Collected Insights from the Field of Sport

Volume 2: Sustainability and Legacy

Geert Hendriks, Keith Gilbert, Claude Stricker
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Introduction

Collected Insights from the Field of Sport:
Sustainability and Legacy

Geert Hendriks, Keith Gilbert & Claude Stricker
‘The future is not beyond our control, it is the work of our own hands’

Robert F. Kennedy

(35th President of the United States)
Collected Insights from the Field of Sport

**Sustainability** and **Legacy** are presently two of the major challenges for the sports event industry. In the past two decades, governing bodies, event organisers, cities, companies and professional sports leagues have all been reflecting on how best to embed these challenges into the organisation of sports events.

This book from the AISTS (International Academy of Sports Science and Technology) is the second in the series ‘Collected Insights from the Field of Sports’. It concentrates on the two aforementioned challenges of sustainability and legacy in sport. The chapters in this book are derived from research papers that have been produced by the participants and visiting professors of the AISTS postgraduate programme, the AISTS MSA (Master of Advanced Studies in Sports Administration and Technology).

Being grounded in research, the book aims to correct the imbalance between the sustainability and legacy theories and practices in the world of sport. Our intention is that its outcomes can be utilised by academics, sports administrators, sports teams, students and the public to engage in the discussion on sports sustainability and legacy.

Sustainability in Sport

**Defining Sustainability**

The importance of sustainable practices in and through sport cannot be underestimated, as Savery and Gilbert (2011) argue “…sport was developed in outdoor settings, by taking advantage of nature and the available water, land and fresh air”.

This is perhaps an overly simplistic viewpoint but there is no doubt that professional sport has gradually come to play a major role in many of our lives. Whether through spectating, participating, organising or global marketing, its practices have gradually forced us to offer more sustainable solutions to major sporting events. Seymour (2015) argues that “sustainability is a condition or a state; sustainable development is a process”. This highlights some of the complexities involved in sustainability and sport area.

According to the International Olympic Committee (IOC), sustainability implies that “when making decisions (...) ensure feasibility, maximise positive impact and minimise negative impact in the social, economic and environmental spheres” (IOC, 2015)

This refers to three dissecting circles (Figure 1) which together are considered as the three dimensions of sustainability or the ‘Triple-Bottom-Line’.

- Environmental (Planet),
- Social (People)
- Economic (Profit)
In line with the above, the authors have adopted the following definition from Chernushenko (2011) of sustainability as applied to sport:

“Sport is sustainable when it meets the needs of today’s sporting community while contributing to the improvement of future sport opportunities for all and the improvement of the integrity of the natural and social environment on which it depends.”

Indeed, in 2015, 42 International Federations (IFs) participated in the annual AISTS IF Sustainability Study. Results indicate a momentum for sustainability in the sports industry; as for 71% of the IFs sustainability is an integral part of their overall strategy. Furthermore, despite limited resources, 95% of the IFs are able to report one or more concrete sustainability initiative for their organisation or events (AISTS, 2015). Increasingly IFs are aware of the potential of traditional sustainability programs (e.g. waste management, use of public transport) which can create value and lead to significant cost savings. World Archery (AISTS, 2015) for example claims: “We save annually an estimate amount of USD 75’000 by re-using competition and branding equipment over several years.”

A perceived lack of integrity coming from large business conglomerates during the 1990’s and a shortfall in reliability and truth in the sports industry, however, led to a widespread concern over unethical practices. This led to companies (sponsors and suppliers) discussing the social, environmental, and ethical impact
of sports events and taking sustainability (often referred to by companies as Corporate Social Responsibility) more seriously.

**Sustainability or Social Responsibility?**

It is important to discuss the notion of social responsibility within the sports sector in order to compare with the notion of sustainability in the sporting context. For example, in his review of Corporate Social Responsibility (CSR) Athanasopoulous, (2011) comment that as early as 1975 ‘Preston and Post articulated the “principle of public responsibility,” which argues that a business should deal with the social issues that are impacted by the normal operating activities of the company”.

Some sports, even before they became professionalised, promoted public responsibility as an important factor in the development of their clubs and players in local and international communities. In fact, business men and women have long been associated with club development by utilising sponsorship and marketing to benefit clubs, players and business alike. These instances of philanthropy in sport have until recently been quiet affairs which have not been marketed to their fullest potential. It was Carroll (1999) who established a strong base for academic work in this area and his principles are current to this day.

The general consensus academically would be that social responsibility represents a set of actions that appear to further some social good, extend beyond the explicit direct interests of the business, and are not required by law (McWilliams and Siegel, 2000).

Similar to sustainability, social responsibility in sport is concerned with the integration of environmental, social, economic and ethical considerations into business strategies and practices and deals with the moral purpose of business issues that are impacted by the normal operating activities of the company.

Sport clubs, Nike, Adidas and Puma but also Dow Chemicals, Nestlé and other corporates have been successful in combining CSR with their business values into a concept that in this book is referred to as ‘Creating Shared Value’ (chapter 3). This phenomenon together with the increased attention for social sustainability blurs the line between the terms ‘CSR’ and ‘sustainability’. The concept also emphasises the importance of evolving the traditional ‘triple bottom line’ or ‘triathlon-approach’ (Chernushenko 2001) into a ‘quadruple bottom line’ by including the fourth dimension of ‘Partnership’ (Figure 2).

This book therefore considers social responsibility and sustainability as interchangeable terms and hopes to alleviate some of the problems which are perceived to be associated with CSR and sustainability in the sports context and to further explain some of the context in relation to concepts of legacy development after major sports events.
Legacy

“Legacy are the positive impacts that remain once the Olympic candidature/Olympic Games/sports event has concluded.” (IOC, 2015)

Legacy can be a direct result of quality sustainability programming and (both positive and negative) spin-offs from major sport events are beginning to make their mark on local and international communities.

As argued by Misner et al (2013), legacy is a relatively recent area in the academic literature, where prior to the Sydney 2000 Olympic Games, most discussions of legacy had been anecdotal (MacAlloon, 2008; Preuss, 2007). While research and interest in legacy has blossomed, it is notoriously difficult to define, as there are multiple meanings and ways of studying legacy (IOC, 2002). This is partly because legacy research is interdisciplinary, set in the local through global milieus where the size of the event, city, region or nation creates different cultural contexts.

As Cashman (2006) notes: “Legacy has been viewed predominantly in a positive light where, … the term is used
by organizing committees, it is assumed to be entirely positive, there being no such thing as negative legacy when used in this context. [Secondly] it is usually believed that legacy benefits flow to a community at the end of the Games as a matter of course.”

Cashman’s quote clearly argues that organising committees have ‘captured’ the legacy agenda as a way of promoting the perceived legacy benefits of the event for host cities. Indeed, politicians and organisers of major events have failed to capitalise on event aftermaths by concentrating only on soft or hard legacy results rather than highlighting the route to legacy as well as ‘lessons-learned’.

Consequently, the understanding of the relationship between sustainability and legacy is still evolving but the notion of sports legacy grew out of the Olympic Movement’s quest for further global recognition, self-promotion and power (Girginov & Hills, 2008). In fact, the IOC amended the Olympic Charter to include a particular reference to the creation of positive legacies from the Games and the promotion of sports for all in the host country.

This positive change developed momentum in 2002 when the Olympic Studies Centre in Barcelona organised the International Symposium on Legacy of the Olympic Games, 1984-2000 (Chappelet, 2008). The report from the Symposium identified many new directions for Olympic legacy, although delegates could not decide on a definition of legacy in the sports context itself. MacAlloon (2008) reflecting on this challenge noted that, “… legacy as a general term was referential enough to seem substantive and readily hypothesized, yet was also open enough to attract the claims and particular attentions of paid specialists” and that

“(…) in the name of legacy, every sport is now claiming the right to have a substantial venue and sports programming left behind after the Games are concluded”. (p.2066).

The 2002 International Symposium on Legacy of the Olympic Games was to the best of our knowledge the first time the term had been addressed in a mega event context. Although Olympic Games impact analyses have been carried out as early as the 1988 Calgary Winter Games (Ritchie, & Adair 2004), they were done so independently of the IOC. This book adds more insight to the discussion on Olympic Games legacy by comparing four Olympic Games (Sydney 2000, Salt Lake 2002, Athens 2004 and London 2012). It also includes a study on the expected legacy of Rio 2016 and discusses the value of Olympic Parks within the context of Olympic Agenda 2020.
The Olympic Agenda 2020 is a strategic roadmap for the Olympic Movement, introduced by IOC President Thomas Bach following an extensive consultation process among various stakeholders from within the Olympic Movement as well as organisations and individuals from civil society. Bach (IOC 2014) argues that:

“The less people believe in the future the more they want to know about the future. (…). This modern world demands more transparency, more participation, higher standards of integrity. In the Olympic Agenda 2020 we are addressing these questions under the three overarching topics of sustainability, credibility, youth.”

Olympic Agenda 2020 is made up of 40 recommendations that should safeguard the uniqueness of the Olympic Games and strengthen the presence of sport in society. Working groups are established to implement the individual recommendations (see Figure 3).

The most important relevant recommendations within the context of this book are:

- Recommendation #4: Include sustainability in all aspects of the Olympic Games
- Recommendation #5: Include sustainability within the Olympic Movement’s daily operations. Chapter 1 of this book provides insight in IFs current waste management practices at their sports events.

Further, with sustainability being one of the overarching topics of the Olympic Agenda 2020, it also plays a role in many of the other recommendations. For example:

- Recommendation #1 invites potential candidates to present a project that fits their economic, social and environmental long-term needs. During this invitation phase, the IOC will offer cities advice related to legacy and sustainability. In this context, both chapter 5 and chapter 6 of this book contributes to the discussion on the legacy of Olympic Parks. Chapter 5 examines the 4-Olympic Zone concept of Rio 2016 within the context of the city’s long-term urban development strategy. Chapter 6 provides a detailed assessment of the evolution of Olympic Parks between Sydney 2000 and Tokyo 2020.

- Recommendation #3 emphasises that sustainability must be taken into consideration right from the beginning of an Olympic bid. This links to chapter 3 of this book which introduces the concept of ‘Creating Shared Value’ a framework that advocates for a sustainability and CSR strategy that directly contributes to the corporate objectives of an organisation (or sports event).

- Several recommendations (for example #20, #35, #36) claim for a revised collaboration with sponsors. Chapter 2 outlines several cases from IFs that aimed to develop a sponsorship strategy for their sustainability initiatives.
Conclusive Statements

In this chapter we have highlighted the relationship between sustainable practices in sport and the necessary components that have developed overtime. As mentioned previously it is clear that ‘Sustainability, Social Responsibility and Legacy’ are intertwined and possess a symbiotic relationship. In fact, they are increasingly becoming more important in the design and development of sports events throughout the world.

• Recommendations #6 and #23 advocate for closer cooperation between the IOC and communities or other event organisers, one of the objectives being increased sports participation. Chapter 4 engages in this discussion by assessing the impact of four recent Olympic Games on sport participation in the host country.

Figure 3: Olympic Agenda 2020 Clusters and Workgroups (IOC, 2014)
It also appears as though without quality sustainability programming there can be few quality legacy programmes. In order to place these capacities in context and to be able to further categorise future research, further work is required regarding sustainable social responsibility practices which, in turn, lead to major sports events such as the FIFA World Cup, World Cup Rugby, the Olympic Games and other major multi-sport events holding leading roles in sustainable practice. Indeed, it can be argued that the Olympic Movement is in fact leading in this area and sports federations, cities, clubs and individuals may well be mindful of their advice in relation to matters of sustainability.

As Stubbs (2011 p.117) argues, “(...) today the emphasis has shifted and sustainability in its full sense is integral to effective Games organisation.”

In line with this argument we agree that continued encouragement from the Olympic Movement as a provider of change is important and integral to the future of sustainable development in the world of sport.
References


Chapter 1 – Waste Management

Waste Management at Sports Events:
Research on current practices by international sports federations and recommendations

Ankush Arora & Rolf Schwery
'The time is always right to do what is right'

Martin Luther King Jr.
(American Baptist minister, Nobel prize winner and social activist)
Abstract

The issue of waste is part of a global environmental crisis. With the growing number and scale of sports events every year, the issue of waste is increasingly a genuine concern for sports events organisers, too. While mega sports events like Olympic Games and FIFA World Cup have clear waste management strategies, how other sports events and federations are dealing with this issue is an area less explored and little understood. The objective of this research was to understand what steps are being taken by International Sports Federations (IFs) regarding this issue and how they can use such policies to the advantage of sport and society. To understand the current policies in place by the federations, a quantitative online survey was conducted with key personnel in the sports federations and an interview was conducted with Rio 2016 organisers to develop recommendations. Most of the federations do not have guidelines in place for this issue and in most cases the event organiser is the only one involved in this procedure. That said, by developing environmental policies and effectively implementing them, sports federations can create greener events and address the global issue of waste in the world, which creates a positive image for the sport and the event. This might lead to increased participation in the sport and potentially generate greater revenues through sponsorship.

Introduction

The business of sports has grown in the last few decades and with it so has the scale of sports events being organised. This increase in the scale of sports events across the world, has led to increasing number of athletes and spectators taking part in the events. The need for infrastructure has increased and, as a result, bigger and better stadiums are being constructed. The number of athletes and spectators travelling to a sports events has gone up dramatically with an increase in the number of flights across the globe. All this has led to an increase in the number of environmental issues connected to sports events like soil erosion, greater energy consumption, increased carbon foot prints, and generation as well as disposal of huge amounts of waste. A few years back, the issue of sports interacting with environment was never considered but now it is a reality. Therefore, sports administrators need to work towards managing the impact of any event, bearing in mind the three P’s of profit, planet, and people.

Today, in order to address these issues there is a lot of emphasis on having greener events, as reflected in the organisation of the Sydney 2000 Games, as the first green games and London 2012 being a zero waste event. The impact, however, of other sporting events where thousands of people gather from around the world is seldom measured.
Waste Management at Sports Events: Research on current practices by international sports federations and recommendations

Waste is one of the major issues at these events. When thousands gather together, arrangements need to be made for hosting such huge crowds, as well as the huge amount of food waste produced. Additionally, the waste produced through this increase in food consumption ends up in landfill, which produces potent methane gas. Consequently, the sports world which impacts the life of so many people can help in creating awareness about this subject and at the same time create value for the sport by hosting greener and cleaner events.

The purpose of this research was to study how IFs are dealing with the issue of waste at their events. Little academic work has been done on this subject so far and thus, this research could be of interest for the sports world and sustainability planners. To develop an understanding of the subject, a literature review was undertaken in order to understand the global issue of waste, the interaction between sport and environment, the process of waste management for an event, and some best practices in the field. Based on the understanding developed through the literature review, an online questionnaire was developed and a survey conducted with IFs of some of the most popular sports to understand what procedures they have in place and how they deal with the issue in general. Additionally, an interview was conducted with a sustainability expert from the Rio 2016 Olympic Games for further discussion of the topic. Certain recommendations have been developed on the role that sports federations can play in this matter and how they can use such policies for the benefit of both the sport and society.

Reviewing the Literature

What is Waste Management?

The most basic definition of waste management given on Wikipedia is:

“Waste management is the “generation, prevention, characterization, monitoring, treatment, handling, reuse and residual disposition of solid wastes”. There are various types of solid waste including municipal (residential, institutional, commercial), agricultural, and special (health care, household hazardous wastes, sewage sludge). The term usually relates to materials produced by human activity, and the process is generally undertaken to reduce their effect on health, the environment or aesthetics. (Wikipedia, 2014)”

The most common hierarchy that should be followed for the process of waste management as prescribed by the EU directive 2008/98/EC is as follows (EU, 2014):
The problem of waste has been caused solely by the inefficient use of materials and resources by humans in day to day life. If continued at the same pace, this inefficiency will lead to reduced capability of the planet to supply new materials, as well as of the environment to absorb these waste materials. In addition, the disposal of waste consumes a huge amount of energy and cost. A cure to this problem, however, is far from being found. The volume of waste produced continues to grow and our current practices are incapable of handling it.

The world population is expected to increase by 20% by 2025, a high percentage of this growth is expected to be in the developing economies of Asia and Africa. This population growth, coupled with economic growth, might lead to higher volumes of waste produced. As per a survey by the Organisation of Economic Cooperation and Development, a 1% increase in national income causes a 0.69% increase in municipal solid waste produced. It has also been estimated that if the current waste management trends are maintained, landfilled food waste is predicted to increase world CH4 emissions from 34 million to 48 million tons (Marvopolous, 2010).

Ineffective waste management today is causing various issues like public health, polluted life essentials, climatic changes and a continuous degradation of flora and fauna. In addition, it is a huge burden on the tax payer as well. A city like New Delhi which is continuously in need of developing infrastructure for its expanding population, spends half of its budget on solid waste management (Anneppu, 2012).
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Sport & Environment

Sports as we know today are an integral part of the society and with each passing year, we are witnessing an increase in the scale of events organised by various clubs, leagues and sports associations around the world. Compared to previous times, there has been exponential growth in sporting activities. This growth in sporting activities has led to a greater impact on the environment. In turn, this has led to the use of sports events for the promotion of good environmental practices around the globe. The extent of this interaction between society and environment has been realised by the IOC who have incorporated environmental protection as the third pillar of Olympism in the recent Olympic charter (IOC, 2005).

Major sporting events gather millions of people together in a short space of time, which causes a lot of short term, as well as long term, impacts on the environment. Long term impacts are due to the construction of facilities and infrastructure, while short term impacts are due to a large number of spectators, athletes and volunteers consuming various products and goods at the event through various vendors involved with the event. Combined, these increase the ecological footprint of the event (Marvopolous, 2010). Waste Management is something that is necessary to prevent any short, as well as long term, impacts of the environment on society. Waste for a sports event is mainly produced by two sources: materials and people.

Events are high pace and high intensity activities in compressed, fixed time scales. These challenges are compounded by complexities of the supply chain, diverse and inconsistent packaging specifications, inconsistent waste and recycling collection systems, and inconsistent messaging and communications at venues regionally and nationally. Perhaps the biggest challenge of all is to predict how people would behave on the day in an environment where recycling would not necessarily be front of mind. These complex challenges require a unique approach.

Waste Management for sports events and venues not only reduces the problem of waste but also creates goodwill for the event/venue which can be beneficial for attracting sponsors. Also, it can be a really good cost savings measure especially for large scale events and venues. As shown by waste management

![Figure 2: Waste Production at Events](image)
practices of sports teams in USA, e.g. The Cleveland Indians cut their waste in half between 2007 and 2009, and that reduced compactor pick-ups by 64%, saving the team $50,000 annually. Over time, sports events and venues have also realised that landfill of waste costs more than recycling thus, a greater emphasis on reducing landfill can help in potential cost savings for the event. Recyclables can be collected and hauled at a reduced cost compared to garbage rates, therefore reducing the overall waste handling costs. Even with a minimal and simple event recycling programme, waste costs can be reduced by 20%. Minimising waste also improves the efficiency of an event. The more waste generated at an event, the more time, money and resources must be devoted to collection, transportation, storage and removal of these materials. Reducing waste from the start increases the amount of time that staff can dedicate to other important projects (Orts, 2013).

**How to Conduct Waste Management for Events?**

Before starting with the process it is important to identify the most important stake holders involved with the process of waste management. After identifying the stake holders, we can start with the step by step procedure for developing a waste management system for the event or venue. Each of the stakeholders plays an important role in each of the steps involved in the process.

Some of the common stakeholders involved in the process of waste management are shown in Figure 3.
Waste Management at Sports Events: Research on current practices by international sports federations and recommendations

STEP 1: Developing a Waste Management Plan

A waste management plan is the most important stage in the process of waste management for an event or venue as it defines the complete ‘when, where, how and why’ process for waste management. An important consideration to take into account when developing the waste management plan is to involve all stakeholders (as mentioned in Figure 2). A good waste management plan is clear and concise with timelines and responsibilities attached to each of the required actions. In order to develop a practical plan it is also important to consider why the event/venue actually needs waste management practices. Once the needs are identified, an analysis should be undertaken on what the major strengths and weaknesses while implementing the plan.

Once the different needs for waste management have been identified, information should be collected on the types of waste likely to be generated during the event, with an estimate on the amount of each type of waste. After identifying the various waste streams that might exist at the event, it is important to look into how each of the streams are currently managed and how they can be managed in a better way. A careful assessment is needed on how to avoid, reduce, reuse, recycle and compost the various streams of waste at the event/venue. After completing this assessment, “SMART” goals need to be set and each stakeholder should be made aware of how to achieve these goals by developing simple yet effective action plans.

STEP 2: Gaining Commitment

To successfully implement the waste management plan, it is important to gain commitment from all the stakeholders. The best way to do that is to involve them in the development of the waste management plan. The economic and environmental benefit of waste management for the event or venue should be communicated to all. Informal training of everyone involved in the process by regular circulation of policies and decisions is one way. While other formal methods include having commitment to waste management as an important clause in the tenders and contracts for all the vendors, contractors and service providers involved with the event/venue.

STEP 3: Providing Infrastructure

Providing infrastructure for waste management at an event means provision of proper signage and bins for sorting of waste both at the front as well as at the back of house. Some of the important considerations while providing infrastructure for waste management are as follows:

- **Number of Bins:** Every event is different, depending on the size, theme and location of the event. Thus, it is important to understand the number of bins required for the event, for this an understanding of various streams of waste expected to be generated is very important.
- **Waste Disposal:** It is important to know whether the waste will be taken to recycling facilities or commercial composters, this will help determine
whether a 2-bin or 3-bin system should be adopted. The use of a bin system can differ for front of house and back of house waste.

• **Signage System:** Effective signage on which bin to be used for what type of waste, can make the difference between success and failure of the waste management plan. The colour coding system as prescribed by the local authorities should be used for this process. Bins to be used at the front of house should be structurally sound, clearly visible and easy to use. Certain waste statistics from events suggests that co-locating all bins minimises contamination rates. A recycling bin on its own has a much higher chance of contamination than the same bin collocated with a general waste bin. People can place items they are unsure about in the general waste bin and contamination in the recycling stream will be minimised. Placing bins side by side is more successful than placing them back to back. Careful estimates of when the maximum waste will be generated and what times should be bins be emptied are very crucial elements. Frequent monitoring and servicing of the bins should be done. Bin size and structure in kitchen and bar locations may be restricted to the available room under benches or along walls. Any changes in plans during the event should be communicated effectively to the waste management service provider.

**STEP 4: Education and Marketing**

To be successful, a plan needs to be communicated properly to end users. In this case the end users are the vendors and people coming to the event. Effective training for vendors and staff on why and how waste management should be done is very important. Educating people coming to the event about waste management is even more crucial as they need to know which waste to put in which bin. Without that they will make their own judgements which might be incorrect. Some ways to do this can be through advertisements in local newspapers, sending newsletters to all ticketholders and most importantly organising some promotional camps/events highlighting the waste management campaign, which can also include some athletes. Sponsors too, can play a crucial role in communicating about waste management policies at the event.

**STEP 5: Reporting and Evaluation**

Reporting and evaluation of waste management actions is very important for continued improvement of the waste management plans in the future. Yet, this step is generally the most neglected and given least emphasis. Some key elements that should be monitored to prepare a report as per GRI standards (GRI, 2013) are:

- The amount of waste produced of each type in tonnes.
- The amount of waste for each type of disposal method in tonnes.
- Criteria for selecting each type of disposal method.

Apart from these, a self-evaluation should be done to understand whether the objectives were achieved and what are
the things that should be worked on in the future. The report should be sent to all the stakeholders concerned and be made public if possible, so that the event can be a driver for change when it comes to waste management practices.

Best Practices in Sport

Federation Internationale de Motorcyclisme (FIM)

FIM are currently one of the sports organisations who have understood the role that sports organisations can play in reducing the problem of waste, particularly at their events. They developed the KISS programme in association with the teams, organisers and circuits, which is a shining example. Some of the key elements covering the issue of waste in the environmental code of FIM are as follows (FIM, 2014):

- All associated member federations have been asked to modify their statutes as per the environmental code of FIM.
- Organisers of the events are liable to fines in cases of non-adherence to the environmental code.
- The FIM environmental commission appoints an environmental steward for every event who ensures that all the conditions of the code are met.
- The organiser needs to submit to FIM the manner in which the waste will be disposed before, during and after the event.
- Specification in the contracts of catering firms to only sell food and drinks in recyclable, re-useable or bio-degradable materials. Also, they need to provide and maintain sufficient waste containers.
- FIM gives an environmental award to individual, FNM’s, clubs, manufacturers or organisers who have done exceptional work with regard to creating environmental awareness.

World Badminton Federation (WBF)

In accordance with the Olympic Charter, WBF has also developed an environmental code of conduct for its players, manufacturers and organisers to play their part in the conservation of resources, waste reduction, healthy conditions at all events, and most importantly, create environmental awareness through such initiatives. To achieve these objectives, the federation now promotes positive environmental behaviour through its events, encourages research into more sustainable materials for badminton equipment and has set monitoring and evaluation procedure for BWF’s environmental policies and guidelines (BWF).

London 2012 Olympic Games

Waste management is one of the most visible elements of sustainability for an event; London 2012 realised this and set a target of zero waste for the event. Zero waste for an event means no waste will go into landfill and all the waste generated during the event would be either reused or recycled. After an in-depth analysis into the supply chain models for the events and behaviour of people at the various events, the Games
organising committee published the Zero waste vision (Waste Management Plan) in February 2012 with detailed steps each stakeholder would be taking to ensure ‘zero waste games’. The activities with potential to generate waste during the games were clearly identified and strategies were developed to divert waste from landfill. Diversion of operational waste from landfill was undertaken from 2010 onwards, 92% of the waste was diverted from landfill in 2010 and this number reached 99.7%. During the games operation period, this figure reached 100%. The reuse, recycle and composting figures reached 82% during the games, which was more than the target of 70% set at the start of the event (LOCOG, 2012).

Caterers were required to source the majority of their packaging from a single framework supply arrangement. A communications strategy targeted at the key waste producing audiences was developed, communication channels like social media, spectator guides, staff training materials and on-site newsletters were used for audiences both before and during the games. Policies were put in place and coordination was done with city authorities to ensure waste management at open sites outside the games venues. A separate strategy was used for waste management for installation and decommissioning of games venues, 99% of the waste from these activities was reused or recycled.

A good reporting and evaluation process was put in place and data was collected on the types of waste produced during the event. A survey was conducted with the spectators to rate their experience on the ease of recycling during the games.

Research Methods

For the purpose of this research, mainly primary data has been developed due to the limited availability of secondary data. To collect primary data for the research, a quantitative method of online survey was used.

Online Survey

The aim of the survey was to reach as many international federations as possible and conducting interviews with a lot of federations is a time consuming process. The choice of conducting an online survey, therefore, best suited the requirements. It provided a low cost, time saving and flexible method of collecting data. The design of the online survey was done using online survey portal www.kwiksurveys.com. This portal was used because it offers the most user friendly interface as well as a comprehensive online survey development solution. It also provides good tools for analysis.

The survey was divided into the following four sections:

• Background Information: Before understanding how organisations are dealing with the issue of waste, it is important to understand the nature of their events. Thus, this section is to understand data such participation numbers and the duration
Waste Management at Sports Events:
Research on current practices by international sports federations and recommendations

of events. In addition, this section seeks to understand to what extent do these federations consider waste management an important issue for their event(s).

• Waste Management Plan: As surfaced by reviewing literature on this subject, it is important to understand how the process of developing waste management plans works. The second section of the survey is designed to understand how sports organisations go about developing a waste management plan. The section tries to understand who are the stakeholders involved in the process and when the process of developing such a plan starts. Furthermore, the section is to enquire whether waste separation is done and what steps are generally taken for waste disposal.

• Stakeholder Commitment: In order for any waste management plan to be successful, it is important to have the complete involvement of the stakeholders involved in the process. This third section of the survey is to understand how governing bodies involve the stakeholders in this process. Also, the section tries to understand how the process of educating the stakeholders on their commitment to waste management works.

