

QATAR UNIVERSITY

COLLEGE OF ENGINEERING

SUSTAINABLE AND LIVABLE OPEN SPACES IN THE CITY OF
DOHA: AN INVESTIGATION INTO THE LEGACIES OF MEGA
SPORTS EVENTS

BY

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ABSTRACT

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Title: Sustainable and Livable Open Spaces in the City of Doha: an Investigation into the Legacies of Mega Sport Events

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With the aim of diversifying its economy and developing itself as a tourist destination, in recent years, Qatar has hosted many international sports events and will host the 2022 FIFA World Cup. Doha, its capital city, is literally under construction, and is facing important changes in terms of transportation, infrastructure, and sports facilities. However, past experiences show that outcomes from staging major events are mostly harmful, and their legacies planned to last only for a short time. This trend is even stronger when considering how sports facilities and their surroundings are utilized after the event is over. Usually, sports venues are under-used and very costly to maintain, while their neighborhoods are underutilized and abandoned pieces of cities. What will be left after the 2022 World Cup? How to leverage this event as a momentum of experimentation and sustainable growth of its capital city, Doha? Within this context, the aim of this research is to identify strategies to plan and maximize the post-event use of event sites and venues, and make their neighborhoods more livable and sustainable. The research has a specific focus on the city of Doha, which hosted the 2006 Asian Games and will host the 2022 FIFA World Cup. It starts with a critical review of relevant precedents from the Western and Eastern world, and

then continues with an in-depth analysis of three selected case studies: the cities of London, Sochi, and Rio de Janeiro that recently hosted major sports events. Finally, the study focuses on the context of Doha, investigating firstly its public spaces, and transport and planning systems, and then analyzing the government's legacy plans for the 2022 World Cup.

Results include firstly a framework for the comprehensive appraisal of site events and venues, by evaluating their sustainable legacies and assessing their impacts; secondly, the research define a set of recommendations for organizing committees and host cities to help them transform sports venues and events sites into lasting, sustainable and livable open public spaces, and, more generally, to define strategies for achieving successful legacies from the host of mega sports events.

To Mattia

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PART I

CHAPTER 1. INTRODUCTION, RESEARCH DESIGN, AND METHODOLOGY

1. Introduction

Mega-sports events and cities have had a controversial relationship since ancient times. Since the beginning of the XX century, mega-events have also experienced an exponential growth in terms of number of athletes, competitions, spectators, and had an increasing impact on the built environment. Currently, all major cities have planned or are planning to host a mega-event, but the rationale for it is often unclear. One of the main reasons claimed is that events can be the catalyst for urban development, leading to regeneration and modernization of the built and natural environment (e.g., Malfas, Theodoraki & Houlihan, 2004; Musco, 2012). Another reason is the supposed economic growth triggered by events, along with the development of the tourism industry. Mega-events are considered a tempting opportunity in urban policy as tools for enhancing the quality of the environment. They are thought to generate a spectacle that can catalyze investment worldwide, creating city branding through place marketing strategies, and accelerating urban regeneration and development (Essex & Chalkey, 1998).

Hosting events has always had a significant impact on cities in terms of economic and social impact, but it was only from the Olympics held in Rome in 1960 that event planning has been consciously used as a policymaking tool for the redevelopment and regeneration of cities (Death 2011; Essex & Chalkey, 2015; Smith, 2012). Since then, attention to events as tools of urban policy has been rising

faster and faster. Rome opened the way and from that time many international events have included some urban planning strategies. In a sense, hosting a mega-event adds some elements of advantage and disadvantage to the urban planning process. On one hand, thanks to the availability of special funding and the deadlines that are usually unavoidable, the implementation of interventions enjoys a sort of guarantee on the result. On the other hand, the event needs to be strongly planned and managed, if the aim is to give hosting cities new livable and sustainable areas, and new services and functions. However, a mega-event itself is not a sufficient element of effective urban renewal. Pursuing the redevelopment of a city only through extraordinary events can be a risky approach, as the speed and acceleration given by mega events are not necessarily synonymous with good planning (Musco, 2012; Smith, 2012).

Mega-events cannot obviously be considered all at the same level since there are differences among World Cups, Olympics, world exhibitions, and other cultural events. However, some common elements are found in all the cases. Among these are the problematic relationship with land use planning and environmental issues, permanent cultural changes, and the legacies in terms of urban transformation of tangible and intangible infrastructure. In the last decades, the relationship between sustainable urban development and major events has become stronger and stronger, as mega-events have been perceived as means to create opportunities for urban transformation, construction of sports facilities and infrastructure, conversion of spaces and places in economic and social decline.

2. Aim of the study and research questions

According to hosting cities, mega-events are attractive tools for the urban development for several reasons: they can confirm or create regional or global status of a city; they can be an opportunity for the construction of new buildings, areas, and parks; they can attract visitors and tourists; and they can legitimate a rapid program of infrastructure development. However, the real effectiveness of such a program to rebuild a city requires a strong plan and legacy strategy. Cities compete more and more to bid and host mega-events, but past experiences show that outcomes from staging major events are mostly harmful, and their legacies planned to last only a short time. Indeed, after the event, sports venues often become *white elephants*, and their neighborhoods become underutilized and abandoned pieces of the city. Hence, the questions shaping this research are: is it possible to reverse this negative trend? If yes, how? What are the principles to benefit the most from the staging of mega-events? Is it possible to implement livable and sustainable public spaces from the host of sports events, and, if so, under which conditions?

More specifically, starting with an investigation on legacies of past and historical events, this study aims to answer the following questions:

- How were mega sports events planned in the past by hosting cities?
- What were the major driving forces, venues, and trends with reference to events and public open spaces (POS)?
- Are there any past best practices or useful trends related to events and POS that can be replicated in contemporary editions?

- How are major sports events (i.e. World Cups and Olympics) planned today?
What are their major driving forces, trends, and venues?
- Are there any contemporary best practices or useful trends promoting livable POS that can be adopted by future hosting cities?

With the aim of diversifying its economy and developing itself as a tourist destination, in recent years, Qatar has hosted many sports events and will host the 2022 FIFA World Cup (QSDP, 2009). The city is literally under construction and is facing important changes in terms of transportation, infrastructure, and sports facilities. In spite of its rapid expansion, Doha shows a lack of public transport options and, also, open and recreational spaces. Within this context,

- What will be left after the 2022 World Cup? How will Qatar avoid a superficial approach and will instead leverage this event as a moment of experimentation and sustainable growth of its capital city, Doha?
- Is it possible to leverage the 2022 World Cup and other major sports events to promote the implementation of sustainable and livable POS in cities?
- What are the legacies planned for the 2022 World Cup in terms of POS? How can the organizers plan and maximize the post-event usage of sport venues and stadiums' precincts?

To answer these questions, the following research framework has been developed, divided into three main sections (Table 1).

Table 1. Research Questions, Aims and Objectives, Methods, and Outcomes

	Research questions	Aim and Objectives	Methods	Outcomes
Part I - Past Legacies	<p>How were mega sports events planned in the past by hosting cities?</p> <p>What were the major driving forces, venues, and trends with reference to POS?</p> <p>Are there any past best practices or useful trends with reference to the promotion of POS that can be replicated in contemporary editions?</p>	<p>Mapping the major past sports events and their driving forces.</p> <p>Tracing the evolution of the mutual relationship between mega sports events and open spaces, highlighting its dynamics (actors involved, processes, best practices, main pitfalls and achievements)</p>	<p>- Literature review on the selected cities and events</p> <p>- Photo and maps analysis</p> <p>- Site visits (Italy, Iran)</p> <p>- Interviews</p>	<p>Mapping of the most relevant past trends and practices through the development of a theoretical framework that identifies major events, trends and ideas with reference to POS, venues types, and their integration within hosting cities.</p>
Part II - Contemporary Cases	<p>How are major sports events (World Cups, Olympics,) planned today with reference to POS? What are the major driving forces, trends, and venues?</p> <p>Are there any contemporary best practices or useful trends with reference to the promotion of POS that can be replicated by future hosting cities?</p>	<p>Getting first hand experience on contemporary cases</p> <p>Identification of replicable best practices and successful examples in the management of site venues and site events.</p> <p>Identification of the major elements that determine the success or failure of events sites and venues as POS.</p>	<p>- Comparative case study analysis: 3 cases, 3 cities (London, Sochi, and Rio de Janeiro)</p> <p>For each city:</p> <p>- Pre-analysis development</p> <p>- Interviews with experts</p> <p>- Site visits</p> <p>- Official documentation analysis</p>	<p>Evaluation of the cases, with a mapping of common issues and success</p> <p>Analytical framework for the overall evaluation of the sustainability and livability of event sites and venues</p>
Part III - Doha	<p>Doha shows a lack of public open spaces within its boundaries. Is it possible to leverage the 2022 WC and other major sports events to promote the implementation of sustainable and livable POS in the city?</p> <p>What are the legacies planned for the 2022 World Cup in terms of POS?</p> <p>How to plan and maximize the post-event use of the stadiums utilized for the tournament and their neighborhoods?</p>	<p>Understanding of the context of Doha:</p> <ul style="list-style-type: none"> • Analysis of Doha planning and transport systems • Analysis of Doha POS • Analysis of Doha's management of its major sports events 	<p>Analysis of Doha's planning and transport systems (interviews, documentation analysis), public spaces (site visits, interviews), 2022 Qatar WC planned legacies.</p> <p>For the 2006 Asian Games:</p> <p>- Pre-analysis</p> <p>- Interviews with experts</p> <p>- Site visits</p> <p>- Official documentation analysis</p>	<p>Definition of a roadmap (set of guidelines and recommendations) for Doha and major Gulf cities to help them achieve livable, sustainable and lasting POS through the stage of mega sports events</p> <p>Definition of a framework for the planning of successful POS as outcomes of the staging of mega sports events</p>

The main objects of the investigation are mega sports events' legacies (i.e. legacies from World Cups, Summer and Winter Olympic Games, Asian Games), with particular regard to the quality of the public open spaces created. The research further aims to study the relationship among cities, public spaces, and mega sports events. The cases included in the investigation are a selection of the most relevant historical precedents followed by an analysis of last century cases (Chapter 2).

Precedents from the Western world include:

- Greek cities during the Hellenic period (Athens, Olympia);
- Major cities of the Roman Empire (Rome, Naples, Pozzuoli);
- Selected Italian cities of the Renaissance and Baroque period (Rome, Florence, Siena).

Precedents from the East world include:

- The Byzantine Istanbul;
- Samarra, Iraq, in the IX century;
- Cairo during the Saladin period, XI century;
- Delhi and Fatehpur Sikri, India, in the XVI century;
- Esfahan, Iran, in the XVII century.

After this first review, a deeper investigation on three contemporary cases is performed (Chapter 4 to 7). The cases selected are:

1. London 2012 Summer Olympics: Queen Elizabeth Olympic Park and the Olympic Village in Stratford;

2. Sochi 2014 Winter Olympics: Adler Olympic Park and the Olympic Village; and
3. Rio de Janeiro 2014 and 2016, World Cup and Summer Olympics: Barra Olympic Park and the Olympic Village, and Maracanã area.

Finally, the research focuses on the city of Doha (Chapter 8 and 9), with the aim of understanding its planning and transport systems, the quantity and the quality of its public open spaces, and the city's strategy to leverage mega sports events to promote sustainable legacies. Recommendations and guidelines for future hosting cities conclude the study (Chapter 10), while the next sections of this chapter present the research framework (Figure 1) in detail and methods adopted to carry out the research.

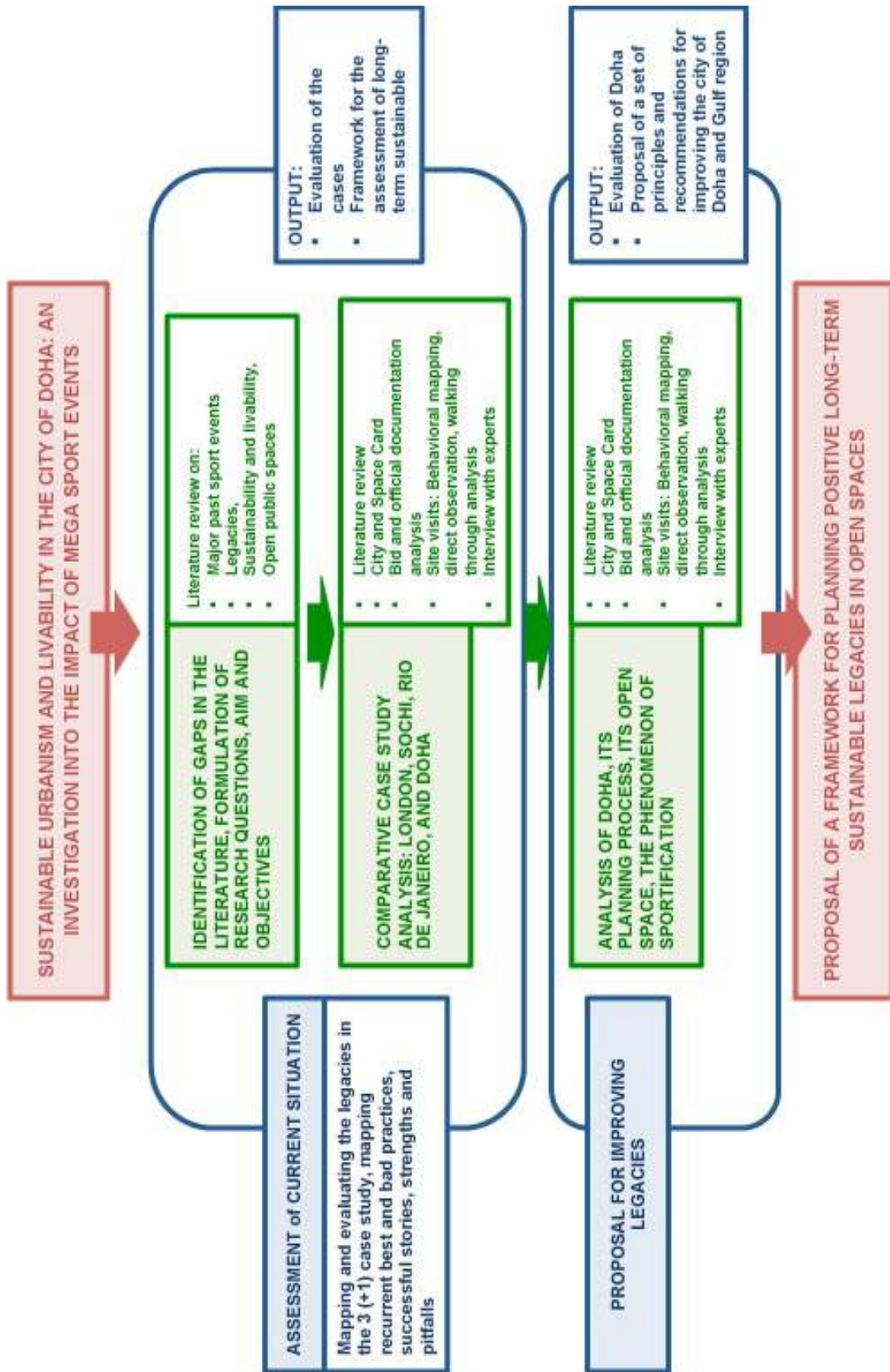


Figure 1. The research framework.

3. Research design and analytical framework

The analytical framework consists of three main phases, presented below (Figure 2).

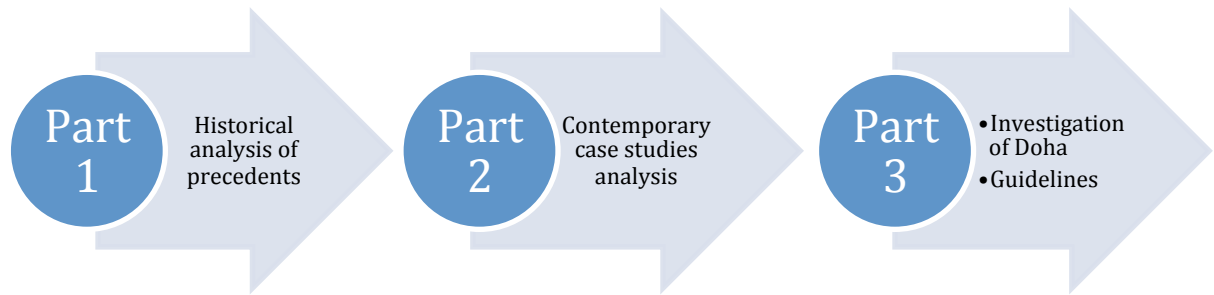


Figure 2. Synthesis of the research design.

3.1 Part I - Analysis of past legacies

Looking at the history is always a useful tool for understanding the origin of a problem. Analyzing past experiences and precedents may not only provide a big picture and lead to a better understanding of a problem, but may also suggest potential solutions. Sports, events, and cities have had a controversial relationship since ancient times, and a critical analysis on some main historical periods can provide a deep understanding of this relationship, and the dynamics involved. In particular, an investigation into how this relationship have been actualized throughout history can be a useful starting point for any research on mega sports events and their impact on the built environment. Focusing on selected periods can allow derive useful trends and practices. In particular, the selected cases represent moments in which cities faced important transformations, and the relationship between urban centers, public spaces, and events were particularly meaningful.

The main aim and objectives of this first part of the research consist of, firstly, mapping the major past sports events and their driving forces; secondly, tracing the evolution of the mutual relationship between mega sports events and open spaces, highlighting its dynamics in terms of actors involved, processes, best practices, main pitfalls and achievements (Figure 3). The research is carried out mainly through literature review on the selected cities and events, photos and maps analysis, site visits, and interviews with experts. The main outcome of this first section is the mapping of the most relevant past trends and practices through the development of a theoretical framework that identifies major events, tendencies, and ideas with reference to POS, venues types and their integration within hosting cities. This critical review of past events and their legacies will constitute the background for the discussion of the next sections of the dissertation. Events and hosting cities were investigated according to their typology, aims, location, and venues. (Figure 4).

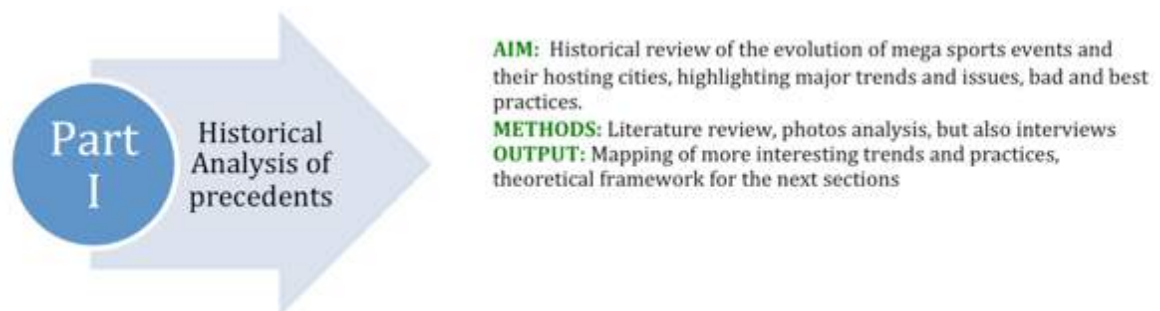


Figure 3. Overview of Part I on past legacies.

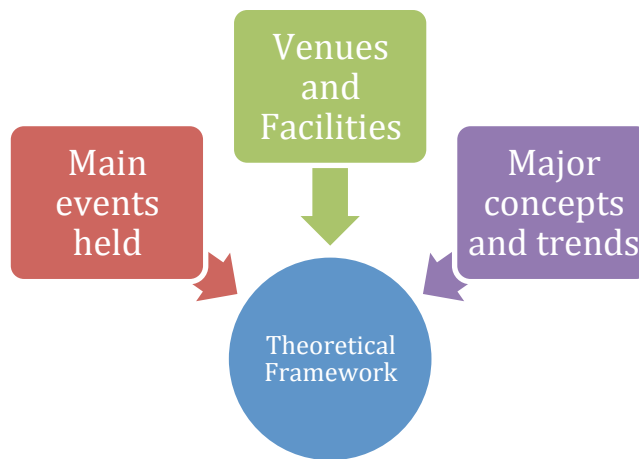


Figure 4. Main areas for the theoretical framework of Part I on past legacies.

3.2 Part II – Contemporary case studies analysis

In 2050, there will be 9 billion people inhabiting the world, 70% of which will be concentrated in urban areas. The cities of today are anything but sustainable, as the majority of the population currently living in urban areas consumes the majority of our planet's energy, producing the great part of greenhouse gases (UN System Task Team on the Post-2015 UN Development Agenda, 2012). These data are sufficient to make us aware of how the quality of life of billions of people will depend upon the extent to which urban agglomerations will be capable of becoming virtuous. Transforming the cities of today into sustainable cities, therefore, has become an imperative course of action. In this context, planning mega-events and their legacies can be the occasion for the transformation of large urban areas that, in ordinary practice, would hardly find occasion and means.

The legacy of sports events is a key focus of this research. The term legacy has changed over time, from an idea reflecting a general impact related with the staging of a mega-event to something that is intentionally and proactively designed to be long

lasting and sustainable. A part from its definition, a complex and unsolved issue for hosting cities is the creation of an effective and comprehensive framework for the evaluation and the planning of sports events legacies. In the last years, hosting cities have started including concepts of sustainability and sustainable development to their legacy plans, mainly to justify the expenditure of taxpayers' money in the mega-events' planning and execution (Smith, 2009). The majority of previous academic works did not take a comprehensive approach, but rather investigated only one impact, usually the economic aspect (Allmers and Maennig, 2009; Burgan & Mules, 1992; Crompton, 1995; Gratton, Shibli, & Coleman, 2009; Preuss, 2005), the image-related impact on hosting cities, or the social outcomes (Raco, 2004; Smith, 2009; Waitt, 2003). Other studies have also investigated other types of legacy as the environmental issues (Chappelet, 2008; Collins, Jones, & Munday, 2009; Levett, 2004;), or the impact on urban development (Pillay, Tomlinson, and Bass, 2009; Pillay & Bass, 2008). Smith (2009) defined guidelines for hosting cities that want to maximize the sustainable legacies from the stage of mega sport events. Frey, Iraldo and Melis (2008) focused their research on the impacts on local development, while Essex and Chalkley (2015) explored how to leverage sports events for urban regeneration and renewal purposes. In spite of how legacy is measured or defined, one cannot find any holistic or comprehensive studies on how to transform event sites, such as Olympic parks or stadiums surroundings, in livable and sustainable public spaces.

The aim of this section is to examine on contemporary cases by identifying replicable best practices and successful examples in the management of site venues

and site events, and by identifying the major elements that determine the success or failure of events sites and venues as POS. Finally, the overall objective of this second section is to define a framework for the comprehensive appraisal of the site events and venues' precincts, by evaluating their sustainable legacies, and assessing their social, economic, environmental, physical, cultural and governance-related impact. Major outcomes here include an evaluation of the cases with a mapping of common issues and success, and the presentation of an analytical framework for the overall evaluation of the sustainability and livability of event sites and venues (Figure 5).

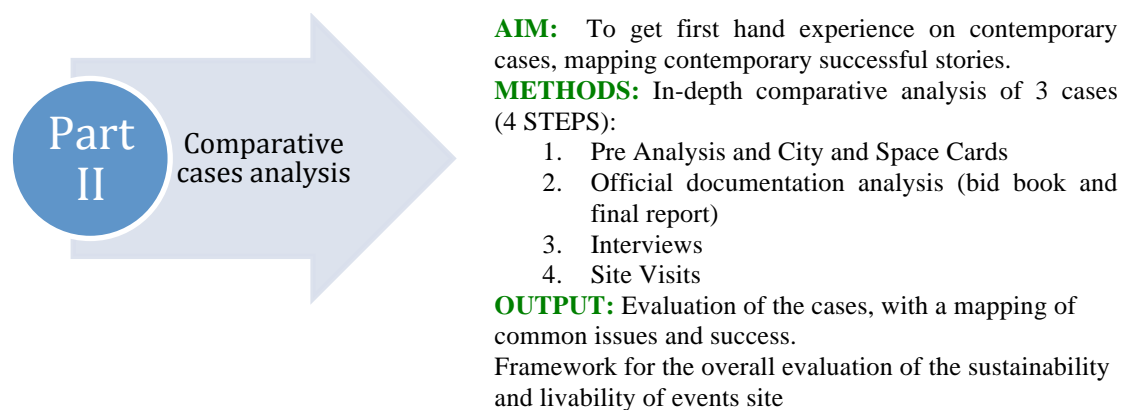


Figure 5. Overview of Part II, cases analysis

The second section of the chapter will first analyze the role of public open spaces in cities by investigating their main components and identifying the elements that make a POS a sustainable and livable space. Additionally, examples from the literature will provide major tools for assessing the quality of open spaces, and for evaluating mega-events and their legacies. Then, a comparative analysis of three relevant cases will be performed. The cases include:

1. London 2012 Summer Olympics: Queen Elizabeth Olympic Park and Olympic Village in Stratford;
2. Sochi 2014 Winter Olympics and 2018 World Cup: Adler Olympic Park and Olympic Village;
3. Rio de Janeiro, 2014 World Cup and 2016 Summer Olympics: Maracanã stadium's area, and Barra Olympic Park and Village.

These cities were selected because they are very recent cases; because they are the first cities with the requirement of a legacy plan in their bid book; and because they represent different major events (Winter Games, Summer Olympics, and FIFA World Cups) and cities (small and big, developed and developing urban centers). Each case is investigated according to a multi-layered methodology composed of four steps, presented in the next paragraphs: a 'pre-analysis'; a set of interviews with experts; site visits; and the analysis of official documentation regarding the pre and post-event.

3.2.1 Step 1- 'Pre-analysis investigation'

The aim of this first stage is to acquire a basic knowledge on the selected cases, especially regarding their local governance and the event management policies. Steps include drawing from data in the research literature and existing documentation and an analysis of:

- General data about the city and previous events hosted (i.e., population, urban development, and location);

- Local governance (how it works and it is managed), local master plan and future long-term plans for the city; and
- Governance of the mega-event and its legacies (i.e., Local Organizing Committees, legacy plans, and legacy committees).

The tool utilized for the collection of the data is ‘Tool 1: City and Space Card’
(See Figure 6 and Annex A).

Section 1 - CITY CARD	Section 2 - SPACE CARD
<p>City name: London</p> <p>Population: 8,500,000</p> <p>City type: Global city/developed city</p> <p>Area: Greater London 1,5000 km²</p> <p>City governance: 33 local boroughs for operational management and the Greater London Authority (Mayor of London and London Assembly) for the strategic management</p> <p>City master plan: The London Plan (2004 first edition, then several updates). It is the overall strategic plan for London, and it sets out a fully integrated economic, environmental, transport and social framework for the development of the capital up to 2036.</p> <p>Previous events: 3 Olympic Games (1908, 1948 and 2012), 2 Universal Expositions (1851, 1862), 2015 Rugby World Cup, 2017 IAAF and many other international events.</p>	<p>Space name: Queen Elisabeth Olympic Park</p> <p>Purpose: Regeneration of East London, in line with the London Plan</p> <p>Dimension: 226 ha, a little smaller than Hyde Park</p> <p>Data of Completion: 2011 pre event (Olympics in August 2012). Then closed in October 2012 for 18 months and reopened in the legacy mode in July 2013 (North Area) and April 2014 (South Area).</p> <p>Typology*: Inner-city Mono clustering 5 areas for the Olympics, the main one is the QEOP (mono cluster, inner city)</p> <p>Space location: Stratford in Newham, East London, involved other 4 boroughs (...). This was one of the most deprived and poorest areas in all London.</p> <p>Space use before the event: Polluted and contaminated abandoned area</p> <p>Transport and connections: Metro lines, DHL, Over ground, High speed rail, rail, bus</p> <p>Pedestrian, Cycling routes: Many km of routes</p> <p>Number of accesses: 4</p> <p>Accessibility: All the area is accessible to disabled</p> <p>Functions and activities: Sport, recreation, food, shopping, ...</p> <p>Sports infrastructure: Nothing on the site before the event. For the Olympics, many temporary infrastructures dismantled or reconvered after the games. Now: 1 velodrome, 1 aquatic center, 1 tennis and hockey center, 1 stadium, 1 multipurpose arena.</p> <p>Other infrastructure: Cafes, the Orbit, Westfield Shopping Centre</p> <p>Any other relevant notes: Economic crisis in 2008, Mayor change and national political change * Pitts and Liao, 2009</p>

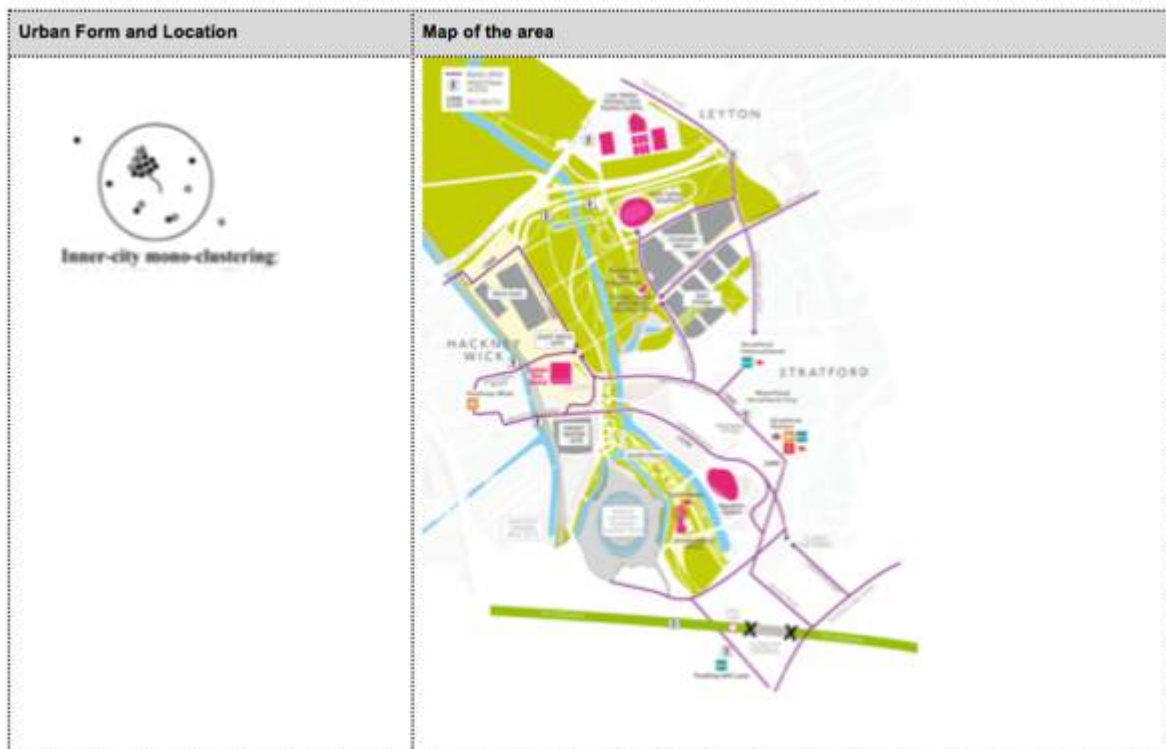


Figure 6. The city and space card utilized to gather preliminary data on hosting cities.

3.2.2 Step 2- Official documentation

The second step covers the analysis of official documentation implemented by the local organizing committees with a focus specifically on the bid book and the final report, when available. The aim is to list the bid book promises and verify if they were achieved or not, or how consistent legacies are with respect from the promises. Methods 1 and 2 (pre-analysis and official documentation analysis) in particular aim at acquiring knowledge and data mainly on economics and governance.

3.2.3 Step 3- Semi-structured interviews with experts

Step 3 consists of a set of interviews with experts. Between 8-10 semi-structured interviews with experts of each event/city are performed. Interviewees are selected from academics, professionals (e.g., industry/private sectors: engineers, architects, planners) and local governance (e.g., political governance and event governance as organizing committees), all involved in the planning and/or management of the event. The aim is to acquire a deeper knowledge on the main issues related to legacies, main strengths and pitfalls of each event, main best practice that can be replicated, if any. Here, the main focus is on governance. The list of questions covers three main areas: a personal definition of legacy, with particular reference to time and beneficiaries; personal experience on the event: best and worst practices, pitfalls and achievements; personal opinion on how different hosting cities (i.e., developing vs. developed cities) and different sport events (i.e., Olympics vs. World Cup) can achieve/promote beneficial long-lasting and sustained legacies (for a complete list of questions, see 'Tool 2: Interview Guide' in Annex B). Interviews are

recorded, and then answers are compared and analyzed with the aim of mapping the main issues, best practices, pitfalls and strengths ('Tool 3: Matrix for comparative analysis of interviewees' answers' Figure 7). The results from each event are eventually compared with the other two events analyzed.

Interviewee Number	Section 1 – Legacy definition and main issues	Section 2 – Best practices, main achievements, and pitfalls	Section 3 – Events, cities, opportunities, and challenges
Number 1	<ul style="list-style-type: none"> • Time • Definition 	<ul style="list-style-type: none"> • + Legacy plan before the games • + 3 different master plans • - Metro station inside the Westfield mall 	<ul style="list-style-type: none"> • Best opportunities for big and developed cities • Corruption to be avoided
Number 2			
Number 3			
Number 4			
Number 5			
Number 6			
Number 7			
Number 8			
Number 9			
Number 10			
MAIN FINDINGS			

Figure 7. Tool 3: Matrix for comparative analysis of interviewees' answers.

3.2.4 Step 4- Site visits

Step 4 consists in a series of site visits, with a mixed method that utilizes behavioral mapping, direct observations, and walking through analysis. The aim is to collect data and information about the built and natural environment, people, and activities performed. After the selection of a set of relevant points (between 10 and 12 for each case), a series of scheduled site visits in different time and days of the week are carried out. Each visit consists of a tour through the selected points. The average length of the tour is about three hours and a half, with a stop of 15-20 minutes in each point, to collect relevant information. Starting and ending time are inverted every day to cover all the time slots in all the points. The focus here is mainly on the physical and social components of the space. This method allows collecting data with reference to:

PEOPLE

- Flows: how many people (numbers), going where (directions: from - to).
- Activities: people doing what (e.g., sport, cycling, walking, running, playing, chatting, resting, eating, working), for how long.
- Demographics and ethnicity (equitability): males vs. females, young vs. adults, singles vs. families, ethnicity or locals vs. tourists.

BUILT and NATURAL ENVIRONMENT

- Safety and security: presence of cameras and gates; lighting; quality of the maintenance.

- Comfort and accessibility: street furniture and shelters; signage and availability of maps and information; cafés and toilets; cleaning; accessibility for disabled, elderly, kids; availability of pedestrians and cycling paths.
- General Attractiveness and pleasantness: general appearance/aesthetics, presence of landmarks, quality of the landscape, variety of activities provided, weather conditions.

The method is partially derived and adapted from Salama, Khalfani, & Al-Maimani (2013) and Salama & Azzali (2015). To collect data, a specific tool (Tool 4: Behavioral Map and Walking through sheets and Checklists, Figure 8 and Figure 9) was utilized.

Space Maps

Step 1- Sampling: Identification of the main areas of interest (see map)	Step 2 –Timing/Onsite
<p>SOUTH AREA</p> <ol style="list-style-type: none"> Information Point (people from Stratford and the mall) Access to the Aquatic Centre Area between the stadium and the Orbit (people passing by, fountain, cafés,) Play area A Mendeville Place Copper Box Entrance <p>NORTH AREA</p> <ol style="list-style-type: none"> Area near River Lea Hockey and Tennis Centre Entrance Velopark Entrance Play area B Timber Lodge Café <p>OLYMPIC VILLAGE</p> <ol style="list-style-type: none"> Main Plaza <p>TOUR: <u>Starting point:</u> INFO POINT /Information Centre <u>Ending point:</u> Olympic Village, main square</p> <p>In each place, an observation time of 15 minutes, plus 5' to move from one point to another. TOTAL: 215' (3h 35')</p>	<p>One week (7 days in August 2015) and 2 walking tours daily. Each tour is around 3 hours</p> <p>PREVIOUS OBSERVATIONS: 1 day in February, 1 day in May, 2 days in June, and 1 day in July.</p> <p>Morning: 9:00-12:00 Lunch time: 12:00-3:00 Afternoon: 2:00-5:00 Evening: 5:00-8:00</p> <p><u>10-16 august 2015</u> WEEK DAYS Mon: afternoon and evening Tue: morning, lunch time Wed: afternoon and evening Thu: morning, lunch time Fri: lunch time, afternoon WEEK END Sat: afternoon and evening Sun: morning, lunch time</p>


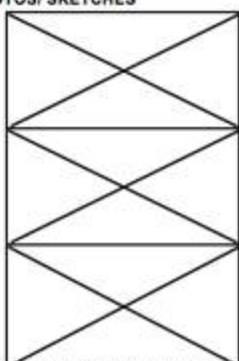
SITE: POINT 1 – ENTRANCE GATE 1	Day: Monday 16 August 2015
<p>Map of the Area – from Open street maps</p>  <p>Legend - Symbols</p>	<p>Time: Lunch time -14.00-14.15</p> <p>Weather conditions: Sunny, hot (25 degrees)</p> <p>NOTES</p> <ul style="list-style-type: none"> • Bi-direction of people • Mainly families (women and children), or sporty people • _____ • _____ <p>PHOTOS/ SKETCHES</p> 

Figure 8. Tool 4: Behavioral map and walking through sheets.

Space Assessment Checklist												
Aim: to map and evaluate the built and natural environment of each point of the space selected (Take note of the quantity and mark their location on the map)												
Day:	Monday 18 August 2015					Weather Conditions:	Sunny, hot (25 degrees)					
Starting Time:	Lunchtime - 14.00-14.15					Ending Time:	Early afternoon - 17.30					
Selected Point	1	2	3	4	5	6	7	8	9	10	11	12
Built and Natural Environment												
SAFETY AND SECURITY												
Street Furniture												
Seating (benches, chairs)												
Tables												
Lighting												
Fences and Gates												
CCTV												
COMFORT AND ACCESSIBILITY												
Signage, maps and info												
Shoppers												
Noise Pollution Conversations, Mechanical responses, Music, Traffic												
Cafes												
Drinking Fountains												
Toilets												
Accessibility for disabled												
Cycling and pedestrian paths												
Quality of Maintenance												
General cleaning												
ATTRACTIVENESS - PLEASANTNESS												
Landmarks and art works												
General Appearance/Aesthetics												
Quality of Landscapes												
Vegetation Heavy Vegetation Cover, Sparse Vegetation Cover, Landscaped Areas (shrubs/flowers etc.), Lawn												
Water Features Fountains, Pools, Fountains												
Playground Areas												
Flora and People												
FLOWS												
Number of people												
ACTIVITIES												
Sport: Cycling/Running												
Walking/Resting/Chatting												
Playing												
Working												
Other (Specify)												
DEMOGRAPHICS												
Females vs. Males												
Families vs. Singles												
Young vs. Adults												
Elderly vs. Kids												
Locals vs. Tourists												
Ethnicities: W B A I As												
Notes:												
Symbols:												

Figure 9. Tool 4: Checklists sheet.

3.2.5 Comparative analysis, evaluating framework, and conclusion

This four-steps method allows covering the economic, social and cultural, physical and environmental, and governance-related legacies of the cases selected. A comparative analysis of the data from the three cases is then performed, with the aim of mapping common issues and practices, and also to generate a set of factors that can help future hosting cities in the assessment of their event sites and sports venues. The tool and the factors, results of the comparative analysis, will be presented at the end of Chapter 7, after the discussion on the three cases.

Cities, especially in emerging countries, are increasingly interested in bidding and hosting mega-events, and it has become strategic to implement strategies that allow maximizing the benefits from their stage, and planning and implementing positive, sustainable and long-lasting legacies.

3.3 Part III – Analysis of the city of Doha

Mega-events have existed for a very long time, but it is only since the last century that they have been perceived and adopted as tools of urban regeneration and transformations. Many scholars (Muñoz, 2006; Smith, 2010; Whitson, 2004) define the 1960 Olympic Games in Rome as the first example of sport event intentionally used for urban redevelopment purposes, while the Olympic Village set for the 1972 Olympics in Munich is considered an early case of event led sports city, as the village was concentrated in one main area (the Olympic Park), instead of being spread around the city, and as it was specifically designed for delivering urban leisure (Muñoz,

2006; Smith, 2010). Both Rome and Munich opened the way, and cities are increasingly competing and bidding to secure the hosting of mega-events, attracted by their potential urban regeneration effect. Results, however, are not encouraging, and the literature shows how difficult is to transform event sites into well-integrated areas inside cities. These negative outcomes are even exacerbated when events are used for the regeneration of brownfield zones or when events are held in suburban areas (Smith, 2012), because apart from sport activities, generally only a few other services are offered.

The Arabian Peninsula is not an exception to the desire of staging mega-events, being an area characterized by a massive *sportification* (Amara, 2005), expressed through the birth of several sports TV channels (Al Jazeera Sports, Dubai Sports, Saudi Sports, and Abu Dhabi Sport channels, among others), the increasing migration flows of international athletes and trainers toward the region, and the significant rise in the number of international sport events held (e.g., Bahrain International Formula One Grand Prix, Doha Moto GP, Dubai World Cup of horse racing, Doha Tennis ATP Tournament). In the case of Doha, the phenomenon of sportification is translated into the desire of transforming the city into a sporting hub. Sport has also a key role in the 2030 Qatar National Vision, in which sports tourism is indicated as an example of economy diversification from the oil-based model (QSDP, 2009). Finally, Doha has made bids for and staged many mega-events. The process of transforming itself into an international sporting hub started with the Asian Games in 2006. In that occasion, the city faced some important urban transformations. One of

them, the main legacy in terms of urban regeneration and redevelopment, is the implementation of the Aspire Zone, Doha's Sports City.

What is the role of sports events in urban regeneration? Is their legacy beneficial in a long-term perspective? Since Doha shows a lack of public open spaces within its boundaries, is it possible to leverage the 2022 World Cup and other major sports events to promote the implementation of sustainable and livable POS in the city? What are the legacies planned for the 2022 World Cup in terms of POS? How should those in charge plan for maximizing the post-event usage of the stadiums utilized for the tournament and their neighborhoods?

The aim of this final section is to understand the specific context of Doha by analyzing its planning and transport systems, its available open spaces and their main issues and criticalities, by investigating Doha major sports event hosting management (Figure 10).

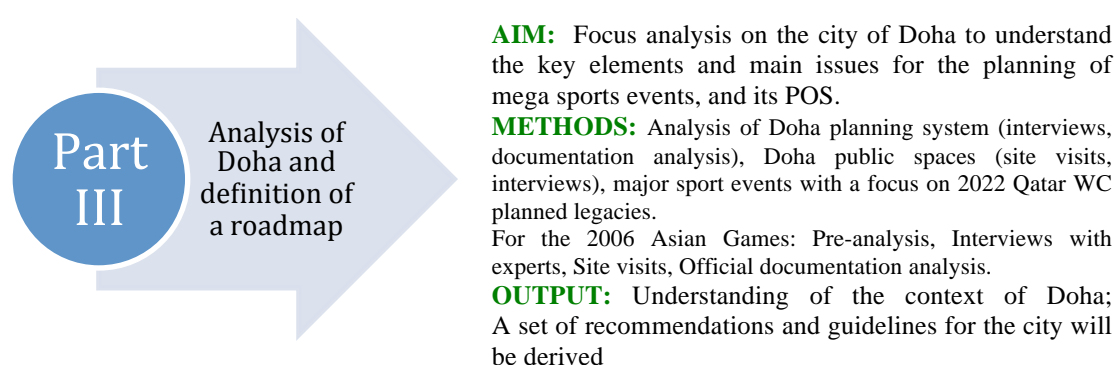


Figure 10. Overview of Part III, analysis of Doha and definition of a set of recommendations.

The section will start with an analysis of Doha's planning and transport systems, using interviews and official documentation analysis as main methods, highlighting the main issues on the way it is planned and implemented. The section will then continue with a focus on Doha's public spaces. Through site visits and interviews with experts, the research will unveil the main limitations of POS in Doha. The research will then cover the city's strategy of sportification by reviewing the 2022 Qatar World Cup planned legacies and the Asian Games, held in Doha in 2006. This final section will be developed mainly through site visits, interviews, and analysis of available documentations (official reports and articles).

The major outcome of this third chapter is the definition of a roadmap, composed of guidelines and recommendations for Doha and other hosting cities in the Gulf Region, to help them achieve livable, sustainable, and lasting POS as legacies of mega sports events.

4. Conclusion, organization of the dissertation, and main outcomes

This chapter highlighted the research questions of the study and the main aims and methods to achieve those objectives. The research is divided into three main parts: the first one focuses on past legacies, by tracing the evolution of the mutual relationship between mega sports events and open spaces, highlighting its dynamics (actors involved, processes, best practices, main pitfalls and achievements). The second section analyzes three contemporary cases. The cases selected include the 2012 Olympic Games held in London; the city of Rio de Janeiro, which held both

some of the matches of the 2014 World Cup and will host the 2016 Olympics; and Sochi that staged the 2014 Winter Olympics and will host some matches of the 2018 Russian World Cup. These cases offer interesting insights in the way sports events and sites are planned and managed. Finally, the third part discusses results with reference to the city of Doha, which hosted the 2006 Asian Games and will host the 2022 FIFA World Cup.

Results of this research include firstly a framework for the comprehensive appraisal of the site events by evaluating their sustainable legacies and assessing their social, economic, environmental, physical, cultural and governance-related impacts; secondly, drawing from past experiences and selected case studies, the research define some guidelines and recommendations for organizing committees and hosting cities to help them transform sports venues and events sites into lasting, sustainable and livable open public spaces, and, more generally, to define strategies for achieving successful legacies from the host of mega sports events.

CHAPTER 2. LITERATURE REVIEW – MEGA SPORTS EVENTS, SUSTAINABLE LEGACIES, AND LIVABILITY OF OPEN SPACES: DEFINITIONS AND EVOLUTION

1. Introduction

Since the last fifty years, cities have been competing more and more to host mega-events. However, past experiences show that outcomes from staging major events are mostly harmful. Usually, sports venues become underutilized or abandoned once the event is over, and the same fate lies with event sites. Legacies are sustainable if they are beneficial to hosting cities and they last a sufficient period of time, at least 20 or 30 years. Events can thus promote sustainable urbanism if they produce beneficial long-lasting sustained legacies, including economic, social, environmental, and physical outcomes. This should be the most important challenge from staging mega-events. However, if results are mostly negative and positive legacies last usually very shortly, why should cities host events? Is it worth? How to maximize the benefit from events? One of the first steps is to look back at our past and go to the origin of the problem, performing a critical review of most relevant moments in the evolution of these events.

This chapter starts by analyzing relevant legacies, practices and trends of past sports events, with a focus on specific cities and time periods: the ancient Greek world, the Roman Empire, and the main Renaissance and Baroque Italian cities for the West, along with an analysis of Istanbul in the Byzantine time, Samarra, Cairo,

Isfahan, and Delhi, for the East. The chapter continues with a debate on the definition of mega event and an investigation on the evolution of major sports events in last century. The last part of the chapter investigates what legacies are and the major characteristics that define them. Conclusions and a summary of the main findings close this chapter.

2. Events and sport in history: The origins of the problem, lessons learnt from the past

Looking at history is a useful tool for understanding the origin of a problem. Analyzing past experiences and precedents not only provide a big picture and lead to a better understanding of a problem, but may also suggest solutions. Sports, events, and cities have had a controversial relationship since ancient times, and a critical analysis on some main historical periods can allow a deepest understanding of this relation and the dynamics involved. In particular, an investigation onto the ancient Greek world, the Roman Empire, and the main Renaissance and Baroque Italian cities, along with an analysis of Istanbul in the Byzantine time, Samarra, Cairo, Isfahan, and Delhi, represent a useful starting point for any research on mega sports events and their impact on the built environment. By focusing on specific selected periods, one can derive useful trends and practices. In particular, the selected cases represent moments in which cities faced important transformations, and the relationship between urban centers, public spaces, and events are particularly meaningful.

2.1 Etymology of *sport*

The word *sport* is an abbreviation of *disport*, which comes from the old French word *desporter*, a verb in turn coming from the Latin word *deportare* (*de*: departure from, and *portare*: to bring), literally meaning carry away, both in the sense carry away the mind from serious matter and carry away from the city, going out from the city walls to play sports (Etymonline, 2015; Treccani, 2015). Hence, the word *sport* itself indicates activities performed outside the city center where the venues were located.

3. Events and sport in the history: The West

3.1 Sport and events in the Greek world

Since ancient times, many recreational activities and sports were already widespread in many countries of the East and in almost all of civilizations flourishing in the Mediterranean. At the time of ancient Greece, many different types of sports were already known and performed: running, long jump, wrestling, boxing, javelin throw and discus, equestrian events, and pentathlon (Pescante & Mei, 2014). However, it is widely recognized that ancient Greeks had established, for the first time in the history, athletic games that were held periodically, every four years, and characterized by great solemnity, important ceremonial features, and by complex, technical and organizational aspects. The Olympic Games are the first mega sport event in history. According to historical records, the first ancient Olympic Games can be traced back to 776 B.C. They were dedicated to the Olympian gods and were staged on the ancient plains of Olympia. No women were allowed to attend the

Games, and only Greek nationals could participate as athletes. The games were held always in Olympia, and expanded from a one-day festival to several days with many events and races. They continued for nearly 12 centuries, until Emperor Theodosius decreed in 393 A.D. that all such 'pagan cults' be banned (IOC, 2015).

In Greek cities, the first races were held on a simple floor space or paved artificially, and only later the first stadiums were built. The word stadium derives from *stadion*, a measure equivalent to 600 feet that was variable from region to region, depending on the length of the foot adopted. The choice of the location for a stadium was the first design operation: great importance was given to the relationship with the natural environment, using (as for theaters) the natural slope of the land to derive the tiers for the spectators. The stadium and the natural environment, in this way, were strongly organic and unified. Stadiums were built usually far from urban centers, often in the vicinity of the holy places, as in the case of Olympia (Figure 11). In addition, at Olympia and in many other Greek cities, tiers were never built and the spectators (perhaps up to 45,000) were arranged on the slope of the land. Until the Hellenistic period in fact it was not given great importance to the comfort of the spectators, who were simply a frame to the rite of the races and its protagonists, the athletes, who were considered as demigods.



Figure 11. The ancient stadium in Olympia (Source: Under CC0 Public Domain).

To conclude, sport had a great importance in the Greeks' life; however, looking at the relationship between cities and sporting venues:

- There were only very few building types: the hippodrome and the stadium for the races, and the gymnasium for the training of the athletes;
- Usually those venues were outside the city center, and they exploited natural slopes or difference in level, avoiding in this way the necessity of large urban works;
- Venues and sports sites were peripheral and not integrated with the city; they were very essential from an architectural point of view, having a light impact on the built and natural environment.

- In the case of Olympia and Delphi, the gymnasium was wide, but also very essential, because there was not a resident population in those cities, and the gyms were built only for the training of the athletes. On the contrary, in Athens and other urban centers, gymnasiums were more complex structures, and included libraries and rooms dedicated to the education of young people. More, those buildings were used not only by athletes, but also by the majority of the (male) population (Pescante and Mei, 2014).

3.2 The Roman Empire: *Ludi*, major events and sports venues

Romans, opposite to Greeks, were extremely skilled builders. More the conception of sport in ancient Rome was completely different from that of the Hellenic civilization, being the first more related to how and have fun, the second one more related to spirituality and to the glory of the athlete (Facchini, 1990). First, the Romans believed their performances had no practical purpose, such as military training. Also for the Romans sport was interpreted to be bloody and spectacular. This can be summarized with the famous expression *panem et circenses*, bread and shows were the elements that could keep the population quiet (Carcopino, 1939). While the poor asked for food and, therefore, bread, other events, such as parties, games, celebrations, served to overcome the boredom of the population and to stifle any riots against the Empire. In general the word *ludi* is used to mean the different sports competitions practiced in ancient Rome. There were the *ludi gladiatorii*, *ludi circenses*, Trojans *ludi* and the naval battles, accompanied by other types of minor sports. Already at the time of the founding of Rome, religious festivals were celebrated within which were planned sports competitions. The term *ludi*, indicating

generally sports competitions, probably it comes from the Etruscan, as much of the Roman sports (Mancioli, 1987). The *ludi* were organized by members of the priestly class and the races attended by the young people belonging to the nobility. The sacredness of the sports event, common character of the sport activities in Greece and Rome, however, was slowly replaced by its spectacular nature, and the collective desire for entertainment. Since the earliest accounts, sports or games played in Rome also included the Olympic Greek specialties, however public favor was reserved for the most violent games such as boxing and wrestling, and *pankratio* in particular, a variant of boxing that was very violent and sometimes had fatal consequences (Mancioli, 1987).

In Rome, the athletic contests were fashionable only in the last two centuries of the Republic, but the best professional athletes were still largely Greek or Asian. In 393 A.D., during their 294th edition, the Emperor Theodosius the Great forbade the celebration of the Olympic Games. The Romans did not like the idea of competition, so loved in Greece. The long workouts needed to excel were then considered a waste of time. The Roman citizen could practice some sports individually, or collectively in military exercises, but could not compete publicly in the arenas. The concept of sport changed from the idea of race (*agon*) to an idea of fun (*ludus*), and hired professionals or slaves assured shows and performances. The Romans, in fact, preferred to be spectators than protagonists; this choice influenced the type of events and, therefore, the places of the shows. The exasperation of the violent component of the competitions in ancient Rome is easily seen in the continued success they had in the population gladiator fights, which were soon used as social stabilizers (Carcopino,

1939). The building of the large amphitheaters, such as the Coliseum, in many cities of the Empire must be evaluated within this context.

The non-competitive sports were practiced mainly in the *thermae* (spas) as a fundamental part of the culture of well-being that was a pillar of Roman society. It was also common to practice fitness in the gyms attached to the spas. Arcades usually surrounded the gym, and gyms had rooms used as bathrooms, changing rooms and spaces used as libraries and exhibitions. Inside *thermae*, the Romans used to play even ball games that committed the body in a healthy physical effort. They played ball games in specific rooms (*sphaeristeria*) to promote perspiration and then appreciate even more the restorative effects of the bath. Later on, its function was extended and *thermae* became the seat of schools and conversations (AAVV, 1987).

Regarding sporting venues and their locations, there are many differences between Romans and Greeks. First of all, in Roman times stadiums were independent from the land conformation, and arose on flat spaces, exploiting the constructive possibilities offered by the arc and the vault. Sport venues included stadiums and *circuses*, adapted from the Greek typologies of stadium and hippodrome, but also amphitheaters, a Roman invention, and theaters. The stadiums of Domitianus in Rome and Pozzuoli, Naples, are the only two masonry examples in the Greek model in the Roman world. Built in 86 B.C. on the area of the Piazza Navona, which retains the shape, the stadium of Domitianus (Figure 12) was 275 m long and 106 m wide and could host up to 250,000 - 300,000 spectators in the bleachers. Its shape was similar to a horseshoe.



Figure 12. Piazza Navona in Rome was the former location of the stadium of Domitianus, of which it retains the original shape (Source: Under CC0 Public Domain).

From the Greek hippodrome derived the Roman *circus* (Figure 13), while the theater and the stadium inspired the new typology of the amphitheater. Amphitheaters were elliptical and considerable height (the Coliseum was about 50 m, with axes of 188 m and 156 m), and differed from the stadiums in both form and the inspiring concepts. In Greece, the stadiums were more to serve athletes than spectators and stood generally outside the cities in hilly places. On the contrary, amphitheaters were usually built on flat land within the city. They were able to accommodate big crowds, ensuring the maximum comfort possible to spectators. People did not go to amphitheater to watch sporting events because, as mentioned earlier, Romans did not

like them, but rather to attend big mass shows and events, such as gladiator fights (*munera*), hunts (*venationes*), or naval battles (*naumachiae*).



Figure 13. The Circus Maximus, the biggest circus of the Roman time (Source: Under CC0 Public Domain).

Romans were also very attentive to the problems of visibility and flow of people. In the Coliseum, for example, it is calculated that the displacement of the public, estimated at about 50,000 or more people could be accomplished in less than eight minutes (Mancioli, 1987). The arena, which measured 76 meters long and 46 wide, consisted of a wooden plank covered with sand. The theater from the bottom up was divided into five sectors, mutually separated by corridors, *itinera*, which were occupied by the public according to their social status: the senators took their places

on the steps closest to the arena, *podium*, widely raised and protected by a fence, settling on marble seats; behind them the knights sat, then all the other classes, in descending order of importance. The last sector, which had wooden steps and was covered by an arcade of 80 marble columns, was dedicated to women: Augustus had separated women from men to face the crescent immorality in places of entertainment. The Coliseum was also the first indoor venue: in fact it could be covered by a *velarium*, a huge blue fabric, operated by a special team a hundred sailors (Carcopino, 1939).

There many analogies with contemporary games and many lessons that can be learned by the way mega-events were planned and managed in the Roman time. First, the sacredness of the sporting events, a common character of the sport in Greece and in very ancient Rome, was slowly replaced by the idea of spectacle and the desire for group entertainment, leading events to be exploited as political instruments. As per the famous *panem et circenses*, at the time of Augustus, the number of public holidays was at least twice of the number of workdays to allow Roman emperors to use events as *safety valves*, or tools of domestic politics: they were utilized for satisfying the unemployed and lazy masses by occupying the time of around 150,000 people who were not working. Moreover, the events ensured the public order of an overcrowded city (Rome had more than 1,000,000 people at that time of the empire). For example, the *munera sine missione* were games in which nobody had to survive, and they were used as public executions disguised in shows during which prisoners and convicted were sentenced to death (Carcopino, 1939). Roman people had a real passion for these games, and this excitement was exploited to buy votes and political favors and to

tame the spectators and avert riots, but also to glorify emperors and their victories. This passion for sports events and the popular participation to games had a strong psychological impact on both the crowd and the athletes, linked to the physical presence on the site of the event, and had a cathartic function in releasing passions, positive or negative. Regarding sporting venues, Roman facilities are characterized by few typological elements: stadiums, amphitheaters (Figures 14), and circuses (Figure 13). In addition to them, also gymnasiums and *thermae* need to be mentioned. These types were very complex and sophisticated, and also very similar to modern venues. From the name (as for stadium, which is still used) to their structure (several tiers and their subdivision, changing rooms, general elliptical or round shape), it is still possible to find many similarities, even between the kinds of races. An example in this sense is offered by charioteers' races, which remind us of contemporary Formula 1.



Figure 14. The interior of the Coliseum, the most famous Roman amphitheater (Source: Under CC0 Public Domain).

Regarding their location, while during the Greek time they were peripherally to the city, the Romans built them in a more central position, as they were intended to be totally part of the social life of the time (Figure 15). However, they had, and still have, a great impact on the city, being special buildings with enormous capacity and scale, and they struggle to integrate them into the urban fabric. To partially avoid oversize and under utilized venues, Romans usually built first temporary venues, often wooden, and only on a later stage transformed them into permanent structures, in stone. However, also in this way, the organization of the games and the maintenance of the venues became unsustainable through the years.



Figure 15. The plan of the Imperial Rome, showing the location of major sports facilities at that time.

Great technical devices, but also great disasters, such as fire or collapses, also marked them, but what is important to underline is that these facilities were standardized and a-topological: stadiums and amphitheaters were exactly the same

through out the Empire and simply replicated in different cities. As objects without time and space, they were not subject to local influence or affected by local culture. This standardization was helpful to building various venues rapidly and also to disseminate the Roman construction ability throughout the various territories. However, it did not take into account local materials and specificity, which is one of the main elements in building a structure in a sustainable and resilient way. The importance of designing for a specific site, taking into account local needs, but also local culture, materials, and traditions, is a lesson that should be always remembered and applied.

A different approach is offered by *thermae*. Even if they were not utilized as events venues, they give interesting ideas about how a sustainable public space should be. *Thermae* (spas) are a typological space invented by Romans and extremely popular at the time. Famous examples include *thermae* of Caracalla, *thermae* of Agrippa, and *thermae* of Diocleziano; derived from public bathrooms (*balneae*), they included hot and baths, gyms, massage rooms, rest rooms, but also libraries and museums, and outdoor porches with shops and places where to walk (Carcopino, 1939). ‘From amphitheaters to *thermae*’ could be used a contemporary motto when dealing with the design of sports venues and public spaces, as characteristics of functionality and pleasantness marked every single detail of these buildings. So, it can be said without hesitation that the pleasure of the bath and more generally going to the *thermae* was for the Romans one of the most pleasant daily moments, a true joy of life. Everyone attended public baths: men, women, children, soldiers, poor and rich, including emperors, despite their residences had private and luxurious *thermae*. The

thermae were the social gathering place for excellence, useful for any type of meeting and event. People went to *thermae* to attend musical performances or readings of poems, or just to listen to public lectures. There went there to discuss, meet people, to work. *Thermae* also hosted libraries and museums. Finally, *thermae* were places dedicated to outdoor games and the care of body, making them very similar to the places where today we practice sports and recreational activities.

3.3 Major Italian cities between the XVI and XVIII centuries

Starting from the XVI century, with Renaissance first and Baroque after, major Italian cities flourished and expanded. Thanks to the vision of the leading local princes, urban centers as Florence and Rome faced important urban transformations and became more functional and beautiful. In the second half of the 1500, the interest on the urban landscape rose in the collectivistic culture. Perspective was the most effective tool used to transform the urban scenario (Benevolo, 1993). Alongside the physical transformations of cities, social changes occurred. City life was enriched by a number of collective experiences, particularly religious and festive. All citizens participated in events such as ordinary or extraordinary processions, but they also attended events in the private or semi-public spheres, such as funerals and weddings. The latter were also part of secular parties, prepared collectively, and in which they invested large amounts of money.

The race of the Barbs (*Palio dei Berberi*) represents a famous example of these moments of festivity. It was a horse race and a festival held in various Italian cities, including Florence (Figure 16), Rome (Figure 17), Padua, Chieti, Pistoia. All

these races were not performed in a hippodrome or a specific venue, but through the main streets and square. In Florence, the race had many horses, but no jockeys. This was the main characteristic of the Palio, which took place every year on June 24 at St. John's day. For the race, it was used a special breed of horses, the Barb, which gave the name to the competition. The origin is, according to most sources, medieval, and is even mentioned by Dante Alighieri in the twenty-sixth canto of his *Paradise*. The start was in the same spot each year, at Ponte alle Mosse (bridge of the Mosse). Then the track went through the Porta al Prato along the square of Prato, where there was the stage for the Grand Duke, the Royal Lodge. From the nearby palace of Corsini, nobles could watch the competition from the specially built terraces. The race moved then towards the streets of the center, via Palazzuolo, then via degli Strozzi, then Via del Corso (which perhaps is called so because of the race which was passing), and then through the arch of St. Peter and the Cross door where the finish line was. The prize of the Barbs was held every year until 1858, when some works in the city center interfered with the route (Carpini, 2015). This race is also an example of the social aspect of events: it was a moment of legitimation of the population and appropriation of the city and its territory. It was an occasion of leisure, but also used for unifying local inhabitants and their sense of belonging to the city.



Figure 16. The race of the Barbs in Florence, 1624 (Source: Jacques Callot, under CC0 Public Domain).



Figure 17. Riderless racers at Rome by Théodore Géricault (Source: Walters Art Museum, under CC0 Public Domain).

Piazza and Palazzo Farnese in Rome (Figure 18) represent another important example on how the city was utilized as a background for celebrations and events. At the center of the small square, the Palazzo Farnese, is the majestic witness of the

greatest artists of the Renaissance: Antonio da Sangallo, Michelangelo, Vignola and Giacomo della Porta. It is considered one of the wonders of Rome, and its size is impressive. The work began in 1514 and, in 1546, Michelangelo was called to design the first two floors. He built also the third one and embellished the facade with the central balcony. Also Vignola and Giacomo della Porta intervened in the construction. The square in the front for many years was the seat for many tournaments, bullfights and popular festivals in Rome. In addition, the spectacular summer flooding that later on made famous Piazza Navona took place here for the first time.



Figure 18. Palazzo e Piazza Farnese in Rome (16th Century). Since 1874, it has been the French Embassy in Italy (Source: Myrabella, under the GNU Free Documentation License, Version 1.2).

Theater is another good example of events and festivity moments, as the shows took usually place in the main central square of the city. The theater as a

building typology was developed later, only at the end of the sixteenth century, but mainly in northern Italy (Zorzi, 1977; Quartiere di Porta Rossa, 2015). Processions and parades were another way in which cities were utilized as event venue. To illustrate, in 1654, after ten years of ruling and following her secret conversion to Roman Catholicism, Queen Christina of Sweden abdicated (Figure 19). On renouncing her throne, she left the country and travelled to Rome disguised as a man. As a significant convert to the Catholic faith, Pope Alexander VII received in Rome her with great splendor (Hoskin, 2015). Christina's visit to Rome was the triumph of Pope Alexander VII and the occasion for splendid Baroque festivities. For several months, she was the only preoccupation of the Pope and his court. The nobles vied for her attention and treated her to a never-ending round of fireworks, jousts, fake duels, acrobatics, and operas. At the Palazzo Barberini, where a crowd of 6,000 spectators welcomed her, she watched in amazement at the procession of camels and elephants in Oriental garb, bearing towers on their backs (Hoskin, 2015).



Figure 19. Celebrations for Christina of Sweden at Palazzo Barberini in Rome (Source: Gabinetto Comunale delle Stampe, Rome, Italy).

Finally, another example of cities as event venue is the magnificent entry of the Emperor Charles V in Rome, after the victorious war of Tunis in 1536. The visit to Rome tended to emphasize the triumph of the two greatest powers of Christendom: the Papacy and the Empire, and it was a unique opportunity to restore the former greatness of the city. For the entry of the emperor, in fact, the aim was to uncover and rediscover the city itself and for this reason the entry was marked only by provisional architectural interventions (Spagnesi, 2002).

To summarize, the political stability, wealth, and scientific progress of that time create the basis for radical changes in cities. The birth and spread of perspective shapes the form of urban centers and little by little the main square becomes the symbol of the city: squares are now the representative space of urban centers. Cities

become themselves theatres for celebrations and shows: events are held in central locations, outdoor, *en plein air*. Events take place in main squares and through major streets, or in the courtyard and gardens or salons or halls in the main palace of the city (i.e.: Florence, Medici palace). On the occasion of the main tournaments and jousts, temporary wooden terraces were built and cities become the background for these events. Only later, in the XVII century, the theater as a specific building type will have its origin, first in Venice, and then in the rest of Northern Italy.

Brunelleschi, Bramante and many other artists of the time were not only famous architects, but also event organizers. Vasari, for example, was defined as the artist of the ephemeral. Like many artists of his time, Vasari was actively involved in the show design and planning, as these events were very appreciated by the public and also a profitable activity. His debut in the ephemeral is precocious: at the age of nineteen. In 1565 Vasari became the director of a number of high profile entertainment events for the celebrations of the wedding of Francesco I de' Medici and Joan of Austria. On this occasion, drawing from his previous Venetian experience, he realized a great set-up in the Salone dei Cinquecento in Palazzo Vecchio, which constituted the first prototype of a theater room that would be finalized in the Medici Theatre in Uffizi by his pupil Bernardo Buontalenti, who inherited his immense knowledge as great entertainer. Following Vasari's example, many other devices and special effects were designed and set up by those architects inside churches, buildings and public spaces for the major processions and parades, weddings, public manifestations and carnivals (Zorzi, 1977).

As suggested by Palestini, Sacchi, and Mezzetti (2008), ephemeral representations are able to combine, in the space of the event, the various components that define them: architectural, artistic and theatrical sides. The transience does not diminish the value of these devices that were able to transform the environment in a collective stage in which everybody could participate to the event. These spectacular machines were real means of political propaganda and were used for religious or folk festivals, weddings, and other occasions. They had a large spread between the sixteenth and the eighteenth century in Italy. Cities underwent a real metamorphosis and acquired a new aspect, thanks to the addition of temporary architectural elements, that, when welcomed, were often subsequently transformed into stable elements. For example, the famous work by Bernini, the Fountain of the Four Rivers in Piazza Navona in Rome (Figure 20), employed the same patterns of its previous temporary version. This is just one example of how these festivals were occasions of experimentation that allowed carrying out life-size, but low cost, solutions that could then become permanent. Those experimentations involved various levels of architecture: from the urban scale to the single architectural element. Regarding the work of Bernini, he was not only a creator and director of festivals, but also an important designer of the city of Rome. To illustrate, in 1661, Bernini realized the famous device on the occasion of the birth of the future king of France, commissioned by Cardinal Antonio Barberini in Trinità dei Monti. The device leveraged all the way down of the mountain, and this idea was subsequently exploited to realize the famous stairs of the Spanish Steps (Figure 21).



Figure 20. The Fountain of the Four River by Gianlorenzo Bernini in Rome. It was realized on the basis of a former ephemeral device (Source: Tango7174, under the GNU Free Documentation License, Version 1.2).



Figure 21. The ephemeral device by G. Bernini and J.P. Shor developed in 1661 in Trinitá dei Monti in Rome, later made permanent and transformed into the Spanish Steps (Source: Palestini, Sacchi, and Mezzetti, 2008).

To conclude, some lessons can be drawn looking at these examples. During this time period, local rulers used architecture and art as political tools, and besides state art and the politicization of architecture, events continued to have a strong political component. This is also the time when perspective was introduced in arts and architecture. This invention is the catalyst of the many transformations of cities and was also exploited for the design of the local festivals and celebrations. In fact, events and festivals generally did not have special venues, but were held in the city (Zorzi, 1977). Public spaces were used as outdoor theaters, and streets and squares became stages where citizens were involved in the celebrations. Temporary structures were used to transform the every day environment. However, even though they were ephemeral, these structures had a big impact and visual effect. Moreover, these devices were used as tools for experimenting new patterns and solutions that in some cases were then transformed into permanent parts of the city.

To summarize, the alternation of use of temporary and permanent structures can be a winning strategy when planning mega-events, as also recent stories confirm. Contemporary illustrative examples can be found from the World Expos of Montreal in 1967 and Osaka in 1970 (Gold & Gold, 2008; Smith, 2012), or from the Expo held in New York in 1939-1940. The aim of this practice is to test new solutions on a smaller scale, and if the experimentation is successful, extend it to the whole city. Events are used as inspirations for developing new ideas. Prototypes and innovative urban models are firstly tested, experimented, adjusted, and finally replicated and applied to different contexts. As per the past examples presented, through a trial and error model, events can lead to new forms of urbanism to be applied at different

spatial scales. The use of already existing elements of the city as public spaces transformed by transient elements seems to be a successful strategy. This practice allowed containing costs and producing meaningful places (place making), as these improvised and unsystematic events allowed forms of appropriation of the territory and avoiding the creation of *placelessness* spaces (Relph, 1976), superfluous, costly, and unused public spaces. Using existing structures, flexible or temporary venues, and most of all securing long-term legacies from the early stage of the planning process can contribute to avoiding the spread of placelessness that so often characterizes contemporary mega sports events. Albeit with less success, recent good examples are city marathons and the Formula 1 circuit of Monte Carlo, which twists through the streets of the principality.

4. Events and sport in the history: The East

As mentioned in the introduction, this research considers the geographical area of Doha and the Gulf region, so it is useful to cover best practices and examples that include also the Islamic world. Moving the analysis from West to East, one can see many similarities in the management and planning of major events. Firstly, the close relation between events and politics, as these occasions were exploited to reaffirm rulers' power. Horse races and polo competitions represent the main tool of this strategy, and hippodromes and main plazas were strategically located as part of the leader's palace, and integrated within cities. Starting from the late Roman Empire and Byzantine time, major examples include the cities of Istanbul and Samarra, with their wonderful hippodromes, Esfahan in Iran, with its parades and polo games, Cairo and its Citadel during the Saladin period, and Delhi and Fatehpur Sikri in India.

4.1 Byzantine Istanbul

Istanbul became the capital city of the Byzantine Empire in 324 AD, when the Emperor Constantine decided to move the seat of government from Rome to Byzantium, renamed New Rome (*Nova Roma*). However, the city soon became known as Constantinople. The Emperor started a series of works for renewing and enlarging the city, including the renovation of its hippodrome (Figure 22 and 23) that was built by Septimus Severus around 100 years before. Located in square *Sultanahmet Meydanı*, near Hagia Sophia (Figure 24), it was an impressive structure, probably 450 m long and 130 m wide, with a capacity up to 100,000 people, and it was the center of the social and sporting life in the city. The track was U-shaped, and, in the eastern end, there was the Emperor's loge (*Kathisma*), which was directly connected with the Imperial palace through a passage that was utilized by the Emperor and other members of the royal family (Vespignani, 2001).

The competitions taking place at the hippodrome were not only mere sports events, but also, as during the Roman Empire, they were occasions in which common people and the emperor could meet in the same venue. The hippodrome was also the seat for many political discussions, thanks to the direct access of the emperor to the venue through the *Kathisma* at the eastern tribune. Different political parties within the Byzantine Senate funded teams taking part in the races, and huge amounts of money were bet on chariot races. Often, the rivalry among the teams was the trigger for religious or political riots that in some occasions resulted in civil wars with injuries, deaths, and destruction (Dagron, 2012).

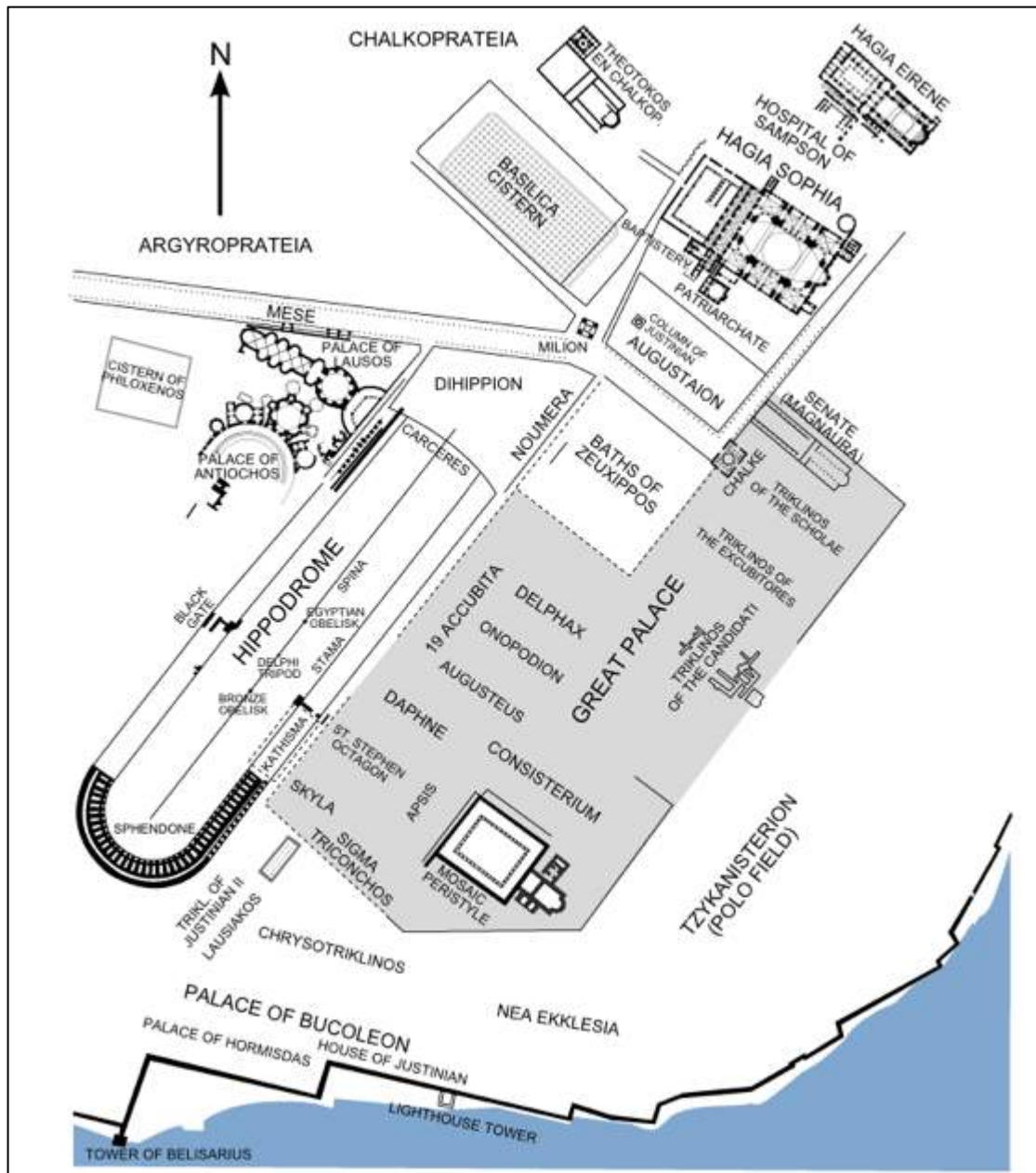


Figure 22. The hippodrome of Constantinople (Source: Cplakidas, under the GNU Free Documentation License, Version 1.2).

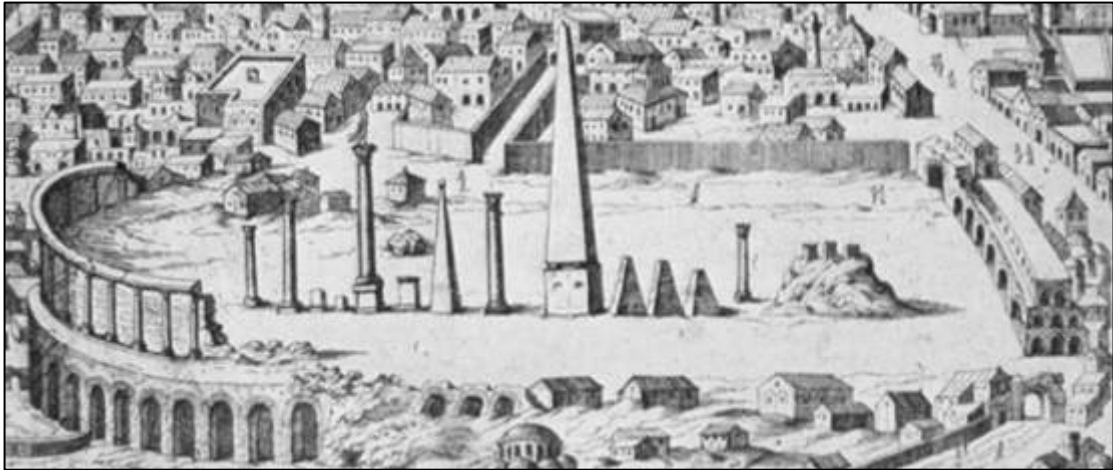


Figure 23. The hippodrome of Constantinople in an ancient representation (Source: Under CC0 Public Domain).



Figure 24. Square Sultanahmet Meydanı (Source: Maurice Flesier, under the Creative Commons Attribution-Share Alike 4.0 International license).

The Byzantine Empire and its hippodrome survived until 1453; then the Ottoman Turks occupied the city. Turks were not interested in races, and so the hippodrome was abandoned, although the site was never actually built over (Vespignani, 2001). The structure of the hippodrome does not exist anymore;

however, its seat, Sultanahmet Square, follows the former U-shaped track and reminds us of the huge dimension of this venue.

