Taxes (\$ millions)	Taxes on Production & Products (\$ millions)	Total Tax revenue (\$ millions)
Direct	\$2.7 - \$2.8	\$42.5 - \$44.2	\$1.5 - \$1.5	\$46.6 - \$48.5
Indirect	\$4 - \$4.2	\$11.3 - \$11.8	\$1.6 - \$1.7	\$16.9 - \$17.6
Induced	\$10.4 - \$10.8	\$15 - \$15.6	\$10.3 - \$10.7	\$35.7 - \$37.2
Total	\$17.1 - \$17.8	\$68.8 - \$71.6	\$13.3 - \$13.9	\$99.3 - \$103.3

*Due to rounding, the totals may not always add up to the sum of the items. Proposed Venue and Village timelines are based on preliminary projections and subject to change. Public Safety and Security expenditures are incurred in 2030 only.

Endnotes

¹ A range of anticipated capital and operating expenditures is presented based on preliminary projections of total costs and timelines as well as different construction options for Venues and Villages as prepared by the Feasibility Team.

² We note that for community and First Nation housing legacies associated with Village construction projects, the Feasibility Team, due to relative uncertainty associated with estimating construction costs, has provided estimates which may not fully reflect total capital expenditures associated with these projects. To this extent, the resulting estimated economic footprint associated with new Village construction may be conservative.

³ Anticipated capital and operating expenditures associated with the Games are expected to be sourced both from private and public sources. For the purposes of our analysis, the source of funds is not considered.

⁴ Expenditures related to Venue capital upgrades between 2025 and 2030 are based on data provided by the Feasibility Team. It was estimated by the Feasibility Team that 90% of capital expenditures would occur within the province of BC, 5% would occur throughout the rest of Canada and the remainder would be spent internationally.

⁵ Expenditures related to new Village construction projects between 2026 and 2029 are based on data provided by the Feasibility Team. These estimates have been provided as standalone figures as the Feasibility Team did not include investment optionality for these estimates. It was estimated by the Feasibility Team that 90% of capital expenditures would occur within the province of BC, 5% would occur throughout the rest of Canada and the remainder would be spent internationally.

⁶ Based on discussions with the Feasibility Team we note that the Vancouver Village may be built regardless of whether the Games are hosted within BC. However, for the purpose of this analysis, capital expenditures associated with the construction of all Villages included as part of the 2030 Initial Hosting Concept have been considered.

⁷ Expenditures related to Organizing Committee operations between 2022 and 2030 are based on data provided by the Feasibility Team. It was estimated by the Feasibility Team that 70% of operating expenditures would occur within the province of BC, 20% would occur throughout the rest of Canada and the remainder would be spent internationally.

⁸ Expenditures related to Public Safety and Security during the Games in 2030 are based on data provided by the Feasibility Team. It was estimated by the Feasibility Team that 87% of human resources-related operating expenditures would occur within the province of BC and 13% would occur throughout the rest of Canada. All technology-related expenditures were assumed to occur within BC.

⁹ Defined as the value of goods and services used or transformed as inputs by a process of production.