• Monitoring and Evaluation: A process is not complete until and unless it is properly monitored and the results evaluated. The final section of the survey is to check if the sports organisations have procedures in place for monitoring and evaluating the results of the waste management process.

In addition to this quantitative online survey, an electronic interview was conducted with Ms. Julianna Antunes from the Rio 2016 Sustainability team to further discuss what are the steps that international federations can take in this direction.

Sampling Procedures

The names of individuals working in the sustainability or events department of the IFs were identified, through lectures at AISTS, LinkedIn or the IF website.

After extensive research, appropriate individuals in 20 major IFs were identified. Of these, 18 responded to the survey. Only 12 of the 18 responses were complete responses thus, a success rate of 60% was achieved for the survey.

Survey Limitations

Online surveys offer a great advantage by saving considerable amounts of time for conducting research and also provide ease of result analysis. They do have a few limitations such as:

• Online surveys are distributed on the Internet, mainly by e-mails. They are then being completed by respondents using various computer or mobile phone devices without any control from the interviewers. It is very difficult to check whether the survey is completed by the right person (Sincero)

• Survey question answer options could be interpreted differently by respondents and there is no way to confirm the validity of answers provided by the respondents. (Wyse, 2012)
Results

Basic Event Organisation

The first section of the online survey was to understand the context of events organised by different sports organisations. To start with, the various sports federations were asked on a scale of 1 to 5, with 1 being the lowest and 5 the highest, on the importance of waste management at their events. The opinion seemed split on this matter with 50% of the respondents giving a high importance rating of 4 and 5, while the rest giving it a rating from 1 to 3.

There seems to be a relationship here, with the number of spectators at the event. Events where spectator numbers were greater than 10,000 per day deemed waste management to be a highly important aspect of the event. When asked about having specific waste management guidelines for their events, 37.5% (6/16) of the respondents said that they have specific guidelines in place. Though it should be noted that only half of these events had spectator numbers greater than 10,000. Another important element highlighted by the survey is the fact that most of these events where participation levels were greater than 10,000 ran from 3-7 days. Further highlighting the importance of having waste management guidelines.

A similar trend was noted amongst the organisations when it comes to developing the waste management plan for their events. Figure 4 shows that only 28.6% (4 out of 14) of the respondents said that they develop such a plan for their events.

Figure 4: Waste Management Guidelines (n=14)
Development of the Waste Management Plan

The second section of the survey covered how the international sports federations go about developing waste management plans for their events. All the respondents said that the event organising committee is the main responsible stakeholder for the development of the waste management plan. Another key result to come out of this process is that in most of the cases, key stakeholders like vendors and contractors are not involved with the process of developing the waste management plan. A clear understanding of when the process of developing a waste management plan starts could not be developed, as the international federations are not really involved with the process.

A good result identified from the survey was that the practice of waste
separation is observed in 76% of the cases, however, no understanding could be developed of whether the waste is recycled or landfilled, as International federations are not involved with the process. In general it is up to the event organiser to decide on this matter based on the country rules and regulations. Another important point from the survey was that ISO standards like 20121 and 14000 are not followed by most of the federations when considering the development of a waste management plan.

**Stakeholder Engagement**

The third section of the survey covered how the stakeholders are engaged in the waste management process for the event. As discovered during the literature review, contractually obligating the vendors to participate in the process is a good way of getting things in order but the survey results show that in most cases, the vendors are not contractually bound to the process.

An important and encouraging point
from the survey was that sponsors are involved in developing policies in 60% of the cases. Also, 60% of the respondents said that they use separate bins for different types of waste. In order to educate the staff and volunteers, training and newsletters were the most used methods.

For educating the spectators, signage in the spectator areas are the most common method used, which is a pity as signage actually contributes to a lot of waste for the event.

**Monitoring & Evaluation**

Monitoring and evaluation is one of the most important elements of such practices but unfortunately the results on this aspect are very discouraging. None of the respondents measured the waste produced during the events. Also, most of them do not have any monitoring and evaluation procedures in place.

**Discussion**

The findings from the survey were along expected lines and confirms the belief
that IFs need to develop and implement strict environmental policies. In most cases it is up to the event organiser to deal with the issue, based on the city or country regulations. Sports events are organised in various parts of the world across the year, and regulations vary dramatically from region to region, thus, federations can play a crucial role by standardising the policy procedures for all of their events.

When asked if every IF, irrespective of the scale of the event should have such policies, Ms. Antunes, a highly experienced member of the Rio 2016 Sustainability Team, responded that:

“Regardless of the size of the event or the popularity of the sport, it is essential to combine sport and sustainability because, together, they act as a catalyst for change in society. An example of what we are doing here in Rio 2016 is to consider the concept cradle-to-grave (or cradle-to-cradle) in the purchase process of anything. Anything! When we sign a contract with a supplier, we look not only at the origin of the product, but its impact after use. Knowing this, the companies start to think about the process of sustainability in a wide way before offering their products. Doing this we use the Games to increase the market’s demands for sustainable products”.

Every sport involves a huge number of suppliers and manufacturers for their events. By having greener sports events, governing bodies can generate additional value, as such events can create a positive image for the sport and the event. This positive image can, in return, translate into greater participation and sponsorship revenues for the IFs. Such environmental policies if implemented successfully, can create win-win situations for the sport as well as society.

Conclusions and Recommendations

It can be concluded from the survey results that international sports bodies are not very active when it comes to handling the issue of waste for their events. While the reasons for such inactivity are unknown, clearly there is a huge range of things that the international sports federations can do in this regard. Some of the most important ones can be summed up as follows:

• Develop environmental policies for their sport depending on the impact of the sport.
• Encourage event organisers to strictly follow the policies.
• Use the champions of the sport to promote such policies and causes at events.
• Encourage national federations to follow such practices at their level too.
• Engagement of sponsors by creating promotional events to promote such activities and create awareness about the issues.
• Prepare an event check list and appoint someone to be responsible for ensuring that all the criteria are met.
• Encourage positive behaviour amongst spectators to create a legacy for their events.
• Awarding most responsible spectator behaviour at the event in the form of trash heroes.
• Awarding and penalising the event organisers on the performance on environmental parameters.
• Establish standard monitoring and evaluation procedures for their sport.

Ms. Antunes (Rio 2016) sums it up nicely as well by saying that:

“For sustainability to be effective, it must be considered within management processes, not a single action. It is essential each area inserts sustainability aspects in their management indicators. From this, we can monitor the effectivity of sustainability and then evaluate the results. The ideal is to use quality indicators because being sustainable in not a simple task. For example: if we offer a training for the workforce about proper disposal of waste, to measure the effectivity of the training, the indicator to be used is not the number of people trained, but the results expected after the training. In this case, the indicator I would use is the amount of waste generated and the waste disposed properly”.

And also:

“The creation of sustainability policies does not hold itself without stakeholder engagement. I’m talking about strong communication, PR, sustainability training, events, social media. All these things”.

Finally, a clear picture of how and why such policies could be developed by conducting a study of the environmental policies of host cities for sports events, as they are also a key stakeholder in the process. Furthermore, a cost benefit analysis of such policies for stakeholders can also be useful.
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Introducing Environmental Initiatives in Sponsorship Strategy:
Future Perspectives for International Sports Federations
'Vision without action is merely a dream. Action without vision just passes the time. Vision with action can change the world’

Joel A. Barker
(Futurist, author and film maker)
Abstract
Public concern has increasingly grown regarding the social duties of organisations, where Corporate Social Responsibility (CSR) has become an easy answer to embrace accountability for their actions and show engagement with the communities. Indeed, a series of International Federations in sport have committed to a series of socially responsible initiatives that show respect and care for the environment, while incorporating a series of environmental policies applicable to their disciplines. Meanwhile, a vast amount of literature has demonstrated that sports sponsorships are an effective marketing resource for companies to enhance corporate image and influence audiences. This study sets out to establish a theoretical framework, based on existing literature and reinforced by an initial empirical validation that suggests that the environmental initiatives of the International Federations can be powerful resources to attract and maintain sponsors and/or partners, when incorporated into their sponsorship/partnership strategies. In addition, this paper finds that Cause Related Marketing (CRM) can help to enhance the communications strategies of the International Federations’ environmental initiatives, and bolster their attractiveness to companies. Moreover, the concept of Creating Shared Value (CSV) is introduced at the end of this paper, as a valuable stepping stone towards a more holistic adoption of environmental sustainable practices, on the inside-out of the International Federations.

Introduction
Regardless of its nature, a competitive or recreational, individual or in a team, sport has historically played a major role in most societies and has always shown a strong relationship with the environment, as it has developed mainly in an outdoor setting and taken advantage of the available natural resources within and surrounding its own field of play. The relationship between sport and the environment, however, has been threatened by the effects of urbanisation and the impact of the growing number of sports events, which result in an increasing amount of waste production, water and air pollution, removal of natural vegetation, energy and water consumption, venue constructions, demolitions, and the use of various means of transport. As a consequence, public concern has grown regarding the social duties of the organisations where “pressure groups have started to lobby corporate executives to disclose more information about the company’s ethical practices” (Liu & Wai-Wai, 2011) and Corporate Social Responsibility (CSR) has gained relevance as a powerful resource for companies to embrace responsibility for their actions, show transparency to their stakeholders and manage the many areas of their business.

Also importantly, environmental and development issues have been addressed globally for the past two decades. One example is the United Nations Agenda 21, from December 1989, where the United Nations
Introducing Environmental Initiatives in Sponsorship Strategy: Future Perspectives for International Sports Federations

Conference on Environment and Development called for a balanced and integrated approach on environmental and development questions. Agenda 21’s aim is to “…address the pressing problems of today and to prepare the world for the challenges of the next century” while it also reflects a global consensus and political commitment “at the highest level on development and environment cooperation.” (Agenda 21, UNDP). Moreover, it urges the acceleration of sustainable development, and calls for International cooperation to ensure its proper implementation, including the assistance of International and non-governmental organisations, and in particular, the United Nations Environment Programme (UNEP), United Nations Development Programme (UNDP) and the World Bank. (Agenda 21, UNDP). Established in 1972, UNEP, serves the Agenda 21’s mandate, and “acts as a catalyst, advocate, educator and facilitator, to promote the wise use and sustainable development of the global environment.” (Agenda 21, UNDP).

In the context of sport, the International Olympic Committee (IOC) recognised the relevance of the environment and the need for its sustainable development by creating the Sport and Environment Commission in 1995, to advise their Executive Board “on matters related to environmental protection and support to sustainable development in relation to sport”. In 1996, the IOC added to it’s Olympic Charter a paragraph to address environmental protection. Furthermore, at the United Nations Conference on Sustainable Development (UNCSD), the IOC assessed through it’s publication “Sustainability through Sport: Implementing the Olympic Movement’s Agenda 21” the progress made in the past twenty years on sustainable development, including environmental protection. In this context, some international Federations (IFs) have engaged in the practice of sustainable development and indeed, a number of them have partnered with the UNEP to promote environmental sustainability in their sports. In addition, some of them developed environmental codes in cooperation with the UNEP or other strategic partners (in regard to the environment) such as NGOs, to promote the practice of “green” actions within their respective sports and reduce the negative impacts of their events. From humble beginnings by the IOC this has led to the most recent events on the sustainability and sport agenda.

Recent Events

In recent years, the London 2012 Olympic Games “…underscored that the time has come to go beyond public awareness into a far deeper engagement between sport and sustainability” and in fact, they “achieved widespread recognition for being the most sustainable Games to date” (Hartnett & Stubbs 2012). It is important to note that, the “London Organising Committee for the Olympic Games (LOCOG) saw sustainability as a key differentiator of the London 2012 Games and felt that there was a unique opportunity to inform and shape this critical agenda for the benefit of the Games and the legacy of the Games. Indeed, part of the legacy of London 2012 is ISO 20121, which
specifies the requirements for an Event Sustainability Management System to improve the sustainability of events. Moreover, through sponsorship activities, the Sustainability Partners helped the LOCOG to drive this change” (Hartnett & Stubbs, 2012).

Along with the development of sustainable practices, sports sponsorships have also developed into a major industry in the global sporting marketplace (IEG, 2004). Sponsorship has been used by many organisations to enhance corporate image and increase brand awareness (Keller, 1993), while helping them to induce positive associations towards their brands, given the unique capability of sports to provoke powerful emotions among their followers (Farelly & Quester, 2005). In which case there appears to be a dichotomy between sustainability and the needs of the sponsorship dollar in the international sporting scene.

The purpose of this chapter is to explore how the environmental initiatives carried out by the International Federations, can be integrated into their sponsorship strategies to attract and maintain sponsors and/or partners. This chapter will provide a theoretical framework, based on existing knowledge, which aims to support an initial empirical validation. A series of recommendations to the IFs are then presented. Such recommendations intend to enhance the IF’s sponsorship and/or partnership strategies and maximise their commercial appeal through the integration of their environmental initiatives. In return, these strategies could generate potential revenue opportunities for them. To verify the stated hypothesis and formulate the subsequent recommendations, this research paper offers a three step analytical approach based on the following resources:

1. Existing knowledge on CSR practices, environmental Sustainability, sports sponsorships, Cause Related Marketing (CRM) and Creating Shared Value (CSV).

2. An initial empirical validation reflecting a series of insights gathered from interviewing three managers and one project coordinator of four International Federations, who are responsible for the respective Sustainable Development programs.

3. The Environmental codes/policies from the four studied IFs.

The method used to build the theoretical framework for this chapter was grounded in a literature review from relevant Journals in Sports, Business and Marketing.
Corporate Social Responsibility in Sport

Corporate Social Responsibility (CSR) has been researched for over three decades. Some researchers describe it as a set of actions aimed to further some social good, beyond the explicit pecuniary interests of the company, that are not required by law (McWilliams & Siegel, 2000). Some assert that CSR is composed of four elements: economic (the basic responsibility to make a profit and, thus, be viable), legal (the duty to obey the law), ethical (responsibility to act in a manner consistent with societal expectations), and discretionary (activities that go beyond societal expectations) (Carroll, 1979). Only since the mid-2000s, have researchers taken a growing interest in CSR within the context of sports, and addressed the unique benefits and values that it can provide. In turn, a number of sports organisations, including the International Federations, have sought to partner with strategic partners such as NGOs, in their attempt to design and implement solid environmental programmes and/or guidelines, as part of their CSR practices.

Increasingly consumers and other social groups have started to raise their voices demanding corporations commit to more sustainable and ethical business practices. Undoubtedly, CSR has become a powerful resource for companies to meet these expectations, but also a “potential form of competitive advantage” (Luo and Bhattacharya, 2006).

In other words, a number of businesses and organisations have come to embrace the practice of CSR with the intent to show accountability for their actions, but also as a way to improve their image and pursue a competitive position within their markets. Between real paradigm change or greenwashing (Friestad et Wright, 1994), decoupling the corporate responsibility discourse from business practice, researchers have to study the reality of change through CSR practices. In this regard, one of the most powerful tools to communicate their engagement with communities and reach their marketing goals, has been the use of sponsorships in the context of sport.

From Sports Sponsorship to Cause Related Marketing

While companies struggle to position and differentiate themselves from their competitors, sports sponsorships have helped marketers to induce positive associations towards their brands, products and/or services, as sports have the unique capability of provoking powerful emotions such as devotion, passion and loyalty among fans. Indeed, sports sponsorships involve a strategic relationship between a sponsor and a sports entity for mutual benefit (Farelly & Quester, 2005), where sponsors rely on an image transfer from the positive brand image of the sporting body, to their own brand image (Gwinner & Eaton, 1999). Literature has shown that the versatility of sponsorship and its ability to cause an emotional response...
towards sponsors (Christensen, 2006), is a unique advantage that only sport can offer to a company. Furthermore, sports sponsorship is a unique vehicle for reaching beyond traditional advertising clutter and differentiating products or services. Given the irrefutable connection between sport and the environment, it is also of no surprise to find marketers using sports as a natural and relevant vehicle to communicate the environmental or “green” initiatives from their organisations. In fact, research has shown that sports’ strong youth and mass appeal have enabled marketeers, by linking sponsorship to CSR, to benefit their organisations in many ways. These include: image improvement, changing consumers’ perceptions, increasing sales, stakeholder engagement, cost reductions, benefitting from sports’ values, along with the communication power and potential mass media distribution that sport has.

Indeed, research suggests that there is a positive effect on reputation, word-of-mouth, purchase intentions and merchandise consumption (Walker, 2009) related to the effects of CSR in a sporting context. Likewise, marketing a product, service, brand, or company by tying it to a social (or environmental) cause, is the essence of Cause Related Marketing (CRM) (Kotler et al; 2002, p.5). Both studies indicate, and business managers noted, the benefits of CRM, and have pointed it out as a helpful tool to build brands, improve corporate reputations and generate more revenues (Berglind & Nakata, 2005, p.443). In other words, CRM is a relevant marketing instrument that can “improve attitudes towards the sponsoring organisations and, ultimately, increase sales and market share” (Veradarajan & Menon, 1987, Hoek et al, 2001; Polonsky & Speed, 2001). According to a five-year longitudinal study in 1996, two-thirds of respondents reported having greater trust in companies championing a social (or environmental) cause, and were willing to pay more for a product or service of a company that is socially responsible (Cone & Roper 1999). These findings were confirmed by a more recent study, which states that consumers’ attitudes, beliefs and purchase intentions towards a sponsoring company were positively impacted (Lachowetz et al; 2003) when using a CRM approach. Moreover, CRM has been increasingly used by a number of organisations in order to communicate and demonstrate their commitment to improving the quality of life of the communities in which they operate (Demetriou, Papasolomou, Vrontis, 2010), and, in addition, according to Ross, Patterson & Stutts (Ross et al; 1992), CRM programmes can also result in favourable attitudes towards the non-for-profit organisation (NPO) related to them. It is then no surprise that CRM’s prevalence in the marketplace and acceptance by for-profit and non-profit practitioners (Barnes & Fitzgibbons 1992), as well as by consumers (Ross, Patterson & Stutts, 1992; Ross, Stutts & Patterson, 1991), places CRM in a unique position in the domain of socially responsive promotion. This chapter does not include CRM that focuses on raising money for a particular cause, but in the strategic way in which these initiatives can be communicated to show engagement with socially responsible actions.
Additionally, it is important to consider that sponsorships per se are just part of the equation when aiming to achieve these and other benefits, as “sponsorship effectiveness is directly related to the degree to which the sponsors are willing to leverage their investment with additional advertising and promotional activities, and expenditure” (Quester & Thompson, 2001, p.33). The sports business should not forget that the involved parts must have common core values, believe in the addressed “cause” and show a true commitment to it, if they want to help maximise the efforts made.

Theoretical Framework

A theoretical framework based on existing literature and an initial empirical validation, will be introduced. It visualises that IF’s environmental initiatives, when integrated into sponsorship strategies, can attract and maintain sponsorships. This paper considers that the IF’s sustainable development programmes are a form of CSR.

Figure 1. explains how external factors such as the growing effects of urbanisation and the resulting
negative impacts to the environment, as well as the subsequent public concern of organisations’ practices, have increasingly pressured them to demonstrate more ethical actions and a deeper engagement with communities, where CSR has become an important resource to show accountability. Consequently, regarding internal factors, the IFs and the NGOs have created a series of guidelines, codes and policies that aim to reduce the negative impacts of their events and moreover, have developed sustainable programmes that address environmental issues and communicate key messages beyond their events. Likewise, because companies have been increasingly urged by the community to show accountability for their actions, corporations have shown a growing interest in engaging with CSR practices, where the sustainable development programmes of the IFs can function as the main axis to reach such an objective. The environmental initiatives developed by the IFs (and NGOs), possess a “good-image halo”. Yet only a limited number of IFs are utilising their environmental initiatives as part of their sponsorship strategies and/or proposals in a meaningful way.

This chapter explores how IF’s environmental initiatives, integrated into sponsorship/partnership strategies, could represent an opportunity to attract and maintain sponsors/partners, while offering companies the opportunity to execute their commitment to the community as part of their CSR practices. It will aim to do so by evaluating the results from document analysis and a series of interviews conducted by four IFs. The most relevant findings are then presented and discussed. Subsequently, a series of recommendations are presented based on existing literature and the initial empirical validation to help enhance these environmental strategies. In addition, the concept of Creating Shared Value (CSV) will be introduced at the end of the chapter to help enrich such an approach.

**Research methodology**

This chapter provides a general overview about CSR, sports sponsorships and CRM, based on existing literature. A theoretical framework explores the ways in which a number of identified benefits linked to these topics could be effectively integrated into and enhance the sponsorship/partnership strategies of various IFs. An initial empirical validation based on the findings gathered from a series of interviews was used to support the framework.

Four semi-structured interviews were conducted with those responsible for environmental initiatives at four IFs:

- Alex Goldenberg, International Environment Commission Coordinator of the International Motorcycling Federation (FIM)
- Matt Smith, Executive Director from the World Rowing Federation (FISA)
- Dr. Harald Muller, Director of Education & Standards and responsible for devising the Sustainability Programme of the International Equestrian Federation (FEI)
- Andrea Marcellini, Project Coordinator at the International Cycling Union (UCI).
A list of questions was developed to guide the interviews and evaluate the theoretical framework. Interviews were not limited by these questions as some other relevant topics came to the fore. Interviews lasted approximately 45 minutes and were conducted in-person. The sample is not to be taken as statistically representative. In addition, FIM’s Environmental Code 2013, FISA’s Environmental Sustainability Policy & Guidelines, FEI’s Code of Conduct Towards Environment & Sustainable Development and UCI’s Environmental Guidebook, were also reviewed to deepen the understanding of the environmental codes/policies developed by the four IFs.

Figure 2: FIM Environmental Guidelines
Challenges and limitations

Limitations included:

1. The almost non-existent number of IFs with environmental initiatives currently integrated into their sponsorship/partnership strategy or aiming to be integrated.

2. The initiatives of the four participating IFs are currently in different stages of development. Therefore, some showed more experience and tangible results, while others referred more to the challenges of the building and planning of such initiatives and the derived sponsorship strategies. As a consequence, the findings presented in this chapter are limited to what the IFs were able to share at the time.

3. Since almost no IFs integrate their environmental initiatives to their sponsorship strategies, the research is itself exploratory. Further studies should be conducted once the IFs have introduced their environmental initiatives as a means to attract sponsors and/or partners.

4. Six other individuals from IFs were approached to be interviewed who were responsible for their environmental programs, however no responses were received.

Results

This section summarises the most important findings of the initial empirical validation of the proposed theoretical framework. It is important, however, to outline the motivations behind the IFs when deciding to engage with environmental initiatives, as to better understand their current and potential (future) views.

Alex Goldenberg of FIM explained that “the Federation decided to get involved in environmental initiatives because it was a vision of FIM’s president. He believed that the Federation needed to engage in order to survive, since motorcycling happens mainly in an outdoor environment. It was also important to do so, given the social and economic impacts that the sport has in local communities.”

FISA started an environmental initiative because “for a long time FISA wanted to connect with a cause, because we believe that the rowers feel strongly about making a difference. After, we re-evaluated the marketing situation in 2009, we identified that the environment was a key mover for many companies. There is a lot of pressure on companies to become environmentally sound, so apart from having a cause, which was also very true to our sport, it was a way to help the federation to position itself differently. So, we have been emphasising the values of the sport and also, by promoting our strong connection to the environment, specifically Clean Water, we are much more attractive to the market.”

(Matt Smith, FISA)
FEI, which has had an environmental code of conduct since 2006, started to develop a more wholesome sustainability programme recently.

“Sport has a responsibility within this topic. We as an IF, recognise and aim to do everything to conserve and use resources efficiently, and serve as a carrier of the sentiment towards long term Sustainability to the wider world through our sporting events. This is why we are focusing on it now, and it is an on-going commitment.”

(Harald Muller, FEI)

Finally, the UCI sees that their involvement with the environment comes from a natural bond between nature and cycling. They decided to develop an environmental programme in 2006.

“Cycling is a sport that is seen more and more as a solution for pollution and obesity. Cities around the world see cycling as an answer for many of their problems in the urban environment, and so we had to take responsibility in that, even when cycling has a free good image, as it doesn’t leave a negative impact behind. However, whenever there is an event, people come and leave trash in the place, trees are cut to make room, and that is something we definitely can’t allow. We had to do something about it.”

(Andrea Marcellini, UCI)

Table 1 (next page) has been developed to clarify the general content of the environmental tools used by each IF, the “stage” of development in which each IF stands today in terms of their sustainable partnerships and/or sponsorships, and whether or not they have an environmental strategic partner, such as an NGO.
<table>
<thead>
<tr>
<th>Tool</th>
<th>Partner</th>
<th>Description</th>
<th>Program</th>
<th>Partner/Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIM Environmental Code 2013</td>
<td>United National Environment Programme (UNEP)</td>
<td>Comprises a series of regulations and recommendations to reduce the negative environmental impact of FIM events. It provides an “Environment checklist” with aspects that are required for the organisation of an event and the respective facilities. It encourages environmental awareness and rewards with the “Environmental Award” to those who have made the most important contribution in this matter.</td>
<td>FIM Ride Green</td>
<td>In discussion</td>
</tr>
<tr>
<td>FISA Environmental Sustainability Policy &amp; Guidelines</td>
<td>World Wildlife Foundation (WWF)</td>
<td>Provides a series of Guidelines regarding facilities and events, including an “Environmental Management System” (EMS) which provides a framework to integrate all aspects of event planning, set up/construction, operation and decommissioning. It encourages awareness on Environmental Sustainability issues and stipulates sanctions to those who don’t comply with such regulations.</td>
<td>Clean Water</td>
<td>BMW Group</td>
</tr>
<tr>
<td>FEI Code of Conduct towards Environment and Sustainable Development</td>
<td>In evaluation</td>
<td>Recommends the use of their environmental guidelines to the “Equestrian Family” (FEI, NFs, organisers, riders, owners, breeders, etc) to contribute towards the long-term preservation of the environment and create environmental awareness. Because the equestrian sport is the only Olympic sport performed in union with a horse, this Code focuses its interest in the conservation of a sound environment and calls the attention of all horsemen on the dangers which today threaten that environment.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>UCI Environmental Guidebook</td>
<td>N/A</td>
<td>Through a “list of easily-implemented actions”(8 worksheets on different topics and a checklist), this tool aims to help event organisers to deliver more sustainable events, while obtaining UCI’s recognition via their “eco-label”. Those organisers awarded with such distinction, could then use it as an asset to the image of their event.</td>
<td>reCycling</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Table 1: Environmental Guidelines and Initiatives**
A good example in terms of environmental practices is the “Ride Green” initiative from the International Motorcycling Federation (FIM), which in 1994 was the first IF to develop an Environmental Code. This Code was created with the support of the CIE (International Environmental Commission). It prescribes a series of regulations and recommendations meant to improve the relationship between motorcycling and the environment, through the promotion of sustainable events. In addition, in 2006, FIM signed a Memorandum of Cooperation with UNEP, which aims to reduce the negative environmental impact of motorcycling. They use their own events and top athletes to promote their programmes and create public awareness around key environmental issues. In terms of sponsoring, however, FIM did not specifically address the potential of using those sustainable practices as a mean to attract sponsors, but they do have an award for those who have made the most important contribution to enhance environmental awareness. FIM is currently discussing the possibility of attracting potential partners as a way to leverage on the image that Ride Green has built.

A good example of sustainable development linked to sports and the environment in the context of IFs, is the World Rowing Federation. FISA and the World Wildlife Foundation (WWF) joined forces in a strategic alliance in 2011, with the aim of promoting and developing an environmental initiative known as “The Clean Water Initiative”. The main priority is to protect freshwater ecosystems by educating rowers and those who follow the sport, about its importance to the global environment. The initiative was successful in understanding the relevance of CSR as a potential element to attract sponsors, and thus, it was used along with a strong communications strategy to help them in 2013 to sign a strategic partnership with BMW Group, which supported and embraced “Clean Water” as part of their CSR program. In addition, FISA, is the only Federation, out of the four presented in this paper, that has developed a strategy to help its partner to increase sales, and further, to identify exactly how many additional products have been sold through the initiative. A more detailed overview of this initiative, is presented in the following table as it is the most developed initiative in support to the focus of this paper.