4.2 The city of Samarra and its hippodromes

Horse racing became particularly popular among Arabs in early Islam. The main research on early horse racing and especially the race courses in the Abbasid capital of Samarra (Figure 25) has been conducted by Northedge, who also compiled the relevant literary sources on early Islamic horse racing (Northedge, 1990; Northedge 1996). In the city of Samarra, located on the bank of the river Tigris in Iraq and which served as the Abbasid capital from 836-892 AD, four different horse race courses were discovered. At Samarra, the racecourses are placed outside the city in the steppe. A similar situation can be recognized in early Baghdad, where sources reference racecourses (QOSM, 2012). Remains can be clearly seen on historical aerial photographs from the 20th century. Two have an out-and-back course with a spectators pavilion at the start, while the third one has a four-trefoil shape (Figure 26). The fourth course is difficult to reconstruct. According to Northedge (1996), racecourses can be attributed to Arabic sources in the reign of Caliph al-Mutawakkil in 847-861 AD.

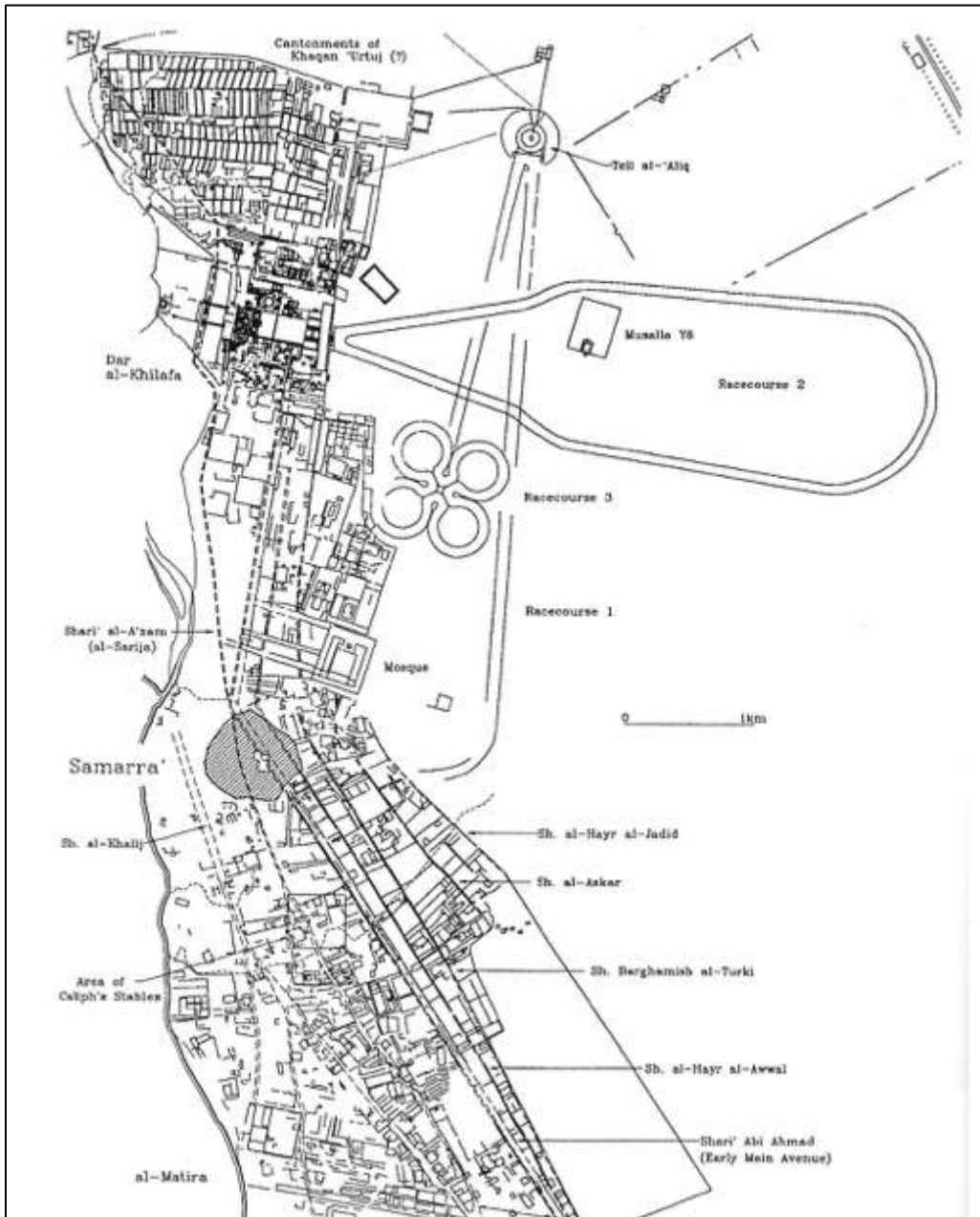


Figure 25. The plan of the city of Samarra and its hippodromes (Northedge, 1996).



Figure 26. View of one of the horse tracks in Samarra (Aerofilms Ltd, 1953 in QOSM, 2012).

Especially Track 2 underlines how these competitions sometimes served as a symbol or codex of regal power. In track 2, the bottle-shaped course, the starting point is placed at the east gate of the palace, where a royal pavilion faced both the polo square on the west and the racecourse to the east (Figure 27). Here the ruler could have direct access to the competitions.

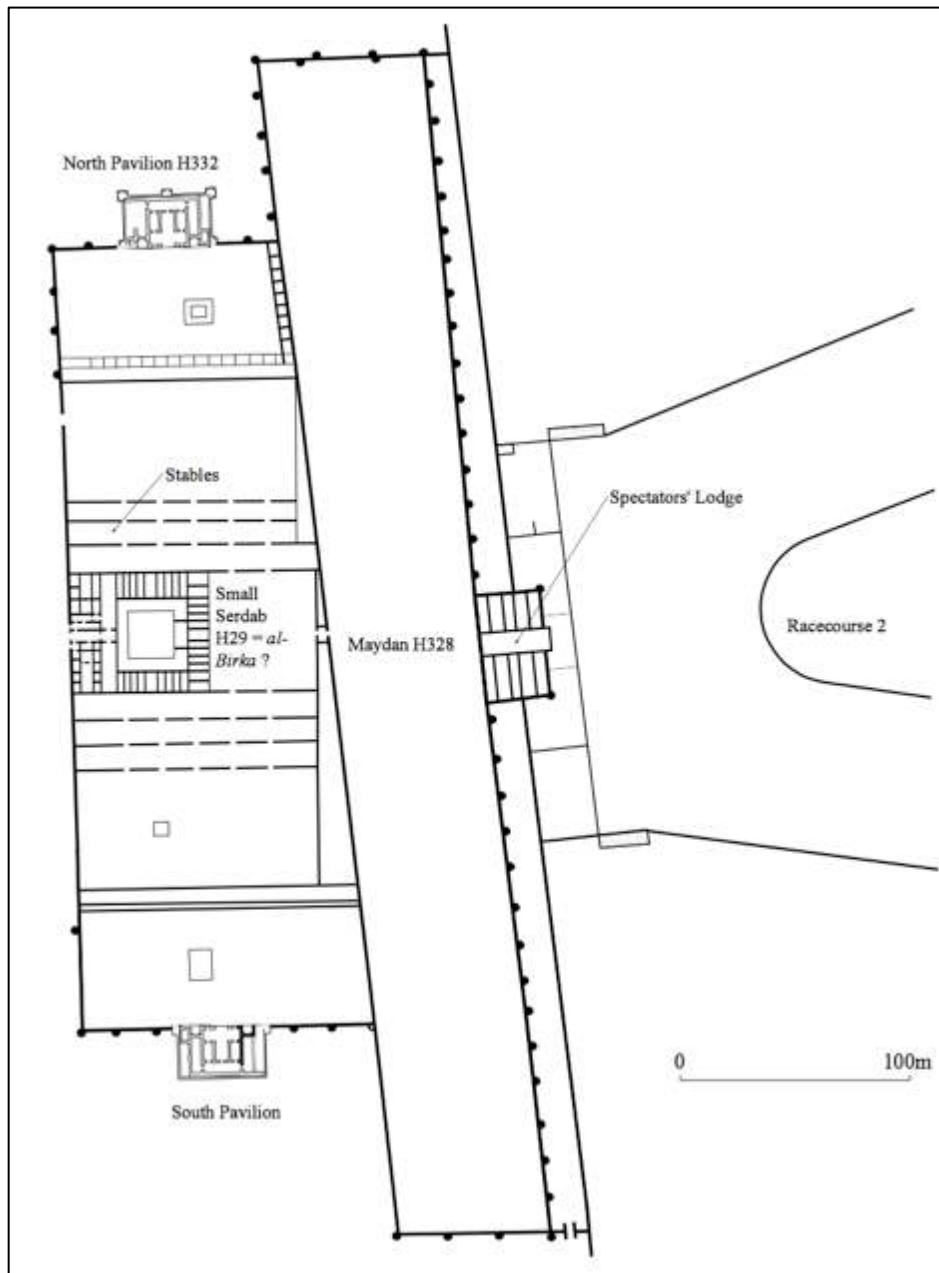


Figure 27. Course 2, the Spectators' lodge, and its direct access to the ruler's palace (Northedge 1996).

4.3 Cairo and its Citadel during the Saladin's period

Qal'at al-Jabal means the Citadel of the Mountain, and it is a major example of military architecture belonging to Middle Ages. It is located on the Muqattam Hills, where the Citadel dominates the city of Cairo and turns its back to the rocky

hills and the desert behind. Founded by Salah al-Din al-Ayyubi (Saladin) in 1176 AD, the Citadel was a sign of the coming of a new regime whose roots were foreign and tastes were military. For almost seven centuries (1206-1874 AD), it was the seat of government for the Ayyubids (1171-1250 AD), Mamluks (1250-1516 AD), Ottomans (1516-1798 AD), and the Muhammad 'Ali Family (1798-1952 AD), as well as a real and symbolic barrier between the rulers and the ruled. During this long period it was the stage upon which the history of Egypt was played out. The Citadel has been transformed during the centuries and, during the reign of al-Nasir Muhammad (r. 1293-1340 AD), it was divided into two parts, a northern and southern enclosure; its interior were rearranged and enhanced with many palaces and other structures. During that time, a hippodrome was built in the western side of the citadel, for the host of parades and polo games so popular at that time. Muhammad Ali Pasha radically reconfigured the Citadel in the first half of the 19th century.

4.4 Esfahan during the Safavid' rulers

Polo is by far the best-known Oriental equestrian sport. The exact origins of polo are unclear; however, the Iranian world at the time of the Achaemenids (i.e. during the Persian Empire from the 7th to the 4th century BC) is usually deemed to be the original source (QOSM, 2012). Particularly, Ali Qapu palace and Naqsh-e Jahan square in Esfahan (Figure 28, 29, and 30) offers an example of the interest in polo and of the integration between the leader's palace and the place where the games were held. The building marks the entrance into the residential district of the Safavid rulers, which extends beyond the square. It was built in the early seventeenth century under the order of Shah Abbas the Great and was used for diplomatic meetings with visitors

from other countries. The building has a rectangular plan, spread over six floors, and has a large terrace at the front, from where the Safavid ruler watched polo matches, parades, and horse races that took place in Naqsh-e-Jahan. The square is a wide public space surrounded by buildings built in the early seventeenth century by Shah Abbas I. UNESCO listed it as a World Heritage site in 1979. This huge site contains the Royal Mosque, the Mosque of Sheykh Lotfollah, and the magnificent porch of Qeisariyyeh. These buildings represent a huge testament to social and cultural life in Persia during the Safavid period. The square was a place dedicated to entertainment and the business point of meeting and exchange among people from all corners of the world. A milestone along the Silk Road, goods arrived in this place from all over the world, from the West to the Middle East. Many European travelers who visited the city during the reign of Shah Abbas admired the square.



Figure 28. Naqsh-e Jahan Square, map (Source: Author).



Figure 29. Naqsh-e_Jahan_Square, view from the Palace (Source: Author).



Figure 30. Esfahan, the Royal palace with the terrace facing the square (Source: Author).

4.5 Fathpur Sikri

Fathpur Sikri is the most typical example of a Mughal walled city, with private and public areas and well-demarcated and imposing gates. The architecture is a blend of Hindu and Islamic art and reflects the philosophical and political vision of the Mughal emperors and their style of government. What remains now of the capital of Akbar is the area of the palace, consisting of several separate buildings that overlook a very large square, and a large mosque, connected to the palace. The area of the palace, as in any subsequent Mughal palaces, is not characterized by roads, but by terraces with individual buildings, each with its specific function. On the northern edge of the city, the Elephant Gate, overlooking the lake below, was the formal entrance. Inside the walls, the city was divided into huge mosque and palace complexes. At all times of the day and night the vast courtyards and parks vibrated with life. There were constant religious festivals, exhibits and games. On the large *maidan* below the city there were polo matches (*chaugangah*), elephant battles, gladiator contests and stunt-flying performances by the trained imperial pigeons (Petruccioli, 2007).

4.6 Red Fort in Delhi

The Red Fort in Delhi offers another example of the integration between private and public space and the use of events and public representations for political reasons. The Red Fort was the residence of the Mughal emperor of India for nearly 200 years, until 1857. It is located in the center of Delhi and houses a number of museums. In addition to accommodating the emperors and their households, it was the

ceremonial and political center of Mughal government and the setting for events critically impacting the region (Figure 31).

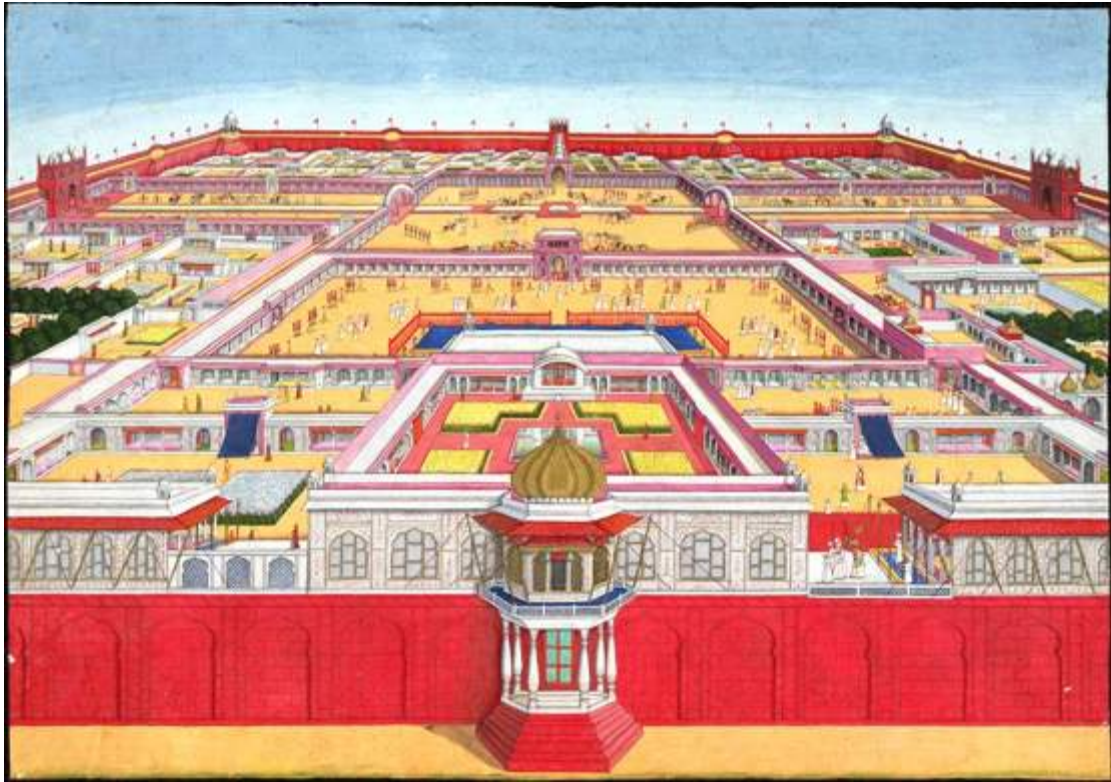


Figure 31. The Red Fort in Delhi (Source: Under CC0 Public Domain).

5. Summary of historical precedents

Critical reviews of past events and their legacies were conducted to develop a theoretical background that will constitute the basis for the discussion in the next sections of the dissertation. The cases analyzed included examples from the western and the eastern worlds, and, more specifically, ancient Greek cities, Rome during the Roman Empire, the major Renaissance and Baroque Italian cities, an analysis of Istanbul in the Byzantine time, Samarra, Cairo in the Saladin period, Esfahan, and Delhi. Events and cities were investigated according to their typology, aims, location,

and venues, and mapped according to relevant trends and issues. Some major findings comprise the role of events as tools of experimentation of new patterns and templates; the relationship between temporal and permanent facilities and structures; the problem of integration, not only physical, but also social and economic. Also, events are often utilized for city branding purposes, as a celebration of their rulers, or to celebrate hosting cities and their population.

This section concludes with a table (Table 2) that summarizes the main findings achieved up to now. In the next part of the chapter, a review of literature will focus on more contemporary cases (XX century. i.e.: Rome, Tokyo, Montreal, Los Angeles, Barcelona, Sidney), along with an investigation of the evolution of legacy and its main components and issues. The literature review will show the constant growth of mega sports events in the last century. For example, while the first Olympic Games had low budgets and used mainly temporary and existing facilities, from the 60s, and in particular from the Olympic Games held in Rome, mega-events have been more and more used as occasion for the overall development of urban centers. An in-depth analysis of three recent cases (London, Sochi, and Rio de Janeiro) will then uncover recurrent errors and successful stories in the planning of mega sports events legacies.

Table 2. Summarizing the Major Findings from the Literature Review of Past Legacies

Period	Main (Sport) Events	(Sport) Venues /Facilities Typologies	Main Concept /Ideas (on Sport)
Greeks	<p>776 B.C born of the Games in Olympia.</p> <p>The Olympics were part of religious events. They were held in honor of Zeus.</p> <p>Only Greek nationals could participate.</p> <p>The games, always held at Olympia, expanded from a one-day festival of athletics and wrestling to several days with many events.</p>	<p>Stadium: an oblong area enclosed by sloping banks of earth. Stadium comes from <i>stadion</i>, which is the oldest event of the Games, where runners sprinted for 1 <i>stade</i>, the length of the stadium (192m)</p> <p>Hippodrome for horse races</p> <p>Public gymnasiums where people gathered to train and relax</p> <p>Venues were generally located peripherally to the city</p>	<p>A healthy body was important and Greeks wanted to keep fit and trained (i.e. the statue The <i>Discobolus</i> of Myron)</p> <p>Only men and Greek nationals practiced Sport was also a preparation for war</p> <p>Typologies: Foot races, wrestling, boxing, the <i>pancratium</i>, a combination of the two; Horse-racing, pentathlon, a series of five events: sprinting, long-jumping, javelin-hurling, discus-throwing, and wrestling</p> <p><i>Agon</i> (competitiveness) was more important than <i>ludus</i> (fun) and show</p>
Roman Empire	<p>At the beginning, the <i>Ludi Romani</i> (Roman Games) were religious festivals in ancient Rome in which sport activities were held. Originally, all <i>ludi</i> seem to have been votive offerings (<i>ludi votivi</i>). <i>Ludi</i> were held in conjunction with, or sometimes as the major feature of, Roman religious festivals, and were also presented as part of the cult of state. In many cases, games began from a vow (<i>votum</i>) by a commander, and were celebrated as a special festival after his triumphal procession in the city.</p> <p>Later on <i>Ludi</i> became public games held for the benefit and entertainment of the Roman people (<i>populus Romanus</i>): <i>panem et circenses</i>.</p> <p>There were Annual <i>ludi</i>, Ludi not held annually, Single-occasion ludi, Animal exhibitions with mock hunts (<i>venationes</i>)</p> <p><i>Ludi scenici</i> (theatrical performances), performed during the Roman republic, but suddenly replaced by the gladiators fights in amphitheatres</p> <p><i>Ludi gladiatorii and munera</i> were the most violent games. During the empire the gladiator fights were held daily and there many fights every day</p> <p><i>ludi circenses</i> (<i>horse races in the circuses</i>): <i>as the gladiators' fights</i>, many races every day</p> <p>Enormous numbers: in 107 B.C. Traianus organized fights with 10,000 gladiators involved</p> <p>Gladiators' fights gradually disappeared with the birth of Christianity.</p> <p>Glory, wealth, and prestige were assured to charioteers.</p> <p>"Parallel lives" around the games: betting (<i>sponsio</i>) and gambling, shops and food ...</p> <p>Minor sports held in the <i>thermae</i></p>	<p>The Romans preferred to be spectators rather than active sporting protagonists: this choice influenced the types of events and, therefore, the site for these shows:</p> <p>Only 2 stadia (Pozzuoli near Naples, and Piazza di Spagna in Rome, former Stadium of Domiziano).</p> <p>Roman stadia were derived by the Greeks' ones</p> <p>Circus, also derived from Greeks' stadium (i.e.: Circo Massimo, dimensions: 600x200 m, probably up to 250,000 – 300,000 seats), Circus of Flaminius, Circus of Gaius)</p> <p>Romans were extremely able constructors, and these facilities were full of clever and ingenious details</p> <p>Theaters: examples are the theater of Pompeus (160 m diameter, 27,000 seats), theater of Balbo (7,700 seats)</p> <p>theater of Marcello (150 m diameter, 14,000 seats)</p> <p>Amphitheatre, new typology invented by invented by Romans (i.e.: Coliseum, 2 axes of 556 e 537 m, 4 floors, 45,000 seats) The Coliseum was the first covered sport facility (<i>velaria</i>). Amazing solutions adopted to move so many people together.</p> <p>Up to Caesar, circuses were used instead of amphitheatres, where temporary fences were built for the <i>munera</i>, the games with animals. Then, in 52-53 B.C., Curio the Younger, to amaze his voters, built two wood theaters, juxtaposed one to the other from the external side for theater representations, and then rotated in the afternoon for the <i>munera</i>, to create a single enclosed arena.</p> <p>The first permanent amphitheater is in 29 BC. The construction of the first amphitheatres was temporary and in wood, then, Augustus realized the first permanent one in stone (and the writers then called it <i>amphitheatrum</i>).</p> <p>Other examples of then can be found in the provinces, as Lyon, Carthage, but also in Gaul and Macedonia.</p> <p>They were all replications/copies of the first Roman amphitheater.</p> <p>Thermae /Spa was another typology invented by Romans (i.e.: <i>thermae</i> of Caracalla, <i>thermae</i> of Agrippa, <i>thermae</i> of Diocleziano): derived from the public bathrooms (<i>balneae</i>), and they are composed by hot and cold baths, gyms, massage rooms, rest rooms, libraries and museums, but also outdoor porches with shops and places where to walk. <i>Mens sana in corpore sano</i>: <i>thermae</i> put together health, body and mind training</p> <p>Thermae were an example of livable and sustainable public places: they were complex structures that housed, in addition to swimming pools, places to play ball games and to train, reading rooms, gardens,</p>	<p>Totally different idea on sport from Greeks (not related to spirituality and the glory of the athletes). The sacredness of the sporting events, a common character to the sport in Greece and in very ancient Rome, was slowly replaced by the idea of show, and the desire of group entertainment</p> <p><i>Panem et Circenses</i> (Giovenale): idea of sport as entertainment and fun, but also exploited for political reasons. An example is given at the time of the big emperors (Augustus, ...), when the number of holidays was at least twice of the number of workdays. These events occupied the time of around 150,000 people who didn't worked, having a role of "safety valves".</p> <p>Games and events were the most important tool for domestic politics: they were used for satisfying the unemployed and lazy masses, and ensure public order of an overcrowded city (more than 1,000,000 residents in Rome at that time)</p> <p>Many analogies with the contemporary idea of sport:</p> <p>Relationship between Politics and Sport</p> <p>Expression of the power of the ruling regime: events and sport can be political tools (in Roman times for buying votes, for taming the audience and keeping away revolts, but also means to glorify the emperors and their victories).</p> <p>City branding tools</p> <p>Popular participation, in the form of passion for sports /public shows</p> <p>Psychological impact on the crowds. This impact is linked to the physical presence on the site of the event</p> <p>Catalyst function (positive or negative) carried out by the sport/show on spectators.</p> <p>Analogy between the chariot racing (<i>aurigae</i>) and racing F1 and MotoGP.</p> <p>Industries related to the races and gladiators' fights: there were impresarios (<i>lanista</i>), who took care to recruit, retain and train gladiators. The <i>lanisti</i> were in the provinces, while in Rome, their figure was replaced by the</p>

	(as swimming or ball games in the <i>sphaeristeria</i> - a specific place inside the <i>thermae</i>)	<p>museums, shops and food halls.</p> <p>These baths were numerous and open to all men and women of all social classes, and tickets were inexpensive. Romans loved these spas where they spent a large part of the day</p> <p>Many similarities with contemporary facilities: The Romans were very attentive to the problems of visibility and flow of people Huge dimensions and large capacity (Circus Massimo up to 250,000-300,000 seats, stadium of Domitianus was 275 m x 106 m long) Technical ability in construction and Impressive technical devices (covered facilities, amazing scenography, ...) Major disasters along the centuries (fires and collapses) 'Special' Buildings with a big impact on the city Huge/ frightening scale and difficulty to integrate these facilities into the urban fabric A-topological venues: identical anywhere and everywhere: objects with no place or time, as they are the same all over the world and are not affected by the local culture, identity, typology, or materials. Similarities in the name (stadium), the structure based on orders (the gallery, parterre, VIP tribunes, ...), internal and side structures are similar (changing rooms, interior corridors, warehouses, ...), the oval track.</p>	<p>local Prince and is exercised by counselors.</p> <p>Betting and gambling (<i>sponsiones</i>) around the games was enormous.</p>
Renaissance and Baroque	<p>Parades Processions Weddings Horse Races Public representations Palio (inter district races) Tournaments and jousts</p>	<p>No specific venues, but pieces of cities were used to held events: main streets and square, main palaces</p> <p>Cities as open theaters</p> <p>Squares and street were 'enriched' with temporary elements (i.e. the Spanish Steps and the fountain of the Four Rivers in Rome)</p>	<p>Role of the perspective: new arrangements for urban centers Architects as even planners Role of temporary structures, built for the event Events as moment for experimenting new patterns and solutions Events as rituals in which the population identify itself and often active participation of the population: legitimation of the population Events also as legitimation of the political power</p>
Islamic cities	<p>Parades Polo games Horse racing</p>	<p>Hippodromes</p> <p>Pieces of cities: main streets and square, main palaces (i.e. Ali Qapu palace and Naqsh-e Jahan square in Isfahan)</p>	<p>Events as rituals in which the population identify itself and often active participation of the population: legitimation of the population Events also as legitimation of the political power Integration of the main palace, main squares, and races</p>

6. Mega events in XX and XXI centuries

6.1 Definition and variables

Since the end of the 19th century, the number of mega events has constantly increased. But what is a mega event and what are its characterizing features? Many scholars attempted to define this term, but a particular meaningful definition is the one by Roche (2000). According to him, a mega-event involves a variable number of organizations at a national and international level, and a mega-event is an occasion that has a dramatic character, wide popularity, and international significance. Many other definitions exist; however, there is no agreement in the way events are categorized and sub-divided. One classification tends to categorize events on a typological basis. Getz (2008) for example, divided events according to their purpose, mainly defining eight categories: cultural celebrations, political and state, arts and entertainment, business and trade, educational and scientific, sport, recreational, and private events (Figure 32).

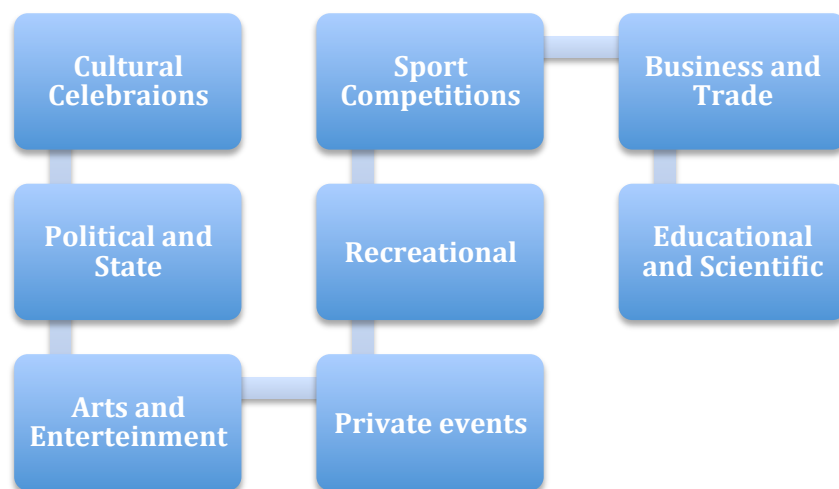


Figure 32. Typology of planned events (Adapted from: Getz, 2008).

Another categorization can be on the basis of the scale of events. For example, Emery (2001), classified events in hallmark, mega, large, or even minor. However, he suggested it is complex to clarify what is the right measure to belong to a category rather than another. Müller (2015) tried to define the scale of events utilizing four parameters: tourist attractiveness, mediated reach, cost, and urban transformation, classifying events into three main sizes: giga, mega, and major. Regarding sports events, additional areas of interests for classifying them can include also event visitor profiling, event bidding, terrorism impact effects, crowd management, sponsorship protection strategies (Emery 2001). Other researchers focused on the dimension of impact on hosting cities to classify events. To illustrate, Roche (1994) stated that an event is mega if it has a wide impact onto at least one of the following areas: tourist attractions, visibility, visitor expenditures, and urban transformation. It is claimed, therefore, that the degree and significance of the impact of an event on the host city or region mainly determine whether the event should be termed mega major, or minor (Dolles & Wang. 2008). Finally, Smith (2012,) classified events based on three variables: size (mega, major, minor), content (sport, culture, business), and location (footloose, peripatetic, fixed). This last classification is used in this research, where the focus is on mega sports events with no fixed location. Mainly, the study will consider three types of events: Summer Olympics, Winter Olympics and Football World Cups, as they are widely considered the three major sports events. Since 1992, the three of them have been organized every four years, but with a two-year cycle. World Cups, Winter Games, Asian and Commonwealth Games take place the same year, even if in different locations. Summer Olympics are staged in the same year of the

European Football Championship. Winter and Summer Olympics and World Cups are usually believed to be the three typologies of events with the widest impact on hosting cities, especially in terms of urban transformation and economic return. In this sense, events might be viewed as urban policy tools that need to be carefully planned and managed by hosting cities. Getz (2008) suggested undertaking a comprehensive strategy, called *the portfolio approach*, to manage events. He defined this method as the way companies develop and evaluate their services and products, as a goal-driven and value-based method. Cities should define in advance the benefits they intend to pursue by the stage of the event, and the way they will assess them. This simple strategy should allow measuring the real success of events as planning and urban policy tools.

Having clarified the types of events considered, the next section will present an overview of the evolution of mega sports events in the last century; then, a summary of the main trend regarding the principal sports venue, the stadium, will be presented. Finally, the chapter will conclude with an attempt at defining the term legacy and its main issues.

6.2 Mega sports events in XX and XXI centuries: evolution and main trends

Sports events have always existed, and the first half of this chapter investigated some of the major past ones, along with their political and social meaning and their interrelation with hosting cities. However, since the beginning of the last century, cities and their governments started showing a growing interest towards

sports events, and the events themselves have augmented exponentially in all their dimensions (Table 3). For example, as shown in Table 4, the first Olympic Games in Athens, in 1896, lasted just one week and saw the participation of 14 countries with a total of 241 male athletes and 43 events, while the last Olympics in London included 26 sports, 39 disciplines, and 34 venues. About 10,500 athletes from 204 National Olympic Committees took part in the Games, and the number of tickets available was almost 10 million (IOC, 2014). The same phenomenon can be observed for the main football championship. The FIFA World Cup was held for the first time in 1930 in Uruguay, in one city only, Montevideo. The tournament involved 13 teams and utilized three stadiums. In contrast, Brazil hosted the last championship, which included the participation of 32 teams, 12 stadiums and 12 hosting cities spread through out the country (FIFA, 2015). Also, looking at Table 4, some important achievements need to be underlined. Regarding the Olympic Games, a milestone was unlocked for the 1908 edition, as London was the first hosting city to purposely built a new sport venue for the event: the White City Stadium, which was then demolished in 1985 (Pitts & Liao, 2009). Since then, the Olympic venues have started to grow in dimensions and numbers, and also the design has become more and more complex and sophisticated.

The 1916 Games were canceled because of the First World War, while the edition of Antwerp in 1920 saw the introduction of the five rings flag, symbolizing the five continents tied together by the Olympic Movement. Although women could participate in some competitions of the games since the second edition in 1900, the Antwerp Games made their participation official. In 1924, the Olympic Movement

introduced the Winter Games, allowing major mountain centers to become Olympic cities. The first edition was held in Chamonix, France. At the beginning, both the Winter and the Summer Games were staged in the same year; only subsequently IOC decided to shift the Winter editions to two years (IOC, 2014).

The 1920s also marked the beginning of the interest for Games by the mass media: newspapers and radios. Radio broadcasting was introduced in 1924, in the Paris Olympics (Guttman, 1992; Pitts & Liao, 2009). In 1930, there was the first edition of the World Cup. Due to the success of the Olympic football tournaments in 1924 and 1928, the recently established Fédération Internationale de Football Association (FIFA) decided to organize an independent event. Uruguay, the Olympic gold medalist in soccer in both 1924 and 1928, was chosen to host the cup.

The 1932 Los Angeles Olympics are important for at least three reasons: firstly, the duration of the games was modified to last 16 days, which is approximately the same duration of present days. Previous editions had different lengths, from a one-week duration of the first edition to almost three months in Paris 1924 and Amsterdam in 1928. Secondly, Los Angeles was the first city to purposely build an Olympic Village for athletes (Munoz, 1997), setting up a model still in use in contemporary editions. Thirdly, the 1932 edition holds the record of the largest Olympic stadium ever built: the Coliseum, with a capacity of more than 100,000 seats (Pitts & Liao, 2009). The 1956 Melbourne was the first down under edition of the Summer Games, e.g. an event that included a country from the Southern Hemisphere. Moreover, this edition was held in two cities: not only Melbourne but also Stockholm,

where the horse competitions took place because of the laws of quarantine in Australia.

The 60s are a dividing line in the management of the Games: from this moment, Olympics started to be seen as tools for the regeneration and urban transformation of hosting cities. Rome first (1960) and Tokyo then (1964) exploited the occasion of the Games for the realization of massive schemes of urban redevelopment, including transportation, road networks, and other major infrastructure (Essex & Chalkey, 1999; Smith, 2012). Also, television rights were sold for the first time at the 1960 Olympics, giving the International Olympic Committee (IOC) high revenues for the management of the event. The Montreal Games in 1978 represent a very negative moment in the history of the Olympics, resulting in an economic disaster and impressive debt for the city. As opposite, Los Angeles in 1984 focused on existing venues and facilities, avoiding expenditure in infrastructure, and using volunteers, reducing the cost for workforce. This edition was an economic success, giving rise to the LA84, a private foundation that manages the surplus of the Games (AAF, 2004; Leopkey, 2013).

The host of Barcelona in 1992 is another milestone in the history of the Games. As many researchers underlined (e.g., Pitts and Liao, 2009; Smith, 2012), the Games were the occasion for revitalizing declining parts of the city and regenerating entire brownfield areas. 1992 was also the last year in which Summer and Winter Olympics were staged at a few months distance. Starting from 1994, the Games alternate every two years. 1994 is also an important year for the World Cup: for the

first time the United States of America hosted this ambitious tournament. It is also the first and only case in which no new facilities were built and only existing venues were utilized (Street, Frawley & Cobourn, 2014).

Coming to recent years, the 2002 World Cup edition was held for the first time in two different countries, Japan and South Korea; and it also holds the record of the highest number of stadiums utilized: twenty venues and twenty cities, ten for each of the two nations (FIFA, 2015). The Olympics of Sydney (2004) are considered an example of green Games, as the city defined a set of guidelines to reduce the footprint of the management and operations of the venues and events. Beijing was the first Chinese city to stage the Olympic Games, in 2008, and the only one ever to be scheduled to host both a Summer and a Winter edition (2022 Winter Games). South Africa was the first African country to stage a World Cup in 2010, while Qatar is the first Middle Eastern nation to be awarded the right of hosting the tournament (2022). Moreover, the Qatari edition is planned to be the most compact edition ever, as all eight stadiums for the competition are planned to be located in the capital city, Doha and its immediate surroundings. Sochi 2014 holds the negative record of being the most expensive Winter Olympics with a final cost of more than USD 50 billion. Its cost exceeds all previous Winter editions together (Müller, 2015b). Finally, London is the only city to host three different editions of the Olympics (1908, 1948, and 2012), and the first city with a legacy plan for the event sites and venues already in execution before the beginning of the Games. 2012 London Games are also considered the first sustainable Games of the history.

From this brief overview, it is possible to conclude that disregarding the typology (World Cups, Winter or Summer Olympics), the last century's events are characterized by increasing *gigantism* (Preuss, 2007) and high specialization of the venues. As illustrated above, not only the number of athletes and facilities but also spectators and media representatives have been increasing edition by edition, along with an increase of the costs of planning and management (Table 3, Figure 33). Venues were at the beginning few and unspecialized. The White City Stadium in London (1908) for example, it is considered the first Olympic architecture, and even though it was purposely built for the Games, it was utilized for many competitions, and not only for football. The first FIFA World Cup also utilized only three stadiums, all located in the same city, Montevideo. Currently, the increasing requests from the organizing committees and international federations have led to a high number of facilities (34 for London 2012, and up to 20 stadiums for the 2002 World Cup), with the consequent risk of *white elephants* as the main legacy left from the stage of those events.

Table 3. Olympic Ticketing Data (Adapted from Pitts & Liao, 2009)

Venue	Total Tickets Available
1960 Rome	1,408,075
1964 Tokyo	2,061,183
1972 Munich	3,311,105
1976 Montreal	3,195,170
1980 Moscow	5,466,321
1984 Los Angeles	5,720,000
1988 Seoul	3,305,944
1992 Barcelona	3,811,916
1996 Atlanta	8,384,290
2000 Sydney	6,679,792
2004 Athens	3,598,444
2008 Beijing*	7,556,198
2012 London*	9,816,124

* Data from the IOC website (IOC, 2015).

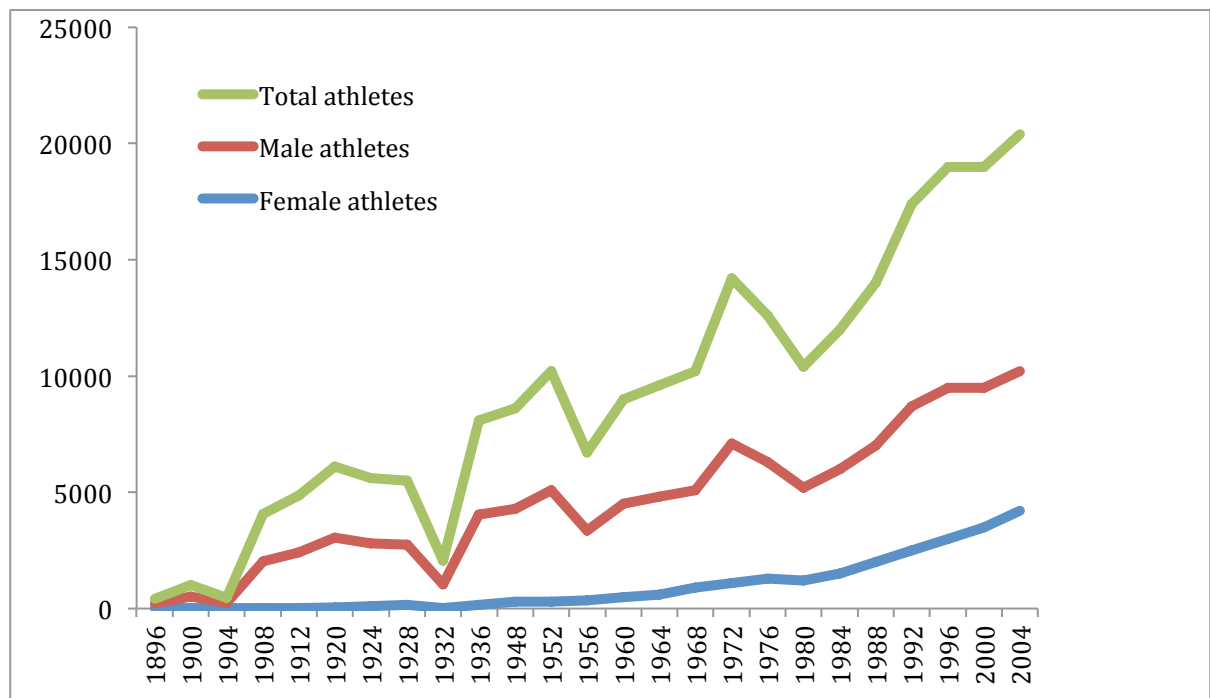


Figure 33. Number of athletes per event (Data from Müller, 2015b).

Table 4. The Major Facts and Trends of Olympics and World Cups Hosting Cities. The Table Also Shows The Increasing Gigantism of Mega Sports Events (Data source: IOC, 2014; FIFA, 2015)

Year	City / Country	Event	N. Cities / Stadia / Events	Athletes / Countries	Duration	Notes
1896	Athens	O	Events: 43	NOCs 14 (Male) Athletes 241	1 week	First Olympics
1900	Paris	O	Events: 95	NOCs 24 Athletes 997 (22 women, 975 men)	14 May – 28 October	
1904	St. Louis	O	Events: 91	NOCs 12 Athletes 651	1 July – 23 November	
1908	London	O	Events: 110	NOCs 22 Athletes 2,008 (37 women, 1,971 men)	27 April - 31 October	First stadium built for the event (White City Stadium)
1912	Stockholm	O	Events: 102	NOCs 28 Athletes 2,407 (48 women, 2,359 men)	5 May - 27 July	
1920	Antwerp	O	Events 154	NOCs 29 Athletes 2,626 (65 women, 2,561 men)	20th April - 12th September	Olympic flag introduced Official participation of women
1924	Paris	SO	Events: 126	NOCs 44 Athletes 3,089 (135 women, 2,954 men) Media 1,000 journalists	4 May - 27 July	Radio broadcasting
	Chamonix	WO	Events: 16	NOCs 16 Athletes 258 (11 women, 247 men)	12 days	First Winter Olympics
1928	Amsterdam	SO	Events: 109	NOCs 46 Athletes 2,883 (277 women, 2,606 men)	17 May - 12 August	
	St. Moritz	WO	Events: 14	NOCs 25 Athletes 464 (26 women, 438 men)	9 days	
1930	Uruguay	WC	1 city 3 stadiums	13 teams	18 days	First World Cup, compact edition
1932	Los Angeles	SO	Events: 117	NOCs 37 Athletes 1,332 (126 women, 1,206 men)	16 days	Biggest stadium ever; schedule fixed at 16 days; first Olympic Village
	Lake Placid	WO	Events: 14	NOCs 17 Athletes 252 (21 women, 231 men)	12 days	
1934	Italy	WC	8 cities, 8 stadiums	16 teams	15 days	
1936	Berlin	SO	Events: 129	NOCs 49 Athletes 3,963 (331 women, 3,632 men)	16 days	
	Garmisch-	WO	Events: 17	NOCs 28	11 days	

	Partenkirchen			Athletes 646 (80 women, 566 men)			
1938	France	WC	9 cities, 10 stadiums	15 teams	16 days		
1948	London	SO	Events: 136	NOCs 59 Athletes 4,104 (390 women, 3,714 men)	17 days		
	St. Moritz	WO	Events: 22	NOCs 28 Athletes 669 (77 women, 592 men)	10 days		
1950	Brazil	WC	6 cities, 6 stadiums	13 teams	23 days		
1952	Helsinki	SO	Events: 149	NOCs 69 Athletes 4,955 (519 women, 4,436 men)	16 days		
	Oslo	WO	Events: 22	NOCs 30 Athletes 694 (109 women, 585 men)	12 days		
1954	Switzerland	WC	6 cities, 6 stadiums	16 teams	19 days		
1956	Melbourne/ Stockholm	SO	Events: 145	NOCs 72 Athletes 3,314 (376 women, 2,938 men)	22 Nov - 8 Dec		First down under edition, two hosting cities, Winter edition
	Cortina d'Ampezzo	WO	Events: 24	NOCs 32 Athletes 821 (134 women, 687 men)	11 days		
1958	Sweden	WC	12 cities, 12 stadiums	16 teams	22 days		
1960	Rome	SO	Events: 150 events	NOCs 83 Athletes 5,338 (611 women, 4,727 men)	18 days		Beginning of the 'event-led' regeneration
	Squaw Valley	WO	Events: 27	NOCs 30 Athletes 665 (144 women, 521 men)	11 days		
1962	Chile	WC	4 cities, 4 stadiums	16 teams	18 days		
1964	Tokyo	SO	Events: 163	NOCs 93 Athletes 5,151 (678 women, 4,473 men)	15 days		Held in October
	Innsbruck	WO	Events: 34	NOCs 36 Athletes 1,091 (199 women, 892 men)	12 days		
1966	England	WC	7 cities, 8 stadiums	16 teams	20 days		
1968	Mexico City	SO	Events: 172	NOCs 112 Athletes 5,516	16 days		Held in October
	Grenoble	WO	Events: 35	NOCs 37 Athletes 1,158 (211 women, 947 men)	13 days		
1970	Mexico	WC	5 cities, 5 stadiums	16 teams	22 days		
1972	Munich	SO	Events: 195	NOCs 121 Athletes 7,134 (1,059 women, 6,075 men)	17 days		Terrorist attacks
	Sapporo	WO	Events: 35	NOCs 35	11 days		

1974	West Germany	WC	9 cities, 9 stadiums	Athletes 1,006 (205 women, 801 men) 16 teams	25 days	
1976	Montreal	SO	Events: 198	NOCs 92 Athletes 6,084 (1,260 women, 4,824 men)	16 days	Economic disaster
	Innsbruck	WO	Events: 37	NOCs 37 Athletes 1,123 (231 women, 892 men)	12 days	
1978	Argentina	WC	5 cities, 6 stadiums	16 teams	25 days	
1980	Moscow	SO	Events: 203	NOCs 80 Athletes 5,179 (1,115 women, 4,064 men) Media 5,615 media (2,865 written press, 2,930 broadcasters)	17 days	US-led boycott
	Lake Placid	WO	Events: 38	NOCs 37 Athletes 1,072 Volunteers 6,703	12 days	
1982	Spain	WC	14 cities, 17 stadiums	24 teams	29 days	
1984	Los Angeles	SO	Events: 221	NOCs 140 Athletes 6,829 (1,566 women, 5,263 men) Volunteers 28,742 Media 9,190 media (4,327 written press, 4,863 broadcasters)	16 days	Ephemeral Games, great economic surplus
	Sarajevo	WO	Events: 39	NOCs 49 Athletes 1,272 (274 women, 998 men) Volunteers 10,450 Media 7,393 (2,363 written press, 5,030 broadcasters)	12 days	
1986	Mexico	WC	9 cities, 12 stadiums	24 teams	30 days	
1988	Seoul	SO	Events: 237	NOCs 159 Athletes 8,391 Volunteers 27,221 Media 11,331 media (4,978 written press, 6,353 broadcasters)	16 days	
	Calgary	WO	Events 46	NOCs 57 Athletes 1,423 (301 women, 1,122 men) Volunteers 9,498 Media 6,838 (2,477 written press, 4,361 broadcasters)	16 days	
1990	Italy	WC	12 cities, 12 stadiums	24 teams	31 days	
1992	Barcelona	SO	Events: 257	NOCs 169 Athletes 9,356 (2,704 women, 6,652 men) Volunteers 34,548	18 days	Probably the best example of event-led regeneration

	Albertville	WO	Events: 57	Media 13,082 media (5,131 written press, 7,951 broadcasters) NOCs 64 Athletes 1,801 (488 women, 1,313 men) Volunteers 8,647 Media 5,894 (2,271 written press, 3,623 broadcasters)	16 days	
1994	Lillehammer	WO	Events: 61	NOCs 67 Athletes 1,737 (522 women and 1215 men) Volunteers 9,054 Media 6,633 (2,615 written press, 4,018 broadcasters)	16 days	
	USA	WC	9 cities, 9 stadiums	24 teams	31 days	
1996	Atlanta	SO	Events: 271	NOCs 197 Athletes 10,318 (3,512 women, 6,806 men) Volunteers 47,466 Media 15,108 media (5,695 written press, 9,413 broadcasters)	17 days	
1998	Nagano	WO	Events: 68	NOCs 72 Athletes 2,176 (787 women, 1,389 men) Volunteers 32,000 Media 8,329 (2,586 written press, 5,743 broadcasters)	16 days	
	France	WC	10 cities, 10 stadiums	32 teams	33 days	
2000	Sydney	SO	Events 300	NOCs 199 (+ four individual athletes) Athletes 10,651 (4,069 women, 6,582 men) Volunteers 46,967 Media 16,033 (5,298 written press, 10,735 broadcasters)	16 days	End of September
2002	Salt Lake City	WO	Events: 78	NOCs 77 Athletes 2,399 (886 women, 1,513) Volunteers 22,000 Media 8,730 (2,661 written press, 6,069 broadcasters)	17 days	
	South Korea / Japan	WC	20 (10 in each country) and 20 stadiums	32 teams	31 days	
2004	Athens	SO	Events: 301	NOCs 201 Athletes 10,625 athletes (4,329 women, 6,296 men)	17 days	

2006	Turin	WO	Events: 84	Volunteers 45,000 Media 21,500 NOCs 80 Athletes 2,508 (960 women, 1,548 men) Volunteers 18,000 Media 9,408 (2,688 written press + 6,720 broadcasters)	17 days	
	Germany	WC	12 cities, 12 stadiums	32 teams	31 days	
2008	Beijing	SO	Events 302	NOCs 204 Athletes 10,942 (4,637 women, 6,305 men) Volunteers 100,000 (70,000 Olympic Games, 30,000 Paralympic Games) Media 24,562 accredited media representing 159 countries	17 days	
2010	Vancouver	WO		2566 athletes 82 participating countries 10,000 media representatives	17 days	
	South Africa	WC	9 cities, 10 stadia	32 teams	31 days	
2012	London	SO	26 sports, 39 disciplines, 34 venues	About 10,500 athletes 204 National Olympic Committees Over 21,000 media	17 days	
2014	Sochi	WO	15 disciplines	88 National Olympic Committees, 1 independent Olympic Participant. Over 2,800 athletes, more than 40% women		7 -23 Feb
	Brazil	WC	12 cities, 12 stadiums	32 teams	32 days	
2016	Rio de Janeiro	SO		Athletes 11,237 207 National Olympic Committees	17 days	4 main sports clusters

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2018	PyeongChang	WO			17 days	
	Russia	WC			32 days	
2020	Tokyo	SO	28 sports		17 days	
2022	Beijing	WO			NA	First city to host both a Winter and a Summer edition
	Qatar	WC			NA	First edition in the MENA

Legend: O= Olympics (no distinction between Summer and Winter), SO= Summer Olympics, WO= Winter Olympics, WC= FIFA World Cup.

6.3 Mega sports events in XX and XXI centuries: Classifications

With a specific focus on Summer Games, Pitts & Liao (2009) identified four different phases of Olympic urbanization, emphasizing the growing impact of this event on hosting cities throughout the last century. According to them, the first three editions of the Games saw minimal urban transformation, being characterized by the use of existing or temporary structures. The second phase, between 1908 and 1928, gave origin to the first sports venues purposely built for the event, with a dominance of the stadium. The White City Stadium in London (1908) is an example of this trend. The third phase (1932-1956) is characterized by wider interventions and by a shift from the construction of single venues to the development of entire Olympic quarters, exemplified by the birth of the first Olympic Village in 1932. Finally, during the fourth phase (1960-ongoing), the urbanization of the Games extended again, going from well beyond the construction of sports venues and event sites. Games' editions from the 60s often included the planning of new infrastructure and the overall redevelopment of entire neighborhoods or brownfield areas.

Other researchers have tried to classify the evolution of the Summer Olympic Games through the century (e.g., Essex & Chalkey, 1999; Preuss, 2000; Varela, 2002; and Smith, 2012). Other studies have focused on a classification of the Olympic Villages (Muñoz, 1997; Muñoz, 2006), or on the evolution of the concept of legacy in the Games (Leopkey, 2013), while only in recent years there are attempts to categorize FIFA World Cups' venues (Street, Frawley & Cobourn, 2014). Table 5 shows a summary of the major studies; however, it is useful to note certain common traits. Firstly, all these research works have tried to classify the evolution of Olympics

into chronological orders, dividing all the editions into four or five main periods. Although this is a process of simplification to clarify the major processes that characterized the Olympic urbanization, it is sometimes a risky approach, as the Games have shown a discontinuity in the way hosting cities have managed their legacy. Secondly, the majority of the studies focused only on Summer Olympics, avoiding other major sports events. This is probably because the Summer Games are the major sports event worldwide, with the widest impact on hosting cities and also because they are usually the best documented events. A categorization made on the basis of main recurrent trends, independent of chronological order and including Winter Games and World Cups as well as the Summer Games, could help in advancing the field of legacy and in understanding how to profit at maximum from the stage of a mega sport event. In this sense, an example is offered by Smith (2012), who used event-led urban regeneration as a way to classify the Games. In his study, he distinguishes the event's impact on dimension (sports venues vs. city regeneration), and location (peripheral vs. central and concentrated vs. spread). Previously, Pitts and Liao (2009, pp. 42-44) classified the urban integration of Olympic sites, dividing the history of Olympics into six city models: "decentralized, inner city mono-clustering, inner city poly-clustering, periphery clustering, and satellite clustering." However, both studies focused mainly on the physical dimension and urban form of legacies.

Table 5. Major Chronological Classification of the Summer Games and Mega Events (Source: adapted and extended from Pitts and Liao, 2009)

Edition	Essex & Chalkey (1999): Olympic Urbanization	Preuss (2000): Olympic Economics	Varela (2002): Olympism	Pitts & Liao (2009): Olympic Urbanization	Smith (2012): Mega events Regeneration
1896 Athens	Phase 1:	Phase 1:	Phase 1:	Phase 1:	Pre World War
1900 Paris	Ephemeral	Many	Foundation of the	Origin of the	II, era of urban
1904 St. Louis	Games, poor management, small scale	financing issues, small scale. Games publicly financed.	movement	Olympic urbanism, small scale and ephemerality	development: Urban expansion, stadium projects, ephemeral facilities
1908 London	Phase 2:			Phase 2:	
1912 Stockholm	Development of		Phase 2:	The dominance	
1920 Antwerp	event-purpose sport facilities,		Establishment of	of the Olympic stadium	
1924 Paris	better organized		International Federations		
1928 Amsterdam	Games, small dimension			Phase 3:	
1932 Los Angeles				The rise of the Olympic quarter	
1936 Berlin	Phase 3:				
1948 London	Development of		Phase 3:		Post-war era:
1952 Helsinki	event-purpose sport facilities,		Starting of the mass media era		Emphasis on reconstruction
1956 Melbourne	some first impact on infrastructure, wider dimension			Phase 4:	
1960 Rome				The age of urban transformation, wider scale and complexity	
1964 Tokyo			Phase 4:		
1968 Mexico City	Phase 4:		Financial stability		
1972 Munich	Large scale, more complex Games, high impact on the built environment	Phase 2:			Era of regeneration, Mid-1970s: Urban crisis and de-industrialization, emphasis on regeneration, wider scale, publicly funding
1976 Montreal		Games still publicly financed. Revenues from broadcasting and sponsorship			
1980 Moscow					
1984 Los Angeles					
1988 Seoul		Phase 3:	Phase 5:		
1992 Barcelona		Commercialization and financial independence of the IOC	Renovation of IOC management		Era of regeneration, 1990s: Place-making, private partnership, and economic development
1996 Atlanta					
2000 Sydney					Era of globalization, 2000s: Focus on people and legacy
2004 Athens	Not covered.	Development of Phase 3	New era		
2008 Beijing	After authors' research				
2012 London					

Looking at the past editions of the three major sports events, Summer and Winter Games and FIFA World Cups, one can see four principal trends in the way

legacies are managed and that repeat themselves disregarding the chronological order (Table 6). The first tendency is to focus on long-term legacy and stage an ephemeral event. This is the case of the first two Olympics that utilized mainly existing or temporary infrastructure. To illustrate, in Paris 1900, the Olympics utilized only natural settings (Lucas, 1904). The first edition of the World Cup had a similar strategy, as it was a one-city event with all the matches held in Montevideo, Uruguay. Recent events include the 1984 Summer Olympics in Los Angeles and the 1994 World Cup in the USA. The city of Los Angeles utilized mainly existing sports venues and temporary converted university residences into accommodations for the athletes. This edition was an unprecedented commercial success that led to the establishment of the LA84, a private foundation with aim of managing the surplus of the Games in form of Legacy (Leopkey, 2013). This event is also characterized by having been funded totally by private funds. The Olympics did not lead to any significant urban transformation; however, the careful planning and consistent surplus created an important and positive long-term legacy to the city. A similar strategy was adopted by the US for the staging of the 1994 World Cup. This is in fact the only case in the history of this event in which only existing stadiums were utilized for the completion; no new venues were built from scratch (Street, Frawley & Cobourn, 2014).

The second approach is one of focusing on the development of urban infrastructure at a larger scale, using the event as catalyst for important urban transformations. This trend includes the most famous cases of the Summer Games of Rome (1960), Tokyo (1964), Barcelona (1992), and more recently London (2012). In

all these occasions, local governments leveraged the event to revitalize brownfield neighborhoods and regenerate wide areas within the city. In particular, both Barcelona and London exploited the event as an urban policy tool to execute their master plan. To illustrate, when London was awarded the 2012 Games, the city decided to utilize this occasion to revitalize the area of Stratford, in East London, identified as one of the main strategic areas of intervention in the London Plan (2004). Although a risky approach, because it necessitates considerable amount of investment, this strategy can generate a long-term and positive legacy within hosting cities in the form of new livable spaces and quarters and new transport infrastructure.

Table 6. Mapping of the Four Major Trends of Mega Sports Events

Trend 1 Ephemeral event, no focus on new infrastructure	Trend 2 Focus mainly on urban infrastructure	Trend 3 Focus mainly on event-related infrastructure	Trend 4 Both focus on sports venues and major city infrastructure
Paris, Summer Games 1900: Only ephemeral and existing infrastructure	Rome, Summer Olympics 1960	Korea and Japan, World Cup 2002	Montreal, Summer Games 1976
Los Angeles, Summer Games 1984: Economic surplus, economic success	Tokyo, Summer Olympics 1964	South Africa, World Cup 2010	Sochi, Winter Olympics 2014
USA, World Cup 1994: only existing stadiums and infrastructure	Barcelona, Summer Olympics 1964 London, Summer Games 2012	Brazil, World Cup 2014	Qatar, World Cup 2022

A new approach to sports events is to focus mainly on the construction of state-of-the-art sporting venues and related facilities. The 2002 World Cup in Japan

and Korea exemplifies this strategy. On that occasion, the majority of the expenditure was utilized for the building of the stadiums, ten in each country, seventeen of which were completely new, with an overall investment of US\$ 4.5 billion (Street, Frawley & Cobourn, 2014). However, this focus on the event itself, without any post-event usage or legacy planning, generated negative legacy, with many of the stadiums underutilized, in addition to their maintenance cost. This is also the case of the 2010 South Africa and 2014 Brazil World Cups, where the majority of the stadiums are now white elephants or under-utilized and costly structures not needed by local people.

Finally, in some instances hosting cities are tempted to implement massive construction plans, developing both new sport venues and new city-level infrastructure. This seems to be the strategy for Qatar 2022. The Qatari Government has started an extensive plan for upgrading its infrastructure, including a new airport and new port, road system upgrade, and the construction of a four-line metro system. At the same time, eight stadiums are already in construction or planned to be built for the 2022 tournament, with a total expenditure of USD 220 billion (Doha News, 2011). However, this is a risky approach, as the case of the 1976 Montreal Olympics exemplifies, in which poor management and great expenditure caused a huge long-term debt; or, more recently, of the 2014 Winter Games in Sochi. Here, for the event, a series of totally new and over-sized sports facilities were built, along with a high-speed railway service and new roads, and the upgrade of the local airport. With a total expenditure of over USD 50 billion (Müller, 2014), this edition owns the record of being the most expensive of all the Winter Games, and its legacy mostly negative. The majority of the venues are currently closed or under-utilized, and the railways

new lines partially closed just after one year from the stage of the Games (Müller, 2014).

Independently from the strategy undertaken, hosting cities need to have a legacy plan ready before the starting of the preparation for the event, and design carefully their event outcomes. Cities, especially the ones in the emerging countries, are increasingly interested in bidding for and hosting mega events, and it has become extremely important to implement strategies that allow the planning and implementation of positive, sustainable and long-lasting legacies, especially planning carefully events sites and venues.

6.4 Mega sports events and legacies: Definition and appraisal

Mega-events, from the Olympics to the World Cups, are often regarded by planners and politicians as key drivers for the overall redevelopment of a city. Mega-events have driven urban transformation of cities such as Barcelona, London, Rio, Beijing, and Shanghai, but while the prospect of economic growth is the driving force for hosting a major event, the legacies that follow their hosting, have been difficult to design and quantify (Preuss, 2007). Although mega sports events such as Olympic Games or World Cups have a strong impact on the local communities and the built environment, the planning of their legacies is a relative new concept for both the academia and organizing committees and is often defined as “all planned and unplanned, positive and negative, intangible and tangible structures created by and for a sport event that remain for a longer time than the event itself” (Preuss, 2007, p. 86).

A milestone was unlocked in end of 2002 when the IOC, organized an international congress on the *Legacy of the Olympic Games from 1984 to 2000*, with the aim of defining all the potential strengths and pitfalls in the planning and management of legacies in the long run (Leopkey & Parent, 2012). The 2002 IOC Congress attempted defining legacy; however, it is only since 2003 that legacies were formally included within the Olympic agenda. In fact, as Chappelet (2008) reminded us, in 2003 the Olympic Committee amended its charter to include an additional statement in its mission that focused on the generation of beneficial legacies for hosting cities. Since 2003, all bidding cities are required to have a legacy plan in their candidacy files, explaining post event usage for sports facilities and long-term plans for the areas involved in the Games.

Since its introduction, people have changed the definition of legacy from an idea reflecting a general impact related with the staging of a mega-event to something that is intentionally and proactively designed to be long lasting and sustainable. Apart from legacy's definition, a complex and unsolved issue for hosting cities is the creation of an effective and comprehensive framework for the evaluation and the planning of sports events legacies. In addition, an effective tool should be able to evaluate legacies long-term and applicable to different geographical areas and contexts. To solve this issue, the IOC realized the Olympic Global Impact (OGI), a tool that evaluates legacies based on data collected from a hundred and fifty indicators derived from three main dimensions (environmental, economic, and social). Data are collected for twelve years. The OGI was introduced on the occasion of the 2002 Salt Lake Games, and is currently considered a strategic element for transferring the

Olympic knowledge (IOC, 2006). However, OGI has many limitations. Firstly, all the indicators used by this tool collect quantitative data and do not include either qualitative data or soft and intangible legacies. Moreover, the data collection stops only two years after the conclusion of the Games when the Local Organizing Committee (LOGOC) ends its life. This timing is particularly short when assessing legacies and impacts that can last up to thirty years or more. In addition, if the Olympic Movement attempted to tackle this problem, FIFA and other major events organizers are far behind. In fact, although other events such as the Expos (Dimanche, 1996), or minor sports events as the Commonwealth Games (e.g., Smith and Fox, 2007; Matheson, 2010; Nichols and Ralston, 2012), or World Cups (e.g., Preuss, 2007; Cornelissen, Urmilla & Swart, 2011) have been explored, research is now focusing mainly on the Olympics' impacts (e.g., Ritchie, 2000; Cashman, 2006; Gold & Gold, 2008; Girginov, 2011).

Recently hosting cities have started including concepts of sustainability and sustainable development to their legacy plans, mainly to justify the expenditure of taxpayers' money in the mega-events' planning and execution (Smith, 2009). Additionally, in reviewing the literature, the majority of academic works did not undertake any comprehensive approach and investigated only one main impact at a time (Table 7), usually the economic aspect (Allmers & Maennig, 2009; Burgan & Mules, 1992; Crompton, 1995; Gratton, Shibli, & Coleman, 2009; Preuss, 2005;), the image-related impact on hosting cities, or the social outcomes (Waitt, 2003; Raco, 2004; Smith, 2009). Other studies have also investigated other types of legacy as the environmental issues (Chappelet, 2008; Collins, Jones, and Munday, 2009; Levett,

2004), or the impact on urban development (Liao & Pitts, 2006; Pillay & Bass, 2008; Pillay, Tomlinson & Bass, 2009). Smith (2009) defined guidelines for hosting cities that wish to maximize the sustainable legacies from the stage of mega sport events; Frey, Iraldo & Melis (2008) focused their research on the impacts on local development, while Essex & Chalkley (2015) explored how to leverage sports events for urban regeneration and renewal purposes.

Table 7. Classification of Legacies (Adapted and integrated from Leopkey, 2013)

Type of Legacy	References examples
Sport Legacy	Carmicheal, Grix & Marques, 2012; Cashman, 2006; Cashman & Hughes, 1998; Chappelet 2006; Coalter, 2004; Cornelisson, 2011; Girginov & Hills 2008; Toohey, 2008; Zimmeman, 2007.
Economic (including Tourism and City Branding)	Andersson & Solberg ,1999; Brown, Chalip, Jago & Mules, 2004; Cashman ,2006; Cashman & Hughes, 1998; Kasimati 2003; Dyreson & Llewellyn, 2008; Fourie & Santana-Gallego, 2011; Knott, Fyall & Jones, 2012; Maenning & Zimbalist ,2012; Morse, 2001; Preuss, 2004; Preuss, 2007; Preuss & Alfs, 2011; Ritchie, 1984; Ritchie, 2000; Ritchie & Smith, 1991; Solberg & Preuss, 2006; Terret, 2008; Toohey, 2008; Weed, 2008; Whitson & Macintosh, 1993; Xing & Chalip, 2006.
Infrastructure / Physical, Urban (city transformation and regeneration)	Carlsen & Taylor, 2003; Cashman, 2006; Chalkley & Essex, 1999; Chappelet, 2006; Davies, 2011; Essex & Chalkley, 1998, 2004; Herculano, Rezende & Carvalho, 2011; Jones, 2001; Kissoudi, 2008; Matheson, 2012; Preuss, 2007; Ritchie, 1984.
Education	Griffiths & Armour, 2012; Halbwirth & Toohey, 2001; Shipway, 2007; Stevenson, 2012.
Cultural	Cashman & Hughes, 1998; Khan, 2004; Kidd, 1992; Stevenson, 2012.
Psychological & Social	Carey, Mason & Misener, 2011; Doherty, 2009; Lenskyj, 2000, 2002; Nichols & Ralston, 2011, 2012; Raco, 2004; Waitt, 2003.
Environmental	Briese, 2001; Chappelet, 2008; Levett, 2004
Political	Andranovich, Burbank & Heying, 2001; Cashman, 2006; Ritchie, 1984; Rowe, 2012; Toohey, 2008.
Health	Carmont, 2012; Shipway, 2007; Sim, 2012; Copeland & Til, 2012.

In examining academic research and the role held by the major organizing committees (IOC and FIFA) when dealing with legacy and sustainability plans, one can see many unbalances. First, there is much more literature/research available on Summer Olympics than World Cups. As Table 8 shows, a search by Google Scholar of the terms *Olympic legacy* vs. *World Cup legacy* gave as a feedback a number of 2,200 vs. 152 entries. Studies on Olympic legacies appear to be more structured and systematic. The same unbalance is evident also in the behavior of the major event organizers. While IOC, in 2003, amended its charter to introduce the obligation for

Olympic cities to have a legacy plan that covers also the major sustainability issues, FIFA is well far behind, and introduced some unstructured initiatives that consider sustainability only for the 2006 Germany World Cup.

Table 8. “Olympic legacy” vs. “FIFA legacy”: Results from Google Scholar (Search done on December 29, 2015)

Search	Result
“Olympic Legacy”	2,200 entries
“World Cup legacy”	152 entries

Finally, Preuss, (2007) underlined that there are three main issues researchers need to face when assessing legacies: the difference between gross and net legacy, the assessment of legacies over-time, or the decisions concerning the positive and negative contributions of legacies. However, in spite of how legacy is measured or defined, one cannot find any holistic or comprehensive studies on how to transform event sites, as Olympic parks or stadiums surroundings, in livable and sustainable public spaces. Cities, especially in emerging countries, are increasingly interested in bidding and hosting mega-events, and it has become strategic to implement strategies that allow maximizing the benefits from their hosting and planning and implementing positive, sustainable and long-lasting legacies. Within this context, the researcher's work faces a strategic issue, by firstly developing a framework for the comprehensive appraisal of the site events by evaluating their sustainable legacies and assessing their social, economic, environmental, physical, cultural and governance-related impacts. Secondly, drawing from past experiences and selected case studies, the research will define strategies on how to maximize the benefits from staging mega sports events by

determining a set of guidelines for implementing and delivering effective long-term sustainable open spaces from event sites.

6.5 A brief evolution of the stadium as a building type

Stadiums are the dominant facility in all mega sports events, but also the most problematic venue in the post-event usage because they alternate short period of extreme congestion on matches' days with long period in which they are totally empty or under-utilized. Stadiums have a very ancient history. The first prototypes are the hippodromes and stadiums of ancient Greece. The word stadium, in fact, derives from the Greek *stadion*, a measure equivalent to 600 feet that was variable from region to region, depending on the length of the foot adopted, and a *stadion* (600 feet) was the length of the most important foot racecourse of the time. Greek stadia were U-shaped, with a straight end forming the start-line. They were usually hillside, and used natural materials (see Figure 11). The choice of the location for a stadium was the first design operation: great importance was given to the relationship with the natural environment, using (as for theaters) natural slopes to derive the tiers for the spectators. The stadium and the natural environment, in this way, were strongly organic and unified. Stadiums were built usually far from urban centers, often in the vicinity of the holy places, as in the case of Olympia.

Contrary to the Greeks, the Romans preferred to be spectators rather than active sporting protagonists, and this choice influenced the types of events held and, therefore, the site for them. Mortal combat replaced races and athletic events, and, to accommodate the growing number of spectators, they developed a new typology, the

amphitheater. Up to Caesar's time, Romans used held *munera*, the games with animals, and gladiator combats in circuses with temporary fences. However, in 52-53 B.C., Curio the Younger, to amaze his voters and astonish his public, built two wood theaters and juxtaposed one to the other from the external side for theater representations. Later, in the same day, these two theaters were rotated to create a single enclosed arena for the stage of the *munera*, creating *de facto* the new typology of the amphitheater (Figure 34). The construction of the first amphitheatres was temporary and in wood, then Augustus realized the first permanent one in stone in 29 BC (Carcopino, 1939). The most famous is probably the Coliseum, an impressive venue with two axes of 556 e 537 m, 4 floors, and 45,000 seats. However, other major examples of them can be found in the provinces, as Lyon, Carthage, and in Gaul and Macedonia. They were all replications/copies of the first Roman amphitheater.

During the Middle Ages, with the spread of Christianity in Europe, no specific places for entertainment or recreation were built, while during the Renaissance and Baroque period competitions on foot or horseback were held mainly in open fields or town squares, sometimes with temporary stages.



Figure 34. The interior of the Coliseum, the most famous Roman amphitheater (Source: CarlaBron, under CC0 Public Domain).

The stadium as a building type did not have a revival until the end of the 19th century, when the Olympic Games were restored. Since 1896, year of the first edition of the modern Games, the stadium has always been the most important structure of all major sporting events. It is undoubtedly a major element of the modern architectural language, an element familiar to all of us. Within a city, in fact, a stadium is a highly recognizable structure because of its large dimension and shape. They are often huge facilities with a capacity up to host 80 to 100,000 viewers, and their construction, especially if they are to accommodate the Olympic Games or World Cups, has often directed or influenced the urban development of large districts, if not of entire cities. These sports facilities have always been an object of experimentation to the benefit of the athletes (materials and facilities) and spectators (comfort, visibility, security, etc.). At the beginning of the last century stadiums were designed to be multi-purpose

venues, with the host of several types of competitions, as or the White City Stadium of the 1908 London Olympics (Figure 35), but today they tend to be constructed for a specific use only. For example, football-specific grounds tend to privilege spectators' view, avoiding athletics tracks, and allowing in this way for the spectators to be seated closer to the field of play.



Figure 35 . The White City Stadium of the 1908 London Olympics (Source: the British Olympic Association, 1909, under CC0 Public Domain).

Stadiums are often iconic architecture, and they are highly recognizable within a city. Contemporary examples include Wembley in London, Bernabéu in Madrid, or Maracanã in Rio de Janeiro. However, more often stadiums do not meet the post-tournament life, and inadequate planning, cost of maintenance, and large and over-estimated structures transform them into white elephants and their surroundings into non-places, and lands of placelessness (Relph, 1976). Stadiums are often troublesome legacies of mega events, as they are out of scale, oversized, and gigantic structures, with huge costs of maintenance. In addition, they are *a-topological* buildings that do not take into account the place in which they are constructed and the local needs and specificity. They tend to be replicas of each other, being the same everywhere in the world. A risky approach regarding specifically World Cups is also to have multiple

stadiums within the same city, doubling the problem of post-event usage. Examples are Spain 1982, with three cities with two venues each: Madrid, Barcelona and Seville, or the recent case of South Africa 2010 with Johannesburg. Another frequent issue relates to the incapability of stadiums to integrate and connect themselves with the neighborhoods. Often peripheral to city centers, they are surrounded by vast parking areas. For example, large out-of-town stadiums were a major trend during the 60s and 70s, especially in Germany and US (Figure 36) because it was believed they would create fewer disturbances, reduce land cost, and increase ease of access by private cars (Geraint, Sherard & Vickery, 2014). However, in this way, stadiums tend to be gigantic holes in the urban fabric, forming detached islands within the neighborhoods in which they are located. Another recent example of poor integration with surrounding area is the stadium of Green Point in Cape Town (Figure 37), built for the 2010 World Cup. Before the tournament, local Government intended to upgrade the existing stadium in Athlone, a working-class mixed-race neighborhood. They believed the investments in transport, security and economic infrastructure that would come from hosting World Cup matches in Athlone would reduce inequality. However, FIFA's concern about showing worldwide Athlone's low-cost housing and other signs of poverty led to the construction of a new facility in the area of Green Point, which was considered more media-friendly and suitable for a television audience, with its stunning view over the mountains and nearer to the major tourist destinations. Cape Town's stadium symbolizes the worst of FIFA's legacy in South Africa. It is a superfluous mega structure unwanted by the wealthier, and it is far away from the areas where football fans live (Molefe, 2014).



Figure 36. Dodgers Stadium in Los Angeles, a gigantic 'hole' within the urban fabric (Source: Ron Reiring, under the Creative Commons Attribution 2.0 Generic license).



Figure 37. Green Point in Cape Town and its landscape (Source: Shannon Hampton, under the Creative Commons Attribution-Share Alike 3.0 Unported license).

Often cities prefer to build new venues instead of upgrading or using existing structures. This is the case of Brazil 2014. For the World Cup, many stadiums were already available, but it was preferred to build new ones. The example of Korea and Japan that hosted the 2002 World Cup also follows this trend. That edition holds the record of using the highest number of stadiums, twenty, with seventeen venues completely new. Besides the high expenditure, this is a risky approach because it can easily generate white elephants, especially in countries in which football is not much played. Sochi is another negative example. A stadium with a capacity of 40,000 spectators was realized just to host the opening and closing ceremony of the 2014 Winter Games. Now the venue is again under construction, as it needs to be enlarged

to host some of the matches of the 2018 World Cup. However, Sochi does not have a strong football tradition, and the existing small stadium in the city center, with a capacity of 10,000 seats, is considered more than enough for local needs (Müller, 2015b).

To conclude, how can hosting city avoid building white elephants? The third part of dissertation will try to define a set of guidelines to maximize the benefit of post-event legacies and transform event sites and venues into successful and livable open spaces, but some first strategies are summarized in the following paragraph. First, using existing facilities is a winning choice because it avoids the creation of white elephants and allows saving a considerable amount of money. Temporary structures are also a good solution, along with the planning of repurposed venues or modular stadiums that can be disassembled and then combined to create other structure somewhere else. Downscale could be also a winning strategy. However, the most important rule to avoid disuse and ghost infrastructure is to plan in advance their legacy mode, taking into account local needs and necessities. Indeed, plan ahead is always much more effective than retrofit. Moreover, integration with surrounding areas (Figure 38), easy connection by public transportation, and mixed-use facilities can improve the livability of these venues.



Figure 38. Stadium in Mendoza, Argentina (Source: Dr. Haus, under the Creative Commons Attribution-Share Alike 3.0 Unported license). The stadium, built for the 1978 World Cup, was planned to disguise itself in the surrounding landscape. It is partially underground (De Ambrosis, 2013).

Finally, another issue relates to the disposal of these huge structures. Usually, after a certain period of time, due to new procedures or technical requirements, stadiums need to be renovated, but sometimes they are simply abandoned and replaced by new facilities. An example is the stadium Flaminio in Rome. This iconic landmark built by Antonio Nervi for the Olympics of 1960 stands now completely abandoned in the hearth of the Olympic Village (Figure 39). However, some positive examples of disposal exist. In London, the former Arsenal Stadium was converted into an apartment complex, known as Highbury Square (Figure 40). The Bush Stadium in Indianapolis, built originally as a baseball arena, followed the same strategy. The Pyramid Arena in Memphis was originally constructed to host

basketball games. However, it has been reconverted to a megastore with a hotel, restaurants and shop.



Figure 39. Stadio Flaminio in Rome in recent days.



Figure 40. Highbury Square, former Arsenal Stadium in London (Source: Author).

7. Conclusions: Towards long-term sustainable open public spaces as legacies of mega sports events

The chapter performed a literature review that focused on past precedents (Ancient Greece, Roman Empire, major Italian cities of the XVI-XVII centuries, Istanbul, Cairo, Esfahan, Delhi, and Fatehpur Sikri), and some major contemporary cases (XX and XXI centuries). Also, it investigated the evolution of the term legacy and its main components and issues. Since its origin, legacy has changed its definition several times, and has recently attracted the interest of the academia. However, the research underlined that there is not an agreement in how to measure legacies, and its appraisal is even more complicated. The literature review also showed the constant growth of mega sports events in the last century. For example, while the first Olympics had low budgets and used mainly temporary and existing facilities, from the 60s, and in particular from the Olympic Games held in Rome, mega-events have been more and more used as occasion for the overall redevelopment of urban centers. However, despite this gigantism, results in terms of legacy are often negative, and sports venues and event sites too frequently turn into white elephants and non-places. In particular, high maintenance costs, peripheral location, and lack of integration within the urban fabric are some of the problems relating stadiums and major sports facilities. The research also showed that downscaling; using temporary, modular, or existing facilities; and reconverting venues to other purposes can be a winning strategy in the post-event usage.

The next part of the dissertation will focus on a comparative analysis of three recent case studies. The cases selected include the 2012 Olympic Games held in

London; the city of Rio de Janeiro, which held some of the matches of the 2014 World Cup and hosted the 2016 Olympics; and Sochi that staged the 2014 Winter Olympics and will host some matches of the 2018 FIFA World Cup. Results will be discussed with reference to the city of Doha, which hosted the 2006 Asian games and will host the 2022 FIFA World Cup.

PART II - CASE STUDIES COMPARATIVE ANALYSIS

CHAPTER 3. MAPPING AND EVALUATING LEGACIES OF CONTEMPORARY MEGA SPORTS EVENTS

1. Introduction and structure of Part II

This second section starts with an overview of the role of public open spaces in contemporary emerging cities and it describes their major features. It will be followed by a short review of the most relevant tools for assessing open spaces and mega sports events. The second half of the chapter will discuss three contemporary case studies: the 2012 London Olympics, the 2014 Sochi Games, and the 2014 World Cup and 2016 Summer Olympics of Rio de Janeiro. The research will investigate the impact of those events on the public open spaces of hosting cities. The cases were selected with the aim of covering three major sporting events (Winter Olympics, Summer Olympics, and FIFA World Cups), and choosing very recent editions. The hosting cities also cover the so-called developed world (London), and the developing world (Rio de Janeiro and Sochi, both from the BRICS area). The three cases are analyzed according to a multi-layered methodology, with the aim of mapping best practices, successful stories, and pitfalls in the building of sustainable public spaces as a result of mega sports events.

Results will also allow development of a framework for the comprehensive assessment of legacies of mega sports events for future hosting cities. The presentation of the framework will conclude this section.

2. Unsustainability of new emerging cities and the necessity of public open spaces

Currently, urban centers represent the dominant habitat for human beings. As a matter of fact, today, cities host around three billion and five hundred million people: more than half of the global population (UN, 2014). Also, according to recent studies, another three billion of people are expected to live in cities before 2050, making the overall urban share reaching two-third of the world's population (Sustainable Development Solutions Network Thematic Group on Sustainable Cities, 2013). This urban growth affects primarily emerging countries (Figure 41).

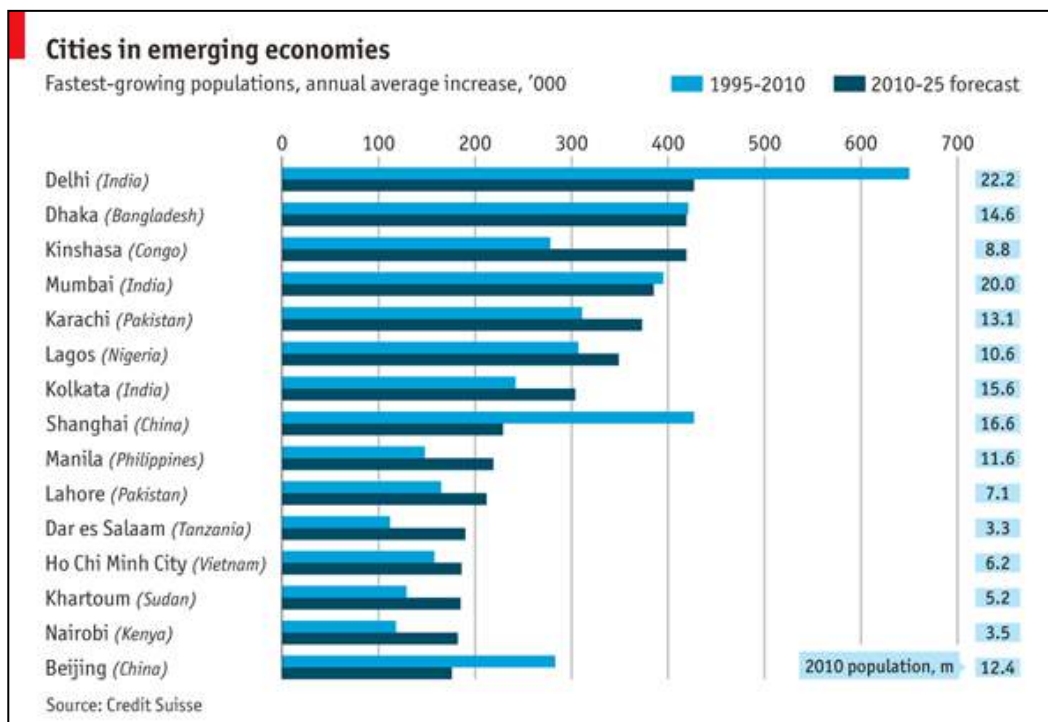


Figure 41. Cities' population growth (Source: The Economist online, 2012).

Only sixty years ago, until around 1950, the number of inhabitants living in urban centers was higher in the developed nations: 58.5 percent of the total, or 426.9

million. At the present time, this condition has changed, and for every ten residents in cities, more than seven live in developing countries (UN System Task Team on the Post-2015 UN Development Agenda, 2012). With the rise of global population, emerging cities account now for more than 60% of the world's GDP growth (Figure 42). The global economic balance is moving faster and faster toward the east and south of the world, thanks to an increasing level of urbanization across the emerging cities. This trend in urbanization will generate a consuming class of over four billion people by 2025, and around two billion of it will be in emerging-market cities (McKinsey & Company, 2012).

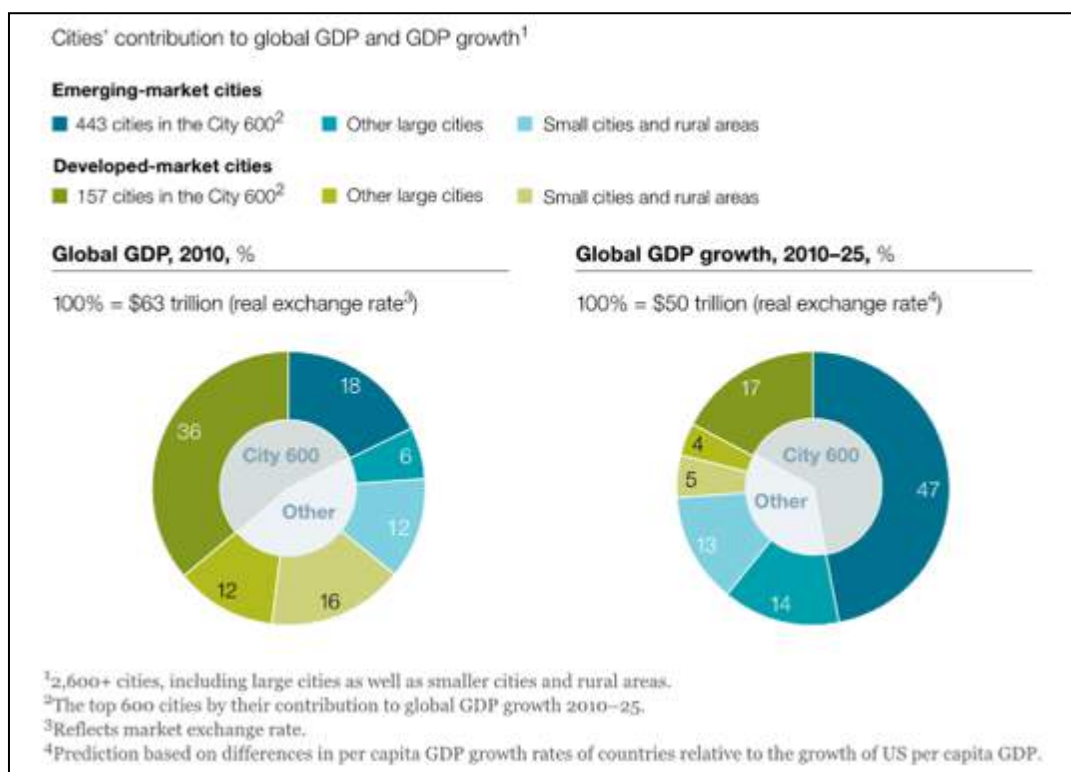


Figure 42. Cities' contribution to global GDP and GDP growth (Source: McKinsey Global Institute Cityscape 2.0).

This economic trend is having a wide impact on urban infrastructure; in the next twenty years, about two-thirds of global infrastructure spending will be in urban centers of developing countries, mainly for building residential units. India and China alone will build 16 trillion square meters for housing half a billion more inhabitants (McKinsey & Company, 2012; The Economist online, 2012). Seemingly, cities need infrastructure to growth, and wide infrastructure investment means economic development and urban growth. In almost all cities, the maintenance and improvement of infrastructure represent a major challenge because it can hardly keep pace with the constant rise in population, especially in terms of transportation systems. This rapid economic rise is modifying the world map of economic and urban development. Emerging market cities are climbing all the international rankings in terms of population size and terms of economic attractiveness, gradually gaining more and more importance (The Economist online, 2012). In this context, urban governance has a key role in tracing a new form of urbanism, especially when considering the management of cities and real-estate sector. On one hand, in order to stimulate urban growth and to become a focus of international investment networks, it is necessary to increase liberalization measures and public investments in infrastructures. On the other hand, regulations are needed to integrate urban efficiency and diversity in the long-term. The main challenge for emerging cities governors is to find the right mix between liberalization and regulation, in order to reflect on the role of the city in a long-term perspective, ensuring a realistically sustainable growth. Public investments in infrastructural and cultural projects and public-private partnerships also have a key role in guaranteeing more balanced developments (Wiedmann, Salama & Thierstein, 2012). Moreover, urban governance is strategic for implementing sustainability

practices. However, global cities have to cope with increasing liberalization and a speculative real estate market when trying to achieve new forms of sustainable development. In addition, they must deal with the growing amount of energy and water waste and all the pollution and pollutants due to a persistent lack of regulations that harm the quality of the environment (Salama & Wiedmann, 2013).

An additional form of sustainability is related to people: residents and inhabitants of urban communities. One of the main changes in emerging cities is the increasing number of inhabitants who have now the possibility to afford and have access to urban goods and services, such as housing, education and health (Dadush & Ali, 2012). This growing consumer demand requires the construction of new housing buildings, which are often built in separated and far locations, creating a higher level of fragmentation in urban centers. The result is a split of the city into a bipolar social structure with an increasing contrast between high-income and low-income workers and two totally different living environments (Salama & Wiedmann, 2013). Finally, new open public spaces (i.e.: parks and green space) and sports and recreational facilities (i.e.: swimming-pools, gyms, malls) need to be designed and developed to satisfy the needs of this growing consuming middle class (Balbo, 2014). Livable, sustainable and accessible public spaces are needed to reach a higher quality of life in urban centers. However, city governors and decision makers often oversimplify this necessity or rarely take it into account. Nevertheless, a higher number, quality and functionality of urban open spaces should be considered as a key issue in the future expansion of emerging market cities (Salama & Wiedmann; 2013; Salama & Azzali, 2015).

To conclude, the World Bank (2009) itself has underlined the importance of emerging cities in the overall economic development of the world and the necessity of conformed planning tools and means and improved guidance and capacity for managing and driving the urban growth. New policies, strategies, and organizational structures need to be considered and implemented, focusing specifically on ways to design and implement sustainable urban communities. In this scenario, mega events can play an important role, leading to the transformations of hosting cities into more livable and sustainable urban developments and leading to the production of new livable public open spaces.

3. Public open spaces, some definitions

Many scholars have attempted to study open public spaces (POS) and their components. POS refer to different types of urban spaces such as parks, streets, sidewalks, plazas, malls, beaches and other gathering places. POS provide the common milieu where people can coexist peacefully, communicate, and undertake different activities. Researchers and practitioners from different areas, including planners, architects, sociologists, environmental psychologists, anthropologists and others, have investigated these spaces. Mitchell (1996, p. 128) described POS as “those spaces in cities [...] that are publicly owned and have ‘always’ been used by citizens to gather and communicate political ideas.” Open spaces are also defined from a functional perspective, with scholars defining them as behavioral settings in which individuals and groups carry out certain actions, which involve interaction with the physical environment. In these settings spaces also evoke certain reactions, both consciously and unconsciously (Gehl, 1987). Woolley (2003) defined public space

as a space that is shared with strangers, a common place for enjoyment, gathering, politics, religion, commerce and sport. Its character expresses conditions of civic culture, public life, and everyday discourse and sees open space as a crucial factor in developing sustainable cities. The many benefits derived from effective open space are explored in great detail including social, health, environmental, and economic benefits. Francis (1989) agreed that open spaces provide several benefits for different residents in a community. This range of benefits can cover the natural, social and economic fields as follows: natural/environmental benefits (i.e. preserving biodiversity), social (e.g. socializing and healthiness) and economic profit (i.e. tourists attraction). To conclude, seminal contributions from Gehl (1987), Francis & Marcus (1998), Whyte (1980), and others, based on their studies of social and psychological factors in open space design, have shown that good public spaces are ones that are accessible and diverse, well-utilized by a wide variety of persons and involve diverse activities.

Public open spaces are also often related to the concept of livability and quality of life. Badland et al. (2015), for example, identified them as one major aspect of livability, as confirmed by (Lowe et al., 2013, p. 11) that described livability as: “safe, attractive, socially cohesive and inclusive, and environmentally sustainable; with affordable and diverse housing linked to employment, education, public open space, local shops, health and community services, and leisure and cultural opportunities,” including open spaces as a major factor. POS are thus essential for the enhancement of urban life quality, and they are associated with health and wellbeing of local residents (Villanueva et al., 2015). To illustrate, Whyte (1980, p. 125) stated:

“You can measure the health of the city by the vitality and energy of its streets and public open spaces.” Having successful, convivial, and livable open spaces contributes numerous benefits for different residents in a community. This range of benefits covers nature projects, services and environmental benefits (i.e., preserving the natural environment), social outcomes (e.g., socialization and healthy living), and economic benefits (e.g., tourism). High quality POSs are the ones that are inclusive, sociable, and accessible. Other scholars tried to classify or define indicators to assess the quality of urban spaces. For example, Villanueva et al. (2015) tried to identify the best POS indicators to assess and evaluate progress towards achieving a range of policy and health and wellbeing outcomes, while Carmona et al. (2010), identified the major dimensions of urban public spaces including perceptual, social, visual, functional, and morphological. These factors are interrelated and influence each other and help us understand and evaluate POS. Finally, Al-Maimani, Salama and Fadli (2014) created a categorization of attributes of urban open spaces divided into three main areas: functional, social, and perceptual attributes.

Few studies, however, have covered the Gulf area countries and particularly Qatar. Many POS in Doha hold relevant importance as gathering places and promoting social life to experience by the users, and that is the reason why the last part of this study will focus on Doha and how to promote sustainable and livable open spaces in the city through mega sports events.

4. What is sustainable urban development?

There are several definitions of sustainable development and sustainability, however, the one provided by the World Commission on Environment and Development in the Brundtland Report (The World Commission on Environment and Development, 1987, p. 41) is the most frequently cited, and it defined sustainable development as the “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The report continues by stressing the importance of needs and limitations by stating that sustainable development “[...] contains within it two key concepts: the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs” (The World Commission on Environment and Development, 1987, p. 41). However, it was probably in 1962, thanks to the book *Silent Spring* by Rachel Carson when the establishment of the first milestone in the definition and understanding of sustainable development was set. In his book, Carson (1962) brought together research on toxicology, ecology, and epidemiology to suggest that pesticides utilized in agriculture were being carried to extremely negative levels. Also, Carson linked this fact to damage to animal species and human beings. Whatever definition one adopts, sustainable development underlines that the world is a system (IISD, 2014, December 11), an interconnected space in which a harmful behavior in one part of the world has repercussions globally, affecting the quality of the environment worldwide. In 1992, the Earth Charter Commission by the UN

Conference on Environment and Development (1992) defined sustainable development in terms of three major domains. According to its definition, sustainable development is a three-dimension model, composed of one economic, one social, and one environmental pillar. Recently this definition has also been partially extended by some scholars and organizations (e.g., James et al., 2015) to include the fourth pillar of institutions/governance, or culture.

Urban areas across the world, especially new emerging cities in developing countries, face complex and rapidly evolving challenges. But what changes are necessary to transform our cities into livable and sustainable habitats? Each city probably has different priorities, but topics like land use, urban design, transportation, urban ecology, economy, social development should be addressed and integrated by policymakers, regulators, and developers. The American Society of Landscape Architects (2015, April 28), for example, states that urban development should be guided by a sustainable planning and management vision that promotes interconnected green space, a multi-modal transportation system, and mixed-use development. Moreover, the Association continues fighting sprawl, promoting sustainable zoning, reusing brownfields, improving open public spaces and sustainable landscapes as the main priorities to be addressed in the urban context.

5. Assessment of mega sports events and open spaces

The hosting of mega events can have a tremendous impact on emerging cities. These effects can be positive in terms of job opportunities, economic return, skills

development, and city rebranding, but they can be harmful because of their environmental footprint, as via the carbon emissions caused by international visitors. Mega events, as Olympic Games and Expos, always have a wide impact: they create post-event usage debates, re-prioritize urban agendas, often stimulate urban redevelopment, and they are tools for accelerating economic expansion (Malfas, Theodoraki & Houlihan, 2004). Major events, from the Olympics and World Cup Soccer to congresses and other cultural or sports events, increasingly serve as a trigger for investments and infrastructure improvements. Sports venues themselves are often regarded as a catalyst for the overall redevelopment of a given city district, including new residential and office space, retail facilities and parking, etc.

Recent trends in mega events planning demonstrate that the World Cup and other major sporting events are moving faster and faster to greater forms of sustainability, learning from one hosting city to another (FIFA, 2015, November 25; IOC, 2014). Recent hosting experiences suggest that it is possible to reap urban sustainability benefits from staging the event, demonstrating that sporting events can lead to urban regeneration, bring environmental benefits and boost local economy (London Organising Committee of the Olympic Games and Paralympic Games, 2012). The transformational effect of a sporting event has incredible potential to transform cities into more environmental friendly, socially equitable, and economically developed areas. However, it is only through the implementation of a purposeful, forward-looking, strategic and well-thought plan that these outcomes can be achieved (Musco, 2012). The academic literature on mega sports events is vast and diverse. One section of it has focused specifically on measuring the environmental

impacts of them. The Winter Olympic Games held in 1994 in Lillehammer is considered the first international sports event to take up the sustainability challenge and seek to host sustainable games (DEAT, 2010). The unsuccessful 2004 Cape Town Olympic Bid was the first to include an environmental assessment in its design, and this has now become a standard requirement for Olympic bids (Death, 2011). Since then most international events have tried to include some environmental impact assessment, as the 2000 Sydney Olympics. London 2012 was the first Olympic city to have a legacy plan already in execution before the Games, and since then all hosting cities are requested to have a legacy plan in their bid book.

To conclude, there are two main key drivers for designing and developing a sustainable event: first, the mitigation of the direct environmental impact, or footprint, of the event (e.g., waste and water treatment, carbon emissions, and energy consumption); second, the potentiality offered by events to trigger a shift towards more sustainable transformations and long-term legacies (Death, 2011). For the first driver, the literature has been dominated by technical and scientific research that attempts to define event emissions footprints, or input–output modeling of events (Collins et al., 2009). Regarding the second driver, recent trends in mega events planning demonstrate that the World Cups, Olympics, and other major sport events are moving faster and faster toward wider forms of sustainability, regularly improving and learning from one hosting to another. Cities such as Barcelona, London, Rio, Beijing, Shanghai, and Lisbon have been transformed positively through the staging of international events. However, looking at the experiences of urban transformations related to major events, the situation is quite heterogeneous: in some cases it took

several years to start the re-use of infrastructures; in other cases the result was extremely lower than expected; and in others again there were negative effects on the urban community. For London and Sydney, staging the Olympics had beneficial effects, while for Montreal and Athens the Olympic legacy was unsuccessful, and it is mainly seen in the form of debt. In general, the need for assessing the relationship between costs and long-term benefits, and the necessity of an overall strategic plan represent the first elements to be put on the agenda for staging a major event (Musco, 2012), and planning long-term legacies is the first step in achieving sustainable goals.

The IOC developed the OGI (Olympic Games Impact), a tool that evaluates legacies based on data collected from a hundred and fifty indicators derived from three main dimensions (environmental, economic, and social). Data are collected for twelve years. The OGI was introduced on the occasion of the 2002 Salt Lake Games, and it is currently considered a strategic element for transferring Olympic knowledge (IOC, 2006). However, OGI has many limitations. First, all the indicators used by this tool collect quantitative data and do not include either qualitative data or soft and intangible legacies. In addition, the data collection stops only two years after the conclusion of the Games when the Local Organizing Committee (LOGOC) ends its life. This timing is particularly short when assessing legacies and impacts that can last up to thirty years or more. In addition, although the Olympic Movement has begun to tackle this problem, FIFA and other major events organizers are far behind. In fact, although other events such as the Expos (Dimanche, 1996) or minor sports events as the Commonwealth Games (Matheson, 2010; Nichols & Ralston, 2012; Smith & Fox, 2007;), or World Cups (e.g., Cornelissen, Urmilla & Swart, 2011; Preuss, 2007;) have

been explored, research is now focusing mainly on the impact of Olympic Games (Cashman, 2006; Gold & Gold, 2008).

In the last years, hosting cities have started including notions of sustainability in their legacy plans, mainly to justify the expenditure of taxpayers' money in the mega-events' planning and execution (Smith, 2009). However, usually, the academic studies did not undertake any comprehensive approach and investigated only one main impact at a time, with a focus especially on the economic impact (Allmers & Maennig, 2009; Burgan & Mules, 1992; Crompton, 1995; Gratton, Shibli, & Coleman, 2009; Preuss, 2005), social legacies or city rebranding (Raco, 2004; Smith, 2009). Other research has also analyzed some environmental issues (Chappelet, 2008; Levett, 2004), or the impact on urban development (Liao & Pitts, 2006; Pillay, Tomlinson, & Bass, 2009; Pillay & Bass, 2008). Smith (2009) defined guidelines for hosting cities that wish to maximize the sustainable legacies from the staging of mega sport events; Frey, Iraldo and Melis (2008) focused their research on the impact on local development, while Essex and Chalkley (2015, August 18) explored how to leverage sports events for urban regeneration and renewal purposes. Finally, Preuss, (2007) emphasized that there are three main issues researchers need to face when assessing legacies: the difference between gross and net legacy, the assessment of legacies over-time, or the decisions concerning the positive and negative contributions of legacies. Other scholars focused their research on the utilization of World Cup venues and stadiums. To illustrate, Alm (2012) developed the World Stadium Index (p. 3), which considered 75 facilities in 20 different countries, while two years later, Preuss, Solberg and Alm (2014) implemented the Stadium Utilization Index (SUI)

(p.88) that represents the annual demand of a venue divided by its capacity. However, in spite of how legacy is measured or defined, one cannot find any holistic or comprehensive studies on how to transform event sites, such as Olympic parks or stadiums surroundings, into livable and sustainable public spaces.

CHAPTER 4. CASE STUDY ONE: QUEEN ELIZABETH OLYMPIC PARK IN STRATFORD, LONDON

1. Introduction

This chapter will analyze the first contemporary case study: the 2012 Olympics in London, and it will particularly focus on the analysis of Queen Elizabeth Park, located in Stratford, in East London, the major event site during the Games. The investigation will follow the methodology presented in Chapter 2 (Introduction, Research Design, and Methodology). It is composed of four steps: (1) a pre-analysis, with the aim of collecting knowledge and background information about the governance of the hosting city and the Games; (2) an official documentation review, and in particular a comparative analysis of the bid book and final reports; (3) an overview of a series of site visits; and (4) ten semi-structured interviews with experts in the field.

2. Pre-analysis: the bid for the Games and London city structure

2.1 The bid for the 2012 Olympic Games

The 2012 Olympics were staged in London from July 27 to August 12, 2012, allowing the capital to become the first city to have hosted the Games for three editions: in 1908, 1948, and 2012. In 2005, London was chosen as the 2012 Olympic city, beating Paris, Moscow, Madrid, and New York, after four rounds of voting. Former Olympic British champion Sebastian Coe had driven the bid to success (IOC, 2015).

By the deadline of submission of tenders, July 15, 2003, nine cities had applied to be headquarters of the XXX Olympiad. The cities were London, Havana, Leipzig, New York, Moscow, Istanbul, Paris, Madrid, and Rio de Janeiro. The IOC, after a technical vote, reduced the cities to five: Madrid, New York, Moscow, London, and Paris. In June 2005, the Olympic Committee published an evaluation of the candidate cities. Even though it did not contain rankings or scores, the Paris' report was seen as the most successful bid, followed by London, which closed the gap from initial assessment of 2004. New York and Madrid were also rated well. Finally, on July 6, 2005, in Singapore, members of the International Olympic Committee met in the 117 Congress for voting. The first city to be eliminated was Moscow, followed by New York and then Madrid. Only Paris and London remained in the list. After the fourth vote, the city of London was elected for staging the XXX Olympics and the XIV summer Paralympic Games with 54 votes, defeating Paris by four votes. In London was time to celebrate. The awakening from the Olympic dream, however, was extremely violent. Following the assignment, on July 7, three bombs exploded in the London Underground and one on a bus, causing 56 casualties. The fear of further attacks forced the government and the IOC to lock down the event. The journey of the Olympic torch, the preparations, the test event, everything until the Games themselves was checked and designed maniacally (IOC, 2015).

2.2 The XXX Olympiad: Governance and management. The London Organising Committee of the Olympic and Paralympic Games in London (LOCOG)

The London Organising Committee of the Olympic and Paralympic Games (LOCOG) was founded in 2005 just after the award of the London bid. The committee was in charge of organizing both the Olympic and Paralympic Games. It was responsible for planning and delivering all facilities, including infrastructure and temporary venues. In addition, it was in charge of ticket sales, sponsorship, the volunteer program, and the opening and closing ceremonies. The vision that inspired the Games was the motto “To host an inspirational, safe and inclusive Olympic and Paralympic Games and leave substantial legacy for London and the UK” (The National Archive, 2015, December 11). It was linked with the following four goals that underline since the very beginning a focus on legacy and sustainability:

1. To stage an inspirational Olympic Games and Paralympic Games for the athletes, the Olympic Family and the viewing public;
2. To deliver the Olympic Park and all venues on time, within agreed budget and to specification, minimizing the call on public funds and providing for a sustainable legacy;
3. To maximize the economic, social, health and environmental benefits of the Games for the UK, particularly through regeneration and sustainable development in East London;
4. To achieve a sustained improvement in UK sport before, during and after the Games, in both elite performance - particularly in Olympian and Paralympian

sports - and grassroots participation” (The National Archive, 2015, December 11).

Another public body, the Olympic Delivery Authority (ODA) was responsible for the construction of the venues and the entire infrastructure. ODA and LOCOG worked closely together. Additionally, the government and the mayor of London created the Olympic Park Legacy Company (OPLC) in May 2009. This body was in charge of the long-term planning, development, management and maintenance of the Queen Elizabeth Olympic Park. The London Legacy Development Corporation replaced this body in April 2012 (LLDC, 2015).

It is worth remembering that in end of 2002, the IOC, the International Olympic Committee, organized an international conference on the *Legacy of the Olympic Games from 1984 to 2000*, with the aim of defining all the potential strengths and pitfalls in the long-term planning and management of legacies (Leopkey and Parent, 2012). The 2002 IOC Congress attempted to define legacy; however, it is only since 2003 that legacy was formally included within the Olympic agenda. As Chappelet (2008) stated, in 2003 the Olympic Committee amended its charter to include an additional statement in its mission that focused on the generation of beneficial legacies for hosting cities. Since 2003, all bidding cities are required to have a legacy plan in their candidacy files, explaining post event usage for sports facilities and long-term plans for the areas involved in the Games. Hence, London was the first city with a legacy plan in execution before the stage of the Games.

2.3 London governance: the Greater London Authority and the London plan

London local government is divided into two tiers: one at a city level and one at a local level. The Greater London Authority (GLA) is in charge of the strategic citywide tier, while 33 smaller entities, called boroughs, control local administration (Figure 43). The GLA is composed of two parts, both elected: the London Assembly and the mayor of London who has executive powers. The Greater London Authority was founded in 2000, replacing the former Greater London Council (GLC), which had similar responsibilities and was abolished in 1986. The Greater London Authority is in charge of all strategic planning issues, but also of economic development, police, transports, and administration of the 1579 square kilometers that forms the Greater London area. The GLA is unique in the British local government system, and it was founded with the aim of improving the management and coordination among the local boroughs of the city, while the role of the mayor is to provide London with a single person to represent it (GLA, 2016, January 15).



Figure 43. The 33 London boroughs (Source: Notscott, under the Creative Commons Attribution-Share Alike 3.0 Unported license).

The London Plan is the city strategic planning policy and covers all inner and outer London boroughs. Each borough must comply with it in its local policies. The London Plan was firstly published by the GLA in 2004 and then revised in 2008 and 2011. It has 2031 as a formal end date. The plan identifies several areas of opportunity that are the places where the majority of efforts are focused, with the aims of reducing social deprivation and creating a sustainable environment. For the purposes of the plan, London is divided into five sub regions.

The London Plan - Sub Regional Development Framework, published in 2005, identifies nine boroughs, thirteen opportunity areas, three areas of intensification, two

metropolitan and nine major town centers. All these are areas of regeneration. It outlines some strategic issues facing East London (GLA, 2005). The Framework defined Stratford and Lower Lea Valley as two main opportunity areas for East London and also had a focus on national regeneration priorities under government's Sustainable Communities Plan: Thames Gateway and London-Stansted-Cambridge Corridor, with Stratford and the Lower Lea Valley acting as fulcrum between the two. With the Lower Lea, Stratford was identified as the core location for the London 2012 Olympic bid. Stratford was also one of the only two centers outside the Central London Office Market Area to be designed as a strategic office location. Finally, Stratford was the only town center explicitly identified in the London Plan for redevelopment from a major to a metropolitan center. It was already at that time (before 2005) one of the best-connected places in London with substantial planned improvements in transport capacity areas. In addition, Stratford is one of the most disadvantaged areas of the country, and it was identified as a strategic area for regeneration purposes. Stratford and its borough Newham were already identified as a strategic areas of intervention within the city of London before the award of the Games in 2005.

2.4 The London borough of Newham and Stratford

Newham is a borough on the east side of London, located eight kilometers east of the city, north of the River Thames (Figure 44). Newham is one of the six boroughs that hosted the Games; it includes the majority of the Olympic Park. The local authority is Newham London Borough Council. According to the Indices of Multiple Deprivation (GLA, 2010), Newham has one of the highest ethnic minority

populations of all the districts in the country, with no particular ethnic group dominating. From an economic point of view, Newham is one of the more impoverished districts in UK (Table 9).



Figure 44. Location of Newham within London (Source: Newham Legacy Story Leaflet).

Table 9. Newham at a Glance (Data source: Newham website)

Newham at a glance

Second most disadvantaged borough in London

It hosts the Westfield Stratford City, the largest urban shopping center in Europe

The most ethnically diverse place in England and Wales

Over 200 languages and dialects are spoken in Newham.

The highest proportion of young people in the country

2.5 The Olympic Zone

The majority of venues for the 2012 Olympiads were located in three areas within Greater London: the River, the Central, and the Olympic Zones (Figure 45).

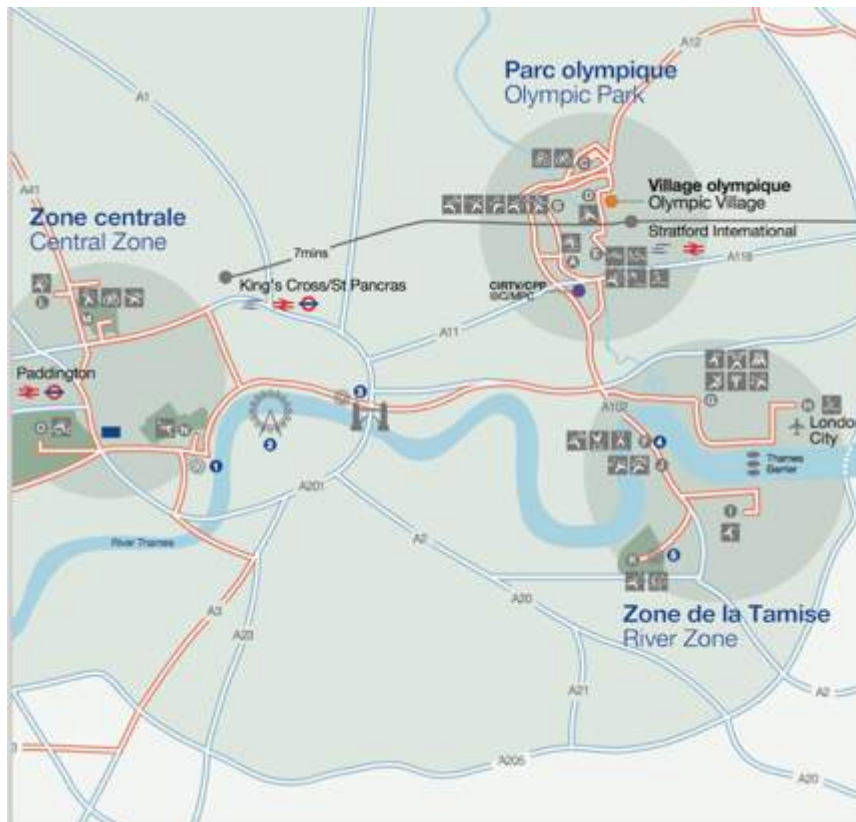


Figure 45. The three zones utilized for the 2012 Games (Source: The London 2012 Candidacy File – Theme 1 Olympic Games concept and legacy).

The Olympic Zone is the area that faced the most major changes and regeneration before the Games. It consisted in 75 hectares of inaccessible and unattractive land in Lea Valley that was transformed into a new park (Figure 46). The park provides a public space serving London and the local community. It was renamed the Queen Elizabeth II Olympic Park to commemorate the Diamond Jubilee of Elizabeth II. It is just next to the Westfield Stratford City development and includes

many sports facilities (the aquatics center, the velodrome, and the stadium), and the former Olympic Village. The park was closed just after the Games, at the end of 2012, to be transformed into the legacy mode. It reopened partially in July 2013 (the North Area), and fully in April 2014 (the South Area). The park covers parts of Bow, Stratford, Hackney Wick, and Leyton, overlooking the A12 road. This area was developed on existing waste and industrial land. Before the Games, the site was a mix of brownfield and greenfield land (Figure 47).



Figure 46. London Olympic Park before the regeneration project for the Games.
Source: Daily Mail.



Figure 47. Stratford's Fridge Mountain in pre Olympic times. It was considered one of biggest collection of discarded white goods in Europe. Source: Timeout London

The park is divided into two areas, Southern and Northern (Figure 48). It contained six venues during the Games, one was temporary and dismantled after the Olympics. After the reopening in 2014, five venues were maintained:

- The London Aquatics center, an indoor venue composed of a 25-metre diving pool and two 50-metre swimming pools, and designed by the renewed architect Zaha Hadid.
- The Olympic stadium, reduced from 85,000 to 50,000 seats after the Games. After the re-opening in 2016, it will be used by West Ham United Football Club and British Athletics.
- The Copper Box, an indoor arena. During the Games was a complex for handball and goal ball competitions, and it is now utilized as a multi-use venue.

- Eton Manor, also known as Lee Valley Hockey and Tennis Centre. It is composed of two hockey pitches and ten tennis courts, four indoor and six outdoors.
- The velodrome.

Although the sports facilities were either temporarily closed or permanently dismantled after the end of the Games, part of the legacy promises was to guarantee the full use of the permanent venues for international events and by local communities. Examples of this type of use include the 2015 European Hockey Championships and the 2017 World Athletic Championships.



Figure 48. South and North Area of the Olympic park.

The park has a number of additional uses. To illustrate, some universities and institutions are planning to open branches at the park, including the University of the Arts London, the Victoria and Albert Museum, and the Sadler's Wells Ballet Company. ULC (University College of London) also planned to build a new campus there. The former Olympic Village has also been converted into the East Village, a residential area with 2818 apartments, of which 50% were for market rent, 30% were affordable and 20% were social housing.

2.6 Pre-analysis phase: completion of the city and space card

The first step for analyzing the case of London consisted of a pre-analysis investigation. Drawing on data from the literature review and existing documentation, such as websites on the topic, the aim was to acquire a basic knowledge on the selected case, London 2012 Olympics, especially regarding its local governance and the event management policies. A tool was created and utilized for the collection of these data; it is called *City and Space Card* and is presented in the next page (Figure 49). The tool enables focusing on the most relevant data and having a big picture on the space analyzed. It also allows comparing the three cities considered in this research: London, Sochi, and Rio de Janeiro (Chapter 8 – Comparative Analysis of the Case Studies).

Section 1 - CITY CARD	Section 2 - SPACE CARD
<p>City name: London</p> <p>Population: 8,500,000</p> <p>City type: Global city/developed city</p> <p>Area: Greater London 1,5000 km2</p>	<p>Space name: Queen Elisabeth Olympic Park</p> <p>Purpose: Regeneration of East London, in line with the London Plan</p> <p>Dimension: 226 ha, a little smaller than Hyde Park</p>
<p>City governance: 33 local boroughs for operational management and the Greater London Authority (Mayor of London and London Assembly) for the strategic management</p>	<p>Data of Completion: 2011 pre event (Olympics in August 2012). Then closed in October 2012 for 18 months and reopened in the legacy mode in July 2013 (North Area) and April 2014 (South Area).</p> <p>Typology*: Inner-city Mono clustering 5 areas for the Olympics, the main one is the QEOP (mono cluster, inner city)</p>
<p>City master plan: The London Plan (2004 first edition, then several updates). It is the overall strategic plan for London, and it sets out a fully integrated economic, environmental, transport and social framework for the development of the capital up to 2036.</p>	<p>Space location: Stratford in Newham, East London, involved other 4 boroughs (...). This was one of the most deprived and poorest areas in all London.</p> <p>Space use before the event: Polluted and contaminated abandoned area</p>
<p>Previous events: 3 Olympic Games (1908, 1948 and 2012), 2 Universal Expositions (1851, 1862), 2015 Rugby World Cup, 2017 IAAF and many other international events.</p>	<p>Transport and connections: Metro lines, DHL, Over ground, High speed rail, rail, bus</p> <p>Pedestrian, Cycling routes: Many km of routes</p> <p>Number of accesses: 4</p> <p>Accessibility: All the area is accessible to disabled</p>
	<p>Functions and activities: Sport, recreation, food, shopping, ...</p> <p>Sports infrastructure: Nothing on the site before the event. For the Olympics, many temporary infrastructures dismantled or reconvered after the games. Now: 1 velodrome, 1 aquatic center, 1 tennis and hockey center, 1 stadium, 1 multipurpose arena.</p>
	<p>Other infrastructure: Cafes, the Orbit, Westfield Shopping Centre</p> <p>Any other relevant notes: Economic crisis in 2008. Mayor change and national political change * Pitts and Liao, 2009</p>

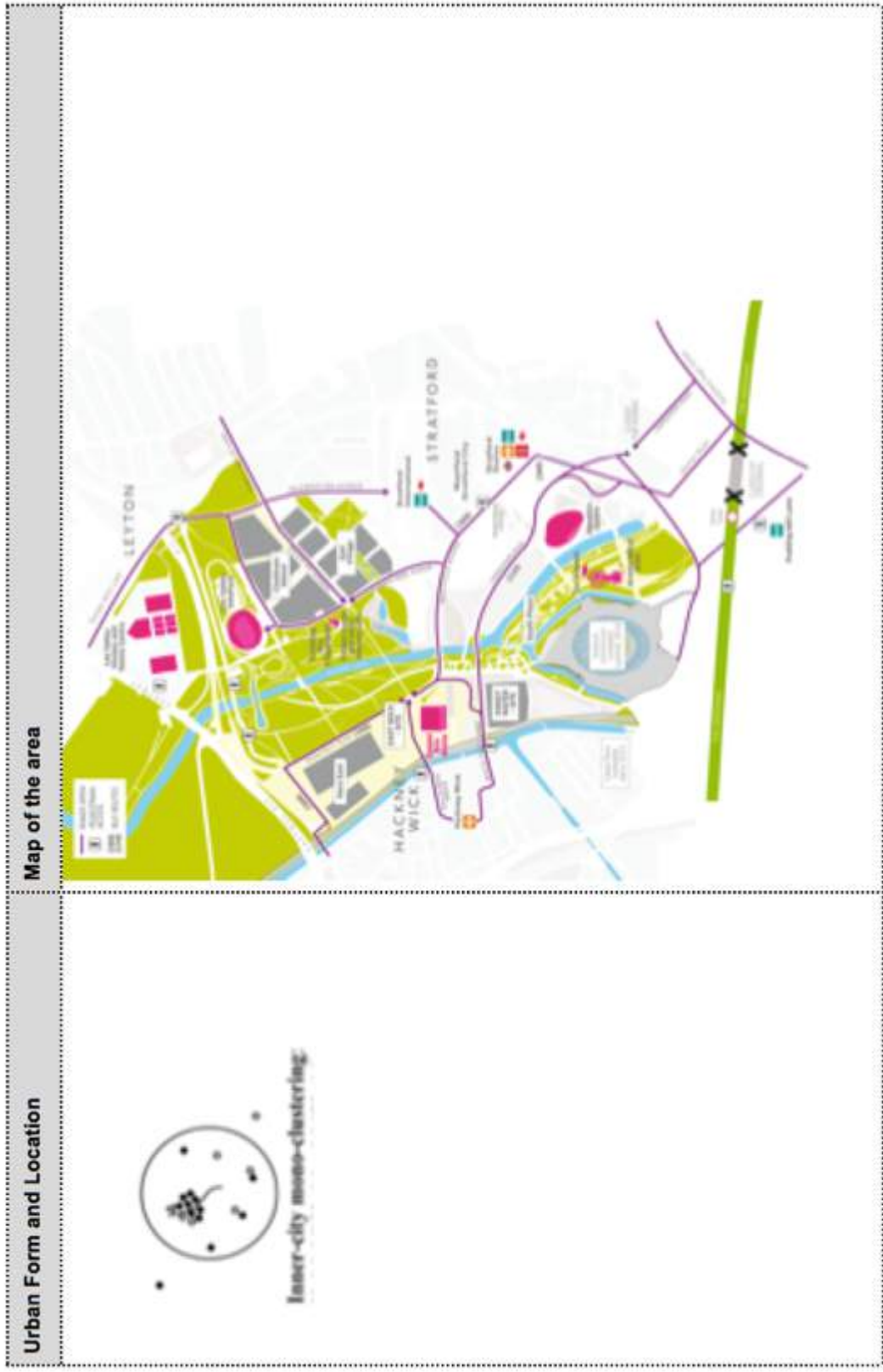


Figure 49. The city and space card for London 2012.

3. The bid book and post-event final report

The London bid book and the 2013 Official Report by the IOC, Coordination Commission provide opportunity to compare promises made and achievements accomplished between venues of the Games.

The London bid book for the 2012 Olympics consists of three volumes and covers 17 different themes. For the first time in the history of the Olympics, the candidature file included an entire chapter on legacy, being Section One named “Theme 1: Olympic Games concept and legacy” (London 2012 Candidate City, 2004, p.13). “Theme 8: Sports and Venues” (p.13) contains important information on the post-event use of the facilities. Theme 1 (p.15) starts by highlighting the *Priorities and potential* of the Games and identifying four main goals, two of them related to legacy: “Creating a legacy to transform sport in the UK” and “Regenerating east London communities and their environment.” The bid book states that the Olympic Park would be created in the Lower Lea Valley, eight kilometers east of the center of London, and that by hosting the Games in that part of the city, the most enduring legacy would be the regeneration of an entire community for the direct benefit of everyone who lives there. It also states that the sports venues would be compact, iconic, and well connected with the rest of the city. The bid promises to build new venues where clear legacy needs have been identified and sporting and business plans developed for post-Games use. In addition, there is a chapter dedicated to “London’s long-term planning strategy” (London 2012 Candidate City, 2004, p. 23) that highlights the relationships between the Games and London Plan, the city’s blueprint. Indeed, the narrative in the book restates the focus of the London Plan on the East

side of the city, with investment in recycling brownfield land to create high quality new mixed sustainable communities located around strategic transport nodes. The book promises then, in conjunction with the London Plan, the development of an Olympic Park in the east of London that would transform 200 hectares of degraded land into a new legacy park, and states that without the Games change would still happen, but it would be slower, and less ambitious (London 2012 Candidate City, 2004).

The book continues by listing the impact of the Games and identifying four different legacies: for sport, environment, community, and economy. It identifies the five permanent major sports complexes that would be retained in the Olympic park after the Games (stadium, aquatics center, hockey and tennis complex, an indoor arena, and a velodrome), and promises to transform the Olympic Village into a new and sustainable residential community with 3,600 new housing units. Finally, it also commits to promoting sustainable travel, conserve local biodiversity and wetlands, and improve air, soil and water quality. A summary of the major promises is listed in Table 10.

Table 10. Vision and Promises of the Bid Book (Data source: London 2012 Candidate City, 2004)

Hosting city: London, 2012 Summer Games
The bid book: Promises and Highlights

1. Focus on East London
 2. Conjunction between the London plan and the Games' legacies (regeneration of Stratford and Lea Valley)
 3. Green and Sustainable Games (green technology and procurement, long-term benefits in terms of projects, applications of green technologies, intellectual capital and behavioral changes)
 4. Permanent and new venues only where necessary (in combination with the use of temporary and already existing facilities)
 5. A new residential community with 3,600 new housing units
 6. Employment opportunities and improvements in the education, skills and knowledge of the local labor force.
-

For the first time in the Games, the bid book included a chapter on legacies (Theme 1 - Olympic Games concept and legacy), highlighting in this way the importance of post-event planning. Moreover, it identified East London as the main place for the regeneration projects led by the Games. In examining the 2013 final report, one may notice that contrary to the bid book, the section dedicated to legacy is at the end, not at the beginning of the report (Final Report of the IOC Coordination Commission - Chapter 9 – Legacy, 2013a, p.3), hinting that legacy takes a back seat. In addition, the chapter does not offer any relevant insight on the results in terms of legacy. The text is quite generic, and it is mainly a repetition of the promises contained in the bid file. It does not report any statistics or data. In addition, being the report written by the coordination commission of the Olympic Committee, it highlights only the successful and positive achievements. Listing main issues and concerns would have been helpful to avoid similar problems for future hosting

cities. The chapter on legacy concludes with eight recommendations (p. 93), probably the most valuable part. Among them, five are worth mentioning:

- Construct long-term venues only where there is planned long-term use.
- Temporary venues at the iconic heart of host cities raise international profile and may enhance inward tourism and investment.
- Establish and empower agencies to take forward the legacy of volunteering, education, culture and sport participation – and plan for this well before the Games.
- Plan for re-purposing the Olympic park and aim to re-open it for public use as soon as possible after the Games.
- A strong focus on sustainability and diversity will not only benefit the Games, but also help to create new benchmarks for the host nation and beyond.”

An analysis of additional resources, including interviews and data collected from site visits, is necessary and helpful for the evaluation of the 2012 London legacies.

4. Site visits: Behavioral mapping and walking through analysis

4.1 Introduction

Between February and November 2015, a series of site visits were performed around the Queen Elizabeth Olympic Park in Stratford. The methods utilized, partially derived and adapted from Wiedmann Salama, and Thierstein (2012) and Salama and

Azzali (2015), included behavioral mapping, direct observations, and walking through analysis, with the aim of collecting data and information about the built and natural environment, people using the park, and activities performed in the park; in particular:

PEOPLE

- Flow: how many people (numbers), going where (directions: from - to).
- Activities: people doing what (sport, cycling, walking, running, playing, chatting, resting, eating, working...), for how long.
- Demographics and ethnicity (equitability): Males vs. females, young vs. adults, singles vs. families, ethnicity or locals vs. tourists.

BUILT and NATURAL ENVIRONMENT

- Safety and security: presence of cameras and gates; lighting; quality of the maintenance.
- Comfort and accessibility: street furniture and shelters; signage and availability of maps and information; cafés and toilets; general cleaning; accessibility for disables, elderly, kids; presence of pedestrians and cycle paths.
- General Attractiveness - Pleasantness: general appearance/aesthetics, presence of landmarks, quality of the landscape, variety of activities provided, weather conditions.

Firstly, a set of twelve relevant points within the park was selected (Table 11 and Figure 50), and secondly a series of site visits at different times and days of the week were scheduled and carried out (Table 11). Each visit consisted of a tour through the selected points. The average length of the tour was about four hours, with

a stop of 15 minutes in each point to collect relevant information, and five minutes to move to the next point. Starting and ending times and order of points visited were inverted every day to cover all the time slots for all the points. The focus was mainly to analyze the physical and social components of the space. To collect data, two specific tools (Tool 4: Behavioral map and walking through sheets and Space Assessment Checklists, Figure 51 and 52) were created. The main set of observations and behavioral studies was conducted in the middle of August, during the week from August 10 to 16. Less structured observations were also held in February, May, June, July, September, and November 2015, to compare the data collected with different weather conditions and times of the year.

Table 11. Site Visits Sampling

Step 1- Sampling: Identification of the main areas of interest (observation points)	Step 2 –Timing and scheduling
<p>SOUTH AREA</p> <ol style="list-style-type: none"> 1. Information Point 2. Access to the Aquatic Centre 3. Area between the Olympic stadium and the Orbit 4. Play area A 5. Mendeville Place 6. Copper Box Entrance <p>NORTH AREA</p> <ol style="list-style-type: none"> 7. Area near River Lea 8. Hockey and Tennis Centre Entrance 9. Velopark Entrance 10. Play area B 11. Timber Lodge Café <p>OLYMPIC VILLAGE</p> <ol style="list-style-type: none"> 12. Main Plaza <p>TOUR: <u>Starting point:</u> Information Centre <u>Ending point:</u> Olympic Village, main square In each place, an observation time of 15 minutes, plus 5' to move from one point to another. TOTAL: 4h</p>	<p>One week (7 days in August 2015, 10-16 August 2015), 2 walking tours daily. Each tour is around 4 hours.</p> <p>OTHER OBSERVATIONS: 1 day in February and May, 2 days in June, 1 day in July, September, and November.</p> <p>Morning: 9:00-12:00 Lunch time: 12:00-3:00 Afternoon: 2:00-5:00 Evening: 5:00-8:00</p> <p>WEEK DAYS Mon: afternoon and evening Tue: morning, lunch time Wed: afternoon and evening Thu: morning, lunch time Fri: lunch time, afternoon</p> <p>WEEK END Sat: afternoon and evening Sun: morning, lunch time</p>

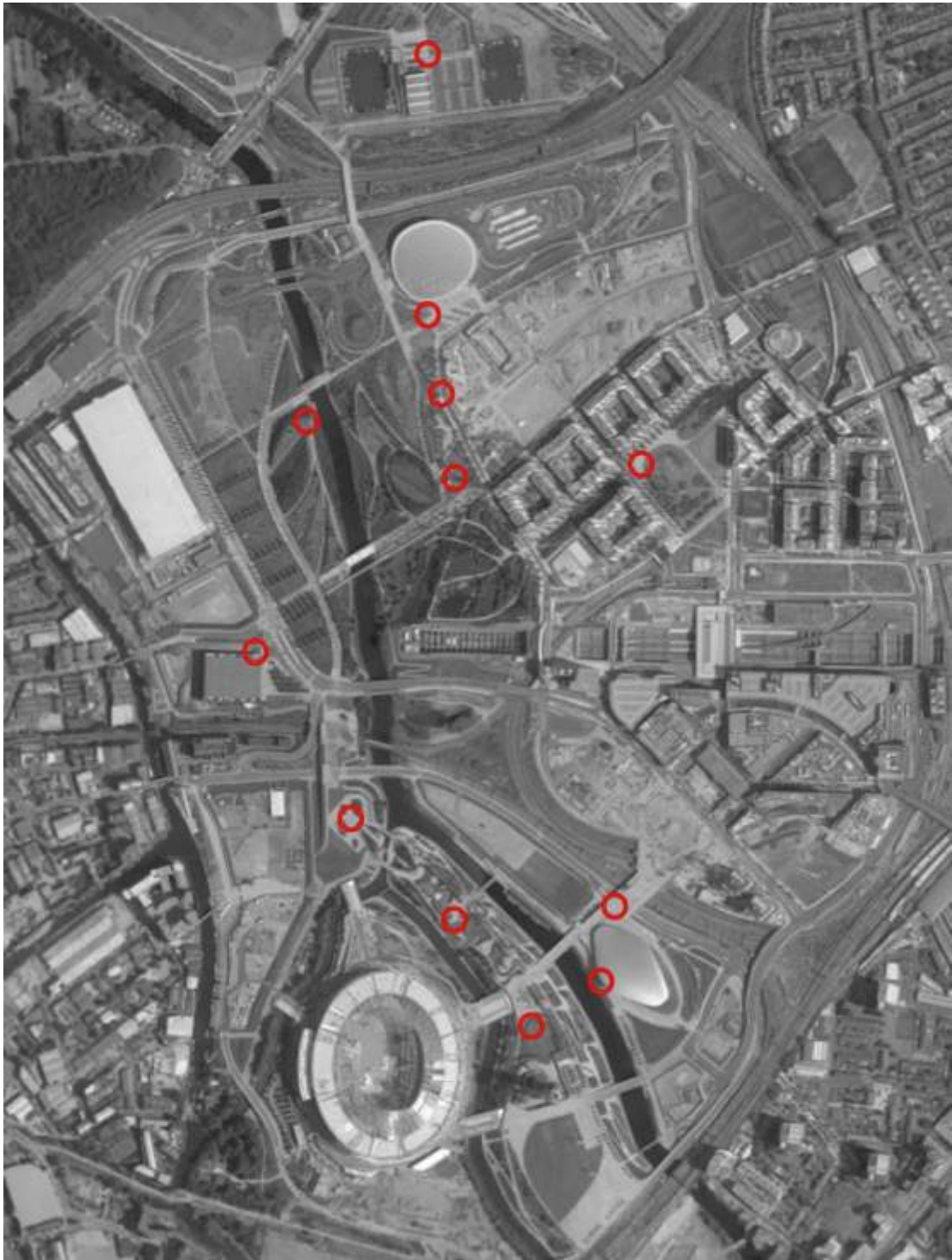


Figure 50. Observation Points in Queen Elizabeth Olympic Park.

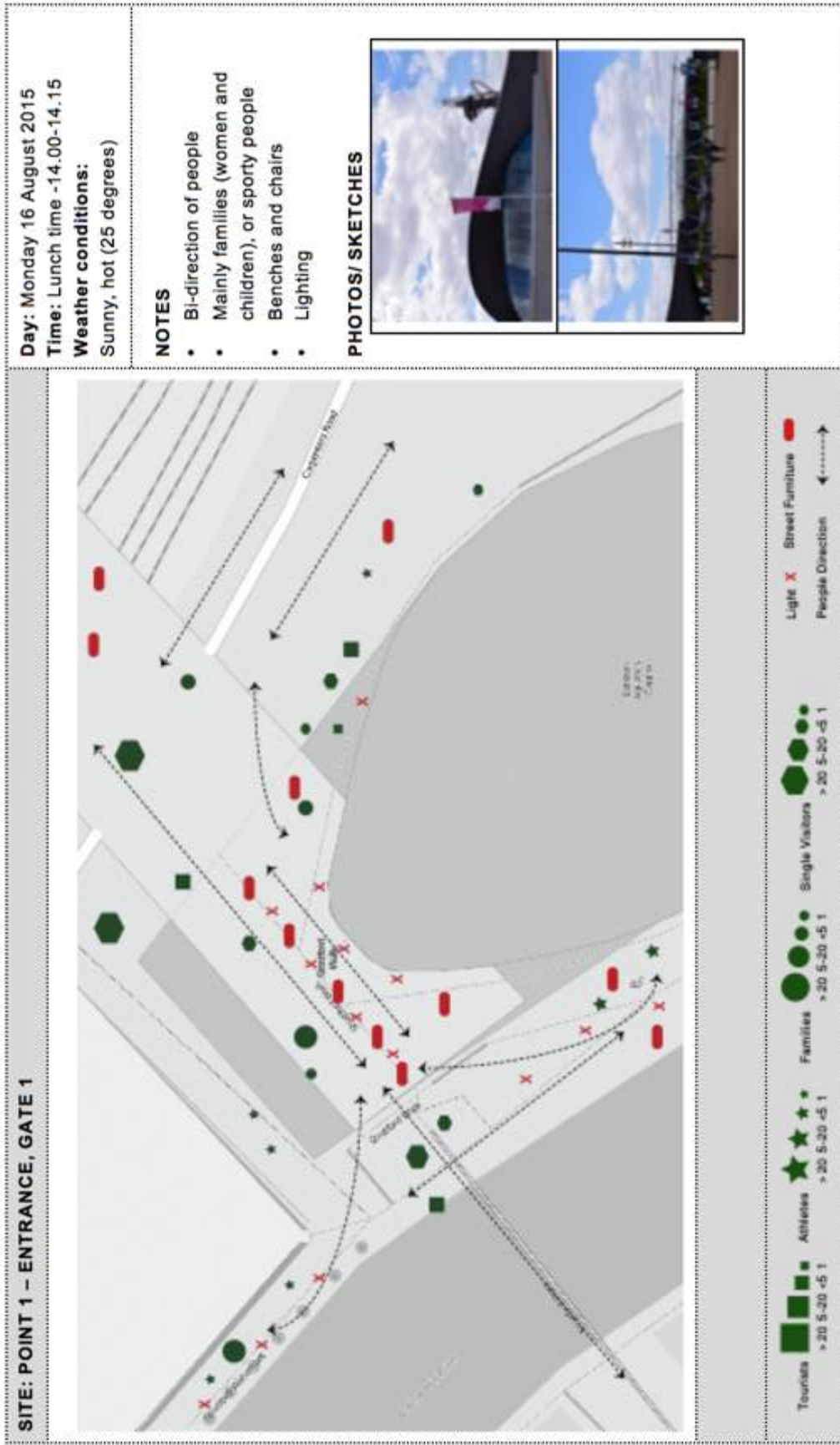


Figure 51. Tool 4 – Space Assessment Maps (Map source: OpneStreetMap).

Space Assessment Checklist												
Aim: to map and evaluate the built and natural environment of each point of the space selected (Take note of the quantity and mark their location on the map)												
Day:	Monday 16 August 2015			Weather Conditions:			Sunny, hot (25 degrees)					
	Starting Time:	Ending Time:		Starting Time:	Ending Time:		Starting Time:	Ending Time:		Starting Time:	Ending Time:	
Selected Point	1	2	3	4	5	6	7	8	9	10	11	12
Built and Natural Environment:	Lunchtime - 14.00-14.15											
SAFETY AND SECURITY	High	High	High	High	Average	Average	Average	Average	High	High	High	High
Street Furniture	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Seating (benches, chairs)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tables	N	N	N	N	N	N	N	N	N	N	Y	N
Lighting	Y	Y	Y	Y	Y	Y	Y, rare	Y	Y	Y	Y	Y
Fences and Gates	N	N	N	N	N	N	N	N	Y	Y	Y	N
CCTV	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
COMFORT AND ACCESSIBILITY	Good	Good	Good	Good	Average	Average	Average	Good	Good	Good	Good	Good
Signage, maps and info	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Shelters	N	N	N	N	N	N	N	Y	Y	Y	Y	N
Noise Pollution (Conversations, Mechanical equipment, Music, Traffic, ...)	Conv.	N	Conv.	Conv. Kids	N	N	N, very quite	N	Y Some cars, chatting	Y chatting, kids playing	Y	N
Cafés	N	Y	Y	Y	N	Y	N	Y	Y	N	Y	N
Drinking Fountains	N	N	Y	N	N	N	N	N	N	Y	Y	N
Toilets	N	Y	Y	N	N	Y	N	Y	Y	N	Y	N
Accessibility for disabled	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cycling and pedestrian paths	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Quality of Maintenance	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
General cleaning	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
ATTRACTIVENESS - PLEASANTNESS	Average	Average	High	High	Average	Average	Good	Good	Good	Good	Good	Good
Landmarks and art works	N	Y	Y	N	N	Y	N	N	Y	N	N	N

General Appearance/Aesthetics	Average	Good	Good	Good	Average	Good	Good	Good	Good	Good	Good	Good	Good
Quality of Landscape	Average	Good	High	High	Average	High	High	Average	Good	Good	Good	Good	Good
Vegetation			Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg
Water Features	N	N	Y	N	N	N	N	N	N	N	N	N	N
Playground Areas	N	N	N	N	N	N	N	N	N	N	N	N	N
Flows and People													
Flows													
Number of people	High	Med	High	High	Low	Low	Low	Low	High	High	High	High	Low
ACTIVITIES													
Sport: Cycling/Running	Walk		Both	N	Both	N	Both	N	Tennis Hockey	Both	Cycling	Both	None
Walking/Resting/Chatting	All	N	All	Kids	None	N	All	N	N	All	N	All	RC
Playing	No	N	Y	Y	N	N	N	N	Tennis Hockey	N	N	Kids	N
Working	No	N	Y	N	N	N	N	N	N	Maintenance	N	N	N
Other (Specify)		Access Pool		Kids		Access to the Gym		Access to velodrome					
DEMOGRAPHICS													
Females vs. Males	F	Both	F	Both	Both	Both	Both	Both	Both	Both	M	F	Both
Families vs. Singlers	F	Both	F	F	S	S	S	S	Both	Both	S	F	Both
Young vs. Adults	A	A	Y	Y	A	A	A	A	A	A	A	YA	Both
Elderly vs. Kids	K	K	K	K	-	None	None	None	K	K	None	K	K
Locals vs. Tourists	Both	L	L	L	L	L	L	L	L	L	L	L	L
Facilities: WB Ar I As	WBAsArl	WB	WBAsArl	WBAsArl	WB	WB	WB	WB	W	W	WB Ar I As	W	WB I
Notes:		Lift	Busy area	Busy area	Passage area	-	Relaxing	-	-	-	-	-	-

Figure 52. Tool 4 – Space Assessment Checklist.

4.2 Major findings and conclusions

The observations showed the park is overall attractive and pleasant. It was fully reopen in 2014, so it is still new and well maintained. The park has two main and several minor access points (Figure 53), although the one from Stratford is the more utilized and connected. It provides trains, DLR, over ground, metro, and bus lines connections, but also a major parking area for cars. The area is completely accessible for disabled and for people with a reduced mobility. Near the information point golf cars and strollers are available for rent. The park is multi-modal, as it can be visited on foot, by bicycle and even by boat through the main small rivers and canals that cross it.



Figure 53. The Olympic Park and its access points, marked by arrows (Source: Queen Elizabeth Olympic Park).

The observations also revealed that the park is divided into two functional sides, the northern and the southern areas (Figure 48). The south area comprises the aquatics center, the Olympic stadium, and the Orbit, an artwork by Anish Kapoor. This is the most easily accessed area, through Stratford. Due also to its proximity to the Westfield City shopping center, it is the most vibrant space within the park and the most frequented. In addition, the area provides a multi-purpose area that is utilized for concerts or temporary activities. During Summer 2015, a temporary fun fair was set up, attracting many families and children. The north area includes three major sports facilities (the velodrome, the tennis and hockey centers and, at the side, the Copper Box), and it stands by the River Lea with its waterways, paths, and extensive green space. This area of the park is quieter than the north one and attended mostly by runners and cyclists or athletes accessing the facilities. As an open space, use of the park is subject to weather conditions, but also to school calendars and working hours. During the summer when days are longer and warmer and when students and children are on vacation, the park is highly frequented. Only few shelters are available so, by contrast, low temperatures, dark, and wind discourage accessing it (Table 12).

Table 12. The use of the Olympic park through out the year, weekends

Month	Time of the day																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Feb																								
Apr																								
May																								
Jun -Aug																								
Nov																								

The general appearance and aesthetics are positive. Street furniture and café seating are available throughout the area, with an abundance of seating, as benches and chairs (Figures 54 and 55). The quality of the landscape is high, with a wide variety of vegetation, some play areas, fountains and water features. Some landmarks art works are also located within the park. Comfort and accessibility are provided in all the points observed. There are many pedestrian and cycle paths. Cafés, drinking waters, toilets, and free Wi-Fi are also available, especially in the south area (Figures 56 and 57). There is a main information point near the Stratford entrance, open daily from 10 a.m. to 4 p.m., where one may find maps and gadgets or organize guided tours. Signage and information maps also available in every corner of the park. The park is also clean and well maintained. During weekdays one can frequently see workers in charge of the maintenance, including landscape management. Safety and security are also provided, with the presence of CCTV cameras, lights, and also some policemen. The park is open 24 hours a day, but it has fences and gates that can be closed if necessary.



Figure 54. Chairs and benches within the park.



Figure 55. Street furniture within the park.



Figure 56. Timber Lodge Café.



Figure 57. Café and playground area within the park.

Regarding the flow of people, the park is used more by young families, mothers with children, and athletes. The north and south areas offer different sights.

While the south area, especially near the information point and the stadium, is popular with families and children, the north area, with the exception of the Timber Lodge café and its playground area, sees more athletes (runners and cyclists). International tourists are also increasingly visiting the space, and every week, even during the winter, two guided tours of two hours each are organized at the information point. The park is mostly used for recreational purposes. It provides two main playground areas and also some water features that are mainly used by children (Figure 58). During the summer time, especially during the weekends, groups of people visit the park for a stroll or a picnic or for relaxing and resting. Between June and September many additional activities and events are held for families and young people. The space offers direct access to sports facilities, such as the aquatic center or the velodrome, and it is also equipped with pedestrian and cycle paths for athletes.



Figure 58. Water features.

With consideration to flow, the park is most frequented during weekends and in the middle of the day, between 11 a.m. and 4 p.m.. Regarding demographics, the majority of users are local young mothers with their children and athletes. During the weekdays, schoolchildren also visit the park. During the weekends, the typologies of visitors increase, including more adults, singles, and tourists. Finally, regarding ethnicity and equitability, it is worth to remember that the Newham is one of the most ethnically diverse boroughs of London. This diversity is well represented by the park's visitors.

Among the five sports venues in the park, the aquatics center is the most utilized, especially in the afternoon and weekends. It is open everyday from 6 a.m. to 10 p.m., and it provides a 50 meter swimming pool for adult swimmers and another one for children. The velodrome and its outdoor BMX and mountain bikes tracks are also frequently used, as this is the only cycling center in London. The Olympic stadium was closed and under renovation at the time of the visits. It was partially reopened for the rugby World Cup in October 2015, and it fully reopened at the end of 2016. It has a standard capacity of 54,000 (from the original of 80,000) and will be the long-term home of West Ham United Football Club and British Athletics. According to the observational data, the Copper Box and hockey and tennis center seem to be the least utilized facilities. The Copper Box is a multipurpose arena that also hosts a gym inside. While the gym is open daily from 7 a.m. to 10 p.m., the main arena is usually closed, and open only for major or local events. The Lee Valley Hockey and Tennis Centre opens daily from 9 a.m. to 10 p.m., but it is only infrequently utilized, especially during weekends and in the middle of the day. It does,

however, host major international events, such as the EuroHockey Championships that were hosted in August 2015.

5. Interviews with experts in the field

5.1 Introduction and methodology

During September and November 2015, ten semi-structured interviews with experts were conducted in London to discuss and evaluate the long-lasting sustainable legacies of the 2012 Olympics. The experts were chosen because they were involved with different roles in the Games. In particular, they were selected from among (Table 13):

- Academia (scholars in the field of mega-events and planning, with a research background on the 2012 Olympics).
- Event governing bodies (LOGOC, ODA, LLDC).
- Private sector (planners, architects, and engineers belonging to major private organizations involved in the planning of the Games).

A total of twenty-one e-mails were sent to recruit participants. Among the selected potential interviewees, two replied that they were not interested in the research, ten responded positively, while nine did not reply. Eight out of ten interviews were held in London, in office hours (Monday to Friday, between 9:00 to 17:00), in the interviewees' office, while two interviews were conducted via Skype because of the busy work schedule of the two participants. The maximum length of

each interview did not exceed one hour. All the participants were very helpful in answering all the questions posed, and none of them decided to withdraw from the research project at any point. Confidentiality and anonymity were guaranteed and will be maintained throughout the research so that it will not be possible to identify the experts involved from any publications.

Table 13. List of Interviewees for the 2012 Games

Number	When	Category
1	Sept 4, 2015 2-3 PM	Academia
2	Sept 7, 2015- 6:30-7:30 PM	Event governing body
3	Sept 8, 2015- 10:30-11:30 AM	Private sector
4	Sept 14, 2015 2-3 PM	Event governing body
5	Sept 18, 2015 12-1 PM	Academia
6	Online – Sept 24, 2015 7-8 PM	Academia
7	Nov 4 2015, 10-11 AM	Private sector
8	Nov 6 2015, 10-11 AM	Private sector
9	Nov 6 2015, 3-4 PM	Academia
10	Online – Nov 10 2015, 8-9 PM	Event governing body

The interviews, all in English, had a length of around one hour each, and they covered three main topics: a personal definition of legacy, with particular reference to time and beneficiaries; personal experience and role held for the preparation of the event of the interviewee; best and worst practices, pitfalls and achievements of the 2012 London Olympics; personal opinion on how different hosting cities (i.e. developing vs. developed cities) and different sport events (i.e. Olympics vs. World Cups) can achieve/promote beneficial long-lasting and sustainable legacies. The same interview guide was used during all the interviews. It contained 14 open-ended

questions reflecting the three areas of interests reported above (the complete list of questions is available in Tool 2, Interview Guide, Annex B). The guide was sent by e-mail few days before the interview to enable the experts to be more comfortable and prepared for the discussion. The interviews were recorded with the permission of the interviewees, and then answers were coded and divided into similar themes and subthemes to compare and analyze them, with the aim of mapping the main issues, best practices, pitfalls and strengths (Tool 3 – Matrix for comparative analysis of interviewees, Table 14). This methodology allowed acquiring information especially on the governance, management, and planning side of the event. Also, the involvement of several experts belonging to different fields was useful to avoid bias in the collection and analysis of the data.

Table 14. Tool 3 - London 2012 Olympics – Interviews, Comparative Analysis

Interviewee Number	Section 1 – Legacy definition and main issues	Section 2 – Best practices, main achievements, and pitfalls of the 2012 Games	Section 3 – Events, cities, opportunities, and challenges
Number 1 (Academia)	<p>Definition: anything left after the event, any lasting impact</p> <p>Not only the physical impact, also the intangible one. Also the intangible legacies can last for many years.</p>	<p>Aim: to reduce the imbalance between the West and East side of London</p> <p>Positive:</p> <ul style="list-style-type: none"> • Training and education programs developed before the Games. • Means for creating jobs and work opportunities • National identity created by the Games • Social housing (Olympic Village) • Investment on transport infrastructure. • Early legacy planning (different from other hosting cities) • Coordination among different bodies was also good. <p>Best practices:</p> <ul style="list-style-type: none"> • Managing and planning very well and well before the event • Have very clear ideas about legacy • Important to have a strategic planning, but also the bodies needed to organize and deliver it <p>Negative:</p> <ul style="list-style-type: none"> • Poor publicity, many things were good, but badly promoted, so the message got lost. • Legacy promises: with the political change, the sustainability goals were partially cancelled. 	<p>Olympics vs. other sports event: scale and dimension - WC: spread event, it involves more cities. Here, focus more on stadiums and hotels.</p> <p>Olympics are a city-based, city level event.</p> <p>Examples: Athens (2004 Olympics): very negative example from a legacy point of view</p> <p>Beijing, 2022 Winter Games: opportunity to reuse infrastructure for the 2008 Summer Games</p> <p>London: first time for a hosting city with a legacy plan and a body in charge of legacy before the event. London is also a good model for sustainability.</p> <p>Qatar is not a typical emerging country, because is a rich state, in which wealth is spread among the population.</p> <p>WC in Germany: legacy was on the impact on national image. How such an event can change the worldwide perception on the hosting city/country? (City branding)</p>
Number 2 (Event Governing body)	<p>Legacy has to last for a long-term, at least 30 years</p> <p>Legacy has to be positive (beneficial impact to local communities)</p> <p>Cities are dynamic, so legacy plans need to be flexible and adaptable. You plan for 'now', but your plans will be ready when the city has already changed.</p> <p>Focus on integration and convergence (social side)</p> <p>Right balance of temporary and permanent infrastructure</p>	<p>Positive</p> <ul style="list-style-type: none"> • Legacy plan before the games • 3 different master plans (for the event, transformation mode, and legacy mode) • Focus on regeneration, but not only physical, also social (convergence), to allow Londoners to have all the same opportunities and reduce the gap with the richer West London • The new park and state-of-art venues • Regeneration of a polluted and disaggregated area (fragmentation overcome) • Focus on public transport (very well-connected area) • Universities and cultural centers will move/open new branches there (mixed use other residential) <p>Negative:</p> <ul style="list-style-type: none"> • Metro station (transport node): to access it you have to go through the Westfield mall • Money and funding: final costs much higher than planned. Problem in the long run to allocate funding for 	<p>Best opportunities for big and developed cities</p> <p>Corruption need to be avoided (risky for emerging cities)</p>

<p>Number 3 (Private sector)</p>	<p>Legacy is fluid, many aspects involved Each event should have its own definition, according to the specific goals</p>	<p>maintenance</p> <ul style="list-style-type: none"> • Too many changes for the stadium 	
	<p>Time: over 30 years.</p> <p>For a first judgment on the master plan we should wait at least 10 years after the stage of the event.</p>	<p>Suggestion: Start with the legacy mode master plan, and then adapt the master plan for the Games to it (i.e. what they did for the aquatics center).</p>	<p>A bit early (we should wait at least 10 years after the event) to discuss positive legacies and benefits however:</p> <ul style="list-style-type: none"> • The future development of the Olympic Village (transformed into the East Village, with several thousands of flats, half of them affordable housing) • Development of the Westfield shopping center (even if it is an independent project, not related to the Games) • New great sports facilities accessible to local communities and Londoners (i.e. the Copper Box is used by local schools) • Focus also on the Paralympics Games and disability in general (as compared to Sydney, for example) • Regarding the master plan, to early to give a judgment • The Lea Valley is a complex site (disaggregated and fragmented, full of rivers and canals, and polluted), but the works for the Games regenerated it. • Synergy with the London plan. • Need for houses for large families in that area (the aim of the Olympic Village is to satisfy this need) • Development of Hackney Wick (art centers and small cafes)
		<p>Negative:</p> <ul style="list-style-type: none"> • Stadium: too many plans and changes for the stadium. It is in fact the only venues still close. Too much money invested for it. Keep the athletics focus and reduce the 85,000 to 25,000 seats. Then things changed. Keep it as a large stadium for both athletics and football (need for flexible structure then, with a retractable track). • In Sydney, for example, the plans were clear since the beginning (from 105,000 seats to 85,000. The stadium done for pitches sports). • The presence of Westfield can prevent the development of small commercial activities within the Olympic Village. 	

**Number 4
(Event
Governing
body)**

Legacy: more than set a definition, the important is the setting realistic objectives, and long-term goals, and to have a strong vision

Time: over 30 years
Planning the legacy and post-event use well in advance

AIM: all Londoners must have the same opportunities

Political context: stability and leadership are needed, but also a clear vision. Also, a hosting city needs the capability to plan and deliver long-term projects.

Democratic context: all the inhabitants should have the same opportunities and should benefit from the Games.

OLYMPIC MASTER PLAN: usually it is like this ('closed' plan and Games, islands of regeneration)

But should be like this (open master plan, integration within the urban fabric):

- Strong vision since the bid (integration with the London Plan) and political willing
- Focus on physical and social sides: convergence of East toward the West
- Reduction of inequalities and "achieve convergence"
- Convergence of political willingness, London Plan, and Olympic legacies
- Olympics as catalyst for a process already planned in East London
- LLDC: only example (in London) of a body in charge of legacies already in place before the end of the Games
- The overall budget for the Olympics: 1/3 for sports venues, 1/3 for the Games and security, and 1/3 for legacy
- DELIVERY MECHANISM: all the bodies and organizations in charge of legacies created well-before the end of the Games
- Focus on convergence (provide the same opportunities to all Londoners)
- Flexibility of the master plan, although planned well in advance
- Mixed use (commercial and residential, but also cultural. 3 universities and other cultural institutions have plan to open branches in Stratford). It is not a dormitory neighborhood, but a space where to perform all kinds of activities
- More than 10,000 jobs created (including the Westfield Mall.). Many of them part time (for women, to allow them manage work and family)
- No eviction: only 75 people were displaced, because it was an abandoned area
- The economic crisis of 2008 lead to a reduction of the private funding
- Change in the political leadership
- Gentrification: but it is typical of all regeneration projects. It is not related to Olympics specifically
- Connectivity and density: although 38 streets and bridges were created in Stratford, connectivity could have been done better. However, the space is very fragmented.
- More mixed use can be done (not focusing mainly on residential)
- Westfield mall: it is too wide; it covers too much space that could have been used for other purposes.
- Temporal dimensions: deadlines and acceleration effect
- Exceptionality: once in a life time event
- Winners vs. losers

Positive

In London the legacy plan worked:

- For political reasons (it is a democratic country, and although there was a political chance both at nation and local level, long-term plans were not changed)
- Physical: in London you can "fill a gap without creating a ghetto". In fact, Stratford was integrated within the overall urban fabric. In Rio de Janeiro this will not happen. There, the islands of regeneration created by the Games will not be integrated in the city.
- London is democratic city, able to plan and develop long-term projects. However, many other countries do not have these capabilities. Here, in London, the Olympics were just a tool/means for accelerating and already existing vision and plans.
- London has a legacy culture
- London copies and improved the Barcelona model

Developing World:

- Rio de Janeiro (2016 Olympics): there will be physical regeneration but not social. There will not be any process of convergence and inequalities will remain and probably increase.

Developed World:

- Milan (EXPO 2015) does not have a vision, so in legacy terms EXPO will be a failure

Developed World, past experiences:

- Rome (Olympics in 1960) worked well
- Tokyo (Olympics in 1968) worked well, too.
- Sidney (2000 Olympics) was a failure. The agency in charge of legacies was founded after the end of the Games.
- Athens (2004 games) was also a failure. In that occasion, they did not even create a body in charge of the legacy.

The stage of these events has to give a contribution to hosting cities, otherwise is a waste of time and money.

It depends on goals and ambitions of hosting cities. For sure, events create inefficiencies, because in any case you will have to plan and deliver activities you will not need anymore after the event.

**Number 5
(Academia)**

Complexity and politic nature of the 2012 Olympics project

Legacy: simple and complicated at the same

time, difficult to have a definition.

Legacy means all and nothing... it is just a trendy term, a fluid and malleable term. It can be manipulated. There is not a universal definition of it. He prefers do not utilize that term.

It is more a political concept that a term to be defined. So, does it make any sense trying to define it?

Time: 30-40 years.
Legacy is for young people.

Time is also critical in terms of planning: legacy needs to be planned well before the event.

- Many positive aspects, but contrast between social benefits and money management: do the local communities real benefit from the Games?