FEI in the other hand, recommends the use of their environmental guidelines to the “Equestrian Family” in their events and facilities, to help contribute towards the long-term preservation of the environment and create environmental awareness. They are currently considering partnering with a global environmental organisation to customise the existing knowledge and guidelines to Equestrian events and other Equestrian specific requirements and will evaluate and consider possible partnerships in developing its Sustainability Programme. In addition, they are very aware of the impacts that the environmental sustainable practices can bring to enhance their supply chain, and indeed, FEI views this as a future focus area. FEI in the other hand, recommends the use of their environmental guidelines to the
FISA – Environmental Partnership Strategy: BMW Group

The Initiative
The Clean Water Regatta initiative consists of three main parts: BMW Clean Water Business and Diplomatic Regatta, BMW Sustainability Projects with Eco Schools, and BMW Green Activation.

The Strategy: Case Study FISA – BMW Group, Slovenia
FISA stages a series of “Clean Water Business Regattas” for corporate individuals (executives). Companies pay a fee to FISA in order to send four executives to a Sustainability Seminar, where individuals learn how to help their companies become more sustainable. This is also a team building opportunity as well as networking and cross-selling forum. The programme lasts three days. In the afternoon of day 1, the executives learn how to row on rowing machines. Day 2 has the executive paired with one experienced rower, to row in specially selected rowing boats, and on the final day, FISA organises a regatta where the executives “compete” amongst themselves, and enjoy this wonderful experience. Companies who enrol their executives to this programme, receive a discount to buy a BMW car.

The Result
In 2013, 146 companies participated. Due to this programme, BMW Group sold 146 cars in Slovenia in one weekend. This represents approximately the equivalent of three months of sales for BMW Group there. “The return of investment for BMW Group was very significant. They appreciated the benefit of being associated with a brand which is environmentally sound, and, that is what our Clean Water programme could provide to them; the reinforcement of being an Environmentally Sustainable car manufacturer.” Matt Smith, Executive Director, FISA.

Table 2: FISA Environmental Partnership Strategy

“Equestrian Family” (FEI, NFs, organisers, riders, owners, breeders, etc.) in their events and facilities, to help contribute towards the long-term preservation of the environment and create environmental awareness. They are currently considering partnering with a global environmental organisation to customise the existing knowledge and guidelines to Equestrian events and other Equestrian specific requirements and will evaluate and consider possible partnerships in developing its Sustainability Programme. In addition, they are very aware of the impacts that the environmental sustainable practices can bring to enhance their supply chain, and indeed, FEI views this as a future focus area.

Through its Handbook, UCI provides a “list of easily-implemented actions”, that consist of eight worksheets and checklists related to the different managerial areas involved in the organisation of an environmentally sustainable event. In addition, the UCI awards those organisers that successfully apply their guidelines, with a distinction that they call “eco-label”. Furthermore, in UCI’s Handbook, which is based on
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the AISTS Sustainable Sport and Events Toolkit (SSE Toolkit), UCI encourages those organisers awarded with their “eco-label” to use it as an asset for the image of their event.

After reviewing the results from the initial empirical validation, it was interesting to discover that three out of four federations have seen the potential of their environmental initiatives as a way to enhance their commercial plans and attract sponsor or partners, because now “the stakeholders finally understand the importance of environmental initiatives, and it can be felt that there is interest in Sustainability” (Alex Goldenberg, FIM).

Two out of four IFs, who have partnered with an NGO in order to develop their environmental initiatives, find that by partnering with them, such organisations can bring additional expertise to their programmes, enhance their image and contribute to their reliability. In return this helps the NGO to improve their brand value. Moreover, all of the IFs believe that having common values with their partners and sponsors, as well as putting in place proper communication strategies, are relevant actions that have to be considered in order to be potentially successful. Nevertheless, two Federations argue that no potential sponsors have inquired about their sustainable development programmes as a way to enhance the potential partnership or sponsorship. It is also true that the IFs have not mentioned them as an added value or competitive advantage to the firms. In fact, most of the challenges that these federations face, is that they need to find partners or sponsors that fully embrace environmental sustainability as part of their core business practice, to find congruency in the potential sponsorship or partnership-relation, and thus, in its further communication. Three out of four IFs believe that their environmental initiatives are seen as isolated actions. This means that the initiatives run only in one or a few areas within the organisation, rather than being integrated practices that take part in the agenda of the top management and are, therefore, communicated from top to bottom.

Indeed, most of the time, according to three of those IFs, the environmental initiatives are not communicated widely enough inside the federations, so that, in some cases employees are not aware of them. Moreover, exposure was a key common element that all federations use, and in most occasions prioritise, to benefit their sponsors or partners. These includes TV broadcasting, live event streaming, and the use of the available communication vehicles at their events. To their local sponsors, however, the TV audience is not relevant, given that most of those events are broadcast internationally. All of the IFs use or have used athletes to communicate their initiatives and in some cases, the athletes have used their personal social media platforms such as Twitter or Facebook to promote them. According to the interviews, all federations agreed that reliability is a key factor to their success.
Discussion

Based on the previous observations, the IFs could potentially be missing an important opportunity to maximise the outcomes of their environmental initiatives. It is recognised, however, that these initiatives still need to be fully developed, integrated and communicated widely inside the organisation.

Furthermore, by combining the inputs from all internal areas, the IFs could enrich the attractiveness of their initiatives to the potential markets, and even more, reduce costs through their extended supply chain.

In terms of measurement, there is no one environmental guideline that serves or best fits all IFs in order to present their results. Sustainability and environmental policies of IFs have been developed by blending principles from standards such as the International Standard Organisation (ISO), the Global Reporting Initiative (GRI) and the AISTS Sustainable Sport & Events Toolkit (SSE Toolkit), developed by the International Academy of Sports Science and Technology (AISTS) and the Vancouver Organising Committee for the 2010 Olympic and Paralympic Winter Games (VANOC).

Despite the previous observations, the author considers that the initial empirical validation supports the theoretical framework, provided that:

1. The environmental initiatives developed by the IFs and their environmental strategic partners (NGOs) are built on expertise, which is a relevant asset to show credibility.

2. Because credibility is a key factor for firms to commit to an environmental initiative of an IF, the IFs can certainly benefit and leverage this to become an attractive ally for firms by sponsorships or partnerships.

3. As reinforced by FISA, “there is a lot of pressure on companies to become environmentally sound”. Therefore, it is clear that the IFs can also leverage this situation and use their environmentally sound image to attract sponsors/partners.

4. The endorsement that NGOs can provide to the environmental initiatives of the IFs, can be a powerful marketing tool adding value that can be communicated through CRM strategies.

5. Because sport can stimulate positive emotions, the IFs have the potential to create and use such emotions, experiences and attitudes as their “unique selling proposition”, and help corporations achieve their commercial objectives, such as increasing their sales, and communicating their marketing messages, exemplified by BMW and FISA.

6. Likewise, additional resources for the IFs can be generated as a result of partnership/sponsorship deals, by integrating their environmental initiatives with their sponsorship strategies.
7. There is a great potential to create win-win situations for the IFs, the NGOs, the firms, the environment and the communities, through the derived outcomes of the IFs’ environmental initiatives as discussed.

It is relevant to address the concept of Creating Shared Value (CSV), which, as defined by Kotler & Kramer (Porter & Kramer, 2011), involves creating economic value in a way that also creates value for society by addressing its needs and challenges”. The main reason for this is that some Federations, such as FISA, FIM and FEI, mentioned the potential impacts that their environmental initiatives could bring to enhance their performance and also that of their extended shareholders throughout the supply chain. CSV is about creating a greater sense of meaning to the organisation, generating positive impacts for their stakeholders, and not only focusing on profits. As regards the environment, Porter (Porter & Kramer, 2011) argues that companies will make real strides on the environment when they treat it as a productivity driver rather than a feel-good response to external pressure. In addition, both authors argue that ‘Shared Value’ will become an integral part of an organisation’s strategy. The strategy will be to choose a unique positioning with a distinctive value delivery system, from where a competitive advantage will arise (Porter & Kramer, 2011). This implies that in the future, CSV could potentially replace the terms of CSR or “Sustainable Development”. Moreover, it could potentially change the way in which organisations approach and implement their environmental actions.

Conclusions and Recommendations

With increasing public concern with companies’ social duties, and the growing demands by society for corporations to show more accountability and engagement with their communities, Sustainable Development, CSR and the exercise of environmental practices have become less of an optional trend, but rather, a fundamental tool to help respond to the demands of their many stakeholders. By carrying out these initiatives, the organisations can not only show accountability, but could certainly reduce costs and help improve staff satisfaction, as suggested by Pomering & Dolnicar (2009). Additionally, they can also ameliorate government relations and improve their overall social, economic and environmental impacts.

It is clear that the IFs have an opportunity to strengthen their positioning as international leaders, and an enormous potential to leverage their environmental initiatives to become more relevant and stronger strategic allies for corporations to execute their socially responsible actions, through sponsorships and/or partnerships. Given the results of the initial empirical validation, there is data to support that through these initiatives, potential to create win-win relationships exists for all stakeholders. The IFs, however, must be able to showcase positive results, have solid communication strategies and be fully convinced and committed to the “cause”, as these will help to show true commitment, congruency, and credibility,
which could ultimately boost their potential to attract sponsors/partners. Further, by partnering with an NGO, the IFs can benefit from the endorsement and expertise that these organisations can bring to their programmes and policies. While NGOs could gain more visibility and reach, building on their efforts towards attaining their mission. In addition, the IFs could leverage on their sustainable environmental initiatives as a way to add value for firms in complying and committing with their CSR practices.

Building on these observations, the environmental initiatives under the sustainable development programmes carried out by the IFs, can also serve as stepping stones towards more environmentally sustainable practices that can positively impact the performance of the IFs, embracing the concept of Creating Shared Value (CSV), and enhancing the performance of their supply chain and other extended shareholders.

Based on existing literature and this research, a series of “managerial recommendations” for the IF are outlined below. Their purpose is to help enhance the IF’s sponsorship strategies, by integrating sound environmental initiatives as a powerful marketing resource to attract and/or maintain sponsors.

1. Top managers should understand and be convinced of the relevance that environmental initiatives have to positively impact the overall performance of the IF. This will allow a better integration and follow up of such practices within the IF, while sending congruent messages to their stakeholders, and hence, potential partners/sponsors. Therefore, it is also strongly recommended that the top leaders of the IFs integrate such initiatives in their agendas.

2. All the areas/departments of the IFs should be involved in the building (or adjusting) of their Sustainable Development Programmes, this way the IFs can maximise their outcome, and consequently their attractiveness to firms. It would also be interesting to involve the network of the IF (continental and national associations) but it is generally not the case.

3. It is strongly recommended that the IFs partner with an NGO to develop their environmental guidelines and initiatives. NGOs bring considerable expertise to the building and implementation of such tools, while also acting as a powerful resource to endorse the IFs when seeking for sponsors/partners. NGOs can also provide credibility, which is a key point for firms when deciding to commit to socially responsible actions.

4. In order to prevent “Greenwashing” and to enhance long-term relationships, the IFs should make sure that they share the same vision and corporate values of their potential sponsors/partners. Having the same vision and values, can certainly help to strengthen their relationships, which can in turn bring additional business opportunities.
5. Given the uniqueness that sport has to generate positive emotions, the IFs should inject their initiatives with “positive emotional experiences”, such as FISA’s regattas. They should leverage such a powerful asset to enrich the implementation of their Sustainable Development programmes and become more attractive to firms.

6. Communication is key to enhancing the success of the initiatives. Together with further sponsorship/partnership message, these should be well communicated both inside and outside the IFs, to generate awareness but also help reinforce the initiatives’ credibility. In addition, all communications and actions should be consistent to maximise all efforts. To this end, using top athletes to deliver the key messages at events and/or through their social media channels, can help to extend the reach of these initiatives and reward them with credibility.

7. The IFs should be ready to propose appealing partnership/sponsorship plans that cover local, national and international needs. These require close follow up and review of results to make any adjustments.

8. If the IF decides not to partner with an NGO, the recommendation is to use one standard for sustainability reporting, such as the Global Reporting Initiative (GRI) or ISO 26000 or ISO 20121, in order to heighten the organisational commitment of the IF to sustainable development. The GRI is one of the most widely used standards in the world, and it could serve as a powerful tool to enhance the confidence of the IFs when measuring, comparing and showcasing their performance over time. Additionally, the GRI can be used as an endorsement to their sustainability initiatives, when attempting to attract potential sponsors or partners. To this end, after a sponsorship or partnership deal is made, a joint baseline could then be proposed and developed between both the IFs and the corporations, in order to set, align, compare and improve any aspects of the initiative.

9. Traditional marketing tools can be used, if not already in use, to measure any return on investment. Such measures could be presented through a benchmark analysis of the following aspects: Top of Mind (TOM), Share of Mind (SOM), Share of Market, and sales. An annual or biannual review is encouraged.

10. Embrace the concept of Share Value, not only as a way of managing decisions within the IF, but as a means to reinforce a congruent and integral image in the communication of the IF’s environmental initiatives. This, in turn, can act as a powerful asset within the context of sponsorships to attract firms.
Future Directions

In terms of Sustainability reporting, further studies are indeed needed to evaluate and demonstrate the convenience of using one determined or unified reporting guideline across all IFs, as a means to evidence transparency, reliability and comparable results. The challenge, however, lays mostly in designing a standard that can cope with the ever-changing needs of the Federations, their sport and the many stakeholders involved. In this respect, SportAccord, before its demise, was initially studying the possibility of uniting and supporting the IFs by providing a tool that could help them to assess, report and certify their sustainability initiatives. The process is currently on hold.

The concept of Shared Value should be further explored, not only as a way to reduce costs and enhance an organisation’s image, but as a valuable resource to adopt and adapt sustainable managerial decisions that can shape the performance of an organisation, and create a positive “domino effect”. These in turn, could potentially impact other organisations and stakeholders in many aspects, including sustainable processes as added value practices across the whole supply chain.
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Chapter 3 – Shared Value

The Concept of Creating Shared Value:
Awareness and Application by Sports Organisations

Jeffrey Barkun and Rolf Schwery
‘We must ensure that the global market is embedded in broadly shared values and practices that reflect global social needs, and that all the world’s people share the benefits of globalisation’

Kofi Annan
(7th Secretary-General of the United Nations)
Abstract

Sports organisations enjoy the benefits of a unique business based on passion and emotion. They hold some of the highest levels of customer loyalty of any industry. With the recent popularisation of Corporate Social Responsibility (CSR), teams, leagues and other sports bodies have increased the use of socially responsible activities. Porter and Kramer (2011) claim that the traditional ways in which industry and society manage value creation is not sufficient anymore (Porter & Kramer, 2011). Consequently, the concept of Creating Shared Value (CSV) is introduced. This paper aims to identify the level of awareness members of the sports community have, and how or if they use it, as well as why. The expectation is that while formal awareness is limited, however, implementation in other forms is quite common. Literature suggests that sports organisations have begun engaging in socially responsible behaviour, although typically focused on marketing and risk management. Despite some of the reasons for doing so, organisations have begun to realise the strategic value and opportunity that social responsibility programmes present.

This study uses a combination of interviews, organisational document review and website analysis following an analysis of existing literature. Research outcomes confirm the hypothesis of both limited formal awareness, and active use in partial, non-strategic forms. Strategic use, however, is slowly growing and proving to deliver intended benefits. In addition, motivation is found to be a combination of the need to manage risk relating to preventing bad public relations, and setting long term legacy. From this, a pathway to operating in a socially responsible manner is built, with strategic tools and frameworks suggested to help achieve success.
Introduction

Sports organisations enjoy the benefits of a unique business based on irrational passion. They hold some of the highest levels of customer loyalty of any industry. Further, their profits are often subsidised by their customers in the form of advantageous tax exemptions and other allocations of public funding. With the recent popularisation of Corporate Social Responsibility (CSR), teams, leagues and other sports bodies have increased the use of socially responsible activities. Whether it is borne out of an altruistic sentiment, an obligation to give back to the society from which they draw great benefit, or a strategic initiative, the driving force behind this trend has been the subject of a small but growing body of research. Regardless of the motive, organisations in all industries are adapting to a new reality in regard to how they operate.

A firm must build value to deliver returns to their investors, otherwise they ultimately fail in their primary duty. Recent reality, however, has changed how this is expected to be done. Porter and Kramer claim that many of the traditional ways that industry and society manages value creation is not sufficient anymore (Porter & Kramer 2006). Change and innovation is nothing new. Imagine if pure laissez-faire economics were still applied, despite the many scandals and unjust actions by industry organisations? This is not to say that there must be limitless market intervention, however, new realities require industry and other stakeholders to regularly re-examine how they do what they do, and the fundamentals that guide them.

Sports organisations continue to mature in the way they build financially sustainable operations, as evidenced by repeatedly seeing record-setting sponsorship and television rights contracts announced in the media. At the same time, there is regular debate about the way in which these revenues are distributed. Furthermore, issues such as safety and the health of athletes often clash with pushing the boundary of a sport’s entertainment value. Additionally, pressure on children to be the next superstar has never been greater, often resulting in broken families, burnout and quitting (Wagner, 2004). There is an obvious clash between the conflicting interests of many stakeholders.

The concept of Creating Shared Value (CSV) claims to provide some guidance. That is not to say it will be a turnkey solution that has all the answers, probably far from it. It can, however, present those caught in this challenging web with a philosophical path that can help them figure it all out.

With CSV being a recent development, this chapter aims to identify the level of awareness members of the sports community have. This theory also closely relates to typical aspects of CSR. Therefore a second objective sets out to identify the extent to which sports organisations believe in and implement such practices, and specifically identify what areas of the business they are employed in, as well as which areas they are not. Following this, a pathway to complete adoption will be developed.
Finally, this paper aims to identify some of the motivations that drive sports managers to implement such practices and programmes.

Despite common claims of an obligation for organisations to give back, the motivation for this is not entirely altruistic, but used to further the core business necessity of customer loyalty and retention. “While there is a growing body of CSR research in general, it has only recently received attention in the sport industry” (Sheth & Babiak, 2010) Thus, it is unlikely that CSV has been the focus of much, if any, research in the sports related literature, suggesting that sports managers have a limited level of awareness, at least in a formal sense.

Literature Review

Understanding CSR

In 2006, Michael Porter and Mark Kramer published an article describing some of the problems organisations face in dealing with how to properly use CSR in their business. One of their key arguments explained that “….the prevailing approaches to CSR are so fragmented and so disconnected from business and strategy as to obscure many of the greatest opportunities for companies to benefit society. If, instead, corporations were to analyse their prospects for social responsibility using the same frameworks that guide their core business choices, they would discover that CSR can be much more than a cost, a constraint, or a charitable deed—it can indeed be a source of opportunity, innovation, and competitive advantage” (Porter & Kramer, 2006). Thus, the authors are arguing that the elements of CSR can be used, just like any other method, as a strategy for business building. The transformational characteristics of this concept create a new level of societal match and integration between business and the general community. Unlike traditional methods which “focus on the tension between business and society rather than on their interdependence” (Porter & Kramer, 2006). CSV will focus on bringing the two together to synergistically build value for society as a whole.

While the relevance to society and industry in general is obvious, making the connection to sport may be a bit more difficult. To understand this, three key areas of literature were explored. First, several ethics and economic concepts present a theoretical foundation upon which to build. Second, Porter’s assertion that companies should use the same business frameworks in a CSR frame, leads to a discussion of some strategic management tools. Finally, a review of existing research on how and why sports organisations and others are using elements of social responsibility, is presented.

Conceptual Foundations of Shared Value Creation

Sport is often described with words like ‘love’ and ‘passion’. Members of society can be seen to gain incredible amounts of joy when cheering for their favourite team or athlete, making a significant impact on their self-esteem and overall happiness. This gain of pleasure from
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Sport fits Bentham’s definition of utility (Velasquez, Andre and Shanks, 2014) thus allowing utilitarianism to be used as a foundational reference point.

Following this concept, we must seek to create the greatest amount of benefit or happiness for society, while minimising elements that cause harm or pain. From a spectator standpoint, it would seem something as simple as watching is a generally pleasurable experience. Even playing seems to fit this requirement quite easily as playing a sport is fun and healthy. This viewpoint is both true and naïve, as sport can be seen to cause harm in the form of people spending money on it, instead of more pressing needs in their life, or by athletes getting injured. This identifies a balance that sport organisations must consider when setting policy and creating programmes.

Dealing with how to minimise harmful effects is more comprehensively analysed by Buchanan & Subblebine (1962) when discussing externalities, particularly the consequences of ignoring the effects of negative ones. As early as 1960, Coase (1960) elaborates on this topic with examples focusing mainly on a problem that helps one party and hurts another, presenting a situational analysis about a person or body that is hurt and thus entitled to compensation. In the article, the author uses a simple example of how the frequent passing of trains causes economic damage to the land by which it passes.

More damage is caused than value created by the activity that the train is used for. Thus, a negative externality is created. The solutions presented to offset this problem are to stop running the train or compensate those who own the damaged land. No consideration is given as to whether another option could be explored where all parties could gain. The author eventually expresses this failure in the conclusion, explaining that a more comprehensive, big picture approach is needed for dealing with these types of situations. This recognises the potential for a new approach, such as CSV, to help develop more creative options for solving problems.

**Strategic Frameworks for Shared Value Creation**

Effective problem solving is often supported by highly developed tools. Within business there are many of these to help managers assess their organisation and simplify the process of deciding the future. Of the many strategic analysis tools that exist, two in particular stand out for their focus on multiple perspectives. As Kaplan (2010) explains, the balanced scorecard gives managers a multi factor view of performance by using four key perspectives. Unfortunately, the initial expectation of an automatic link between achieving the internal objectives that the framework helps set, and improvement in financial outcomes was not inherent, with the paper’s author explaining, “...we soon learned that we had to start not with measures but with descriptions of what the company wanted to accomplish” (Kaplan, 2010). By focusing on the purpose and desire for what the organisation wanted to do, they were able to build more customised strategies.
and performance indicators that would help improve the likelihood of success. The movement to expand beyond profit and look at a greater set of measures generally aligns with the principles behind shared value. This theme is further explored in the McKinsey 7S model, which is used as a planning tool to ensure strategic alignment between all aspects of a company’s operations (Singh, 2013). The model is particularly interesting to discuss, as it places shared values at the centre of its proposition. It should be clearly noted that this is different from the idea of shared value in the sense of benefit that is created and shared between eligible stakeholders. While this model is centred around the shared ethical or philosophical perspective of the company, which may or may not be that of a social impetus towards how the firm operates, it does capture a similar essence by integrating the idea that there should be a common ground established to drive success. Like the balanced scorecard, it promotes the consideration of various perspectives, in this case emphasising how they interact. This also relates to the ethical ideals promoted through social economics, particularly the problem of failing to consider external social costs. By bringing multiple perspectives together in a space guided by strong and common values, managers have tools to implement the ethos prophesised by Coase (1960) and others.

Sports organisations have recently increased their focus on socially responsible activities. This trend has been the subject of limited but increasing research. Echoing the sentiment of Porter and Kramer, Babiak & Wolfe (2009) expressed that “Recent work in the management literature on CSR argues for a more closely aligned fit between a company’s core strategy and its CSR efforts.” This suggests that at the time of this research, these activities were not aligned closely enough.

It also is worth mentioning the issue of why it is important for such activities to have a strategic link. It could be argued that these types of activities are simply philanthropic, a sufficient way of giving back to the community that supports the team. With this argument, it is not critical to determine some strategic element to the activity, other than to ensure that the activities matter to the people of the community, and that they are sufficiently communicated so that the organisation builds a high level of awareness. This is, in fact a very common argument, showing the peripheral nature that CSR typifies. There is actually nothing wrong with teams doing this as they are making a positive impact on their community, and should be commended for this. Modern challenges, however, help make a case that the resources could be put to better use.

This claim is supported in the literature, which explains that: “The strategic use of a sports team’s resources was another priority for sports executives. Respondents stated that there was a need to strategically use organisational funds and resources to help the community in which they operated and that CSR could be used to advance business interests” (Sheth & Babiak,
2010). Thus, the lack of a strategic element to corporate philanthropy deems this argument unsatisfactory.

The next element to consider is how to assess the strategic link of existing CSR activities that sports organisations operate. This has been one of the more heavily researched areas of CSR in sports. This was also part of the focus of Babiak & Wolfe (2009), with them creating the framework in Figure 1, which provides guidance on how to assess whether programmes fit their recommendation where “….efforts that contribute to societal beneficiaries and enhance business performance will be more sustainable and add more value for both society and the corporation. Thus, ‘doing good’ can, indeed, be good for business.” The most common application shows up in marketing, which contributes much of the evidence that was used to develop this model.

Other academic work has produced research that builds on this, with a framework being formally developed to evaluate the effectiveness of Corporate Social Marketing (CSM). This aims to evaluate such activities on their ability to trigger desired outcomes. Inoue & Kent (2013) tackle this challenge by establishing the requirement that “the effectiveness of CSM depends largely on the corporate credibility of a company in supporting a social cause.” Coomans (2005) echoes this assertion saying, “Trust is a major strategic component of corporate performance as well as of

Figure 1: Determinants of adopting CSR in professional sport:
A proposed framework
the sustainability of the corporate social mission.” Thus, trust and credibility are highly inter-related when a company is building and operating a socially responsible agenda, at least as far as their expectation of success is determined.

This is relevant as the programme is strategically aimed to influence the behaviour of people, with Inoue & Kent (2013) explaining that “CSM credibility is proposed to have effects on the two types of consumer behaviour, desired prosocial behaviour and customer loyalty”. Figure 2 helps to visualise their assertion in the model.

These two models provide a set of tools to help sports executives implement strategic use of corporate resources in relation to social responsibility and shared value creation initiatives. They also further validate the legitimacy of this desire.

**Shared Value Creation Activities of Sports Organisations**

Following on the topics discussed above comes a small but growing body of research on whether sports organisations, as well as others, are actually engaging in such activities. In the case of operating their social responsibility initiatives, the answer to this is ‘on a limited but growing basis’. Bradshaw (2013) compares the activities of two National Hockey League (NHL) teams, concluding that one operates strategically while the other does not.

Davis (2013) explored the use of such philosophies in the sports apparel domain, finding that there was a perspective of it being operated as a sort of public service instead of a
strategic marketing opportunity. Nike, however, made effective strategic use of CSR to help fix its image problem after the scandals about bad working conditions in the factories where its suppliers produced apparel (Waller & Conaway, 2011). This element of damage control employed by Nike is a common use of CSR, as well as a source of criticism. Large companies employ social responsibility in a reactive way that uses it mostly as a sort of insurance policy against deeper damage to their image. Thus, it could be argued that it is used as a sort of risk management tool.

This may relate to the reason for doing it, in many cases, to dampen the criticism that can come from the special benefits sports organisations receive from governments. A major example relates to the financing of stadium construction, as well as the special property tax exemptions owners are commonly given, with “this method of financing stadiums…‘amount[ing] to little more than a public housing programme for billionaire team owners and their millionaire employees” (Coakley, 2003). Owners use the passion of the local fan base to hold the city hostage by threatening to relocate if funds are not granted. Thus, value is essentially destroyed instead of created, a claim further validated by a congressional study that found “each new job created in connection with the state-financed $222 million football stadium that opened in Baltimore in 1998 cost about $127,000. Meanwhile, the cost of creating one job through the Maryland economic development fund was about $6,250. Thus, for each job created by the new stadium, twenty-one jobs could have been created if public money had been invested in other development projects” (Coakley, 2003).