Negative

- The park is too exposed to weather (dark/light, hot/cold, sun/rain)
- A big issue is related to costs. How much money is needed to maintain and keep the park and the area ad public spaces?
- Changes: major issue, as in the case of the Olympic stadium.
- Funding park and maintenance: it will be a big issue in the future.
- Successful legacy, but social needs vs. commercial ones. Financial issue. Commitment for sports facilities to be managed by social enterprises. So, money does not come from that side. Where to collect the funding necessary to maintain the park? Costs vs. revenues.

EXPO is an interesting event, because you can create a platform for regeneration and discussion, and then you will remove all the pavilions (there is no necessity to build new sports permanent or temporary venues) and use the space for other reasons.

WC can be interesting because it is a spread event, and it involves several cities. One could involve local football teams for sharing the expenses for the construction of the stadiums, while the government could pay for other infrastructure, more useful for the residents (roads, airports, transportation,)

Olympics and other multi-sports events are interesting in cities where there is no sporting infrastructure.

Questions:

Compact vs. spread: if the event is too dilute, then it is not an event anymore.

Temporary vs. permanent: temporary in many cases is better. However, it is still a superfluous cost: how much does it cost to built and then dismantle a temporary venue?

Political dimension/decisions vs. good urban design: often decisions are made not because they are good decisions, or because they can create useful and sustainable spaces, but just because the political power wants it (city branding, symbolic events, no rationality, as for the cases of Qatar 2022 and Beijing 2008).

Independently from the event or hosting city:

Have a strong vision, political willingness and engagement, community engagement

Focus on the social and physical sides

Create a *metabolism*: focus on diversity, complexity, density

Number 6 (Academia)

Time: long-term, at least 30 years or more

Legacy can be everything durable and lasting after the event: importance of planning the desired results (then the city will focus on the results they want to achieve)

The deadline of the Games forces the infrastructure to be ready

Number 7 (Private sector)

Public role in the management of the event and legacy.

The majority of the

- Importance of knowledge transfer: Learninglegacy.independent.gov.uk: knowledge transfer (platform with a learning legacy project), to make the London experience replicable.
- Aim for convergence and catch up of the East towards the West
- Aquatics center: change of perspective. Built first the legacy mode venue and then added temporary wings.
- Social side

Positive

- Focus on residential and mixed use
- Temporary approach and legacy/after-event planning
- Focus on East London and synergy with the London Plan

- WC is more at a country level (Qatar is an exception)
- Winter Olympic Games: usually there is no large urban development. It is a good strategy to develop resort locations

	<p>funding involved should be public, and also the land involved. In this way it is easier to manage and plan a post-use event and legacy.</p> <p>Planning of legacy: the sooner, the better.</p> <p>Link the sports sites with the surroundings, with what is around.</p> <p>Importance of social legacies (as per London Olympics)</p>	<ul style="list-style-type: none"> • Behavior change: the perspective of change in East London • Shift of the center of gravity from West London. Reorientation of the city into a new direction (East London, Stratford) • Focus on building a new neighborhood, with a wide park, housing and commercial areas. • Public ownership of the land. • Not only a physical, but also a social transformation. • Regulatory process characterized by flexibility. The park and area were built in flexibility <p>Negative:</p> <ul style="list-style-type: none"> • Sports legacy: sport participation not as good as planned • Affordable housing not so affordable (They are both recurrent issues in any hosting city) • The transformation mode is longer than people want (more than one year and a half for the park to reopen, but the stadium is still closed, and many other infrastructure still under construction). 	<ul style="list-style-type: none"> • Summer Games are more effective for regeneration and urban development purposes • Rio de Janeiro, Doha, London: his company used the same approach in the 3 hosting cities • Rio de Janeiro, Doha and other emerging cities: they have more opportunities, but also more challenges • The approach in Rio: they started with the hosting of smaller events, and then little by little, they hosted more international and important events (from Pan American Games to Olympics) • Rio: theoretically, similar approach to London, with a focus on regeneration, transport, and residential. The approach focuses on a mix of temporary and permanent venues. The use of water is also important. • Doha is a sports hub and the Government focuses on sport. • Doha, for the World Cup, should focus on temporary structures and downscale. • Both Doha and Rio show a focus on transportation infrastructure • For established cities, as London, it is easier to host these events, because they have already established systems. • Cultural diversity: adaptation of previous planning models to local needs
Number 8 (Private sector)	<p>Early start of legacy planning (in London in 2010 starts the transformation mode)</p> <p>Importance of knowledge transfer, from city to city, and mapping successful stories and best practices.</p>	<p>Positive:</p> <ul style="list-style-type: none"> • Strong vision and leadership, although the political change at a local and national level. • Focus on the social side: convergence; aim of giving social benefits to local communities • Increase sense of community in East London • New venues only when necessary (i.e. the aquatics center) • Provide connectivity and integration • Good coordination among entities • A new piece of city was built thanks to the hosting of the Games <p>Negative</p> <ul style="list-style-type: none"> • Too early delivery (venues were ready almost one year before the Games, too early, it is a cost) • Too many changes in some occasions (i.e. stadium), with an increase of costs 	
Number 9 (Academia)	<p>Importance of defining the beneficiaries</p> <p>Time: at least 30 years or more</p> <p>Political issue: people are impatient and want to see legacy immediately; events are usually not profitable</p>	<p>Sustainability side:</p> <ul style="list-style-type: none"> • Focus on sustainability (waste management, sports venues, almost no parking and access by public transport, water: grey water used for landscape) • Social side: local hiring and apprenticeship programs • Focus on culture and education <p>Negative:</p> <ul style="list-style-type: none"> • Increase in planned costs (initial budget vs. final expenditures) 	<p>World Cup usually is more at a country level. Useful for developing transport, hotel and resort infrastructure (hotels)</p> <p>Summer Games more at a city level</p> <p>Qatar 2022 is an exception; it will be the most compact WC in the history of this event. In this sense it is more similar to Olympics.</p>

	(economically): a lot of money necessary for the change	<ul style="list-style-type: none"> Stadium (all the changes made) Gentrification (increase in rentals and land cost), although now much more offer in housing and commercial spaces available (very important for a city as London that needs housing) Council tax hike of 20 pounds per household per year, particularly unfair for low-income families. 	
Number 10 (Event Governing body)	<p>Time: over 30 years, a long time (preparation: 7 years, games: 15 days, legacy: many years)</p> <p>Focus on legacy but also sustainability and resilience</p>	<p>Positive:</p> <ul style="list-style-type: none"> Bridges: connection and accessibility Site opportunities: youth, diversity, and energy. The venues ready one year ahead the Games (enough time to plan for Games and legacies) The planning paralysis avoided by strong leadership (Ken Livingston) Everybody thought that Paris would win, so the London government intended to gain something in any case, even only from the bid. That is why the focus was on legacy. No communities displacement New 10,000 jobs created. Olympic Village: half flats are affordable/social housing. Importance of the bids: bids generate new and positive ideas. Deliver on time, deliver safely (no mortalities, for the first time in the UK), Increase the job offer, inspire future generations, and increase skill capacity. <p>Negative: Discrepancy between the budget in the bid and the real one (the final is 24 billion) Gentrification. Even if there is a project for affordable housing, gentrification and increase of costs is inevitable.</p>	The context is everything. Legacy depends on the context and local needs.
MAJOR FINDINGS	<p>Time: planning for a long-term (30 years)</p> <p>Focus on positive legacies and beneficiaries</p> <p>More important than giving a definition of legacy itself, is defining what are the types of legacies</p> <p>Early start of legacy planning: start with the legacy master plan, and built the event on it (reverse the approach)</p> <p>Focus not only physical, but also social and intangible impacts</p>	<p>Positive</p> <ul style="list-style-type: none"> Integration and convergence New jobs Focus on public transport Early legacy plan Clear vision and strong leadership <p>Negative</p> <ul style="list-style-type: none"> Difference between the initial budget and final costs Costs for maintenance Management of the stadium Gentrification that follows major regeneration project 	<p>Olympics and other multi-sports events: impact on cities</p> <p>World Cup: impact on countries</p> <p>Developed vs. emerging countries: importance of vision and political leadership, importance for hosting cities/countries to have the capability to plan and develop complex and long-term projects.</p> <p>Emerging cities have more opportunities, but also more challenges because often they do not have an established planning system</p>

5.2 Discussion and major findings

Table 14 presents the details of each interview. From these data, it is possible to identify some major findings. *Legacy* is usually defined as anything left after the event. The majority of the interviewees emphasized, however, that more important than giving a definition of legacy is to plan for it; to set and define realistic objectives and long-term goals and to have a strong vision prior to the event. While a mega-event usually lasts two or three weeks, legacies are durable; they last for more than a generation, for 30-40 years, so legacies need to be planned carefully. This strategy of planning in advance for legacy includes balancing temporary and permanent infrastructure and considering not only the physical impact, but also the social impact. Legacy is a fluid concept, and it involves tangible and intangible results. In the case of London, this planning for legacy included a strong focus on integration and convergence, with the aim of providing all Londoners the same opportunities and fill the gap between the richer west London with the poorer east side. Some of the experts also suggested a *flipped approach*, in which the first step is to plan what will happen after the event and then adapt the planning of the event to the legacy requirements. To illustrate, in the case of the 2012 Games London strongly needed a new aquatics complex because the city had very few public swimming pools. A new aquatics center was thus built for the Games, but the planners were thinking about legacy. The venue has now a capacity of 2,500 seats with an additional 1,000 seats available for major events; however, during the Games, two temporary wings were added to increase the capacity to 17,500 seats. The wings have now been removed to avoid their becoming white elephants. Finally, the political context is also an important element for achieving positive and successful legacy. Hosting cities need political stability, strong

leadership, and clear vision, but also the capability to plan and deliver long-term projects.

Regarding the case of London, the interviewees shared some achievements as well as pitfalls. First, the city introduced the concept of early legacy planning, establishing both a plan (i.e. the Legacy Plan) and a public body (i.e. the London Legacy Development Corporation, LLDC) in charge of legacy well before the stage of the Olympics. Second, there was a strong synergy between the London Plan, the city's strategic plan, and the bid book. To illustrate, one of the objectives of the London plan is to reduce the imbalance between the west and east sides of London, and the choice of locating the Olympic Park and Village in Stratford, East London, aimed at accelerating this convergence. In this sense, the Games were intended as a means for creating jobs, work opportunities, training and education programs for local communities, a goal that was developed before the Games. The major focus was on regeneration, not only physical but also social to allow Londoners to have all the same opportunities and to reduce the gap between East London and the richer West London.

From a physical point of view, before the Games the Lea Valley was a complex site, very disaggregated and fragmented, full of rivers and canals, and extremely polluted. The Olympics accelerated its regeneration. Three different master plans were realized (one for the event, one for the transformation mode, and one for legacy mode) to plan and deliver a new public park and state-of-the-art venues that would be accessible to local communities and all Londoners (i.e. the Copper Box, a

multi-use arena, is used by local schools). Another successful achievement was the investment in public transport. Stratford, the main access point to the area, was already well connected before the Games, but it is now reached by two metro lines, some over ground and Dockland Light Railway (DLR) connections, a bus station, and a high-speed railway station. An additional aim was to create a mixed-use district that would provide commercial, recreational, cultural and residential areas. This aim was realized when the Olympic Village was transformed into the East Village, a new district with around 3,600 flats, half of them affordable housing. In addition, three universities and other cultural institutions have plans to open new branches in Stratford.

Although the Westfield shopping center was an independent project, not related to the Games, its proximity to the Olympic park and village helped in creating more than 10,000 jobs, many of them part time and reserved for women to allow them manage work and family. In addition, many other commercial and office spaces are under construction around the park and Stratford metro station.

The main issues relate to costs and expenditures and to the management of the Olympic stadium. Regarding the first issue, the management of all major events always shows a discrepancy between the planned budget in the bid book and final costs, and London no exception. An initial overall budget of nine billion pounds was indicated in the bid, while according to recent estimates, the real expenditure reached 24 billion, almost three times the original estimate. In addition, funding the park and its maintenance will be an important issue in the future. GLA committed itself,

promising that sports facilities would be managed by social enterprises and accessible to local communities. A major issue will thus be to balance costs and revenues. If not from sporting venues, where will the funding necessary to maintain the park and its facilities be found? How much money will be needed to maintain and keep the park and the area ad public spaces?

The staging of mega sports events always create inefficiencies because even in the best cases hosting cities have to plan and deliver certain activities and an infrastructure that will not be needed anymore after the event is concluded. In the worst cases then, white elephants and underutilized infrastructure is what is left once the event is over. These inefficiencies linked to the frequent changes to venues and changes in the overall plan. For the 2012 Olympics, an example is the Olympic stadium. The evolution of its design was not straightforward, which increased costs. During London's bid for the games, the government indented to produce a brief for an athletics-only stadium. The aim was to largely disassemble it after the games, reducing the 85,000 seats to a capacity of 25,000, with the lower tier remaining in place as a permanent athletics facility. However, later on the government changed the initial plan from an athletics-only stadium to a multi-sport stadium. The venue, still under refurbishment, will open at the end of 2016. It will be used as a football stadium, with West Ham as tenants, but also as an athletics stadium, thanks to a retractable athletics track.

Coming to the third part of the interview guide, almost all interviewees agreed in saying that while World Cups are usually more geographically dispersed, Olympics

are city-level based. A World Cup can be interesting because as a geographically dispersed event, it involves several cities. One could involve local football teams for sharing the expenses for the construction of the stadiums, while the government could pay for other infrastructure, more useful for the residents (roads, airports, transportation). Summer Olympics and other multi-sports events are interesting in cities where there is no sporting infrastructure. It seems they are more effective than mono-sport events for regeneration and urban development purposes. Winter Olympic Games usually do not include large urban development, but they can help in developing resort locations. Although EXPO is not a sports event, its hosting is also interesting because one can create a platform for regeneration and discussion, and then, after the demolition of the pavilions (since there is no necessity to build permanent venues), use the space for other reasons and purposes.

In contrast to developed cities, emerging cities usually face more challenges when hosting mega-events. One strategy, employed by Rio de Janeiro, is to start hosting small events first, and then stage bigger ones (i.e. first the Pan-American Games, and then the Olympics). However, independently from the event or hosting city, all the interviewees agree that the stage of these events has to give a contribution to hosting cities, otherwise it is a waste of time and public money. To achieve this result, a strong vision, political willingness and engagement and community engagement are needed; and it is strategic to focus not only on physical legacies, but also to social and intangible impacts.

To conclude, some issues to consider are:

- The political dimension/decisions vs. good urban design: often decisions are made not because they are good decisions or because they can create useful and sustainable legacies, but just because the political power wants it (i.e. city branding and symbolic events as for the cases of Qatar 2022 and Beijing 2008).
- Temporary vs. permanent: temporary in many cases is better. However, it is still a superfluous cost. How much does it cost to built and then dismantle a temporary venue?
- Legacy plans vs. its implementation: it is essential to have the ability not only to plan, but also to develop and deliver long-term projects. For example, in London the Olympics were just a tool/means for accelerating an already existing vision and plans. The city not only had the vision, but also the capability to leverage this event to regenerate a wide polluted and contaminated area. However, many other countries do not have these capabilities.

6. Conclusions

The analysis of the 2012 London Olympics revealed important findings about the management of the Games and their legacy. From a governance point of view, the major strengths were the synergy of the Olympic bid with the London master plan and the strong vision and political willingness to start and achieve a process of convergence and integration of the East London. The transformation of Stratford and the borough of Newham was already planned, and it would have happened in any

case, although more slowly, especially considering the deep economic crisis of 2008 and the political change at local (change of mayor in 2008) and national level in 2009. The Olympics triggered and accelerated this process of transformation.

Another successful strategy was the inclusion of a chapter devoted to legacy in the bid book and the founding of a legacy plan and body well in advance and already in place before the beginning of the Games. De facto, the 2012 Olympics gave rise to a change of perspective, putting legacy and the post-event use in the foreground. First, there was careful planning for the use of permanent, already existing venues as well as temporary venues and additional infrastructure. Permanent facilities were built only when they were beneficial to local communities. The aquatics center exemplifies this strategy. London strongly needed a new aquatics complex because the city had very few public 50 meter swimming pools. During the Games, two temporary wings were added to the complex to increase the capacity to 17,500 seats. After the Games, the wings have been removed, leaving the venue with a capacity of 2,500 seats with an additional 1,000 seats available for major events, more in line with local necessities. In addition, three master plans were designed in the planning phase: one for the event, one for the transition mode, during the time needed to transform the park and dismantle the unnecessary infrastructure, and one for the legacy mode. Also, the city's capability for planning and implementing complex projects and efficient time management allowed them to have all the venues ready at least one year before the Games. In this way, the planners had time to focus not only on the two-week event, but also on post-Games usage of all resources.

The economic side is probably the most vulnerable of all the factors that must be considered when planning a mega-event. As in the majority of mega-events, and also in the case of London, the budget presented in the bid underestimated the real costs. Final expenditures almost tripled the initial spending plan. In addition, the crisis of 2008 removed all private investors, leaving the state with the task of covering all expenses. The main solution for this problem was a council tax hike of 20 pounds per household per year, which was particularly unfair for low-income families. In addition, how to cover the expenditures for the maintenance of the park and sports venues is another ongoing major issue.

The environmental impact presents several achievements. Before the Games, the park was an area of 75 hectares of polluted and contaminated soil and water. The Olympics allowed reclamation of these lands and provided a new park and open space to the local communities. For this purpose, an onsite soil-washing centre was built to reduce distance that soil had to travel. In addition, great attention was given to the sustainability of each single venue and Olympic Village. To illustrate, the venues were built to minimise resource use. The velodrome best shows it, as it was built with 100% sustainably-sourced timber (IOC, 2013b), and its resource-efficient approach to construction led to £1.5 million savings from the cable-net roof design alone, requiring about 1,000 tonnes less steel and embodied carbon savings of over 27% (Department for Environment, Food & Rural Affairs, 2013). Finally, the site is highly accessible by public transport, another achievement from a sustainability point of view.

The Games focused on integration and convergence, from both a physical and a social point of view. The aim was to return an open space to Londoners; not just to let people back in, but to totally integrate the park into the surrounding community and to provide a sense of ownership, pride, opportunity. The lack of accessibility and the complex topography consisting of rivers, islands, roads and railways, was overcome with the creation of bridges and pedestrian and cycle paths. In addition, the provision of mixed-use areas around the park and several means of transportation helped in the process of integrating East London with West London. However, although there was no displacement of the population, because the majority of the park is located in a formerly polluted and abandoned area the regeneration accelerated by the Games led to forms of gentrification with an increase in house prices.

To conclude, in addition to these factors, London 2012 also paid attention to knowledge transfer, although the creation of many new organizations, plans and systems of governance added complexity to the management of the Games and its regeneration purposes (Smith, 2014). To illustrate, London 2012 shared the knowledge and the lessons learned from the planning, construction and management of the Olympics and Paralympics through the Learning Legacy project. This website includes case studies, micro reports and research summaries in the preparing and staging of the Games, and it helps raise the bar within the planning and environment, construction, infrastructure and event sectors (ODA, 2016 January 15).

CHAPTER 5. CASE STUDY TWO: ADLER OLYMPIC PARK, SOCHI

1. Introduction

This chapter analyzes the second contemporary case study: the 2014 Winter Games in Sochi, Russia. It investigates the Adler Olympic Park, which was, with the mountain cluster, the main event site for that Olympic edition. The chapter follows the methodology presented in Chapter 2 (Introduction, Research Design, and Methodology), and already adopted for the investigation of the 2012 London Olympics. It starts with a pre-analysis, with the aim of collecting knowledge and background information about the governance of the hosting city and the 2014 Olympics edition; it then follows with an official documentation review; a series of site visits; and six semi-structured interviews with experts in the field.

2. Pre-analysis: The bid for the Games and Sochi city structure

2.1 Sochi and Russia at the time of the 2014 Games

With the 2014 Games, Moscow wanted to give a different image of itself: reliable, open, and powerful. That's why in the decade between 2007 and 2018, Russia has hosted and will host numerous international competitions: the Olympic Games, the football World Cup, Formula One, World University Games and twenty other major sporting events. However, the 2014 Sochi Olympics have no precedents: in the history of the Games, no one had ever carried the Olympic torch in such a turbulent area. Sochi lies in a region where there have been numerous terroristic attacks and

where recently many wars have been fought, two of which in the nearby Chechnya. Moreover, in 2008, the war between Russia and Georgia was fought just a few kilometers far from Sochi and the Olympic clusters.

The Kremlin decided to organize the Games in the Caucasus to affirm that that region - where the Russians are just one among dozens of other populations - unquestionably belongs to Russia. To do so, Moscow chose Sochi, the main summer destination for Russians. Sochi 2014 was intended to 'celebrate' Russia and its 'return' among the biggest countries of the world. With this purpose, Russia was awarded the organization of several sports event. Examples include the Summer Universiade and the World Athletics Championships (2013), the Winter Olympics (2014), the World Swimming Championships (2015), the World Ice Hockey Championships (2016), the Football World Cup (2018) and, consequently, of the Confederations Cup in 2017, without forgetting that by the end of 2014, Sochi has been hosting a Formula 1 Grand Prix.

2.2 Sochi administrative structure and governance

Sochi is a Russian city in the region of Krasnodar Krai. It is located on the coast of Black Sea near the border with Georgia (Figure 59). Sochi is the largest resort city in Russia. It has subtropical weather, with mild winters and hot summers. From an administrative point of view, Greater Sochi includes four districts: Central Sochi, Adler, Lazarevsky, and Khostinsky City Districts. The Greater Sochi area has a population of about 400,000 people and has an area of about 3,500 square kilometers that stretches along the coast, between the sea and the Caucasus Mountains, for 145

km. Central Sochi covers the smallest area, but has the highest population and it comprises the central portion of Greater Sochi. Regarding transportation, public transport is represented mainly by bus and taxi. The city has an international airport, the Adler-Sochi Airport, three cable cars in the city center, and several cableways in the mountain areas. Several railways stations were renovated for the Games, and two new stations were built in Adler City and near the mountain cluster. Besides the 2014 Olympics, Sochi has hosted the Russian Formula 1 Grand Prix since 2014, and will host part of the matches of the 2018 FIFA World Cup.



Figure 59. The geography of Sochi, between the Caucasus Mountains and the Black Sea.

Sochi became a holiday destination during the 19th century, when some wealthy Russians started going to Sochi because of the nice and warm weather. Up to

1930s, under the Soviet Regime, the city flourished, when the government used to subsidized holidays to Soviet workers. Sochi continued its growth until the 60s, when the port and the train station were built. However, with the end of the Soviet regime, the country's borders opened, and Russians started to spend their holidays also abroad, in Turkey in particular. Sochi was on decline. With the aim of showcase Russia worldwide and boosting Sochi to become the Russian Riviera again, Russia hosted the 2014 Winter Games. The Olympics took place from February 7 to 23. After their conclusions, it was the turn of the Paralympic Games, staged from March 7 to 16 in the same locations.

2.3 The election of Sochi for the 2014 Olympic Games

The application for hosting the 2014 Olympic Winter Games was initially submitted by seven candidates: Almaty (Kazakhstan), Borjomi (Georgia), Jaca (Spain), PyeongChang (Korea), Salzburg (Austria), Sochi (Russia), and Sofia (Bulgaria). After the first selection, the IOC's Executive Board admitted only three cities as Candidate Cities: PyeongChang, Salzburg, and Sochi. The final decision was made on 4 July 2007 during the 119th IOC Session in Guatemala City. Sochi was elected with 51 votes in the second round, defeating PyeongChang that had 47 votes, as per Table 15 (IOC, 2016 April 2). For the second time, after the Moscow Summer Olympics in 1980, Russia awarded the right to host an edition of the Games (for a complete overview on the election process, see Table 16).

Table 15. The Election of the Host City for the 2014 Winter Games During the IOC Meeting on 4 July 2007, in Guatemala

Round	1	2
Sochi	34	51
PyeongChang	36	47
Salzburg	25	//

Table 16. The Process for Electing the Host City of the XXII Olympic Winter Games: Timeline and Required Applicant Steps (Data source: IOC, 2010)

28 July 2005	Deadline for NOCs to submit the name of an Applicant City.
16 August 2005	Deadline for payment of the USD 150,000 non- refundable Candidature Acceptance Fee to the IOC and signature of the Candidature Acceptance Procedure by each Applicant City.
27-30 Sept 2005	An IOC information seminar was held for the Applicant Cities.
Oct 2005 - Feb 2006	During this period the Applicant Cities were required to prepare their replies to the "IOC Questionnaire".
1 February 2006	Deadline for the Applicant Cities' submission of their replies to the "Questionnaire".
February 2006: XX Olympic Winter Games	Participation of the Applicant Cities in the Observer Program organized by the IOC and the Torino Organizing Committee (TOROC).
Feb - Jun 2006	The Applicant Cities' replies were examined by an IOC Candidature Acceptance Working Group.
22 June 2006	Presentation of the IOC Candidature Acceptance Working Group's Report to the IOC Executive Board. The Applicant City Phase ends with the Executive Board acceptance of those cities, which will go forward into the Candidate City Phase.
22 June 2006	The IOC Executive Board's decision to accept Sochi, Salzburg and PyeongChang as Candidate Cities marked the transition to the second phase of the 2014 bid procedure.
23 June 2006 to 10 January 2007	During this period the Candidate Cities were required to prepare their Candidature File.
11-14 July 2006	Candidate City representatives attend the Torino 2006 Debrief held in Vancouver.
19 July 2006	Deadline for the signing of the Candidature Procedure document by each Candidate City and its NOC and payment of the USD 500,000 Candidature Fee to the IOC.
10 January 2007	Deadline for Candidate Cities' to submit the signed „Undertaking“ document, guarantees and their Candidature File to the IOC.
Mid-February to Mid-April 2007	During this period the 2014 Evaluation Commission made a four-day visit to each of the Candidate Cities.

4 June 2007	The “IOC 2014 Evaluation Commission Report: XXII Olympic Winter Games in 2014” was released.
4 July 2007	The Candidature Phase draws to a close at the IOC Session with the final presentations of the Candidate Cities and the election of Sochi as the 2014 Olympic Host City.

2.4 The City of Sochi Master Plan

Sochi Master Plan was developed in accordance with the aims and objectives of the Order of the Government of the Russian Federation dated June 8, 2006 N. 357 “On the Federal Target Programme Development of the City of Sochi as a Mountain Climate Resort (2006–2014)” and the “Programme for the Construction of Olympic Venues and Development of the City of Sochi as a Mountain Climate Resort”, approved by the Order of the Government of the Russian Federation N. 991 dated December 29, 2007, and amended by the Order of the Government of the Russian Federation dated December 31, 2008 N. 1086 (City of Sochi, 2016, February 16).

The Master Plan of Sochi is divided into three sections:

- The design life of the Master Plan, until 2032.
- The first phase of the Master Plan, until 2014, the year of the Winter Olympic Games.
- The period following the Games.

The design solutions of the Master Plan are the basis for the development of documentation for the planning of the city, the development of transport, engineering

and social infrastructure, as well as environmental protection. The aim of the master plan is to develop Sochi as a resort city according to the following goals:

- “Development of the infrastructure of Sochi and creation of conditions to form of Russia's first world-class mountain climate resort;
- Provision of Russian athletes with high-class bases for training in winter sports;
- Staging the XXII Winter Olympic Games and the XI Paralympic Winter Games of 2014 in Sochi;
- Host international and Russian national competitions in winter sports in Russia;
- Provision of a sustainable development of the urban settlements, both in the coming years, and in the long term;
- Steady improvement in the quality of life for all people in the city (with a focus on providing European and Russian quality of life standards);
- Formation of Sochi as a multi-functional city, a world-class resort, one that is integrated into Russian and global economies, and strengthening the position of the city of Sochi in Krasnodar Krai” (City of Sochi, 2016 February 16).

2.5 The 2014 Winter Olympics: Governance and management

The Russian Olympic Committee along with the City of Sochi and the Federal Agency for Physical Culture and Sport established in the end of 2007 the Sochi 2014 Local Organizing Committee, the organization in charge of the Games in the end of 2007. The body was in charge of the construction of the Olympic venues and infrastructure as well as the development of Sochi as a year-round Alpine resort.

Besides the Local Committee, a number of state corporations and autonomous non-commercial organizations were established. These included:

- Olympstroy is a state corporation that carried out the design, construction or reconstruction of venues, organized the functioning of Olympic facilities, and hold tenders. It was the legal heir of the Federal State Unitary Enterprise Directorate of Development for the City of Sochi (formed to implement the Federal Special Program for Development of the City of Sochi as a Mountain Climate Resort (2006-2014)(The Anti Corruption Foundation, 2016, January 11).
- Transport Directorate of the Olympic Games. It was founded to supervise and control the design and construction of transport infrastructure facilities, and the conveyance of passengers during the preparation and staging of the Games.

2.6 The Olympic Clusters

The venues for the 2014 Olympiads were located in two areas within Greater Sochi: a coastal cluster for ice events in the Adler City District, and a mountain cluster in the mountains of Krasnaya Polyana. This edition was one of the most compact Games ever, with around 30 minutes travel time between the two clusters (Figure 60). The Adler Olympic Park seats along the Black Sea coast in the Imeretinskaya Bay, where the Olympic Stadium, the Main Olympic Village, all the ice venues, and the International Broadcast Centre and Main Press Centre were built anew for the Olympics. The Park ensured a very compact concept with a very short distance between the Olympic Village and the other coastal venues. The mountain cluster in Krasnaya Polyana was the seat of all the skiing and sliding sports. The

mountain park was again a very compact area with an average distance of 4 km between the Olympic sub-village and the facilities (IOC, 2016 April 5).



Figure 60. The coastal and mountain clusters for the 2014 Games (Source: Sochi 2014 Candidate City, 2006).

Sochi was elected as Olympic City in 2007, and, at the time, had no world-class level athletic facilities fit for the Games.

The coastal cluster includes now the following facilities:

- The Fisht Olympic Stadium. It hosted the opening and closing ceremonies and had a capacity of 40,000 seats. The venue is now under renovation to becoming a hosting city in the 2017 FIFA Confederations Cup and 2018 World Cup. The

stadium will seat around 48,000 after the renovation. It will be transformed from a domed stadium into an open-air venue.

- The Adler Arena Skating center, which has a capacity of 8,000 seats.
- The Bolshoi Ice Dome, the first venue to be opened in 2012, with a capacity of 12,000. It was utilized mainly for ice hockey competitions. The arena's design resembles a frozen water drop.
- The Ice Cube Curling Arena hosted all the curling matches and has a capacity of 3,000 seats.
- The Iceberg Skating Palace: a 12,000-seat complex for short track speed skating and figure skating.
- The Shayba Arena, with a capacity of 7,000 seats.

Additional venues are also a hockey training center and a skating training complex. All the venues are placed around a main circular square, the Medal Plaza. During the Games, it hosted all the victory ceremonies and had a capacity up to 22,000 standing spectators. The Adler Park now includes also the F1 autodrome. It was built on the park precinct just after the Games. It has a length of almost 6 km and loops around the park. It can reach a capacity of 55,000 seats in four main stands. The Olympic Village stands in the South Western area of the park, by the sea. It is composed of 47 buildings and able to host 3,000 people. It has now been converted into a resort complex, with flats of different sizes. In the East side of the site, there is also a fan fair, a themed park around the history and culture of Russia. It contains fourteen attractions, and a hotel complex that is themed to a medieval-era castle.

2.7 Pre-analysis phase: Completion of the city and space card

The first step for analyzing the case of Sochi consisted of a pre-analysis investigation. Drawing on data from literature review and existing documentation, such as websites on the topic, the aim was to acquire basic knowledge on the selected case, Sochi 2014 Winter Olympics, especially regarding its local governance and the event management policies.

As previously mentioned (see Chapter 1 – Introduction, Methodology, and Research Design; Chapter 4 – Case Study One: Queen Elizabeth Olympic Park in Stratford, London), a tool was created and utilized for the collection of these data. It is called *City and Space Card* and is presented in Figure 61. The tool facilitated focusing on the most relevant data and on envisioning the big picture of the space analyzed. It also allowed for the comparison of the three cities considered in this research: London, Sochi, and Rio de Janeiro (Chapter 7 – Comparative Analysis).

Section 1 - CITY CARD	Section 2 - SPACE CARD
<p>City name: Greater Sochi</p> <p>Population: 400,000</p> <p>City type: Emerging city/part of the Caucasian Riviera</p> <p>Area: Greater Sochi is 3,526 km²</p> <p>City governance: The Greater Sochi area includes 4 districts: Tsentralny, which is the central Sochi, Lazarensky, Khostindky, and Adlersky, home of the costal cluster.</p> <p>City master plan: "On the Federal Target Programme Development of the City of Sochi as a Mountain Climate Resort (2006–2014)" and the "Programme for the Construction of Olympic Venues and Development of the City of Sochi as a Mountain Climate Resort".</p> <p>Previous events: None relevant before the 2014 Olympics. Sochi hosts the Russian Formula 1 Grand Prix from 2014 until at least 2020 and some of the matches of the 2018 World Cup.</p>	<p>Space name: Adler Olympic Park, costal cluster</p> <p>Purpose: City branding: make Sochi an international seaside resort</p> <p>Dimension: A circular area with a circumference of about 3 km</p> <p>Data of Completion: The construction started in 2007 and many of the venues were completed in late 2013. After the Games, the F1 track was added. The stadium is undergoing a renovation for the 2018 World Cup, while the majority of the other venues are now closed.</p> <p>Typology*: Periphery clustering</p> <p>Space location: 2 areas for the Olympics, the main one is the Adler Park Adler, one of the four districts of Greater Sochi</p> <p>Space use before the event: Poor area with shacks and wooden cottages. Issues related to property law (for expropriation). The space is near the Caucasus Nature Reserve and had direct access to the sea.</p> <p>Transport and connections: High speed rail, rail, bus, taxis, car</p> <p>Pedestrian, Cycling routes: No cycling routes. The area is pedestrian only (parking areas, although closed, available around the park)</p> <p>Number of accesses: One main access</p> <p>Accessibility: All the area is accessible to disabled from the main entrance; however, two bridges cross the area. Bridges are equipped with lifts, although they were out of orders during the site visits</p> <p>Functions and activities: Sport</p> <p>Sports infrastructure: Nothing on the site before the event. For the Olympics, built 8 new venues, now the majority is closed. The stadium is under renovation. The F1 track was added after the Games.</p> <p>Other infrastructure: Temporary cafes and some kiosks</p> <p>Any other relevant notes: 2014 Sanctions and subsequent economic and financial crisis</p> <p>* Pitts and Liao, 2009</p>



Figure 61. The city and space card for Sochi 2014.

3. The bid book and post-event final report

The Sochi bid book was analyzed to compare legacy promises and achievements accomplished. Similar to the London one, the Sochi bid book for the 2014 Winter Olympics consists of three volumes and covers 17 different themes. For the second time in the history of the Olympics, after London 2012, the candidature file included an entire chapter on legacy, in Section One, entitled “Theme 1: Olympic Games concept and legacy” (Sochi 2014 Candidate City, 2006, p.16). Indeed, already in the Introduction of the Volume 1, legacy is mentioned as a strong component of these Olympics, where one can read: “Sochi and the Olympic Movement will be beneficiaries of one of the strongest, most wide-ranging legacies ever to result from an Olympic Winter Games.” (p. 1).

The narrative in Chapter 1 highlighted how legacy is linked to city rebranding and to the development of Sochi as tourist destination. Indeed, in 2002, the government of Sochi initiated the “Greater Sochi Area Town Planning and Investment Concept”. The plan aimed at modernizing and expanding the city’s tourism infrastructure to establish Sochi as an international tourist destination (Sochi 2014 Candidate City, 2006). In addition, the bid book explained how the Games helped to “align the interests of the city, the region and the nation to create the Federal Target Programme for the Development of Sochi as a Mountain Climate Resort 2006-2014 (FTP)” (p.17). With no existing international-quality alpine, ski jumping or sliding facilities in the country, in 2002, the development of a winter sports center in Sochi in the mountain district of Krasnaya Polyana became a national priority.

Regarding sustainability, this first Chapter states that all infrastructure locations were selected to ensure maximum sustainability, by utilizing environmental standards as guidelines in all its planning, focusing on reduction, re-use, and re-cycle processes. In addition, it is said that Sochi 2014 budgeted a US \$35 million Legacy Fund to finance the overall maintenance and operation of Sochi Olympic Park and to contribute to the sustainable use of all the competition venues. All the venues of the coastal cluster were planned to be around a radius of just over 500 meters, allowing the park to be very compact and accessible. In addition, the bid book identified the post event use of the entire planned sports infrastructure, and stated that the ownership of several venues would be transferred to the Federal Agency for Physical Training and Sports and the Krasnodar region to facilitate the development of winter sports throughout Russia and Sochi as a sports tourist destination. However, no temporary or already existing sports venues were planned to be used for the games, making the achievement of sustainable legacies a challenging goal.

“Theme 5: Environment and Meteorology” (p.63) also contains important information on how sustainability was supposed to be integrated into the Games planning. In fact, to ensure sustainable development in the city and region, the city of Sochi identified the following goals and priorities (p.71 and Figure 62):

- “Mandate sustainable design procedures for all Olympic-related construction;
- Incorporate principles of sustainability into operations planning phases;
- Incorporate principles of sustainability into the development of transport systems;
- Collaborate with all stake-holders to ensure a seamless system delivery;

- Develop a comprehensive monitoring system to ensure environmental control throughout construction, including on-site inspection and satellite observations, particularly for Sochi National Park and the adjoining territories; and
- Ensure that all architecture, particularly for the mountain venues, blends harmoniously with the natural surroundings, a policy that is already evident in the new construction completed to date (i.e. the Gazprom Village).”

Indeed, Sochi 2014 established three main action areas to achieve its sustainability objectives: inclusiveness, economic viability, and environmental consciousness.

Inclusiveness	Environmental Consciousness	Economic Viability
Mandated public input for programs, areas of development and construction	Carbon Neutrality <ul style="list-style-type: none"> • New alternative sources of power developed and other sources updated • Remaining carbon offsets 	Collaboration with experts on sustainability features and their economic impact
Working with UNEP to broaden participation	Zero Waste <ul style="list-style-type: none"> • New facilities for waste to building materials and waste to energy conversion • Improved recycling and collection 	All new construction and retrofits consistent with sustainable criteria, showcasing economic practicality
Cooperating with Sustainability Working Group to keep all interested groups abreast of plans and gain input	Development of sustainable and environmentally friendly facilities, sustainable retrofit of others	Providing new jobs and services and an extended consumer base within the Sochi region
Promoting partnerships to achieve programme goals	Water and Sewer Improvements <ul style="list-style-type: none"> • New safer water supplies developed • New state-of-the art sewerage provided 	Demonstrating balance between health resort and sports related development and sustainable design and operation
Implementing new technologies as minimum standards in cooperation with Sustainability Working Group	Transport system improvements and alternative fuel vehicles	Providing global access to new commercial and residential infrastructure through sustainable growth.

Figure 62. Sochi Sustainability Management System (Sochi 2014 Candidate City, 2006 - Theme 5, p 71).

As Müller (2015c) and Scharr and Steinicke (2013) have showed in their studies, despite the promises, sustainability was far from being achieved. The Olympic Games have thus been a massive disaster from an environmental point of

view. Although the Kremlin took an obligation to protect the environment, the human and environmental cost of building the Olympics from scratch was tremendous. Located in the area between the Black Sea and the Caucasus Mountains, the Olympic clusters were built near a UNESCO World Heritage site. Given the Games, the regulations on construction in environmentally protected areas were eased to convert protected natural sites into building zones. Just to give an example on the Adler the coastal cluster, focus of this manuscript, the Imeretinskaya Bay, where the Olympic park was built, was the last natural lowland of southern Russia. The area, home to numerous specimens of threatened plants and migratory birds, was filled with construction waste and damaged.

Besides the analysis of the bid book, the investigation of additional resources, such as interviews and data collected from site visits, were necessary and helpful for the evaluation of the real 2014 Sochi legacies.

4. Sochi site visits: Behavioral mapping and walking through analysis

4.1 Introduction and methodology

In September 2015, a series of site visits were performed around the Adler Olympic Park in Sochi. The methods utilized, partially derived and adapted from Wiedmann, Salama and Thierstein (2012) and Salama and Azzali (2015), included behavioral mapping, direct observations, and walking through analysis, with the aim to collect data and information about the built and natural environment, people and

activities performed in the park (for more details about the methodology, see Chapter 4 – Case Study One: Queen Elizabeth Olympic Park in Stratford, London).

A set of relevant points within the park was selected (Table 17 and Figure 63). Due to the compactness of the area, seven observation points were considered enough to cover the entire space. Then, a series of site visits in different time and days of the week were scheduled and carried out (Table 17). Each visit consisted in a tour through the selected points. The average length of the tour was about two hours and a half, with a stop of 15 minutes in each point to collect relevant information, and five minutes to move to the next point. Starting and ending time/points were inverted to cover all the time slots in all the points. The focus was mainly to analyze the physical and social components of the space. To collect data, two specific tools (Tool 4: Behavioral Map and Walking through sheets and Space Assessment Checklists, Figure 64 and 65) were utilized. The set of observations and behavioral studies was conducted in the end of September, two weeks ahead the Russian Formula 1 Grand Prix, which also takes place at the park. Differently from London, in Sochi, the site visits consisted in one single session of a week, and they were not repeated in other times of the year.

Table 17. Site Visits Sampling

Step 1- Sampling: Identification of the main areas of interest (observation points)	Step 2 –Timing and scheduling
<p>OLYMPIC PARK Main Access Point Olympic Stadium Medal Plaza Area between the Skating Arena and Training Ice Ring Area between the Curling Venue and the Ice Dome Shayba Arena Entrance</p> <p>OLYMPIC VILLAGE East Entrance, by the sea</p> <p>TOUR: Starting point: Main Access Point Ending point: Olympic Village, East Entrance</p>	<p>One week in the end of September 2015, 3 walking tours daily. Each tour is around 2 hours and a half.</p> <p>Morning: 9:00 A.M. - 11:30 P.M. Lunch time: 12:00 P.M. - 14:30 P.M. Afternoon: 3:30 P.M. - 6:00 P.M.</p> <p>In each place, an observation time of 15 minutes, plus 5' to move from one point to another. TOTAL: 2h and 30'</p> <p>Starting and ending time/points inverted every time to cover all the time slots in all the points.</p>



Figure 63. Observation points in Adler Olympic Park.

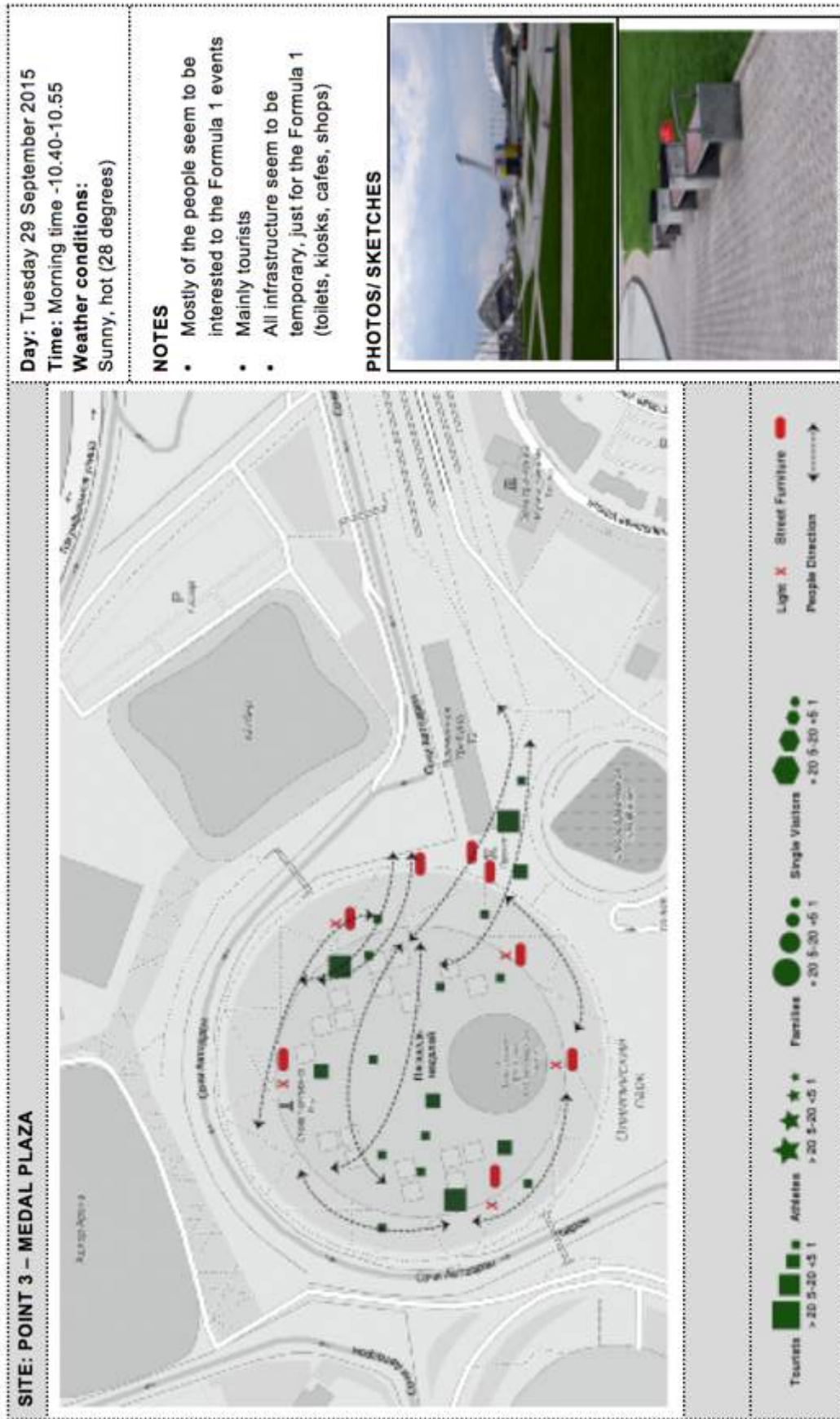


Figure 64. Tool 4 – Behavioral Map and Walking through sheets (Map source: OpenStreetMap).

Space Assessment Checklist												
Aim: to map and evaluate the built and natural environment of each point of the space selected (Take note of the quantity and mark their location on the map)												
Day:	Tuesday 29 September 2015			Weather Conditions:			Sunny, hot (28 degrees)					
Starting Time:	Morning time, 10.00			Ending Time: 12.30			Early afternoon -17.30					
Selected Point	1	2	3	4	5	6	7	8	9	10	11	12
Built and Natural Environment												
SAFETY AND SECURITY	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average
Street Furniture	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Seating (benches, chairs)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tables	N	Y	Y	N	N	N	N	N	N	N	N	N
Lighting	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fences and Gates	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary
CCTV	N	N	N	N	N	N	N	N	N	N	N	N
COMFORT AND ACCESSIBILITY	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average	Average
Signage, maps and info	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Shelters	N	N	N	N	N	N	N	N	N	N	N	N
Noise Pollution Conversations, Mechanical equipment, Music, Traffic,...	People chatting	People chatting	People chatting	People chatting	People chatting	People chatting	People chatting	People chatting	People chatting	People chatting	People chatting	People chatting
Cafés	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Drinking Fountains	N	N	Y	N	N	N	N	N	N	N	N	N
Toilets	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Accessibility for disables	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cycling and pedestrian paths	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Quality of Maintenance	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
General cleaning	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
	With the exception of the Olympic Village, the majority of the street furniture seemed to be "temporary", and there for the upcoming Formula 1 race											
	Around the park, temporary fences to close the parking areas.											
	*These points are not accessible from the main entrance due to the bridges that overpass the F1 tracks. There are lifts but they were out of order at the time of the visits											
	Maintenance work undertaken for the upcoming F1 race											

4.2 Major findings and conclusions

The Adler Olympic Park has a circular form and it is basically a large square surrounded by a main road. Along its border, it contains six main and two training venues, which were all built on the occasion of the Games (Figure 66). In March 2014, just after the end of the Olympics, the F1 track was added to the park. The track occupies the Western half of the area, and it divides the park into two distinct sections (Figure 67). Several parking areas are available all around the sports venues, although almost all of them are closed. The site has one main access, in the Northern side, and other secondary entry points (Figure 68). The access from the main entrance to the area is multimodal, and trains, buses, taxis, and cars can reach it. However, just after the conclusion of the Games, the majority of the trains scheduled during the Olympics were canceled and the railway station stands now as a gigantic and just partially utilized building at the side of the park.

The area is accessible for disabled and for people with reduced mobility through the main entrance, although the distance from entrance to the actual beginning of the park is quite long and it can take up to fifteen minutes on foot. In addition, the four bridges used to overcome the F1 track make a vast portion of the park inaccessible to people with reduced mobility. The bridges are equipped with lifts, but they did not work at the time of the visits (Figure 69 and 70).

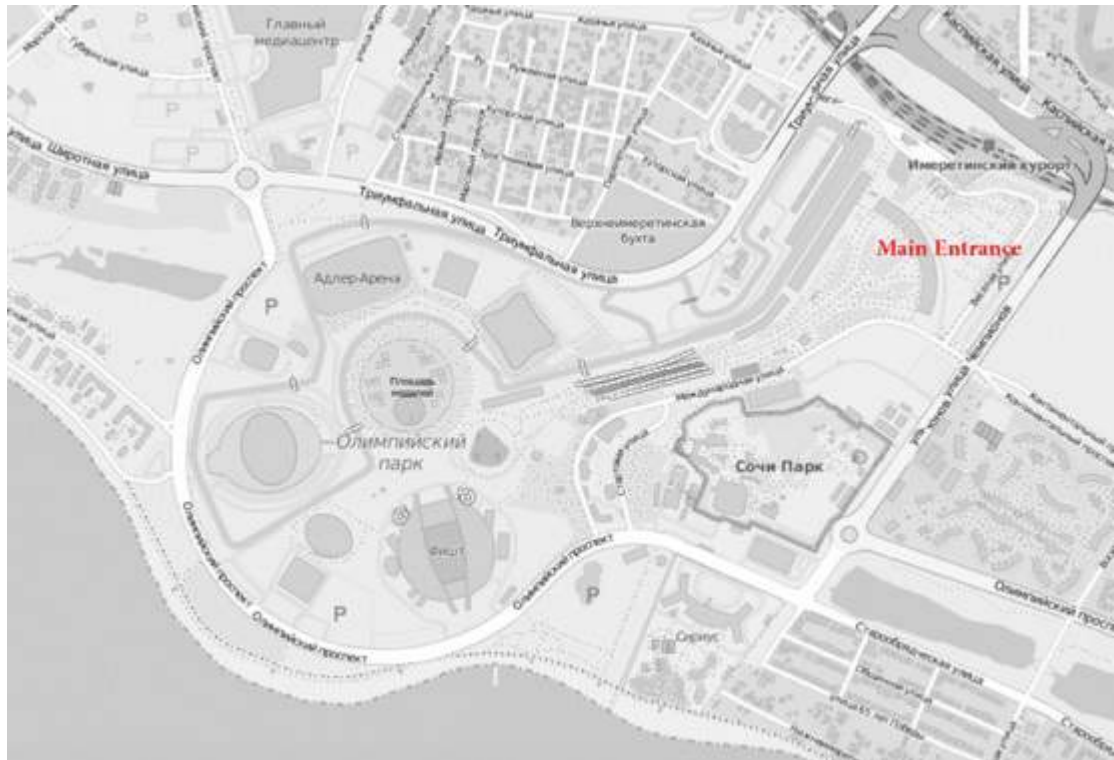


Figure 66. The Adler Olympic Park and its main access point. (Source: Open Street Map).



Figure 67. The main entrance at the Olympic Park.

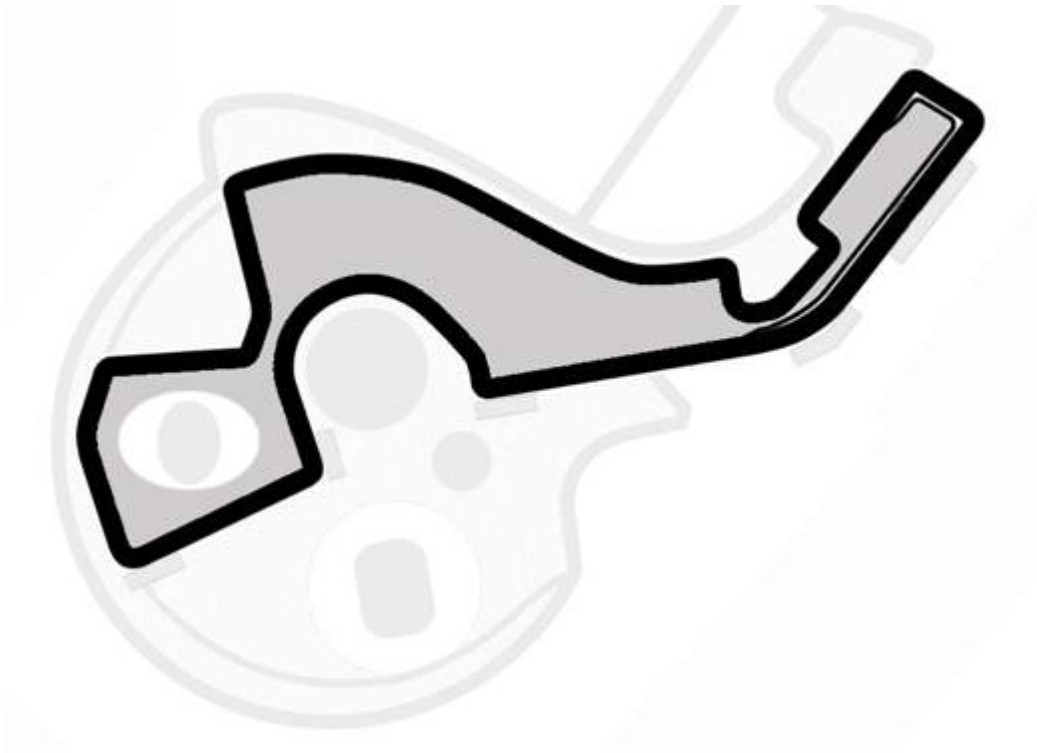


Figure 68. The two functional sides of the Olympic Park.



Figure 69. One of the four bridges that overpasses the F1 track and cuts the Olympic Park.



Figure 70. A detail of the bridge that overpasses the F1 track and cuts the Olympic Park.

De facto, the F1 track divides the park into two sides: one covers the main entrance and the access to the autodrome, the Medal Plaza, the Sochi Auto museum, the Shayba arena, and the Fisht Olympic stadium. This is the most easily accessible area, and it is the most vibrant space within the park, and the most frequented. The Western side comprises all the other sports venues and several, although closed, parking areas. This part of the park seemed to be quieter and attended by few children accessing the Curling Center.

As an open space, the park is subject to weather conditions. No shelters are available, and so low temperatures, darkness, and wind can discourage access. Few green areas are available and mainly limited around the Medal plaza and entrance. All the other parts of the park are covered by concrete. The park opens daily in the morning and closes at night. There is a main information point near the entrance. It is also open daily. Signage and information maps are available in several corners of the park to ease navigation. Apart from the car museum and sports venues, the other entire entertainment infrastructure seemed to be temporary: cafés, bike rentals, gadgets shops, and ice creams kiosks (Figure 71, 72, 73). They were there just for the F1 race that would be performed a couple of weeks later. Even the four stands around the track are removable. Street furniture is available around the Medal plaza and main entrance, in particular seating, such as benches and chairs (Figure 74). Comfort and accessibility are provided around the Eastern side of the park, where there is also one landmark artwork (the central fountain). Due to the four bridges that overpass the F1 track, accessing the Western area of the park is less comfortable. Moreover, the venues in this side of the park are almost all closed. The Fisht stadium, in the Eastern side, was also not accessible. Indeed, it is under renovation. It will be upgraded to increase its capacity to host some of the matches of the 2018 Russian World Cup.

The general appearance and aesthetics of the park are decent. The park is also clean and maintained. During the site visits, several people were working around the area. However, some workers were interviewed and affirmed that maintenance works are scheduled just for the F1 championship. In the rest of the year, the park is abandoned. The park seemed to be safe and secure.



Figure 71. The Medal plaza.



Figure 72. Temporary cafés and shops within the park.

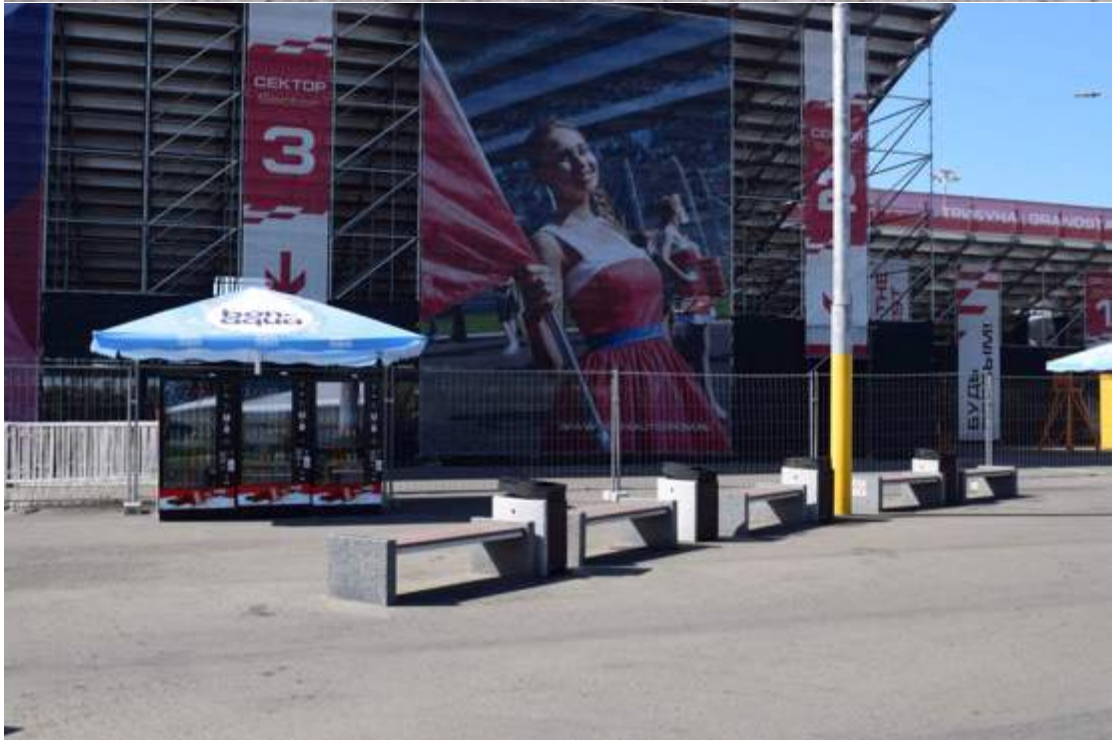


Figure 73. Street furniture (chairs and benches) within the park.



Figure 74. The playground area within the park.

Regarding people and traffic flow, only tourists frequent the park, especially the area around the Medal plaza. The space is mainly lived as an autodrome and an event site more than an open space, so people come here because of the F1 race. Pick hours are during the weekends and central hours of the day. In the Eastern side, a temporary playground area and two temporary bike rentals were also available, although not many children seemed interested in them. According to the observations, the Western side was also attended by few children to access the only open venues (the majority is closed). No other activities are provided. The park is not a place where people come to stroll or meet. In the East side, outside of the park, there is a fun fair with fourteen attractions (Figure 75). It opens daily from 10 A.M. to 11 P.M. during the summer, until 6 P.M. in the rest of the year. Differently from the Olympic Park, families with children attend it for recreational purposes and have fun.

However, even during pick hours, this themed park was far from being highly frequented.



Figure 75. The fun fair.

Regarding the major sports venues facilities, and their usage, the Fisht Stadium is under renovation for the 2018 World Cup. The speed skating venue was transformed into the Sochi Tennis Arena, although it had a designated legacy use as an exhibition center. Regarding other legacy uses, the bid book identified the following:

- The Sochi Olympic Stadium should have become part of a new national training center and a year-round venue for international football competitions;

- The Olympic Curling Centre should have become a national training center for the Russian Olympic and Paralympic Committees;
- The Bolshoi Ice Palace and Shayba Ice Palace should have become year-round venues for sports and entertainment events;
- The Sochi Olympic Skating Centre and the Olympic Oval should become multi-use facilities for expositions, conventions, entertainment, and sports;
- The Olympic Park Hotels should have been operated to support the national training centers and to enhance the financial sustainability of the Sochi Olympic Park.

However, during the visits, it was not possible to access any of venues, although some young skaters were seen entering the Curling center. The observations conducted around the Olympic Village (Figure 76) showed a slightly different insight. The Village is situated along the seaside, outside the perimeter of the Olympic Park. It was transformed into holiday's flats for national and international tourists. From the park, the Village is accessible by crossing the main road that surrounds it. The Village is gated and it was not possible to visit it. From outside, it appeared in good conditions. The majority of the tourists there seemed to be Russian. Although it was partially inhabited, it did not reach the same flow as Sochi Central, which remains the main tourist destination within Greater Sochi. Several people were observed walking or cycling along the pedestrian path near the coastline, also built on the occasion of the Games (Figure 77).



Figure 76. The Olympic Village.



Figure 77. The promenade near the Olympic Village.

5. Interviews with experts

5.1 Introduction and methods

Between September and November 2015, six semi-structured interviews with experts were conducted to discuss and evaluate the long-lasting sustainable legacies of the 2014 Winter Olympics. The experts were chosen because they were had different roles in the Games. In particular, they were selected among (Table 18):

- Academia (scholars in the field of mega-events and planning, with a research background on the 2014 Olympics).
- Private sector (planners, architects, and engineers belonging to major private organizations involved in the planning of the Games).
- Event governing bodies.

Differently from the case of London, it was more difficult to recruit participants for this set of interviews. Firstly, less online documentation is available on Sochi 2014, and part of it is in Russian, so it was more problematic to find people involved in the Games. Secondly, some of these experts were not fluent in English, or did not want to be involved in this research. A total of fifteen e-mails were sent to recruit participants. Among the selected potential interviewees, six responded positively, while nine did not reply. Two out of six interviews were held in Russia, during the visit in the end of September 2015: one was held in Sochi and one in Moscow. One interview was conducted in Doha, in October 2015; while the last three were held via Skype. As per the case of London, all the participants were very helpful

in answering all the questions posed, and none of them decided to withdraw the research project at any point. Confidentiality and anonymity were guaranteed and will be maintained throughout the research, so that it will not be possible to identify the experts involved from any publications. The interviews, all in English, had a length of around one hour each, and they covered three main areas already presented in Chapter 4 – Queen Elizabeth Olympic Park in Stratford, London: a personal definition of legacy, with particular reference to time and beneficiaries; personal experience and role held for the preparation of the event: best and worst practices, but also pitfalls and achievements of the 2014 Sochi Winter Games; personal opinion on how different hosting cities (i.e. developing vs. developed cities) and different sport events (i.e. Olympics vs. World Cups) can achieve/promote beneficial long-lasting and sustainable legacies. The same interview guide was utilized during all the interviews (the complete list of questions is available in Tool 2, Interview Guide, Annex B). The guide was sent by e-mail few days before the interview to enable the experts to be more comfortable and prepared for the discussion. The interviews were recorded with the permission of the interviewees. Answers were coded and divided into similar themes and subthemes to compare and analyze them, with the aim of mapping the main issues, best practices, pitfalls and strengths (See Tool 3, Matrix for comparative analysis of interviewees, in the Annex C). This methodology allowed acquiring information especially on the governance, management, and planning side of the event. Also, the involvement of experts belonging to different fields was useful to avoid bias in the collection and analysis of the data.

Table 18. List of Interviews for the 2014 Games by Category of Interviewee

Number	When	Category
1	Sept 21, 2015 4-5 P.M.	Academia
2	Sept 28, 2015- 5:30-6:30 P.M.	Event governing body
3	Oct 8, 2015- 11-12 A.M.	Private sector
4	Online - Nov 5, 2015 2-3 P.M.	Private sector
5	Online - Nov 11, 2015 11-12 A.M.	Academia
6	Online – Nov 24, 2015 7-8 P.M.	Event governing body

5.2 Discussion and major findings

The interviews with Sochi Olympics experts showed many similarities and overlap with the findings from London 2012, both regarding the definition of *legacy* and the opportunities that mega sports events offer to hosting cities. The experts involved in this part of the research did all agreed on the overall length of legacies (at least 30 years), and on the general definition of it. Legacy is indented as anything left after the event. In addition, they confirmed the importance of having a legacy plan already in execution before the start of the preparation of the Games. They also all agreed in affirming that hosting cities need political stability, strong leadership, and clear vision, but also the capability to plan and deliver long-term projects.

Regarding the third part of the interview guide, the experts confirmed the differences between a single sport event (i.e. FIFA World Cup, Rugby World championship) and multi sport events (i.e. Olympics, Asian Games): single sports events are usually more widespread, involving several cities, and sometimes more than one country (i.e. 2020 European Football Championship), while multiple sports events are usually more compact and city based. Usually these types of events are

seen as more effective for regeneration and urban development purposes. Although Winter Olympic Games usually do not include large urban development, they can help in developing resort locations. Indeed, this was the case of Sochi for the 2014 Winter Games. The interviewees also underlined the challenges faced by hosting developing cities, as they usually need to build both sports venues and major infrastructure from scratch.

Regarding the case of Sochi, some major achievements and pitfalls can be highlighted. Since ancient times, mega events have often been the means to consecrate the power of a nation, its people, and its sovereign. Russia hosted the 2014 Winter Olympics with the ambition to legitimize its power both at the national and international level. With this mission, Sochi was selected as the stage to ‘show’ to the world the ‘new Russia’ after the decay of the Soviet Union. But, firstly, Sochi needed to be transformed and developed as a winter resort destination. Indeed, before the Olympics, Russia did not have any well renowned location for winter sports (Interviewees 3, 4, and 6). However, Sochi’s subtropical climate, the distance from the main Russian flights routes (i.e. Moscow and St. Petersburg), the planning of over-capacity sports venues and infrastructure, corruption, and the exorbitant expenditure led to a fiasco (Interviewees 1, 2, 3, 5, and 8). Greater Sochi is a small Russian district with no more than 400,000 inhabitants. Although it has a tradition as a Russian Riviera within the country, it is not competitive to attract international tourists. Other destinations in Europe and Asia offer better facilities, nicer beaches and mountains, and are better connected with the main European cities. In addition,

entering Russia requires a visa. The process to obtain it is not straightforward, and it can discourage potential tourists to select Sochi as a holiday destination.

In addition, the district of Adler, where the Olympic Park is located, is “[...] too tiny and far from Sochi Central to justify the presence of six iconic and large-capacity sports venues for winter sports” (extract from Interview 2). Indeed, the venues have a too large capacity for such a small city as Sochi. To illustrate what the real needs in Sochi are, the existing old football stadium in Sochi Central has a capacity of only 10,000 seats, and it is rarely full of spectators (Müller, 2015b). In addition, all “the venues were built from scratch, no existing or temporary sports facilities were planned or utilized. Although there were some general ideas on their use after the Games, no plans were conceived to downscale or dismantle part of the facilities” (extract from Interview 2). The Olympic stadium illustrates this lack of legacy plans. A new 40,000 seat-capacity stadium was built from scratch just to host the opening and closing ceremonies of the Games. The stadium was closed after the Games, and it is currently after renovation to become one of the eleven stadiums utilized for the 2018 World Cup. However, if the old 10,000-seat stadium is more than enough for Sochi’s needs, it is likely that the Olympic stadium will be not utilized anymore after the World Cup. Regarding the other sports facilities, the majority of them are either abandoned or underutilized. Although there were some plans for the post Games (see page 29), at least half of the venues are not currently used as planned (Interviewees 2, 3 and 5). The Adler skating center was converted into a tennis academy; the Bolshoi Ice Dome was transformed into an entertainment center and concert venue, while the small hockey center is now a venue for children

sports. Some other venues were intended to be relocated after the Games, but they never moved. Finally, the International broadcast center, in the North side of the park, and planned to be used as an exhibition center after the Games, is now empty and closed (Interviewee 2).

The Olympic Village was reconverted in a holiday complex after the Games, although it does not seem to have more fortune than the Park. Indeed, while half of the apartments are available for sale, the other half is not even on sale. (Interviewee 8). “Prices are too high for Russians, while they are not particularly appealing for international buyers” (extract from Interviewee 8). In addition to it, many new hotels were built for the Games around the Olympic park and the mountain cluster. However, their occupancy rate is now very low, around 20-25%. Almost all of them are three, four and five stars. However, Russians, who constitutes the majority of the tourists in Sochi, prefer cheaper solutions, such as two-star hotels or bed and breakfast. Moreover, the majority of the tourists of the area are still based in Sochi Central District, around 30 km far from the Olympic park and village. Indeed, Central Sochi offers a very long beach promenade, full of restaurants, shops, and hotels (Interviewee 8). While international tourism, with the exception of the spectators coming for the F1 Grand Prix once a year, does not seem to be interested in Sochi as a winter or summer resort destination, the city has now more chances to attract local tourists. Indeed, the economic crisis that hit Russia, and especially the depreciation of the ruble, that lost half of its value against US dollar and euro during 2014, made harder for Russians to afford holidays abroad. Thanks to it, more Russians are likely to spend their vacation in Sochi during the next winter and summer seasons.

The interviews revealed that another unsuccessful achievement was the investment in public transport (Interviewees 2, 6 and 7). In fact, the Sochi-Adler high-speed railroad built to connect the airport to the two clusters and the city center represents, with its 10 billion USD (The Anti Corruption Foundation, 2015), the most expensive infrastructure of the Games. Due to over capacity and a dispute between the railway operator and the District administration, already in the end of 2014 the schedule of the trains was greatly reduced. Connections between the airport and the city center were canceled, and the ones to the mountain cluster reduced to three trains per day in the low season (Müller, 2015b). The fact, this train line is probably the most expensive in the world, but rail transport in Sochi is not competitive compared to road transport. Indeed, residents and tourists prefer to move by car, taxi, or bus. In addition, the new road running from the coast to the mountain is also designed over-capacity. The motorway was planned to move 20,000 people per hour, but the maximum capacity of all the resorts is 30,000 people, and the mountains resorts were already reached by another highway anyway (Capps, 2015 February 18; The Anti Corruption Foundation, 2016 October 23).

Other interviews (Interviewees 1, 6 and 7) stressed how the Games were also intended to be a means to develop a knowledge transfer program throughout Russia. With this aim, the Russian International Olympic University (RIOU) was created in 2009. With one seat in Moscow and another one in Sochi, the purpose of this university for sports was to play as an international communication platform, bringing international scholars and students to Russia. However, at the time of writing, the number of faculty and students is very limited, and only one academic program

(Master in Sports Administration) has been developed. Besides, in Sochi, this university is located in a hotel complex in the city centre, far away from the Adler coastal cluster and its sports venues.

Other issues relate to costs and expenditures, and more generally to the economic impact (Interviewees 4, 8). The management of all major events always shows a discrepancy between the planned budget in the bid book and final costs, and Sochi is not an exception. The Chapter of the bid book dedicated to finance opened stating that “Sochi’s vision for extraordinary Games is bolstered by a federally guaranteed US\$12 billion infrastructure improvement programme” (Sochi 2014 Candidate City, 2006, p. 91). However, Sochi Olympics ended in costing around 55 billion USD (Interviewee 8; (Müller, 2015b), more than four times the initial budget, and more than all previous winter editions together.

Appendix H: Tool 3 – Matrix for the comparative analysis of the interviews presents the main details of each interview.

6. Conclusions

The analysis of the 2014 Sochi Winter Games revealed important findings about the management of the event and its legacy. The main aim of the Games was to make Sochi become the Russian Riviera, and transform the city into a summer and winter tourism destination. Indeed, in 2008, a new master plan was introduced with a time span of 24 years. The first phase of the Master Plan was set to finish in 2014, the year of the XXII Winter Olympic Games, and the Olympics were meant to play as

catalyst for accelerating the transformation of Sochi. In addition, the first Chapter of the bid book was dedicated to concept and legacy of the Games, and, once again, it was highlighted how Russia lacked high level winter sports infrastructure and that Sochi would fill that gap. However, although these plans, something went wrong. Small size and complex geography of Sochi, in addition to a wide economic recession and a complicated international political situation are some of the causes of the failure of transforming Sochi into a Winter destination, and the coastal cluster into an integrated piece of the city

From a physical point of view, the analysis of the coastal cluster highlighted that this space is far from being integrated within the city. Indeed, the Olympic Park is in the periphery of Greater Sochi, and it around 30 km far from Sochi Central, which the main administrative and tourist area of the district. It is also difficult to reach the Olympic Park: many parking areas around it were closed after the Games, and almost all the train connections canceled. So the easiest way to access it is by bus or taxi. The park is close to the seaside; however, the space has a circular shape and it surrounded by a major road. Because of the lack of safe crossings, it can be difficult to overcome this road and reach the nice promenade along the sea. In addition, the park does not offer many attractions or activities and see very few tourists. With the exception of the F1 race, held at the beginning of October, when more than 70,000 spectators visit the park, the rest of the year the space stands empty.

From an environmental point of view, the coastal cluster lies on a complicated land. In 2010, when the construction for the Games was already begun, a severe storm

hit the area, and the beach near the park was completely flooded. Local environmental experts warned that the building of major sports venues and facilities in that area could be incompatible with the fragile geology of that land and that flooding could happen again (Prudnikova, 2012). However, their warning went unheeded and the Olympic Park was built without any particular precaution. In addition to it, Sochi did not have any already international-level existing sports facilities, and the entire infrastructure was built from scratch, without any consideration about the real needs of local communities. Also, the capability of planning and implementing complex projects lacked. Venues were ready at the very last minute, so the main focus was on the two-week event. There was not enough time to focus on the post-Games usage. The result is that all sports complexes are now either closed or underutilized. In spite of the claims about sustainability in the bid book, and the fact that some of the venues are BREEAM certified (Building Research Establishment Environmental Assessment Method), sustainability is far from being achieved.

From a social point of view, in spite of the promises of the bid book to work closely with Sochi residents, local NGOs, and local authorities, the public participation was non-existent (Müller, 2015c). Moreover, the Olympic park was built on a very poor area. The neighborhood was home of wooden cottages and shacks, and the Games caused eviction. The people that lived there were in the best cases expropriated by the state. However, according to local administration, several buildings were not properly registered and therefore considered illegal, and taken without compensation (Konavalova, 2007). Loss of property, eviction, and increase of land price are the main results from the stage of the Olympics. In addition, the

involvement of local people in sports, one of the main objectives of the Games, and the creation of new jobs, were both below expectations.

Finally, the Olympics were also intended as a way to build capacity and promote knowledge transfer towards Russia. With this aim, having not analogues in the past, a new university, the Russian International Olympic University (RIOU), was founded in 2009. USD 500 million rubles were spent for its construction (Kuznetsova and Morozov, 2015). The university has a seat in Sochi and another one in Moscow, and it offers a Master in Sports Administration since 2013. Although this is the first higher education institution of its kind in the world, only few students are attending this program, and a single initiative is far from enough to increase knowledge in sports event management.

To conclude, the economic side was probably the most unsuccessful one. These Games, with a final expenditure of 55 billion USD, were the most expensive Olympics ever. The event was mainly publicly funded, and all the facilities were built over capacity, with the railway and road infrastructure itself costing more than 10 billion USD. All the sports venues are closed or underutilized and the park, with the exception of the weeks before the F1 race, is abandoned. Although there were probably right ideas and good intentions for hosting these Games, they were badly executed, and the park is now more an event site than a successful open public space that can benefit Sochi residents.

CHAPTER 6. CASE STUDY THREE: BARRA OLYMPIC PARK AND MARACANÃ AREA, RIO DE JANEIRO

1. Introduction

This section investigates the third and last contemporary case study, the city of Rio de Janeiro. It analyzes the areas of Maracanã and Barra da Tijuca, the two main legacies left after the stage of three major sports events since 2007: the Pan American Games in 2007, the FIFA World Cup in 2014, and the Summer Games in 2016. The analysis follows the structure presented in Chapter 2 (Introduction, Research Design and Methodology), and already performed for the first two cases (London and Sochi). It is composed of four steps: a pre-analysis, with the aim of collecting knowledge and background information about the governance of the hosting city and the mega sports events hosted; an official documentation review; a series of site visits; and semi-structured interviews with experts.

2. Pre-analysis: Rio de Janeiro governance and its strategy of hosting mega sports events

2.1 Rio de Janeiro: structure and governance

Rio de Janeiro (meaning ‘River of January’ in Portuguese) is the second largest city in Brazil after Sao Paulo. Rio de Janeiro, overlooking the Atlantic Ocean, is located along the western margin of the Baía de Guanabara. The city is the capital of the state of Rio de Janeiro. The municipality of Rio de Janeiro covers around 1,300 km² (including islands) and its coastline is about 250 km long. From an administrative

and political point of view, Rio de Janeiro is divided into 33 administrative regions (Regiões Administrativas) that are owned by six prefectures (Subprefeituras). Historically and culturally the city, which is divided into 160 districts (Bairros) not having an administrative value, is divided into four main areas:

1. The Zona Norte (North Area) formed by industrial areas inhabited mostly by workers and low-income families.
2. The Zona Sul (South Area), the richest and most touristic zone. All major beaches and the residential districts are located in this area.
3. Centro (downtown area) is the financial district and historic center of the city, home to many museums and colonial buildings of some interest.
4. The Zona Oeste (West Zone), where the city meets the countryside. It is sparsely inhabited (Governo do Rio de Janeiro, 2016).

Rio, with its 6,500,000 inhabitants, is the second most populated city in Brazil and is characterized by high levels of socio-economic inequality and high rates of poverty that continue growing. The North Region, which comprises the North and West areas and downtown, is considered the poorest part of the city, while the South Region (South Area and Barra da Tijuca Region) is the wealthiest zone in Rio. In addition, the territory of Rio de Janeiro is divided for urban purpose into five areas of development (Área de Planejamento). Around the city, a large area densely urbanized constitutes the Metropolitan Region of Rio de Janeiro, which has over 11 million inhabitants (Governo do Rio de Janeiro, 2016).

Regarding the master plan of the city, Rio municipality created in 2008 the Special Committee of Urban Legacy (CELU), with the aim of aligning the content of the candidature file for the 2016 Games to the already existing city master plan (Silvestre, 2012). CELU was in charge of discussing several strategic topics (housing, transportation, sustainability and environment among others), and created a plan called the 'Urban and Environmental Legacy Plan' (PLUA) that, besides a proposal for four Olympic clusters for the 2016 Games, included as a major priority for the city the regeneration of the port area (Porto Maravilha). This area was subject to many different proposals over the years, but none of them was ever accomplished (Silvestre, 2012).

2.2 Rio de Janeiro and its strategy of hosting mega sports events

For the first time in the history of the Games, in 2016, the Olympics were held in Latin America. Indeed, in the last ten years, Rio de Janeiro hosted the two biggest sporting events on the planet, the FIFA World Football Championship, in 2014, and the Summer Olympic Games in 2016, as well as other minor sports events.

The aim of hosting an Olympic edition began with the nomination for the summer edition of 2004, which was lost. Meanwhile, in 2002, Rio was awarded the 2007 Pan American Games and the 2011 World Military Games, and the city began to prepare the candidature for the 2012 Olympic Games. As known, Rio de Janeiro lost again against London but, meanwhile, Brazil won the 2014 World Cup. Finally, in 2009, Rio de Janeiro was awarded the hosting of the 2016 Olympic Games, beating Chicago in the final vote. This concentration of events is the result of a long-term

strategy, which began in the early 90s, promoted by the Municipality of Rio with the support of the State and the Federal Government. To illustrate, in 1992, the city hosted the global forum of United Nations (Summit Conference on Sustainable Development of the Earth - ECO 92), while the former mayor Cesar Maia tried to host the Olympics since his first administration in 1993. Indeed, the aim of staging these events was to rebrand the overall image of Rio. The first step was to initiate a season of great urban renewal projects with public funding. The second action was trying to boost the economy and the image of the city by attracting major sports events, with the Municipality taking a strong urban entrepreneurial role (Hall, 2006; Costa 2012). Indeed, in the Urban and Environmental Legacy Plan (PLUA), the Legacy Plan for the 2014 World Cup and the 2016 Olympics, one can read that the Olympic Games are to serve the city, and that the aim is not to organize 'an event' but to make Rio de Janeiro a better place for its residents, promoting structural changes in the transport system, urban infrastructure, environment, and promoting social development (Costa, 2012).

Rio intended to emulate Barcelona and what occurred to the city during the preparation of the 1992 Summer Games, promoting strategic projects to enhance and transform entire parts and neighborhoods in the city. However, the challenges the city had to face were high, and included mobility, security, the everlasting housing deficit, with particular regards to favelas, and basic infrastructure. Another problematic issue during the preparation of these events was the fact the Rio de Janeiro is divided into two main parts: the North and poor region, which includes the North and West Zones

of Rio and the city center, and the richest zone in the South of the city, which includes Copacabana, Ipanema, and Barra da Tijuca (Schwambach, 2012).

2.3 The Games concept and the Olympic and event zones

The Olympics were held in four different areas (Figure 78): Barra da Tijuca and Copacabana in the South of the city, Maracanã and Deodoro in the Central-North area of Rio. Barra da Tijuca is the vastest area, where the Olympic park and Village were built. Although not directly involved with the Games' competitions, also the old Port area saw heavy investments and a complete renewal. With all the competitions, except for the football eliminating rounds, held within the city of Rio, this edition of the Games was the most compact ever.



Figure 78. The four clusters in Rio de Janeiro (Source: Rio 2016 Bid Committee, 2016).

Regarding public transport, the plans were to improve the underground network by extending the line from the international airport and Copacabana to Barra da Tijuca. However, the works were not finished in time for the Games. In addition, a corridor of Bus Rapid Transit (BRT) was planned to connect all the four Olympic clusters, linking the South West to the North East of Rio.

Regarding the sports facilities, the new permanent venues built for the Games are nine. They are both in Barra da Tijuca and Deodoro, and they constitute the 26% of the overall facilities. The existing venues are 18 (53% of the overall facilities), including 10 with no permanent work required, and 8 with permanent work required. Finally, the totally temporary facilities are 7 (21% of the overall infrastructure), and they include the beach volley arena and the road and outdoor events in Copacabana (Rio 2016 Bid Committee, 2016, Volume 2, p.21). Following the 2007 Pan American Games, the 2016 Olympics' concept focused mainly on the redevelopment of the Barra da Tijuca district, home of the former motorsport circuit of Jacarepaguá, where the Olympic park and village, and the media center were placed. As the majority of Rio, Barra is a car-based neighborhood, which was developed during the 70s, and it is a middle class/high income area.

Contrary to Barra, the Maracanã area is located in the center of Rio, and it consists of a middle/low income neighborhood. There are two stadiums in this area: the João Havelange Stadium (the Olympic stadium) that was built for the 2007 Pan American Games and hosted the athletics competitions, and the legendary Maracanã Stadium, which is a complex built in the 50s comprising an indoor arena

(Maracanãzinho), a swimming complex (Parque Aquático Júlio Delamare), a former athletic arena (Estádio de Atletismo Célio de Barros), and a public school (Figure 79).



Figure 79. The Maracanã area (Source: Open Street Map).

The stadium, an icon of Rio and part of the heritage buildings of the city, was renovated several times, the last one for the 2014 World Cup. Maracanã was initially the world's largest stadium by capacity, and it constructed with concrete. However, the 2014 renewal was criticized because of the heavy alterations from the original project, including the destruction of the concrete stands and coverage (Schwambach, 2012). With the only precedent of Montreal 1976, for the second time in the history of the Games, the opening and closing ceremonies were not held in the Olympic stadium. In addition, differently from London 2012, when the Olympic stadium was the pulsating heart of the Olympic Park, both physically and metaphorically, the

Maracanã stadium was located far away from the Olympic park in Barra da Tijuca. And this impacted the overall atmosphere of the Games (Bender, 2013).

The Copacabana area is a high-income neighborhood and hosts of one of the most famous beaches of Rio and Brazil, and some main touristic attractions of the city, as the Christ Redeemer and the Sugarloaf cable car. It is a well-developed zone in terms of urban and transport infrastructure, and there are a metro line and several bus lines, many hotels, shops, and restaurants. Due to the high density and urban development, and the consequent difficulty of realizing large-scale interventions and new sports facilities, temporary venues as the beach volley arena (Figure 80) and outdoor sports facilities were arranged here (Schwambach, 2012).

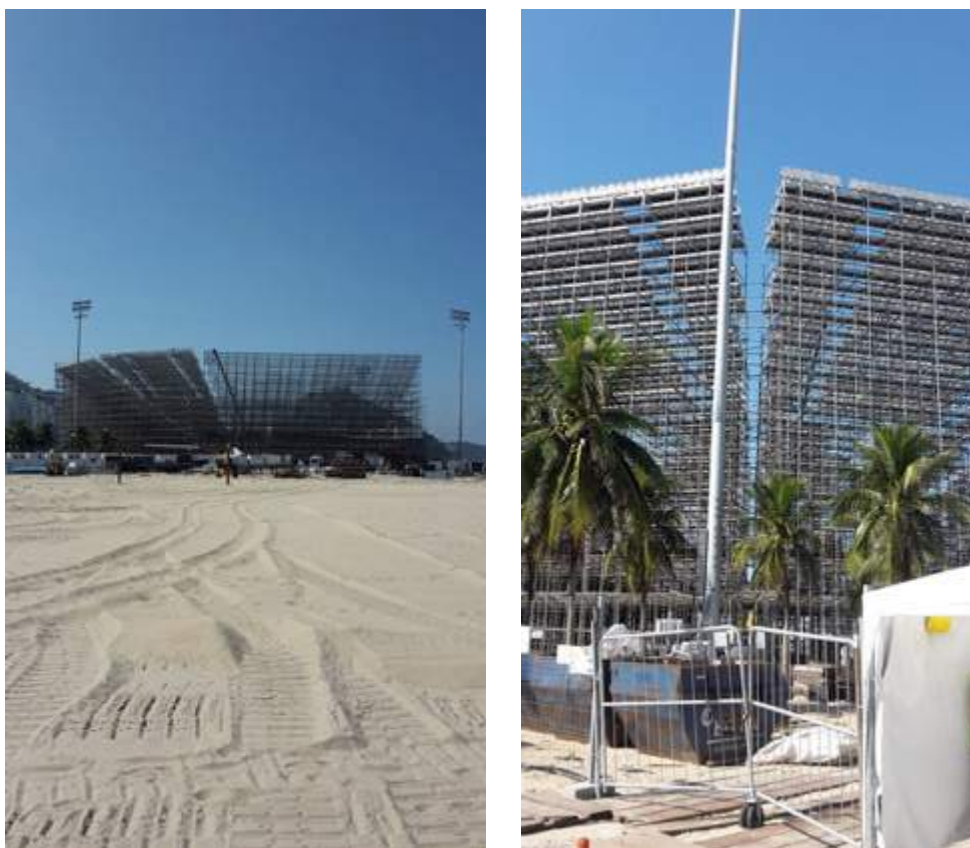


Figure 80. The beach volley arena under construction, one month before the beginning of the Games.

Deodoro is an area that is far from the city center, has low density and is mainly a military zone. Some very turbulent areas, such as Realengo and Bangu, surround Deodoro. In this sense, Deodoro seems to be an island, isolated and apart from the city. One of the aims of the Olympics was to improve access to this side of Rio, renovating the station of the existent train line. A total of nine venues were placed in Deodoro, some of them, as the shooting center, were already available here and built for the Pan American Games of 2007, while some others, as the BMX center, were constructed ex-novo for the 2016 Games.

Finally, apart from the four main clusters, another games-related project was the renovation of the old port area, the so-called Porto Maravilha. The project included the extension of the plaza Mauá, the construction of the Museum of Tomorrow by Santiago Calatrava, new piers for cruise ships, and the requalification of the overall urban space. While the main aim was to create a new centrality in the city, bringing a new economic role to the area. Before the Games low-income families occupied the neighborhood and the project did not presented plans for these people, creating gentrification and displacement. With this regards, Schwambach (2012, p. 8) added, “It is favorable to give special attention to the port area location that is part of the origins of the city and is currently sub-used. However, it is very questionable the way that this transformation has been happening as well as the ones to be benefited by it”. Unfortunately the event-related projects did not include any interventions in the city center, the area around Porto Maravilha, which is full of historical but degraded architectures, vacant buildings, dangerous areas, and poor urban environment.

2.4 Pre-analysis phase: Completion of the city and space card

The first step for analyzing the case of Rio de Janeiro consisted of a pre-analysis investigation. Drawing on data from literature review and existing documentation, such as websites and newspapers articles on the topic, the aim was to acquire basic knowledge on the selected case, especially regarding its local governance and the event management policies.

As per the previous cases, a tool called *City and Space Card* was utilized and is presented in Figures 81 and 82. The tool facilitated focusing on the most relevant data and on envisioning the big picture of the space analyzed.

Section 1 - CITY CARD	Section 2 - SPACE CARD
<p>City name: Rio de Janeiro</p> <p>Population: 6,500,000</p> <p>City type: BRICS – Emerging city</p> <p>Area: Municipality 1,221 km² – Metro 5,557 km²</p> <p>City governance: 33 Regiões Administrativas and 6 Subprefeituras. Actual mayor: Eduardo Paes</p> <p>City master plan: 2009. Plano de Legado Urbano e Ambiental Olimpíadas Rio 2016. Revisão do Plano Diretor 2006.</p> <p>Sports events: 2007 Pan American Games, the 2013 FIFA Confederations Cup, the 2014 FIFA World Cup, 2016 Summer Olympic Games and other minor events</p>	<p>Space name: Maracanã</p> <p>Purpose: Sports area within a central residential neighborhood</p> <p>Dimension: Not available. The main stadium as an area of 304 284 m², and it is one of the biggest stadiums in the world.</p> <p>Data of Completion: The Maracanã Stadium is part of a sport complex from 1950, renovated for the 2007 Pan American Games and for the 2014 World Cup. The João Havelange Stadium was built for the 2007 Pan American Games.</p> <p>Typology*: Inner-city Poly-clustering 4 major areas for the Olympics, the main one is the Barra da Tijuca one</p> <p>Space location: The Maracanã Zone, located not far from the city center (5 km), and this Zone has two stadiums: Maracanã Stadium and the João Havelange Stadium. Copacabana is located 12 km south.</p> <p>Space use before the event: Part of the urban fabric. The Stadium utilized for major competitions</p> <p>Transport and connections: Metro line 2, train, bus.</p> <p>Pedestrian, Cycling routes: The stadium precincts are surrounded by a pedestrian /cycling lane</p> <p>Number of accesses: 2 main access to the stadium, but the area is "open"</p> <p>Accessibility: All the area is accessible to disabled</p> <p>Functions and activities: Maracanã is located in a residential area.</p> <p>Sports infrastructure: 2 stadiums, 1 indoor arena, 1 aquatic complex</p> <p>Other infrastructure: Maracanã is located in a residential area. There are hotels, cafes, shops all around the area</p> <p>Any other relevant notes: Economic crisis in 2012, and 2014 due to decrease in oil prices</p> <p>* Pitts and Liao, 2009</p>

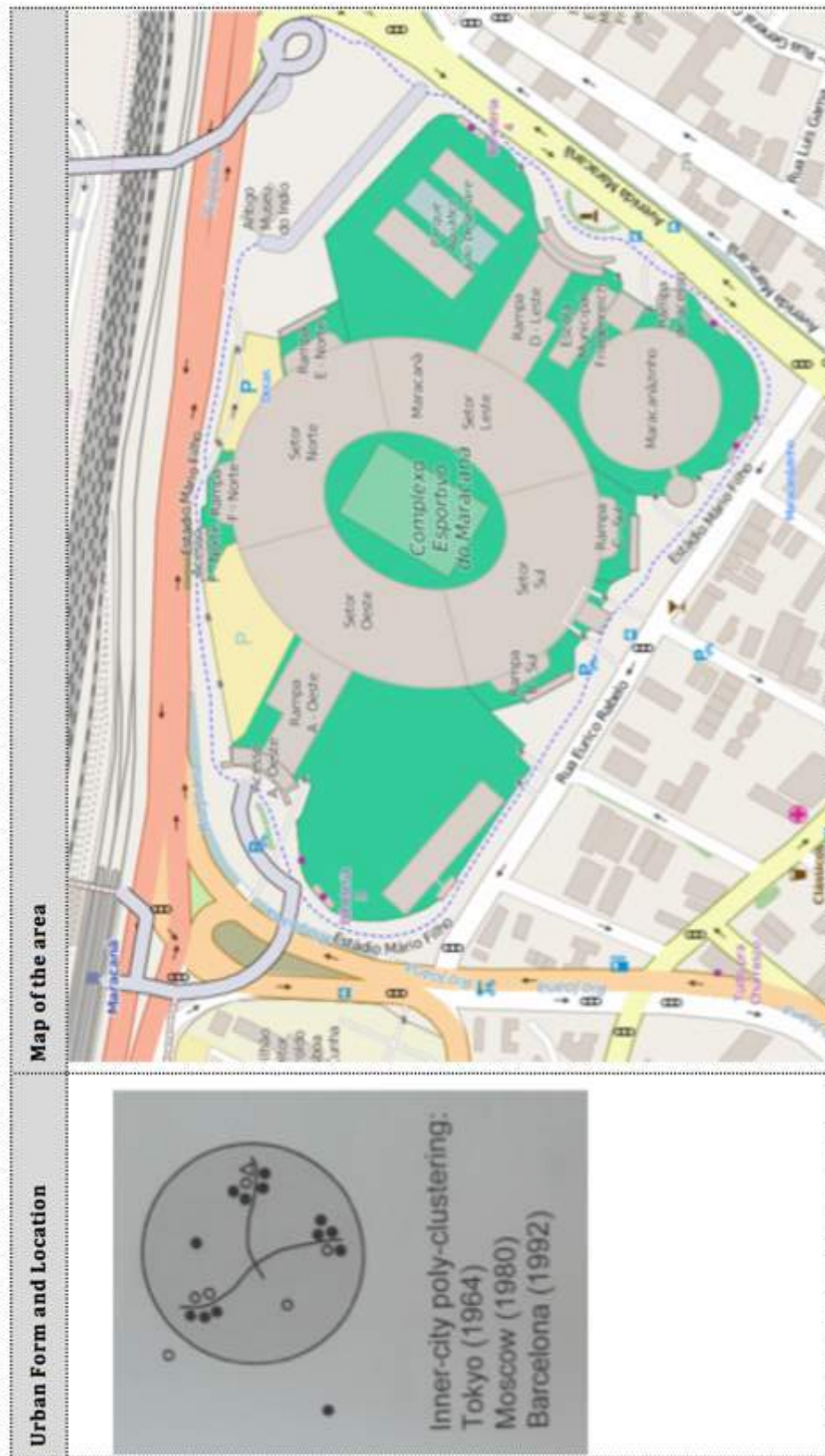


Figure 81. The city and space card for Rio de Janeiro and Maracanã area.

Section 1 - CITY CARD	Section 2 - SPACE CARD
<p>City name: Rio de Janeiro</p> <p>Population: 6,500,000</p> <p>City type: BRICS - Emerging city</p> <p>Area: Municipality 1,221 km² - Metro 5,557 km²</p>	<p>Space name: Barra da Tijuca – Olympic Park</p> <p>Purpose: Sports area. After the Olympics, the Village will be converted into a residential area, while the park will be a training center for professional athletes.</p> <p>Data of Completion: 2016 for the Olympic Games. Some venues were realized for the 2007 Pan American Games.</p> <p>Typology*: Inner-city Poly-clustering 4 major areas for the Olympics, the main one is the Barra da Tijuca (Olympic Park).</p> <p>Space location: The park located far from the city center, in the West area of Rio. It is a developing residential area for middle /high-income families.</p> <p>Space use before the event: Former siege of the Vila Autodromo racetrack, dismissed few years ago. Partially utilized for the 2007 Pan American Games, siege of the Vila Autodromo favela, almost completely.</p> <p>Transport and connections: The area is accessible by car, bus, or BRT. An extension of the metro line from the city center is under construction (it was supposed to be ready for the Games, but it was not).</p> <p>Pedestrian, Cycling routes: Within the park is possible to move by bicycle and/or walking. No cars are allowed within the park.</p> <p>Number of accesses: Two main access for the Olympics, "open" after the Games.</p> <p>Accessibility: The park is accessible to disabled.</p> <p>Functions and activities: The park is located in Barra da Tijuca, a middle class residential located far from the city center (West area. From 1 to 2 hours by car from the center).</p> <p>Sports infrastructure: 9 main venues, 1 (handball) is temporary.</p> <p>Any other relevant notes: Economic crisis in 2012, and 2014 due to decrease in oil prices.</p>
<p>City governance: 33 Regiões Administrativas and 6 Subprefeituras. Actual mayor: Eduardo Paes</p> <p>City master plan: 2009, Plano de Legado Urbano e Ambiental Olimpiadas Rio 2016. Revisão do Plano Diretor 2006.</p> <p>Sports events: 2007 Pan American Games, the 2013 FIFA Confederations Cup, the 2014 FIFA World Cup, 2016 Summer Olympic Games and other minor events</p>	<p>* Pitts and Liao, 2009</p>



Figure 82. The city and space card for Rio de Janeiro and Barra da Tijuca area.

3. Bid books analysis and critics to the mega-events strategy to improve Rio de Janeiro

The 2014 FIFA World Cup was awarded to Brazil in 2007. According to the policy of rotating the host country through different confederations, in 2003, FIFA announced that the tournament would be hosted in Latin America. The same year, Brazil, Argentina, and Colombia announced their intention to hold the competition. However, in 2006, only Colombia and Brazil submitted a candidacy file, while Argentina never formally declared its intention to bid. In 2007 Colombia decided to withdraw its bid, making Brazil de facto to be the only applicant. For the second time after Argentina in 1978, a South American country would host this important event. Brazil staged the 2014 World Cup from 12 June to 13 July, with 12 venues in 12 different cities. Rio de Janeiro hosted some matches and the final of the tournament, and its Maracanã stadium was renovated for the occasion (FIFA, 2016).

In 2007, at the beginning of the candidature process, seven different cities submitted an application to host the 2016 Olympics and Paralympics. One year later, in 2008, the IOC shortlisted just four cities that were considered to have a strong candidature: Tokyo, Madrid, Chicago, and Rio de Janeiro. Doha, Prague, and Baku were eliminated. Finally, on October 2, 2009, in Copenhagen, Rio de Janeiro won in the final vote round the rights to host the 2016 Summer Games, being the first South American city to stage such event (IOC, 2016 August 3). As per London 2012, the Rio de Janeiro bid book for the 2016 Olympics consisted of three volumes and covered 17 different themes. Again, the candidature file included an entire chapter on legacy, in Volume One, entitled “Theme 1: Vision, legacy and Communication”, and

another one, Theme 2, dedicated to the “Overall concept of the Olympic Games” (Rio 2016 Bid Committee, 2009, p.11). Themes 6, 9, 11 and 15, dedicated respectively to “Environment and Meteorology”, “Sports and Venues”, “Olympic Village”, and “Transport” (p.11) also offered important insights on the post-event destiny of the areas and venues involved in the Games. Theme 1 (p.22) highlighted the “Benefit of Bidding” and identified four main priorities for the Olympics legacy plan: “transformation of the city, social inclusion (homes, training and jobs), youth and education, sports”. In particular, for priority one, the aim was to upgrade the transport system and regenerate the old city center, by improving security and deliver significant projects as the transformation of Porto Maravilha (the old port). New housing and retail spaces were promised both in the area of Maracanã and Barra da Tijuca, where the Olympic Village should be transformed into middle-class flats after the end of the Games. The Village was promised to house around 2,500 families. The legacy for sport was identified, among other initiatives, in “legacy training facilities. Built in preparation for the Games, Rio 2016 will leave a legacy of 14 pre-Games training sites outside Rio and 29 within Rio, located in local communities and next to public schools” (p. 25). The majority of the permanent venues in the city are located in Barra da Tijuca, seat of the Olympic Park.

The narrative in the book listed the impact of the Games and identified several important legacies for Rio. However, many critics were raised well before the beginning of the Games. One of the major issues relates to displacement, gentrification, and privatization of public space. Many authors as Silvestre (2012) highlighted that for the preparation of the World Cup first and the Olympics then,

thousands of families were displaced. To illustrate, favela do Metrô, near the Maracanã Stadium, home to about 700 families, was completely cleared for the preparation of the World Cup. Schwambach (2012) also pointed out how the implementation of the new transport systems, as BRT corridors, evicted many poor people without any form of compensation, violating human rights. According to the author, the public investment would only be enough for the projects related to sports venues, new hotels, security for the Games, and transport infrastructure upgrade. In addition, she underlined a lack of information and transparency regarding the overall legacies and master plan of the city after the conclusion of the event.

Costa (2012) also underlined that despite the mega events hosted in Rio leveraged the strong rhetoric of development and opportunities for the city, in reality, the organizers did not chase any consistent strategies with this vision, exactly as happened with the Pan American Games in 2007. Rio pursued its political and socio-economic goals of highly selective nature, generating profits almost exclusively in the construction and real estate sectors, and giving further shape and substance to a city dominated by a 'state of exception'. Indeed, this 'exceptionality' led by the hosting of mega events contributed in the creation of a less fair city, hitting the most vulnerable population groups. An example is given by the urban setting, which is often waived because of the 'necessary' works for mega events and which are not accompanied by any public debate moments (required instead by the Brazilian Constitution and the municipal regulations whenever you want to change the Master Plan).

Regarding the World Cup, Brazil invested 14 USD billion for the competition, more than Germany 2006 and South Africa 2010 together, and, although there were some beneficial outcomes, the hosting of the tournament did not succeed in delivering long-term legacies to the country (Gaffney, 2014). Indeed, Gaffney states that when Brazil was awarded the World Cup, not a single stadium met the FIFA requirements, not even Maracanã, which had just undergone renovation work for 135 million USD for the opening of the American Games. Overall, the Brazilian Government invested something between 3.6 and 4.3 billion USD on stadiums. Brazil was the only host candidate for the World Cup and its the 2014 bid book was never publicly shown.

Regarding transportation, in almost all of the cities involved in the tournament, the mobility projects were limited to Bus Rapid Transit (BRT) corridors. At the time of the tournament preparation, in Rio there was no public transportation between the city center and the airport, or between the major airport and Maracanã. A BRT line of 39 km was introduced between the international airport and Barra da Tijuca, however, the absence of significant projects regarding new metro or light rail lines was a real loss for the development of the country. In addition, there was no infrastructure upgrade in the very precarious highway system, and no passenger train service, absent, was planned for the World Cup. Despite the need of moving thousands of football fans throughout such a vast country, Brazil decided not to invest in passenger rail service while laying out 3.8 billion USD in airport upgrades. Although there was need for investment in the aviation sector, the absence of initiatives in other sectors led to airline travel to be the major mode of intra-city transportation for the next decades (Gaffney, 2014).

Coming back to the Olympic Games, the aim was to eliminate one of the BRT corridor and replace it with an extension of the metro line to Barra, although at the beginning of the Games the underground was not ready. In addition, other BRT corridors were planned from the city center to Deodoro and other neighborhoods, causing eviction and displacement. In their work, Silvestre and Oliveira (2012) showed the traumatic experience of some families that lived along the Américas Avenue. They were offered only partial compensation for the loss of their home or displaced to social housing projects located far away from the city center. Another major case is the represented by the community of Vila Autódromo, and their fight against eviction from Barra da Tijuca, where the Olympic Park stands. As Silvestre (2012) showed, families who accepted a financial offer had their houses demolished before being relocated or receiving compensation. In addition, the compensation was usually not enough to buy a similar house in the same neighborhood. Some families also had to return to live with relatives not evicted, or moving to other settlements.

The analysis of additional resources, such as interviews and data collected from site visits, are necessary and helpful for the evaluation of the 2016 Rio de Janeiro legacies.

4. Site visits and interviews with experts

4.1 Site visits: introduction and limitations

In July 2016, one month before the beginning of the Olympics, a series of site visits were performed around the Barra Olympic Stadium and Maracanã precincts.

Both the areas were already closed for the preparation of the Games, so the visits were limited to observations from the outside of the precincts. Another limitation consisted in the fact that the visits were performed before the Games, so the analysis is only partially based on the observations done and mostly on a forecast based on official documents analysis and interviews. As per the previous case, the aim of the site visits was to collect data and information about the built and natural environment, people and activities performed in the park, and in particular:

PEOPLE

- Flows: how many people (numbers), going where (directions: from - to).
- Activities: people doing what (sport, cycling, walking, running, playing, chatting, resting, eating, working...), for how long.
- Demographics and ethnicity (equitability): Males vs. females, young vs. adults, singles vs. families, ethnicity or locals vs. tourists.

BUILT and NATURAL ENVIRONMENT

- Safety and security: presence of cameras and gates; lighting; quality of the maintenance.
- Comfort and accessibility: street furniture and shelters; signage and availability of maps and information; cafés and toilets; general cleaning; accessibility for disables, elderly, kids; presence of pedestrians and cycle paths.
- General Attractiveness - Pleasantness: general appearance/aesthetics, presence of landmarks, quality of the landscape, variety of activities provided, weather conditions.

Due to the inaccessibility for preparation of the Games, it was not possible to enter the area, and the visits consisted in two walks in two consecutive days around the perimeter of the park, one in the morning and one in the afternoon. Each tour lasted approximately 2 hours and a half. The observation points are highlighted in the maps in Figures 83 and 84. These observations were less structured than the ones conducted in Sochi and London, and no specific tools were utilized. The data collected consists mainly in a series of photos and notes coming from either from the observations or from short interviews done with people working there or passing by.



Figure 83. Observation points in Barra da Tijuca (Map source: Open Street Map).

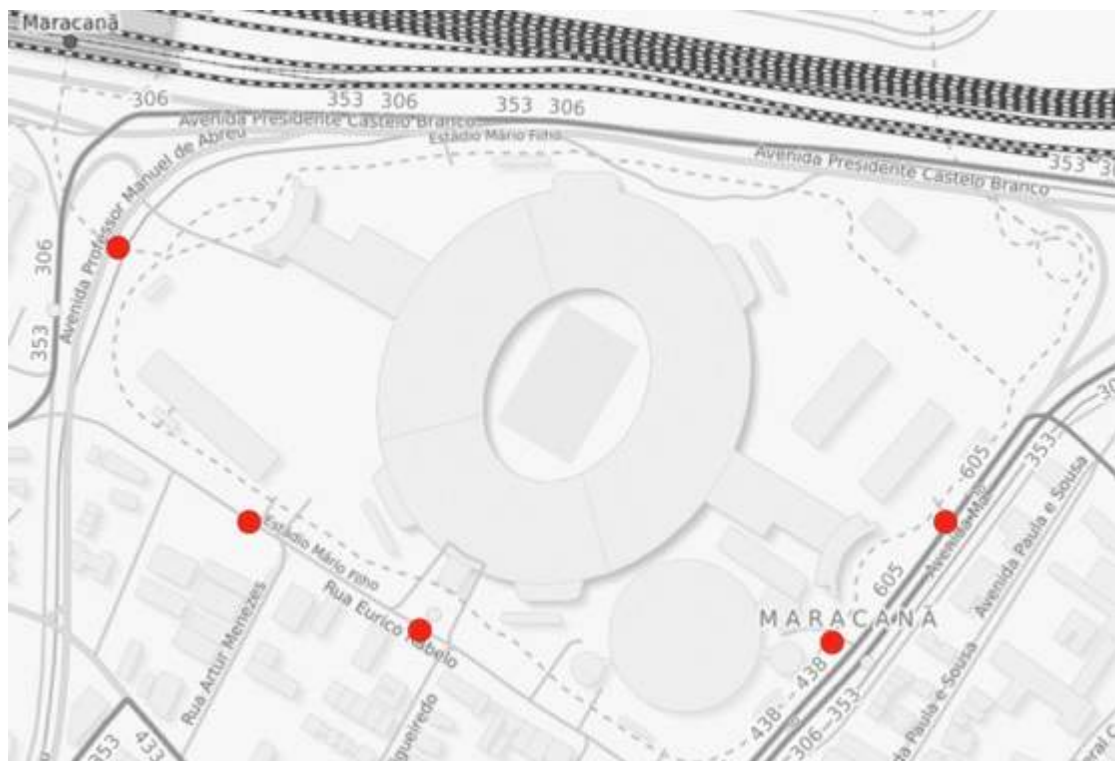


Figure 84. Observation points in Maracanã (Map source: Open Street Map).

4.2 Interviews: introduction and limitations

In July 2016, during my visit to Rio de Janeiro, a total of five semi-structured interviews with experts were conducted to discuss and evaluate the long-lasting legacies of the 2014 World Cup and 2016 Summer Olympics. Two additional interviews were performed one month later, in August 2016, via Skype (see Table 19 for details).

Table 19. List of Interviews for Rio de Janeiro by Category of Interviewee

Number	When	Category
1	July 5, 2016 - 12-13 P.M.	Academia
2	July 5, 2016 - 18:30-19:30 P.M.	Event governing body
3	July 6, 2016 - 13-14 P.M.	Academia
4	July 6, 2016 – 18:30 – 19:30 P.M.	Private sector (Architect)
5	July 7, 2016 – 12:30 -13:30 P.M.	Academia
6	Online - August 12, 2016 5-6 P.M.	Academia
7	Online - August 21, 2016 3-4 P.M.	Academia

Due to the preparation of the Games, it was difficult to recruit volunteers except from the academia sector. Indeed, some experts from the private sector or belonging to event governing bodies replied to my invitation that they were not allowed to be interviewed until the end of the Games. The majority of the interviewees were recruited during my participation to the IV World Planning School Congress, held in Rio de Janeiro from July 3 to 8. All the participants were very helpful in answering the questions posed, and none of them decided to withdraw the research project at any point. Confidentiality and anonymity were guaranteed and will be maintained throughout the research, so that it will not be possible to identify the experts involved from any publications.

The interviews, all in English, had a length of around fifty minutes each, and they covered the three main areas already presented in the two previous chapters: a personal definition of legacy; best and worst practices, but also pitfalls and achievements; personal opinion on how different hosting cities (i.e. developing vs. developed cities) and different sport events (i.e. Olympics vs. World Cups) can

achieve/promote beneficial long-lasting and sustainable legacies. The same interview guide was utilized during all the interviews (the complete list of questions is available in Tool 2 - Interview Guide, Appendix B). The interviews were recorded and answers coded and divided into similar themes and subthemes to compare and analyze them. The Appendix L: Tool 3 – Matrix for the comparative analysis of the interviews, Rio de Janeiro presents the details of each interview.

5. Major findings and discussion

The Olympic Park in Barra is a sports complex built for the 2016 Olympic and Paralympic Games, and it located in the district of Barra da Tijuca, in the West side of Rio de Janeiro (Figures 85 and 86). Its construction began in 2012. The park includes the Complexo Esportivo Cidade dos Esportes, built for the 2007 Pan American Games, and housed nine sports facilities during the Olympics, eight of them are permanent, and only one was temporary (Figure 87).



Figure 85. The cycling path around the Olympic Park.



Figure 86. The residential neighborhood of Barra da Tijuca.



Figure 87. Some of the facilities built in Barra Olympic Park.

These venues are (Figure 88):

1. Arena do Futuro (temporary venue, dismantled after the Games) - Handball (capacity: 12,000)
2. Olympic Arena, for artistic and rhythmic gymnastics (capacity: 15,000)
3. Velódromo for track cycling (capacity: 5,000)
4. Aquatic complex for water polo and swimming and (capacity: 15,000)
5. Maria Lenk Aquatic Center, for diving, synchronized swimming and water polo (capacity: 6,500) (Figure 89)
6. Tennis Olympic Center (capacity: 18,000)
7. Arena Carioca 1, for basketball (capacity: 16,000)
8. Arena Carioca 2, for fighting and judo (capacity: 10,000)
9. Arena Carioca 3, for fencing and taekwondo (capacity: 10,000)



Figure 88. Barra Olympic Park and the sports venues (Source: Rio 2016 Bid Committee, 2009).



Figure 89. Maria Lenk Aquatic Center.

After the Games, the Arena Carioca is planned to be transformed into a sports school while the other seven facilities will form an Olympic Training Center. The Olympic Park is located in a new residential neighborhood that started developing about thirty years ago. It is far from the city center, and, depending on traffic, it can take from one to two hours to reach the center of Rio. A BRT line covers this district, while the extension of a metro line is still under construction at the time of writing. De facto, the Olympic park is not integrated within the surrounding area, from which is divided by water on one side and a main street on the other side. The park is also not integrated with the city center, which is far away and basically reachable only by car. Seen from the outside, the park also lacks of trees and green spaces, but it is a concrete esplanade above which the nine sports facilities arise.

The dramatic displacement of the inhabitants of Vila Autódromo, a favela located in the area of the Olympic Park, has been already presented in the introduction of this chapter, and it constitutes one of the main issues of this edition of the Games. Although in the 90s the residents had obtained the right to use the area for 99 years, for over 20 years the authorities have tried to clear Vila Autódromo. And with the awarding of the Games to Rio, the removal was realized. According to one of the interviewees (Interview 3), almost 90% of Vila Autódromo people have been relocated in a dedicated area that is 2 km far from the original settlement. They all saw their homes demolished in exchange for financial compensation or accommodation elsewhere. In their place, parking and access roads to the Olympic park were made. This is why local activists called the 2016 Olympics the "exclusion Games." Another Interview (Interview 6) also revealed that differently from other experiences, probably for the first time in history, the first families to leave Vila Autódromo had a good compensation, while the last residents to leave receive almost nothing. The post-event use of the space also will increase social exclusion and divide between rich and poor. To illustrate, the Barra Park will be transformed into a professional training center, where only few professional athletes will utilize each venue, while the Olympic Village will be transformed into luxurious flats for high-income families (Figure 90).



Figure 90. The Olympic Village, one month before the Olympics.

The complex of Maracanã was inaugurated in 1950 for the World Championships, and it has a structure that covers a total area of about 300,000 sq. m, making it one of the largest sports facilities in the world. It comprises an aquatic center, a now abandoned athletic complex (Figure 91), an indoor arena of 12,000 seats (Maracanãzinho), and a school. The stadium (Figure 92) has undergone several renovations that reduced its capacity from the original 140,000 to around 78,000 spectators. Differently from the Olympic Park, this area is located in the city center, and it is connected by bus, metro, and train, and also by car. The stadium precincts are also well integrated with the surroundings: first of all, there is a cycling and pedestrian route all around the perimeter of the venue (Figures 93, 94, and 95); secondly, the entire area is mix-used district, with shops and houses everywhere; and, finally, the complex hosts a public school (Escola Municipal Friedenreich, one of the best in Rio). Although the school was supposed to be demolished during the renovation for the 2014 World Cup and turned into a parking lot, a massive media

campaign started by a student to block the demolition and saved the school, that is still open at the time of writing (site visit 1).



Figure 91. The former athletic complex.



Figure 92. One of the gates to Maracanã stadium.



Figure 93. The cycling and pedestrian path around Maracanã stadium.



Figure 94. The cycling and pedestrian path around Maracanã stadium.



Figure 95. The neighborhood around Maracanã stadium.

Near the stadium, it is also located the 'Museu do Índio', the former museum of Rio de Janeiro. Part of the collections were moved years ago in a different location in the Botafogo district, however, the original building was initially promised to be renovated and transformed into an Indigenous Culture Reference Center. The building has been occupied since 2006 to prevent its demolition, and avoid the museum institution dispersion that had to be made for the expansion of the stadium Mário Filho and the construction of a public car park, hypothesized works to serve the demand at the World Cup in 2014. In 2013, by the will of the government, the police try a clearing, however, following the protests and public indignation that was followed, the and local and governments have returned on their steps, deciding not to destroy the nineteenth-century building (Agência Brasil, 2016). Unfortunately, the museum is still closed at the time of writing, with no official plans for its re-opening (site visit).

One interviewee (Interview 4) also highlighted how the last renovation for the World Cup made the 'magical atmosphere' of the stadium disappear. Maracanã is a legend, and has a long history. Before the 2014 tournament, a vast part of the local population could afford to buy a ticket for matches, concerts or events held in the stadium, and there was a nice atmosphere in its precincts. With the renovation, all this gone lost. In this sense, Maracanã carries a negative legacy, and increases the social unbalance of the city. Another issue relates to costs. All the stadiums built for the world championships more than doubled the initial budget, and Maracanã almost tripled the initial estimate with a final cost of about 600 million USD dollars (Gaffney, 2014). All the interviewees complained that such an amount of public

money could have been used for public works as upgrade public transportation, or build new schools and hospitals.

As De Oliveira (2011) suggests, both the World Cup and Summer Olympics needed newly built infrastructure, highlighting how this kind of events require even more economic and social sacrifices in developing cities than in developed ones. Indeed, Rio de Janeiro municipality did not have enough resources to host these events, and the city budget had to be readjusted, shifting many of the financial resources that could have been used for education and health to construct new sports venues.

6. Conclusions

According to the Gini coefficient, the most utilized economic measure of income inequality, Brazil is one of the most unequal countries of the world, and, within Brazil, Rio de Janeiro one of the most unequal cities of the country (The World Bank, 2016). The city of Rio de Janeiro is economically and socially divided into two regions: the North area is poor and deprived, while the South area is rich and hosts some of the most exclusive neighborhoods of the city. The 2016 Games and the other major sports events hosted by the city in recent years could have been an opportunity to thin these differences. However, something went wrong. While for London 2012 one of the keywords was ‘convergence’, in Rio the host of these events have deepened inequalities and accentuated social differences.

Indeed, from a social point of view, along this chapter many cases of evictions, displacement and gentrification have been presented. The case of Vila Autódromo illustrates it. All the people interviewed for this research, with no exception, expressed their frustration and anger with the Brazilian government, accused of spending public money for these events instead for schools, hospitals, and other projects more needed by the Brazilian population. As Schwambach (2012) underlined, the current planning of Rio de Janeiro is mega-events oriented. Not only it does not include any form of public participation, but also it helps increasing segregation. In addition, the Brazilian government has used these kinds of events to substitute the current legislation with ad hoc rules. Before and during the Games, there have been several protests by the population. The residents were exhausted by the endless construction sites, and angry about the many dubious contracts, such as those for the renovation of Porto Maravilha and Maracanã, for the World Cup. One of the sticking points is the transport system, which should have been the driving force of the renaissance of the city. The subway, actually a continuation of the existing network with additional five stops, cost 21 times more than the initial budget, from 115 million to 2.4 billion Euros, and it was not finished in time for the beginning of the Games. The BRT system collapses during rush hours, while the new light tram is still in a testing phase at the time of writing (Interviews 3 and 4).

From an economic point of view, these events increased the crisis faced by Brazil. When Brazil was awarded the World Cup and the 2016 Olympics, the country's economy flourished. Nowadays, however, all the BRICS countries are under recession, and the state of Rio de Janeiro is even bankrupted. Although these

events help the touristic sector by bringing more tourists to Brazil, in June 2016, the Rio governor decreed the state of 'economic calamity' by blocking the payment of salaries of civil servants, including the police (Guanella, 2016) (Figure 96). Since 2009, when the Games were awarded to Rio, the projected costs have more than doubled. On the other hand, many of the tickets for the competitions have remained unsold, and, with an average salary between 300 and 400 US dollars, only a few Brazilians have been able to afford the tickets to access the races.

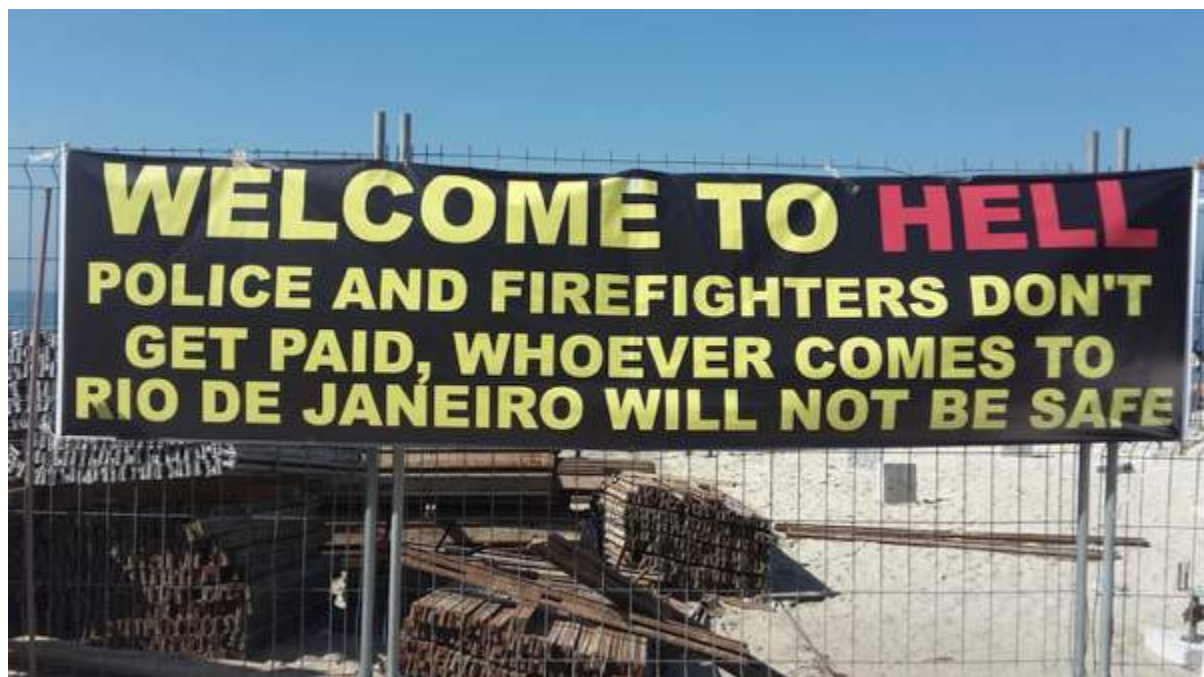


Figure 96. Some protests in Copacabana.

Coming to the two areas analyzed, while Maracanã was an already exiting site, well integrated with the surroundings, the Olympic Park in Barra da Tijuca is a completely new cluster that does not meet the expectations. Indeed, the Olympic Village and Park are now a sanitized and gentrified area built by evicting poor people. After the Games, the Village will be transformed into luxurious apartments for middle

/ high income families, while the Park will be converted into a training center for professional athletes, de facto excluding the majority of the population to the access it. The Games, with more than 60,000 people evicted (Interviews 1 and 3), led to the creation of gated, closed and controlled public (and private) spaces, without tackling the real issues of the city: low education and unemployment, housing deficit, lack of urban infrastructure among others.

CHAPTER 7. COMPARATIVE ANALYSIS OF CONTEMPORARY CASES: LONDON, SOCHI, AND RIO DE JANEIRO

1. Introduction

The last chapters performed a critical review of both past and contemporary events. In particular, major past events and past hosting cities were investigated according to typology, aims, location, venues, issues, and mapped accordingly. The analysis traced the evolution of the mutual relationship between mega sports events and open spaces, highlighting its dynamics in terms of actors involved, processes, best practices, main pitfalls and achievements. Then, the dissertation examined three contemporary cases and identified replicable best practices and successful examples in the management of site venues and site events. Also, the study highlighted major elements that determine the success or failure of events sites and venues as public open spaces. The cases investigated are:

1. London 2012 Summer Olympics, with a focus on Queen Elizabeth Olympic Park and the Olympic Village in Stratford;
2. Sochi 2014 Winter Olympics and Adler Olympic Park and Village;
3. Rio de Janeiro 2014 World Cup and 2016 Summer Olympics, with a focus on the Maracanã area and Barra Olympic Park and Village.

This critical review of past and contemporary cases created the background for the discussion of this section of the dissertation, and was at the base for the realization of a framework that aims at identifying major factors for the transformation of a mega sports event sites into successful public open spaces. The next paragraphs will firstly introduce the evaluation framework and its main components (factors), and, at the same time, will proceed with the comparative analysis of the cases of London, Sochi, and Rio de Janeiro.

2. A framework for evaluating sports event sites: six main factors to consider

The framework was developed and derived from the site observations performed in London, Sochi, and Rio, and from the interviews with experts conducted in the last two years (2015-2016). The site visits allowed collecting data with reference to people (flows, activities, demographics and ethnicity), and built and natural environment (safety and security, comfort and accessibility, attractiveness and pleasantness); while the interviews allowed acquiring information especially on the governance, management, and planning of the events. Also, the involvement of experts belonging to different fields was useful to avoid bias in the collection and analysis of the data (for details, see Chapters 4-5-6 and, also, Azzali, 2016b).

Content analysis was utilized to examine all the data collected. Indeed, the data were coded and divided into similar themes and subthemes. In addition, the investigation of relevant precedents performed in Chapter 2 (Literature Review – Mega Sports Events, Sustainable Legacies, and Livability of Open Spaces:

Definitions and Evolution) contributed to better categorize the data and helped in the definition of the main areas of the framework. The result of this work is a collection of six main attributes, in the form of opposite terms (Figure 97). These attributes are: temporary vs. permanent; already existing vs. new infrastructure; integration vs. divergence; public vs. private; local needs vs. event needs; high vs. low responsiveness to unplanned or unintended events.

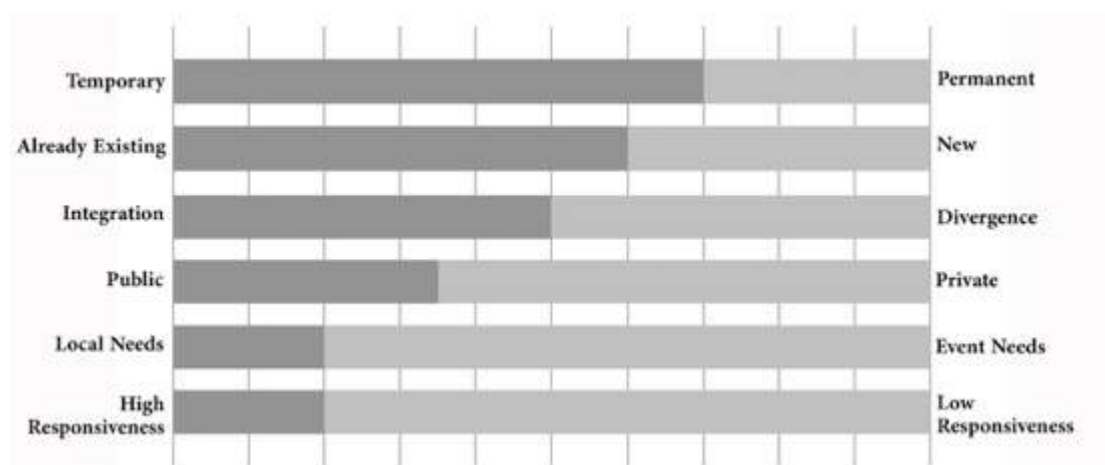


Figure 97. The framework for the appraisal of livable and sustainable events sites.

The following paragraphs present a description of each attribute, followed by examples from the three main cases (London, Sochi, and Rio de Janeiro) and the historical precedents.

3. Temporary vs. permanent (infrastructure)

An important element to consider in the evaluation of an event site is the right balance between ephemeral and permanent components. Temporary infrastructure is often an interesting solution that is not enough utilized in the planning of mega sports

events. Indeed, contemporary events are characterized by an increasing complexity, *gigantism* (Preuss, 2007), and high specialization of the venues. However, temporary infrastructure was often utilized in past mega events. To illustrate, to partially avoid oversize and under utilized venues, Romans used to build firstly temporary venues, often in wood, and, only on a later stage, they transformed them into permanent structures, made by stone. This is the case of the famous Coliseum, and the introduction of the amphitheater as a new building type (Carcopino, 1939). Also, during the Renaissance and Baroque, in many Italian cities, on the occasion of the main tournaments and jousts, temporary wooden terraces were built to transform cities into temporary backgrounds for these events. In fact, events and festivals generally did not have special venues dedicated, but they were held within the city (Zorzi, 1977). Public spaces were used as outdoor theaters, and central streets and squares became stages where citizens were involved in the celebrations. Temporary structures were used to transform the every day environment. In addition, these devices were used as tools for experimenting new patterns, templates, and urban solutions that in some cases were subsequently transformed into permanent versions (see Chapter 2: Literature Review – Mega Sports Events, Sustainable Legacies, and Livability of Open Spaces: Definitions and Evolution, for more examples).

The alternation of temporary and permanent infrastructure can be a winning strategy when planning mega-events, as also some recent stories confirm. Contemporary illustrative examples can be found from the World Expos of Montreal in 1967 and Osaka in 1970 (Gold & Gold, 2008; Smith, 2012), or from the Expo held in New York in 1939-1940. Indeed, Ellis (2005) remembers us that

famous planners as N. Bel Geddes and L. Mumford participated in that initiative and that their prototypes were influential in the design of many cities in the USA. The aim of this practice was to test new solutions on a smaller scale, and if the experimentation is successful, extend it to the whole city. In this sense, events can be used as inspirations for developing new ideas. Prototypes and innovative urban models can be firstly tested, experimented, adjusted, and finally replicated and applied to different contexts. Through a trial and error model, events could lead to new forms of urbanism to be applied at different spatial scales.

The use of already existing elements of the city as public spaces transformed by transient elements is a successful strategy. This practice allows containing costs and, also, produces meaningful places (place making), as these improvised and unsystematic events allows forms of appropriation of the territory. Using existing structures, flexible or temporary venues, and most of all, securing long-term legacies from the early stage of the planning process can contribute to avoiding the spread of *placelessness* (Relph, 1976) that so often characterizes contemporary mega sports events. Recent examples include city marathons (i.e. New York city marathon), international cycling competitions (i.e. Tour de France, Giro d'Italia), and the Formula 1 circuit of Monte Carlo and Singapore, which twists through the streets of these two city-states.

Coming to the three contemporary cases analyzed, London was the most successful in the balance of temporary and permanent structures. The Queen Elizabeth Park contained only six major venues during the Games, one of which

(basketball) was temporary and dismantled after the Olympics, and all the others transformed in the capacity of use. Permanent and new venues were built only where necessary (in combination with the use of already existing and temporary facilities in other part of the city), and planned to be open and utilized by local communities. Other from sport facilities, the most important permanent legacy is the park itself, a new 226 hectares green lung with cycling and pedestrian pathways, cafes, sports venues, and events.

Regarding Rio de Janeiro, the majority of the temporary infrastructure was utilized in other areas than the two analyzed in this research (Maracanã and Barra da Tijuca), and mainly in the Copacabana neighborhood (i.e. the beach volley arena and the road and outdoor events). Following the 2007 Pan American Games, the 2016 Olympics' concept focused mainly on the redevelopment of the Barra da Tijuca district, home of the former motorsport circuit of Jacarepaguá, where the Olympic park and village were placed. The Olympic Park in Barra included the Complexo Esportivo Cidade dos Esportes, built for the 2007 Pan American Games, and housed nine sports facilities during the Olympics, eight of them permanent and only one was temporary. According to the Rio 2016 Bid Committee (2016), at the end of the Games, the Arena Carioca should be transformed into a sports school while the other seven facilities will form an Olympic Training Center, utilized by professional athletes only and excluding the fact the majority of the population to access it.

In some cases, permanent can be as good as temporary, especially when it comes to basic infrastructure (roads, public transport, sewage system, ...) although it

has to be needed infrastructure. In the case of Sochi, all the sports venues of the Adler Olympic Park was permanent and built from scratch, and no exiting or temporary facilities were planned or utilized. Although there were some general ideas on their use after the Games, no plans were conceived to downscale or dismantle part of the facilities and all the venues are now over-capacity (Azzali, 2016a). The Olympic stadium illustrates this lack of legacy plans. A new 40,000-seat capacity stadium was built from scratch just to host the opening and closing ceremonies of the Games. The stadium was closed after the Games, and it is currently after renovation to become one of the 11 stadiums utilized for the 2018 World Cup. However, the old 10,000-seat stadium of the city is considered more than enough for Sochi' s needs, and it is highly likely that the Olympic stadium will be not utilized anymore after the World Cup in 2018. Another unsuccessful achievement was the investment in public transport, including the Sochi– Adler high-speed railroad built to connect the airport to the two clusters and the city center. Indeed, with its USD10 billion cost, this infrastructure is the most expensive of the Games (The Anti Corruption Foundation 2016 January 11),

Coming to a conclusion, some final recommendations can be derived:

- Hosting cities should plan (and build) a right balance between temporary and permanent (built only when necessary in the long term).
- Hosting cities should not forget the role of experimentation of these events (test solutions tat can be replicable on a bigger scale or in other part of the city).
- Although temporary solutions seem to be in many cases preferable to permanent sports venues, it is good to remember that they have still a cost,

and a question to consider is how much it costs to built and then dismantle a temporary venue.

4. New vs. already existing (infrastructure)

Too much often mega sports events generate white elephants and underutilized venues. Being strongly related to the previous point, hosting cities should consider balancing accurately new and already existing infrastructure in their plans for the event, both regarding sports venues and city infrastructure (i.e. transport and mobility). In particular, hosting cities should maximize the use of existing facilities, and new developments should be planned carefully considering their usage in the long run. In addition, the organizing committees should discourage potential hosting cities to participate in the bid process if, as in the case of Sochi, they have no already existing sport facilities, and adequate transport and tourist infrastructure. The new ‘Agenda 2020’ approved by the International Olympic Committee (IOC) in December 2015 could represent a step forward in this sense. Indeed, this roadmap made of 40 recommendations includes important novelty regarding the upcoming nominations to the Games. Changes include a bidding cost reduction and modifications in the candidature procedures. Cities will be allowed to present a proposal that is in line with their long-term planning strategy regarding sporting, economic, sustainable, and social needs (IOC, [2015 November 10](#)). After too many candidatures withdraw, the IOC intends to make the Olympic Games an attractive event for more and more countries.

The cases analyzed showed that strategies for the post-event development of new infrastructure include downscale from full to reduced capacity, the use of temporary venues and their dismantling after the event, or a reconversion to different uses. The case of London well exemplifies all these methods. Indeed, five venues in the Olympic Park were either reconverted to other uses (i.e. the Copper Box, now a multi-purpose indoor arena, utilized for handball, modern pentathlon fencing and goalball during the Games), or reduced their capacity (i.e. the aquatics center and the Olympic stadium). The aquatic center has now a capacity of 2,500 seats with an additional 1,000 seats available for major events; however, during the Games, two temporary wings were added to increase the capacity to 17,500 seats. The wings were removed to avoid their becoming white elephants. Regarding the Olympic stadium, it was built with a capacity of 80,000 people for the opening and closing ceremonies, and has now been downscaled to 54,000 seats.

Sochi, at opposite, with an estimated overall cost of 55 billion USD, built all the eight sports venues of the Adler Olympic Park from scratch. The majority of them are now either abandoned or underutilized (Azzali, 2016a). Although there were some plans for the post-Games, at least half of the venues are not currently used as planned. Some other venues were intended to be relocated after the Games, but they never moved.

Regarding the use of already existing structures, strategies often utilized in the three cases include the renovation of old facilities, their upgrade (even temporary. For example, temporary seats to increase capacity could be add just for the duration of the

events), or the adoption of multiple sites (poly-clustering or satellite venues) if existing facilities are available in other part of the hosting city/country other than the main event area. Rio de Janeiro, for example, utilized four main clusters within the city. Although the main event site in Barra da Tjuca was mainly new, other clusters utilized existing infrastructure. For example, differently from London 2012, where the Olympic stadium was built from scratch inside the Olympic Park, Rio de Janeiro preferred to utilize their iconic and already existing Maracanã stadium for the opening and closing ceremonies. With the only precedent of Montreal 1976 (Bender, 2013), for the second time in the history of the Games, the opening and closing ceremonies were not held in the Olympic stadium, and far away from the Olympic park. In addition, in the same Maracanã area, with some temporary adjustment, the famous sambodromo, usually utilized for the well know Carnival, became the venue for archery competitions, while the area of Copacabana hosted the majority of the temporary venues, including the beach volley arena and the road and outdoor events (Rio 2016 Bid Committee, 2016). Regarding Barra da Tijuca, the Olympic Park hosted only one temporary venue.

5. Integration vs. divergence

Many major cities have planned or are planning to host a mega-event. One of the main reasons claimed is that events can be the catalyst for urban development, leading to regeneration and modernization of the built and natural environment (e.g., Malfas, Theodoraki & Houlihan, 2004; Musco, 2012). Another reason is the supposed economic growth triggered by events that should lead to the generation of new skills, business opportunities, and jobs. In a sense, events are supposed to generate physical,

social, and economic ‘convergence’. However, the reality is often different, and events seem to lead more to divergence than integration.

Event sites can foster four different types of integration (or divergence): physical, social, economic, and environmental. Regarding their urban form (physical integration), event sites and venues can be dense (compact) or sprawl, concentrated or dispersed (spread venues), mono or multi-clustering, with a prevailing mono-use (zoning), or mixed use. Regarding their location, they can be central or peripheral (suburban venues). Another factor to consider is the accessibility to the event site (number and types of public transportation, parking areas and their locations, cycling and pedestrian paths). Each of these options will influence the legacy mode, and the combination of the above components determines the level of physical integration of the area within the city. In addition, according to Smith (2012), there are two main types of urban development led by the mega events: one brings to much-localised forms of urban development, and the focus is limited on event venues and their precincts. This is mainly the case of Sochi. The second type leads to wider forms of urban regeneration, and it happens when the development of event venues is accompanied by larger redevelopment projects. This is the example of the 2012 Olympics in London, where the local government polarized its interventions on regenerating the East London, with the aim of reducing the divide between the West and East of the city. One main problem associated with event sites is that they often allow the creation of ‘islands of regeneration’ or ‘bubbles’ (Carrière and Demaziere, 2002): event venues are physically separated and detached from the rest of the city, and they become an obstacle to the integration they were asked to implement (as in

the case of Sochi or Barra da Tijuca in Rio de Janeiro). One of the reasons for that is that these areas are designed without any consideration of their interaction with the city and on how they will affect the surroundings. The design effort is devoted exclusively to a specific area, without examining the impact on the whole city. Also, the planning of new stadiums need to be carefully planned. Indeed, stadiums are the dominant facility in all mega sports events, but also the most problematic venue in the post-event usage. Usually they are enormous facilities that ‘struggle’ to find their place in the city and they alternate short period of extreme congestion on matches’ days with long period in which they are totally empty or under-utilized (i.e. the Olympic stadium in London and Maracanã in Rio de Janeiro). In many other occasions, the stadium is almost abandoned after the end of the event (i.e. Sochi).

With reference to social integration, event sites should foster social inclusion and convergence. However, as in cases of Sochi and Rio, often they lead to displacement, eviction, and gentrification. In Rio de Janeiro, for example, the area of Barra da Tijuca that was transformed into the Olympic Village and Park is now a sanitized and gentrified area built by evicting poor people. Indeed, here, the community of Vila Autódromo was almost destroyed. As Silvestre (2012) showed, families who accepted a financial offer had their houses demolished before being relocated or receiving compensation. In addition, the compensation was usually not enough to buy a similar house in the same neighborhood. Some families also had to return to live with relatives not evicted, or moving to other settlements. After the Games, the Village should be transformed into luxurious apartments for middle / high income families, while the Park will be converted into a training center for

professional athletes, de facto excluding the majority of the population to the access it. Regarding Maracanã stadium, one of the expert interviewed (Interview 4, Rio) highlighted how the last renovation for the World Cup made the ‘magical atmosphere’ of the stadium disappear. Maracanã is a ‘legend’, and has a long history. Before the 2014 tournament, a vast part of the local population could afford to buy a ticket for matches, concerts or events held in the stadium, and there was a nice atmosphere in its precincts. With the renovation, all this gone lost. In this sense, Maracanã carries a negative legacy, and increases the social unbalance of the city. The Games, with more than 60,000 people evicted in all the city (Interviews 1 and 3), led to the creation of gated, closed and controlled public (and private) spaces, without tackling the real issues of the city: low education and unemployment, housing deficit, lack of urban infrastructure among others. Similarly, in Sochi, the costal Olympic park was built on a very poor area. The neighborhood was home of wooden cottages and shacks, and the Games caused eviction. The people that lived there were in the best cases expropriated by the state. However, according to local administration, several buildings were not properly registered and therefore considered illegal, and taken without compensation (Konovalova 2007). Loss of property, eviction, and increase of land price are the main results from the stage of the Olympics. In addition, the involvement of local people in sports, one of the main objectives of the Games, and the creation of new jobs, were both below expectations (Azzali, 2016a).

Differently, in London, the main goal to achieve through the Games was to regenerate Stratford in East London, the site of the Olympic Park, and the surrounding areas. Stratford is located in the borough of Newham, which is situated 8 km east of

the centre of London, and is north of the River Thames. According to estimates of that period (Greater London Authority, 2005), Newham had one of the highest ethnic minority populations of all the districts in the country, and its regeneration would have helped in the process of convergence identified by the local master plan (the London plan), providing East London with the same opportunities of the wealthy West London. The Games focused on integration and convergence, from both a physical and a social perspective. The aim was to return an open space to Londoners, integrating the park into the surrounding community, and providing a sense of ownership, pride, and opportunity. The lack of accessibility and the complex topography, made by rivers, islands, roads and railways were overcome with the creation of bridges and pedestrian and cycle paths. In addition, the provision of mixed-use areas around the park and several means of transportation helped in the process of convergence with Western London. The majority of the park was located in a polluted and abandoned area, so, the Games did not create displacement; however, the regeneration accelerated by the Games led to forms of gentrification, with an increase in house prices. In addition, in London, as well as in Sochi and Rio de Janeiro, no relevant forms of public participation were introduced during the preparation of the Games. Public involvement is certainly a major recommendation for future hosting cities to achieve social balance and integration.

Coming to the ecological integration, or impact, while London presents some achievements, Sochi and Rio are not as virtuous. In London, before the Games, the Olympic park was an area of 75 hectares of polluted and contaminated soil and water. The Olympics allowed reclamation of these lands and gave a new park and open

space to the local communities. For this purpose, an onsite soil-washing centre was built to reduce distance that soil had to travel. In addition, great attention was given to the sustainability of each single venue and Olympic Village. To illustrate, the venues were built to minimise resource use. The velodrome best illustrates this, as it was built with 100% sustainably-sourced timber (IOC, 2013b). Differently, in Sochi, the coastal cluster lies on a complicated land. In 2010, when the construction for the Games was already begun, a severe storm hit the area, and the beach near the park was completely flooded. Local environmental experts warned that the building of major sports venues and facilities in that area could be incompatible with the fragile geology of that land and that flooding could happen again (Prudnikova, 2012). However, their warning went unheeded and the Olympic Park was built without any particular precaution. In the case of Rio, the major environmental issues concern other areas than the two main one analyzed in this research (Maracanã and Barra). To illustrate, the Olympics of Rio de Janeiro were presented to be the most ‘clean’ in the history. But things did not go exactly in this way. For example, the Guanabara Bay, which is the gulf which overlooks the city of Rio and which hosted the sailing competitions, the rowing competitions, and open water swimming races, has not been reclaimed as promised. Here, pollution is caused by the discharge at sea of unpurified sewage. In addition, the Jacarepagua lagoon, adjacent to the Olympic village, is itself remained extremely polluted (Tedeschi, 2016 August 4).

6. Public vs. private

How to deliver livable open spaces, and, more generally, urban redevelopment through events? The high number of many actors and stakeholders involved can cause

disruptions and fights, and the role of each category involved needs to be planned carefully. Indeed, national and local governments, local communities, private sectors, federations, organizing committees, events governing bodies, final users are just a part of the actors involved in the governance of a mega events. One question that should always be asked is who will fund the event (government fund, private sponsorship, local taxes, lottery revenues, a mix of them, other...) and who will benefit from it (governing bodies, local communities, private sector,). In particular, the right balance between private and public interests should be planned and implemented, by involving local communities in the decisions and planning processes with public participations tools. In this sense, the case of Los Angeles, which hosted the Summer Olympics in 1984, offers a good example. Following the Montreal Games in 1978, which was totally publicly funded and represented a very negative moment in the history of the Olympics, resulting in an economic disaster and impressive debt for the city, Los Angeles focused on existing venues and facilities, avoiding expenditure in infrastructure, and using volunteers, reducing in this way the cost for workforce. This event is also characterized by having been funded totally by private funds. This edition was an unprecedented commercial success that led to the establishment of the LA84, a private foundation with aim of managing the surplus of the Games in form of Legacy (AAF, 2004; Leopkey, 2013). The Olympics did not lead to any significant urban transformation; however, the careful planning and consistent surplus created an important and positive long-term legacy that is beneficial to the city and its residents.

In the case of London 2012, an initial overall budget of 9 billion pounds was indicated in the bid, while according to recent estimates, the real expenditure reached

24 billion (Interview 5 - London), almost three times the original estimates. The majority of it was public funding. Indeed, the crisis of 2008 removed the majority of private investors, leaving the state with the task of covering all expenses. This was translated, among other solutions, in a council tax hike of 20 pounds per household per year, particularly unfair for low-income families. In addition, funding the maintenance of the Queen Elizabeth Olympic Park will be an important issue to face in the future. Greater London Authority (GLA), the entity in charge of the governance of the city, committed itself, promising sports facilities to be managed by social enterprises and to be accessible to local communities. So, a major issue will be to balance costs and revenues. If not from sporting venues, where will the city collect the funding necessary to maintain the park and its facilities? How much money will be needed to maintain the park and the area and public spaces?

Sochi Olympics ended in costing around 55 billion USD, more than four times the initial budget, and more than all previous winter editions together, the majority of them provided by the central state. In addition, in spite of the promises of the bid book to work closely with Sochi residents, local NGOs, and local authorities, the public participation was non-existent (Müller, 2015c). All the facilities were built over capacity, and the majority of the sports venues are now closed or underutilized, and the park, with the exception of the weeks preceding the F1 race, is abandoned. The area has become an event site rather than a successful open public space that can benefit Sochi residents (Azzali, 2016a).

Regarding Rio, the situation is similar to Sochi. All the experts and people interviewed for this research, with no exception, expressed their frustration and anger with the Brazilian government, accused of spending public money for these events instead for schools, hospitals, and other projects more needed by the Brazilian population. As Schwambach (2012) underlined, the current planning of Rio de Janeiro is mega-events oriented. Not only it does not include any form of public participation, but also it helps increasing segregation. In addition, the Brazilian government has used these kinds of events to substitute the current legislation with ad hoc rules. As De Oliveira (2011) suggests, both the World Cup and Summer Olympics needed newly built infrastructure, highlighting how this kind of events require even more economic and social sacrifices in developing cities than in developed ones. Indeed, Rio de Janeiro municipality did not have enough resources to host these events, and the city budget had to be readjusted, shifting many of the financial resources that could have been used for education and health to construct new sports venues.

7. Local needs vs. event needs

The research showed that the importance of designing for a specific site, taking into account local needs, but also local culture, materials, and traditions, is a lesson that should be always remembered and applied. However, too often, event needs prevail. Müller (2015d, p. 10) well exemplifies this concept, by identifying “Event Takeover” as one of the main “symptoms” that characterize mega events. Indeed, he continues, “Mega-event priorities often displace long-term urban development priorities. Instead of the event becoming an instrument for urban development, urban development becomes the instrument for the event.” For

example, in Sochi, in addition to the eight new venues built over capacity which are now almost all closed, a the new road running from the coast to the mountain was also designed over-capacity. The motorway was planned to move 20,000 people per hour, while the maximum capacity of all the resorts is now 30,000 people, and the mountains resorts were already reached by another highway anyway (Capps 2015 February 18; The Anti Corruption Foundation 2016 January 11). In the case of Rio de Janeiro, in the last ten years, the Brazilian city hosted the two biggest sporting events on the planet, the FIFA World Football Championship, in 2014, and the Summer Olympic Games in 2016, as well as other minor sports events (2007 Pan American Games, 2011 World Military Games and others). This concentration of events is the result of a long-term strategy, which began in the early 90s, promoted by the Municipality of Rio with the support of the State and the Federal Government. Although in the Urban and Environmental Legacy Plan (PLUA), which is the Legacy Plan for the 2014 World Cup and the 2016 Olympics, one can read that the Olympic Games were to serve the city, and that the aim was not to organize ‘an event’ but to make Rio de Janeiro a better place for its residents (Costa, 2012), the results seem to support the opposite. Too often mega events culminate in economic disasters (i.e. Montreal Olympics 1976, Athens Sumer Games 2004, the 2010 World Cup in South Africa, Sochi Winter Games 2014, and the list could continue), where the interest of few private entities prevails over the interest of the public collectivity. Because of these frequent unsuccessful hosting fewer cities have recently shown interest in these events. Indeed, only Colombia and Brazil submitted a candidacy file for the 2014 World Cup, and when Colombia decided to withdraw its bid, Brazil de facto remained the only applicant (FIFA, 2016). Similarly, for the 2022 Winter Games, there were a

total of six bids that were initially submitted for the 2022 Winter Olympics. Four of those bids were eventually withdrawn, leaving only Beijing and Almaty as the two remaining candidates. That is one of the reasons for the IOC's policy shift. As mentioned before, the International Olympic Committee approved in the end of 2015 the 'Agenda 2020', promoting a bidding cost reduction, and allowing cities to present a proposal that is in line with their long-term planning strategy regarding sporting, economic, sustainable, and social needs (IOC, 2015 November 10).

With regards to sports venues, although stadiums are sometimes iconic architecture and they are highly recognizable within a city, more often they do not meet local needs in their post-tournament life, and inadequate planning, cost of maintenance, and large and over-estimated structures transform them into white elephants and their surroundings into non-places, and lands of *placelessness* (Relph, 1976). Indeed, stadiums are often troublesome legacies of mega events, as they are out of scale, oversized, and gigantic structures, with huge costs of maintenance. But, most of all, they are *a-topological* buildings that do not take into account the place in which they are constructed, and the local needs and specificity. They tend to be replicas of each other, being the same everywhere in the world.

8. Unplanned or unintended events

A final factor to consider is the responsiveness to unplanned or unintended events. Usually, hosting cities are awarded an event seven years in advance, in some cases even more (i.e. Qatar was awarded the 2022 World Cup in 2010). During this timespan, any kind of change or event can occur. Indeed, all the cases analyzed

showed unplanned crisis and issues. To illustrate, in case of London, the city was awarded the Olympics in 2005. During the preparation of the Games, first, a worldwide economic crisis hit the country in 2008. Because of that, many private investors were not able to guarantee the promised investment and the state had to intervene with public money to complete the necessary infrastructure. In addition to it, there was a political change at the local level with a change of mayor in 2008. In spite of these changes, London was able to carry out its Olympic promises, but other countries would probably not be able to. Both Sochi and Rio de Janeiro had to face an important economic crisis, too. Nowadays, indeed, all the BRICS countries are under recession, and the state of Rio de Janeiro is even bankrupted. Although these events helped the touristic sector by bringing more tourists to Brazil, in June 2016, the Rio governor decreed the state of 'economic calamity' by blocking the payment of salaries of civil servants, including the police (Guanella, 2016). There were major protests before the beginning of the Games and the public opinion agreed in complaining that such an amount of public money could have been used for public works as upgrade public transportation, or build new schools and hospitals instead for the Olympics.

Sochi shares a similar experience with the sanctions imposed by the USA and UE. In addition, the city lies in a very turbulent area, a region where there have been numerous terroristic attacks and where recently many wars have been fought, two of which in the nearby Chechnya. Moreover, in 2008, the war between Russia and Georgia was fought just a few kilometers far from Sochi and the Olympic clusters.

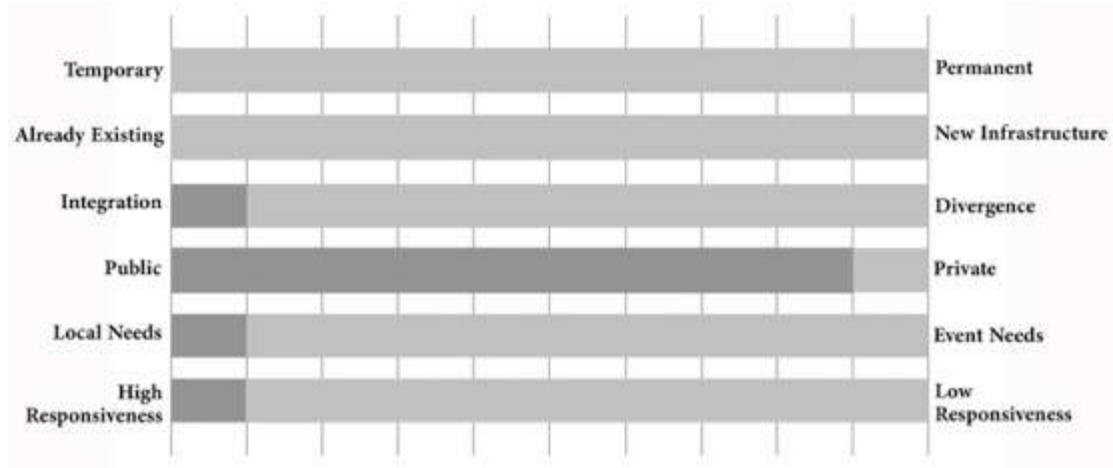
Regarding future events, Qatar, which will hold the 2022 World Cup, has to cope with the economic crisis that hit the Gulf Region since mid-2015. The recession has led the government to redefine the country's priorities. Indeed, for the first time in the last 15 years, Qatar closed the fiscal years of 2015 and 2016 with a deficit. The Supreme Committee for Delivery and Legacy, the organization that is in charge for the preparation of the World Cup, is revising its plans to be able to meet the requirements imposed by the FIFA. However, many new infrastructure, initiatives and projects have been either canceled or downscaled because of the recession.

With this preamble, the main recommendations to future hosting cities are to carefully consider that the economic, political, and social context can easily change during the preparation of the event. Regulatory processes and planning, although designed carefully, should be characterized by flexibility and adaptability.

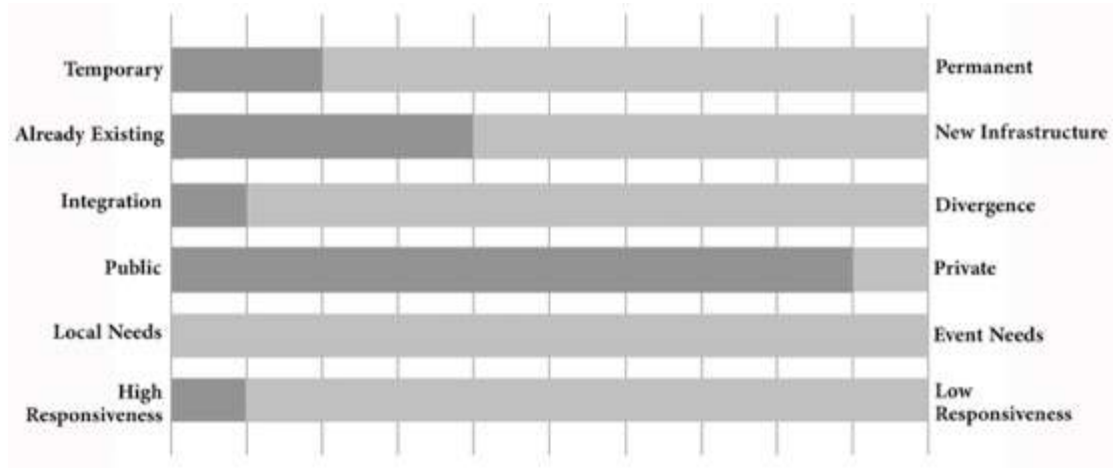
9. The framework applied to London, Sochi, and Rio de Janeiro

The following diagram shows the framework applied to the three cases: Sochi, Rio, and London (Figure 98).

Sochi



Rio de Janeiro



London

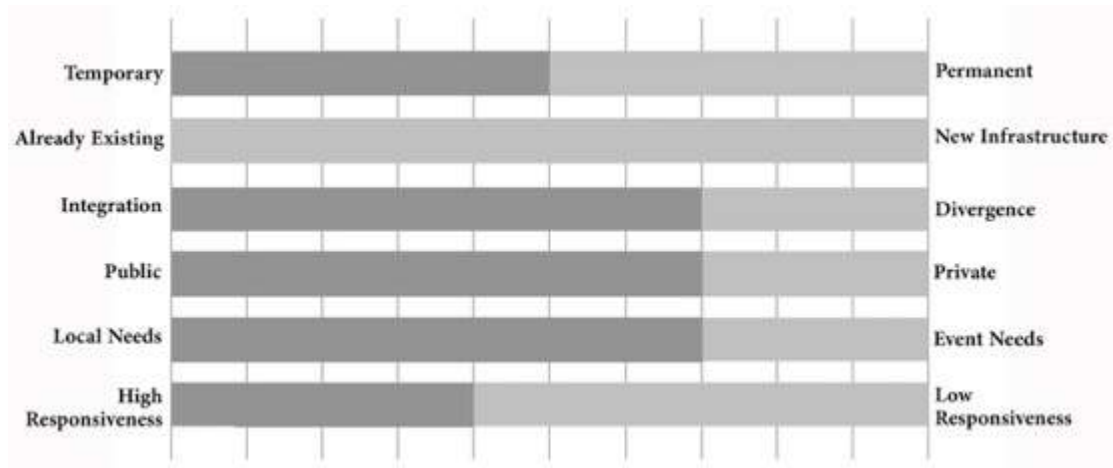


Figure 98. The framework applied to the three cases: Sochi, Rio de Janeiro, and London.

10. Conclusions

This chapter presented six main attributes, in the form of opposite terms, that need to be considered when hosting a major sports event: local needs vs. event needs; temporary vs. permanent; integration vs. divergence; compactness vs. sprawl; public vs. private; high vs. low responsiveness to unplanned or unintended events. The framework developed showed that there are no one-size-fits-all policies that work for every event, organizing committee or hosting city. Each city (or country) has to develop a strategy that fits their characteristics and peculiarities. However, some recurrent mistakes and bad habits emerged as recurrent: the low proportion of temporary structures, the exorbitant costs, the inability to respond to unforeseen changes, and the lack of attention to local needs, among others.