This seems like quite damning evidence of value destruction, and with greater awareness around this issue developing from difficult economic times in recent years, it is not surprising that various levels of government are more aggressively taking a stand against such practices. This also begs the question of whether sports organisations are truly being socially responsible, or if their related activities are simply a smokescreen, carefully concocted to distract the public of their malicious actions that take resources away from areas of significant need like public education. Coomans (2005) argues that “the company’s way of “living” its values are even more crucial as a vector of trust than the values themselves.” Following Coomans’ (2005) requirement that the believability of the social message relies on the completeness of the organisation’s overall commitment to ethical practices, it could easily be argued that sports organisations, in general, gloriously fail to fulfil the requirements of shared value creation. That said, the increased focus on strategic use of CSR principles suggests a transition in the opposite direction.

**Emergent Research Objectives from the Literature Review**

The previous literature review has shown that sports organisations are more actively engaging in shared value related activities. They are still not, in most cases, however, employing them in a
strategic way, although this appears to be changing. Despite the presence of socially responsible activities, claiming that sports organisations act and operate in a socially responsible manner is difficult to validate. Thus, in addition to the primary research questions, this paper seeks to find out whether progress has been made on these fronts, propelling sports organisations in a direction towards shared value creation in a manner that promotes significant impact on all stakeholders.

Research Methodology

As Figure 3 illustrates, the research methodology included the investigation of corporate policy documents, an assessment of programme descriptions listed on the websites of sports leagues, as well as an integrative report. In addition, several interviews were conducted by video conference due to the remote location of the interview subjects.

Figure 3: Primary Data Collection Activities
Corporate documents

Corporate policy documents were obtained from two organisations, one of which (Nestlé) is not a sports organisation, although it is a leader in implementing CSV.

League websites

The websites of the five major North American professional sports leagues were investigated to identify the social responsibility programmes they run. These were categorised around the related social issue, in line with the recommendation made by Babiak and Wolfe (2009). This was compared to the Responsiball report (2015) for social responsibility activities published on the websites of football (soccer) clubs and leagues in Europe.

Interviews

Three people were directly interviewed through Skype. The interview questions were developed around identifying the level of awareness the subject had of CSV, as well as identifying what, if any, social responsibility activities they were involved in. The interviews were not recorded, and information was collected through note-taking. It should be noted that the final interview subject was watched through a published and open interview session and was not conducted directly. Given the specialised expertise of the subject, it was extremely useful in acquiring information despite there not being a direct connection to sport, or having direct personal access.

Results

Corporate policy documents

**NHL Green Executive Summary**

This document summarises the activities of the National Hockey League’s environmental initiatives. It was founded by the commissioner in 2010 in recognition of the importance environmental aspects have to the game, given its link to outdoor skating on frozen ponds. In fact, water is a big focus with several programmes in place and having shown strong results. In addition, they have implemented monitoring tools for their venues to track water and energy consumption. They also promote these programmes through their clubs, which additionally have their own programmes in place.

As confirmed by the interview subject, this programme has had financial benefits by reducing the amount of energy used by venues. It has also helped drive other efficiencies in addition to being environmentally beneficial.

**Nestlé Corporate Policies**

Nestle is a leader in implementing CSV. They have embodied all aspects of this concept. The documents cover several functional areas including human resources, corporate strategy, and leadership, and are guided by strong adherence to CSV, explaining that “we have built our business on the fundamental principle that to have long-term success for our shareholders, we not only have to comply with all
applicable legal requirements and ensure that all our activities are sustainable, but additionally we have to create significant value for society” (Nestle, 2010). This philosophy is expressed in their other policy documents, such as in the employee relations report which states, “This policy reinforces Nestlé’s commitment to long-term business development through an open dialogue with its employees and external stakeholders in line with its Creating Shared Value concept”.

These are further expressed in the description of the company’s management and leadership principles, with the CEO emphasising their importance by writing, “The Nestlé Management and Leadership Principles are also in full alignment with the Nestlé Corporate Business Principles, in which ‘Leadership and Personal Responsibility’ are singled out as key operational principles. They are also aligned with the Nestlé Code of Business Conduct, which establishes non-negotiable minimum standards of employee behaviour in key areas. Through the pragmatic combination of a clear long-term vision and the achievement of day-to-day goals, the application of these principles everywhere, and at all times, becomes a living expression of our corporate culture and a key component of our future success” (Nestle, 2011). The company further explains their commitment to this by stating they require their suppliers to adhere to a code of conduct based on these concepts, and require regular

![Figure 4: CSR programme topics of the five major professional sports leagues](image)
audits of their own operations and those of their suppliers. They report on this regularly and engage with key global stakeholders such as Greenpeace to help build these programmes in a collaborative manner.

League websites

The five major North American professional sports leagues all run CSR programmes. An inspection of their websites gave data on the programmes that they run. This data was compiled giving the results shown in Figure 4. The purpose was to heed the recommendation of Babiak & Wolfe (2009) by classifying CSR programmes by topic. Data collection was limited to the league websites, although additional investigation of team websites would likely have expand this list. Despite the relatively limited data set of thirty-two programmes from five leagues, participation, cancer, childhood obesity and the environment make up the most common issues targeted by such programmes. A full list is included in Appendix I.

Given the lack of historical data, no conclusion can be drawn as to any trends or patterns in this activity, although other literature suggests an increasing trend across all issues. This is corroborated by Responsiball, a study which collects data in a similar although more rigorous manner. Responsiball focuses exclusively on professional football (soccer) leagues and clubs, collecting data about social responsibility issues across three main pillars: Governance, Community, and Environment. In 2015 the study included some new leagues as well some outside of Europe. The results of the study show that clubs are much stronger in the Community and Governance pillars than they are in the Environment pillar (Cade, 2015). A summary of overall score by country is shown in Figure 5.
While the most recent report shows a decline in satisfaction of criteria. The 2015-study included for the first time non-European countries which makes results difficult to assess, particularly due to the general improvement seen from year over year results in previous reports (Cade, 2015).

Interviews

Omar Mitchell, Director of Sustainability, National Hockey League

Mr. Mitchell explained that the league’s focus is on issues relating to environmental sustainability and other topics. He is familiar with the concept of CSV, although it was difficult to gauge the depth of this knowledge or his perspective on it.

For Mitchell, CSV is not an overarching focus of league management who prefer to spend their time making sure they fill seats, and sell sponsorships, as well as television rights. According to Mitchell, the NHL management does not know of CSV in a formal sense or has any interest in discussing it in the context of running the organisation.

The business case for NHL Green and other sustainability initiatives, revolves around three aspects: 1) Emissions and venue management cost reduction, 2) integration with shared values and reputation management in conjunction with corporate partners, and finally 3) basic brand enhancement. These are seemingly traditional and peripheral, although seep into overall management a little on the issue of more efficiently operating their facilities. There was no discussion, however, of it being incorporated into other aspects such as employee compensation, player safety policy, or stadium finance. That said, the NHL has shown that it does run many excellent programmes and follows the principles of CSV at least in part (Mitchell, 2014).

Cathryn Carlile, Project Manager, City of Richmond, British Columbia, Canada

The City of Richmond and the AISTS (International Academy of Sports Science & Technology) engaged in 2014 in a strategic partnership to further develop and promote the Sustainable Sport and Events (SSE) Toolkit (AISTS, 2014). The AISTS SSE Toolkit was originally developed by AISTS and the Vancouver Organising Committee of the 2010 Olympic and Paralympic Winter Games (VANOC). The partnership aims to facilitate educating event managers so they can more easily implement sustainability practices and improve the legacy left by events. The three areas of focus are: environment, finance, and social, in line with the triple bottom line. Carlile considers this to be a major facilitating factor to help increase awareness and effectiveness of event operators who simply do not have the time to research and develop this on their own.

Carlile is not aware of the concept of CSV. She understands, however, the basic idea of creating values, and having shared values. This is likely more related to the general values of an organisation,
The Concept of Creating Shared Value: Awareness and Application by Sports Organisations

and not specifically the formal business concept of value, in terms of a tangible financial or at least economic item or idea. It does, however, suggest there is strong potential to teach this concept to those without formal business or economic training.

Her awareness of the ideas, programmes and motivations for CSR were well developed, identifying several local organisations who undertake this activity, and make a point of integrating their values very heavily into policy, programmes and decision making. It is not clear, however, to what extent these organisations do this, or why or what strategic methods or motivations they apply. Carlile (2014) emphasised, however, that these organisations place values very highly in terms of how they operate.

Discussion

The level of awareness of CSV amongst interviewed sports managers is not particularly high. Despite this, many sports organisations are quite active in operating CSR programmes of various kinds. There still appears to be a gap in terms of their use in a strategic manner, particularly along the lines of the frameworks presented in this paper. Despite this, evidence suggests that organisations are beginning to see the value of social responsibility beyond simply a tool for reducing criticism and improving perceptions amongst the public.

The NHL Green programme proves that socially responsible activities can have direct economic benefits, asserting that the claim of there being significant untapped opportunity to be true. This should make motivation an easy issue to deal with. The difficulty is that implementing it in the same manner as Nestle, across all business functions and in a strategic manner, still proves to be difficult. NHL executives have begun this process, but there does not seem to be interest in bringing everything into this sphere. The reasoning could have to do with their desire to focus on typical revenue generating activities. This is a typical response, and it seems that there is a lack of understanding that this can, in fact, be a way to build profitability. The remaining challenge is to convince people of this.

CSV

The above mentioned challenge is damaged due to only a tenuous link between CSV and positive financial outcomes. Mark Kramer (2014) responded to a question about this issue in the public Hangouts session when asked about why executives would contract organisations such as FSG, despite the tenuous direct link between CSV and profitability. While the economic motivation and outcomes still remain unclear or at least lack strong proof to validate the theory, the current state of the philosophy is strong enough to motivate some who want to leave a lasting impact on their company beyond simply profit growth.

Overall, evidence points to a desire to build robust programmes built on shared value themes. To finance these programmes and further the mission,
profitability is critical. Organisations cannot rely on donations, but must manage their operations in a financially sustainable manner, making profit growth very much in line with CSV. According to Porter and Kramer (2011), CSV presumes compliance with the spirit and letter of the law and any special requirements that apply to an organisation. It recognises that growing profits means that there is more value created, but that this value must be shared with the people who created it.

Organisational Success

The concept of CSV also extends to the challenge of keeping and motivating employees. With people focusing more on the values that a company exhibits, and the mission it is trying to further as a method for selecting where to work, retention strategies have changed. Companies need to do more than just offer the best pay packages. As its company policies show, Nestlé is a shining example that others could adapt themselves towards.

Integrity

While many sports organisations operate social initiatives, they may not completely live these values. Trust is critical for getting people to believe that an organisation is practising what they claim, otherwise they will develop a feeling of deception, which is incredibly damaging and hard to repair. Trust is easy to lose, and hard to gain, so if sports organisations want people to believe they are truly doing what they say, managers must ensure that they are. By doing so, they will prove that they have a high level of integrity, and greatly improve their chance of sustainable success.

Conclusions and Recommendations

Based on the research objectives, the following conclusions were drawn:

• There is a limited awareness of the concept of CSV in the sports industry. Awareness of the concept of CSR is much greater. It is most commonly used in marketing, although other functional areas show signs of adoption.
• Interviewees suggest that CSV, in their organisations, is not implemented in a manner that is aligned with the corporate strategy.
• CSR principles are beginning to be employed in functional areas beyond marketing, leading to greater efficiency in operations, and cost savings. This suggests a new level of understanding with regard to the value of sustainable practices.
• Despite improvement, it is still difficult to support the notion that sports organisations are acting in a socially responsible manner. Their CSR activities can still be viewed as a tactic to improve public perception and minimise negative criticism. This is in line with the risk management strategy previously discussed.

Based on these conclusions, sports organisations must heed the suggestion of ensuring consistency in terms of
truly following up on claims of social responsibility. Failing to do so might result in a loss of public trust and ultimately hurt their brand value. The following is a proposed pathway that sports organisations can use to implement this recommendation:

1. Identify what CSR activities the organisation operates.

2. Identify what areas of the business they are driving.

3. Assess whether existing activities are used in a strategic manner with the aid of tools and frameworks previously discussed.

4. If relevant, re-design these activities to align with the CSR strategy such as that developed by Babiak and Wolfe (2009).

5. Identify what areas of the organisation are not employing CSR principles.

6. Use the existing tools and frameworks to build methods so that they can be integrated.

Once CSR principles are built into all areas of the business and operated in a strategic manner, the organisation could be considered to be employing CSV in full effect. Ultimately, more objective measures and tools must be developed to aid in this process, such as those of the Global Reporting Initiative and ISO 26000 and ISO 20121.
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McGraw Hill.


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## Appendix 1 – CSR programmes US sports leagues

<table>
<thead>
<tr>
<th>Organization</th>
<th>Program</th>
<th>Issue</th>
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<td>Environment</td>
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<td>Movember</td>
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<td>NHL Fights Cancer</td>
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<td>HIFE – Hockey is For Everyone</td>
<td>Participation</td>
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<td>Let’s Move</td>
<td>Childhood Obesity</td>
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<td>Education</td>
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<td>Play 60</td>
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Chapter 4 – Sport Participation

Sport Participation in Host Countries before and after the Olympic Games:
Do the Games Change Something?

Katia Engalycheva & Jean-Loup Chappelet
‘People are designed to move’

Lisa MacCallum
(Former Vice-President NIKE, Access to Sport)
Abstract

The Olympic Games are expensive for host cities and sometimes result in financial deficits for host countries. In an attempt to promote the Games, attract more bidders and justify huge price tags, the organisers highlight various benefits: boost for the country’s economy, improved infrastructure, increased tourism, a national showcase, etc. A sustainable sporting legacy is also now on the organisers’ agenda.

A wide-spread belief exists that mega-events, such as the Olympic Games, create community excitement and lead to a so-called “trickle down” effect where people are inspired to become more active due to the successes of Olympic athletes and the staging of such a high-profile event.

One of the articles of the International Olympic Committee (IOC) Charter states that part of the role of the IOC is “to promote a positive legacy from the Olympic Games to the host cities and host countries.” While numerous studies have been conducted on the evaluation of the long-terms benefits from hosting the Olympic Games, related to economic, transport, tourism, infrastructure impacts, few evaluations have been carried out to show the effects of the Olympic Games at the level (mass or elite) of sports participation. Despite the claims about the wider social impacts of the Olympics, there is a lack of serious post-event assessment. The purpose of this study is to measure, through the analysis of official statistics, the level of grassroots sport participation in recent Olympic host countries. Additionally, where possible, the cities before and after the Olympic Games and try to determine if the Olympic Games inspire the general population to practise more sport. The findings of this research indicate little evidence for a positive long-term sporting benefit from staging the Olympic Games.
Introduction

One of the International Olympic Committee’s (IOC) missions is “Sport for All” and advancement of sport in society. The Olympic Games, therefore, by definition, among other things, are supposed to boost mass sports participation. This should be one of the positive Olympic “legacies”.

The Olympic Games are expensive for host cities and sometimes result in financial deficits for host countries. Therefore, cities interested in hosting the Games are now placing more and more emphasis on the legacies that the event could leave for their citizens. Rule 2.14 of the Olympic Charter states that part of the role of the IOC is “to promote a positive legacy from the Olympic Games to the host cities and host countries.” Cities hosting the Olympic Games are under increasing pressure to account for public expenditure by creating positive legacies for the host country and the population, for example, in terms of additional employment, more local business opportunities, education, know-how and others. A sustainable sporting legacy is now also on the organisers’ agenda. To justify investment in staging this mega event to the general audience, organisers and politicians try to demonstrate long-term benefits beyond increasing international prestige, such as grassroots sports participation and potential health benefits.

One suggestion is that the economic value of the health benefits generated by the hosting of the event may make up for the public expenditure involved in staging the event. Roberts conducted a study (Roberts, 1982) on the economic benefits deriving from general physical activity. These benefits resulted in enhanced health, which was measured in terms of a reduction in two major conditions: heart disease and lower back pain. This in its turn, translated into savings to the health budget and industry savings from reduced absenteeism and increased productivity. Following this logic, even a small increase in mass sports participation could produce benefits of several million dollars for the state.

There appears to be a commonly held perception, especially among politicians, that mass sports participation is generated by elite sport and vice-versa. One example is a claim from former Prime Minister of Norway, Kjell Magne Bondevik, in an interview during the 1998 Nagano Olympic Games (Hole 1998, p. 54): “Olympic gold puts Norway on the map and stimulates the Norwegian people to be active on ice and snow. There are many Bjørn Daehlies around. They would not be there if they did not have an idol. Elite sport is good entertainment and good culture, and it is a positive relationship between elite sport and mass sport.” There is a hope that the Olympics would trigger “a virtuous circuit”: sport for all feeds elite sport which, in turn, it is hoped, will inspire more people to participate.

More recently, the UK government in 2010 published its legacy plan for the 2012 Olympic and Paralympic Games which included commitments to bolster
community sport and to create a mass participation sporting legacy.

Despite the claims about the wider social impacts of the Olympics, there is a lack of serious post-event assessment. A widespread belief exists that mega-events, such as the Olympic Games, create community excitement and lead to a so-called “trickle down” effect where people are inspired to become more active due to the successes of Olympic athletes and the staging of such high-profile events.

At the same time, a counter hypothesis exists that sporting achievements at the Olympic Games may actually discourage the average person from practising physical activity due to a perceived gap between their level of ability and that of an elite athlete.

The purpose of this study is to measure, through the analysis of official sports participation statistics, the level of grassroots sports participation in the selected Olympic host countries and, where possible, cities before and after the Olympic Games, and try to determine if the Olympic Games inspire the general population to practise more sport.

What is an Olympic legacy? According to J. Mangan (Mangan 2008, p. 1869), a legacy can be understood to be “a long-lasting effect of an event or process”. In regard to sporting legacy, how exactly can mass sports participation be measured? There are many “sports” and a lot of models of “participation”. While Olympic sports cover a wide range of disciplines, many popular sports activities, for example, yoga, skateboarding, or free running are not part of the Olympic programme. Apart from this, as some academics note, there are changing structures of engagement with sport, such as various convergences between sport and health clubs, as well as issues of access and sports infrastructure.

Professor Fred Coalter from the University of Stirling (Coalter, 2004), observed before London was awarded the 2012 Olympics, that it was not clear what “model of behaviour change” supported the claim that hosting the 2012 Olympics would lead to an increase in general sports participation. He posed the following questions:

- Is it implying a media-led growth in participation as a result of widespread coverage of the Olympic Bid?
- Is it presuming that elite role models will encourage widespread participation?
- Is it assuming that the coverage of individual sports will increase their popularity (even though many Olympic sports are highly technical and/or minority activities?)
- Why is it assuming that persistently under-participating groups will be moved to participate and enable the nation to get fitter and healthier?
- As the majority of spectators of any Olympics will view it via television, what is specific about the London Games in terms of participation?

The absence of an evaluation framework and the need to create a comparable benchmark across all future Olympic Games editions motivated the IOC to
establish the Olympic Games Impact study (OGI). Its purpose is to measure the impact of the Olympic and Paralympic Games through a consistent and comparable reporting system. Launched only a few years ago, it hasn’t yet yielded comprehensive results. It officially started with the Beijing 2008 Olympic Games and was first fully applied at Vancouver 2010. In accordance with the IOC Candidature Procedure and Questionnaire document, the study includes more than 150 indicators. For each indicator, a detailed description and measurement methods and units have been determined. The period of measurement stretches over 11 years, i.e. it starts two years before the election of the Host City and ends two years after the Olympic Games. One of the “social” indicators includes “participation rates in sport” which is suitable for this study.

Two opposite beliefs exist in the academic literature surveyed: first, is that mega-events, such as the Olympic Games, create community excitement and lead to a so-called “trickle down” effect when people are inspired to become more active due to the successes of Olympic athletes and the staging of such high-profile events. The other widespread belief, is that sporting achievements at the most high-profile sports event on the planet may actually drive people away from sport due to a perceived gap between their level of ability and that of an elite athlete. This discouragement effect is related to the “coach-potato” effect where people spend too much time watching sport on television and too little time actually doing it.

The topic of the impact of the Olympic Games on physical activity levels has been researched but under-published. A study by Weed et al. (2015) reports 1778 titles on this topic identified by an electronic search. The studies below attempted to find a correlation between a nation’s sporting success at the elite level and grassroots sport participation. These have been analysed and serve as a foundation to interpret and understand the findings of this research.

In 2004 a study on curling success and its impact on participation was carried out on behalf of SportScotland (SportScotland 2004), a national agency for the development of sport in Scotland. In 2002, Scottish women curlers won Britain’s first Winter Olympic gold medal since 1984. This gold was followed by a further gold in the Curling World Championships in Canada. Both successful performances generated a lot of media coverage and public interest in the sport across the United Kingdom and Scotland, in particular. The media coverage suggested that there had been a spike in interest and participation in curling as a direct consequence of the success at the Winter Olympic Games and World Championships. The research focused on examining whether these successes indeed had any effect on participation in curling in Scotland through a survey of all curling clubs in Scotland and 47 interviews with curlers new to the sport. The survey found that curling club membership had increased by 3% in the season following success at the Olympics and World Championships – an average of one new member per club. For those clubs that gained new
members, the number ranged from 1 up to 14 new members. In addition, the study tried to establish reasons for any change in participation. In the survey of new curlers, respondents were asked to provide reasons encouraging them to take up curling. These were: watching curling on television (38%) and the recent success (36%). Only 4%, however, indicated that the success in curling was the main reason for taking up this sport. The study also concluded that the ice rinks and clubs that benefited the most from the success were those that had initiatives or promotions in operation. This statement is in accordance with the general conclusions of this research paper.

In 2010, a case study of Norwegian biathlons was undertaken to examine the relationship between elite and mass sport (Hanstad, Skille 2010). Is there any correlation between Norwegian elite biathlon performances and the number of participants in the Norwegian Biathlon Association (NBA)? Through the analysis of the annual reports from the NBA, market research reports, interviews with key personnel of the NBA as well as elite athletes and grassroots volunteers, the authors conclude that there appears to be a correlation between international elite performances by Norwegian biathletes and the number of participants in the NBA. More specifically the report states: “That may be identified as indicators of a relationship between elite and mass sport, but at the same time, it is pointed out that elite performances cannot be taken as a sole contributor for growth at the lower level. The relationship between elite sport and mass sport in Norwegian biathlon may be explained by a detour via other interrelated factors such as economy and strategies. It is not believed that elite sport creates mass sport per se. Elite sport may – indirectly – generate mass sport, but it depends on the economy of the sport governing body and priorities made by its decision makers.” In this particular study, an increased balance between the elite sport and mass sport partly depends on the priorities of the NBA.

In 2010, a study on the influence of the Olympic Games on Canadians was conducted (Halim, Boettger, Najera 2010). The effect of the Olympics on trends in sport participation rates in Canadians, aged 12-65 and over before, during and after the 2006 Torino Olympics and 2008 Beijing Olympics, was examined. Two sports for each Olympics were chosen: curling and cross-country skiing for Winter Olympics and tennis and rowing for the Summer Olympics. The results demonstrated that the Olympic Games had an effect on sport participation rates for Canadians, and did have an effect on the number of participants in a given sport. Every sport showed an increase in the number of people, up to several more thousand, taking part after the Games, even if individual age groups showed a decrease. The authors noted, however, that the research was hampered by the lack of data on participation rates several years before the Games.

While it is difficult to measure the impact of the Olympic Games at the grassroots level, it may be a good idea to narrow down the research and choose
Sport Participation in Host Countries before and after the Olympic Games: Do the Games Change Something?

A different “target” for assessment. A study in New Zealand (Hindson, Gidlow, Peebles 1994) measured the impact of the Olympics on sports clubs, especially those for Olympic sports. A postal survey of 35 New Zealand sports clubs and six National Sporting Associations was conducted in the period following the 1992 Albertville Olympic Games and Barcelona Olympic Games. The purpose was to examine the influence of these mega-events on club membership. Yet, only six of the clubs had an increase in membership inquiries, and only three experienced an increase in competitive membership. Here the “tickle down” effect was not observed. The authors of the report point out a few reasons which could have explained a failure of the clubs to take advantage of the publicity of the Olympics. For example, there was a lack of innovative marketing, only four clubs used the Games as promotion tool; sports clubs simply relied on an anticipated “trickle down” effect and didn’t have a specific strategy in place to promote the sport in the run up to the Games.

To sum up, it should be noted that the findings in the academic literature present somewhat contradictory views, with some mixed accounts. One observation is that a clear strategic plan in place prior to the Games, contributes to maximising the opportunities presented by the Olympics (e.g. curling clubs in Scotland that had promotional programmes benefited from the Games versus a failure of the New Zealand sports clubs to take advantage of the situation). Not all the findings in the academic literature are consistent with the results of this research paper but, nevertheless, they provide a general picture helping to identify some correlations and trends as well as success factors. This is confirmed by a recent and quite exhaustive literature review already mentioned by Weed et al (2015). In this review, the 1,778 relevant sources identified were reduced to 112 sources. 21 of these sources were further investigated and are summarised in the article (table 2, p. 205). They all conclude there is a lack of demonstrative (or trickle down) effect of major sports events including the Olympics. The authors note that the Games can have specific impacts on sports participation frequency and re-engagement, especially if they are properly leveraged before and after the Olympics. This is an idea which was first developed by Chalip (2004).
Research Methodology

Reliable and accurate information on overall levels of physical activity in a given country is of vital importance. The selected method for gathering data on sports participation rates was through obtaining country-wide and, where possible, city-wide, official statistics. Australia was the only country that had information on individual sporting activities. The sample countries (Australia, US, Greece and UK) were selected on the basis of availability of official statistics. To ensure the validity and credibility of results, only statistics from official sources were sought: sports government organisations, and Eurostat. The majority of surveys examined during this research included statistically significant samples. The questions posed in the surveys were in line with the topic of this research. In order to identify any potential trends, the sports participation rates were examined a few years before and after the Olympic Games took place.

The following data sources have been used during this research: websites of the relevant Ministries of Sport, government sport organisations and agencies, Olympic Museum library, Olympic Studies Centre archives, websites of National Statistics Bureaus, European Commission, Eurostat – statistical office of the European Union (EU), École Polytechnique Fédérale de Lausanne (EPFL) library database, Google Scholar, IOC website, the official reports of the Sydney 2000, Salt Lake City 2002, Athens 2004 and London 2012 Olympic Games (pre-Games period), academic journals, published books, publications by academics specialising in the topic.

Challenges

The research was hampered for several reasons:

- There is an obvious lack of official statistics on this topic. Few government organisations keep a record of this type of data over a long period of time. Those who do are not willing to necessarily share it. For example, in the course of this research personal contact was made with the relevant Ministries of Sport and electronic enquiries were sent asking for the official statistics. Although the Greek Ministry of Culture and Sport, responsible for this information, confirmed its availability, it failed to provide it despite numerous follow-ups.

- The national surveys analysed in this study have different designs and, therefore, are not comparable with each other. Even surveys conducted within one country, namely Australia, had different methodologies, which made it difficult to track trends.

- The definition of sports participation is not consistent across the sample countries.

- The “sport and physical activities” social indicator, which is part of the OGI study, was only available for the London pre-Games period (for the Summer Olympics).

- The surveys had different methodologies and the results, therefore, are open to misinterpretation.
Results

2000 Sydney Olympic Games

Australia appears to be the only country in the sample which has easily available physical activity data at both country and city (Sydney) level. A range of government, industry and other organisations collected statistical information on Australia’s sporting activities prior to and after the Sydney 2000 Olympics. While various nationwide surveys on sport participation exist, however, their results are not directly comparable. The analysis of the data is rendered difficult by the fact that no two physical activity evaluations were conducted using the same methodology, so it is not possible to determine trends in participation greater than three years at a time.

For the purposes of this study, the following data sources have been selected:


2. The Exercise, Recreation and Sport Survey (ERASS), 2001-1005, conducted by the Australian Sports Commission and the state and territory departments on sport and recreation.