The next chapter will focus on Doha, its planning and transport systems, and its strategy to become a hub for sports tourism. The evaluation framework will be applied to the stadiums' precincts of the World Cup 2022, with the aim of analyzing Doha's legacy plans. Finally, the last chapter will introduce a set of guidelines and recommendations for organizing committees and hosting cities to help them to transform sports venues and events sites into lasting, sustainable and livable open public spaces.

PART III - MEGA SPORTS EVENTS AND DOHA

CHAPTER 8. AN ANALYSIS OF DOHA: ITS PLANNING AND TRANSPORT SYSTEMS, ITS OPEN PUBLIC SPACES, AND THE ROLE OF SPORTS EVENTS IN THE CITY

1. Introduction

Doha is the capital city of Qatar, a small and narrow country facing the Persian Gulf, between Saudi Arabia and Iran. Doha was a sleepy and tiny urban settlement with an economy based on fishing and pearling until the 1970s, when the discovery of the oil first, and the gas then, triggered an unprecedented rapid urbanization process. During the second half of the 20th century, Doha transformed itself from a small vernacular village to an emerging international urban center with a population of more than two million residents (QSA, 2015). Situated on the East coast of Qatar, Doha is now the major urban center of the country; and, with more than a hundred different nationalities inhabiting its territory, it is a multi-ethnic center, home to a large community of expatriates (Figure 99). The city also has the highest ratio of migrants to citizens in the world, being foreigners around 86% of its overall population, and the number of Qataris nationals a little more than 300,000 out of an overall population of about 2,200,000 people (QSA, 2015). After a first urbanization process linked to the increasing oil production, Doha is now facing a second urban transformation period led by a new development strategy, which have been implemented to diversify its economy. Tourism has been identified as a fundamental pillar to diversify the local economy as well as brand the city to attract new international investments. Indeed, the government is focusing on transforming Doha

in a cultural, as well as a sports center, by hosting many international events like the upcoming 2022 World Cup (QSDP, 2009; Qatar Tourism Authority, 2014 November 21).

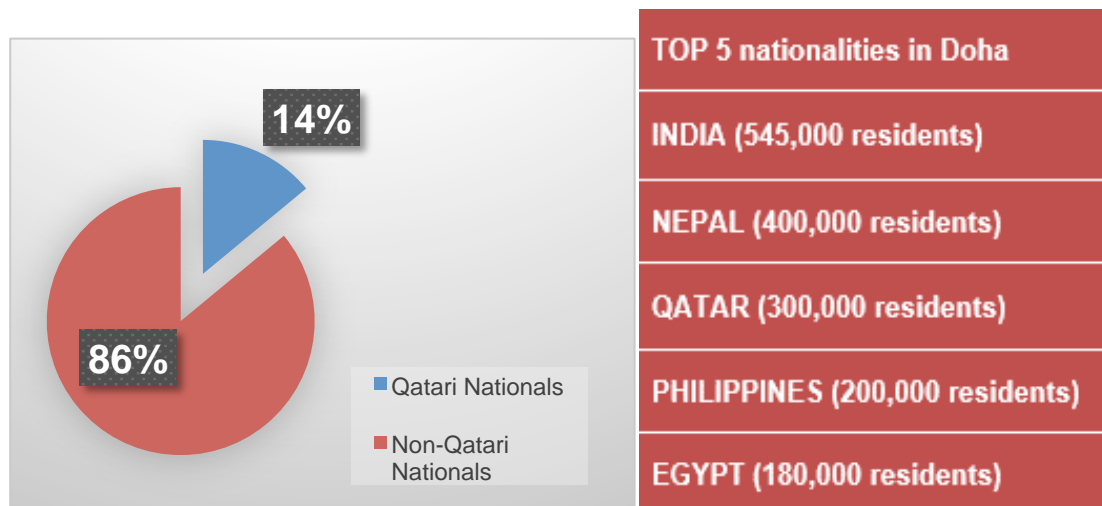


Figure 99. Demographics in Doha, 2014 - Data source: BQ Doha (2014).

Although the government’s effort to transform Doha into a more sustainable and livable place, some major issues related to planning capability, transportation, and the lack of public spaces accompanies the rapid growth of the city. These arguments are analyzed at the beginning of this chapter. In particular, after identifying the main features and issues of Doha’s planning and transportation systems (1. Doha and its transportation system), the role of sports events in Qatar’s strategy is investigated (2. Sports events and urban policy) with particular reference to their role in Doha’s planning capacity improvement. Then, the major public open spaces in the city are listed and analyzed, and their major features identified (3. The need for public spaces and the role of sports-themed areas). The chapter ends with the analysis of the major sport event held in Doha up to now, the 2006 Asian Games, which is presented from a

physical and social perspective (4.1 The Aspire Zone: Doha's sports city, 4.2 The Aspire Zone: impacts on the City).

2. Doha and its transportation system

2.1 Fast urbanization and motorization in the city of Doha: environmental, physical, and social impact

Doha presents one of the highest ecological footprint in the world (ARCADIS, 2015). The massive usage of private cars is the main cause for this impact because no public transportation is available in the city. CO₂ emissions are the first consequence of private vehicles usage, but additional issues relate to a constant congestion and time spent queuing in cars, and an extremely high accident rate (for data, see Table 20 and MDPS, 2014a). The dominance of cars in Doha has many reasons. The expansion into large areas of the desert has created urban sprawl instead of a city with delimited boundaries and specific characters. This feature is functionally connected to the intensified use of private cars. As Adham (2008) explains, priorities in city planning were given to facilitate the daily use of the car by individual commuters on a large scale. Up to now, greater attention was given to building first-class road systems, and this is exemplified by the disproportionately large space for wide roads and highways. Pedestrian shopping areas have indeed become tiny pockets within the car-oriented landscape. The city is experiencing an extremely rapid horizontal growth. Streets are wide, well organized, and comfortable for drivers. Yet, streets are for cars only. But additional reasons for the car dominance are a harsh weather for many months over the year, that makes impossible walking or simply stay outdoor; abundant and

inexpensive fuel; the lack of mass transit systems along with sidewalks and cycling paths; free parking in many parts of the city; availability of personal drivers at an affordable price; and the use of car as a status symbol. In this context of massive urbanization, sprawl, and dependence on private vehicles, environmental issues, social inequalities and physical fragmentation are three main consequences to the rapid motorization of Doha.

Table 20. Deaths and Injured in Road Accidents in Doha between 2011 and 2013 (Data source: MDPS, 2014a)

Deaths and injuries on road accidents	2013	2012	2011
Deaths	246	204	205
Severe injuries	642	593	584
Light injuries	5,955	5,214	4,635

To address those issues, the Qatari Government has allocated more than US\$ 100 billion to improve and expand infrastructure such as air and road networks, and to enhance the quality of the city’s transport system (Shaaban and Radwan, 2014). However, the environmental impact, which causes air and noise pollution, is extremely high. Doha has an average of 9,000 new driving licenses and 10,000 new registered vehicles per month, with an increment of 15% in the total number of registered vehicles between January 2014 and 2015 (MDPS, 2014b). On one hand, these numbers are due to the rapidly growing population, and, on the other hand, to the lack of public transportation in the all country. In fact, the only embryonic mass transit options available are in Doha are taxis, school buses, and the buses and minibuses utilized by private companies to bring laborers and low-income residents to

work. The city has one of the highest car usages per capita rates worldwide, and the presence on the road with all these cars and private vehicles generates a high level of air and noise pollution. Indeed, as the Sustainable Development Indicators Report (MDPS and DI, 2013) states, the monitoring stations in Doha show that between 2006 and 2012 the amount of fine particles augmented from 128.78 to 130.7 micrograms per meter cubed of air, with an average annual increase of about 1.5%. Besides pollution and noise, health problems are an additional negative impact caused by motorization. Although the Qatar National Vision 2030, the country's comprehensive blueprint, stresses the importance of good health habits, drawing actions to encourage residents to lead a more active lifestyle (QSDP, 2009), the lack of walkability and pedestrian paths facilitates health diseases due to the lack of physical movement, as diabetes. And these illnesses are increasing especially among youth (Amara, 2005). In fact, the more pedestrian accessibility is compromised, the more people will use motor vehicles even for short distance trips. Moreover, as shown in Table X, data on car accidents and the high rate of fatalities are alarming. While injuries and loss of life impact individuals, accidents also have a broader economic impact. Losses from road accidents cost as much as US\$ 2.7 billion annually, according to a study by the epidemiology department and medical statistics at Hamad Medical Corporation (OBG, 2014). In this context, the implementation of an MRT scheme inside Doha, consisting of four metro and one LRT lines, will contribute to partially mitigating some negative impacts due to traffic and congestion. The Qatari government in 2007 designed the scheme, and it is planned to be ready for the 2022 World Cup. In addition to the environmental benefit, reducing congestion on roads, the scheme will

also have a beneficial economic effect, as it will cut transport costs and time lost in transit, and hopefully help in reducing the number of fatalities.

A second argument to consider is the physical fragmentation of the city as a consequence of the rapid urban growth and motorization. Doha is sum of islands: it is a city with many polycentric centralities, which are not integrated together. Indeed Doha, like many other Gulf cities, is made of urban clusters (Salama et al., 2013). Due to its rapid growth and expansion, to the lack of a strategic vision and a comprehensive master plan, the city's urban fabric is fragmented and dispersed. Figure 100 shows the massive zoning of Doha, and how the city is developed in themed areas: the Aspire Zone, Doha's sports city; Education City, with all the university campuses; Souq Waqif, an area dedicated to leisure; Katara, the cultural district; West Bay, where ministries and business have their siege. In Doha, even housing areas and neighborhoods are fragmented, but also segregated by ethnicity and income. While Qatari nationals usually live in luxurious villas at the North or West periphery of the city, high-income expats are accommodated in comfortable apartments in gated compounds or towers that are situated in more central areas. Laborers and low-income groups, usually from Southeast Asia, live in residential camps and ad hoc shanty housing compounds in the Southern suburbs of the city, or in the poor old quarters in downtown Doha. This phenomenon of polarization, or clustering, exacerbates some functional issues which are emblematic of the Gulf cities and Doha: reliance on cars as means of transport; scarcity of parking and lack of alternative routes, especially near shopping malls and the business center; traffic, congestion, and

pollution. Upgrades to the city's transportation network are scheduled. Indeed, Asghal, the Public Works Authority, announced over thirty new roads and highway projects in April 2013 and awarded US\$ 2 billion in contracts (OBG, 2014). Road upgrades are set to be a welcome development, given the congestion challenges Doha currently faces. However, additional roads development risks in worsening the physical fragmentation of the city. Local authorities are also implementing new mixed-use, mega-projects developments. The cases of Msheireb and Lusail projects, respectively set in downtown and in the North of the city (Figure 100), are examples of mixed-use, high dense, transit-oriented, and sustainable neighborhoods, designed with the aim to mitigate the fragmentation of the city, creating forms of physical and social integration.



Figure 100. The development of Doha, fragmented in urban clusters (Map source: Google Maps).

Finally, the massive motorization has an important social impact. Zoning and physical fragmentation, housing segregation, massive use of private vehicles increase social inequalities. In Doha, because of the high polarization and the lack of public transport many parts of the city, such as green parks, open public spaces, but also commercial and leisure districts, are almost inaccessible to the low-income segments of the population. Additionally, in 2013, with the aim to find ways to reduce the

number of cars on the road, the Ministry of Interior issued several proposals, including limits on driving licenses for expats. Starting July 2013, the licensing section of the Ministry of Interior’s Traffic Department notified driving schools not to issue licenses to certain classes of workers (Doha News, 2013). This limitation regards mostly the low-income strata, the majority of Doha’s population, increasing social injustice and inequalities (see Figure 101 for numbers).

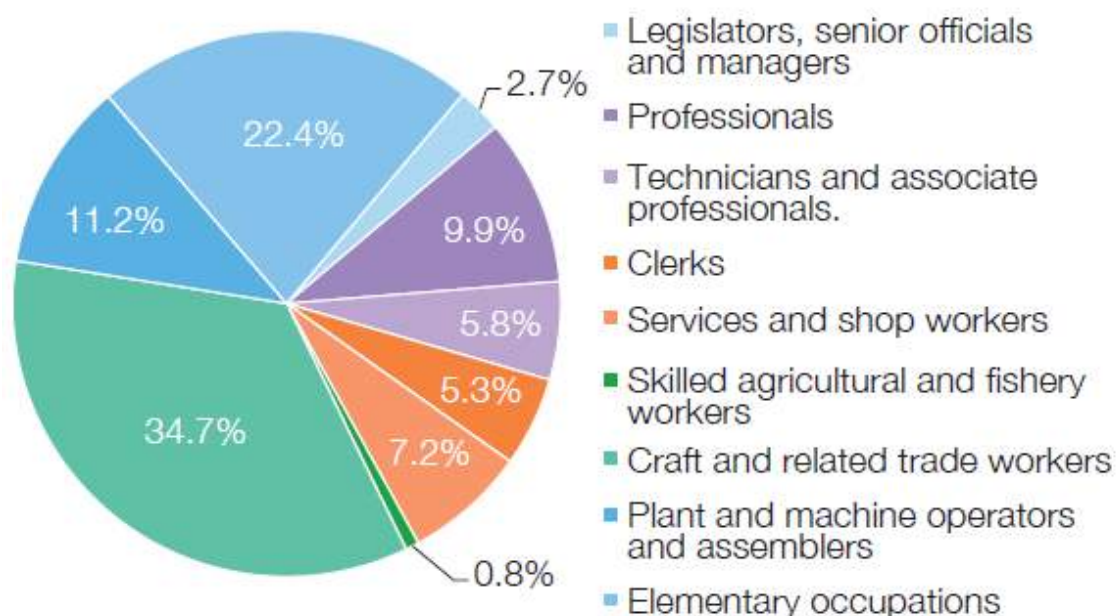


Figure 101. Labor force by economic occupation in Doha in 2013 – Data source: State of Qatar – Statistics Authority (2010).

To conclude, according to Badami (2009) and Litman (2007), worldwide experiences show that the implementation of new roads have beneficial effects only in the short term, improving speed and ease congestion only for a short period. Indeed, over time, the increase of travel in single motorized vehicles, by shifting movements from public modes to cars, and the diversion of traffic from other destinations and routes, will cause new and longer car-based trips. And large-scale road infrastructure

implemented to face congestion and traffic on an on-going basis will in the end create a considerable amount of social disruption at any level of the population. This is particularly evident in Doha, where the heavy traffic congestion and the perennial queuing is compromising the quality of life of many segments of the population. In fact, even high-income residents, who can afford expensive cars and a wealthy lifestyle, but who are also more and more exhausted by queuing in the traffic jam, increasingly prefer limiting their social life and spent more time at home, or in the proximities of their neighborhood, eliminating all the unnecessary trips (Whitson, 2004).

2.2 Transportation and policy implications for Doha and the Gulf region

Rapid urbanization and motorization worldwide offer challenges and opportunities to individuals, cities, and nations. New emerging urban developments as Doha are experiencing an impressive and rapid growth in the demand for transportation and have to cope with a limited infrastructure. The previous part of the paper presented three main impacts related to the fast urbanization and motorization of the city of Doha: social segregation, physical fragmentation, and environmental concerns. To meet the growing transport needs in the city and the related issues, in 2007, the Qatari government approved the development of a major mass transport scheme: the four lines of the Doha Metro System (Table 21), along with the implementation of the Lusail Light Rail line. Phase 1 of both developments will be operational for the 2022 World Cup (QIA, 2012; Qatar Rail, 2010). Additional policies and projects, as the construction of thirty new roads and highways, and new compact, mixed-use TODs (Lusail and Msheireb projects) are being implemented

locally. However, to guarantee that fully utilized, sustainable, and safe transportation systems are delivered, those systems need to be planned with a multi-modal, integrated, high-quality approach. More, local authorities have to implement urban policies that integrate land use and transport planning.

Table 21. The Doha Metro System (Data source: Qatar Rail, 2010)

Line	Length	Stations	Termini
Green Line	65.3 km	31	Education City Al Rayyan North Umm Slal Industrial Area South
Blue Line	17.5 km	4	West Bay Central Airport City
Gold Line	30.6 km	20	Al Rayyan South Industrial Area North Al Khor North
Red Line	98.5 km	30	Hamad International Airport Messaieed
TOTAL	211.9 km	85	

Firstly, if it is important to introduce mass transit options, it is even more important to develop an integration of modes (a multimodal approach) to transportation that facilitates the shift from one option to another. Also non-motorized modes (cycling and walking) are important and need to be included in this approach. Along with the Doha metro system and the Lusail LRT line, alternatives like cycling have seen recent progress in Doha. In 2013, Asghal, Qatar’s Public Works Authority, announced that cycling lanes were planned for the East-West Corridor Project, with the aim to include cycling lanes in all the country’s road projects (OBG, 2014). All these options will also contribute to preventing social segregation and inequalities, and increase accessibility and mobility for all the residents. However, to be effective,

all these transport modes need a quick implementation process and a planning strategy that includes high penetration and route coverage, and an integration of modes that offers easy accessibility and many interchange options. The introduction of wheel-based systems, as buses or BRT schemes, could be beneficial. Finally, all these transit options, once implemented, need to be fully utilized. The greatest challenge will be to make car users shift from private vehicles to mass transit options. The implementation of an effective communications plan could be a contribution in this direction.

The second area of policy intervention regards land use and transportation planning. Transport systems can be maker and breaker of cities (Clark, 1958). To prevent physical and social fragmentation, and to facilitate the shift from the islands within islands effect to the development of compact and mixed used neighborhoods and districts, land use policies should be integrated with transport planning strategies. Transit Oriented Developments (TOD) projects worldwide tend to promote a mixture of housing, retail, services, workplaces, and open spaces within walking distance from transit systems, to maximize their use. By mixing land uses, distances and fragmentation drop dramatically, and the adoption of non-motorized modes for travel increases, particularly for shopping and recreational trips (Handy and Clifton, 2001; Khattak and Rodriguez, 2005). Mega-projects as Lusail or Msheireb (Figure 100) are good examples towards this integration. They are both compact and mixed-used developments with space for retail, housing and business. Moreover, both districts will be served respectively by two and three metro lines, and they will offer walking and cycling paths. Besides TODs, the implementation of sustainable and green urban corridors, to integrate different areas of the city, is another successful strategy (Farr,

2008). Finally, mega sports events, as the 2022 World Cup, are being exploited by the Qatari Government to catalyze and accelerate these important urban transformations, playing as an urban glue to overcome the current fragmentation of the city.

3. Sports events and urban policy

3.1 Doha and its planning system

Doha is a young, rich and booming city. Since the 60s, the exploitation of oil first, and subsequently of gas, generated a wide amount of revenues that led to a rapid growth and urban expansion of the city, enabling wide economic and social development programs (Adham, 2008). In 2004, thanks to the approval of the Foreign Ownership of Real Estate law, a new phase of real estate booming started, since this act enabled for the first time foreign investors to develop new freehold properties in specific areas of the city (Salama et al., 2013). With the ambition of transforming Doha into an international investment hub, the government created in 2005 the Qatar Investment Authority (QIA). One year before, in 2004, the Qatari Diar Real Estate Investment was realized with the aim of managing the growing number of real estate projects within the city (QIA, 2012). The period that followed reshaped Doha dramatically, from a physical, social, and economic point of view. In the last ten years Qatar's population has more than doubled increasing from 750,000 to more than 2,000,000 residents, of which more than eighty-five per cent is currently living in Doha (QTA, 2014). An analysis of the current master planning efforts highlights clearly Qatar's government inability to manage these growing numbers (Rizzo, 2013). Results of the rapid and fast urbanization are increasing fragmentation and sprawl

within the city. In addition, no or little attention has been given to open urban spaces at the policy or master planning levels, and the few urban open spaces available in Doha are planned apparently without any criterion, being scattered from its northern to its south-western peripheries (Salama and Azzali, 2015). Finally, the rapidly growing real estate development generated by liberalization policies and public investments created firstly social, economic and physical fragmentation, but also fragmentation in the planning practices and in the way the city is managed. For example, since the 70s, few master plans have been designed. Even if the introduction of these master plans was important for adding a first form of planning practice in such a young city (Lockerbie, 2014), none of them has been fully implemented (Rizzo, 2014). All these issues show the inability of the local government in the city management processes and the need for improving the local planning capacity.

The fragmentation of the planning processes is firstly due to the application of neo-liberal tendencies, which are translated into lighter public administration and deregulation, form of privatization, and lack of central control. Another reason is that the planning activities are mainly carried out through mega projects. The launch of several urban developments and public investment with the aim of transforming the capital city of Qatar into an international service hub has led to wide transformations in Doha's urban policy, which shifted from an administration characterized by a high level of centrality, to a decentralized system that decides on a case-by-case situation (Salama and Wiedmann, 2013). In fact, the two researchers state, "instead of following guidelines and regulations based on holistic development strategies, an outdated

administrative structure in combination with the scale and speed of developments has led to the common practice of case-by-case decision making. This decentralized governance is the rise of what is known as mega-projects” (Salama and Wiedmann, 2013, p.98). According to Rizzo (2014), this practice of planning through mega projects presents additional issues: firstly, it contemplates the involvement of a little number of players, mainly government-related agencies. Secondly, these projects are never reviewed and discussed with Doha’s inhabitants. The author adds Doha’s planning practices are mainly characterized by poor regulations and lack of public participation, and with the aim of developing ambitious and iconic constructions, more needed developments, as public spaces and amenities, hospitals, affordable housing, are not taken into account by the local government (Rizzo, 2014; Figure 102).

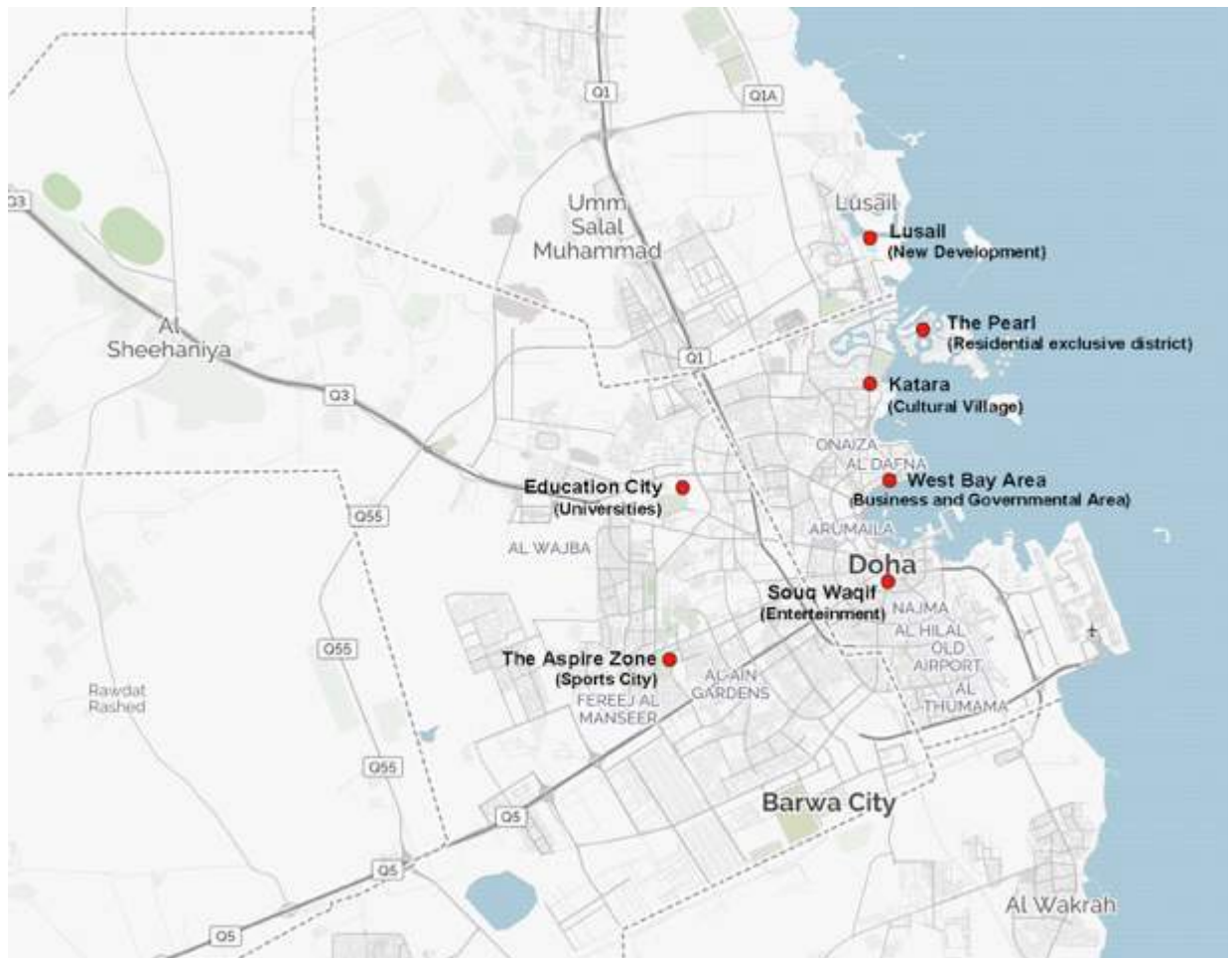


Figure 102. The city of Doha: some of the current and future mega projects (Adapted from OpenStreetMap by the author).

An additional concern is the lack of communication and coordination among the many agencies and stakeholders involved. No organization is in charge of it. This resulted in what Rizzo (2014, p.50) defines as a duplication of efforts and the lack of coordination, with “a detachment between the master planning phase - usually sub-contracted to external consultants that are insensitive to Gulf dynamics - and the implementation phase - usually carried out by redundant local government agencies”. This fragmented organizational structure shows the need for an interconnected form of governance, which

integrates all parallel developments on the basis of a comprehensive master plan (Salama and Wiedmann, 2013). More, planning practices and implementation developments in Doha are totally dependent on foreign and highly skilled workers. This consultancy is also characterized by a high rate of temporality, because international consultants usually stay in the city for few years before going back to their country or moving to a different city. This transiency and high level of turnover is one the cause of the low understanding of the local specificities (e.g., budget constraints, immigration waves, and local culture); and the misunderstanding of the Gulf dynamics affects the master planning phases (Nagy, 2000).

Finally, there are no professional associations of planners in the Gulf countries (Rizzo, 2014), and this lack prevent the undertaking of initiatives for the dissemination of best practices and planning knowledge among architects, designers, and planners working in the Gulf region. Thus, there is the necessity to build capacity amongst local planners. Qatar University has recently founded the first School of Architecture and Urban Design and Planning in the country, and the first students in these disciplines have graduated freshly. The establishment of these study programs is a fundamental step in building planning capacity in the country and train locally educated designers and planners, but additional steps need to be undertaken for increasing the number of local planners and building their capacity according to the needs of the city of Doha.

3.2 Events: a potential for urban planning systems?

Events are organized and hosted for many different purposes, and outcomes can also be extremely heterogeneous. The aim of this section is to critically analyze the planning processes underlie them, and try to understand their potential for improving urban planning systems. If hosting events always had a big impact on cities in terms of urban development, economic and social impact, it was only from the 60s, specifically from the Olympics held in Rome in 1960, that event planning has been consciously used as an urban policymaking tool for the general redevelopment of the city (Death 2011; Essex and Chalkey, 2004). Since then, the attention to events as tools of urban policy has been rising faster and faster, and many international events have included some urban planning strategies. However, what is the main potential and what are the recurrent successful models when considering events and their effects on urban planning systems? Events can help in building planning capacity, in different ways. Firstly, local municipalities and public bodies can learn from previous experiences, through knowledge transfer from previous events. This city to city learning is facilitated by the organizing committees, which usually give access bidding cities to databases containing best practices, technical documents, images and photographs developed by the experts involved in the previous editions, and those allow and encourage an emulation of the successful models (Lauermann, 2013). To illustrate, cities bidding to stage Olympic Games can access the IOC's knowledge management system, by paying a candidature acceptance fee. The program was realized few years before the 2000 Olympics in Sydney, and it provides an integrated database of services and documentation, for helping organizers in the event preparation, while at the same time facilitating the knowledge transfer from hosting

cities. This sharing of experiences makes the program such an integral part of event planning (IOC, 2015 February 17). In addition, hosting cities usually attract elite planning companies and construction firms that in normal condition would not be available, and knowledge transfer can be achieved directly from them. Global agencies and world-class organizations involved in the event create an exceptional network of expertise, which can lead to the transfer of urban planning templates, prototypes, and modules, but also standards and techniques (Roche, 2000; Liao and Pitts, 2006; Lauermann, 2013). This emulation should not be a ‘mere reproduction’ from previous models but should be adapted according to the local necessities. This is even more important when considering emerging countries, because major events have been held mainly in developed / western cities, and little expertise is available on the specificities of the new emerging cities. Finally, the knowledge transfer should not be limited to a top-down adaptation of pre-existing planning knowledge: hosting cities are more and more interested in building their capacity from networks of world class international agencies, but they also intend to contribute back (Lauermann, 2013), by implementing new best practices (planning legacies) for future planning coalitions, and gaining in this way authority in the design, planning, and management field.

A second best practice is the use of events as experimentation or testing of new planning templates and design technologies (Smith, 2012). The aim is to test new solutions on a smaller scale, and if the experimentation is successful, extend it to the whole city. In this case, events are used as inspirations for developing new ideas. Prototypes and innovative urban models are firstly tested, experimented, adjusted, and finally replicated and applied to different contexts.

Through a trial and error model, events can lead to new forms of urbanism to be applied at different spatial scales. Illustrative examples can be found from the World Expos of Montreal in 1967 and Osaka in 1970 (Gold and Gold, 2005; Smith, 2012), or from the Expo held in New York in 1939-1940. Ellis (2005) remembers us that famous planners as N. Bel Geddes and L. Mumford participated in that initiative and that their prototypes were influential in the design of many cities in the USA. In fact, *Futurama*, the concept developed by Bel Geddes for the General Motors Pavilion, promoting a drastic revision of the traffic management system, was partially adopted in the implementation of the main freeways in US downtown areas (Ellis, 2005). However, precedents also come from the past. The Ancient Romans, for example, used to build first temporary structures in wood, to accommodate people participating in their public shows. Only after trial and error experimentation, they fixed a standard template that they replicated throughout the empire. To illustrate, the famous Coliseum is the result of the juxtaposing of two separate theatres of hemicycle form. First the amphitheatre was a temporary structure in wood, and then when it became a successful model, it was built in stone and reproduced in the Roman Provinces (Carcopino, 1939; Facchini, 1990).

A new trend is also to test sustainable forms of urbanism in Olympic Villages. The 1994 Lillehammer Winter Olympic Games are considered the first international sports event to take up the sustainability challenge and sought to host sustainable games introducing an environmental impact assessment (Death, 2011). Since then, hosting cities has exploited the Games for experimenting new

forms of sustainability, or environmental friendly technologies. One example is the city of Vancouver, which used the 2010 Olympics for developing its knowledge and capacity in the sustainability field, and achieving its plan to be 'the Greenest City in the World' by 2020 (City of Vancouver, 2014).

Additionally, the ephemeral component of event planning projects makes event hosting an effective tool to divide long-term planning strategies into smaller experimental modules, especially in cities that intend to stage multiple mega-events (Lauermann, 2013). The aim is to split a wide, complex, urban planning project into smaller, less complicated steps, which are much easier to be designed, planned, and implemented. In this way, mega-event planning introduces flexibility into the planning processes, making possible design experimentation (Lauermann, 2013). This practice allows learning from previous experiences and applying a trial and error process that consents to make adjustments in the planning while in progress. To conclude, mega-events are exceptional occasions, out of the ordinary, and they can be the tools for the transformation of large urban areas that, in the ordinary practice, would hardly find means for their implementation. Bidding and hosting events needs political consensus. Also, events themselves are catalysts of economic resources. This political and economic support would not be available without the hosting, and it can be exploited for the planning and the realization of major infrastructure and transportation projects (i.e.: constructions of new facilities, mobility systems).

3.3 Event planning as an occasion for improving planning capacity in Doha?

The previous section showed that Doha's planning system is affected by two main issues (Table 22): one is related to the processes, and the second one to the people involved in them. From a process point of view, planning is characterized by fragmentation, due to form of privatization, lack of coordination between the design and the implementation phases, the development of planning activities through mega projects instead of through the application of a comprehensive master plan. The second issue is related to the people involved in the planning processes: in this case, the study showed the lack of locally educated planners and the dependency from international consultancies, who usually demonstrate a low level understanding of the Gulf region needs and specificities. With this preamble, the role of mega-events in Doha is double: firstly they can act as the glue for overcoming the fragmentation of the planning activities. Secondly, they facilitate knowledge transfer from international firms and organizations to local agencies, and vice versa.

Table 22. The Main Issues Regarding Doha’s Planning System

	Issue	Examples	Role for event planning
PROCESSES	Fragmentation of the planning practices.	Privatization and <i>laissez faire</i> strategies; Lack of coordination between the planning and the implementation process (redundancy, duplication,)	Events as the glue for overcoming the fragmentation and for assisting in the implementation of the 2030 QNV.
	Lack of a holistic and comprehensive master plan.	Planning through mega projects.	
PEOPLE	Lack of planners educated on the needs and specificity of the Gulf area.	Dependency on international consultancy, Lack of locally trained planners Lack of professional associations of planners	Events as catalyst for knowledge transfer from international consultancy to local agencies and vice versa.

The major role for events in Doha consists in playing as triggers for effective knowledge transfer, and building capacity through the development of networks among local professionals, academia, international consultants, and firms. Thanks to the hosting of major events as the 2022 World Cup, Doha is attracting excellent international consultancy from all over the world. Many distinguished architects, designers, and planners are currently working on new projects, and, up to the 2022 football tournament, Doha will represent an open laboratory with endless opportunities. This world-class consultancy is designing and shaping the city, and Doha can profit from it to build its planning capacity. An important role in this knowledge transfer can be covered by academia, research centers, and local professional associations. All these bodies have a double role: on one side, facilitate the knowledge transfer from international consultancy to local agencies and professionals working in local public bodies; on the other side, they carry out research on discovering the needs of local population and the specificities of the Gulf region,

and transfer this knowledge to the international consultants which are building the city.

Mega-events can act as the glue that link the processes and stakeholders involved in the planning activities by facilitating the implementation of the Qatar National Vision 2030 (QNV 2030). Qatar's government has introduced few years ago a comprehensive and holistic blueprint with ambitious strategies related to the development of its environment, society, and the economy. This program, called Qatar National Vision 2030, is asked to play as the major agent for developing and improving Doha's urban governance for the upcoming years. Its implementation consists of design and realization of a comprehensive master plan, which is required to guide Doha's urban development toward more consolidated structures (QSDP, 2009). QNV 2030 will allow the country to reach its long-term goals and to implement a framework for developing its major strategies. However, in spite of its vision for 2030, Qatar seems to be unable to translate it into a comprehensive master plan. Mega-events can play an important role in this process, by facilitating its realization. The correct exploitation of fail bids, and the stage of small and big events up to the 2022 World Cup can contribute in the design and implementation of a holistic and realizable master plan. Doha should link events planning with major urban regeneration projects, and exploit the catalytic effect of events to deliver wider forms of physical, social, and economic transformations. This strategy was utilized with success by Barcelona, which used the 1992 Olympic Games to regenerate a vast dismissed area in its waterfront (Monclús, 2003), and to implement place marketing strategies (Calavita and Ferrer, 2000). Additionally, the Olympic redevelopment

projects were assisted by failed bids and other smaller events, and a comprehensive redevelopment strategy was secured at least ten years before the Games, when a General Metropolitan Plan was approved (Monclús, 2003). More, Doha should not consider each event as a single unit or spot occasion, but exploit all the potential offered by the series of events it will bid or host. This process will allow linking mega-events into a long-term strategy, and facilitating the creation of a comprehensive master plan, which will lead to gaining benefits for planning as an activity, and benefits in the form of outcomes and long-term legacies. Unfortunately, up to now Doha did not exploit all this potential. For example, for the preparation of its first major event, the 2006 Asian Games, the main part of the \$2.8 billion budget available was spent for the realization of the Aspire Zone, Doha's sports city (Smith, 2010), without any consideration for the design and implementation of long-term legacies that would be more beneficial to the residents. Doha should do not repeat this mistake, and exploit the upcoming events, up to the 2022 World Cup, to implement its holistic vision, the QNV 2030. Through this series of events, Doha can split the implementation of its long-term strategy into smaller modules of implementation, and use each event for experimenting new urban template and prototypes, improving in this way its planning capacity and obtaining long-term legacies. Otherwise, Doha will continue to be dependent from international consultancy for the development of its master planning activities.

4. The need for public spaces and the role of sports-themed areas

Livable, available and accessible open spaces contribute to the overall quality of the urban environment. However, decision makers seem to forget their importance when examining and debating choices related to land use and the enhancement of the public realm, especially in the absence of urban design strategies and guidelines (Salama & Azzali, 2015). The relevance of open public spaces is related to their characteristic of satisfying many human needs and providing moments of interaction among citizens (Carmona, 2010). In public spaces, people can meet and interact, having the occasion for social and spontaneous form of learning and confrontation, especially among citizens who share diverse culture and habits (Elsheshtawy, 2011). Many scholars focused on the social impact of public spaces. Gehl (1987), for example, describes open spaces as places where people can perform both optional and necessary activities, as going to school or work, or simply reading, walking, sitting or relaxing. All these activities are made possible by the quality and the features offered by these places (Salama & Azzali, 2015). Creating high quality open spaces is essential for the well being of people, and sports-themed areas can play an important role in it. For example they can be used for physical activities, offering beneficial opportunities for improving fitness and health, especially when considering the average low active lifestyle in cities, and the rising number of people with heart disease and obesity. However, one main issue related to sport-themed areas as public spaces is their accusation of elitism: as Smith argues (Smith, 2010), planners are often too much concerned with the design of costly and iconic facilities, instead of caring about “soft infrastructure” like the people who will eventually use them daily. Elitism

can prevent social integration and lead to form of segregation, a phenomenon that is well known in the Arabian Peninsula, but in the form of segregation between men and women, who can rarely share the same spaces when practicing physical activities as swimming or playing indoor games. To avoid elitism, municipalities can promote the use of new venues by a wide variety of users, encouraging professional teams to share facilities with amateurs, as in the case of Vancouver and Minnesota (Lee, 2002). Finally, to be successful, local governments should avoid the creation of under-utilized, artificial areas, by creating urban sport facilities designed to welcome many types of users, and which are flexible and easily accessible to ordinary people. Brown et al. (2000) suggest integrating them with residential and retail activities and facilities, while Smith (2010) proposes mixed-use districts with sport at their center, and strongly advises to implement areas which are not simply a stadium with a few other iconic facilities around it, but districts with multi-functional activities in the form of shops, business and residential units. All this can drive to the implementation of areas fully integrated with the city, leading to the creation of social development.

4.1 Public open spaces in Doha

In Doha, the only few open public spaces (POS) available are scattered around the peripheries, one far from the other, and their number is not enough to cover the need of the population. Major POS within Doha include the Corniche and the Museum of Islamic Art (MIA) Park, Al Bidda Park, the Pearl, Katara, the Aspire Zone and park, Al Sadd, Souq Waqif, Msherieb. New additions include the recently opened Sheraton park near Corniche, and, outside Doha, Al Khor Park and Al Wakrah Souq. Oxgen Park in Education City is under construction (Figures 103 and 104).

Katara Cultural Village is a ninety-nine hectare development of a design and architectural character intended to simulate a traditional, real or imagined, Qatari village with covered alleyways and narrow pedestrian streets. Buildings are styled to represent a hybrid of traditional Arabic or Islamic features. Located along the waterfront between West Bay Financial District and the Pearl development. The upcoming phase of development will include residential units that will complement the project. Currently it is accessible by private and public transportation (taxies) offering a number of parking spots, which are very often full especially in the weekends.



Figure 103. The major POS in Doha.

The Pearl is a multi-billion dollar development that covers 4-million square meters of re-developed islands. The project provides 32 kilometers of new coastline and 13 inspiring precincts and islands and three marinas for yachts and private boats. The ground floor hosts up-scale retail shops, automobile agencies, cafes and restaurants. It is expected to host more than 40,000 residents in more than 16,000 residential units ranging from beachfront villas to luxurious apartments buildings. The development is accessible by private and public transportation (taxies) offering a limited number of parking for visitors.

Sheraton Park and Corniche are a small park and a plaza-like paved space or esplanade that has lush green spaces, a children playground, cycling and pedestrian paths, a cafeteria and a restaurant providing a relaxing outdoor environment. From one extremity, it is characterized by its proximity to The Sheraton Hotel, the first iconic building and oldest five stars hotel in the city of Doha, it also has access to Msheireb Enrichment Centre that exhibits the history of Msheireb area and the development of project. On the other side, Corniche is in proximity to the port, and the Museum of Islamic Art and its park from one side, and to Al-Fanar and Souq Waqif from the other side. Activities include strolling, jogging, cycling, using the exercising tools, fishing, taking a boat cruise, stopping by the statues to take pictures, visit Al-Mourjan Restaurant, or just sitting, relaxing and contemplating the scenic views across the bay.

MIA Park attracts a wide variety of different cultural and socio-economic groups and is completely accessible to all members of the public, but notably has

more adults. This space is in proximity to the port, and the Museum of Islamic Art. It attracts a wide variety of different cultural and socio-economic groups and is completely accessible to all members of the public, but notably has more adults.

Al Bidda Park is an important green lung on the eastern edge of the city. It encompasses four areas: an amphitheater zone, gallery and social zone, heritage zone, and children zone. Here, the majority of its visitors appear to be families of medium to low-income groups. Most individuals are used to visit the park after doing some exercises in Corniche.

Msheireb is a district that is located in the center of Doha, close to the Emiri Diwan and the Souq Waqif. Msheireb is known as a commercial area for low-income groups and is an integral part of the old town of Doha distinguished by depleted traditional Arabic houses and alleyways and a medium structure built in the 1970s; restaurants, electronics shops, and heavy traffic with continuous congestions portray the area. While the major part of this area remains intact, a new urban regeneration project is being built to the north and east. The area hosts a variety of shops and restaurants that suit users (Migrants) income level. They spend their time exchanging information and chatting in the open air sitting on sidewalks or on the green shoulder space in the middle of a two way-road. However, some locals and expatriates of middle to high class are visiting the place to buy and fix the electronics

Souq Waqif is characterized by a pedestrian spine, the police station, and a series of ethnic restaurants and cafes represents a combination of restored,

reconstructed, and new buildings. It attracts Qataris, Middle Easterners and westerners of high-income groups, while low income groups and labors cruise through the open streets watching expensive cafes and restaurants attendees.

Aspire park is located as part of the sport complex that includes Khalifa Stadium, and a series of sport buildings, on the south to southwestern side of Villagio mall. It is accessible by different users through Al-Rayyan Road and Al-Waab Street by taking the high way. The parking lots are available and accessible to the public and encounter four sides of the park. The important green spaces in the south west of the city with an extensive area of 88 Hectares that is considered to be the largest green intervention in Doha. The park encompasses wide variety of green spaces, a cottage, a large lake, and an overhead fountain that begins on one side of a bridge and flows on the other side. It includes cafeteria, children play areas with hilly landscaped areas.

Al Sadd is a dense urban node with a wide spectrum of multi-use apartment buildings, combination retail/dwelling units, shops, supermarkets, restaurants, cafés and two medium-sized shopping malls. It has heavy pedestrian and vehicular movement around it, as Mirqab Al Naser Street, one of the two main spines of the area is lined with numerous shops and commercial outlets. Situated nearby Al Asmakh Mall (a glazed three level modern shopping center), near the main artery of Al Sadd Street. The architectural character of the area is more or less dull from the 70's and the 80's; hence many owners are demolishing these buildings to build new ones with higher storeys and more attractive facades.

In the end of 2014, Al Wakrah Souq opened in the South periphery of Doha. The market, which is behind the Al Wakrah petrol station, next to the port, stretches some 3km along the town's coast, with a Corniche for people to walk along. Several shops and restaurants have opened to the public. There is also a mosque and ample parking. It was set to look like a cross between Qatar's original Souq Waqif and Katara Cultural Village.

Al Khor Park, one of Qatar's oldest and largest parks, reopened to the public in February 2016, after being closed for renovations since 2010. The 240,000 square meter park lies west of Al Khor municipality, and has undergone a QR250 million renovation. The area now includes an aviary, a waterfall, a miniature golf course and a battery-operated train. There is also a children's play area, a basketball court, amphitheater, skating area and a museum. In terms of facilities, there are small cafeterias, water fountains, a restaurant, a mosque, and a parking lot with 700 spaces.

Space (Name and Place)	Spatial Typology Describing the spatial environment – Architecture/Urban					Accessibility Contact around the space/parking		People People Typologies visiting the space				Activities Nature and Type of Activities									
	Traditional Styled Architecture	No Colours Architecture	Pedestrian Paths	Green Spaces	Facilities Development	Landmarks (Statues, Fountains)	Dense Urban Scale	Limited Parking Availability	Ease of Identification	High - Mod. Income	Low - Med. Income	Family	Single/Adults	Majority of Qatari	Majority of Expat	Residential	Commercial (Shops)	Leisure and Entertainment (Cafe, Restaurants, Art)	Family/Children Play Area	Sport Activities	Walking and Running
Katara Cultural Village	•		•	•			•	•	•	•	•	•	•	•			•	•	•	•	•
The Pearl			•	•			•	•	•	•	•	•	•	•	•	•	•				•
Sheraton Park			•	•					•	•	•			•			•	•	•	•	•
Comiche			•			•	•		•	•	•			•			•	•	•	•	•
MIA Park			•	•		•			•	•		•					•		•	•	•
Al Bidda Park	•			•		•				•	•			•				•	•	•	•
Souq Waqif Area	•		•		•		•	•	•	•				•	•	•	•				•
Aspire/Villaggio			•	•				•			•			•	•				•	•	•
Mshereb	•					•	•			•		•				•	•				
Al Sudd		•				•						•		•		•	•				
Al Wakr Souq	•		•				•	•	•	•		•		•		•	•				
Al Kher Park			•	•					•	•	•			•					•	•	•

Figure 104. Summary of the characteristics of Doha’s main open spaces.

The realization of new open public spaces, and among them the implementation of sports areas, is essential for the good development of Doha’s urban form and the quality of life of its citizens. This growing demand within Qatar for more facilities for the sports and events industry is even more significant considering the high rate of obesity and diabetes among youth in the Arabian Peninsula (Amara, 2005), and it is underlined by the Qatar National Vision 2030, which stresses the importance of good health habits, drawing actions to encourage local residents to lead a more active lifestyle (QSDP, 2009). Doha has to address this lack, but the new spaces need to be physically integrated with the city, avoiding form of isolation, segregation and over regulation. Finally, open spaces should lead to societal

development, for example being the occasion of encounter and exchange, but also encouraging sport for all and enhancing the overall wellbeing of its inhabitants (Amara, 2005).

The leverage of major sports events, as the upcoming 2022 World Cup, can contribute to partially solve the lack of public spaces and contribute to improve the overall well being of Doha's residents.

5. Mega-events and *sportification* in Doha: from the 2006 Asian Games to the 2022 World Cup

The interest in hosting events is growing rapidly, and Gulf countries as Qatar, United Arab Emirates, Bahrain, are no exceptions. For example, Doha, the capital city of Qatar, staged twenty-two international sporting events only in 2013 (Table 23). More, Doha is characterized by a phenomenon of massive *sportification* (Amara, 2005), expressed through the birth of sports TV channels (Al Jazeera Sports), the increasing migration flows of international athletes and trainers towards the region, and the significant rise in the number of international sport events held (e.g.: Doha Moto GP, Doha Tennis ATP Tournament, and many others. See Table 24). The process of transforming itself into an international sporting hub started with the Asian Games in 2006. Since then, many international tournaments have been staged and will be hosted up to the 2022 Football World Cup. Additionally, sport has a key role in the 2030 Qatar National Vision, in which sports tourism is indicated as an example of economy diversification from the oil-based model. Moreover, sport is considered a

way for improving the quality of life of its inhabitants, by encouraging residents to lead a more active lifestyle (QSDP, 2009).

Table 23. Number of international sports events held in Doha in 2013 (Data source: OBG 2014)

International Sports Events in Doha and its vicinity (2013)	
Racket Sports	5
Swimming and Sailing	5
Equestrian	2
Team Sports	2
Cycling	3
Individual Sports and Athletics	5

Table 24. Major Sports Events in Doha since 2005 (Data Source: QOC, 2015)

International Sports Events in Doha and its immediate vicinity	
Recurring Events	Landmark Events
Qatar ExxonMobil – ATP Tennis World Tour	West Asian Games 2005
FIG Artistic Gymnastics World Challenge Cup	Asian Games 2006
FEI Equestrian Championships	FIVB Men’s Club World Volleyball Championship 2009
FIE Fencing Grand Prix	FINA Diving World Championships 2009
Grand Prix of Qatar MotoGP	IAAF World Indoor Championships 2010
Eni FIM Superbike World Championship	Gymnasiade 2010
FINA Swimming World Cup	Arab Games 2011
IAAF Diamond League	Asian Cup Football Championships 2011
Commercial bank Qatar Masters	FIVB Volleyball Club World Championships 2009,10,11 and 2012
WTA Tennis Open and Championships	2014 FINA World Swimming Championships (25m)
FIBA 3x3 All Stars	IHF Men’s Handball World Championship 2015
WSF Squash Championships	World Boxing Championship 2015

Massive planning effort and new venues and infrastructure have been built to host past events. One example is the Aspire Zone, Doha sports city, which was realized on occasion of the 2006 Asian Games. Within its 2.31 km² it includes the largest sports dome in the world, an aquatic center, a sports medicine and orthopedic hospital, and other facilities. However, the main planning effort still has to come and will be carried out for the infrastructure needed to host the World Cup. Local municipalities and government have modified already existing construction plans to the needs of the football tournament, and with this aim, the Qatar 2022 Supreme Committee was created in 2011. This committee is in charge of managing all the facilities and infrastructure related to FIFA 2022: new stadia, but also training facilities and other non-competition sites. Qatar Government estimates that the country will invest more than 4 billion US \$ for the implementation of sports facilities and related costs to the tournament. In addition, Qatar is planning to spend over 140 billion US \$ in mobility and transportation infrastructure. Examples are a new port, the new metro systems, and the recently opened Hamad International Airport (OBG, 2014). Qatar generally and Doha specifically are now facing big challenges to meet their target, since the construction sector is experiencing a vast and rapid expansion. This construction boom is gaining global scrutiny in the run-up to the 2022 football tournament. In addition to this ambitious program, bodies and agencies that can design and implement mega infrastructure projects are limited, and along with construction workers, it will be difficult to reach the number of planners, architects, and engineers required by the implementation of these projects (OBG, 2014). All these issues open new scenarios and challenges for Doha planning system.

5.1 The Aspire Zone: Doha's sports city

Sports-cities are the main legacies of sports events, and Doha does not contradict this rule, being the Aspire Zone the major outcome of 2006 Asian Games. Doha Sports City, also known as the Aspire Zone, is a sport complex sited on the West side of Doha. In 2003, the area was developed as an international sports hub while one year after the 'Aspire' Academy for Sports Excellence, an educational center for the development of sporting champions, opened. The complex contains several sports facilities, the majority realized for the 2006 Asian Games (AZF, 2015 October 28). There are no official data on its costs, but it is estimated that the main part of the \$2.8 billion budget for the 2006 Asian Games was used for its development and construction (Smith, 2010). The area, now home of many national and international sports events, also played an important role in the award of the 2022 World Cup, which was implemented by the Qatar Football Association. The Aspire Zone is located peripherally to the city, about 8 km far from downtown, and it covers a surface of 2.31 km² (Smith, 2010). This was the original site of Khalifa Olympic Stadium, a venue built in 1976 with a capacity of 20,000 seats, and then refurbished and converted to 40,000 seats for the Games. The overall shape of the area is designed taking inspiration from the desert: the car park, for example, has the pattern of palm fronds. Doha sports city was initially founded in 2003, but only in 2006 it turned its name into the Aspire Zone, to express the aim of producing excellent athletes of the future, and to explicit its vision for the year 2020: "By 2020, we will be The Reference in Sports Excellence Worldwide" (AZF, 2015 October 28). The area is centered around The Torch, a landmark tower designed by the Turkish architect Hadi Seenan. The tower, now a five-star hotel with a revolving restaurant on the top, is 330

meters high, and it was intended to host the Olympic Flame on its top. As shown in Table 25, other facilities include: the already mentioned Khalifa Stadium, Hamad Aquatic Centre, Aspetar (a sports medicine and orthopedic hospital), ‘Aspire’ (Doha Academy for Sports Excellence), and the Aspire Dome, which is the largest sports dome in the world, with its 250 meter free-span multipurpose sports facility composed of two hemispheres. The surrounding areas also include two hotels, a large public park, and two main shopping centers: the Villaggio and Hyatt Plaza (Adham, 2008; AZN, 2015 October 28; Gulf Construction, 2006; Smith, 2010).

Table 25. The key facilities of the Aspire Zone (Source: AZF, 2015 October 28)

The Aspire Zone	
Dimension	2.31 km ²
Location	8 km far from downtown, on the West side of Doha
Sports Facilities	Khalifa Stadium: the major stadium of Doha, with a capacity of 50,000 seats Hamad Aquatic Centre: set over five floors and presents extensive facilities for swimming, diving, synchronized swimming and water polo (two 50m swimming pools, one diving pool, one 25 m warm up pool and other facilities) Aspire Dome: the largest indoor multi-purpose dome in the world. The total seating capacity is 15,500 across thirteen separate multi-sport halls. Aspire Dome adjoins ‘Aspire Academy for Sports Excellence’. Warm Up Track “Ladies Sports Hall”: it provides indoor facilities for court sports as volleyball, basketball, and handball. It is a multi-functional arena with a capacity of 2,500 seats
Retail Facilities	Villaggio Mall: Mall area of 125 000 sq. m and 3,300 car parking slots. Hyatt Plaza Mall: 38,000 sq. m, the mall offers over 74 retail and food outlets
Tourism Facilities	The Torch Hotel Grand Heritage Hotel
Other Facilities	Aspire Park is 88 hectares wide, and it is located within the Aspire Zone precinct. It offers running tracks, large open spaces, an internal lake, one café “Aspire Academy for Sports Excellence” Parking Areas
Estimated Cost	The main part of \$2.8 billion budget for 2006 Asian Games (Smith, 2010).

According to its main functions, the Aspire Zone can be divided into three different sections (Figure 105): sport and health, shopping, and entertainment. The first one includes all the sports venue, the Aspetar hospital, the academy and the anti-doping center; the second one is mainly composed by Villaggio and Hyatt Plaza: two recently built shopping malls where people go for shopping, entertainment and social interaction. The third section includes the two hotels and the Aspire Park, a vast green area, which includes a lake and facilities for outdoor and open-air activities.



Figure 105. Plan of the Aspire Zone divided into sports, retail, and entertainment areas, showing the facilities in each section (Source: Adapted by the author from Google Maps).

5.2 The Aspire Zone: impacts on the City

The aim of this section is to analyze if the implementation of the Aspire Zone contributed positively to the physical and social development of Doha. The construction of sports venues that accompany the stage of mega events always leave a legacy, and the success of these legacies depend on the choices made in sports venues. For examples, Smith (2012) suggests that some host cities decide to invest in new facilities while others prefer to utilize temporary or existing venues and simply meet the minimum requirements imposed by organizer committees and right holders. An additional choice is, at the conclusion of the event, to convert sports facilities to other functions deemed more useful for the city, or to downscale them. Finally, the last factor, to consider, is the geographical location of the venues: sport buildings can be placed in the city center or the suburb areas, in one single main site, or dispersed and spread in more locations (Smith, 2012). Each of these options will influence the legacy model, but regardless of the choice, the main goal should remain to ensure the delivery of a self-sufficient and integrated area, avoiding superfluous and expensive, under-utilized structures. According to Smith (2012), there are two main types of urban regeneration led by events: one brings to much-localized forms of urban development, and the focus is limited on event venues and their precincts. This is the case of the Aspire Zone. The second type leads to wider forms of urban regeneration, and it happens when the development of event venues is accompanied by larger redevelopment projects. This is the example of the 1992 Olympics in Barcelona, where the local government mainly used existing sports venues and polarized its interventions on road infrastructure and public spaces. Moreover, Olympic redevelopment projects were assisted by failed bids and other smaller events,

and a comprehensive redevelopment strategy was secured at least ten years before the Games, when a General Metropolitan Plan was approved (Monclùs, 2003).

In the case of Doha, its sports-themed district is developed in one main site at the periphery of the city, 8 km far from downtown (Figure 106). One main problem associated with suburban concentrated locations is that they allow the creation of islands of regeneration, or bubbles (Carrière & Demaziere, 2002): event venues are physically separated and detached from the rest of the city, and they become an obstacle to the integration they were asked to implement. The main reason for that is the lack of a comprehensive master plan: these areas are designed without any consideration of their interaction with the city and on how they will affect the surroundings. The design effort is devoted exclusively to a specific area, without examining the impact on the whole city.



Figure 106. Aspire Zone and downtown Doha (Source: Adapted by the author from Google Maps).

Contrary to Barcelona strategy, Doha's government did not plan any intervention on road infrastructure and public spaces, but focused mainly on developing the area dedicated to the Games. Therefore, this phenomenon of the urban polarization is well represented by the Aspire Zone. Doha, like many other Gulf cities, is made of urban clusters (Salama et al., 2013). Due to its rapid growth and expansion, to the lack of a strategic vision and a comprehensive master plan, the city has developed as a set of themed islands, and its urban fabric is fragmented and dispersed. Figure 107 clearly shows the massive zoning of Doha, and how the city is developed in themed areas. In addition to Aspire, the most important 'islands' are: Education City, with all university campuses; Souq Waqif, an area dedicated to leisure; Katara, the cultural district; West Bay, where ministries and business have their siege. This phenomenon of polarization or clustering is also accompanied by some functional issues which are emblematic of Gulf cities and Doha: scarcity in parking areas and alternative streets, lack of public transportation, and the consequential increase in traffic, congestion, pollution. In this context of pervasive clustering, the local government did not exploit the opportunity of the Asian Games to create a beneficial relationship between this area and the overall urban fabric. The Aspire Zone exacerbates the disaggregation of the city, being an additional 'island within islands', poorly integrated into the overall urban structure. To conclude, many distinguished examples (i.e. the 1984 Olympics in Los Angeles, the 1992 Games in Barcelona) showed that to achieve good results in term of physical integration, post-event use has to be taken into account at the very first stages of the planning process, and the design of sports facilities needs to be defined according to a long-term use. On the contrary, in spite of the commitment to creating symbolic and long-term legacies (Smith, 2010),

the Qatari regime did not consider the potential urban regeneration offered by the Games and by other events hosted in the following years, as the 2015 Handball World Cup. Doha failed in not taking the opportunity to exploit the Asian Games to develop a comprehensive, strategic, city level, long-term plan of integration with local communities. So, even if Aspire Zone provides a variety of functions and some of its facilities attract different types of users, the area appears as an episodic intervention, which did not exploit all its potential.



Figure 107. The development of Doha, fragmented in urban clusters (Source: Adapted by the author from Google Maps).

Shifting the analysis from a city level to a lower scale, a main issue is related to the realization of new, iconic sports venues, the so-called *white elephants*: costly, inefficient, under-used structures which are difficult to be justified and maintained. White elephants are often the results of bad cost-benefit analysis or external pressure by events committees and stakeholders, or simply due to political reasons (Smith, 2012). Usually these iconic buildings are created with the aim of showing and impressing the world with their *grandeur* and magnificence. However, with the ambition of rebranding cities by using place marketing strategies, hosting cities end in creating additional *placelessness* spaces (Relph, 1976): superfluous and unused lands of desolation. Using existing structures, flexible or temporary venues, and most of all securing long-term legacies from the early stage of the planning process can contribute to avoiding this spread of placelessness.

Considering Aspire, the zone is located in an area already dedicated to sport, and new buildings (i.e.: The Torch, Academy for Sports Excellence) are associated with the refurbishment of already existing structures (i.e.: Khalifa Stadium, Hamad Aquatic Centre). The area provides a plurality of different functions: sport, but also retail, and entertainment. To illustrate, the Villaggio, one of the most loved and frequented mall in Doha, is just beside Khalifa Stadium and the Aspire Dome (Figure 4). Further, the Aspire Park, a green area of 88 hectares and considered the largest public park in Doha (Salama & Wiedmann, 2013), is just adjacent the Villaggio mall and the sports complex. The park is highly visited by people from different ethnic and social backgrounds, from singles and families, and even Qatari nationals, who habitually prefer to gather in private residences, visit it frequently. Moreover, if some

structures, as Khalifa Stadium, are underutilized, other facilities as the Hamad Aquatic Centre are widely used by residents, and many events, along with activities for families and kids, are organized in the open spaces around the venues. To conclude, placelessness and white elephants are partially avoided thanks to the plurality of activities offered, and, physical and social integration of the area is not prevented.

6. Conclusions

Doha is a young, rich and booming city characterized by rapid urbanization and fast growth, but also fragmentation and sprawl (Rizzo, 2013; Salama & Wiedmann, 2013). This physical and social fragmentation is exacerbated by its planning practice, and if one analyzes the current master planning efforts, they clearly show the government's inability to manage its rapid urban development (Adham, 2008; Salama & Azzali, 2015). However, mega sports events, and the regeneration and transformation effects led by them, can contribute to reduce the fragmentation of the city both at a planning and at an urban morphology level. Thanks to the stage of several mega sport events, from the 2006 Asian Games up to the 2022 World Cup, Doha has an unrepeatable occasion to mitigate this fragmentation, transforming itself into a more vibrant and livable city. From a planning point of view, staging mega events will be beneficial to Doha to improve its planning capacity, as the city can learn from previous experiences, through a knowledge transfer process. This city-to-city learning is usually facilitated by the organizing committees, which give bidding cities access to databases containing best practices and technical documents, allowing and encouraging an emulation of the successful models. Also, the elite planning

companies and international construction firms attracted to Doha by the commercial opportunities offered by those events will also spur the knowledge transfer effect.

On the other hand, from a regeneration and morphological development point of view, Doha is already trying to mitigate its fragmentation. The main focus of the 2006 Asian Games was the realization of the Aspire Zone, resulting in an exacerbation of the clustering effect inside Doha. Contrary, besides the required sports facilities, for the 2022 FIFA World Cup, the city is implementing a wide transport and mix-used infrastructure: a new port, new roadways, and a wide metro scheme, the Doha Metro System, composed of four metro lines and one LRS line. Also, Doha is paying attention to the creation of sustainable developments (QSDP, 2009) and new residential and mix-used schemes as the Musheireb or Lusail City projects.

The next Chapter of this dissertation will focus on the analysis of the 2022 World Cup, and on Qatar's effort to leverage this event to trigger important positive urban change.

CHAPTER 9. THE 2022 WORLD CUP: LIMITS AND OPPORTUNITIES TO IMPROVE DOHA'S PUBLIC SPACES AND BUILT ENVIRONMENT

1. Introduction

This Chapter continues and ends the investigation of the city of Doha that was started in the previous section. After analyzing its planning and transportation systems, and the 2006 Asian Games, the research focuses now on the strategy underneath the hosting of the 2022 World Cup. The Chapter starts by a review and evaluation of the bid process, continues with an analysis of the eight stadiums' precincts involved in the tournament, and concludes with the application of the evaluation framework presented in Chapter 7.

2. The 2022 World Cup: the bid process: promises and planned infrastructure

2.1 The bid process

For the editions of 2010 and 2014 World Cups, FIFA utilized a continental rotation policy to determine the hosting country, which consisted in the rotation of the six world football confederations, corresponding more or less to the six continents. Thanks to this policy, South Africa was awarded the 2010 edition, while Brazil hosted the 2014 tournament. However, in the end of 2007, FIFA ended the rotation system. In addition, with effect from the 2018 tournament, it was decided that countries that are members of the same confederation of one of the last two editions were not

eligible, excluding in this way any country from Africa for the 2018 and countries from South America for both the 2018 and 2022 tournaments.

The bidding process for the 2018 and 2022 editions officially started in March 2009 (Table 26). Thirteen countries grouped in eleven bids participated. Two of them applied just for the 2022 edition, one was withdrawn and another one rejected, while the last seven nations applied for both the 2018 and 2022 World Cups. Over the course of the evaluation for the 2018 tournament, all the non-European applications were withdrawn, with the result of excluding the European bids for the 2022 tournament, leaving the USA, South Korea, Japan, Australia, and Qatar to bid for the hosting. A multiple round exhaustive ballot system was chosen to select the 2018 and 2022 hosting countries. All eligible members of the FIFA Executive Committee had one vote. The candidate country that received the fewest votes in each round was eliminated until the majority chose a single candidate. Finally, on December 2 2010, Russia and Qatar were awarded the 2018 and 2022 World Cups. However, the bidding process for these World Cups involved several controversies. Two members of the FIFA Executive Committee had their voting rights suspended following allegations that they would accept money in exchange for votes. More allegations of vote buying arose after Qatar's win was announced (FIFA, 2010).

Table 26. Key Dates of Qatar Bidding Process (Data from FIFA, 2010)

March, 16 th 2009	Registration of the Qatar's Bid for the 2022 World Cup
September, 18 th 2009	The Bid Committee is established
December, 11 th 2009	The Bidding Agreement is signed
May, 14 th 2010	Submission of all the Bidding Documents to FIFA
13rd-17 th September, 2010	FIFA inspection visit to Qatar
December, 2 nd 2010	Qatar awards the hosting of the 2022 World Cup

Qatar is the first Arab country to be awarded a FIFA World Cup. Former president of FIFA Sepp Blatter endorsed the idea of having a World Cup in the MENA region, and, in April 2010, said "The Arabic world deserves a World Cup. They have 22 countries and have not had any opportunity to organize the tournament". He also added "When I was first in Qatar there were 400,000 people here and now there are 1.6 million. In terms of infrastructure, when you are able to organize the Asian Games (in 2006) with more than 30 events for men and women, then that is not in question" (Qatar Gulf News, 2010). Nonetheless, just after the appointment, allegations of bribery and human rights issues, as long as some concerns about Qatar's harsh weather arose. Accusations of corruption have been made relating to how Qatar won the right to host the event.

The chief investigator Michael Garcia spent months carrying out the inquiry into allegations of corruption surrounding the decision to allow Qatar and Russia to host the 2018 and 2022 World Cups. In the end of 2014, FIFA declared that the investigation was concluded and published a summary report of Garcia's investigations that cleared Qatar. Following the publication, Mr. Garcia resigned in protest of FIFA's conduct, defining the published report as incomplete and erroneous (The Telegraph, 2014). Controversies about how Russia and Qatar were awarded the 2018 and 2022 World Cups continued, and, one year later, in an interview with a Swiss publication, the *Sonntagszeitung* weekly, FIFA compliance chief Domenico Scala said "should evidence be present that the awarding to Qatar and Russia only came about with bought votes, then the awarding could be void", alluding that both Russia and Qatar could lose the right to host the 2018 and 2022 World Cup events if

evidence is presented that bribes bought the votes to award their bids (CNN, 2015). Regarding the weather conditions, the tournament is usually held during the summer, in June and July, when the average temperature in Qatar exceeds 40 °C. The first response by Qatar was to build controlled temperature stadiums, and to use cooling technology to address the problem. However, in 2015 it was announced that the World Cup will be played in a reduced timeframe of around twenty-eight days and be held in late November and December, with the final match being held on December 18th 2022, which is Qatar National Day.

2.2 The evaluation of the bid book and the role of the Supreme Committee for Delivery & Legacy

An analysis of the bid book allows understanding the country's legacy strategy. First of all, the bid's concept tries to be in line with 2030 Qatar National Vision, the national comprehensive blueprint. For example, the bid book focused strongly on the development of new transport and infrastructure. Indeed, at the time of writing, four metro lines are under construction and planned to be partially ready for 2019. Additional infrastructure included and promised in the bid book were the new airport, Hamad International Airport, opened in mid 2014, a new port, opened in 2017, and an overall improvement of roads condition.

The bid book also promised that social and human development initiatives would be carried out, aiming at better the human condition through local and global football-based initiatives. The bid book committed to develop initiatives related to the development of football facilities and opportunities for women, people with

special needs and expatriates as well as a health campaign to raise awareness of nutrition and the adverse effects of a sedentary lifestyle. Another characterizing trait of the 2022 World Cup is the compactness of the event. In fact, the 2022 World Cup will be the most compact tournament ever. All stadiums, sports venues and event facilities will be concentrated within a radius of 50 kilometers. Mainly, all the stadiums and event infrastructure will be in Doha, the capital city, and its immediate surroundings. In terms of legacy, the bid showed a strong commitment for achieving a carbon-neutral World Cup, especially through the utilization of environmentally friendly cooling technologies. Although at the time of writing there are no clear plans made official, the bid also promised that, after the event, upper tiers and modular sections of the stadiums would be used to construct stadiums in developing countries. The bid book proposed twelve stadiums, three of them renovated, and nine newly constructed; however, at the end of 2015, the overall number was reduced to eight. Regarding costs and expenditures, a stadium construction and renovation budget of approximately USD 3 billion has been projected (FIFA, 2010).

In April 2011, the Qatar 2022 Supreme Committee (SC) was founded to manage and delivery the event. The Committee turned its name to Supreme Committee for Delivery & Legacy in January 2014, to stress the commitment of the country to legacy and sustainability, and to separate the roles of delivery and legacy from the tournament operations and hosting experience. The Supreme Committee for Delivery & Legacy is tasked with delivering proposed tournament venues and projects for the 2022 competition, while ensuring that its preparations align with Qatar's other development imperatives, as described in the Qatar National Vision

2030 and the National Development Strategy 2011-2016. On the contrary, the Local Organizing Committee (LOC) is the event organizer, and will take over responsibility for event planning, promotion and marketing, as well as operations and all related tournament duties (SC, 2016a).

3. Analysis of the stadiums and precincts planned for the 2022 World Cup

Differently from what affirmed in the bid book, where 12 stadiums were proposed, Qatar is currently building only eight stadiums (Figure 108), which is the minimum number required by FIFA to host a tournament of 32 teams. Five stadiums (Qatar Foundation, Al Khor, Al Ryyan, Al Wakrah, and Khalifa International Stadium) are currently under construction and all are scheduled to be completed by 2020. Another three stadiums (Ras Abu Abboud, Lusail, and Al Thumama) are still in the preliminary stages at the time of writing. According to the Supreme Committee of Delivery and Legacy – SC (2016b), all the stadiums and their precincts will be environmentally friendly, targeting LEED and GSAS 4 Star certifications. In addition, the majority of them will be served by the new public transport system that is under construction. According to the bid book, after the end of the World Cup, the upper tiers of at least six stadiums will be dismantled and donated to developing nations, in order to provide them with the means to build new venues. Also, according to SC, the stadiums will be provided with cooling technologies that will ensure to be utilized all year-round, regardless of outside temperature and weather conditions.

The following section will present the eight stadiums and their precincts'. Data were collected through site visits and interviews with experts, performed between September and December 2016, and from websites and newspaper articles. The site visits allowed gaining awareness on the stadiums' precincts and a better understanding of the context in which the venues are located in terms of services, transport system, and future development. At the same time, five interviews were performed with experts in the field (Table 27). The interviews followed the same structure utilized for the analysis of the contemporary cases, and they covered three main areas: a personal definition of legacy; best and worst practices, but also pitfalls and achievements; personal opinion on how different hosting cities (i.e. developing vs. developed cities) and different sport events (i.e. Olympics vs. World Cups) can achieve/promote beneficial long-lasting and sustainable legacies. The same interview guide was utilized during all the interviews (the complete list of questions is available in Appendix B: Tool 2 - Interview Guide). However, it was extremely difficult to recruit experts available to be interviewed. Indeed, the majority of the experts from private sector or event governing bodies replied to my invitation that they were not allowed to be interviewed until the end of the preparation of the venues, as they signed strict confidentiality agreements, while others, for the same reason, could not reply to some of the questions posed.

Table 27. List of Interviews in Doha

Number	When	Category
1	October 3, 2016 - 11-12 A.M.	Event governing body
2	October 19, 2016 - 14-15 P.M.	Event governing body
3	October 20, 2016 – 17-18 P.M. (Skype)	Academia
4	October 24, 2016 - 10-11 A.M.	Event governing body
5	November 8, 2016 – 10-11 A.M.	Private sector (Architect)



Figure 108. The location of the eight planned stadiums in Doha.

3.1 Lusail stadium

Lusail is a new development that is under construction in the North of Doha, near Al Qutaifiya bay, and it is designed to accommodate between 200,000 and

250,000 inhabitants in 35 km². This neighborhood will host residential areas, two marinas, seaside resorts located on offshore islands, shopping centers, and other luxury activities. The red metro line and four lines of light rails will reach the neighborhood. The company under state control Qatari Diar Real Estate Investment is in charge of the works, and Lusail is planned around mixed-use developments (Figure 109) with the aim of creating integration, diversity, and sustainability (Lusail City, 2016). Not far from Lusail, there is the international circuit of Losail that hosts every year one round of MotoGP, a multi-sports complex, built on occasion of the 2015 handball world cup, and a golf course.



Figure 109. Lusail City.

The stadium, built from scratch, will have a capacity of 80,000 and is planned to host the opening and closing ceremonies as well as the final match. It is located in the middle of Lusail development (Figure 110 and 111). Foster and Partners are in charge of the design of the precinct, although the actual design has not yet been finalized. Works were supposed to start in December 2016 but they have been postponed. Legacy plans for the venue are also unknown at the time of writing (February 2017).



Figure 110. The under construction area of Lusail.



Figure 111. The Lusail Master Plan (Source: Lusail website).

3.2 Al Bayt stadium, Al Khor

Al Khor is a small coastal town located around 40 km north of Doha (Figures 112 and 113). Its main vocation is to serve as a residential area for medium and low-income laborers. Its population is about 202,000 (Table 28), with some of 168,000 people living in labor camps and 34,000 residents in households.

Table 28. Al Wakrah Population (Source: Ministry of Development Planning and Statistics (2015))

Total	202,031
Female population	21,026
Male population	168,000
Labor camps	218,922
Households	80,115



Figure 112. Al Khor from Al Khor Coastal Road.



Figure 113. Aerial view of Al Khor (Adapted from Google Earth).

The stadium, new, will have a capacity of 60,000 seats, reduced to 38,000 in the legacy mode (Figures 114 and 115), and will host matches up to the semi-finals. The venue is delivered by the Aspire Zone Foundation, and takes the name of ‘bayt al sha’ar’, tents historically used by nomadic peoples in Qatar and the Gulf region. According to SC (2016b), the venue has a modular structure. Its upper tier will be

made of removable seats, and, like a true nomad's tent, it will be 'portable'. After the tournament, the upper tier will be utilized to build another stadium in countries around the world that lack adequate sporting infrastructure. The stadium will be equipped with a retractable roof, that, similarly to the one used at Wimbledon's Centre Court, will be able to close completely in 20 minutes. In the legacy mode, in the upper tier, the venue will host a hotel along with a branch of Aspetar, the renowned Qatari sports medicine hospital, while exhibition halls, restaurants and other amenities, will be open for public use in the stadium's lower level and basement. The precinct is aimed to become a center of community life, with parks and open spaces. Dar Al-Handasah is the design consultant, while the construction supervision is by KEO International Consultants. The project manager is the Italian firm Salini Impregilo Group, which has a joint venture with Qatar-based Galfar Al Misnad and the Italian firm Comical, signed a QR 3.11 billion (€770 million) contract for the construction, operation and maintenance of the venue (The Supreme Committee for Delivery and Legacy, 2016c).



Figure 114. Works at Al Khor stadium.



Figure 115. Aerial view of Al Khor stadium (Adapted from Google Earth).

3.3 Al Thumama Stadium

Al Thumama is a residential neighborhood located in the southern part of Doha between E-ring and F-ring roads (Figure 116, 117, 118, and 119). It has an overall dimension of 7.0 km² and a population of 21,367 residents (Ministry of Development Planning and Statistics, 2015). The stadium, a new venue of 40,000 seats, will be located between E-Ring and F-Ring Roads, just behind the church complex and the Industrial Area, in an area of 515,400 sq. meters that already hosts the Qatar Football Association Technical Committee and four training pitches. The area will not be reached by any of the three metro lines under construction. This is one of the last three stadiums announced in April 2006. Although at the time of writing plans about the design and the legacy mode are not finalized yet, the Arab Engineering Bureau (AEB), the oldest architectural and engineering consulting firm in Qatar, led by architect Ibrahim Jaidah, will be the main design consultant (Doha News, 2016a). The Supreme Committee for Delivery and Legacy has also assured that local residents will be involved in the long-term legacy plan of the stadium, and that meetings with residents have already taken place (Interview 1).



Figure 116. the location of Al Thumama Stadium in Doha (Source: adapted from Google Earth).



Figure 117. The surroundings of Al Thumama Stadium (Source: adapted from Google Earth).



Figure 118. Al Thumama Neighborhood.



Figure 119. The area of Al Thumama Stadium.

3.4 Al Wakrah stadium

Al Wakrah is a small town located 15 km South of the center of Doha. As Doha, it was originally a small fishing and pearling village while has currently an overall population of around 300,000 residents (Ministry of Development Planning and Statistics, 2015, and Table 29), although about 220,000 people out of this number live in labor camps, and only 80,000 live in households in the city Al Wakrah. The red metro line, which is currently under contraction, will serve the town, with a stop located in the North of the city (Figure 120 and 121). Al Wakrah's main vocation is to serve as a residential area for medium and low-income laborers, and, in this sense, many services have recently opened or will open soon (hospital, schools, malls, a souq,).

Table 29. Al Wakrah Population (Source: Ministry of Development Planning and Statistics, 2015)

Total	299,037
Female population	50,937
Male population	248,103
Labor camps	218,922
Households	80,115

The stadium is a new venue in the west of the town, around 7 km far from the metro stop on the red line. It stands near the main hospital and schools, and the new Ezdan Mall (Figure 122 and 123). Around it, in the western and eastern sides, few residential neighborhoods are under construction. The capacity for the World Cup will be 40,000 seats, reduced to 20,000 in the legacy mode.



Figure 120. The under construction Al Wakrah metro stop on the red line.



Figure 121. Aerial view of Al Wakrah, with metro stop and stadium's precincts.

According to the Supreme Committee of Delivery and Legacy (2016b), the upper tier will be disassembled and distributed to developing nations that lack sporting infrastructure. The Al Wakrah Stadium is supposed to be completed by the fourth quarter of 2018. In the legacy mode, the venue will become the new home of Al Wakrah Sports Club. In addition, the legacy plans include the stadium facilities to serve as a social hub, and the precinct surrounding the venue will strengthen the bonds of community in Al Wakrah, and offer outdoor spaces and a new sports center. Community facilities should include a mosque, a park, hotel, school, wedding hall, and shops. The stadium was designed by AECOM with Zaha Hadid Architects, while KEO International Consultants is the Project Manager. The Main Contractor is MIDMAC, which is a joint venture with PORR Qatar and Six Construction firms.