The first evaluation was carried out as part of Active Australia and National Physical Activity Surveys. It shows the percentage of people achieving at least 150 minutes per week of moderate or vigorous activity or walking. All activity outside the workplace was covered, including household chores.

Methodology:

- Survey method: random sample population telephone interview
- Age-range of sample: adults aged 18-75

This report indicates that there were declines in physical activity between 1997 and 1999 for adult Australians and no change in physical activity participation between 1999 and 2000. This suggests that the Olympics had little impact upon physical activity participation overall across the adult population. Although, since the Olympics took place between

<table>
<thead>
<tr>
<th>Gender</th>
<th>Physical Activity 1997</th>
<th>Physical Activity 1999</th>
<th>Physical Activity 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>63.4%</td>
<td>59.6%</td>
<td>57.6%</td>
</tr>
<tr>
<td>Women</td>
<td>61.1%</td>
<td>53.8%</td>
<td>56.0%</td>
</tr>
<tr>
<td>Total</td>
<td>62.2%</td>
<td>56.6%</td>
<td>56.8%</td>
</tr>
</tbody>
</table>

*Table 1 Levels of Physical Activity: Australia, 1997, 1999, 2000*
six and nine weeks prior to the survey, this provided an opportunity for people to react to the Olympics and try physical activity in response to it. Overall 4% of Australian adults increased their activity since the Olympics. According to the report “This proportion was not large enough to influence physical activity participation overall, and indicates that the Olympics were not likely to have specifically resulted in increases in physical activity participation in the whole community.”

The ERASS survey presents information regarding the level of participation in physical activity and frequency of participation over the last 12 months preceding the interview. Methodology:

- Survey method: random sample population telephone interview
- Age-range of sample: adults aged 15-65 and over
- Sample size: 13,000

Table 2 contains data on some of the Olympic disciplines in the ERASS survey. The trends in participation are somewhat uncertain, given the increase in some of the activities but decline in others. It is interesting to observe that swimming, one of Australia’s most popular sports, demonstrated a decline. Overall, of the 21 Olympic sports included in the full ERASS study, ten increased their participation or did not decline over the five-year period.

The data in the Table 3 indicates little difference between Sydney and national figures, though some of the sports, such as swimming and tennis, demonstrated a greater decline in comparison with the national figures. No explanation for this was produced. A report containing the results of the examination of the effects of the Sydney Olympics on mass sports participation (Veal, Frawley 2009), concluded that: “The aggregate scores show very little difference between the

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</tr>
</thead>
<tbody>
<tr>
<td>Swimming</td>
<td>16.0</td>
<td>14.9</td>
<td>15.3</td>
<td>16.5</td>
<td>14.4</td>
<td>-1.6</td>
</tr>
<tr>
<td>Athletics</td>
<td>0.7</td>
<td>0.7</td>
<td>0.8</td>
<td>0.7</td>
<td>0.5</td>
<td>-0.2</td>
</tr>
<tr>
<td>Tennis</td>
<td>9.2</td>
<td>8.2</td>
<td>9.0</td>
<td>8.4</td>
<td>7.8</td>
<td>-1.4</td>
</tr>
<tr>
<td>Basketball</td>
<td>3.5</td>
<td>4.0</td>
<td>3.6</td>
<td>3.2</td>
<td>3.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>0.4</td>
<td>0.3</td>
<td>0.2</td>
<td>0.3</td>
<td>0.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Cycling</td>
<td>9.5</td>
<td>9.3</td>
<td>9.4</td>
<td>10.5</td>
<td>10.3</td>
<td>+0.8</td>
</tr>
<tr>
<td>Canoeing/Kayaking</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
<td>0.9</td>
<td>0.9</td>
<td>+0.2</td>
</tr>
<tr>
<td>Running</td>
<td>7.2</td>
<td>7.6</td>
<td>7.6</td>
<td>8.3</td>
<td>7.7</td>
<td>+0.5</td>
</tr>
</tbody>
</table>

Table 2 Individual Activities. Trends: 2001-2005, Australia
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Sydney and national figures, suggesting a lack of a strong Sydney-specific “Olympic boost” to participation. It has not been possible to draw firm conclusions regarding the effect of the Sydney 2000 Olympic Games on grassroots sports participation.

2002 Salt Lake City Olympic Games

The IOC’s legacies fact sheet of January 2010 says that: “To ensure a legacy from the Games, the Utah Sports Commission was set up in order to develop both public recreational and elite sport in the State. Utah has hosted over 50 world cups or championships since 2002, as well as numerous other sporting and non-sporting events. The Games also saw an increase in sports participation from young people, with sports like bobsleigh, skeleton, snowboard and freestyle and mogul skiing seeing an upsurge in interest.” Yet no evidence to back up the last statement was found.

The official sports participation statistics for the USA and Salt Lake City in particular was gathered by the US Centre for Disease and Prevention, Department of Health and Human Services.

Methodology:

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Swimming</td>
<td>21.0</td>
<td>18.8</td>
<td>19.6</td>
<td>20.2</td>
<td>17.5</td>
<td>-3.5</td>
<td>-1.6</td>
</tr>
<tr>
<td>Athletics</td>
<td>0.5</td>
<td>0.9</td>
<td>0.6</td>
<td>0.5</td>
<td>0.4</td>
<td>-0.1</td>
<td>-0.2</td>
</tr>
<tr>
<td>Tennis</td>
<td>11.8</td>
<td>9.4</td>
<td>11.0</td>
<td>10.4</td>
<td>9.6</td>
<td>-2.2</td>
<td>-1.4</td>
</tr>
<tr>
<td>Basketball</td>
<td>2.6</td>
<td>3.8</td>
<td>3.6</td>
<td>2.7</td>
<td>3.3</td>
<td>+0.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>0.5</td>
<td>0.4</td>
<td>0.1</td>
<td>0.5</td>
<td>0.4</td>
<td>-0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Cycling</td>
<td>8.0</td>
<td>8.6</td>
<td>7.3</td>
<td>9.3</td>
<td>8.2</td>
<td>+0.2</td>
<td>+0.8</td>
</tr>
<tr>
<td>Canoeing/Kayaking</td>
<td>0.5</td>
<td>1.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.3</td>
<td>+0.8</td>
<td>+0.2</td>
</tr>
<tr>
<td>Running</td>
<td>8.3</td>
<td>8.9</td>
<td>8.4</td>
<td>10.8</td>
<td>8.6</td>
<td>+0.3</td>
<td>+0.5</td>
</tr>
</tbody>
</table>

Table 3 Individual Activities. Trends: 2001-2005: Sydney

<table>
<thead>
<tr>
<th>Year</th>
<th>Recommended (%)</th>
<th>Insufficient (%)</th>
<th>Inactive (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>45.3</td>
<td>38.6</td>
<td>16.0</td>
</tr>
<tr>
<td>2003</td>
<td>45.9</td>
<td>38.5</td>
<td>15.6</td>
</tr>
<tr>
<td>2005</td>
<td>48.1</td>
<td>37.3</td>
<td>14.2</td>
</tr>
</tbody>
</table>

Table 4 Physical Activity Statistics: USA national average

Note: Data were adjusted for non-responses and weighted to the population of the geographic area.
• Survey method: a telephone interview
• Age-range of sample: adults aged > 18 years
• Sample size: at least 500 responders.

**Recommended physical activity** = reported moderate-intensity activities in a usual week (i.e., brisk walking, bicycling, vacuuming, gardening, or anything else that causes small increases in breathing or heart rate) for ≥ 30 minutes per day, ≥ 5 days per week or vigorous-intensity activities in a usual week (i.e. running, aerobics, heavy yard work, or anything else that causes large increases in breathing or heart rate) for ≥ 20 minutes per day, ≥ 3 days per week or both. This can be accomplished through lifestyle activities (i.e., household, transportation, or leisure-time activities).

**Insufficient physical activity** = more than 10 minutes total per week of moderate or vigorous-intensity lifestyle activities (i.e. household, transportation, or leisure-time activity), but less than the recommended level of activity.

**Inactivity** = less than 10 minutes total per week of moderate or vigorous-intensity lifestyle activities (i.e., household, transportation, or leisure-time activity).

Although the sample size may not seem significant enough to make far-reaching conclusions, as can be seen from the Table 4, there is a very slight increase in physical activity levels at the national level from 2001 to 2003 and then a further 2.2% spike two years later. Inactivity levels, accordingly, show a decline over a five-year period. Table 5 shows a minor increase from 2001 to 2003 but a decline in a long-term perspective. It is, therefore, reasonable to surmise that while the 2002 Winter Games had a positive impact on the physical activity levels country-wide, it didn’t influence the sporting behaviour of Salt Lake City’s residents.

### 2004 Athens Olympic Games

The data for the Greece case study was extracted from the EU Eurobarometer on Sport, a survey across EU member states.

**Methodology:**

• Survey method: a face-to-face interview in a person’s home
• Age-range of sample: aged 15 and over
• Sample size: in 2004–8, 674, 230; in 2009–8, 693, 566

The findings indicate a short-term impact on sports participation rates right after the end of the Olympics but from a
long-term perspective – five years after the staging of the event – the number of participants declined significantly, whilst the percentage of respondents who never practice sport witnessed an upward trend. In 2009 Greece had the highest number of respondents in the EU who said they never played any sport. This figure classified Greece as one of the most sedentary countries in the EU. Precautions need to be taken, however, when comparing physical activity trends chronologically, as a number of other external factors might have played a positive or negative role in sports participation figures. Athanasios Pappous, in a chapter analysing sports participation statistics in Greece before and after the Athens 2004 Olympics (Pappous 2011), suggests looking at a broader picture before attributing a growth in physical activity levels to the Olympics. Namely, it should be remembered that Greece won the Euro 2004 Football Championship which caused sporting excitement among Greeks and might have inspired them to be more active, which the Eurobarometer 2004 results indicate. The European Parliament also proclaimed 2004 the European Year of Education through Sport. A range of sports initiatives aimed at raising awareness of physical activity and involved active sports participation took place in Greece. Pappous (2011) notes that the long-term sporting legacy was not a priority for the organisers of the 2004 Athens Games. Their main concern was to ensure the security of the 2004 Olympics. The 2004 Games were the
first to take place after the September 11th 2001 terrorist attacks in the US and all the attention of the organisers was paid to enforcing the necessary security measures. As a result, the security costs of the 2004 Olympics were three times the amount of money and security personnel that was used for the 2000 Sydney Olympics.

2012 London Olympic Games

The UK Department for Culture, Media and Sport (DCMS) defined the London Games legacy in the following way: “The legacy of the London 2012 Games refers to the imprint they will leave. It is, therefore, not just what happens after the Games, but what we do before and during them to inspire individuals and organisations to strive for their best, to try new activities, forge new links or develop new skills. The Olympic and Paralympic Games have a unique power to inspire all of us as individuals, to motivate everyone to set themselves a personal London 2012 challenge.” This statement of a rather general nature gets transformed into concrete steps. In the London Olympics legacy plan called “Before, during and after: making the most of the London 2012 Games” the DCMS made a commitment, among other promises, “to make the UK a world-leading sporting nation” via:

- Inspiring young people through sport: offer all 5 to 16 year-olds in England five hours of high-quality sport a week and all 16 to 19 year-olds three hours a week by 2012.
- Getting people more active: help at least two million more people in England be more active by 2012.
- Elite achievement: aim for 4th in the Olympic medal table and at least 2nd in the Paralympic medal in 2012.

In 2005, Sport England, the government sport agency, launched its first Active People Survey designed to measure sports participation levels across England. Overall eight Active People Surveys have been carried out with the more recent in October 2014.

<table>
<thead>
<tr>
<th>One session a week¹</th>
<th>APS1 2005–2006</th>
<th>APS7 2012–2013</th>
<th>APS8 2013–2014</th>
<th>Statistically significant change from APS 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>n*</td>
<td>%</td>
<td>n*</td>
</tr>
<tr>
<td>NS SEC1-2</td>
<td>40.1</td>
<td>4,462,100</td>
<td>42.9</td>
<td>5,898,300</td>
</tr>
<tr>
<td>NS SEC3</td>
<td>32.3</td>
<td>1,244,000</td>
<td>35.2</td>
<td>1,974,300</td>
</tr>
<tr>
<td>NS SEC4</td>
<td>32.4</td>
<td>920,200</td>
<td>34.3</td>
<td>1,418,400</td>
</tr>
<tr>
<td>NS SEC5-8</td>
<td>26.9</td>
<td>3,450,200</td>
<td>29.0</td>
<td>4,756,100</td>
</tr>
</tbody>
</table>

Table 6: Active People Survey England 2005-2014

¹At least 4 sessions of at least moderate intensity for at least 30 minutes in the previous 28 days
NS-SEC is the National Statistics Socio-economic Classification. It is derived by combining information on occupation and employment status, notably:

- Higher managerial and professional occupations;
- Lower managerial and professional occupations;
- Intermediate occupations;
- Small employers and own account workers;
- Lower supervisory and technical occupations;
- Semi-routine occupations;
- Routine occupations;
- Never worked and long-term unemployed;
- Full time students and Occupations not stated or inadequately described.

Methodology:

- Survey method: telephone interview
- Age-range of sample: adults aged 14 and over
- Sample size for England: 363,724 between October 2005 and October 2006; 165,000 between October 2012 and October 2013; 166,000 between October 2013 and October 2014.

As Table 6 illustrates, over the course of almost ten years there has been a slight increase in participation numbers from higher socio-economic groups. By contrast, the participation rates have decreased across the lowest socio-economic groups. The UK Government has launched in August 2015 a nationwide survey to improve inhabitants’ sports participation, especially amongst poorer people, in order to redefine the financing strategy of national sport governing bodies.
Discussion

In sum, the analysis of the official statistics on sports participation in the selected countries and cities has led to the following results:

- Australia’s data doesn’t provide evidence of a positive impact on participation. The trends in individual sporting activities are inconclusive, given the increase in some of the activities but decline in others. No Sydney-specific effect from the 2000 Games on grassroots sports participation in the host city was seen.

- It is reasonable to surmise that while the 2002 Winter Games had a positive impact on physical activity levels country-wise, they didn’t influence Salt Lake City’s populations’ sports behaviour. Of course, the US is a large country and many other factors might have played a role in sports participation at country level.

- The Athens 2004 Olympics had a short-term impact on physical activity levels right after the end of the Games but from a long-term perspective – five years after the staging of the event – the number of participants declined significantly. At the same time, the percentage of respondents who never practised sport witnessed an upward trend during the five-year period.

- The physical activity results for England indicate little change and even a decrease over a ten-year period. The full effect of the London 2012 Games is still to be assessed.

It should be remembered that no city before London had purposefully incorporated sports participation legacy plans into its programme. As was mentioned earlier, Athens, for example, was too focused on introducing the necessary security measures to avoid terrorist attacks and simply didn’t list increased sports participation as a priority. In this regard, London had much more time and opportunity to establish the sports legacy plan and monitor its execution than any other city in the sample. Even advance planning by the British government, however, hasn’t yet produced the desired outcomes.

In conclusion, the results of this research do not support the commonly held belief that the Olympics always inspires the general population to become more active. Some of the ideas expressed in the literature about elite sport indirectly generating mass sport, provided there are other contributing factors in place, make sense. Yet, it is difficult to provide an exact explanation for people’s behaviour without sufficient and substantial evidence.
Conclusions and Recommendations

- A thorough examination of the statistics and literature on the topic allowed for identification of some tentative, yet not fully consistent sports participation patterns. The results appear to be somewhat contradictory, with some of the countries demonstrating a slight increase in physical activity levels following the end of the Olympics (USA) (Greece showed an increase in sports participation during the pre-Games period), but a decline (Greece) from a long-term perspective. The findings of this research indicate little evidence for positive, stable long-term sports participation benefits from staging the Olympic Games.

- The lack of empirical evidence on increased mass sports participation in a host country due to the Olympic Games, calls for further and more in-depth research in this area. This information could be useful for future bid cities to reinforce the sporting legacy message.

- Understanding and interpreting long-term participation trends requires a close monitoring for several years prior to and after the Olympics.

- The same sports participation parameters (i.e. what exactly sports participation is) should be applied across the board to make the comparison accurate.

- There is no single common definition of what sustainable sports legacy is. This notion and the legacy’s success criteria may vary from country to country.

- If effective, the IOC’s OGI study, which also includes a “sports and physical activities” indicator, would serve as a solid foundation for future research in this area.

- A range of stakeholders would benefit from the accurate data on sports participation rates: the IOC, general population, organisers, sports clubs, etc.

- The academic literature and the findings of this research suggest that a sustainable sporting legacy is not an automatic consequence of the Olympic Games and calls for a well thought-out and strategic policy plan engaging all the target groups. Leveraging strategies are necessary but not often put in place.

- As also noted in the academic literature and confirmed in the course of this study, it is doubtful whether the Olympic Games could be the main driver and the sole contributor leading to an increase in participation levels in a host country. It appears to be a much more complex process affected by many external factors: accessible equipment and infrastructure, educated coaches, a well functioning structure of local sports clubs, fitness centres, special initiatives and incentives undertaken by the government on a broader scale, etc.
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Veal A., Frawley S. (2009) “Sport for All” and Major Sporting Events: Trends in Sport Participation and the Sydney 2000 Olympic Games, the 2003 Rugby World Cup and the Melbourne 2006 Commonwealth Games. Project Paper 2, Australia: Australian Centre for Olympic Studies, School of Leisure, Sport and Tourism, Faculty of Business.

Sport Participation in Host Countries before and after the Olympic Games: Do the Games Change Something?

Internet Sources:


Chapter 5 – Rio 2016 Olympic Zones

The Rio 2016 Four Olympic Zones Concept: Legacy Expectations

Eliane Furuyama & Philippe Bovy
‘The art of life is a constant readjustment to our surroundings’

Kakuzō Okakaura
(Japanese Scholar)
Abstract

The 2016 Olympic Games in Rio represent a significant moment for the Olympic Movement, as it will be the first Games be hosted in South America. This research was motivated by trying to understand why finally the Olympic Games will reach South America. Starting from Rio's multiple bids to host the Summer Olympic Games and host the 2007 Pan-American Games, Rio de Janeiro's 2016's four Olympic zone concept was analysed with a focus on legacy. The investigation showed that there was a profound match between the Games plan and the city's long-term aspirations, and this combination represented the main asset of Rio's candidature. Through the transformational power of the Olympics, initiatives across a wide range of fields will be accelerated, e.g. the promotion of sports and sporting culture among young people, social integration, implementation of education and sustainability initiatives, renewal of the region’s obsolete and severely overloaded transport infrastructure, construction of sporting venues, economic and tourism development, increased pride and attachment, to name a few. The staging of the Games, will thus strengthen the relevance of Brazil and South America in the worldwide environment, leaving lasting legacies and serving as a catalyst for the emergence of the new Rio de Janeiro to be firmly put on the Olympic Games map.

Introduction

There is no doubt that the Olympic Games are growing in size and relevance. This form of sporting gigantism, however, has been criticised by many, becoming an important issue which is highly relevant for the organisation and staging of future Games. The size is principally the reason why so few cities in the world are currently able to host the Games due to the financial costs and the building and development of the necessary infrastructure, political resources and will of the host governments.

There is perhaps a solution to this lack of interest in staging the Olympic Games and that is the important concept of ‘Legacy’ (in all its meanings), which appears to be one of the significant paths and more importantly, a crucial element for the IOC to promote. As such consistent and meaningful projects are required to justify the effort put in to make the Games successful; to ensure the Games have a positive return by contributing to the long term development of the city and surrounding areas and, all the while avoiding wasting money in constructing ‘white elephants’ – infrastructure which are unused after the Games. In other words, legacy has become an important and highly relevant term used by the OCOG's and the IOC to justify the staging of an Olympic Games. So what is legacy really all about?
The Rio 2016 Four Olympic Zones Concept: Legacy Expectations

The term legacy has been highlighted by the International Olympic Committee (IOC) as an important factor inside the Olympic Movement, so much that it is included in the Olympic Charter. (IOC, 2010. Olympic Charter. Mission and Role of the IOC, item 14, p. 15). In the case of Rio 2016, legacy becomes even more important when considering the way it can transform not only aspects of the city but also Brazil and the South American continent, given the economic influence and geographical importance of Rio de Janeiro and Brazil in the region.

Examining the Four Olympic Zone Concept

It is important to mention that Rio’s four Olympic zone concept and its legacy were key elements which differentiated the Brazilian candidature from the four high quality bids presented at the 121st IOC Session in Copenhagen in 2009. It is, therefore, necessary to understand the impact the Games are expected to bring to the host city, why it is a distinctive attribute and how the population can benefit. In order to achieve this, the following research guidelines were followed. Analyses were based on official documents and interviews expressing Rio 2016 expected achievements. Given the early stage in the Games organisation it was not possible to assess the real impacts of Rio 2016, but mostly to outline potential legacies to of the 2016 Summer Olympic Games in Rio. The study’s focus was in relation to the current Summer 2015 assessment of the most massive redevelopment of public transport in Rio and its out-reach bid promises.

The approach followed a three-phase methodology: (i) collection of information, literature review and analysis of official documents, (ii) semi-structured interviews with members of Rio OCOG based on a list of questions (see Appendix 3), and (iii) analysis and conclusion, focused on the observations of Rio 2016’s four Olympic zones concept and the power of the plan for the long-term impact and transformation of the city.

This study was partly re-edited in 2015 with updates on the public transport infrastructure legacy plan, and related works that have already been delivered for the Games. The actual impact, however, will be evaluated much later in the post-Games analysis through the Olympic Games Impact studies (OGI).

Understanding of Olympic Legacy

The definition of Olympic legacy is a continuous debate amongst researchers and experts who all have differing opinions on the term. There is not a single or specific explanation to express what this term exactly means in the context of sport. According to Cashman in his article “What is ‘Olympic Legacy?’” at an International Symposium organised by IOC in Lausanne (The Legacy of the Olympic Games: 1984-2000, 2002), Olympic legacy refers to a “…wide variety of post-Games issues, policies and practices” represented by “anything that is left from an era or an event” to the Olympic cities or any other stakeholder, being tangible or intangible, physical or emotional, positive or negative, directly
or indirectly related to the organisation of the Games.

In their article “Legacy of the Summer and Winter Olympic Games: A Comparative Analysis”, Essex and Chalkley (1998) mentioned legacy as “…any development that was created as part of the preparations for the staging of the Olympic Games”, even if the improvements were already planned and the Games simply represented a catalyst element. For Hiller, in the article “Toward a Science of Olympic Outcomes: The Urban Legacy”, legacy means to emphasise the long-term impact of the organisation of the Games during the post-event period.

Olympic legacy is a broad concept which is symbolised by any kind of long-term and lasting direct or indirect impact, able somehow to influence the city, the country and its inhabitants, resulting from the preparation of the city to host the Games. It is a complex idea which can be evaluated only in the post-event period, to identify tangible and intangible, physical and emotional, measurable and non-measurable elements, bearing in mind that the outcomes may be positive or negative depending on the quality and consistency of the concept, in the planning and organisation of the Olympic Games.

**Legacy Typology**

Like the legacy concept itself, the typology of legacy does not lead to an easy and unique definition. It covers numerous branches, including structural and nonphysical factors, touching almost every part of society.

With regard to the scope of this study, the typology of Olympic legacy adopted was based on five broad parts of the Games organisation, as follows:

1. **Infrastructural legacy**: local and regional land transport, airport systems, seaport conditions, Olympic Village, accommodation, communication, technology and any other matters related to urban infrastructure and development.

2. **Sporting legacy**: sporting and recreational facilities such as stadiums, incentives for the development of athletes.

3. **Economic and Political legacies**: revenues and expenses generated by the Games, job opportunities, tourism and commercial operations, world and local image, national legal system regulations.

4. **Educational legacy**: specialised work-force, education policies and programmes of development through physical activity.

5. **Environmental, Social and Cultural legacies**: green programmes, policies and technologies, community integration, cultural activities, pride and self-esteem of local citizens, sporting culture.

**Successful and Failed Olympic Legacy Cases**

Olympic legacy is not only about bringing positive solutions to the hosting city. If not carefully planned, structured and monitored, the project of the mega-event may lead to undesirable and costly consequences. Indeed, throughout
The Rio 2016 Four Olympic Zones Concept: Legacy Expectations

The Modern Olympic Games era there are numerous examples of positive and negative experiences of host city legacies, which can be observed. To give a practical example, two famous cases of Olympic cities are highlighted: Montreal 1976 and Barcelona 1992.

Montreal 1976 is a famous example of a financially mismanaged Olympic Games, not from the spectacle perspective, but from the legacy and organisation viewpoint. Starting from the bidding phase, Montreal 1976 failed to construct a solid plan for the Games. As analysed by Gold & Gold (2007), the project, based on political issues – probably its main mistake – seemed to prioritise the Mayor’s ego rather than a lasting heritage to the city; the venues, in turn, had to be imposing rather than functional. By following this focus, the organisation significantly increased the burdens of the Games and, in addition, it ended up not having local, regional or national support, from either the population or the government. The result was the well-known shortfall of $1.2 billion (Gold & Gold, 2007), which took the Canadians 30 years to pay back (CBC News, 2006).

On the other hand Barcelona 1992 was a master example of successful urban regeneration through staging the Olympic Games. Unlike Montreal, Barcelona surprised the world with its city transformation and with the efficient Games organisation. In actuality, the Games served to speed up the process of Barcelona’s reconstruction, making it possible to accomplish rational urban projects to recover the city and its peripheral areas, which had been planned and were being slowly implemented during the years prior to the city’s nomination in 1986 (Gold & Gold, 2007).

One of the reasons for Barcelona’s success, as pointed out by Millet during the 2001 IOC’s International Conference was “…the subsequent profitability of its facilities”. The key aspect was basically to put limits to the size of the Games in order to adapt the facilities to the city’s forecast and future real needs. The consistent policies and planning allowed Barcelona to become a showcase of successful Olympic legacy, bringing back a positive feeling of hosting the Games after the series of boycotts during the 1970’s and 1980’s and the post-Games financial difficulties faced by Montreal 1976.

The Future of the Games

Throughout the long history of the organisation of the Olympic Games, it has constantly changed in order to adapt to human and technical evolution but the IOC has never forgotten its purpose and influence over society. This is why the Olympic Games and the Olympic Movement survive and are still considered one of the noblest causes of our modern society. As previously mentioned related to the criticisms of the gigantism of the Games, attention is currently focused on the Olympic legacy and, therefore, the post-Games planning is becoming more vital in order for a city to host the Games. The future of the Olympic Games then is likely to be centred on the proven capacity of a bidding city to use the Olympics as the accelerator event for its development and
renewal, besides assuring the quality and sustainability of the event. Interestingly, the question now is not only about who can do better, but additionally what positive legacies reinforce the role of the Olympic Movement to promote a better world through sport and the Olympic values? This question is perhaps best answered by Verbruggen who at the IOC’s International Symposium (The Legacy of the Olympic Games: 1984-2000, 2002), anticipated that “...one day, and this is another reason why they [the Olympic Games] have to be brought back down to a more reasonable size, they will have go to Africa and South America” (article “The IOC, the Olympic Movement, the Host Cities: A Common Legacy”, p. 26).

The Genesis of the Rio 2016 Bid Proposal

Brazil has bid many times for the Games. Indeed, Brazil always had a strong desire to be the first Latin American country to host the Olympics. It was one of the elements driving the goal to build a winning candidate proposal. It started with Brasilia (Brazil’s capital) bidding for the 2000 Olympic Games and later it was Rio trying to get the 2004 and 2012 Olympics. After failing at the 2012 Games bid, the Brazilian Olympic Committee (COB) deeply researched the weaknesses of the last bid and the elements they would have to improve in order to prepare a concrete and viable project. Throughout this long process, Brazil learned a lot, not only about the process itself, but especially how to envision, plan and structure a solid proposal. It eventually won the bid at the 121st IOC session in Copenhagen, in 2009, to host the 2016 Olympic Games in Rio de Janeiro.

To win the bid, it was clear that Rio would have to firstly deliver a successful Pan American Games (PanAm) in 2007. Second, the Games plan would have to be meaningful, being connected to the city’s long-term plan. Rio succeeded in both elements. With the 2007 Pan-American Games (PanAm), Rio and Brazil proved to the world that they were able to organise a successful multi-sports event. The PanAm concept was founded on a four Zone concept, which is the same concept behind Rio 2016 Olympic plan and is also connected to Rio’s wish to spread the city development to four areas, instead of concentrating on only one.

All those elements presented at the IOC Session in 2009, resulted in the nomination of Rio to host the 2016 Olympics. This readiness was intelligently summarised by Rio presenters at the session when they said: ‘Rio is ready!’
Rio 2016 Four Olympic Zone Concept

In its candidature file, Rio 2016 had five key strategic objectives:

[1] Engaging young people
[2] Social transformation through sport
[3] Regional outreach
[5] Successful delivery

Being the largest economy in Latin America, Brazil presented Rio’s candidacy based on its means and power to reach out to other countries and to help to develop sports throughout the region by offering world-class facilities and programmes.

The Overall Concept

The Rio 2016 project is based on four principles which guide the overall concept and provide the fundament for the proposal: (1) technical excellence, (2) experience of a lifetime, (3) transformation, and (4) supporting the Olympic and Paralympic Movements.

By technical excellence (1) the OCOG means delivering best practice operations and great Games experience, which will be possible through the functional organisation established by the Games project:

[1] Master Plan and Games venues: based on the four Olympic zone concept, the venues will be connected by a High Performance Transport Ring and a network of dedicated Olympic lanes, with every sport staged in Rio. Due to the use of existing and temporary facilities as well as the infrastructure built for the 2011 CISM Military Games and the 2014 FIFA World Cup, only 26% of the venues are to be fully constructed.

[2] Olympic and Paralympic Village: Olympic housing will include more than 17,700 beds and will be located in walking distance from the Olympic Park, where the future Olympic Training Center (OTC) will be featured. For the post-Games, the Villages will provide housing for more than 2,400 families in Barra.

[3] Accommodation: the accommodation plan is based on the specific Games requirements and the long-term needs of the city, being composed of a combination of locations and room types in hotels, villages and cruise ships.

[4] Transport: the design of the Olympic transport is linked to the four Olympic zone concept and will be based on new and improved transport systems. It will include a High Performance Transport Ring connecting the four zones and a exclusive Olympic Lane network at Games time.

[5] Security: considered by many as one of the threats of the Rio 2016 Games, the security architecture will rely on crime management plans (prior to and during the Games), law enforcement initiatives and community-based crime reduction strategies, also including the world’s best practices on anti-terrorism.

The second principle which guides the Rio 2016 plan is the experience of a lifetime. Aiming at inspiring athletes
and providing all participants with the greatest moments of their lives, some basic rules will be adopted, such as: collaborative partnerships with all Olympic stakeholders to ensure clear and regular communication; implementation of innovative measures in order to keep stadiums full for every event; strategic investments in International Federations (IFs) events during the four years prior to the Games.

The third principle of transformational power means turning the Games into a strong catalyst for progress in sport and in society. Examples where this transformational influence is expected to be observed include: port regeneration, and developing social inclusion and sustainability programmes.

The last principle is to support the Olympic and Paralympic Movements by promoting the Movements to new audiences i.e. the large youth population of Brazil and South America. To achieve this goal, an interactive approach will be taken to reach out to the youth, and new sports programmes and facilities to athletes and new talent will be provided.

As identified, the overall concept of Rio 2016 is based on the commitment of delivering a unique spectacle through technical excellence, compact and consistent plans and a spirit of
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celebration spread all over the city, the country and the surrounding regions. With the Games, Rio intends to reach out and engage more than 180 million young people in South America, uniting them through sport, culture and education activities which will transform the city and leave lasting urban, social and sporting legacies.

**Rio 2016 Four Olympic Zones**

The infrastructure location of Rio 2016, as it was for the 2007 Pan-American Games, is based on the concept of four Olympic zones – Barra, Deodoro, Maracanã (and Rio Central zone) and Copacabana (or South Zone), – which surround the Tijuca National Park and will include all the sporting venues. The concept took into consideration not only the strict requirements of the Games venues but it also looked at the specificities and needs of each area and, most importantly, the long-term strategic plan of Rio. Currently, the city concentrates the majority of jobs and economic activities in the very eastern-southern and southwestern edges. This makes the city’s daily migration home-to-work flows from the overwhelmingly poor northern and northwestern areas, extremely intense and difficult. Rio figures third in the 2014 listing of the 220 most congested cities in the world, after Mexico City and Istanbul.

The four Olympic zones will be connected by a high performance transport ring which includes rehabilitated rail networks, a 15km metro extension and an entirely new 150km, 4 line Bus Rapid Transit (BRT) system. The Olympic master plan matches the vision of the city, efficiently acting as a transformational catalyst and, thus, having the potential to leave a real urban and social legacy for the metropolitan region.

**Barra da Tijuca Zone**

Barra is the fastest expanding area of Rio with high rise quality housing, commercial and business activities. The priorities in this zone are to create more efficient transport connections to the other parts of the city, especially to the South Zone (Ipanema-Copacabana) and the City Centre. In addition to the growing trend, Barra was the hub of the 2007 Pan-American Games and from that moment on, it became a potential sporting centre of the city; it already has a concentration of many of the city’s sports facilities.

Seeking to meet future needs, Barra was naturally chosen to be the site to stage many sporting competitions and the Olympic and Paralympic Village, serving as the main sports and accommodation area for the Games. This new and large developing area will host the Olympic Park, including competition venues of 23 Olympic and 13 Paralympic sports and the International Broadcast Center/Main Press Center (IBC/MPC).

**Deodoro Zone**

Deodoro is one of the poorest areas of the greater metropolitan region of Rio and the most disadvantaged of the four Olympic zones.

For the 2016 Games, the region will host the competitions in extreme sports (BMX, mountain bike, canoe), as well as
modern pentathlon, basketball, hockey, equestrian and shooting. By strategically hosting the adventure sports, the new Deodoro Olympic venues are planned to later be transformed into an X-games park, which will aim will be to involve and stimulate the local young population to participate in sports. The goal, is both to promote inclusion in the area and to provide the necessary infrastructure for the community’s social development. Additionally, there will be considerable investment into transport such as a new motorway within its border, and a new high performance Rapid Bus Transit line across the Piedras Blancas mountains to connect this peripheral zone to the other regions of the city such as Barra.

Maracanã Zone

The Maracanã Zone already hosts the largest Brazilian Carnival parade (Sambódromo) and the country’s most famous sports stadium the Maracanã. The area, which also includes Rio’s Port area, is an old and historic location and scene of several large events. Taking advantage of the upgraded Maracanã stadium and the current sports facilities, the zone will host the ‘Opening and Closing’ ceremonies as well as the competition venues for football, volleyball, archery and athletics. All the venues already exist and will receive small or large improvements, most of these have already been completed for the 2014 FIFA World Cup. This Zone is also home for the Joa Havelange Stadium which was the main Stadium for the 2007 Pan American Games and will be expanded from 40,000 to 60,000 seats to make it the new Olympic Stadium for athletics.

Following the strategy for this area, the Olympic plan in the Maracanã zone will prioritise urban restoration for this currently degraded region. Improvements will be undertaken not only in the sporting venues, but also to improve transport links, renovation of the most important train stations near all the very large sport venues, and at the Port area (including a new downtown modern tramway), meeting the City government’s willingness to renovate the harbour port region and to bring it back into the City Centre.

Copacabana Zone

Copacabana is the most famous and iconic areas of Rio and the place which attracts travellers from all over the world to enjoy the city’s beaches, mountains and landmarks. Rio has been a part of the UNESCO world heritage listing since 2012 with its Carioca Landscapes between the mountains and the seas. This area also happens to be the most developed part of Rio.

Copacabana will showcase many of the outdoor sports competitions, in particular those utilising water and sand, e.g. sailing, rowing, triathlon, marathon swimming and beach volleyball, letting the spectators feel the city’s atmosphere and extraordinary landscapes.

The rationale behind Copacabana’s Games plan lies in the fact that this region does not require development. For this reason, the venues placed in Copacabana, Marina da Gloria and Ipanema will be temporary and the transport system will be based on improved traffic management of current networks.
The Rio 2016 Four Olympic Zones Concept: Legacy Expectations

The High Performance Transport Ring

The High Performance Transport Ring will connect all four Olympic zones in an efficient and safe way. The ring will be composed by different public transport systems, namely renovated suburban rail, extended metro and brand new 150km 4 line BRT (Bus Rapid Transit) lines, which will allow the general public, visitors, the workforce and spectators to easily reach all the venues in a reasonable time. Accredited Olympic Family and workforce, as well as all ticketed spectators, will have free public transport.

In addition, a network of about 240km of dedicated Olympic lanes on existing major arterials and expressways during Games time, controlled by an expanded Central Operation and Traffic Management Centre, will help move athletes, team officials, media, logistics support, medical and security to facilities, outside of the generally highly congested road system. Within the same concept, adjustments to the initial transport design of Rio 2016 were made to improve Rio’s master plan. It is worth noting that these adjustments not only improved the transport plan but will also allow Rio to over-deliver what was stated in its bid file

[1] TransOlímpica: 25km new expressway with a median BRT corridor, will connect Avenida Americas in Barra to Avenida Brasil in Deodoro a tremendous new North-South liaison 30km West of Rio City Centre (West side of The Olympic Ring).

[2] TransCarioca delivered just before the 2014 World Cup it is the first Rio 40km diagonal BRT corridor, linking Barra to the Rio International Airport. With this new transport facility, Rio International Airport is the first in all of Brasil to be served by a high performance public transport.

[3] TransOeste: expressway with BRT corridor, connecting Santa Cruz (Far West Zone) to Barra. The first BRT in operation since 2012, it is currently under construction to reach Jardim Oceânico, the interchange hub with new Metro line 4 connected to line 1 and to Rio Centre.

[4] Deodoro and Santa Cruz SuperVia suburban rail lines have their capacities doubled with new trains to serve North and Western Rio including Deodoro Zone.


[6] ITS (Intelligent Traffic Systems): an integrated platform to monitor and manage city traffic by providing real-time traffic information and allowing immediate incident detection. It will be the key tool to be used at the traffic management centre.

By introducing the transport ring concept into the Games plan, the government took the opportunity to substantially increase the mass transit capacity of Rio’s transport system and to start solving part of the problems related to the marginalisation of peripheral areas. It will be one, if not the most, relevant legacies of the Olympic Games in Rio.
Figure 2: Rio 2016 Transport Map
Source: http://www.rio2016.com/o-rio/mapas/mapa-de-transportes
The Rio 2016 Four Olympic Zones Concept: Legacy Expectations

Tentative Analysis of Rio 2016 Expected Olympic Legacy

As previously mentioned, the legacy plan of Rio 2016 has to achieve four main priorities: transformation of the city, social inclusion, youth and education, and sports.

From a general perspective, the Rio 2016 master plan shows some similarities with the project of Barcelona 1992. Both Olympic concepts were built on the allocation of venues in different zones of the city, connecting the urban centre to isolated and underprivileged areas, which lacked infrastructure and demonstrated significant social problems. The two of them also have transport as one of the main elements of the whole plan and, like Barcelona, Rio is prioritising public transport efficiency and legacy rather than luxury.

If Rio succeeds in this journey, the outcome and the long-term benefits brought by the Olympics have a great probability of showcasing another successful example of Olympic legacy, introducing important policies of urban regeneration, accelerating developing projects, linking peripheral areas, reorganising transport infrastructure, developing railways, expanding the airport and rapid connections to the city centre (Copacabana) as presented above.

From the development already delivered prior to the 2016 Games, Rio is following the same path of city transformation.

Infrastructural Legacy

Strategically, the infrastructural legacy plan of Rio 2016 could be seen as the main contribution that the Olympic Games are likely to leave to the city. In the past decades, Rio has been trying to renovate its basic structures and modernise the city, but these usually take too long to accompany the development of society and economic growth. That means the city and the country are emerging, however, the platform which holds this evolution is still fragile. For this reason, the urban regeneration and city transformation planned in the infrastructure is of vital importance for the future prosperity of the city and the region.

Based on the High Performance Transport Ring, Rio’s transport structure is being heavily transformed. The peripheral and underprivileged communities (e.g. Deodoro), as well as the new developing (Barra), and historic zones (Maracanã) will be better connected, allowing an efficient flow of people to and from the city centre (Copacabana) as presented above.

One year prior to the Games, the largest part of the proposed new public transport infrastructure is already in place. Except for one 30km BRT called BRT-TransBrasil scheduled to be put in service in 2017, all transport systems shown in red on the 2016 Rio new integrated Public Transport Map will be operational for the Games. The High Performance Public Transport Ring is
Some improvements were made at about 8-9 million with almost all travelling Dumont City Centre Airport carrying about 17 million people per annum, and Santos International Airport carrying about 17 million. Rio has two airports; GIG Galeao International Airport carrying about 17 million people per annum, and Santos Dumont City Centre Airport carrying about 8-9 million with almost all travelling on a few Brazilian domestic links like Rio to Sao Paulo.

Some improvements were made at GIG for the 2014 World Cup but the terminal modernisation and extensions are currently done by the new privatised consortium Odebrecht SA together with the Changi Airgroup Group, mostly to extend terminal 2 by 26 gates and additional car parks, although the road access conditions constantly deteriorate, with no road improvements announced. As stated earlier, GIG International Airport is rather isolated on ‘Island to Governador’ with a cul-de-sac extraordinarily congested expressway. The only land accessibility improvement is the new BRT Trans-Carioca 40km connecting GIG Airport to the centre of Barra Zone at Alvorada. It is, however, the very first Brazilian airport to have a dedicated public transport link with the City. Each terminal has its BRT station dedicated public transport link with the City. Each terminal has its BRT station

**Figure 3: Rio 2016 New Integrated Public Transport**

clearly shown with two arcs on the North of Parque National de Tijuca (a 105km2 natural Park area in the Centre of Rio corresponding to the total area of the City of Paris) and only one link along the South Coast.

**Airport improvements**

Rio has two airports; GIG Galeao International Airport carrying about 17 million people per annum, and Santos Dumont City Centre Airport carrying about 8-9 million with almost all travelling on a few Brazilian domestic links like Rio to Sao Paulo.

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Regeneration of the Port Area

Rio’s Port area is a historically important part of the city. It is located very close to the city centre, in Guanabara Bay area. Almost all merchandise, freight and container port facilities have been moved towards Niteroi Transbay Bridge and that part of the port is now mostly dedicated to Cruise Ships.

The willingness to regenerate this deteriorated zone is an old project which was launched in the end of 2009 and, due to the Games, its execution is being accelerated. This region is being transformed into a leisure, cultural and tourist spot with new museums, an Aquarium, etc.

The former elevated peripheral motorway, cutting the City from the port has been demolished and replaced by an arterial and tunnel below San Bento Monastery hilltop. A new Light Rail tramway is in the advanced stage of construction and will have two lines connecting Rio harbour traffic terminals to the City Center and Santos Dumont Airport passing though dense City Centre areas, which are being pedestrianised.

Construction of New Housing

From the 2007 Pan American Games, Brazil had an outstanding experience of transforming the Pan American Village into new housing. The 2016 OCOG used the same strategy for the 2016 Olympic Games. As mentioned earlier, Barra is an expanding area in Rio. Lately, it saw an important increase in commercial and business activities, to this promising region. Following the trend, the nearly completed (Autumn 2015) Olympic Village in this fast growing zone, will be transformed into housing for the new workforce in the area.

Sports Legacy

When discussing the Olympic Games, sport should be centrally positioned. The sports legacy of the Games should be considered one of the most important heritage aspects the region will benefit from. In the case of Rio 2016, the post-Games plan for the sporting venues and the incentive programmes for sports development seem coherent and feasible to achieve in the long-term.

Sports Venues

Being located in a continent which lacks world-class sporting venues, Rio aims to become a reference for sports in Brazil and South America. To reach this goal, most of the sporting venues for the 2016 Olympics will shape the future OTC in Rio. This centre is planned to include two venue centres: Barra, composed of the facilities at the Olympic Park, and Deodoro, contributing with equestrian, shooting, modern pentathlon and fencing venues.

Another important contribution the Games can bring is the future of the X-Park. It will constitute an adventure sports park which will focus on the engagement of Deodoro youth in physical activity and on the promotion of sports culture. The target audience of the X-Park will then be not only for elite athletes, but particularly for this young population who do not have access to sports due to the lack of local infrastructure. The plan
is consistent and clearly stated and it is already included in the Rio 2016 official legacy plan\(^5\).

### Incentives for Sport and Athlete Development

The first aspect to be highlighted in terms of sports development is the motivational aspect usually coming from the host country to prepare its athletes to deliver an outstanding performance in “their” Games. In addition to that feeling, the future OTC is also being highly enhanced and was recently launched as part of the Rio 2016 official legacy plan\(^3\), which is based on two pillars: high performance sports and education. The new sporting complex is expected to promote programmes for the development of athletes and new talent. It is also projected to host a public school (Olympic Experimental School) specially developed to nurture sports talent.

### Economic and Political Legacies

The largest multi-sports event in the world involves huge flows of money, not only directly related to the Games – e.g. revenues from ticket sales and Olympic sponsorships, investments in sporting venues and Olympic Village – but also coming from indirect and parallel operations, such as tourism, commercial and real estate activities. In Rio, tourism is already an important part of the economy and will be strengthen by the Games, which will also be responsible for the generation of thousands of new job opportunities in several fields, such as sports, commercial, real estate, financial and business. Considering areas with the largest gaps in job positions versus total population (e.g. Deodoro), this could be an opportunity to develop the local market and workforce.

From a study commissioned by the Brazilian Ministry of Sport\(^4\), it is expected that the USD 14 billion investment stipulated in the candidate file will generate an injection of about USD 50 billion in the Brazilian economy from 2009 to 2027. USD 24 billion during the preparation period (2009 to 2016) and the remaining USD 26 billion coming from the following ten years after the event. The study also foresees an additional 120,000 job opportunities per year until Games time resulting from the planned investments.

From a political perspective, the first South American Games will definitely promote the developing region on the global scene and on the current map of Olympic cities.

### Educational Legacy

The foremost mission of the IOC is to promote education through sport. For Rio, this principle is being rigorously followed and the city seeks to achieve great results with the implementation of new education programmes and policies of development through physical activity. Some of them already in place, such as the “Programa Segundo Tempo”, which gives young students the opportunity to take part in sports as an extracurricular activity conducted out of the regular school schedule\(^5\).
Additionally, it is important to mention the educational programme developed by Rio 2016 OCOG called “Transforma”, which brings the Games to elementary and high schools. The programme’s mission is to strengthen the role of young people as transformation agents, using the Olympic and Paralympic values as educational tools. It is already successfully implemented in over 2,000 schools in Rio de Janeiro, Minas Gerais and, recently, Brasilia, and is based on three action lines: living the Olympic and Paralympic values; trying out new sports; and engaging with the Games.

Alongside the promotion of sports as an education tool, the Games in Rio will also be responsible for training a large group of workers, including volunteers, specialised in the various fields of sports management and sports events organisation – an area where Brazil is still taking its first steps.

**Environmental, Social and Cultural Legacies**

As a consequence of the education, sustainability and sporting programmes, and especially the infrastructure transformation projected for the city, much of the social and cultural conditions of local citizens are likely to be improved.

Through sports engagement, there will be a natural social integration, in particular within and between those underprivileged and relatively isolated communities at the peripheral metropolitan area of Rio and which lack all kinds of necessary infrastructure. The sporting culture will also be disseminated all over the city and the country by the Olympic spirit, driving the habits of future generations and promoting a more cooperative and healthier way of life.

In relation to Rio’s environmental practices, the series of activities that are being carried out to meet the objectives of the Sustainability Management Plan (SMP) can also leave a lasting legacy for Rio’s environment (e.g. education programmes and green area protection campaigns).

For the water conservation, there is a call out on the Guanabara Bay, which will not achieve the expected goal of cleaning up the waters by Games times. Although it raises the awareness on strengthening more sustainable policies on water conservation. Considering the Summer 2015 Sailing test events, failure of the Gunaraba Bay clean-up programme appears as a main shadow on the otherwise successful Rio 2016 Olympics legacy outcome. Also several junior US rowers were ill after the recent test events in the Rio waters which has cast doubts over the water purification process promised by the bid committee.
Conclusions

Undoubtedly, Brazil still suffers from a lack of basic infrastructure that inhibits product growth, economic and social development. In this context, the country is hosting the two largest sports mega-events in a short two-year period of time. These events and their preparations not only put the country and South America on the world map of sport, but they also provide an opportunity to accelerate the infrastructure development and act as a catalyst for the nation’s socioeconomic growth.

From a legacy perspective, city transformations resulting from hosting the 2016 Games become particularly important since Rio’s development depends on the growth of its four major areas around central Tijuca National Park, which is the overall design for the city’s long-term plan and also the temporary one for Rio 2016 Olympics. Many projects related to the city’s development have been studied for over 30 years, however most of them could never be carried out. To the contrary the Rio 2016 master plan based on the four Olympic zones is in the process of being fully delivered in less than six years.

Throughout this study, seven types of legacy were identified: infrastructure, sports, economic, political, educational, social and cultural and environmental. The infrastructure improvements should be highlighted as one of the most significant gains Rio will have the opportunity to enjoy, due to the Games. The city is going through a deep transformation, including the massive renovation of its “obsolete and largely inefficient” transport system, whose core concept is based on the High Performance Transport Ring. It will unite the four Olympic zones and develop efficient links to connect different areas of the city. In addition, Rio 2016 is working to promote the regeneration of the Port area in order to transform it into a leisure and cultural region. As of Autumn 2015, most of these works have been delivered, therefore, the expected infrastructural Olympic legacy is becoming a reality.

Looking at the sporting legacy, it is important to mention some relevant improvements to come out of the Games: the construction of new world-class sports venues and the incentive programmes for sports and athlete development, the two dimensions to be put together in OTC will represent a crucial step towards the growth of high level sports in South America.

The economic impact expected to be brought by the Games is clearly of great importance too. Not only are the Games responsible for huge investments in the Brazilian economy, but they also generates many new job opportunities. With the economic crisis that Brazil is currently facing, this is an important aspect to be observed.

Complying with the IOC’s mission, educational legacy will be observed with the introduction of several new education programmes and policies of development through physical activity, as well as with the building of a new skilled workforce group.
New green programmes and technologies will also be introduced, raising the sustainability awareness of citizens and government and leaving an important environmental legacy for the whole region.

As a consequence of the infrastructure transformation and all the programmes mentioned previously – whether related to sports, educational or environmental, subjects – Rio has the opportunity to engage its people in sports and enjoy the social integration of underprivileged communities.

The Games will, therefore, enable Rio to be renovated, connecting the city’s peripheral and isolated communities and, most importantly, in a short period of time. By focusing on the development of these new areas – concerning both infrastructure and social conditions – the four Olympic zones concept is expected to provide an opportunity to accelerate the expansion of Rio, leaving an essential and lasting legacy for its people. It is about transforming the city and providing a better quality of life for subsequent generations. Nevertheless, it is crucial to bear in mind that the Olympic Games represent only an accelerating vector for Rio’s development. A post-Games impact evaluation is the aim of the Olympic Games Impact Study (OGI) conducted by the IOC and a local University partner in conjunction with the Urban Legacy Committee (led by Rio’s municipal government). It will certainly enrich and measure the actual legacy left by the Games to the 2016 Olympic Host City and then all will be revealed.
References


Brazilian Ministry of Sport website: http://www.esporte.gov.br/


Chapter 6 – Olympic Parks

Olympic Parks, a Feasible Solution for Legacy?
An evaluation of Olympic Parks throughout history
'The measure of intelligence is the ability to change'

Albert Einstein
(German Physicist and Nobel prize winner)

Editor's note:
Olympic Parks 2’410 years ago

Ancient Games

Olympic Parks were the heart of Olympic Games since their ancient beginnings. Dating back to 776 BC, the Games were held every four years in Olympia until 394 AD. During the Games celebration a truce was enacted so athletes of different Hellenic nations (often at war) could travel from their own countries in safety to Olympia and compete in peaceful conditions. All events took place next to the small town of Olympia in Western Peloponnesus where temples devoted to divinities, the Stadia and race courses were gathered in an Olympic Park centred on an Olympic Stadium (figure 1). Athletic delegations and spectators would camp in the surroundings, mostly under pine trees along the Alpha River that meandered past Olympia.

The main 45’000 spectator capacity Stadium was accessible through a tunnel. It hosted the Opening and Closing Ceremonies marking Olympiad Day 1 to Day 7. Victors were honoured with olive branch decorations at ceremonies held in the main Stadium, a tradition continued today. For 1,170 years these Games were held in the same City of Olympia rather than alternating or moving to different locations as are the modern Games (Chappelet, 2015).

Transition to the Modern Games

Twenty-one years after the creation of the modern Olympic Movement by Baron Pierre de Coubertin in Paris in 1894, the
seat of the Olympic organisation was transferred from Paris to Lausanne. Three years later, in 1918, Baron de Coubertin commissioned an architect to sketch an Olympic City and Park to be located along the shores of Lac Leman (Lake Geneva) about 5 km west of Lausanne, now the seat of the International Olympic Committee, the University of Lausanne and the Swiss Federal Institute of Technology (figure 2). That map shows a tram line connecting the planned Olympic City to Lausanne main rail station. Such a tramway, now called Lausanne South-West light-rail or metro line 1 was inaugurated in 1995, about 77 years later.

Baron de Coubertin disliked the large expenditure created by the construction of large new sports and other facilities for the Games every four years. He favoured the ancient Games concept of a fixed and unique Olympic site (Coubertin, 2000).

Olympic Games Development & Growth

From Olympic Games to Olympic Parks

Looking back at Olympic history, the Games have developed into much more than just a sporting competition. The impact on host cities has grown with an increasing number of sports, athletes, global media coverage and sponsorship commitments. From 1970 onwards, the Summer Games have become a spectacular festival or, in the words of Cashman and Hughes (1999), “...the world’s largest peacetime event”.

One of the most significant long-term benefits associated with hosting the Games is fundamental structural changes such as construction or upgrading of new sports and multi-functional venues and

Figure 2: Proposed 1918 Olympic City in Lausanne
modernisation of the host city transport system. Olympic cities are benefitting from new roads and expressways, metro, tramway lines and bus rapid transit (BRT) networks, enlarged airport capacities and new hotel and convention centres.

While many of these developments figure in the host city’s long term plans, their construction is usually accelerated by the Games. Given the immutable completion deadline, the Games provide cities with a unique opportunity and justification for urban transformations. As a result, cities have actively used the Olympic Games to design and transform urban space as a means of economic development. By “raising infrastructural standards to levels appropriate for international tourists” (Chalkley & Essex, 1999), the Olympic Games may enhance the image of the city and attract new residents, tourists and businesses. Beriatos & Gospodini (2004) see the main task of urban governance in “the creation of urban conditions sufficiently attractive to lure prospective firms, to attract investments and to safeguard and enhance the city’s development prospects”. This is necessary because cities become “interchangeable entities that are played off one against another” (Beriatos & Gospodini, 2004) in an increasingly competitive world environment.

In the beginning of the Olympic movement, Baron de Coubertin was opposed to using the Olympics as a means of urban improvement. Chalkley and Essex (1999) quote Coubertin who criticised the London Games of 1909 by saying that the Olympics “must be more dignified, more discreet, more intimate and less expensive”. In 1928, Coubertin described Olympic constructions as being “the result of local, and too often, commercial interests, not Olympic interests at all” (Coubertin, 2000). This attitude has changed and the IOC supports urban transformation efforts as long as it is part of an urban development plan with strong legacy potential. Since 1992, Olympic cities have been working towards sustainable development, as a result of the adoption of Agenda 21 at the Rio Earth Summit. At the International Conference on Olympic Games and Architecture in 2001, Balderstone (2001, May), stated that “the Olympic Movement and the Games have become a catalyst for comprehensive strong environmental plans and actions for a city, many of them non Olympic specific, particularly in regard to land rehabilitation and redevelopment”.