Figure 122. Aerial view of Al Wakrah stadium.



Figure 123. Works at the stadium.

3.5 Ras Abu Abboud stadium

Ras Abu Abboud is located in the southeast of Doha's city center, near to the old airport and the new Hamad International Airport (Figure 124). It has a waterfront location that is visible from West Bay, the new business district of Doha. The site covers an area of about 1 km² and has a population of 1,731 residents (Ministry of Development Planning and Statistics, 2015). According to recent plans, this area will be redeveloped into a new urban neighborhood, and the under construction Gold metro line will serve it. However, the site has a strong touristic vocation, as it stands close to the Museum of Islamic Art, the under construction National Museum, and some hotels. In addition, Ras Abu Abboud is also close to the panoramic street Al Corniche, a seven-kilometer coastal road, Souq Waqif, and the old port, that will be reconverted into a touristic harbor.



Figure 124. Aerial view of Ras Abu Abboud.

Regarding the stadium (Figure 125), it will be a new venue, standing over a 450,000 sq. m. site. It will have a capacity of 40,000 seats and will include 6,000 car parks during the tournament and 2,000 in legacy mode. Although official plans are not revealed yet, the legacy proposals include transforming the venue site into a mixed-use urban neighborhood after the tournament, providing housing for Qatar's rapidly expanding population. Populous was chosen as the design consultant (Interview 3).



Figure 125. The precinct of Ras Abu Abboud stadium.

3.6 The Aspire Zone: Khalifa International stadium

The Aspire Zone, Doha's sports city, is located peripherally to the city, about 8 km far from downtown, and it covers a surface of 2.31 km² (Smith, 2010). This was the original site of Khalifa Olympic Stadium, a venue built in 1976 with a capacity of 20,000 seats. The overall shape of the area is designed taking inspiration from the desert: the car park, for example, has the pattern of palm fronds. The area is centered around The Torch, a landmark tower designed by the Turkish architect Hadi Seenan. The tower, now a five-star hotel with a revolving restaurant on the top, is 330 meters high, and it was intended to host the Olympic Flame on its top. Other facilities include: Hamad Aquatic Centre, Aspetar (a sports medicine and orthopedic hospital), 'Aspire' (Doha Academy for Sports Excellence), and the Aspire Dome, which is the largest sports dome in the world, with its 250 meter free-span multipurpose sports

facility composed of two hemispheres. The surrounding areas also include two hotels, a large public park, and two main shopping centers: the Villaggio and Hyatt Plaza. The area will be served by the Gold metro lines with the stops Sports City and Al Aziziyah (see Figure 126 and 127). The stadium, Kahlifa International, is under refurbishment and will be upgraded to reach a capacity of 40,000 seats. The redevelopment is led by Aspire Zone Foundation, one of the Supreme Committee for Delivery and Legacy's key stakeholders. The Qatari contractor Midmac is constructing the stadium and its precinct with Six Construct Qatar, the local subsidiary of Belgian firm Besix; during the stadium and precinct's design phase, Projacs served as the project manager and Dar Al-Handasah as the design consultant. New facilities at the stadium will include also the 3-2-1 Qatar Olympic and Sports Museum. The vocation of the area is to be the main sports hub of the city and to attract other large-scale sporting events to Qatar. Indeed, in 2019, the stadium will be the host venue for the 2019 IAAF World Athletics Championships And Qatar has said it is determined to bid again to host to the 2028 Summer Olympics (Doha News, 2016b).



Figure 126. The Aspire Zone in Doha.



Figure 127. The facilities of the Aspire Zone.

3.7 Qatar Foundation stadium (Education City)

Education City (EC) is located in the west side of Doha, and it covers an area of around 14 km². EC hosts several educational facilities and branch campuses of some American and European universities (Figure 128). The vocation of the area is education and research. Qatar Foundation stadium will be located within the Education City southwest campus, and it will be served by the Green metro line (stop Education City). The venue will be built from scratch and is expected to be ready by the end of 2019. Full capacity will be of 40,000 seats, reduced to 25,000 in the legacy mode (Figure 129). Indeed, according to the Supreme Committee for Delivery and Legacy (2016), the seats of the modular upper tier will be used to build stadiums in developing countries. The venue's design will resemble a 'diamond in the desert' and will feature geometric patterns that appear to change color as the sun arcs across the sky. The project manager is ASTAD, the design consultant is FIA Fenwick Iribarren Architects, while a joint venture of four companies led by Cyprus-based contractor Joannou & Paraskevaides (J&P) will build the venue. After the tournament, the stadium precincts will include outdoor playing fields such as football and tennis courts as well as indoor sports, swimming centers and retail outlets, an aerobics and fitness center, a health clinic, and an indoor multipurpose pavilion. The stadium and its precinct will become a sport, social and leisure hub for Qatar Foundation (QF) and the local community.



Figure 128. Education City within Doha.



Figure 129. The area of Education City stadium.

3.8 Al Ryyann stadium

Situated near Dukhan Highway and the Mall of Qatar (Al Rayyan Gate – Al Seeij District), Al Rayyan stadium will be rebuilt on the former site of the Ahmed Bin

Ali stadium, recently deconstructed (Figure 130 and 131). The old venue was supposed to be refurbished for the World Cup, but it was demolished because it did not meet FIFA's technical requirements. The stadium will be finished by the end of 2019 and will be served by the Green metro line (stop Al Riffa). The capacity for the FIFA World Cup will be 40,000 seats, reduced to 21,000 after the event. Stadium's project manager is AECOM, while the design is by Ramboll. The main construction contract was awarded to a joint venture of Qatar-based Al Balagh Trading & Contracting and India's largest construction firm, Larsen & Toubro Ltd. Also, Al Rayyan Stadium is the first recycled stadium for Qatar 2022 world cup; the venue will be reconstructed on Ahmed Bin Ali Stadium site, with at least 90% of existing stadium materials recycled and reused. In the legacy mode, the stadium's precinct will include other sports facilities such as an athletics track, tennis courts, cycling and running tracks, cricket pitch, hockey pitch, football training area, aquatics center, as well as a skating park (the SC, 2016c).



Figure 130. Al Ryan and Doha's center.



Figure 131. The area of Al Ryan stadium.

4. The evaluation framework applied to the stadiums and precincts of Qatar 2022

The framework developed and presented in the previous chapter, derived from the site observations performed in London, Sochi, and Rio, and from the interviews with experts (see Chapter 7, dedicated to the comparative analysis of the case studies), is now applied to the context of Doha. The framework is composed by the following six main attributes, in the form of opposite terms (Figure 132): temporary vs. permanent; already existing vs. new infrastructure; integration vs. divergence; public vs. private; local needs vs. event needs; high vs. low responsiveness to unplanned or unintended events.

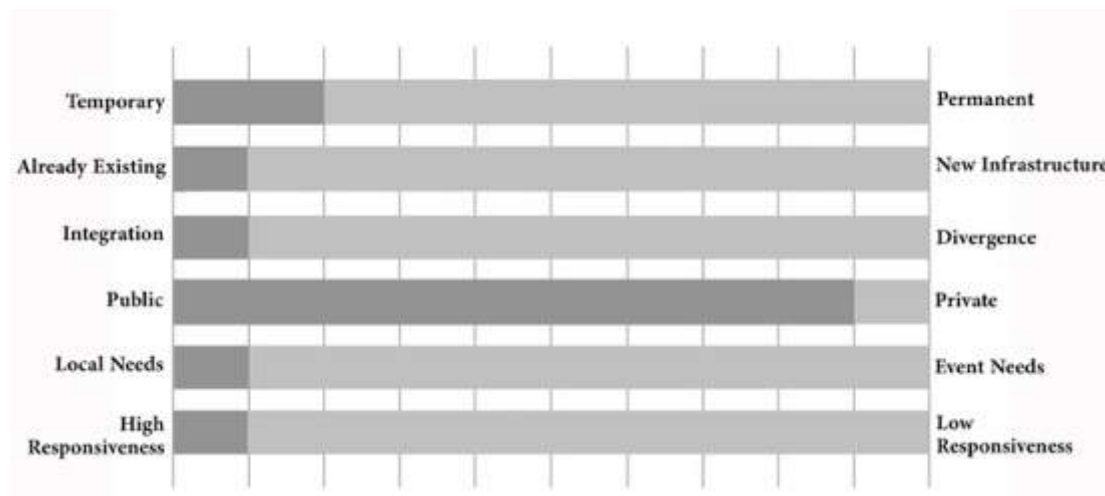


Figure 132. The framework for the appraisal of livable and sustainable events sites applied to the 2022 World Cup.

The following paragraphs present the framework and the attributes applied to Doha and the eight precincts of the 2022 World Cup.

4.1 Temporary vs. Permanent

A first element to consider when planning a major sport event site is the right balance between ephemeral and permanent components. In particular, temporary infrastructure is a solution that is not enough taken into account in event planning. Jürgen Müller, the head of planning and infrastructure at the 2022 World Cup and at FIFA, during the three-day World Stadium Congress, held in Doha in May 2016, stated that sports venues should take into account local needs, and that some requirements could be met and declared through temporary solutions. Indeed, he said, “Don’t build stadiums that (will) not (be) filled by your leagues or your teams. FIFA would like to avoid, by all means, white elephants” (Doha News, 2016c). However, Qatar has a small population (about 2,500,000 people, the majority of them living in Doha), and has already enough stadiums for its major league, the Qatar Stars league. Also, at the time of writing (December 2016), all the eight stadiums that are under construction for the 2022 World Cup are meant to be permanent, although for five of them (with the exclusion of Lusail, Ras Abu Abboud, and Khalifa International stadium), plans, in the legacy mode, include the removal of the upper tier seats. All the stadiums are designed as modular structure and should be downscaled to half of capacity after the tournament. In the bid book, it was also promised that those tiers and modular sections would be used to construct stadiums in developing countries. It is also said that venues’ precincts will be dedicated to sport and leisure, with hotels, shops, restaurants, and other activities that will be placed both inside and outside the stadiums. According to SC (2016b), the precincts will host schools, parks, and other mixed-used facilities according to local needs. Stadiums should also house Qatar residents in the event of a national emergency to serve as temporary accommodation,

as earthquakes or other natural disasters (Doha News, 2016d). These initiatives are meant to improve the number and the quality of open spaces and public services in Doha. However, the plans are vague and not yet finalized in the majority of the cases. There is no clue on how much the downscale of the stadiums will cost, and how long it will take to complete the process. There are also no precise indications on the use of the dismantled upper tiers and which countries should receive them. Especially for venues as the Lusail Stadium, which will have a capacity of 80,000 seats, detailed plans on the legacy mode are vital, as the country does not need such a huge infrastructure, and the risk that it becomes a white elephant is very high.

In addition to sport infrastructure, Qatar needs also to upgrade its touristic and hotel infrastructure. With a current number of 20,000 serviced apartments and hotel rooms available, Qatar needs to meet the FIFA requirement of 60,000 rooms before 2022. To overcome the absence of hotel rooms, the country is implementing wise initiatives as allowing residents to temporarily rent out their rooms through services such as Airbnb, utilizing cruise ships, and building temporary tent camps in the desert to accommodate tourists during the tournament (Doha News, 2016 e). Temporary solutions here seem wisely to prevail permanent ones.

4.2 Already existing vs. New Infrastructure

Very often mega sports events generate white elephants and underutilized venues. Being strongly related to the previous section, hosting cities should consider balancing accurately new and already existing infrastructure in their plans for the event, both regarding sports venues and city infrastructure (i.e. transport and

mobility). In the case of Qatar, with the exception of Khalifa International, which is under refurbishment to be upgraded to 40,000 seats, and Al Ryyan stadium, which however has been completely dismantled and will be rebuilt on the same site, all the other six planned venues are new and built from scratch. Three stadiums with a capacity of 40,000 seats each (Al Wakra, Al Thumana, and Ras Abu Abboud) will be located in the area of the new airport, within a radius of 15 km, and, with the exclusion of Al Khor, which is placed 30 km north of Doha, the average distance between two contiguous stadiums will be around 16 km (Table 30). For a country that already has enough venues for its major league and does not have a string football tradition, these numbers are impressive.

Table 30. Average Distance Between Contiguous Stadiums

	Distance
Al Wakrah – Al Thumama	15 km
Al Thumama – Ras Abu Abboud	10 km
Al Thumama – Khalifa International	15 km
Khalifa International – Qatar Foundation	10 km
Qatar Foundation – Al Ryyan	26 km
Qatar Foundation –Lusail	20 km
Average	16 km

In addition to the stadiums, Qatar is also building a massive supportive infrastructure for the tournament. First of all, improvements in the transport system are underway. Indeed, in May 2014, Hamad International, the new airport, opened, while the first phase of the new port is planned to open for mid-2017. In addition, three metro lines are under construction and will be ready before the beginning of the tournament, while roads will also be upgraded or newly built. Besides the transport system, the country is also boosting its tourists capacity with the construction of new

hotels and serviced apartments, to reach the number of 60,000 rooms that is required by FIFA, although in the bid book Qatar included plans to reach the number of 100,000 rooms (FIFA, 2010).

Qatar is a small country, similar to a city-state, with poor football infrastructure and not yet prepared to host such a kind of event. These data show that the approach of utilizing mega-events as a catalyst for urban development and regeneration can be extremely risky, especially for emerging countries. Indeed, implementing massive construction plans, developing both new sport venues and new city-level infrastructure at the same time may lead to financial disasters. As the case of the 1976 Montreal Olympics exemplifies, poor management and great expenditure caused a huge long-term debt; more recently, the 2014 Olympics in Sochi owns the record of being the most expensive of all the Winter Games, and its legacy mostly negative. The city spent over USD 50 billion (Müller, 2014) for building new venues and transport infrastructure. Three years after the end of the Games, the majority of the stadiums are closed or under-utilized, while the high-speed railway new lines partially closed (Müller, 2014).

4.3 Integration vs. Divergence

Qatar's government has introduced few years ago a comprehensive and holistic blueprint with ambitious strategies related to the development of its environment, society, and the economy. This program, called Qatar National Vision 2030, is asked to play as the major agent for developing and improving Doha's urban governance for the upcoming years (QNV 2030). Its implementation consists of

design and realization of a comprehensive master plan, which is required to guide Doha's urban development toward more consolidated structures (GSDP, 2009). QNV 2030 should allow the country to reach its long-term goals and to implement a framework for developing its major strategies. In this context, the 2022 World Cup is meant by the Qatari government to facilitate the implementation of this ambitious program, by catalyzing important infrastructure as the transport system, and promoting healthy lifestyles through sport. In this sense, the tournament can contribute to the physical integration of new neighborhoods in the city. Indeed, six stadiums out of eight will be reached by the new metro system, and many roads will be upgraded or opened (Figure 133 for the metro system). So, after the tournament, commute and move in and out of Doha will be easier. However, from a physical point of view, a risk associated with event sites is that they often allow the creation of 'islands of regeneration' or 'bubbles' (Carrière and Demaziere, 2002): event venues are physically separated and detached from the rest of the city, and they become an obstacle to the integration they were asked to implement (as in the case of Sochi or Barra da Tijuca in Rio de Janeiro, see the previous Chapter). One of the reasons for that is that these areas are designed without any consideration of their interaction with the city and on how they will affect the surroundings. The design effort is devoted exclusively to a specific area, without examining the impact on the whole city. Also, the planning of new stadiums need to be carefully planned. Indeed, stadiums are the dominant facility in all mega sports events, but also the most problematic venues in the post-event usage. Usually they are enormous facilities that 'struggle' to find their place in the city and they alternate short period of extreme congestion on matches' days with long period in which they are totally empty or under-utilized (i.e. the

Olympic stadium in London and Maracanã in Rio de Janeiro). In many other occasions, the stadium is almost abandoned after the end of the event (i.e. Sochi), and this risk is very high in Doha.



Figure 133. The metro system under construction and, indicated by green squares, the eight stadiums.

From a social point of view, Qatar is an emerging but wealthy country, and its citizens are among the richest population in the world. In this sense, with regards to local residents, Qatar will not face the same issues as its predecessors (i.e. Brazil, Russia, South Africa). The highest social cost is related to the manpower utilized for

the preparation of World Cup infrastructure (i.e. South East Asian laborers involved in the building of the stadiums and transport infrastructure). Indeed, as presented previously (see Paragraph 2. The 2022 World Cup: the bid process, the premises, and the planned infrastructure), just after the award, a number of concerns regarding human right issues arose, in particular regarding working conditions and the hiring system. Also, in March 2017, the International Labor Organization (ILO) decided to continue monitoring Qatar for human rights violations until November 2017. After this time, ILO will revisit whether to open a Commission of Inquiry, its highest investigative mechanism (Doha News, 2017).

Finally, regarding the environment, the bid promised Qatar to be the first carbon neutral tournament, and that new technologies and materials would be used to build sustainable stadiums. In this sense, the bid also promised the stadiums to be GSAS* certified (Interview 1 and 3). However, in spite of GSAS certification, sustainability will be achieved only if the venues will be fully used after the tournament. Regarding Al Rayyan, the stadium is supposed to utilize about 90 per cent of the materials derived from the deconstruction of the old stadium (SC, 2015). The old venue was supposed to be refurbished for the World Cup, but it was demolished because it did not meet FIFA's technical requirements.

* Global Sustainability Assessment System (GSAS) is the first performance-based system in the MENA region, developed for rating the green buildings and infrastructures.

4.4 Public vs. Private

Who will be the beneficiaries from the stage of the 2022 World Cup? And who will pay for it? In any mega event, the right balance between private and public interests should be planned and implemented, by involving local communities in the decisions and planning processes with public participations tools.

Qatar is a rich country and, with an average of 132,870 USD, it is the country with the highest GDP per capita in the world. However, Qatar is also a small country and its overall GDP is estimated in about 167 billion USD, less than the 195 billion of Greece, the 370 billion of the Emirates or the 292 billion of Singapore (The World Bank, 2015a). Indeed, in the 2015 world GDP ranking by the World Bank (2015b), Qatar is placed in the 54th place, after countries as Bangladesh, Vietnam, or Peru.

Although official data are not available, according to some estimates (Interviews 3 and 4; Doha News, 2011; The Telegraph, 2011), the overall cost of the 2022 tournament will be about 220 billion USD, around 60 times of what South Africa spent in 2010 (estimated in 3.5 billion USD). With a population of around 225,000 Qatari citizens, it means that country will spend more or less 100,000 USD per capita, compared to 73 USD per capita for the 2010 Brazil World Cup, 350 USD per capita for the 2014 Sochi Winter Games, and 54 USD per capita for South Africa (data for Sochi, South Africa and Brazil from Time, 2013). If this amount of money will be confirmed, it means also that Qatar will spend more than one year GDP in the tournament. Also, according to one of the interviewees (Interview 3), the focus of 2017's budget is to ensure that major projects related to the 2022 tournament go ahead

as scheduled, with about 50% of the annual country's budget dedicated to this effort. Since mega sport events spending usually does not pay off, especially in the long-term, Qatar should review its strategy and look for positive case studies as the Emirates stadium in London, or the Juventus stadium in Turin that associated the construction of a new stadium with more profitable real estate investments.

The Emirates Stadium (Figure 134), for example, is the stadium model that everyone is trying to emulate. Indeed, it is a stadium but also a center for entertainment, a mall, a museum and it has offices, and dining areas, for a multi-million dollar business that can drive up the sales of crushed clubs today in dependence on TV rights. The Emirates Stadium, which opened in 2006, is a private stadium owned by Arsenal, which moved here abandoning the old Highbury venue, where it had played since 1913. The investment for the construction of the new stadium was approximately 500 million USD (Interview 3, London). Arsenal has financed the investment using various sources, by implementing and diversifying the sources of income. First of all, the sale of naming rights system to the Emirates airline worth about 120 million pound; then, the former stadium has been transformed into a residential complex, named Highbury Square (Figure 135 and 136), with about 700 apartments for a total revenue of about 48 million USD. Also, Arsenal took a long-term bank debt, with maturity in 2031 (about 310 million USD). Finally, the construction of the new stadium has greatly increased the revenues of the English team (match day income), doubling it (i.e. in the last season at Highbury, the income was 44 million GBP, while in the first year in the new stadium it was increased to GBP 90 million). The main reasons for this success are: the increase of available

seats, increased from 38,000 to 60,000, enabling the team to have more subscribers and more spectators, with a percentage close to 91% coverage (Interview 3, London); the increase in the cost of tickets and subscriptions; the creation of around 9,000 'premium' seats (15% of the total), which alone represent 35% of revenues generated from the stadium (it is a supply mix, which includes VIP seats, Sky box, etc.), a sharp increase in the quantity and quality of services offered within the sports complex (catering, merchandising, etc.). The new Juventus stadium, built few years ago, also offers a similar model.

Although the situation of Doha is different from the one just presented, Qatar should look at examples as the Emirates Stadium and try to implement similar strategies to minimize the debt incurred for the preparation of the stadiums and the tournament.



Figure 134. The entrance of the Emirates Stadium.



Figure 135. The former Arsenal stadium, now Highbury Square, a complex of about 700 apartments.

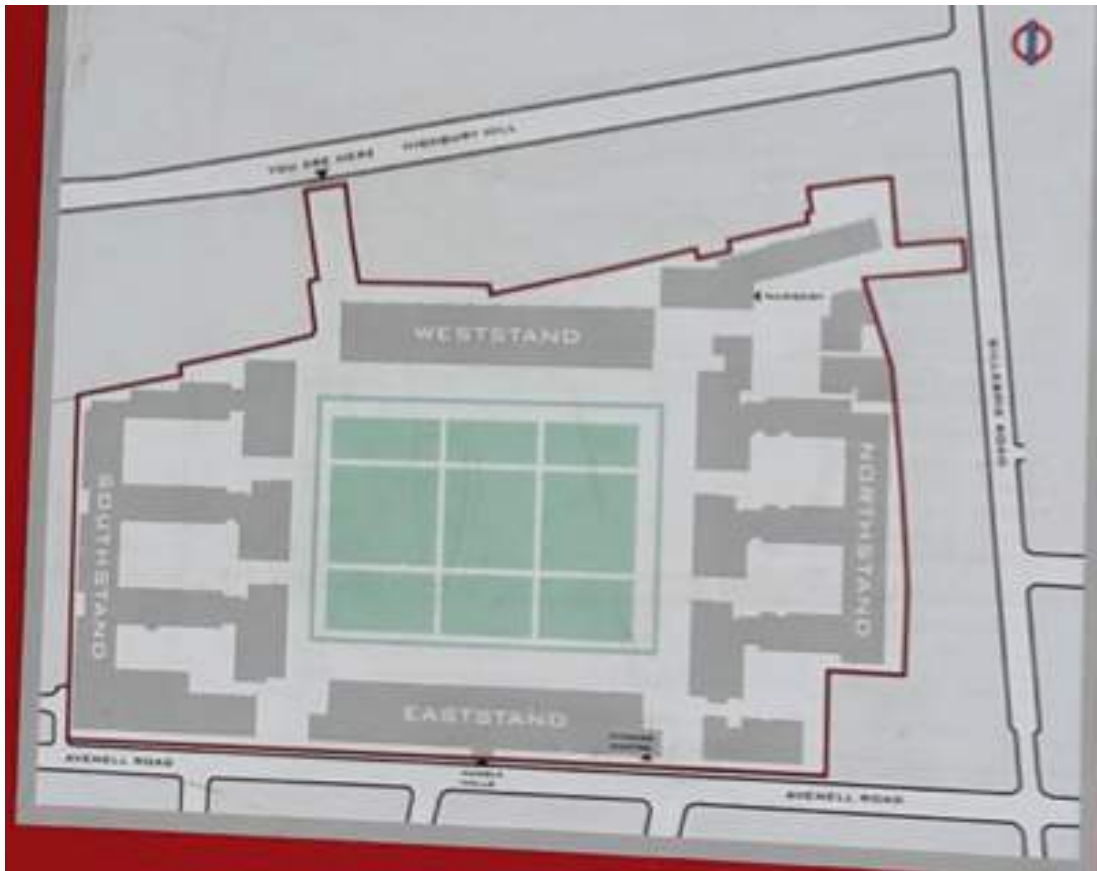


Figure 136. The map of Highbury Square.

4.5 Local Needs vs. Event Needs

Müller (2015d) reminds us the risk of event take over when dealing with infrastructure related to mega events. Indeed, he states “Mega-event priorities often displace long-term urban development priorities. Instead of the event becoming an instrument for urban development, urban development becomes the instrument for the event” (p. 10). The costs presented in the previous paragraph seem to go toward this direction, but other factors support this statement. Indeed, there is a very recent football tradition in Qatar. The main league, Qatar Stars League, had its first official season only in 1972, and it features 14 teams, with the most recent team founded in 2009. The teams utilize 10 different stadiums for the matches that are considered more than enough for the needs of the league, each with a capacity between 12,000 and 25,000 seats. Qatar initially promised 12 new stadiums for the World Cup, although, at the time of writing, this number has been wisely reduced to eight. However, even if the number of eight is confirmed and the post-tournament plans approved, according to which the majority of the stadiums would be reduced to half capacity (see Table 31), the number of seats available still would be surprisingly high for a total country’s population of 2,500,000 people. Indeed, Qatari nationals are estimated in about 250,000, while the number of seats in the legacy mode would be 284,000, with an availability of more than one seat for each citizen (see Table 31).

Table 31. Stadiums and Capacity (Source: SC, 2016b)

	2022 World Cup	Legacy mode
Khalifa International	40,000	40,000
Lusail	80,000	Unknown
Al Thumama	40,000	20,000
Al Ryyan	40,000	21,000
Qatar Foundation	40,000	25,000
Abu Ras Abboud	40,000	Unknown
Al Wakrah	40,000	20,000
Al Khor	60,000	38,000
TOTAL	380,000	284,000*

*Lusail and Abu Ras Abboud are considered with full capacity, as there are no data available.

In addition, the cost of the downscale of the stadiums is another factor to take into account. Although there are no official data, there is a well-know precedent one can look at, the Olympic stadium built in London for the 2012 Summer Olympics. The stadium was built from scratch for the Games, had an initial capacity of 80,000 seats reduced to 54,000 after the event. The works lasted about three years with an overall expenditure of 272 million GBP (Interview 4 London; Gibson, 2015 19 June), which makes an amount of about 10,500 GBP for each of the 26,000 seats removed. It is a provocation, but if one multiplies this amount by the number of seats that are supposed to be removed after the tournament (96,000, see Table 31), the cost of this operation will be exorbitant as it gets the cost of one billion GBP (equivalent to 1,255,000,000 USD, exchange of December 2016) just for the downscale, without including the cost for the shipping to other nations and re-assembling.

As presented in the previous chapter (Chapter 7), too often mega events culminate in economic disasters, where the interest of few private entities prevails over the interest of the public collectivity. In this sense, Qatar should remember the

importance of designing for a specific site, taking into account local needs, but also local culture, materials, and traditions. Planning according to the local vocation of each area is the only way to achieve long and sustainable positive legacies. According to the analysis presented in the first section of this chapter, Al Khor, Al Thumama, and Al Wakhra precincts have a strong residential and mixed use vocation, especially for low-income families; QF precinct has a strong research and education focus, while the Aspire Zone is the sports hub of Doha. Lusail is another mixed-use neighborhood, but more oriented to high-income expats, while Al Rayyan seems to have a commercial and leisure target. Finally, the Ras Abu Abboud area has a strong touristic potential, and it should be developed as a touristic hub. The Aspire Zone and Education City are probably the best successful areas from a vocational point of view. To illustrate, the Aspire Zone is already Doha's sports city (Figure 137). The precinct already has the major sports venues of Doha, a park and open spaces, commercial (two malls) and touristic (two five-star hotels) facilities. The addition of two metro stops will make the area more accessible to residents and tourists, while the upgraded stadium (Hamad Bin Khalifa) will allow hosting more international sports events and competitions, especially in view of the candidacy of Doha to the 2028 Olympics. Similarly, QF has a strong vocation in education and research, as this area houses research centers, American and European universities and the major national convention center. With the addition of a metro line, and stop, the precinct will be more accessible to students, faculty and staff members, while the stadium will complete the sport equipment available in the campus.



Figure 137. The Aspire Zone, Doha's sports city.

According to SC, the stadium will be downscaled to 25,000 seats in the legacy mode. However, the capacity appears to be still too wide for a stadium that is located in a university campus, and SC should consider an additional downscale to avoid higher maintenance costs (Figure 138). The Lusail district also has a clear vocation, as it is an under construction mixed-use development that will be dedicated to high-income expats and families. Once finished, the neighborhood is planned to host about 200,000 residents and 170,000 employees. It will also be reached by both the red metro line and a light rail scheme, and intended to include sustainability principles into the core of its master plan (Lusail City, 2016).



Figure 138. Education City in Qatar Foundation area, Doha's research and education district.

The district will include residential, commercial, office spaces as well as dedicated areas to sport and district. However, according to its master plan, there are no schools or hospitals planned. In addition, Lusail is centered on the new stadium, a facility of 80,000 built from scratch that will host the final of the 2022 tournament. At the time of writing, the legacy plans of this precinct are not yet unveiled, but it will be crucial to integrate the venue within the surroundings. Regarding its function, it is unlikely that it will be used frequently as a football stadium. Indeed, there are already enough stadiums in the city to satisfy the local football needs. Most likely, the venue should be used for leisure and entertainment, for example for hosting concerts or shows. The capacity should be adapted accordingly, for example utilizing removable seats. Also, restaurants, and entertainment and leisure spaces should be added inside

the stadium. Regarding the general master plan, Dubai Marina, in the UAE, represents a good model to look at. The Al Rayyan precinct suggests having a commercial and leisure vocation, as well as a sport destination. To illustrate, the biggest and more luxurious shopping center in Qatar, the Mall of Qatar, opened in December 2016 exactly besides the stadium, where, after the tournament, the Al Rayyan sports club will play and train. As this area is located outside Doha (about 30 km in the west of Doha's downtown) and it is sparsely populated (Figure 139), it is strongly suggested to add the development with real estate projects, such as the case of the Emirates Stadium in London, or, even better, the Juventus model.



Figure 139. Al Rayyan stadium and the Mall of Qatar, in the west side of Doha.

Indeed, the new Juventus stadium has a smaller capacity of 40,000 seats. Similarly to Al Rayyan stadium, the venue is located peripherally to the city of Turin, built in a regenerated area, and a mall and other entertainment facilities were built in its vicinity to support the cost of building and maintaining the venue.

Although at the time of writing its legacy plan is unknown, Ras Abu Abboud shows a strong touristic vocation. Indeed, the area stands by the sea, between the airport and the old port, which will be soon reconverted to touristic port. Also, two five-star hotels are located in its vicinity, while attractions as Souq Waqif, Corniche, the national museum, and the museum of Islamic art are within a short distance (Figure 140). The stadium will probably not be needed anymore after the tournament, and should be built as a complete temporary structure, and replaced with hotels, open spaces, and other touristic services. The example of the 1992 Olympic Games in Barcelona could be a good case to look at. Indeed, this is probably one of the best example of urban transformations of the last thirty years, and a perfect illustration of how to leverage an international event to change and improve the public space. The Games were utilized to overcome the lack of a development plan of the coastal area of Barcelona, and to open the city towards the sea. Similarly to Barcelona, this area of Doha should invest in the renovation of its waterfront, and link it with the Corniche and the downtown area.



Figure 140. Ras Abu Abboud precinct and its proximity to the airport and Doha's downtown.

More difficult is the situation of Al Wakrah, Al Khor, and Al Thumama districts. All these areas have a clear residential vocation and low or middle-income expats and families inhabit them. Also, in the case of Wakrah and Khor, the majority of the population lives in labor camps (see the beginning of the chapter for details about the population). In order to develop these areas, the government should build schools, hospitals, mosques, shops, and all the services necessary to residents. Another issue is the lack of integration with the public transport. To illustrate, Al Khor is about 60 km far from Doha, and will not be served by the new metro system. Al Wakrah will have a stop on the red line, but it will be about 7 km far from the stadiums precinct. Similarly, Al Thumama will not be reached by the metro system. Those who are the most in need will be excluded from an easy access to the public transport, de facto increasing the social divide among the different strata of the population.

4.6 Unplanned or unintended events

A final factor to consider is the responsiveness to unplanned or unintended circumstances. Indeed, this kind of mega events is usually awarded at least seven years in advance. During this time span, many changes in the political, social, or economical situation of hosting countries can occur. For example, Qatar was awarded the 2022 World Cup in the end of 2010, when it was at the highest point of its economic success. However, in 2015, because of the rapid collapse of oil prices, Qatar's economic situation has dramatically changed, and the country closed the 2015 financial year with a deficit for the first time after 15 years (Gulf Times, 2016 and Interviews 2 and 3). To illustrate, for Qatar, the fiscal break-even price of oil, which is the price that balances an oil-exporting country's budget, is about 70 USD per-barrel (The National, 2015), while, in 2016, the average price per-barrel was only 48 USD and this led Qatar to accumulate a deficit of 13 billion USD (Interview 2). In addition, forecasts predict that the country will face deficit until at least 2018. To face the economic crisis, the Government has undertaken measures that include the cut or postpone of important mega projects, downsizing plans in many governmental companies, and the introduction of a new taxation system (Doha News, 2016e, 2016f, 2016i). In addition, the Government unveiled that plans for the National Development Strategy 2017-2022 include, besides completing all 2022 World Cup-related projects and infrastructure, "cutting the fat in government", by shifting some responsibility from the state onto the private sector, and "transitioning from a nation of simple social welfare policies to a state of action by empowering citizens" (Doha News, 2016h). These facts underline how the approach of utilizing mega-events as a catalyst for urban development and regeneration can be extremely risky. In the case of Doha, the

World Cup was intended to accelerate the transformation of the city, promoting sustainable initiatives as a new public transport system and catalyzing the implementation of the 2030 Qatar National Vision, the country's blueprint. However, the economic crisis that hit the Gulf Region since mid-2015 has led the government to redefine the country's priorities. Many initiatives and projects have been canceled; but the entire infrastructure that relates the World Cup, as the construction of eight new stadiums, has not been touched because it is part of the obligations imposed by FIFA. What it was supposed to trigger beneficial urban change risks now to transform itself into a boomerang effect, fostering the proliferation of white elephants and unnecessary urban infrastructure.

5. Conclusions

The analysis of the stadiums' precincts performed in this chapters revealed a series of issues related to the post-event use of the venues, in particular regarding their function, capacity, costs, and integration within the urban fabric. Indeed, this kind of events always generates huge debts and bulky, complex sports structures that are expensive to build and maintain. One way to partially mitigate those issues is to leverage the vocation of each stadium's neighborhood, by transforming the stadiums and their precincts according to local needs. In this sense, the next chapter will present a series of recommendations to implement a more sustainable model. Table 32 provides details for each of the stadiums.

Table 32. Details of the eight stadiums under construction

Stadium	Location (Central/peripheral)	Existing / New	Capacity	Main vocation	Consultants and contactors	Legacy plan /Post-event use Additional infrastructure
Lusail City Stadium	Lusail City, in the North of Doha Peripheral to Doha, but the stadium is central in Lusail Access: car, Red line, LRT	New Ready by 2020	80,000 seats Opening and closing ceremonies Final match	High-income mixed use neighborhood (luxury)	Design (not finalized): Foster and Partners Contractor: Qatari company HBK and China Railway Contr. PM: TIME Qatar	After completion, Lusail City is planned to host 200,000 residents. The area will include parks, malls, villas, two marinas, office and commercial spaces. Legacy plan for the stadium not yet known.
Al Bayt Stadium	Al Khor City, 30 km North of Doha Located peripherally to Al Khor, about 500 m south of the city Access only by car, no metro	New Ready by the end of 2019	60,000 seats; 38,000 seats in legacy mode The stadium is modular, upper tier with removable seats (donation)	Housing for Middle and Low-income expats. Legacy: the stadium's precinct as a center of community life	Delivered by Aspire Zone Design: Dar Al-Handasah PM: Projacs Construction, operation and maintenance: Italian Salini Impregilo Group	Upper tier: a hotel and a new branch of Aspetar, the Qatari sports medicine hospital. Stadium's lower level and basement: exhibition halls, restaurants, and other recreational areas.
Al Rayyan Stadium	Near Dukhan Highway and the Mall of Qatar In the West of Doha, in Al Rayyan area, peripheral to Doha. Access granted by car and the Green Metro line	Rebuilt on the site of Ahmed Bin Ali Stadium, recently deconstructed. Ready by the end of 2019	40,000; 21,000 seats in legacy mode Modular stadium, upper tier with removable seats to be donated	Commercial and leisure	PM: AECOM Design: Ramboll Construction contract: joint venture of Qatar-based Al Balagh Trading & Contracting and India's largest construction firm, Larsen & Toubro Ltd	After the WC, the stadium will be home of home of Al Rayyan Sports Club The precinct will include cycling and running tracks, branch of sports medicine hospital Aspetar: mosque, aquatics center, other outdoor fitness equipment
Qatar Foundation Stadium	Education City (university hub), west side of Doha Peripheral to Doha, but the stadium is central in Education City Access granted by car and the Green Metro line	New Ready by the end of 2019.	40,000; 25,000 seats in legacy mode The stadium is modular, upper tier with removable seats to be donated to other nations	Education and Research	PM: ASTAD Design consultant: FIA Fenwick Iribarren Architects Construction: a joint venture of four companies led by Cyprus-based contractor Ioannou & Paraskevaides	Facilities will include an aquatic and fitness center, tennis courts, two additional football pitches, a health clinic, retail outlets, and spaces for educational and development programs. The Stadium will be a sports, leisure and social hub for both the QF community and its neighborhood
Al Wakrah	Wakrah City, 15 km South of Doha. Stadium peripheral to Al Wakrah (west of the city). Access granted by car and the Red Metro line, the stop is 7.5 km far from the stadium	New Ready by the end of 2018	40,000; 20,000 seats in legacy mode Stadium is modular, upper tier of removable seats	Housing for Middle and Low-income expats	Design consultant: AECOM with Zaha Hadid Architects PM: KEO International Consultants Contractor: MIDMAC with PORR QATAR	The stadium: home of home of Al Wakrah Sports Club. Additional facilities include: mosque, park, shops, schools, wedding hall, hotel, vocational training center, and office space. The area will serve to strengthen the bonds of community in Al Wakrah
Khalifa International Stadium	The Aspire Zone/Villaggio, in the west of Doha (Peripheral) Access granted by car and the Gold Metro line	Already existing (upgraded) Built in 1976, upgraded for 2006 Asian Games, upgrade for the WC Ready by 2017	40,000 seats	Doha's sports city. In 2019, it will host the 2019 IAAF World Athletics Championships. Qatar is bidding to host to 2028 Summer Olympics	Delivered by Aspire Zone F. Design: Dar Al-Handasah PM: Projacs Construction supervision: Dar Al-Handasah Contractor: Qatari Midmac with Six Construct Qatar (subsidiary of Belgian Besix)	Already existing infrastructure: aquatics center, multi sports arena, four training pitches, and many other sports venues, Aspetar hospital, ant doping center, two malls, two five-star hotels, a park.
Ras Abu Abboud	East of Doha's center (visible from West Bay), near Hamad Airport. Access: car; Gold Metro line	New	40,000 seats (unknown in legacy mode)	Redeveloped into a new urban area. Area with tourist vocation	Design Consultant: Populous	New facilities at the stadium will include the 3-2-1 Qatar Olympic and Sports Museum. Legacy plan, not yet finalized, aim at developing the stadium surrounding into a mixed-use urban neighborhood to provide housing for Qatar's expanding population
Al Thumama	West of Najma St. between E and F-Ring roads, near the Medical Commission. Close to Industrial Area and Qatar's large church complex. Access only by car. No metro	New Ready by the end of 2020.	40,000 seats; 20,000 seats in legacy mode	Residential vocation, Housing for Middle-income expats	Design: Arab Engineering Bureau, oldest architectural and engineering firm in Qatar (Ibrahim Jaidah). It also holds the engineering contract for the stadium.	Stadium located in an area of 500,000 m2 currently used by the Qatar Football Association Technical Committee; it includes 4 outdoor training pitches and office facilities. Plans not finalized, but SC met local residents to discuss the stadium's long-term legacy

CHAPTER 10. RECOMMENDATIONS AND CONCLUSIONS

1. Introduction

In the first part of the dissertation, the research analyzed past and contemporary mega sports events with the aim of identifying best practices to maximize the post-event use of sport venues and their precincts. Indeed, the investigation ended with the creation of a framework of relevant attributes to evaluate event venues and their surroundings. The framework showed that there are no one-size-fits-all policies that work for every event, organizing committee or hosting city. Each city (or country) has to develop a strategy that fits their characteristics and peculiarities. However, some recurrent mistakes and bad habits emerged as recurrent: the low proportion of temporary structures, the exorbitant costs, the inability to respond to unforeseen circumstances, and the lack of attention to local needs.

Subsequently, the research focused on the city of Doha and analyzed its planning and transportation systems, its open spaces, and its strategy for becoming a sports hub in the Gulf region. The evaluation framework was applied to the eight areas involved in the 2022 World Cup, and it highlighted some major issues, such as the weak legacy plans for the stadiums' precincts, the need to improve local planning capacity, exorbitant costs to build the event infrastructure and the eight new stadiums. With the aim of mitigating some of these issues, in this final Chapter, some recommendations and final conclusions are drawn.

2. Policy recommendations

The previous chapters showed how difficult is the creation of sustainable legacies from the stage of mega sports events. Indeed, the achievement of a positive sustainable legacy requires cooperation and resource sharing from a variety of event stakeholders (Leopekey, 2013). As a result of the analysis of the cases of London, Rio, and Sochi, and the investigation of the process of sportification of Doha, several implications arose. The following is a list of policy recommendations to help the Qatari government, and more generally, future hosting cities in the Gulf region to enhance their decision-making process to maximize the benefit from the stage of mega sport events.

2.1 The more spread the event, the better the legacy is (no compact events!)

IOC, FIFA, and other major event stakeholders tend to privilege compact locations, because compact events tend to be more successful and attract more visitors. Qatar 2022, for example, will be the most compact World Cup ever, as the average distance between two contiguous stadiums will be only 16 km, with the majority of the venues located in the capital city of Doha. However, the more an event is spread, the better is for its legacy. Indeed, the more the event is spread, the easier is to reuse already existing infrastructure, both in terms of sports venues and tourist facilities, and to focus on what is more needed in the long-term by residents. In this sense, a good example is the 2020 UEFA European League. On the occasion of the 60th anniversary of the birth of the tournament, the final phase will not take place in a single nation, but in 13 different European cities, with the semifinals and the final to

be played at Wembley Stadium in London. It will be the first European tournament to utilize mixed premises, with 12 nations involved. This will allow to reuse existing stadiums, with no additional costs for hosting cities, and to benefit from the publicity given by this event. Similarly, an event 'spread' within the Gulf Region could have the same beneficial effects. Indeed, a World Cup held, for example, in the UAE, Qatar, Oman, Kuwait and Bahrain would have a positive impact in term of image branding and tourism, it would be much more beneficial from an economic point of view, and it will consent to focus on more needed infrastructure.

Also, in the last editions of both the Olympics and World Cups, more increasingly, cities have been stopping bidding, because of the negative outcomes and enormous costs to sustain those events. To face this issue, the IOC met in December 2015 to approve the 'Agenda 2020', a roadmap made of 40 recommendations, which opens a new era in the history of the Olympic Committee. The most important novelty regards the upcoming nominations to the Games. Changes include a bidding cost reduction and modifications in the candidature procedures. Cities will be allowed to present a proposal that is in line with their long-term planning strategy regarding sporting, economic, sustainable, and social needs (IOC, 2015). After too many candidatures withdraw, the IOC intends to make the Olympic Games an attractive event for more and more countries. However, at the time of writing, FIFA did not implement any strategies to make the host of the World Cup more attractive and beneficial.

2.2 Plan ahead is better than retrofit

It is vital for hosting cities and counties to plan the legacy mode of an event site as soon as possible. Also, it is wise to adopt a ‘flipped approach’, according to which, it is wise firstly to plan what will happen after the event and, then, adapt the event to the legacy requirements. Indeed, it is usually more complicated to adapt and retrofit an area and change its function a posteriori. This approach will also avoid unnecessary issues and help to reduce costs for the implementation of the legacy plan. Discussion on legacy plans should start well before the award of the event, during the pre-bid phase, and local stakeholders should strongly commit to legacy projects in order to achieve a sustainable and livable post-event legacy. As Leopekey (2013) says “Legacy is a proactive process, not a reactive one. As such, local stakeholders interested in pursuing an event should come together prior to deciding to bid for an event in order to determine the needs of the local community. This process should involve a variety of event stakeholders, especially those who would be involved or impacted the by the event hosting over the long-term”. It is also important that hosting cities plan their legacy mode for a long-time span, at least 30 years, and, also, they should have a disposal or reconversion plan for sport venues. Indeed, after 30 or 40 years, stadiums and other major sport facilities usually are closed or abandoned because new state-of-the art venues have been built. Planning in advance the reconversion or dismantle of these venues will be beneficial to contain costs and to help regenerating the surrounding areas.

Regarding Qatar 2022 and, particularly, Doha, the legacy plan is very generic and limited to reducing the capacity of the stadiums. Doha has already ten stadiums

that are more than enough for the needs of its major football league, and Hamad Bin Khalifa Stadium is more than sufficient to host of international events. The building of seven stadiums from scratch is a very risky approach as legacy of the 2022 tournament. Organizers should consider a reconversion or dismantle of the main venues and the redevelopment of their precincts according to local needs and vocation (see recommendation 2.6 Consider local needs and respect local vocation).

2.3 Use already existing and temporary infrastructure

It might seem obvious, but hosting cities should utilize already existing or temporary infrastructure as much as they can. However, in some instances, hosting cities are tempted to implement massive construction plans, developing both new sport venues and new city-level infrastructure. This seems to be the strategy for Qatar 2022. Indeed, the Qatari Government has started an extensive plan for upgrading its infrastructure, including a new airport and port, road system upgrade, and the construction of a four-line metro system. At the same time, eight new stadiums are in construction, with a total estimated expenditure of USD 220 billion (Doha News, 2011). This amount is about four times the final cost of the 2014 Sochi Games (estimated in USD 55 billion, Müller, 2015a), and more than five times the total expenditure of the 2008 Summer Olympics in Beijing (estimated in USD 40 billion, Rabinovitch, 2008). Reutilizing already existing infrastructure, by expanding the number of sport clusters and making the event more spread, if already existing venues are not available in the proximity, would allow focusing on developing transport and more needed infrastructure, and would help in reducing the final costs of the event. Indeed, the alternation of temporary and permanent infrastructure can be a

winning strategy, as some recent stories confirm. For example, London 2012 was very successful in the balance of temporary and permanent structures. Queen Elizabeth Park contained six major sport venues during the Games, one of which was temporary and completely dismantled after the Olympics, while the other five venues were reduced in capacity or reconverted to other use. Permanent and new venues were built only where necessary (in combination with the use of already existing and temporary facilities in other part of the city), and planned to be open and utilized by local communities.

Also, ephemeral infrastructure should be planned carefully and should be really temporary. Indeed, although temporary solutions are usually preferable to permanent venues, it is good to remember that they create inefficiencies as they still have a cost. A question to consider is the amount of money needed to first build and then dismantle a temporary venue. Regarding the use of already existing infrastructure, best practices should include the renovation of old facilities, their upgrade (even temporary. For example, temporary seats to increase capacity could be add just for the duration of the events), or the adoption of multiple sites (poly-clustering or satellite venues) if exiting facilities are available in other part of the hosting city/country other than the main event area. Unfortunately, with the exception of Hamad Bin Khalifa International Stadium, Qatar does not have any already exiting sport infrastructure that meet the requirements of the tournament, and the country needs to build everything from scratch, either in a permanent or in a more wisely temporary form.

2.4 Reduce costs and use private partnerships

Many factors impact the success of a legacy plan but the economic impact is one of the most critical. Indeed, the funding of the event is one of the most relevant issues. In all the cases analyzed, the final cost of the event at least doubled the initial budget, and, in the majority of them, the stage of the event led to enormous economic debts. As such, hosting cities need to ensure that funding remains consistent with the initial budget, and investigate potential funding opportunities available locally to ensure the sustainability of their legacy programs. Regarding Qatar, some estimates indicate that the 2022 World Cup will cost more than US\$ 200 billion, which is higher by several degrees of magnitude than prior World Cups in South Africa and Brazil, and equivalent to more than one year country's GDP. Qatar is building its sports infrastructure completely from scratch, although public sports spending rarely pays off in the long-term. Qatar needs to find ways to reduce the final cost of the tournament, by looking, for example, at positive models as the Juventus stadium in Turin, Italy, or the Emirates stadium in London (see the previous Chapter 9, Section 4.5 Local needs vs. Event needs, for details). Qatar should involve the private sector in the construction of the sports and tourist infrastructure, and combine property investments that allow covering the expenditure for both the preparation of the World Cup and the implementation of the legacy plans, similarly to Juventus or Arsenal's models.

2.5 Leverage mega events to build and improve planning capacity

Mega events should be leveraged to improve local planning capacity. This is particularly relevant for emerging countries as the ones in the Gulf region where planning is characterized by fragmentation and lack of coordination between the design and the implementation phases (Azzali, 2016b). Firstly, local municipalities and public bodies can learn from previous experiences, through knowledge transfer processes from previous events. This city to city learning is usually facilitated by the organizing committees, which usually give bidding cities access to databases of best practices and technical documents developed by the experts involved in previous editions (Lauermann, 2013). In addition, hosting cities usually attract elite planning companies and construction firms that in normal condition would not be available, and knowledge transfer can be achieved directly from them. Global agencies and world-class organizations involved in the event create an exceptional network of expertise, which can lead to the transfer of urban planning templates, prototypes, and modules, but also new standards and techniques (Roche, 2000; Liao and Pitts, 2006). This emulation should not be a 'mere reproduction' from previous models but should be adapted according to the local necessities.

In the case of Doha, and Qatar, events should play as triggers for effective knowledge transfer and building capacity through the development of networks among local professionals, academia, and international consultants and firms. Thanks to the hosting of major events as the 2022 World Cup, Doha is attracting excellent international consultancy from all over the world. Many distinguished architects, designers, engineers, and planners are currently working on new

projects, and, up to the 2022 football tournament, Doha will represent an open laboratory with endless opportunities. This world-class consultancy is designing and shaping the city, and Doha can profit from it to improve its planning capacity. Academia, research centers, and local professional associations can cover an important role in this knowledge transfer. All these bodies have a double role: on one side, facilitate the knowledge transfer from international consultancy to local agencies and professionals working in local public bodies; on the other side, they can identify the local needs and the peculiarities of the Gulf region, and transfer this knowledge to the international consultants.

2.6 Consider local needs and respect local vocations

Planning according to local needs is crucial for the success of any legacy plan. Also, the planning process has to balance short-term and long-term goals. However, in the majority of the cases analyzed, short-term and event's interests prevailed, and the comparative analysis presented in chapter 7 showed that emerging cities (Rio de Janeiro and Sochi, but also Doha) struggle more than developed cities to implement positive legacies. In addition, this type of events usually generates huge debts, especially with regards to stadiums, which are very complex, expensive, and 'bulky' structures. Regarding the case of Doha, the research showed that the number of stadiums planned (eight) is disproportionate for the needs of the city in the long-term, and, also, their legacy plans are too vague.

With this regard, an important recommendation is to develop a plan that fully considers the local context in which the event occurs, in order to achieve social inclusion and physical integration. Three main steps are suggested:

1. Involve representatives from various stakeholder groups or network actors, especially representatives from the local communities (in order to improve public participation and participatory planning). Also, utilize a user-centered approach (always design and plan for your final users, which are the local residents);
2. Leverage the event to trigger and foster the city master plan or link the event to the development of a big project or major regeneration or redevelopment project, and not the opposite. This is what London did, triggering the regeneration of the east side of the city by hosting the Olympics in Newham, a neglected area in the east of London (see Chapter 4, dedicated to the case of London and Smith, 2012).
3. Although information and best practices might be available from previous events, hosting cities should adapt them to work effectively and efficiently with the local context. For examples, different types of legacy may be more important to a developing country than a developed one. Also, the political or financial situation may vary and as such different factors must be taken into account (Leopekey, 2013). In addition, hosting cities should consider the main vocation of each venue's precinct in designing their legacy plans. In the case of Qatar, as presented in the Chapter 9, Aspire will continue to be Doha sports city, while Education City will remain the area dedicated to education and research. Regarding the other districts, the research suggests Al Rayyan to be converted to a leisure area, with entertainment and commercial uses; Ras Abu Abboud shows a strong

touristic vocation; while, Lusail Al Khor, Al Thumama, and Al Wakrah will be developed as residential and mixed-use developments: Lusail for high-income households while the other three areas to be dedicated to low-income or middle-income families (see the previous Chapter for details).

This research findings suggest also the need for an independent organization that can ensure the legacy plans to be fulfilled in each step of the process.

2.7 Have a rigorous yet flexible legacy plan!

Hosting cities are usually awarded an event at least seven year in advance, sometimes, as the case of Qatar, even more. During this time span, the economic, social, and political context of the hosting city/country can face important changes. To illustrate, all the cases analyzed showed unplanned crisis and major issues that happen during the preparation period. London had to face the 2008 economic crisis, as long as a political change at the local governance with a change of mayor in 2008. Both Sochi and Rio de Janeiro had to face an important economic crisis, too. Rio de Janeiro went bankrupted during the preparation of the Games, and, in June 2016, the local governor decreed the state of economic calamity by blocking the payment of salaries of civil servants, including the police (Guanella, 2016). Sochi shared a similar experience with the sanctions imposed by the USA and the EU. Also, in 2008, the war between Russia and Georgia was fought just a few kilometers far from Sochi and the main Olympic clusters. Regarding Qatar, the country has to cope with the economic crisis that hit the Gulf Region since mid-2015. The recession has led the government to redefine the country's priorities. Indeed, for the first time in the last 15 years, Qatar

closed the fiscal years of 2015 and 2016 with a deficit. The Supreme Committee for Delivery and Legacy, the organization that is in charge for the preparation of the World Cup, is revising its plans to be able to meet the requirements imposed by the FIFA. However, many new infrastructure, initiatives and projects have been either canceled or downscaled because of the recession.

With this preamble, future hosting cities need to carefully consider that the economic, political, and social context can easily change during the preparation of the event. Regulatory processes and planning, although designed carefully, should be characterized by flexibility and adaptability. Also, hosting cities should have an alternative plan in case the context changes substantially. Finally, hosting cities should use the event as an actual catalyst to trigger and foster sustainable urban change and development, by investing in needed infrastructure by local residents rather than in new event-related venues and facilities.

3. Value and limitations

Although this research has the merit to initiate a discourse on sustainable legacies of mega sports events in the Gulf region, some limitations need to be highlighted. Firstly, only three main cotemporary cases were investigated, namely the cities of London, Sochi, and Rio de Janeiro. Three cities cannot cover all the different typologies of sport events and urban centers. Secondly, the amount of time dedicated to each of the cases was not homogeneous. Indeed, the analysis of the 2012 Summer Olympics took place for more than four months, due to the opportunity of the author to live in London for an academic year. In this period of time, it was possible to

conduct several site visits under different conditions, and to collect a considerable amount of data. Differently, the data related to Sochi and Rio de Janeiro were collected during two different visits to Brazil and Russia lasting ten days each. Also, the data were gathered in a different time period for each event, making the comparison more difficult. To illustrate, the analysis of London was performed about three years after the 2012 Games, the analysis of Sochi only one year after the 2014 Olympics but before the host of the 2018 World Cup, while the data from Rio de Janeiro were collected one month before the beginning of the Olympiads and two years after the 2014 World Cup.

Regarding Doha and Qatar 2022, one of the main issues was to find experts available to be interviewed and collect reliable data. Indeed, some experts from the private sector or belonging to the main event governing bodies were not allowed to be interviewed until the end of the preparation of the World Cup, as they signed strict confidentiality agreements. Also, since at the time of writing none of the stadiums and their precincts is completed, some of the arguments presented were ‘forecasted’, on the base of the information gathered and the experience accumulated from the analysis of the previous cases.

Finally, this work showed that each city and each event has its own peculiarity and characteristics, and that there is not ‘a universal recipe’ that fits indistinctly each hosting city. However, the research derived the most recurrent mistakes and malpractices, and defined a ‘lowest common denominator’ of key factors to consider when planning mega sports events and their legacies.

4. Conclusions

Mega-events planning is a controversial form of urban policymaking because, although its wide impact on cities, this impact is often more negative than positive. The research showed how difficult it is to benefit from the stage of mega events and unveiled important issues to consider before bidding. Indeed, those events are very expensive in terms of costs, effort, resources, and people, and cities need to maximize the benefits and limit the damages from their hosting. The study showed that there is potential to realize sports-oriented areas and open spaces from event sites that are fully integrated within hosting cities; however, the locations chosen for the event need to be carefully selected according to the morphology and needs of the hosting city. The right mix of temporary, new, and already existing venues; the balance between sport and city infrastructure; the strict control of expenditure; the respect of the local vocation are some of the most important challenges cities need to face and solve. In this, FIFA, IOC and other major event organizations have to clarify their role and advocate all the initiatives that are necessary to promote and support beneficial outcomes and positive legacies.

The research aimed at contributing to the discourse on mega sports events and their impact on the built environment, and it is hoped that this work will help future hosting cities in avoiding recurrent mistakes and malpractices and building their positive legacies.

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APPENDICES

Appendix A: Tool 1 - City and Space Card

Section 1 - CITY CARD	Section 2 - SPACE CARD
<p>City name: Population: City type: Area:</p> <p>City governance:</p> <p>Previous events:</p>	<p>Space name: Purpose: Dimension:</p> <p>Date of Completion: Typology*: Space location:</p> <p>Space use before the event: Transport and connections: Pedestrian, Cycling routes:</p> <p>Number of accesses: Accessibility: Functions and activities: Sports infrastructure:</p> <p>Other infrastructure: Any other relevant notes:</p>

* Pitts and Liao, 2009

Urban Form and Location

Map of the area

Appendix B: Tool 2 - Interview Guide

Cities compete to bid and host mega-events, but, according to the literature, results in term of sustained/sustainable long-term legacies are generally negative. The aim of the research is to understand how to make a good use of mega sports events, and to promote, implement, and deliver long-term sustainable legacies, with a specific focus on the city of Doha. Legacies are sustainable if they are beneficial (positive) and they last a sufficient period of time (usually at least 20-30 years). So events can promote sustainable urbanism if they produce beneficial long-lasting sustained legacies, including economic, social, environmental, and physical legacies. The research will be carried out mainly through a comparative analysis of three case studies: the 2012 Olympic Games in London; an analysis of the context of Rio de Janeiro, which held both some of the matches of the 2014 World Cup and the 2016 Olympics; and a research on Sochi, the city that hosted the 2014 Winter Olympics and will host some of the matches of the 2018 FIFA World Cup. Results will be discussed with reference to the city of Doha, which will host the 2022 World Cup, with the aim of improving forms of sustainable urbanism in the city (and more generally in the Gulf Region) through mega events. Expected results will include a set of guidelines for organizing committees and host cities to help them achieve sustainable long-lasting legacies. Guidelines will be specifically designed for the 2022 World Cup (Doha) and more generally for the Gulf region.

Interview Guide

The aim of this research is to assess the quality and quantity of the 2012 Olympic legacies, and their impact in terms of:

- Governance;
- Environmental and physical outcomes;
- Economic outcomes;
- Social outcomes;
- Cultural diversity.

To better understand and evaluate the long-lasting sustainable legacies of mega sports events, and specifically of 2012 Olympics, I would like you to answer the following questions:

INTRODUCTION

1. What was your role/involvement in the 2012 Olympics, if any?
2. What was the role of your organization/agency for the 2012 Olympics, if any?
3. What kinds of legacy did your organization deal with?
Are there kinds of Olympic-related legacies that your organization did not deal with?
Why not; and if not, who (i.e., what organizations) deals with them?
 - a. Social
 - b. Economic
 - c. Environmental
 - d. Governance
 - e. Planned
 - f. Unplanned
 - g. Tangible
 - h. Intangible
 - i. Positive
 - j. Negative
 - k. Other (Please, specify...)

DEFINITION OF LEGACY

4. What is your personal definition of Olympic/mega sports event legacy?
According to you, what are the most important components/areas of it? (i.e. governance, social outcomes, environmental, cultural, physical legacies, cultural dimension, and/or other ...)
5. What kinds of issues do usually arise when dealing with legacy?
6. Time consideration - How long should Olympic/mega sports event legacy be planned to last, and how long will the 2012 Olympic legacy actually last? (i.e.: 5 years, 10 years, more, less, ...)

7. Beneficiaries - For whom legacies should be planned? And who do you think are the real beneficiaries from 2012 Olympic legacies? (i.e.: organizing committees, city/Borough residents, private sector ...)

LONDON OLYMPICS LEGACY

8. According to your experience with the 2012 Olympics, define the (3) most successful achievements and the (3) major pitfalls in terms of legacies
9. In relation to Question 8: What went wrong? What could have been done better? Why?
10. Overall, what are the main best practices and lesson learned that could be transferred to next hosting cities?
11. Did the 2012 London Olympics contribute in promoting form of sustainable urbanism?

MEGA SPORT EVENTS, HOSTING CITIES, and RELATED LEGACIES

12. Do you think mega sport events (as World Cups or Olympics) can help hosting cities to improve their built environment (in terms of regeneration and renewal) and the quality of life of their inhabitants in a long-term and sustainable way? Why? Why not? How?
13. Do you think developing and developed cities have the same opportunities/challenges? If any, what are the main differences?
14. Do you think different types of mega sport events (Olympics, World Cups, Asian Games ... or other major events) offer different opportunities? Do you think there is a typology of events, which can lead to better legacies/outcomes? Do you have any example?

Many thanks for your time and contribution!

Simona

Appendix C: Tool 3 - Matrix for the comparative analysis of the interviews

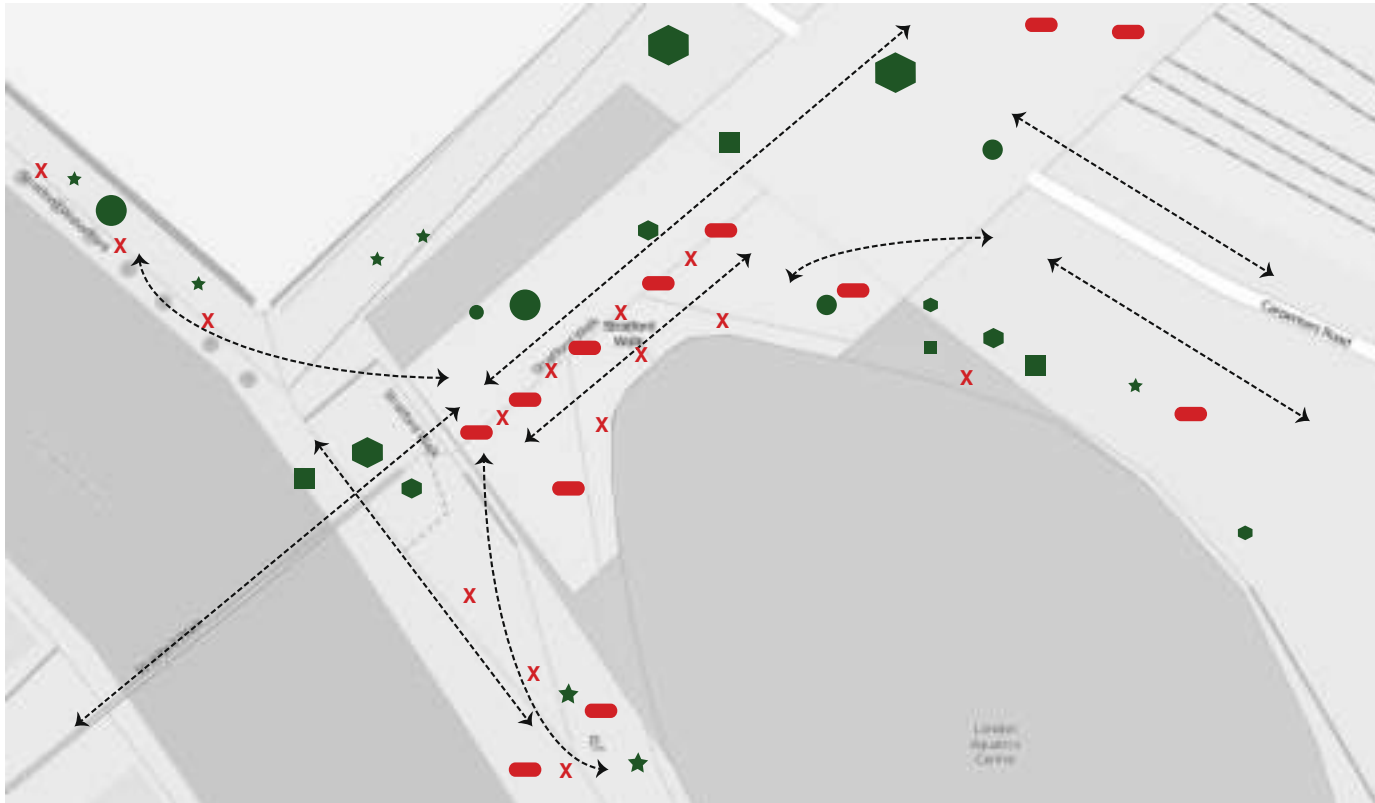
Interviewee Number	Section 1 – Legacy definition and main issues	Section 2 – Best practices, main achievements, and pitfalls	Section 3 – Events, cities, opportunities, and challenges
Number 1			
Number 2			
Number 3			
Number 4			
Number 5			
Number 6			
Number 7			
Number 8			
MAIN			

Appendix D: Tool 4 - Behavioral map and walking through sheets

Step 1- Sampling: Identification of the main areas of interest (see map)	Step 2 –Timing/Onsite
<p>SOUTH AREA</p> <ol style="list-style-type: none"> 1. Information Point (people from Stratford and the mall) 2. Access to the Aquatic Centre 3. Area between the stadium and the Orbit (people passing by, fountain, cafés,) 4. Play area A 5. Mendeville Place 6. Copper Box Entrance <p>NORTH AREA</p> <ol style="list-style-type: none"> 7. Area near River Lea 8. Hockey and Tennis Centre Entrance 9. Velopark Entrance 10. Play area B 11. Timber Lodge Café <p>OLYMPIC VILLAGE</p> <ol style="list-style-type: none"> 12. Main Plaza <p>TOUR: <u>Starting point:</u> INFO POINT /Information Centre <u>Ending point:</u> Olympic Village, main square</p> <p>In each place, an observation time of 15 minutes, plus 5' to move from one point to another. TOTAL: 215' (3h 35')</p>	<p>One week (7 days in August 2015) and 2 walking tours daily. Each tour is around 3 hours</p> <p>PREVIOUS OBSERVATIONS: 1 day in February, 1 day in May, 2 days in June, and 1 day in July.</p> <p>Morning: 9:00-12:00 Lunch time: 12:00-3:00 Afternoon: 2:00-5:00 Evening: 5:00-8:00</p> <p><u>10-16 august 2015</u> WEEK DAYS Mon: afternoon and evening Tue: morning, lunch time Wed: afternoon and evening Thu: morning, lunch time Fri: lunch time, afternoon WEEK END Sat: afternoon and evening Sun: morning, lunch time</p>

SITE: POINT 1 – ENTRANCE, GATE 1

Day:
Time:
Weather conditions:



NOTES

- Bi-direction of people
- Mainly families (women and children), or sporty people
- Benches and chairs
- Lighting

PHOTOS/ SKETCHES



Appendix E: Tool 4 - Checklists

Space Assessment Checklist												
Aim: to map and evaluate the built and natural environment of each point of the space selected (Take note of the quantity and mark their location on the map)												
Day:						Weather Conditions:						
Starting Time:						Ending Time:						
Selected Point	1	2	3	4	5	6	7	8	9	10	11	12
Built and Natural Environment												
SAFETY AND SECURITY												
Street Furniture												
Seating (benches, chairs)												
Tables												
Lighting												
Fences and Gates												
CCTV												
COMFORT AND ACCESSIBILITY												
Signage, maps and info												
Shelters												
Noise Pollution Conversations, Mechanical equipment, Music, Traffic, ...												
Cafés												
Drinking Fountains												
Toilets												

Accessibility for disables																		
Cycling and pedestrian paths																		
Quality of Maintenance																		
General cleaning																		
ATTRACTIVENESS - PLEASANTNESS																		
Landmarks and art works																		
General Appearance/Aesthetics																		
Quality of Landscape																		
Vegetation Heavy Vegetation Cover, Sparse Vegetation Cover, Landscaped Areas (shrubs/flowers etc.), Lawn																		
Water Features Fountains, Play Fountains																		
Playground Areas																		
Flows and People																		
FLows																		
Number of people																		
ACTIVITIES																		
Sport: Cycling/Running																		
Walking/Resting/Chatting																		
Playing																		
Working																		
Other (Specify)																		

DEMOGRAPHICS											
Females vs. Males											
Families vs. Singles											
Young vs. Adults											
Elderly vs. Kids											
Locals vs. Tourists											
Ethnicities: W B A I As											
Notes:											
Symbols:											

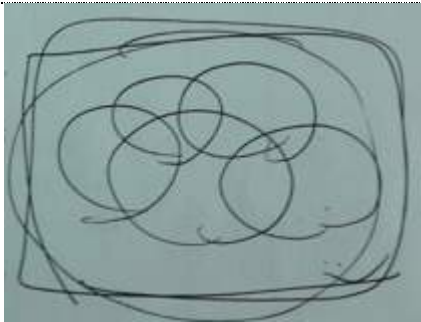
Appendix F: Tool 3 - Matrix for the comparative analysis of the interviews, London 2012

Interviewee Number	Section 1 – Legacy definition and main issues	Section 2 – Best practices, main achievements, and pitfalls of the 2012 Games	Section 3 – Events, cities, opportunities, and challenges
<p>Number 1 (Academia)</p>	<ul style="list-style-type: none"> • Definition: anything left after the event, any lasting impact • Not only the physical impact, also the intangible one. Also the intangible legacies can last for many years. 	<p>Aim: to reduce the imbalance between the West and East side of London</p> <p>Positive:</p> <ul style="list-style-type: none"> • Training and education programs developed before the Games. • Means for creating jobs and work opportunities • National identity created by the Games • Social housing (Olympic Village) • Investment on transport infrastructure. • Early legacy planning (different from other hosting cities) • Coordination among different bodies was also good. <p>Best practices:</p> <ul style="list-style-type: none"> • Managing and planning very well and well before the event • Have very clear ideas about legacy • Important to have a strategic planning, but also the bodies needed to organize and deliver it <p>Negative:</p> <ul style="list-style-type: none"> • Poor publicity, many things were good, but badly promoted, so the message got lost. • Legacy promises: with the political change, the sustainability goals were 	<ul style="list-style-type: none"> • Olympics vs. other sports event: scale and dimension • WC: spread event, it involves more cities. Here, focus more on stadiums and hotels. • Olympics are a city-based, city level event. <p>Examples:</p> <ul style="list-style-type: none"> • Athens (2004 Olympics): very negative example from a legacy point of view • Beijing, 2022 Winter Games: opportunity to reuse infrastructure for the 2008 Summer Games • London: first time for a hosting city with a legacy plan and a body in charge of legacy before the event. • London is also a good model for sustainability. • Qatar is not a typical emerging country, because is a rich state, in which wealth is spread among the population. • WC in Germany: legacy was on the impact on national image. How such an event can change the worldwide perception on the hosting city/country? (City branding)

		partially cancelled.	
<p>Number 2 (Event Governing body)</p>	<ul style="list-style-type: none"> • Legacy has to last for a long-term, at least 30 years • Legacy has to be positive (beneficial impact to local communities) • Cities are dynamic, so legacy plans need to be flexible and adaptable. You plan for 'now', but your plans will be ready when the city has already changed. • Focus on integration and convergence (social side) • Right balance of temporary and permanent infrastructure 	<p>Positive</p> <ul style="list-style-type: none"> • Legacy plan before the games • 3 different master plans (for the event, transformation mode, and legacy mode) • Focus on regeneration, but not only physical, also social (convergence), to allow Londoners to have all the same opportunities and reduce the gap with the richer West London • The new park and state-of-art venues • Regeneration of a polluted and disaggregated area (fragmentation overcome) • Focus on public transport (very well-connected area) • Universities and cultural centers will move/open new branches there (mixed use other residential) <p>Negative:</p> <ul style="list-style-type: none"> • Metro station (transport node): to access it you have to go through the Westfield mall • Money and funding: final costs much higher than planned. Problem in the long run to allocate funding for maintenance • Too many changes for the stadium <p>Suggestion:</p> <ul style="list-style-type: none"> • Start with the legacy mode master plan, and then adapt the master plan for the Games to it (i.e. what they did for the aquatics center). 	<ul style="list-style-type: none"> • Best opportunities for big and developed cities • Corruption need to be avoided (risky for emerging cities)

<p>Number 3 (Private sector)</p>	<ul style="list-style-type: none"> • Legacy is fluid, many aspects involved Each event should have its own definition, according to the specific goals • Time: over 30 years. • For a first judgment on the master plan we should wait at least 10 years after the stage of the event. 	<p>A bit early (we should wait at least 10 years after the event) to discuss positive legacies and benefits however:</p> <ul style="list-style-type: none"> • The future development of the Olympic Village (transformed into the East Village, with several thousands of flats, half of them affordable housing) • Development of the Westfield shopping center (even if it is an independent project, not related to the Games) • New great sports facilities accessible to local communities and Londoners (i.e. the Copper Box is used by local schools) • Focus also on the Paralympics Games and disability in general (as compared to Sydney, for example) • Regarding the master plan, to early to give a judgment • The Lea Valley is a complex site (disaggregated and fragmented, full of rivers and canals, and polluted), but the works for the Games regenerated it. • Synergy with the London plan. • Need for houses for large families in that area (the aim of the Olympic Village is to satisfy this need) • Development of Hackney Wick (art centers and small cafes) <p>Negative:</p> <ul style="list-style-type: none"> • Stadium: too many plans and changes for the stadium. It is in fact the only venues still close. Too much money invested for it. Keep the athletics focus 	<ul style="list-style-type: none"> • For London and Sydney (interviewee' s experiences), the focus was on renewal and regeneration • Focus on the nature of the city: London, more stable and need for transport. But also focus on inner neighborhoods. Sydney on the contrary is a growing city, but with no density. • Sydney focused mainly on a sports park and an open space (park focus). In London the aim was creating a new district and suburb (integration, transport, and mixed use) • For developing countries, as South Africa (WC, 2010) and Rio (Olympics, 2016 and WC, 2014): the stage of these events can prove that also developing countries can do it. This is a positive attitude. • More challenges for developing cities. But it can work starting with small events and then stage bigger events (i.e.. Asian Games, and then WC). • Focus on transport, which is a major infrastructure for integration. • Qatar: interesting there is their approach for legacies. Money is not a problem. City-state with a lot of space. It will be something different from any previous edition. The most compact World Cup ever (with the right transportation). Tip: "focus on you needs in advance and then work for it". A way to "impress the world".

		<p>and reduce the 85,000 to 25,000 seats. Then things changed. Keep it as a large stadium for both athletics and football (need for flexible structure then, with a retractable track).</p> <ul style="list-style-type: none"> • In Sydney, for example, the plans were clear since the beginning (from 105,000 seats to 85,000. The stadium done for pitches sports). • The presence of Westfield can prevent the development of small commercial activities within the Olympic Village. 	
<p>Number 4 (Event Governing body)</p>	<ul style="list-style-type: none"> • Legacy: more than set a definition, the important is the setting realistic objectives, and long-term goals, and to have a strong vision • Time: over 30 years • Planning the legacy and post-event use well in advance • AIM: all Londoners must have the same opportunities • Political context: stability and leadership are needed, but also a clear vision. Also, a hosting city needs the capability to plan and deliver long-term projects. • Democratic context: all the inhabitants should have the same opportunities and should benefit from the Games. • OLYMPIC MASTER PLAN: usually it is like this ('closed' plan and Games, islands of regeneration) 	<ul style="list-style-type: none"> • + Strong vision since the bid (integration with the London Plan) and political willing • + Focus on physical and social sides: convergence of East toward the West • + Reduction of inequalities and "achieve convergence" • + Convergence of political willingness, London Plan, and Olympic legacies • + Olympics as catalyst for a process already planned in East London • + LLDC: only example (in London) of a body in charge of legacies already in place before the end of the Games • The overall budget for the Olympics: 1/3 for sports venues, 1/3 for the Games and security, and 1/3 for legacy • + DELIVERY MECHANISM: all the bodies and organizations in charge of legacies created well-before the end of the Games • + Focus on convergence (provide the same opportunities to all Londoners) • + Flexibility of the master plan, although 	<p>Why in London the legacy plan worked:</p> <ul style="list-style-type: none"> • For political reasons (it is a democratic country, and although there was a political chance both at nation and local level, long-term plans were not changed) • Physical: in London you can "fill a gap without creating a ghetto". In fact, Stratford was integrated within the overall urban fabric. In Rio de Janeiro this will not happen. There, the islands of regeneration created by the Games will not be integrated in the city. • London is democratic city, able to plan and develop long-term projects. However, many other countries do not have these capabilities. Here, in London, the Olympics were just a tool/means for accelerating and already existing vision and plans. • London has a legacy culture • London copied and improved the Barcelona model



- But should be like this (open master plan, integration within the urban fabric):



- planned well in advance
- + Mixed use (commercial and residential, but also cultural. 3 universities and other cultural institutions have plan to open branches in Stratford). It is not a dormitory neighborhood, but a space where to perform all kinds of activities
- + More than 10,000 jobs created (including the Westfield Mall.). Many of them part time (for women, to allow them manage work and family)
- + No eviction: only 75 people were displaced, because it was an abandoned area
- The economic crisis of 2008 lead to a reduction of the private funding
- Change in the political leadership
- Gentrification: but it is typical of all regeneration projects. It is not related to Olympics specifically
- Connectivity and density: although 38 streets and bridges were created in Stratford, connectivity could have been done better. However, the space is very fragmented.
- More mixed use can be done (not focusing mainly on residential)
- -Westfield mall: it is too wide; it covers too much space that could have been used for other purposes.

Developing World:

- Rio de Janeiro (2016 Olympics): there will be physical regeneration but not social. There will not be any process of convergence and inequalities will remain and probably increase.

Developed World:

- Milan (EXPO 2015) does not have a vision, so in legacy terms EXPO will be a failure

Developed World, past experiences:

- Rome (Olympics in 1960) worked well
- Tokyo (Olympics in 1968) worked well, too.
- Sidney (2000 Olympics) was a failure. The agency in charge of legacies was founded after the end of the Games.
- Athens (2004 games) was also a failure. In that occasion, they did not even create a body in charge of the legacy.

The stage of these events has to give a contribution to hosting cities, otherwise is a waste of time and money.