Being unable to postpone their delivery, the Games are used as a catalyst to fast-track urban renewal and to rehabilitate derelict sites. In fact, Essex and Chalkley (2003) argue that the “scale of the modern Olympics and the sums of money they now generate are such that it is difficult to envisage many of the related urban development taking place without Olympic resources and the political pressures deriving from a clear deadline”. There are major variations to the extent to which the host cities have used the Olympics in the past as a trigger to wider programmes of urban transformation. Cities have invested with different degrees in new infrastructure developments (Preuss, 2004) and (Essex & Chalkley, 2003). Preuss notes, that the 1984 Olympic Games in Los Angeles required only minor investments whereas
very large infrastructure investments were made for Barcelona 1992, Sydney 2000, Athens 2004, Beijing 2008, London 2012 and particularly for the Rio 2016 Games. This is a matter of short and long term political ambitions, of intended investment planning as well as attitudes of civic leaders and government authorities toward public expenditures. Olympic Parks are key driving iconic Games centres with varied ambitions as indicated below.

- **Sydney 2000** Games were the first and foremost world mega-event which clustered and concentrated many main Olympic activities into a suburban Olympic Park around a common domain, combining services, security and much expanded transport accessibility.

- **Athens 2004** Games vastly extended an embryo of Olympic domain for the 2004 Games.

- **Beijing 2008** Games, created the largest Olympic Park ever, regrouping main Olympic functions, an iconic “Bird’s Nest” Olympic Stadium, an impressive Water Cube and many competition venues located in a gigantic area called the Olympic Green. That park is part of a string of parks to the north of the Chinese capital city of vast former imperial public parks located South of Tian-an-men.

- **London 2012** Games concentrated most main key Olympic functions and many competition venues transforming a derelict area of East London in a brand new Queen Elisabeth Park, part of a string of central London historic parks.

- **Rio 2016** Games took a different orientation with four Olympic zones distributed around Rio’s huge central Tijuca National Forest (more than 100km2 similar to the total area of the City of Paris) with two zones being designated as Olympic Parks.

- **Tokyo 2020** Games presented a successful two Olympic zone concept with a Heritage zone using and rehabilitating Tokyo 1964 Games venues and adding new venues on Tokyo Bay reclaimed Islands. Tokyo 1964 and Tokyo 2020 Games concepts do not have Olympic Parks.

### Olympic Games Growth

Key parameters of growth have been selected to portray the Summer Olympic Games evolution from the modern Games beginning in 1896 (Athens), to Los Angeles 1984 Games which marked a transition towards the Games’ world globalisation. Since 1984, gradual growth is shown culminating in the Rio 2016 and 2020 Tokyo projections (Table A). All parameters show growth except two. The number of competition events (about 300) and the number of athletes (about 10'600), have been stabilised as a result of the 2002 Pound Commission report, an attempt to fight gigantism Pound, 2003 & Pound, 2015). The share of female competitors is approaching 50% (from zero percent at the first modern 1896 Games), which is a significant positive change. Other growth trends are worrying and are partly addressed by the IOC’s Olympic Agenda 2020 (IOC, 2015).
The Olympic Games in the Most Congested World Cities

The magnitude of the Olympic Summer Games is such that only cities of more than 5 million in population, with a strong rail public transport system can imagine hosting such a complex mega-event with 28 simultaneous sporting events organised as “world championships”.

Former Olympic host and currently bidding cities all have their own traffic problems, mostly characterised by endemic road traffic congestion of various degrees. These are now measured by GPS monitoring of millions of vehicle journey speeds in more than 220 world Cities (Table B). The situation in Rio one year prior to 2016 Games is alarming due to its third position in the list of worst congested cities. Before the Beijing Games, there was a 60-day mandatory traffic reduction scheme, which enabled a significant reduction in air pollution to allow endurance sports events like the marathon to take place in satisfactory health conditions. This
### Table B: World most congested Cities and world sport mega-events

<table>
<thead>
<tr>
<th>Ranking (from most congested to least)</th>
<th>Congestion index 2014 Level (%) Peak (%, period)</th>
</tr>
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<tbody>
<tr>
<td><strong>General Congestion Level &gt; 50</strong></td>
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<tr>
<td>1. Istanbul</td>
<td>(multiple Candidate - last 2020) 58 109 (PM)</td>
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<tr>
<td>2. Mexico City</td>
<td>(Olympics 1976) 55 93 (AM)</td>
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<tr>
<td>3. Rio de Janeiro</td>
<td>(FIFA 2014 &amp; Olympics 2016) 51 81 (PM)</td>
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<tr>
<td>4. Moscow</td>
<td>(Olympics 1984 &amp; FIFA 2018)** 50 103 (PM)</td>
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<tr>
<td><strong>General Congestion Level 35-50</strong></td>
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<tr>
<td>7. St. Petersburg</td>
<td>(FIFA 2018)** 44 96 (PM)</td>
</tr>
<tr>
<td>10. Los Angeles</td>
<td>(Olympics 1984 &amp; Candidate 2024) 39 80 (PM)</td>
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<tr>
<td>13. Rome</td>
<td>(Candidate 2024) 38 71 (AM)</td>
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<tr>
<td>15. Beijing</td>
<td>(Olympics 2008) 37 74 (PM)</td>
</tr>
<tr>
<td>16. London</td>
<td>(Olympics 2012) 37 67 (PM)</td>
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<tr>
<td>20. Vancouver</td>
<td>(Olympics 2010)** 35 66 (PM)</td>
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<tr>
<td><strong>General Congestion Level 25-35</strong></td>
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<tr>
<td>22. Paris</td>
<td>(multiple Candidate 2012 and 2024) 35 64 (AM+PM)</td>
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<tr>
<td>24. Shanghai</td>
<td>(World Expo 2008) 35 67 (AM+PM)</td>
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<tr>
<td>26. San Francisco</td>
<td>(almost Candidate 2024) 34 68 (PM)</td>
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<td>27. Athens</td>
<td>(Olympics 2004) 34 54 (AM)</td>
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<td>36. Sao Paulo</td>
<td>(FIFA 2014)** 33 59 (PM)</td>
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<td>40. Manchester</td>
<td>(Commonwealth Games 2002) 32 72 (PM)</td>
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<td>44. Hamburg</td>
<td>(Candidate 2024) 32 55 (PM)</td>
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<tr>
<td>45. New York</td>
<td>(Candidate 2012) 31 56 (PM)</td>
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<td>50. Milan</td>
<td>(World Expo 2015) 30 66 (AM)</td>
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<td>55. Cape Town</td>
<td>(FIFA 2010)** 29 72 (AM)</td>
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<tr>
<td>61. Berlin</td>
<td>(almost Candidate 2024) 28 51 (PM)</td>
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<tr>
<td>65. Munich</td>
<td>(Olympics 1972 &amp; Candidate 2018) 27 50 (AM+PM)</td>
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<tr>
<td>71. Barcelona</td>
<td>(Olympics 1992) 27 45 (AM)</td>
</tr>
<tr>
<td>72. Chicago</td>
<td>(Candidate 2016) 27 59 (PM)</td>
</tr>
<tr>
<td>75. Montreal</td>
<td>(Olympics 1976) 27 57 (PM)</td>
</tr>
<tr>
<td>87. Oslo</td>
<td>(almost Candidate 2022) 25 65 (PM)</td>
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<tr>
<td><strong>General Congestion Level &lt; 25</strong></td>
<td></td>
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<tr>
<td>91. Glasgow</td>
<td>(Commonwealth Games 2014) 24 48 (AM+PM)</td>
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<tr>
<td>93. Atlanta</td>
<td>(Olympics 1996) 24 59 (PM)</td>
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<tr>
<td>101. Calgary</td>
<td>(Olympics 1988) 22 45 (PM)</td>
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<tr>
<td>104. Turin</td>
<td>(Olympics 2006)* 22 41 (AM)</td>
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<tr>
<td>107. Madrid</td>
<td>(multiple Candidate - last 2020) 21 43 (AM)</td>
</tr>
<tr>
<td>138. Salt Lake City</td>
<td>(Olympics 2002)* 15 37 (PM)</td>
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**Notes:** * Winter Olympics ** Host city part of Football World Cup Tournament.
**Abbreviations:** FIFA = FIFA World Cup, Olympics = Olympic Games, Candidate = Olympic Games Candidate City
**Colours:** Olympic Games host cities since 2000; Rio 2016 Summer Olympic Games; FIFA World Cup Russia 2018
**Congestion Index:** Level: Increase in overall travel times when compared to a situation in which travel times are not worsened by traffic congestion. Peak: The busiest one-hour-long period during the day (i.e. maximum congestion level), based on real traffic measurements. Includes peak period (AM or PM)
**Source:** 2015 TomTom Traffic Index (https://www.tomtom.com/en_gb/trafficindex/#/) complemented with mega-event references (Prof. Ph. Bovy). Japan and India are not included in TomTom listings.
scheme was a 40% odd and even license plate circulation prohibition. Not only was traffic substantially reduced during the 60 days, but also all significant construction activity, generating considerable fine particles pollution, was totally halted during these two critical high air pollution summer months. Without these drastic air pollution reduction measures, the Beijing Games could not have taken place (Bovy, 2007).

Another important consideration of Olympic Parks is their high traffic demands increasing pressure on already overloaded transport systems. In certain cities like Sydney the Olympic Park was far away from the city centre, thus allowing its functioning. In comparison, the London 2012 Olympic Park had to be smaller not to exceed neighbouring expressway capacities and not to overload the abundant but busy public transport system. Very large events such as football matches were held at Wembley Stadium, well equipped for handling huge crowds instead of the new East London Olympic Park stadium (Lochead, 2007 & John, 2012).

For Rio 2016, two smaller Olympic Parks without stadiums and athletics could work better to lower transport demands on Rio’s already overloaded road and public transport systems (Furuyama & Bovy, 2015).

Table B also shows that four out of five of the 2024 Summer Games bidders: Los Angeles, Rome, Paris and Hamburg are in the list of the world’s top congested cities. In their bids, these cities shall need to prepare “innovative” operational traffic either temporary or permanent solutions and policies to hope win the 2024 Games contest.

Olympic Park Aims, Content and Typology

Olympic Park Contents, Types and Position in Relation to the City Centre

Olympic Games bidding does not require Olympic Parks. An Olympic Village accommodating athletes of all Olympic nations, an Olympic Stadium for opening and closing ceremonies, an IBC-International Broadcasting Centre- MPC- Media Press Centre are all central elements of the Games. They do not necessarily have to automatically be grouped around a common domain (figure 3).

The existence of modern Olympic Parks is a historical heritage of the Ancient “unity of space and unity of time” Games concept (Munoz, 2006). Modern explanations exist to justify Olympic Parks mostly on grounds of unity of space criteria, minimisation of travel distances for athletes if the Olympic Village is adjacent, minimisation of travel if the Media Centre is part or very close to the Park and optimisation of security by having a regular shaped vast expense of park land somewhat separated from nearby neighbourhoods. In this concept, prevalent from ancient times, the Olympic Stadium is in the middle of the park with sufficient capacity to host opening and closing Ceremonies, athletics, the football final and often the marathon arrival.
Due to the large size of the park other competitions can also take place with multi-session programming like aquatics.

Concentration of large competition venues in addition to a big Media centre and Olympic Village calls for a considerable deployment of high capacity transport facilities by surface or/and underground rail to avoid the need for large parking facilities and to reduce pressure on expressway and road systems serving the Park. Three types of Summer Olympic Parks can be identified:

- Olympic Parks created by an extension of the park’s domain and facilities located in a pre-existing sports area (Athens 2004, Beijing 2008, Rio 2016 to some extent)
- Olympic Parks created by reclamation and regeneration of brownfield sites
and derelict industrial and/or military wastelands (Sydney 2000, London 2012)

- Olympic Parks created from scratch or/and removal of other facilities such as an autodromo in Rio (Rio 2016) or farmland in Sochi, Russia (Sochi 2014 the only Winter Olympic Park)

Olympic Parks have three positions in relation to the city centre:

- In or close to city centre (London 2012)
- Within inner suburbs (Beijing 2008, Athens 2004)
- In outlying suburban territories (Sydney 2000 and Rio 2016)

**Transition from “Full” Olympic Parks to “No” Olympic Park**

Recent 2000 to 2020 Olympic Park contents are shown in Figure 3. All parks until London 2012 had the same competition and non-competition major components around the Olympic Stadium where the opening and closing ceremonies were held. The Olympic Village and Media Centre were mostly inside or very close to the Olympic Park.

Rio 2016 marks a breakdown of these functions, as will be explained later and Tokyo 2020 has no Olympic Park at all (see paragraph 11). This transition from “full” Olympic Parks to “no” Olympic Park took place only in the past twenty years only and might very well become the preferred option in the future.

**The Exception: Sochi 2014 Winter Olympic Park**

Olympic Parks “unity of space” have always been associated with Summer Games. Winter Games cannot have that unity of space since “snow” and “ice” sports locations are dictated by very specific topographic requirements, which are most often dispersed in multiple venues in valleys and mountain sites. Also the “unique” Olympic Village concept historically and conceptually associated with Summer Games does not hold for Winter Games due to venue dispersion imposed by geography, topographic mountain requirements and climate conditions. For certain endurance sports, athlete accommodation must be at the same elevation as the competition venue, which therefore call for an Olympic Village split.

Sochi 2014 was the first, and until now, a unique example of a Winter Olympic Park. This concept was mostly due to the fact that almost all “snow” and “ice” sporting venues had to be built from scratch. Sochi 2014 choose the concept of planning and building all “ice sport” venues around a new Olympic Stadium in an Olympic Park along the Black Sea shores east of Sochi centre. The connexion of the new Park to Sochi city centre (25km) was done by double-tracking national rail. Connexions to mountain venues (60km) were provided by a new expressway and a new mostly single-track high performance rail line.

All Sochi 2014 new sports, transport and accommodation facilities were of remarkable quality but amounted to very high costs reaching 50 billion USD (Mueller, 2015).
Some Sochi 2014 sports facilities conceived as national sports education and training centres will have a strong legacy role, while others like the Olympic Park will depend heavily on its business plan ambitions and potential at a national and possibly at international scale. The Sochi concept of turning a historically Russian famous summer resort into an all-year resort is sound, but will need strong long-standing political will to become effective.

Policy Developments after Barcelona 1992

Pound Commission and OGI

After the Sydney 2000 Games, an Olympic Games Study Commission (Pound Commission) was set up to outline recommendations towards a smaller, less expensive and less complex organisation of the Games (Pound, 2003). The IOC entrusted AISTS (International Academy of Sports Science and Technology) with the project called “Olympic Games Global Impact” (OGGI now called OGI) (IOC, 2004). OGI is now a requirement for each Olympic Games. A well know University at the Olympic host city is contracted to collect social, economic and environmental data over an 11-year cycle, from the bidding stage until two years after the Olympics. During the International Legacy Conference in Lausanne in 2002, IOC President Jacques Rogge spoke out against Olympic luxury projects planned only with Olympic-size crowds and ticket sales in mind, which might become white elephants after the Games. He emphasised that planning of major sporting events requires more serious consideration to be given to sustainability, legacy and post-Games use (IOC, 2002). Essex and Chalkley argued that the scale of the modern Olympics and their infrastructural requirements might have become so great that “the concept of sport as a means of spiritual renewal has given way to sport as a means of urban renewal” (1998). For some cities the Olympics may have been an initiator for regeneration and for others an actual tool for accelerating change.

Olympic Games Concepts and Role of Olympic Parks

Experts in the field distinguish between three main models to illustrate the extent to which host cities used the Games to trigger urban redevelopment (Cashman, 2008), (Essex & Chalkley, 2003).

- **Model 1:** Some cities have tried to minimise the scale of investments in urban infrastructure by hosting low-impact events, such as Melbourne 1956 and Los Angeles 1984. These cities did not create Olympic precincts.

- **Model 2:** As the first model did not always prove successful, cities like Tokyo 1964 and Barcelona 1992 chose to disperse sporting venues throughout a metropolitan region. This was done mainly in the period from the 1910s to the late 1950s (Essex & Chalkley, 2003). This model promoted a polynucleated urban form.

In Barcelona most sporting facilities were located in four Olympic areas: Montjuïc, Diagonal, Parc de Mar and Vall d’Hebron. Montjuïc Park constituted the main
setting for competition as it already had a number of sports venues with a stadium and swimming pools dating back to 1929. With regard to Barcelona “Olympic areas”, the will was to avoid “packing all the sports facilities into a single place” as this was considered to be of “little social value afterwards” (COOB, 1992). There was a conscious decision made on behalf of Barcelona organisers to disperse Olympic developments throughout the city (Botella, 1995). The same consideration was made about 20 years later by Rio 2016 bidders, strongly inspired by the Barcelona example.

Third. Cities such as Montreal, Sydney, Beijing and London preferred strong clustering in a predominant Olympic Park. By clustering the many sports events within an Olympic Park, the attention and investment takes places in a clearly defined area. Such an approach has several advantages including that many Games operations can be optimised due to reduced travel times and trips for athletes.

In summary there are three Summer Games basic organisation concepts:

- **Concept II – Dispersed venue clusters with a main Olympic cluster** (Barcelona 1992 – Munich – Rio 2016)

### Olympic Parks and Transport Aspects

#### Different Games and Different Olympic Parks

In 1997, Millet stated that for a city to be able to host the Olympics, its population threshold needed to be at least 2.5 million inhabitants. Otherwise, the city faces the risk of encountering financial problems or town-planning related issues (Millet, 1997). Five years later, Bovy proposed that a metropolitan region with fewer than 4 million people should not be in the position to run for the Summer Olympic Games. He pointed out the importance of “an excellent high capacity rail public transport system connecting most key Olympic competition and non-competition venues” being in place (Bovy, 2002).

Olympic cities – Sydney 2000, Athens 2004, Beijing 2008, London 2012 and Rio 2016 vary with regard to culture, climatic conditions, geographical location, population, size of metropolitan areas and urban structure. Quality of facilities and transport infrastructures (public transport system, airports, highways, telecommunication networks) show considerable differences. Mega-event organising experience differs. No two cities are alike and no two editions of the Olympic Games can and will be the same.
Transport and Organisational Structure

Transport and urban mobility management are crucial Games components. They have “multiple interactions with nearly all other domains from ticketing to accreditation and security, from general traffic management to venue accessibility and parking” (Bovy, 2002). Staging the Olympic Games has a significant impact on the host city, in particular as existing transport infrastructures “have not been conceived to absorb intense and highly polarised traffic flows generated by such mega-events or by simultaneous superposition of multi-site events generating considerable flows of traffic” (Bovy, 2002). Some cities used the Olympic Games as a catalyst to create a new airport (Athens 2004) or to vastly expand its capacity (Sydney 2000, Beijing 2008). The Olympic Games are also used to provide new higher standard transport infrastructures such as motorways, new Bus Rapid Transit-BRT systems (Rio 2016), high capacity railway lines (London 2012), metro extensions and new light rail system (Rio 2016). In Beijing the 5th and most of the 6th metropolitan ring motorways were added for 2008 along with new expressway and airport rail connections that benefited largely from the Games being the catalyst for change.

Restructuring road and expressway systems and strongly improving public transport are financed by public investments committed by governments as part of the Olympic bidding host city contract mostly undersigned at City, State and Federal levels.

Impacts on Transport Solutions

The impact of Olympic Games on a host city depends on its urban pattern, and the Games global concept in relation to existing and proposed transport systems. The size of the host city plays a major role in the Olympic concept development as post-Games use of infrastructure has a growing role, particularly in democratic countries where citizens can intervene in transport and other infrastructure political choices and decisions. In recent years, the concept of big stadiums used as multi-purpose urban facilities integrated into the city have gained ground. The Stade de France built in 1997 or the Sydney Olympic Stadium completed in 1999, for instance, are examples of all-purpose stadiums that can be transformed to hold other events such as the 2003 Rugby World Cup Final in Sydney (Cashman, 2006).

The Summer Olympic Games also differ in one other important aspect from many large events being organised year after year at the same location, in that the Games may take place in new venue facilities, expanded existing facilities or temporary facilities that have no “tested experience of traffic accessibility and parking management” (Bovy, 2002). As a result, “test events which duplicate as closely as possible venue planned operations shall be almost mandatory”.

Many Olympic sports disciplines may have one, two or even three sessions per day (morning, afternoon and evening) leading to transportation requirements over a very long period often ending after 11pm. An event like the Olympics taking place over a two-week period
requires multi-site, multi-sport scheduling with variable attending crowds and client-groups having different transport requirements. It is difficult to tell when and for what Games, the tendency of event “clustering” started to take advantage of existing high transport capacities, in particular in rail transport. Robust and resilient public transport systems are a prerequisite to successfully handling significant Olympic mega-event traffic volumes. Since competition and non-competition venues must all be linked with each other, travel times are not only determined by distances, but also by quality and reliability of transport services as well as general traffic conditions. Clustering of events in the same area, within the same Park, makes sense in terms of transport organisation and management. Clustering also makes sense in terms of having a single security perimeter.

**Transport Organisation and Management**

To provide safe and reliable transport for the Games usually means that a range of transport authorities, partners and stakeholder organisations have to collaborate on several levels and over a long spread of time. The coordination and efficient communication among these transport bodies is a highly challenging task as there may be a variety of private and public entities and tailor-made private/public partnership arrangements to be made by a fixed deadline.

Sydney 2000 established ORTA (Olympic Roads & Transport Authority) to better deal with Olympic transport challenges. This multi-modal centralised transport organisation was in charge of planning and delivering all Olympic transport services to all client-groups. As routine ways of operation are challenged by the immovable Games deadline, possible dysfunctional patterns are quickly surfaced. In some cases, temporary solutions created for the Games duration may be institutionalised afterwards as was the case with Sydney’s first centralised public transport and road traffic control, command and communication centre.

Efficient Olympic transport management made people realise that there is a need for a permanent single transport authority responsible for transport (road, bus, suburban rail, metro, tramway-LRT, ferries, airport, etc.) and for real time traffic management and permanent coordination with security, as a number one priority. With Transport for London, London 2012 already had a highly competent centralised organisation to take-on the burden of planning and delivering Games mobility services in a very British approach. Central surveillance, command and control were also substantially expanded providing an outstanding Games transport and mobility legacy (Bovy, 2013).

Such global transport integration is not obvious. Rio is in the process of delivering an extraordinary 10 billion USD programme of transport infrastructure improvements with a particular focus on public transport, which was in a state of disarray. All transport projects promised by the Rio 2009 bid are on the verge of being delivered, providing Rio
with a regenerated and much expanded public transport system. Yet the public transport sub-system integration is far from operational, as operators are optimising their own operations without consideration for other partners who are often considered as mobility competitors. A Transport-for-Rio organisation is lacking. The 2016 Games (starting end of July), however, are forcing structures to evolve. As of December 2015, after years of deliberation, a first official Rio 2016 map covering all main public transport modes will finally be issued. This in itself will be quite a legacy.

**Olympic Games, Olympic Parks Transport and Mobility Security**

Since the 1972 Palestinian terrorist attack on the Munich Olympic Village, re-enforcement of global and total security has been a top priority. The transport-security system will be tightly integrated and planned together from host city arrivals (airports—all land transport terminals) to all competition venues, fields-of play, and seating areas, and non-competition 24-hour surveillance.

All competition, non-competition venues, venues clusters and precinct and Olympic Parks shall have continuous security perimeters. All entry and exit movements being FOH – Front-of-House (spectators, visitors and other clients) or/and BOH – Back-of-House (Olympic Family, media – medical – logistics – venue security and external security) must be fully checked at personal/individual levels and at vehicular total in-out content inspection levels. These security perimeters apply to all venues, being stand-alone, venue clusters, venue precinct and Olympic Parks. In principle, venue clusters can be more efficient from transport and security stand points by having a single security perimeter and only one set of FOH and BOH security check-points. Very long security perimeters of complex shapes might become too complex and too unreliable to manage and should be avoided.

Also different security risk levels and configurations call for separate independent security perimeters. For example, in Beijing, even if the Olympic Village, the IBC-MPC and many specific competition venues were located inside the general Olympic Park security perimeter, special additional security sub-perimeters were planned and implemented for the Olympic Village, the iBC-MPC and outlying Park competition venues. As for transport, all security information related to City operations and to Games operations have to be centralised in an integrated CCC—Central Command Control and Communication Centre in addition to Security CCC sub-centres for specific venues and the Olympic Park as a unit. In certain Olympic Cities as a whole or in certain sectors, higher security client group transport requires on-board security personal presence on all journeys.

**Sydney 2000 Olympic Park**

Planning and implementation of the Sydney Olympic Park is of particular relevance to this paper since it was
the first and foremost concentration of Olympic activities in an Olympic Park. In the case of Sydney about 50% of all Olympic competition venues and most key non-competition venues were clustered in a single Park, a rehabilitated brownfield site located at Homebush Bay, 15 km west of Sydney city centre (figure 4).

By having the Olympic Stadium, athletics and aquatic centres and the Main Press Centre (MPC) inside the Olympic Park and within walking distance of almost half of all Olympic venues, car dependence was greatly reduced during the Sydney Games (Chalkley & Essex, 1999). Sydney was the first Olympic City to “rely on 95% public transport accessibility”. A high capacity railway station was constructed at the heart of the new Olympic Park offering “free 24-hour transportation for ticket holders and all accredited workforce, volunteers and other logistics personal”. Olympic Park accessibility was complemented by special temporary bus lines serving areas of Sydney not served by rail lines. Thanks to these

Figure 4: Sydney 2000 Olympic Park
Olympic Parks, a Feasible Solution for Legacy?
An evaluation of Olympic Parks throughout history

<table>
<thead>
<tr>
<th>Olympic Park content</th>
<th>– Olympic Stadium 115’000 (Games-time capacity only) for Opening &amp; Closing Ceremony, Athletics, Aquatics + 10 other competition venues for a total of 15 sports</th>
</tr>
</thead>
</table>
| Olympic Park area/distances | – 125 ha (1,25 km²) within security ring  
– 1.65 km longest distance/0,5 to 0,9 km width (one ring road)  
– 15-20km West of Sydney City Centre |
| Transport infrastructure | – Permanent new 2 km rail connection loop of Olympic Park to Sydney main rail system leading to Sydney Central Station with new Olympic Park high capacity rail station  
– Temporary Games-time improvement of Sydney rail system maintenance and security systems  
– Creation of Parramatta river boat station 3km from Olympic Park with services to Sydney Harbour  
– New Sydney International and national Airport rail link to Sydney City centre |
| Transport operations and management | – Sydney pioneered in temporary innovative Games-time traffic management policies:  
– “Zero parking” within 500m perimeter of Olympic venue for spectators, workforce, volunteers and non-ticketed visitors  
– Free public transport for mega-event ticket holders on competition day  
– Olympic Park traffic covered at 95% by public transport, 80% rail and 15% special bus services // quite similar modal-split for other venues |
| Legacy | – Important sport infrastructure legacy  
– No significant regional transport infrastructure legacy and no medium-term alteration of pre-Games car-oriented global mobility  
– Within context of Olympic Agenda 2020, the Sydney 2000 Olympic Park cannot be considered as having a distinct legacy |

Table C: Sydney 2000 Olympic Park and transport system developments

measures, total O-Park temporary public transport use reached 95%, of which 80% by rail and 15% by bus (Table C).

The Olympic Park of the Sydney 2000 Games was a 125-hectare suburban district concentration of mostly permanent sport facilities and vast new fairgrounds around a mall and a suburban cul-de-sac loop rail station. The very large 115’000 Olympic Stadium capacity was reduced to 80’000-85’000
for post Games use and rebranded by a telephone corporate sponsor (rather uncommon in Olympic history where the Olympic Stadium generally kept the Olympic label as an enduring legacy!). After years of inactivity (Games blues), that Olympic area gradually regained momentum to become a vast post-Games outlying multiple-activity park.

Transport-wise, Sydney 2000 as a great Games with excellent traffic operations and an unusual usage of public transport by spectators rediscovering rail services to attend sports competition at venues with “zero” parking. This particular festive Games mobility behaviour faded away after the Games closure and routine 90% home-to-work car mobility remained unchanged. For transport and general mobility, Sydney 2000 Games brought no significant legacy (Bovy, 2002, 2006).

Athens 2004 Olympic Park

Athens concentrated about two thirds of venues in three competition clusters, of which the largest cluster was the OAKA Olympic Sports Complex. Located 18 km north of the City Centre and 14 km from the Olympic Village, Athens Olympic Park hosted 10 sports including gymnastics, basketball, tennis, swimming and bicycle track racing (Figure 5). With the Main Press Centre (MPC) and the International Broadcasting Centre (IBC) positioned very close by, this mega complex became the largest Olympic traffic generator of the Athens Games.

In contrast to Barcelona and in conformity with established Greek urban design practices, the spatial interventions

Figure 5: Athens 2004 Games OAKA Olympic Park complex
### Olympic Parks, a Feasible Solution for Legacy?
An evaluation of Olympic Parks throughout history

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<th>Table D: Athens 2004 Olympic Park and transport system developments</th>
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and landscape transformations for Athens 2004 Olympic Games were “scattered all over the city” (Beriatos & Gospodini, 2004). The Olympic Village was peripherally positioned on government land near a military base requiring athletes to travel considerable distances to venues. In order to relieve traffic congestion in central parts of the city, Athens improved its transport infrastructure considerably (road, rail and air) resulting in a great transport legacy particularly in metropolitan major road system consolidation and rail public transport (Bovy, 2006) (Table D).

Regarding sports equipment legacies, most stadiums have not been used since the 2004 Games due to unresolved ownership issues and lack of pre-Games legacy planning and lack of post-Games facility usage strategies. Ten years later, Athens OAKA remains a 190-hectare suburban mono-functional concentration of sport venues not operated as a public park. Transport legacy has been positive both for road transport with external ring roads relieving central Athens congestion and for high performance public transport, such as re-enforced metro and suburban rail as well as a new light rail connecting Athens Centre to the popular south eastern Coast (Bovy, 2004, 2006).

Beijing 2008 Olympic Park

Beijing experienced a stunning motorised transport rate increase which was amongst the fastest ever observed in the world (2000: 16 million motorised vehicles, 2006: 26 million, 2020 projection: 100 million). Beijing’s traffic 2001-2008 increased by “1000 motorised vehicles per day” causing extreme traffic congestion and pollution in a 16-18 million inhabitant capital city.

Beijing Olympic Green was one of the first Olympic Parks planned from the start for long-term legacy. The emphasis on post-Olympic use and sustainability in conceptual design was clearly expressed by the 2008 Beijing Olympic Green and Forest Park municipal commission. In fact, the decision to locate the Olympic Green in the cultural north-south axis of the city was decided in the 1980’s. At that time, Beijing saw the Olympics as a lever to further develop the north-south historical urban axis centred on the Imperial City. The Beijing Olympic Green is the biggest ever “urban park” hosting the Olympics. Of a total area of 715 ha, it was composed of park public areas, lakes, forests around permanent sport venues including the National Stadium called the “Bird’s Nest” (figure 6).

Beijing 2008 Olympic venue clustering concept was similar to that of Sydney 2000. Unlike Sydney, however, the Olympic Green in Beijing contains the Olympic Village and the IBC in addition to the Olympic Stadium, Athletics and Aquatics Centres, the MPC and seven other sporting facilities. What is striking about the Olympic Green is its size of 715 hectares. A special Olympic subway line n°8 serves the Olympic Green with three stations rather than one for a more conventional, smaller Olympic Parks.

The 5th Ring Motorway cuts through the Olympic Green serving the site from the north, west and east to guarantee
optimal transport connections. The areas surrounding the Olympic Green are increasingly densely populated, which should prove advantageous for future popular use typical of Beijing parks.

Figure 7 presents the complexity of hosting the Olympic Games due to many dispersed venues, albeit a strong concentration in the Olympic Green. Beijing used the Games not only as a catalyst for urban transformation but also for accelerating transport infrastructure developments such as completion of the 5th motorway ring and three/quarter completion of the Outer-Beijing 6th motorway ring. Massive development priorities were given to expand the subway system from its modest pre-2001 3 metro lines to an 8 metro line network including an express rail connection to a much enlarged triple capacity Beijing Capital International Airport (Table E).

These transport infrastructure developments were the boldest of all Olympic Games ever. All new infrastructures were part of the Beijing 2025 Master Plan, which had the Olympic Games and the Olympic Park (called Olympic Green) embedded in the Plan. To address the overwhelming congestion
### Olympic Park content
- Olympic Stadium 91'000/Opening, Closing Ceremony, Athletics
- Aquatics + 7 other competition venues
- MPC + IBC
- Olympic Village

### Olympic Park area/distances
- 715 ha O-Green (7,15 km²) within 3 security rings: Southern of 85ha, Central of 275 ha and Northern of 355ha. These areas include 30ha Olympic Village and 25ha Olympic Village support areas
- 5,0 km longest distance/between 1,1 and 2,3 km width
- 10 km North of Tian-an-man

### Transport infrastructure
- Construction of 3 new metro/subway lines, lines 10 and 5 adjacent to Olympic Green and short Olympic line 8 serving Olympic Green with three dedicated stations
- Completion of the 5th Ring Motorway serving Olympic Green
- Extensive road creation and extensions on all sides of the 715ha Olympic Green. Underground Olympic Green road crossings to avoid conflict with
  - Central pedestrian mall
  - Construction of Beijing Capital International Airport capacity tripling extension
  - New rail connexion of existing and new Beijing International airport terminals with subway ring line

### Transport operations and management
- Beijing adopted all Sydney and Athens traffic management policies of “almost zero parking at venues”, “above 90% public transport Olympic venue accessibility” and “free 24h transport for ticket holders
- Beijing expanded Athens Olympic Lane concept to 300km of motorway median Olympic express reserved lanes interconnecting all Olympic venues
- To master extraordinary high traffic congestion and significantly reduce air pollution Beijing was first Olympic City to apply the “odd-even” car and commercial vehicle license plate reduction scheme to reduce traffic by 35-40% during 60 days and to substantially contribute to reduce “air pollution”

*Table E: Beijing 2008 Olympic Green and general transport system developments*

(continued on next page)
Olympic Parks, a Feasible Solution for Legacy?
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Table E: Beijing 2008 Olympic Green and general transport system developments (cont.)

<table>
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<th>Legacy</th>
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<td>– All new or rehabilitated sport venues were planned with a long-standing legacy such as University new or expanded sport facilities</td>
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<td>– Some iconic sport venues complex like the Ice Cube have been partially sub-contracted to private organisations for “water leisure activities”</td>
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<tr>
<td>– All transport infrastructure developments delivered for the 2008 Games were part of Beijing’s master transport Plan. The Games accelerated their delivery which have a strong built-in legacy</td>
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<tr>
<td>– Within context of Olympic Agenda 2020, the Beijing 2008 Olympic Green (Park) is considered as having an outstanding legacy</td>
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</tbody>
</table>

Figure 7: Beijing 2008 Games Olympic venue and cluster venue spatial distribution
issue and the very severe summer air pollution problem (the IOC doctor required a very substantial decrease in air pollution to allow endurance sports competitions to take place in Beijing), Beijing Municipal transport and traffic specialists agreed to test, one year prior to the Games, bold traffic/air pollution measures. In August 2007, a four-day traffic test consisted of an “alternate odd-even motorised vehicles license plate traffic reduction scheme”. It worked well by cutting Beijing traffic by 30-40% but was not long enough to stabilise and reduce air pollution. This August 2007 test was considered as most encouraging and the decision was taken in 2008 to extend the traffic reduction scheme to 60 days starting about three weeks before Games-time. The 60-day traffic reduction included a ban on all construction works, to decrease construction works and truck traffic fine particle pollution (Bovy, 2009).

From the transport and mobility view points, Beijing Games were a tremendous success:

- Massive Transport and in particular public transport extensions to vastly increase subway capacities and service coverage in fast growing Beijing.
- Highly efficient Games-time mobility management with 95% spectator and workforce free public transport, and much reduced expressway congestion due to odd-even license plate scheme reduction cutting 30-40% of traffic and air-pollution during 60 days.

### London 2012 Olympic Park

The 2012 Summer Olympic Games were held in London from 27 July to 12 August 2012, followed by the 2012 Paralympic Games from 29 August to 9 September. The area of London Olympic Park in East London is adjacent to Stratford regional and international rail stations, not far from Canary Wharf and the Docklands development areas, which were the scene of obsolete manufacturing, derelict industries, docks and canals and heavily polluted brownfield sites (Figure 8). The London Olympic Park was the centre piece of the 2012 London Olympic games as Europe’s largest urban regeneration project as part of the Thames Gateway plan. As the ODA (Olympic Development Authority) stated, the concept was a British adapted combination of Sydney-2000, Barcelona-1992 and Munich-1972 Olympic Parks.

East London urban rehabilitation centred on Olympic Park was logically complemented by transport system improvements in area (Table G). The existing roadway system was adapted with appropriate car and bicycle connexions with the new Olympic Park, a new Olympic Village and a new Stratford commercial hub. Very important infrastructure and operating investments were made on the public transport system serving that area of London (ODA, 2011), (Taylor, 2012), VSS, 2012), (Currie, 2012):
Construction of the Stratford International station on the Paris to London high speed Channel tunnel line reduced the Stratford to London St Pancras station trip to less than 10 minutes; there was also a connection with the DLR to that station.

Extensive renovation and extension of the Stratford Regional station with a terminal of 25% capacity increase for the Jubilee Line, the main London east-west line and a terminal of the DLR railway, as well as the extension to Stratford International.

Multiple regional extensions and capacity increases of the DLR with a new Thames crossing.

In the case of London, polarised Olympic venue and public transport investments to the new East London Park were coherent and will contribute to post Games legacy (Kearnes, 2014), (Bovy, 2014).
### Olympic Park content
- Olympic Stadium 80'000/Opening, Closing Ceremony, Athletics
- Aquatics + 6 other competition venues for total of 12 sports
- MPC+IBC inside Olympic Park perimeter
- Olympic Village adjacent (area counted separately)

### Olympic Park area/distances
- 145 ha (1,45 km²) within security ring +30 ha Olympic Village and transport mall
- 2.4 km longest distance/between 0,5 and 0,8 km width (without Village)
- 10 km East of London City centre

### Transport infrastructure
- London Olympic Park took advantage of its position around new Stratford International + Regional Rail stations. Note: London 2012 were the first Games with an international rail hub London-Paris-Brussels directly serving its Olympic Park
- New Stratford International station on Paris to London high-speed rail line
- Stratford Regional Station full refurbishment, through and terminal station for more than 8 rail lines including the re-enforced Jubilee Line and extended DLR
- Extension of Dockland Light Railway with new station at Stratford International
- Vast reconstruction programme of roads and pedestrian paths within Olympic Park 225 ha area

### Transport operations and management
- London adopted most Olympic traffic management policies gradually developed in former Olympic games (since Sydney), taking into account British urban travel behaviour & global traffic management under integrated Transport-for-London actions
- Insertion of an Olympic route network with a permanent 80 lane km of core-system and 150km of variable regulated lane system
- Pushing all public transport system performances to their limits with London tube carrying the maximum loads ever
- London public transport performance so efficient as to divert Olympic accredited travellers from Olympic dedicated system to general London transport
- Package of travel demand management allowing for reduction of 30-32% of car traffic in Central London

Table F: London 2012 Olympic Park and transport system developments

(continued on next page)
### Legacy

- London 2012 Games were probably the most legacy-oriented Games by their concentrated rehabilitation and urban development efforts of East London derelict areas
- Olympic Park planned transition into Queen Elisabeth Park as one of the main London historical parks of early XXI century
- Strongly legacy oriented massive public transport development in East London
- Within context of Olympic Agenda 2020, the London 2012 Olympic Park is considered as having an outstanding legacy

### Rio 2016 Olympic Park

When Brazil won the Rio 2016 bid, in October 2009 in Copenhagen, it was the third time Rio had bid for the first Olympic Games in Latin America. Due to its iconic landscapes of mountains falling abruptly in the ocean and Guanaraba Bay, Rio geography makes it difficult or impossible to design a classical Olympic Games concept with an Olympic Park not too far from the City Centre and multiple venue clusters in a radio-concentric pattern to superimpose Olympic generated traffic more evenly on metropolitan networks. All previous bids by Rio had the concept of a strong Olympic Park located about 35km east of the city centre on the west side of Tijuca National Park, the largest urban park in the middle of a city, which occupies an area equal to the entire City of Paris (105km²). The new Barra Olympic Park used the grounds of a derelict autodromo. Locating an Olympic Park in new out-of-town land seemed fine, but the transport challenge of connecting this far-away Park to Rio city centre and to the famous South Rio Ipanema and Copacabana seemed out of reach and resulted in bid failures.

A totally different concept was tested for the 2007 Pan-American Games. Most popular sport competition venues would be split into four zones on all four sides of central Tijuca National Park. After the successful 2007 Pan-American Games, that four zone concept was used as a foundation for the 2009 Rio bid for the Summer 2016 Games (Furuyama & Bovy, 2015).

Each of the four Olympic zones were planned with distinct characteristics (Figure 9):

- **Barra Zone** – new facilities and venues. Located West of Tijuca national Park, this modern up-scale vast new area of Rio seaside development would host a medium size Olympic Park. The opening and closing ceremonies will take place at the renovated Maracana and athletics at the former J. Havalange, main Stadium of the 2007 Pan-American Games.
- **Deodoro Zone** – rehabilitated military facilities and new venues. This northwest of Rio centre zone, is a suburban sprawl of poor neighbourhoods. It will host the second Rio Olympic Park containing...
upgraded military facilities for Equestrian and Shooting and many other sports facilities to provide youth activity enhancements of that area.

- Maracana-City Centre Zone – existing renovated venues. This zone contains two of the largest stadia of Rio: Maracana and Olympic Stadium for athletics as well as fully refurbished Sambadromo.
- Copacabana – only temporary venues. This zone will host temporary venues on the beach, around Lake Rodrigo de Freitas at the foot of Corcovado as well as sailing in Guanaraba Bay.

The two busiest of these four zones are interesting to compare:

- Maracana Zone with the largest seating capacity (two large Stadia) of 165'000 or 40% of total Rio Games capacity attracting 30% of ticket holders.
- Barra Zone and main Olympic Park with 140'000 seats attracting 50% of ticket holders thanks to a larger number of competition events and same venue multiple competitions per day.
- Deodoro Zone and peripheral Olympic Park with 90’000 seats attracting 15% of ticket holders.
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Copacabana Zone with only 30'000 seats attracting less than 10 % of all ticket holders. Road races, cycling and marathon events, sailing and rowing events all located in the South Zone attract “free spectators” 10 to 20 times more numerous than competition seating.

Distribution of ticket holders between the four zones and during the 16 day Games, is shown in Figure 10. This is a profile of 16 different Olympic days with constantly changing spatial traffic distributions. Barra Olympic Zone in “green” and Maracana Zone in “red” are the two largest traffic generators.

One of the aims of the Rio four zone concept is to help distribute Olympic generated traffic to different parts of the Rio transport system. As illustrated in Figure 10, the total Rio Games traffic is the sum of traffic loads generated by the four zones. When two traffic zones (Barra Olympic Park and Maracana + Olympic Stadium) are both busy, the risk of system collapse has to be anticipated with responses pre-planned and implemented by the CCCC, Command-Control-Communication-Centre called COR in Rio (Lutterbach & Bovy, 2014). All these elements are called the “demand side” of Games mobility. The “supply side” expresses the transport infrastructure elements and their operations to produce transport capacities able to absorb the traffic demands.

The Rio transport concept was to interconnect the four Olympic zones and the areas around them with high performance transport rings (Table G). Four main transport supply side extension have been made:

Figure 10: Daily travel demands in Rio 2016 four Olympic Zones
### Olympic Park content
- Barra Olympic Park (principal)
- Aquatics + 8 competition venues
- MPC+IBC (no OV or Olympic Stadium in Barra Olympic Park)
- Deodoro Olympic Park (peripheral)
- 9 competition venues including Equestrian (no OV, no MPC-IBC and no Olympic Stadium in Deodoro Olympic Park)

### Olympic Park area/distances
- Barra Olympic Park 95ha distant 30km West of Rio City Centre
- Deodoro Olympic Park 205ha, distant 25km Northwest of Rio City Centre

### Transport infrastructure
- Extension of Rio metro line 4
- Rio SuperVia suburban rail system capacity and performance re-enforcement
- Creation of a 4 line 150km BRT-Bus Rapid Transit system (3 lines open 2016)
- Creation of a downtown LRT-VLT system
- Some disconnected expressway improvements on Ring system
- Temporary 240km Olympic lane system partly fully dedicated partly combined with BRS-Bus rapid system

### Transport operations and management
- No parking at venues – 95% public transport for spectators and workforce
- Search for a Games-time travel demand management scheme capable of inducing 30% road traffic reductions by a mix of “compulsory” and “voluntary” measures
- Rio 2016 (as nov 2015) has not yet succeeded at producing an official new public transport map integrating in one map all transport carriers

### Legacy
- Important sport equipment legacy embedded in contrasted zones of Rio
- After Beijing 2008, most massive public transport system rehabilitation and extensive developments. Rio 2016 already shows the important public transport legacy oriented effort of all past Olympic Games

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**Table G: Rio 2016 Olympic Parks and general transport system developments**
• Extension of the Rio metro new line 4 from Ipanema towards Barra.
• Massively modernised suburban railway serving the large poor north-western areas of Rio and Maracana and Deodoro.
• Creation of a new high performance 150km BRT-Bus Rapid Transit serving western and northern areas of Rio currently rather poorly served by very low performance bus transport.
• Creation of a new city centre VLT-LRT-light rail system connecting various transport terminals at the edge of downtown.

The new Rio public transport map (Figure 11) shows in “red” all new and strongly upgraded public transport elements of the Rio transport system. This 10 billion USD investment, more than 80% Public transport conducted in 6 years is the most massive upgrade of Rio’s obsolete public transport system. It is probably the biggest urban and social mobility legacy of any Olympic Games. For the first time in Rio’s history there will be a general public transport map of RIO integrating all operators, all sub-areas of Rio also with Trans-Bay—ferries, with a new Rio downtown Light Rail system interconnecting many transport terminals. Not forgetting, three historical transport systems: the Santa Teresa tramway, the Corcovado mountain railway and the Sugar Loaf cableways.
Tokyo 2020: No Olympic Park

As in former bids, Tokyo does not propose an Olympic Park for the 2020 Games. This successful bid is one of the most compact within an 8km radius with slightly overlapping zones called Heritage and Tokyo Bay (Figure 12) (IOC, 2013).

In Heritage zone most of the 1964 remarkable architectural venues are renovated and the main downtown Tokyo Stadium will be rebuilt on the same site served by many metro lines on all sides. The Tokyo Bay zone with its system of reclaimed Islands will have three clusters and a new Olympic Village with iconic views of the Bay (in the previous 2016 bid, it was the proposed site for a new National Stadium). These clusters will have a mixture of existing facilities and of new venues to enlarge Greater Tokyo’s sports footprint. The spread of clusters allows for a spread of traffic in an already extremely dense and busy Tokyo centre as exemplified by Tokyo’s most extensive train and subway system of the world.

Summer Olympic Parks and Olympic Agenda 2020

Looking at past Games, starting with Olympia, Greece 394 BC and ending with the 2020 Tokyo Olympic Games, three questions are discussed and conclusions are proposed regarding the future of Olympic Parks:

- The Olympic Park of the future?
- Ever greater Olympic Summer Games challenges in more congested world cities. How to avoid the “dinosaur” effect?
- Olympic Summer Games are moving from 85% to 97% public transport mobility. Is this a pre-condition for more manageable, eco-friendlier and more sustainable Summer Games?

The Olympic Park of the future?

With Olympic Agenda 2020, IOC has substantially strengthened its policy position towards creating a more legacy oriented Games with decisive social, environmental, city developmental and more sustainable transport and mobility solutions.

Other than in exceptional cases of world cities where large expanses of urban Park land or/and of urban brownfield and derelict areas, the chances of further developments of Concept III – “strong, large, dominant pluri-functional concentrated venue Olympic Park” are quite remote in democratic countries. Operational and financial sustainability for such large sporting mono-functional compounds cannot be justified by most economists, legacy oriented urban planners, and public opinion.

The Barcelona, current Rio model or imminent Tokyo model of scattered metropolitan Olympic venue clusters embedded in neighbourhoods to catalyse urban renewal and development projects express the current longer-term trend.
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Figure 12: Tokyo 2020 Summer Games concept
Avoiding the “dinosaur” effect

The 2016 Games will be held in Rio de Janeiro, the world’s third most congested city after Istanbul and Mexico City (survey of 220 world cities – excluding Japan, South East Asia, India, and Central North Africa). Interestingly, four out of five of the 2024 Summer Games bidding cities are rather high on the list of most congested world cities: Los Angeles (10th), Rome (13th), Paris (22th), Hamburg (44th) and Budapest (not yet ranked).

Efforts to substantially revamp obsolete, inefficient, unintegrated public transport systems like in Rio de Janeiro (10 billion USD transport upgrade investment in six years) are very positive but hardly sufficient to cope with 25-30 years of public transport development neglect, as highlighted in Spring 2013 by rioting that took place in many Brazilian cities.

For Rio 2016, to manage the overall traffic situation in a city hosting 28 world sports championships at the same time with more than half a million visitors every day adding 1,5 to 2 million journeys in the city, is only possible with a public transport system operating at a minimum of 95% capacity.

Tokyo 2020 will see the addition of new Olympic youth oriented sports and out-of-Stadium sports including “surfing”. These are positive additions. Yet without removing some heavy traffic generating sports from the Olympic schedule or extending the length of the Games, the whole Olympic urban mobility machine, on top of regular background traffic might just collapse at the first major transport accident or traffic management error.

In that sense, the Olympic Summer Games format needs to be carefully and critically monitored in order for it to not become an unmanageable “world super dinosaur event” (Chappelet, 2012; Chappelet, 2014; Zymalist, 2015).

Moving from 85% to 97% public transport mobility

After the Atlanta 1996 Games “missed opportunities and logistical mismanagement” notably in transport and mobility, Sydney 2000 took an innovative approach to Olympic mobility and competition event accessibility by introducing the key “zero parking at venue” policy for spectators, the workforce, volunteers and non-ticketed visitors.

“Zero parking” means about 95% use of public transport, which was not an obvious choice for Sydney. In Australia and North America, home-to-work mobility was more than 85%. To implement this policy in Sydney, obsolete trains were heavily renovated to provide top Games-time accessibility to the Sydney Olympic Park. This was coupled with a very popular incentive of “free public transport” for all Olympic ticketholders.

That policy of linking free public transport to mega-event ticket holders or making public transport part of the event happening has been successful ever since Sydney. For many Sydney-siders going to an Olympic event it meant riding trains for the first time in their lives.

Such “free public transport policies linked to a sports event” policies were extended
to the EURO football 2008 Tournament in Austria-Switzerland. Ticketed spectators and fans, wishing to follow matches in one of the eight host cities in the two host countries enjoyed a 36-hour free travel allowance basically composed of free travel in a Swiss city (e.g. Geneva), a free night-train ride to Vienna and then free travel on Vienna’s urban public transport system for Stadium trips or any other city journeys.

This “imposed high public transport modal split or mobility market share” is not the result of sophisticated mathematical simulations but simply the reality of extremely dense geographic and time oriented traffic flows to very large mega-event. At its peak, this could equate to three times in and three times out per day.

Only the most efficient, well managed and communication-friendly high capacity public transport with well planned pedestrian interchange hubs is sufficient to handle this. Yet even the most efficient high capacity rail and road based transport systems have their limits which might be “overwhelmed” in crisis circumstances.

For the Beijing 2008 Games, the solution to its heavily congested traffic flows was to introduce and critically, enforce, “odd and even” license plate restrictions. Here, 40% of overall traffic was reduced, which enabled the Games traffic to work. More than that, drastic Games and city traffic reductions contributed to significant air pollution decreases, which allowed marathon and other endurance sports to be held in Beijing (traffic reduction for a 60 day period before and during the Games’ 16 days). To cope with strategic transport-environmental protection issues, additional Olympic Games emergency measures were:

- Severe restrictions of freight and truck traffic during daylight and early evening hours.
- Prohibition of all construction work in the Beijing municipality to cut heavy traffic, which reduced congestion and contributed to a sharp decline of fine-particle air pollution.

Globally, the advantages of the Olympic Games and other world mega-events are two-fold (Bovy, 2013):

- Getting huge urban and transport development programme boosts for a given date with zero tolerance for political excuses when deadlines are not respected.
- Innovation in terms of new forms of “soft-mobility” through a massive boost to public transport systems.

Today we have a situation of high density motorised mobility, often reaching chaos levels in many large world cities. To then hold the Olympic Games in these cities is far from an optimum solution. Instead, creating a network of dispersed venue clusters without a major “unique” Olympic Park in an urban setting such as Tokyo 2020, could prove to be both a more legacy-oriented and certainly a more sustainable solution.
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About the AISTS

The International Academy of Sports Science and Technology (AISTS), one of the world’s premier Sports Management education and research academies, is committed to professionalising sports management through the three core activity areas of continuing education, applied research and providing an engaging platform for industry connections.

Founded as a not-for-profit foundation in 2000, the AISTS Founding Members: the International Olympic Committee, the EPFL, the University of Lausanne, the University of Geneva, IMD Business School, Ecole Hôtelière de Lausanne, the City of Lausanne and the Canton of Vaud, all recognise the importance of meeting the evolving knowledge needs of today’s sports managers.

The AISTS’s applied research arm conducts independent and commissioned research projects, in addition to helping sports organisations and federations navigate an increasingly complex sport landscape through advisory and consulting services in the fields of:

- Economic Impact Studies;
- Developing Women’s Leadership;
- Sport Sustainability and Corporate Social Responsibility; and
- Sports Development Initiatives.

The AISTS’s flagship programme, the Master of Sports Administration (MSA) has been educating aspiring sport managers from all over the world for over a decade. Frequently ranked amongst the top Sports Management programmes worldwide, the AISTS brings together over 140 international sport experts in the sciences of Management, Technology, Law, Medicine, and Sociology to produce strong and inspired industry leaders.

Through this combination of research and educational the AISTS is in an unique position to connect the world of academia with the sport industry. Through a range of dynamic and engaging platforms such as roundtables, seminars, workshops, and open conferences, the AISTS aims to create opportunities that broker dialogue, broaden networks and deepen relationships.

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Collected Insights from the Field of Sport
Volume 2: Sustainability and Legacy

Sustainability and Legacy are presently two of the major challenges for the sports event industry. In the past two decades, governing bodies, event organisers, cities, companies and professional sports leagues have all been reflecting on how best to embed these challenges into the organisation of their sport events.

This book from the AISTS (International Academy of Sports Science and Technology) is the second in the series ‘Collected Insights from the Field of Sports’. It concentrates on the two aforementioned challenges of sustainability and legacy in sport. The chapters in this book are derived from research papers that have been produced by the participants and visiting professors of the AISTS postgraduate programme, the AISTS MSA (Master of Advanced Studies in Sports Administration and Technology).

Being grounded in research, the book aims to correct the imbalance between sustainability and legacy theories and practices in the world of sports. The outcomes can be utilised by academics, sports administrators, sports teams, students and the public to engage the discussion on sport sustainability and legacy.

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