Number 5 (Academia)

- Complexity and politic nature of the 2012 Olympics project
- Legacy: simple and complicated at the same time, difficult to have a definition.
- Temporal dimensions: deadlines and acceleration effect
- Exceptionality: once in a life time event
- Winners vs. losers
- It depends on goals and ambitions of hosting cities. For sure, events create inefficiencies, because in any case you will have to plan and deliver activities you

- Legacy means all and nothing...it is just a trendy term, a fluid and malleable term. It can be manipulated. There is not a universal definition of it. He prefers do not utilize that term.
- It is more a political concept that a term to be defined. So, does it make any sense trying to define it?
- Time: 30-40 years. Legacy is for young people.
- Time is also critical in terms of planning: legacy needs to be planned well before the event.

- Positive
- Many positive aspects, but contrast between social benefits and money management: do the local communities real benefit from the Games?
- Negative
- The park is too exposed to weather (dark/light, hot/cold, sun/rain)
- A big issue is related to costs. How much money is needed to maintain and keep the park and the area ad public spaces?
- Changes: major issue, as in the case of the Olympic stadium.
- Funding park and maintenance: it will be a big issue in the future.
- Successful legacy, but social needs vs. commercial ones. Financial issue. Commitment for sports facilities to be managed by social enterprises. So, money does not come from that side. Where to collect the funding necessary to maintain the park? Costs vs. revenues.

will not need anymore after the event.

- EXPO is an interesting event, because you can create a platform for regeneration and discussion, and then you will remove all the pavilions (there is no necessity to build new sports permanent or temporary venues) and use the space for other reasons.
- WC can be interesting because it is a spread event, and it involves several cities. One could involve local football teams for sharing the expenses for the construction of the stadiums, while the government could pay for other infrastructure, more useful for the residents (roads, airports, transportation,)
- Olympics and other multi-sports events are interesting in cities where there is no sporting infrastructure.
- Questions:
- Compact vs. spread: if the event is too dilute, then it is not an event anymore.
- Temporary vs. permanent: temporary in many cases is better. However, it is still a superfluous cost: how much does it cost to built and then dismantle a temporary venue?
- Political dimension/decisions vs. good urban design: often decisions are made not because they are good decisions, or because they can create useful and

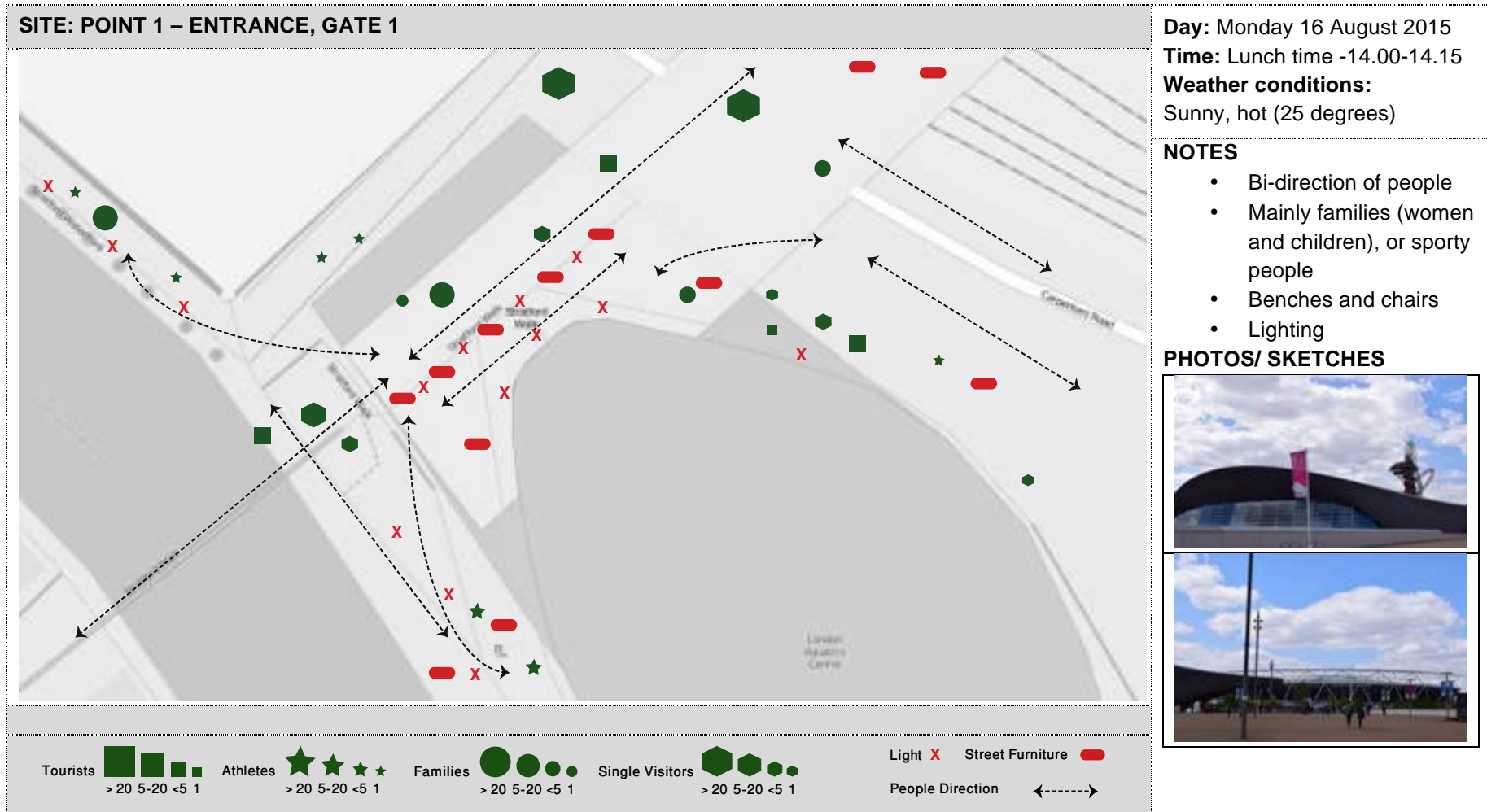
			sustainable spaces, but just because the political power wants it (city branding, symbolic events, no rationality, as for the cases of Qatar 2022 and Beijing 2008).
Number 6 (Academia)	<ul style="list-style-type: none"> • Time: long-term, at least 30 years or more • Legacy can be everything durable and lasting after the event: importance of planning the desired results (then the city will focus on the results they want to achieve) • The deadline of the Games forces the infrastructure to be ready both for the event and the legacy 	<ul style="list-style-type: none"> • Importance of knowledge transfer: Learninglegacy.independent.gov.uk: knowledge transfer (platform with a learning legacy project), to make the London experience replicable. • Aim for convergence and catch up of the East towards the West • Aquatics center: change of perspective. Built first the legacy mode venue and then added temporary wings. • Social side 	<ul style="list-style-type: none"> • Independently from the event or hosting city: • Have a strong vision, political willingness and engagement, community engagement • Focus on the social and physical sides • Create a <i>metabolism</i>: focus on diversity, complexity, density
Number 7 (Private sector)	<ul style="list-style-type: none"> • Public role in the management of the event and legacy. • The majority of the funding involved should be public, and also the land involved. In this way it is easier to manage and plan a post-use event and legacy. • Planning of legacy: the sooner, the better. • Link the sports sites with the surroundings, with what is around. • Importance of social legacies (as per London Olympics) 	<p>Positive</p> <ul style="list-style-type: none"> • Focus on residential and mixed use • Temporary approach and legacy/after-event planning • Focus on East London and synergy with the London Plan • Behavior change: the perspective of change in East London • Shift of the center of gravity from West London. Reorientation of the city into a new direction (East London, Stratford) • Focus on building a new neighborhood, with a wide park, housing and commercial areas. • Public ownership of the land. • Not only a physical, but also a social transformation. • Regulatory process characterized by flexibility. The park and area were built in flexibility 	<ul style="list-style-type: none"> • WC is more at a country level (Qatar is an exception) • Winter Olympic Games: usually there is no large urban development. It is a good strategy to develop resort locations • Summer Games are more effective for regeneration and urban development purposes • Rio de Janeiro, Doha, London: his company used the same approach in the 3 hosting cities • Rio de Janeiro, Doha and other emerging cities: they have more opportunities, but also more challenges • The approach in Rio: they started with the hosting of smaller events, and then little by little, they hosted more international and important events (from Pan American Games to Olympics) • Rio: theoretically, similar approach to

		<p>Negative:</p> <ul style="list-style-type: none"> • Sports legacy: sport participation not as good as planned • Affordable housing not so affordable • (They are both recurrent issues in any hosting city) • The transformation mode is longer then people want (more than one year and a half for the park to reopen, but the stadium is still closed, and many other infrastructure still under construction). 	<p>London, with a focus on regeneration, transport, and residential. The approach focuses on a mix of temporary and permanent venues. The use of water is also important.</p> <ul style="list-style-type: none"> • Doha is a sports hub and the Government focuses on sport. • Doha, for the World Cup, should focus on temporary structures and downscale. • Both Doha and Rio show a focus on transportation infrastructure
<p>Number 8 (Private sector)</p>	<ul style="list-style-type: none"> • Early start of legacy planning (in London in 2010 starts the transformation mode) • Importance of knowledge transfer, from city to city, and mapping successful stories and best practices. 	<p>Positive:</p> <ul style="list-style-type: none"> • Strong vision and leadership, although the political change at a local and national level. • Focus on the social side: convergence; aim of giving social benefits to local communities • Increase the sense of community in East London • New venues only when necessary (i.e. the aquatics center) • Provide connectivity and integration • Good coordination among entities and bodies • A new piece of city was built thanks to the hosting of the Games <p>Negative</p> <ul style="list-style-type: none"> • Too early delivery (venues were ready almost one year before the Games, too early, it is a cost) • Too many changes in some occasions (i.e. the Olympic stadium), with an increase of costs 	<ul style="list-style-type: none"> • For established cities, as London, it is easier to host these events, because they have already established systems. • Cultural diversity: adaptation of previous planning models to local needs

<p>Number 9 (Academia)</p>	<ul style="list-style-type: none"> • Importance of defining the beneficiaries • Time: at least 30 years or more • Political issue: people are impatient and want to see legacy immediately; events are usually not profitable (economically): a lot of money necessary for the change 	<ul style="list-style-type: none"> • Sustainability side: • Focus on sustainability (waste management, sports venues, almost no parking and access by public transport, water: grey water used for landscape) • Social side: local hiring and apprenticeship programs • Focus on culture and education <p>Negative:</p> <ul style="list-style-type: none"> • Increase in planned costs (initial budget vs. final expenditures) • Stadium (all the changes made in its planning) • Gentrification (increase in rentals and land cost), although now much more offer in housing and commercial spaces available (very important for a city as London that needs more and more housing) • Council tax hike of 20 pounds per household per year, particularly unfair for low-income families. 	<ul style="list-style-type: none"> • World Cup usually is more at a country level. Useful for developing transport, hotel and resort infrastructure (hotels) • Summer Games more at a city level • Qatar 2022 is an exception; it will be the most compact WC in the history of this event. In this sense it is more similar to Olympics.
<p>Number 10 (Event Governing body)</p>	<ul style="list-style-type: none"> • Time: over 30 years, a long time (preparation: 7 years, games: 15 days, legacy: many years) • Focus on legacy but also sustainability an resilience 	<p>Positive:</p> <ul style="list-style-type: none"> • Bridges: connection and accessibility • Site opportunities: youth, diversity, and energy. • The venues ready one year ahead the Games (enough time to plan for the Games and for the legacies) • The planning paralysis avoided by strong leadership (Ken Livingston) • Everybody though that Paris would win, so the London government intended to gain something in any case, even only from the bid. That is why the focus was 	<ul style="list-style-type: none"> • The context is everything. Legacy depends on the context and local needs.

		<p>on legacy.</p> <ul style="list-style-type: none"> • No communities displacement • New 10,000 jobs created. • Olympic Village: half flats are affordable/social housing. • Importance of the bids: bids generate new and positive ideas. • Deliver on time, deliver safely (no mortalities, for the first time in the UK), Increase the job offer, inspire future generations, and increase skill capacity. • Negative: • Discrepancy between the budget in the bid and the real one (the final is 24 billion) • Gentrification. Even if there is a project for affordable housing, gentrification and increase of costs is inevitable. 	
<p>MAJOR FINDINGS</p>	<ul style="list-style-type: none"> • Time: planning for a long-term (30 years) • Focus on positive legacies • Focus on beneficiaries • More important than giving a definition of legacy itself, is defining what are the types of legacies you want to focus on • Early start of legacy planning: start with the legacy master plan, and built the event on it (reverse the approach) • Focus not only on physical, but also social side and intangible impacts 	<p>Positive</p> <ul style="list-style-type: none"> • Integration and convergence • New jobs • Focus on public transport • Early legacy plan • Clear vision and strong leadership <p>Negative</p> <ul style="list-style-type: none"> • Difference between the initial budget and final costs • Costs for maintenance • Management of the stadium • Gentrification that follows major regeneration project 	<ul style="list-style-type: none"> • Olympics and other multi-sports events: impact on cities • World Cup: impact on countries • Developed vs. emerging countries: importance of vision and political leadership, importance for hosting cities/countries to have the capability to plan and develop complex and long-term projects. • Emerging cities have more opportunities, but also more challenges because often they do not have an established planning system

Appendix G: Tool 4 - Behavioral map, walking through sheets and checklists, London 2012



SITE: POINT 2 – ACCESS TO AQUATICS CENTER

Day: Monday 16 August 2015

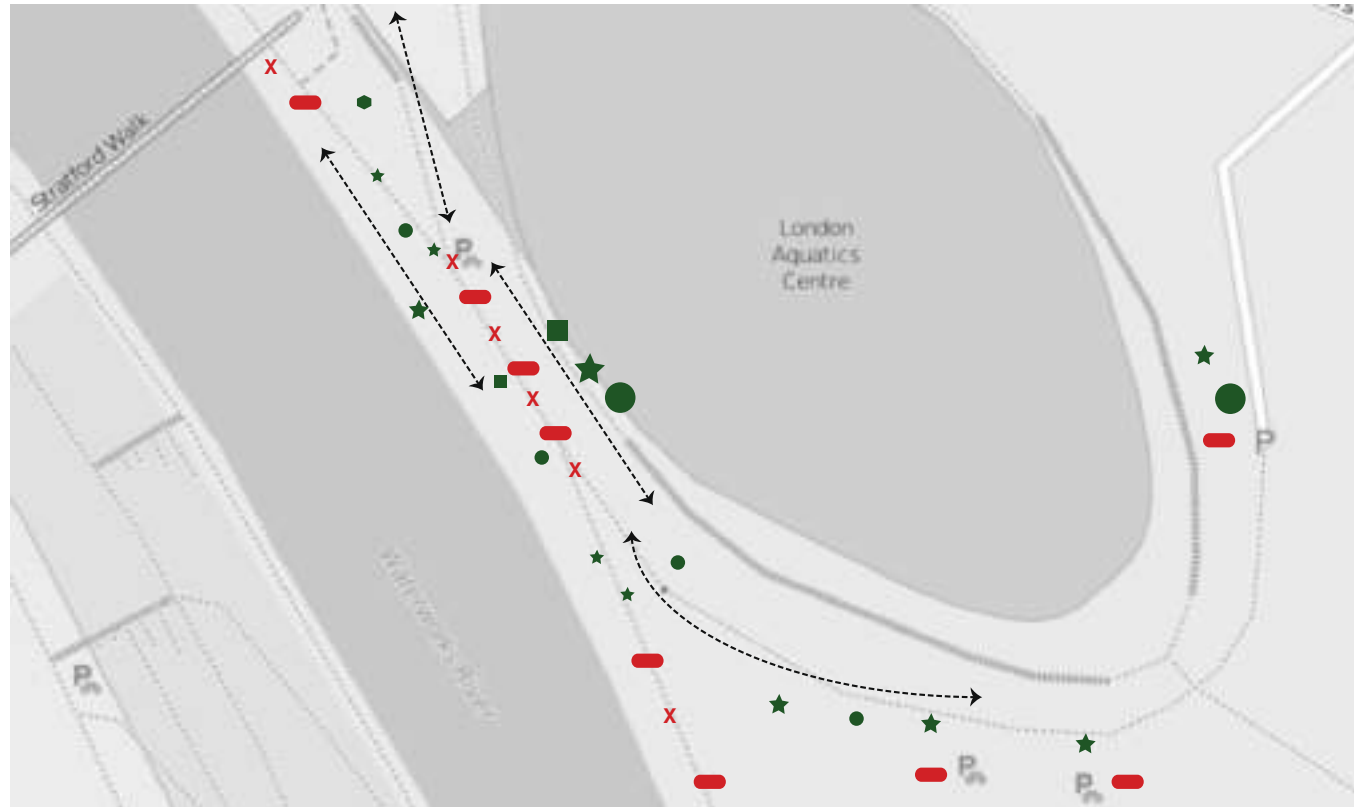
Time: Lunch time -14.20-14.35

Weather conditions:
Sunny, hot (25 degrees)

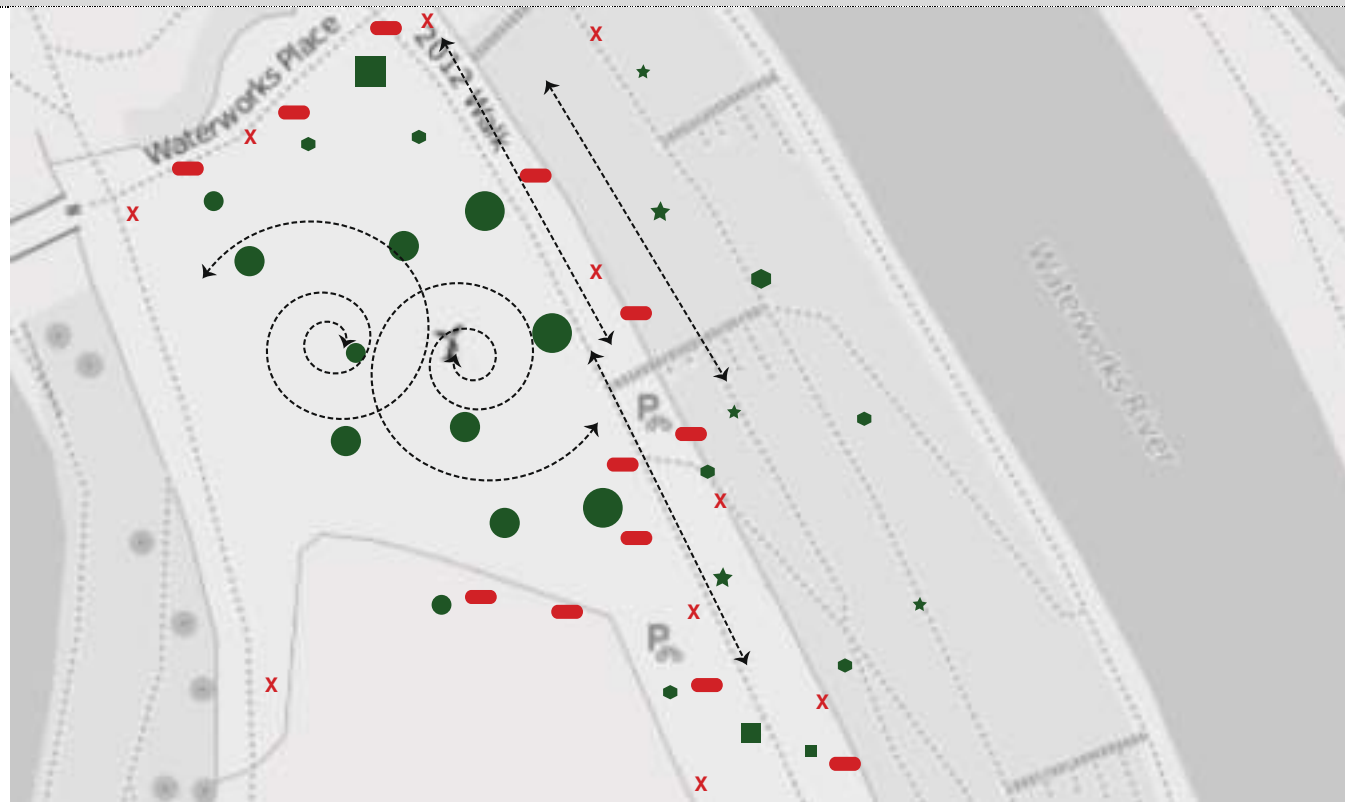
NOTES

- Athletes and kids accessing the pool
- Some runners and cyclists
- Benches and chairs, bike parking
- Elevator for disabled
- Lighting OK

PHOTOS/ SKETCHES



SITE: POINT 3 – AREA BETWEEN THE STADIUM AND THE ORBIT



Day: Monday 16 August 2015

Time: Lunch time -14.40-14.55

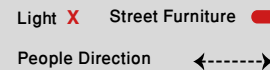
Weather conditions:

Sunny, hot (25 degrees)

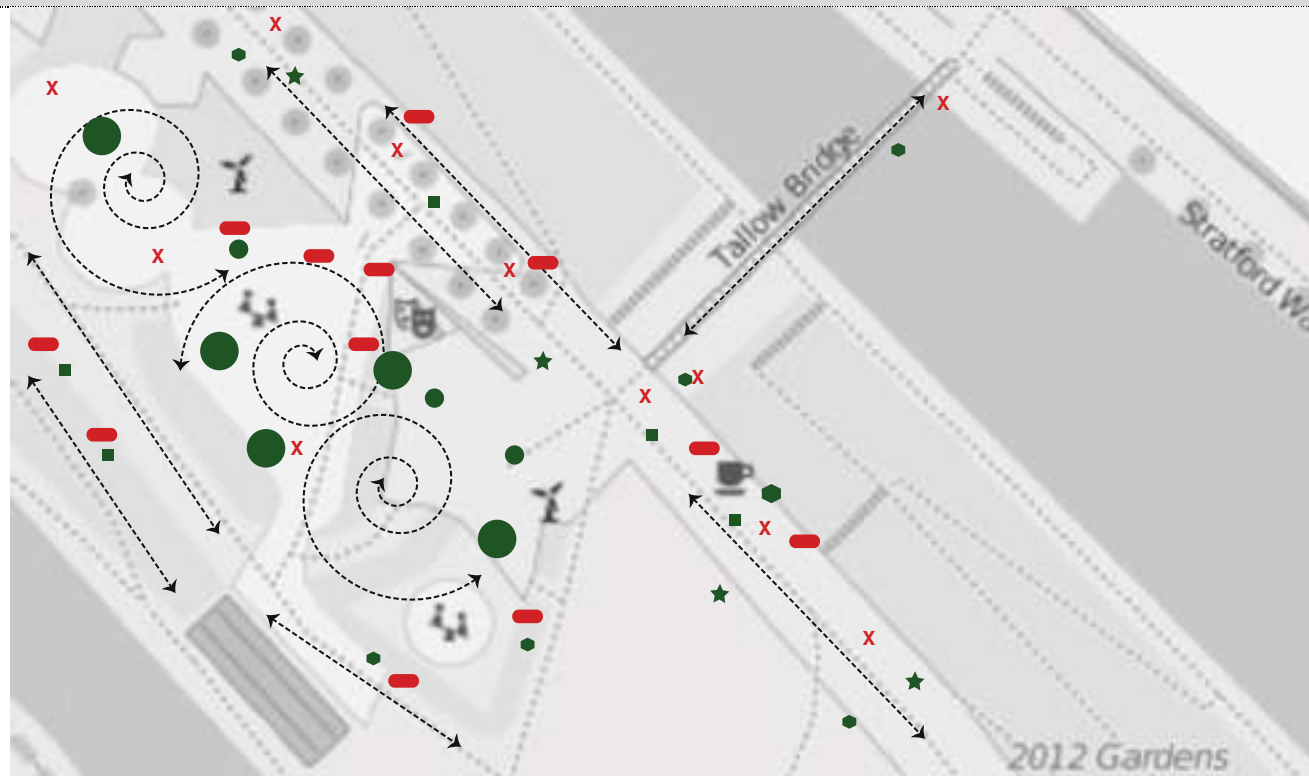
NOTES

- Full of kids playing and moms
- Role of water
- Some runners
- Few policemen passing by
- Maintenance is accurate
- All the cafés are open

PHOTOS/ SKETCHES



SITE: POINT 4 – PLAY AREA A



Day: Monday 16 August 2015
Time: Lunch time -15.00-15.15
Weather conditions:
 Sunny, hot (25 degrees)

NOTES

- Full of kids playing and moms
- Some runners
- Few policemen passing by
- Maintenance is accurate
- All the cafés are open

PHOTOS/ SKETCHES



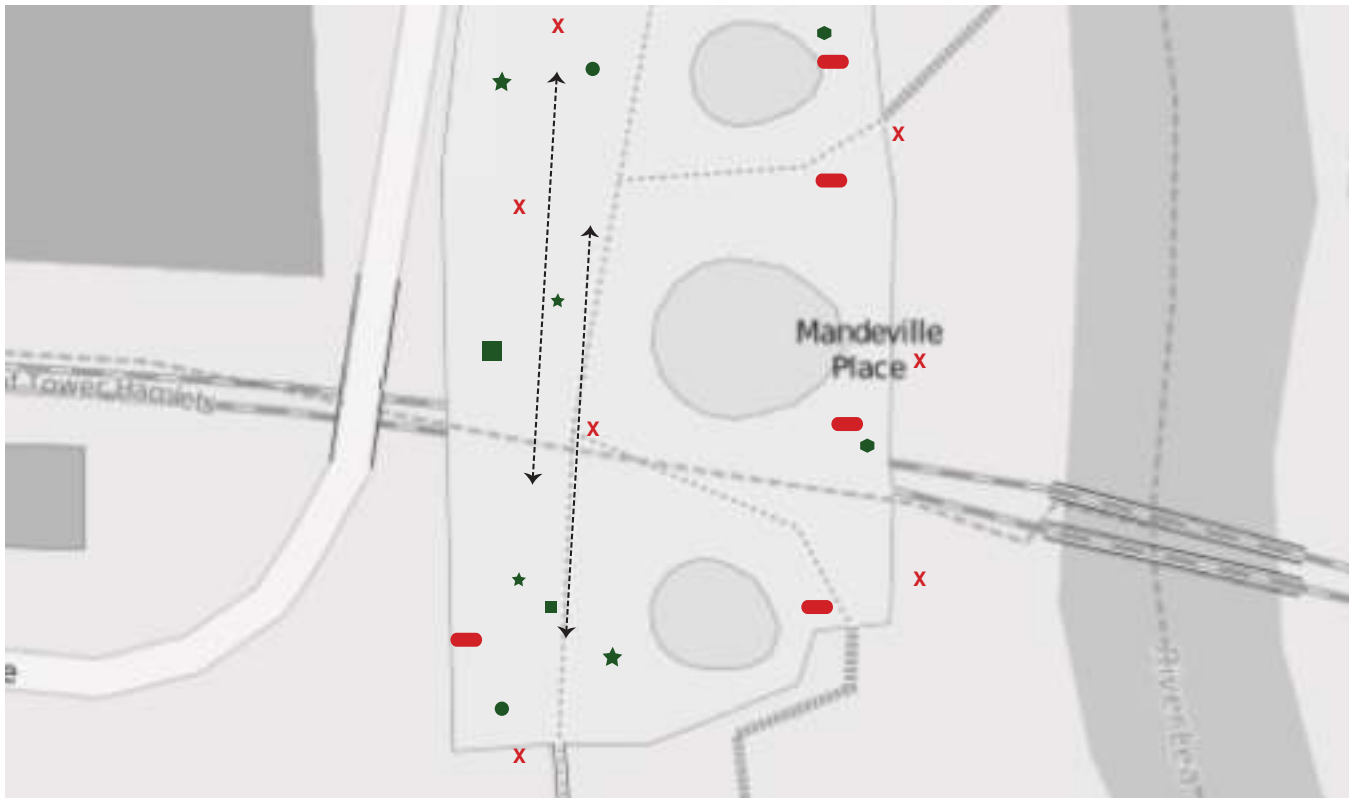
SITE: POINT 5 – MENDEVILLE PLACE

Day: Monday 16 August 2015
Time: Lunch time -15.20-15.35
Weather conditions:
 Sunny, hot (25 degrees)

NOTES

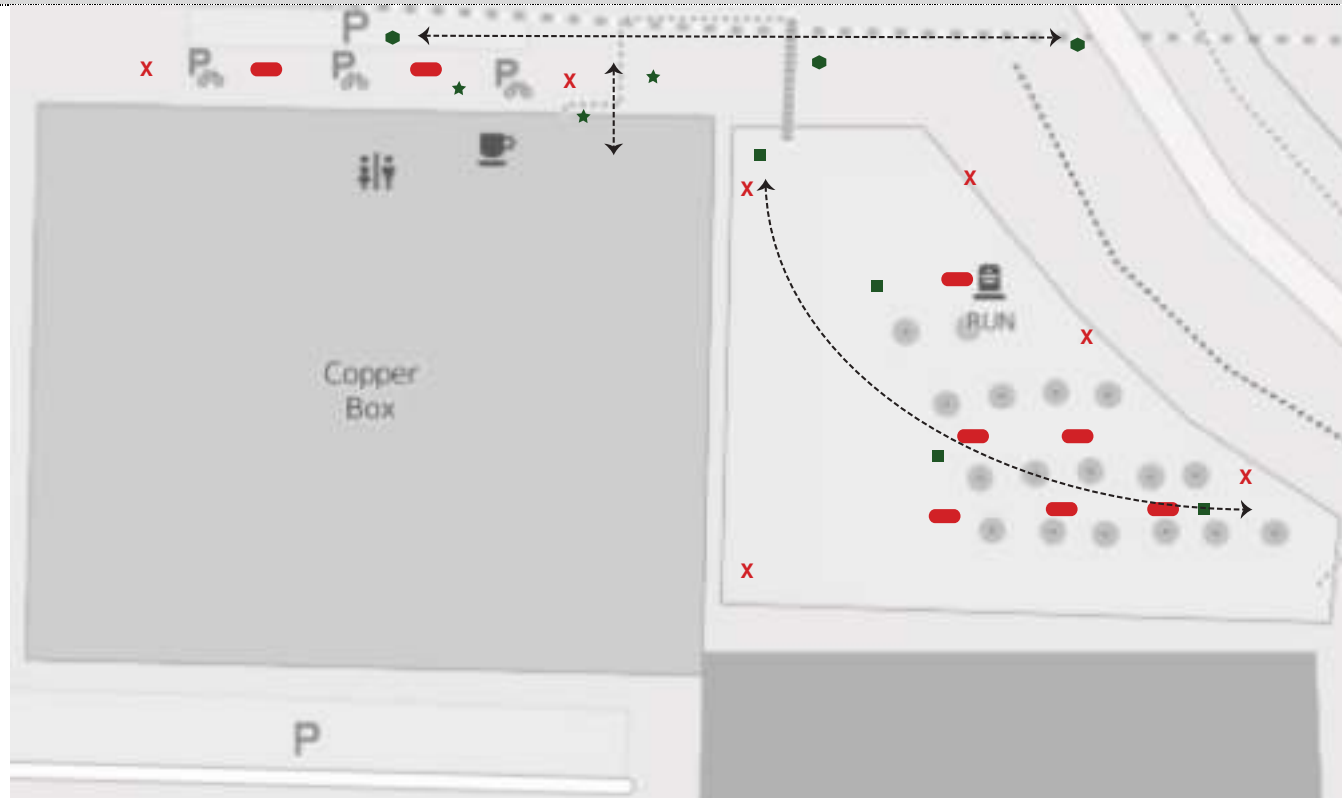
- Non-place, passage only
- Few people passing from South to North park

PHOTOS/ SKETCHES



<p>Tourists</p> <p>> 20 5-20 <5 1</p>	<p>Athletes</p> <p>> 20 5-20 <5 1</p>	<p>Families</p> <p>> 20 5-20 <5 1</p>	<p>Single Visitors</p> <p>> 20 5-20 <5 1</p>	<p>Light X</p>	<p>Street Furniture</p>	<p>People Direction</p>
--	--	--	---	-----------------------	--------------------------------	--------------------------------

SITE: POINT 6 – COPPER BOX ENTRANCE



Day: Monday 16 August 2015
Time: Lunch time -15.40-15.55
Weather conditions:
 Sunny, hot (25 degrees)

NOTES

- Some locals accessing the gym
- The arena is closed
- Art work "RUN"

PHOTOS/ SKETCHES



Tourists > 20 5-20 <5 1
Athletes > 20 5-20 <5 1
Families > 20 5-20 <5 1
Single Visitors > 20 5-20 <5 1
Light X **Street Furniture** **People Direction**

SITE: POINT 7 – AREA NEAR RIVER LEA

Day: Monday 16 August 2015

Time: Lunch time -16.00-16.15

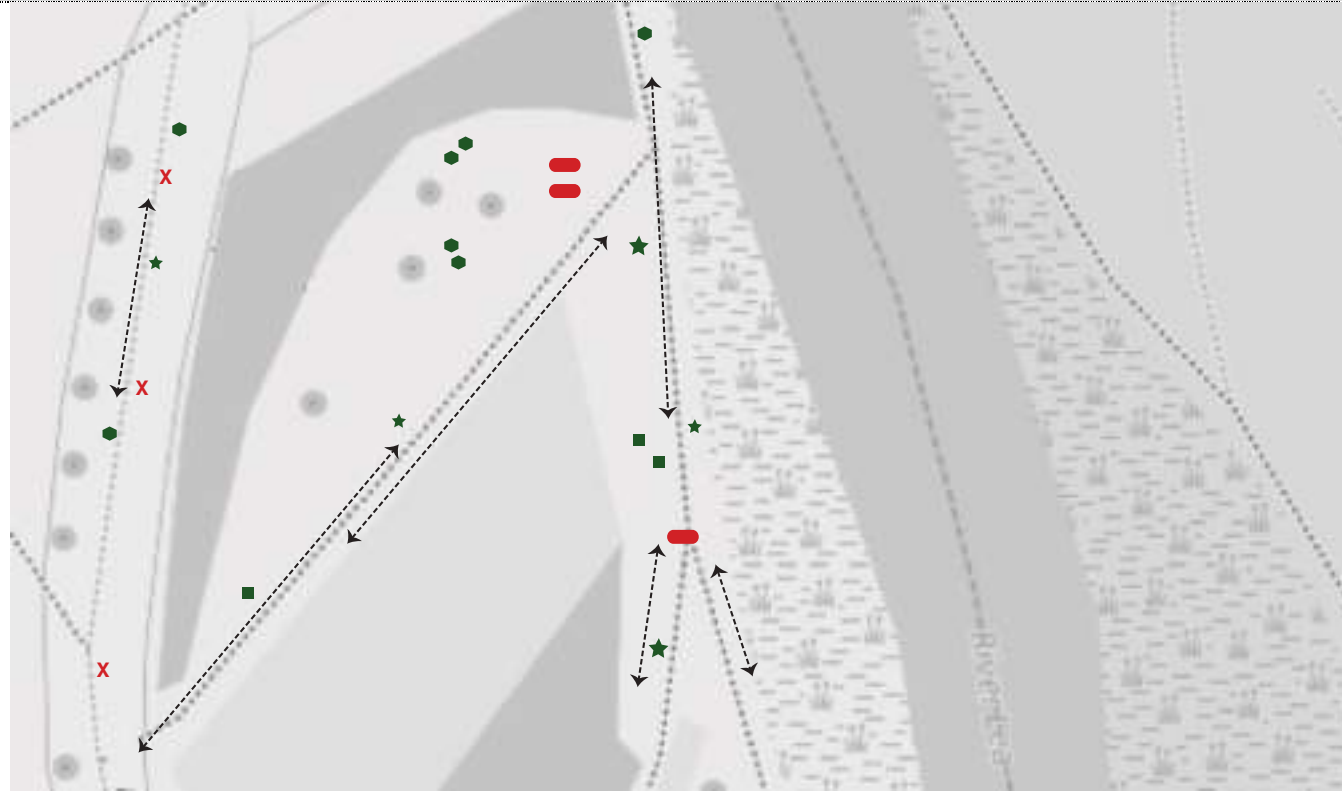
Weather conditions:

Sunny, hot (25 degrees)

NOTES

- Naturalistic and quite
- Relaxing

PHOTOS/ SKETCHES



Tourists > 20 5-20 <5 1

Athletes > 20 5-20 <5 1

Families > 20 5-20 <5 1

Single Visitors > 20 5-20 <5 1

Light Street Furniture

People Direction

SITE: POINT 8 – HOCKEY AND TENNIS CENTER ENTRANCE



Day: Monday 16 August 2015
Time: Lunch time -16.20-16.35
Weather conditions:
 Sunny, hot (25 degrees)

NOTES

- Not many people playing
- A bit far from Stratford, less accessible
- Closed for event

PHOTOS/ SKETCHES



Tourists ■ ■ ■ ■ ■ > 20 5-20 <5 1
Athletes ★ ★ ★ ★ > 20 5-20 <5 1
Families ● ● ● ● > 20 5-20 <5 1
Single Visitors ◆ ◆ ◆ ◆ ◆ > 20 5-20 <5 1
Light X **Street Furniture** ●
People Direction ←-----→

SITE: POINT 9 – VELOPARK ENTRANCE

Day: Monday 16 August 2015

Time: Lunch time -16.40-16.55

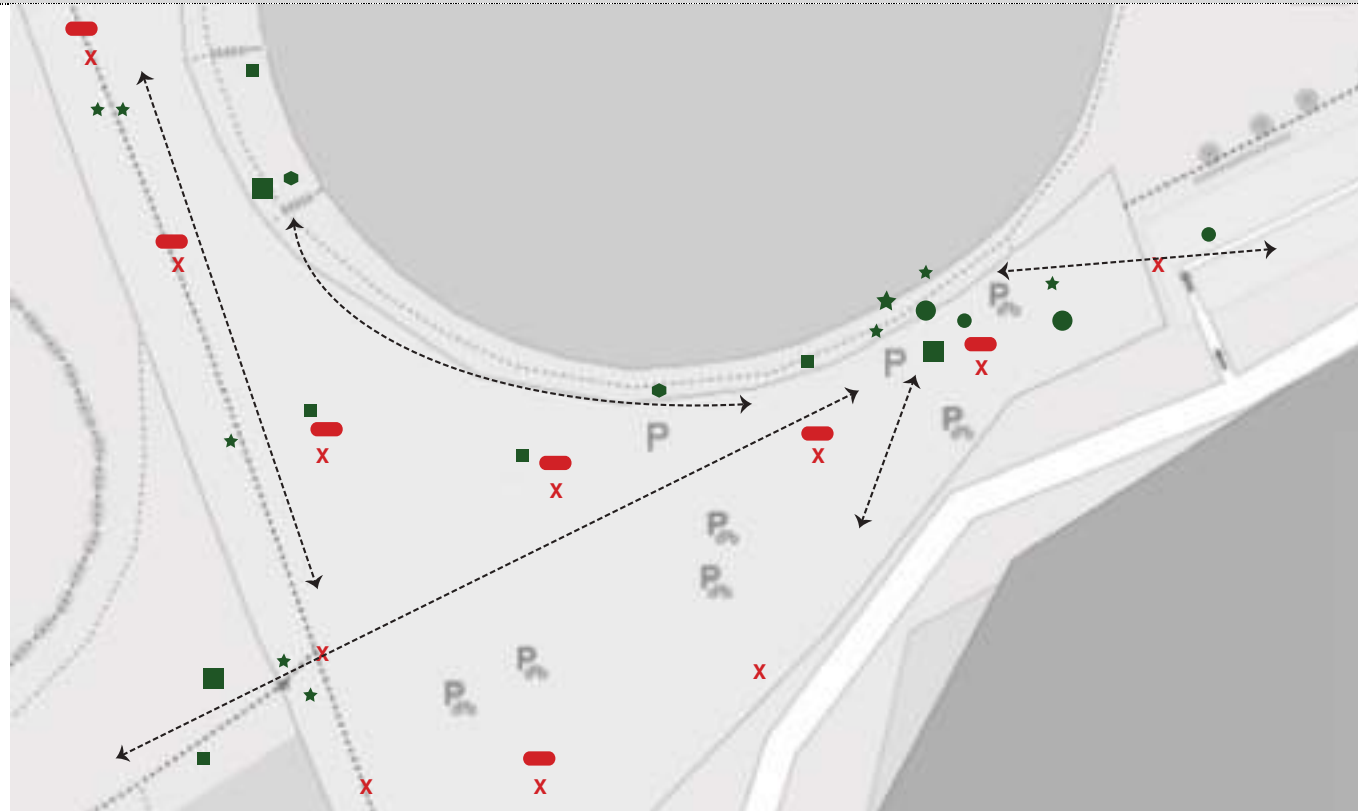
Weather conditions:

Sunny, hot (25 degrees)

NOTES

- Gates and fences
- Many people using the velodrome

PHOTOS/ SKETCHES



<p>Tourists</p> <p>> 20 5-20 <5 1</p>	<p>Athletes</p> <p>> 20 5-20 <5 1</p>	<p>Families</p> <p>> 20 5-20 <5 1</p>	<p>Single Visitors</p> <p>> 20 5-20 <5 1</p>	<p>Light X Street Furniture </p> <p>People Direction </p>
--	--	--	---	--

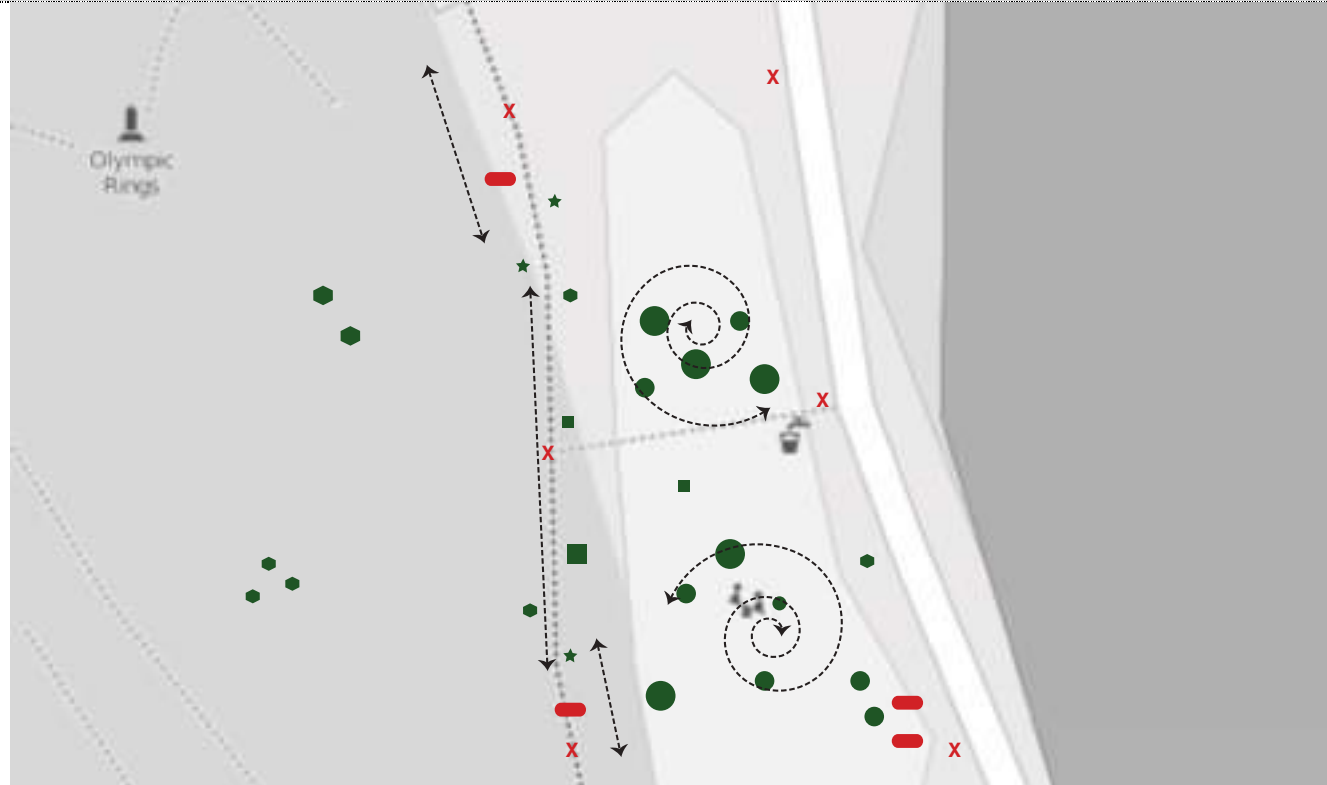
SITE: POINT 10 – PLAY AREA B

Day: Monday 16 August 2015
Time: Lunch time -17.00-17.15
Weather conditions:
 Sunny, hot (25 degrees)

NOTES

- Play Area B: full of kids

PHOTOS/ SKETCHES



Tourists		Athletes		Families		Single Visitors		Light X	Street Furniture	
	> 20 5-20 <5 1		> 20 5-20 <5 1		> 20 5-20 <5 1		> 20 5-20 <5 1			
								People Direction		

SITE: POINT 11 – TIMBER LODGE CAFÉ

Day: Monday 16 August 2015

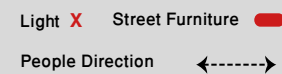
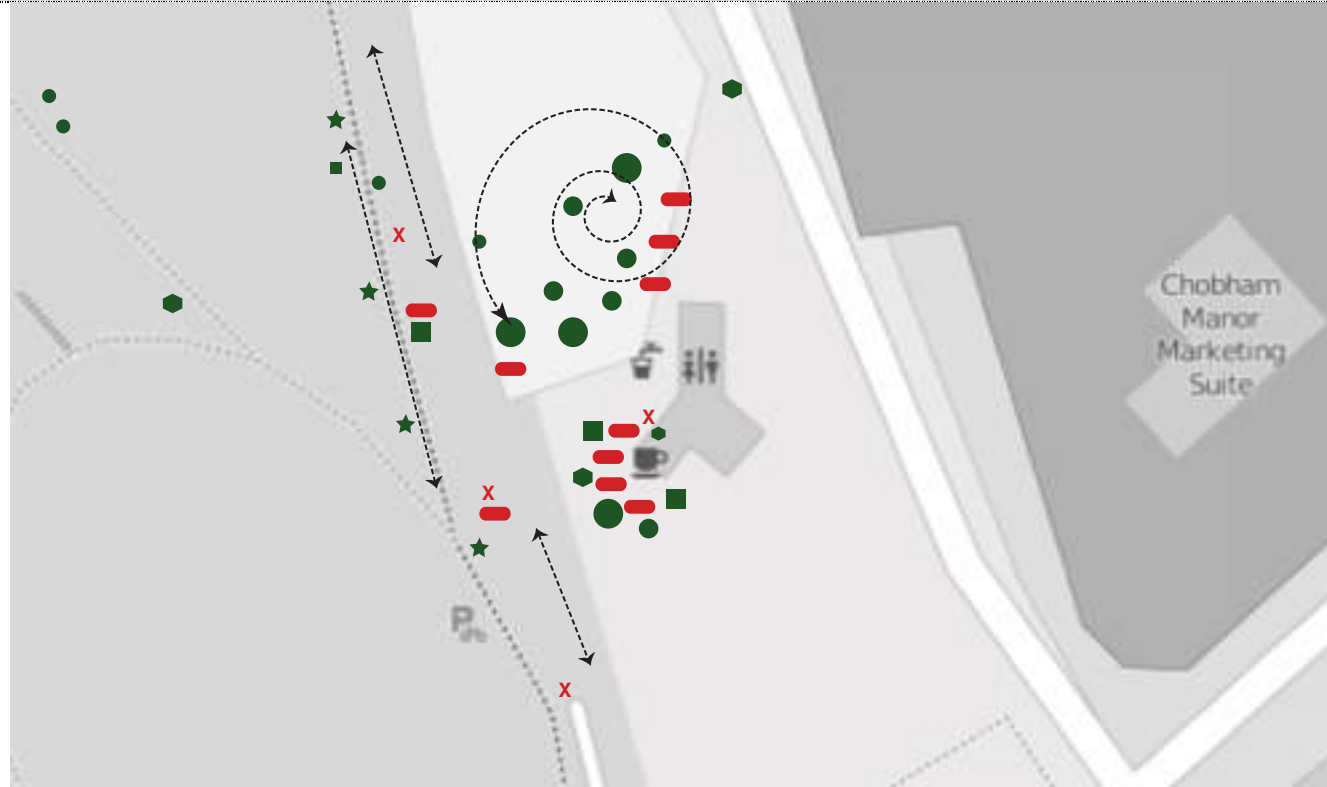
Time: Lunch time -17.20-17.35

Weather conditions:
Sunny, hot (25 degrees)

NOTES

- Full of kids playing and moms
- Role of water
- Some runners
- Few policemen passing by
- Maintenance is accurate
- All the cafés are open

PHOTOS/ SKETCHES



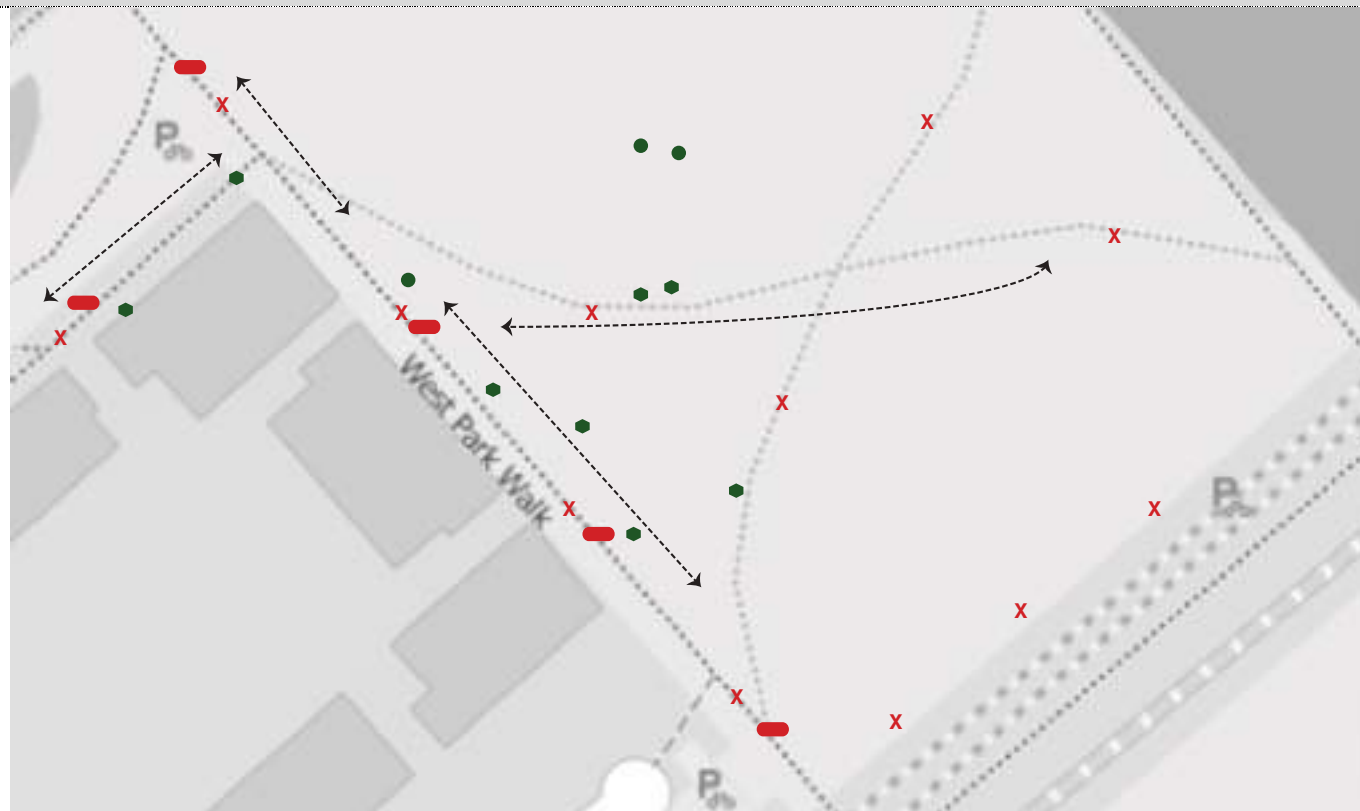
SITE: POINT 12 – MAIN PLAZA, OLYMPIC VILLAGE

Day: Monday 16 August 2015
Time: Lunch time -17.40-17.55
Weather conditions:
 Sunny, hot (25 degrees)

NOTES

- Shops all closed, only flats are utilized
- Near Stratford and Westfield

PHOTOS/ SKETCHES



Space Assessment Checklist												
Aim: to map and evaluate the built and natural environment of each point of the space selected (Take note of the quantity and mark their location on the map)												
Day:	Monday 16 August 2015				Weather Conditions:			Sunny, hot (25 degrees)				
Starting Time:	Lunchtime -14.00-14.15				Ending Time:			Early afternoon -17.30				
Selected Point	1	2	3	4	5	6	7	8	9	10	11	12
Built and Natural Environment												
SAFETY AND SECURITY	High	High	High	High	Average	Average	Average	Average	High	High	High	High
Street Furniture	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Seating (benches, chairs)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tables	N	N	N	N	N	N	N	N	N	N	Y	N
Lighting	Y	Y	Y	Y	Y	Y	Y, rare	Y	Y	Y	Y	Y
Fences and Gates	N	N	N	N	N	N	N	N	Y	Y	Y	N
CCTV	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
COMFORT AND ACCESSIBILITY	Good	Good	Good	Good	Average	Average	Average	Good	Good	Good	Good	Good
Signage, maps and info	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Shelters	N	N	N	N	N	N	N	Y	Y	N	Y	N
Noise Pollution Conversations, Mechanical equipment, Music, Traffic, ...	Conv.	N	Conv.	Conv. Kids	N	N	N, very quite	N	Y Some cars, chatting	Y chatting, kids playing	Y	N
Cafés	N	Y	Y	Y	N	Y	N	Y	Y	N	Y	N
Drinking Fountains	N	N	Y	N	N	N	N	N	N	Y	Y	N
Toilets	N	Y	Y	N	N	Y	N	Y	Y	N	Y	N
Accessibility for disables	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cycling and pedestrian paths	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Quality of Maintenance	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
General cleaning	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
ATTARCTIVENESS - PLEASANTENESS	Average	Average	High	High	Average	Average	Good	Good	Good	Good	Good	Good
Landmarks and art works	N	Y	Y	N	N	Y	N	N	Y	N	N	N
General Appearance/Aesthetics	Average	Average	Good	Good	Average	Average	Good	Good	Good	Good	Good	Good
Quality of Landscape	Average	Good	High	High	Average	Average	High	High	Average	Good	Good	Good
Vegetation Heavy Vegetation Cover, Sparse Vegetation Cover, Landscaped Areas (shrubs/flowers etc.), Lawn	N	Y Trees	Y Trees Lawn Flowers Veg	Y Lawn Flowers Veg	Scarce	Y Trees	Y Trees Lawn Flowers Veg	N	N	Y Trees Lawn Flowers Veg	N	Y Trees
Water Features Fountains, Play Fountains	N	N	Y	N	N	N	N	N	N	Y	N	N
Playground Areas	N	N	N	Y	N	N	N	N	N	Y	N	N
Flows and People												
FLWS												
Number of people	High	Med	High	High	Low	Low	Low	Low	High	High	High	Low
ACTIVITIES												
Sport: Cycling/Running	Walk		Both	N	Both	N	Both	Tennis Hockey	Cycling	Both	None	None
Walking/Resting/Chatting	All	N	All	Kids	None	N	All	N	N	All	R C	WR
Playing	No	N	Y	Y	N	N	N	Tennis Hockey	N	Kids	N	N
Working	No	N	Y	N	N	N	N		N	Mainten ance	N	N
Other (Specify)	-	Access Pool		Kids	-	Access to the	Picnic	-	Access to		-	-

						Gym			velodrome			
DEMOGRAPHICS												
Females vs. Males	F	Both	F	Both	Both	Both	Both	Both	M	F	Both	Both
Families vs. Singles	F	Both	F	F	S	S	S	Both	S	F	Both	F
Young vs. Adults	A	A	Y	Y	A	A	A	A	A	YA	Both	A
Elderly vs. Kids	K	K	K	K	-	None	None	K	None	K	K	None
Locals vs. Tourists	Both	L	L	L	L	L	LT	L	L	LT	LT	L
Ethnicities: W B Ar I As	WBAsArI	WB	WBAsArI	WBAsArI	W	WB	W	W	W	W B Ar I As	W	W B I
Notes:	-	Lift	Busy area	Busy	Passage area	-	Relaxing	-	-	-	-	-

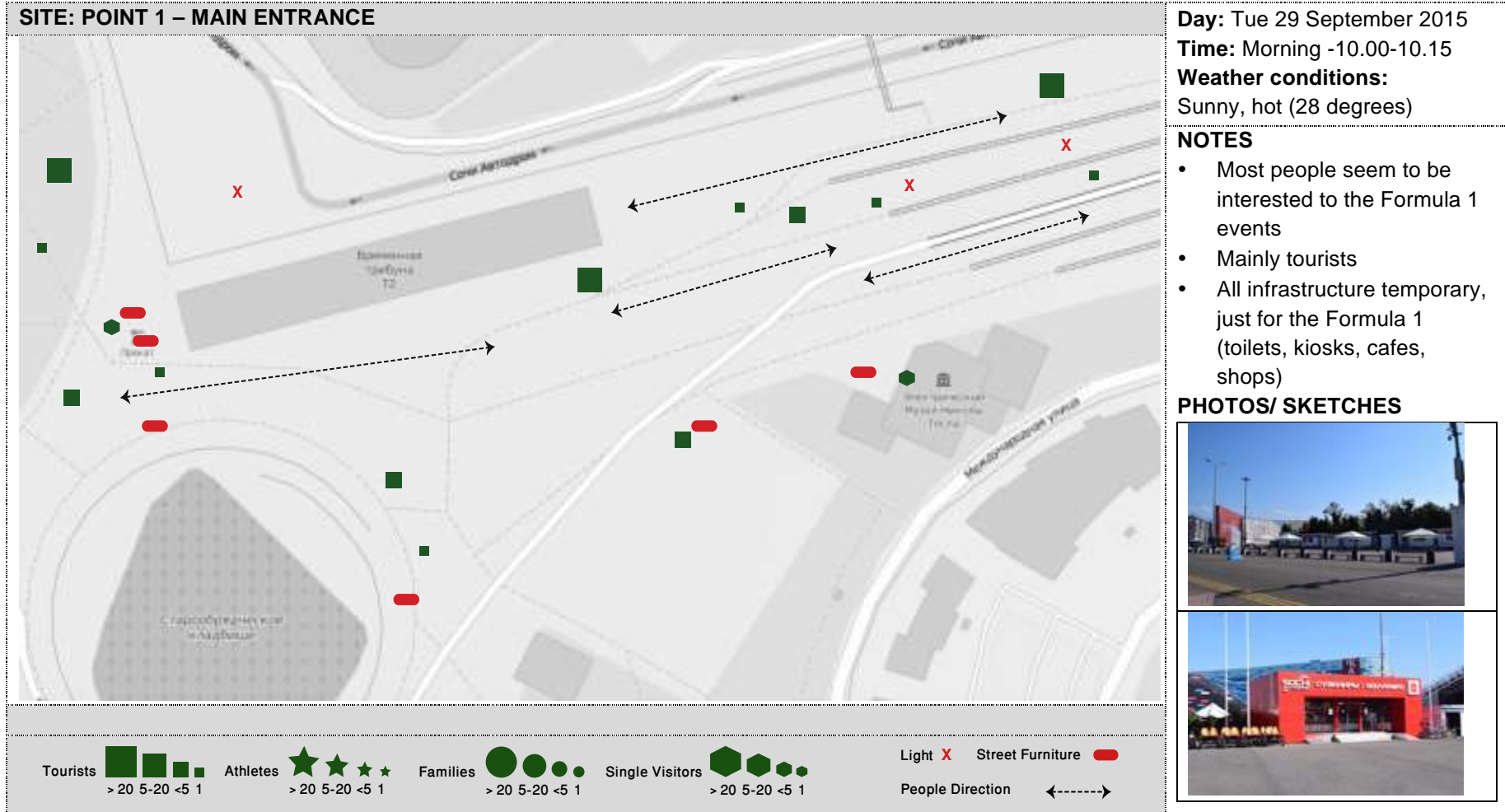
Appendix H: Tool 3 - Matrix for the comparative analysis of the interviews, Sochi 2014

Interviewee Number	Section 1 – Legacy definition and main issues	Section 2 – Best practices, main achievements, and pitfalls of the 2012 Games	Section 3 – Events, cities, opportunities, and challenges
<p>Number 1 (Academia)</p>	<ul style="list-style-type: none"> • Political issue: vision and leadership • Importance of defining the beneficiaries • Time: at least 30 years or more • Legacy: more than set a definition, the important is the setting realistic objectives, and long-term goals, and to have a strong vision 	<p>Aim: city branding, develop Sochi as the Russian Riviera</p> <p>Positive:</p> <ul style="list-style-type: none"> • Knowledge transfer program • University for sports in Sochi and Moscow, as international communication platform • Sochi as international brand • New transport and sport infrastructure • Mental change <p>Negative:</p> <ul style="list-style-type: none"> • Involvement of local population in sport (26-30%) • Size and geography of the city (small and not well connected) 	<ul style="list-style-type: none"> • The context is everything. Legacy depends on the context and local needs. • Olympics vs. other sports event: scale and dimension.
<p>Number 2 (Event Governing body)</p>	<ul style="list-style-type: none"> • Link the sports sites with the surroundings, with what is around. • Early start of legacy planning • Importance of knowledge transfer, from city to city, and mapping successful stories and best practices. 	<p>Positive</p> <ul style="list-style-type: none"> • New electricity power plant that reduced frequent blackouts and energy supply issues • New road that reduced car traffic <p>Negative:</p> <ul style="list-style-type: none"> • Tropical weather for a Winter resort destination • Small city to host such an important event 	<ul style="list-style-type: none"> • Best opportunities for big and developed cities • WC: spread event, it involves more cities. Here, focus more on stadiums and hotels. • Olympics are a city-based, city level event

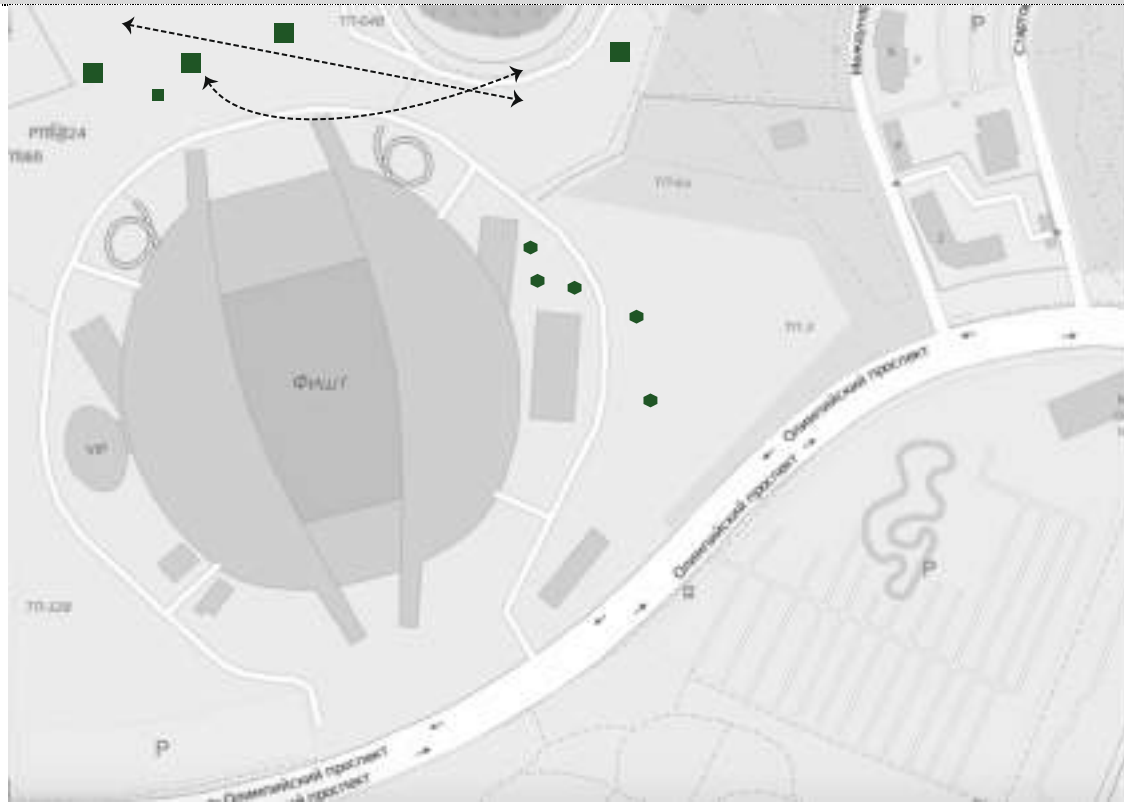
		<ul style="list-style-type: none"> • Many white elephants • Railway road • Costs and expenditure • Corruption • Oversized infrastructure (hotels) 	
Number 3 (Private sector)	<ul style="list-style-type: none"> • Time: over 30-40 years. • For a first judgment on the master plan we should wait at least 10 years after the stage of the event. 	<ul style="list-style-type: none"> • Sochi as Russian Riviera • Good ideas, although bad executed <p>Negative:</p> <ul style="list-style-type: none"> • Stadium: built for been used only twice (opening and closing ceremonies) • Costs of maintenance • Corruption • Over capacity for all the venues 	<ul style="list-style-type: none"> • Corruption need to be avoided (risky for emerging cities) • Focus on transport, which is a major infrastructure for integration. • More challenges for developing cities. But it can work starting with small events and then stage bigger events (i.e.. Asian Games, and then WC).
Number 4 (Private Sector)	<ul style="list-style-type: none"> • Time: over 30 years • Planning the legacy and post-event use well in advance • AIM: all Londoners must have the same opportunities • Political context: stability and leadership are needed, but also a clear vision. Also, a hosting city needs the capability to plan and deliver long-term projects. • Democratic context: all the inhabitants should have the same opportunities and should benefit from the Games. 	<ul style="list-style-type: none"> • Flood • Sustainability issues (the parks in a very fragile area) • White elephants 	<p>The stage of these events has to give a contribution to hosting cities, otherwise is a waste of time and money.</p>
Number 5 (Academia)	<ul style="list-style-type: none"> • Time: 30-40 years. Legacy is for young people. • Legacy: simple and complicated at the same time, difficult to have a definition. • Time is also critical in terms of planning: legacy needs to be planned well before the event. 	<ul style="list-style-type: none"> • Temporal dimensions: deadlines and acceleration effect • Exceptionality: once in a life time event • Winners vs. losers <p>Positive</p> <ul style="list-style-type: none"> • Legal aspects and social issues related to land ownership <p>Negative</p> <ul style="list-style-type: none"> • The park is not utilized 	<p>It depends on goals and ambitions of hosting cities. For sure, events create inefficiencies, because in any case you will have to plan and deliver activities you will not need anymore after the event.</p> <p>Olympics and other multi-sports events are interesting in cities where there is no sporting infrastructure.</p>

		<ul style="list-style-type: none"> • Few tourists • A big issue is related to costs. How much money is needed to maintain and keep the park and the area ad public spaces? 	<ul style="list-style-type: none"> • Winter Olympic Games: usually there is no large urban development. It is a good strategy to develop resort locations
Number 6 (Event Governing Body)	<ul style="list-style-type: none"> • Public role in the management of the event and legacy. • Legacy has to last for a long-term, at least 30 years • Legacy has to be positive (beneficial impact to local communities) • Right balance of temporary and permanent infrastructure 	<ul style="list-style-type: none"> • Importance of knowledge transfer • University of sports in Sochi and Moscow 	<ul style="list-style-type: none"> • Independently from the event or hosting city: • Have a strong vision, political willingness and engagement, community engagement • Focus on the social and physical sides • Create a <i>metabolism</i>: focus on diversity, complexity, density • Cultural diversity: adaptation of previous planning models to local needs
MAJOR FINDINGS	<ul style="list-style-type: none"> • Anything left after the event • Time: planning for a long-term (30 years) • Focus on positive legacies • Focus on beneficiaries • More important than giving a definition of legacy itself, is defining what are the types of legacies you want to focus on • Early start of legacy planning: start with the legacy master plan, and built the event on it (reverse the approach) 	<p>Positive</p> <ul style="list-style-type: none"> • New Infrastructure • University of sports • Change of mentality • Knowledge transfer • Electricity plant <p>Negative</p> <ul style="list-style-type: none"> • Difference between the initial budget and final costs • Costs for maintenance • Displacement in the coastal cluster • Railway line • Overall expenditure • Corruption • White elephants • No legacy plan executed 	<ul style="list-style-type: none"> • Olympics and other multi-sports events: impact on cities, while World Cup: impact on countries • Emerging cities have more opportunities, but also more challenges because often they do not have an established planning system

Appendix I: Tool 3 - Behavioral map, walking through sheets and checklists, Sochi 2014



SITE: POINT 2 – OLYMPIC STADIUM



Day: Tuesday 29 September 2015

Time: Morning time -10.20-10.35

Weather conditions:
Sunny, hot (28 degrees)

NOTES

- Mostly of the people seem to be interested to the Formula 1 events
- Mainly tourists
- All infrastructure seem to be temporary, just for the Formula 1 (toilets, kiosks, cafes, shops)

PHOTOS/ SKETCHES



SITE: POINT 3 – MEDAL PLAZA

Day: Tuesday 29 September 2015

Time: Morning time -10.40-10.55

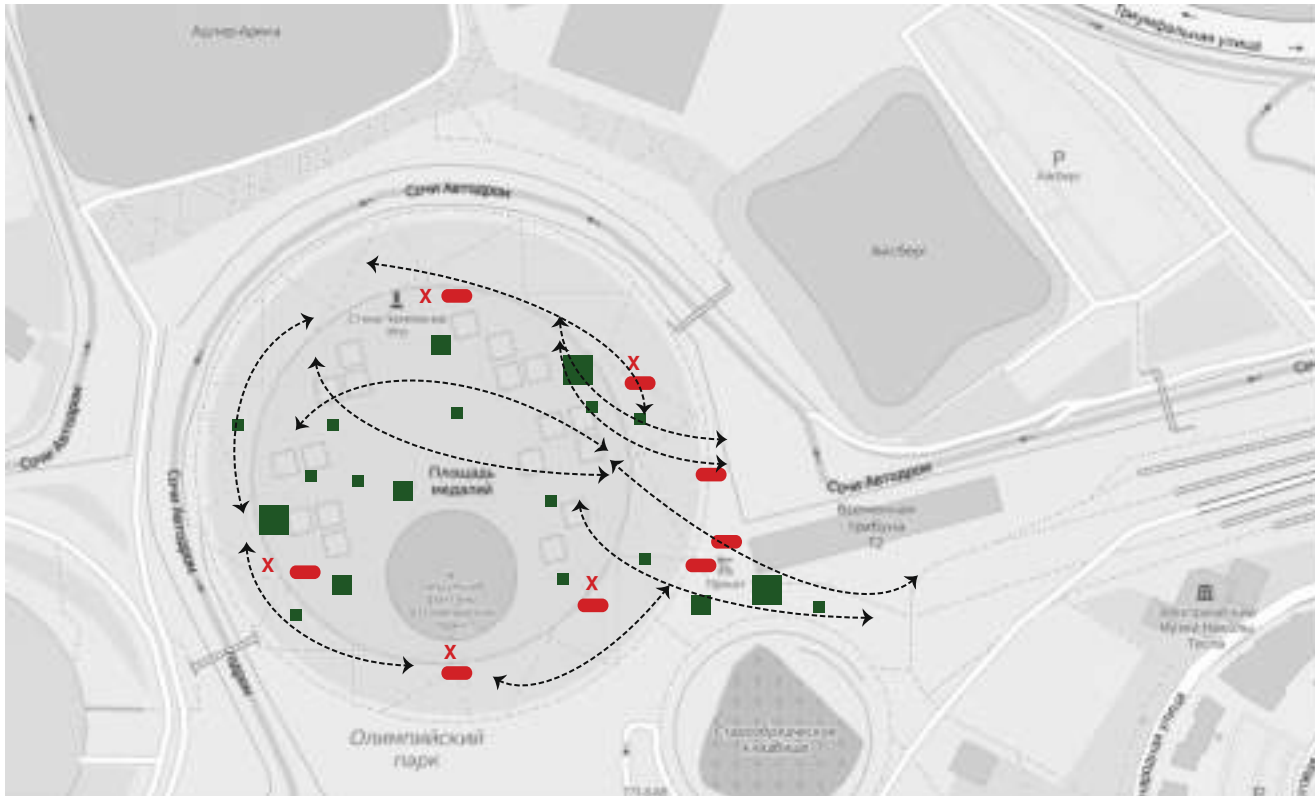
Weather conditions:

Sunny, hot (28 degrees)

NOTES

- Mostly of the people seem to be interested to the Formula 1 events
- Mainly tourists
- All infrastructure seem to be temporary, just for the Formula 1 (toilets, kiosks, cafes, shops)

PHOTOS/ SKETCHES



SITE: POINT 4 – AREA BETWEEN THE SKATING ARENA AND THE TRAINING ICCE RING

Day: Tuesday 29 September 2015

Time: Morning time -11.00-11.15

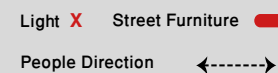
Weather conditions:
Sunny, hot (28 degrees)



NOTES

- Nobody around

PHOTOS/ SKETCHES



SITE: POINT 5 – AREA BETWEEN THE CURLING VENUE AND THE ICE DOME

Day: Tuesday 29 September 2015

Time: Morning time -11.20-11.35

Weather conditions:
Sunny, hot (28 degrees)

NOTES

- Nobody around

PHOTOS/ SKETCHES



Tourists > 20 5-20 <5 1

Athletes > 20 5-20 <5 1

Families > 20 5-20 <5 1

Single Visitors > 20 5-20 <5 1

Light Street Furniture

People Direction

SITE: POINT 6 – SHAYBA ARENA ENTRANCE

Day: Tuesday 29 September 2015

Time: Morning time -11.40-11.55

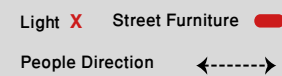
Weather conditions:
Sunny, hot (28 degrees)



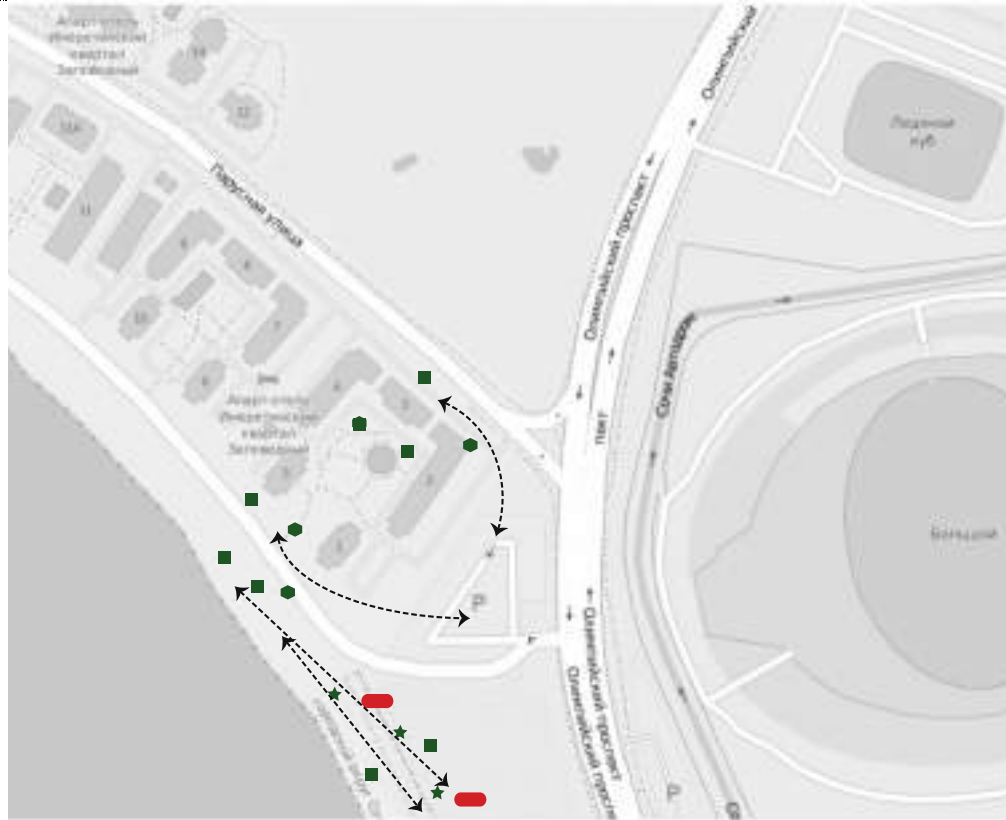
NOTES

- Nobody around

PHOTOS/ SKETCHES



SITE: POINT 7 – OLYMPIC VILLAGE, EAST ENTRANCE



Day: Tuesday 29 September 2015

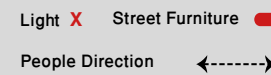
Time: Morning time -12.00-11.15

Weather conditions:
Sunny, hot (28 degrees)

NOTES

- People moving around, going from and to the seaside
- People walking
- People cycling and running

PHOTOS/ SKETCHES



Space Assessment Checklist												
Aim: to map and evaluate the built and natural environment of each point of the space selected (Take note of the quantity and mark their location on the map)												
Day:	Tuesday 29 September 2015						Weather Conditions:		Sunny, hot (28 degrees)			
Starting Time:	Morning time, 10.00						Ending Time: 12.30					
Selected Point	1	2	3	4	5	6	7	8	9	10	11	12
Built and Natural Environment												
SAFETY AND SECURITY	Average	Average	Average	Average	Average	Average	High, guards at the entrance					
Street Furniture	Y	Y	Y	Y	Y	Y	Y	With the exception of the Olympic Village, the majority of the street furniture seemed to be “temporary”, and there for the upcoming Formula 1 race				
Seating (benches, chairs)	Y	Y	Y	Y	Y	Y	Y					
Tables	N	Y	Y	N	N	N	N					
Lighting	Y	Y	Y	Y	Y	Y	Y					
Fences and Gates	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, temporary	Y, entering for the Village	Around the park, temporary fences to close the parking areas.				
CCTV	N	N	N	N	N	N	N					
COMFORT AND ACCESSIBILITY	Average	Average	Average	Low	Low	Low	Average					
Signage, maps and info	Y	Y	Y	N	N	N	N					
Shelters	N	N	N	N	N	N	N					
Noise Pollution Conversations, Mechanical equipment, Music, Traffic, ...	People chatting	People chatting	People chatting	N	N	N	N					
Cafés	Y	Y	Y	N	N	N	N					
Drinking Fountains	N	N	Y	N	N	N	N					

Toilets	Y	Y	Y	N	N	N	N						
Accessibility for disables	Y	Y	Y	N*	N*	N*	Y						
Cycling and pedestrian paths	Y	Y	Y	Only Pedestrian			Y						
Quality of Maintenance	Good	Good	Good	Good	Good	Good	Good						
General cleaning	Good	Good	Good	Good	Good	Good	Good						
ATTARCTIVENESS - PLEASANTENESS	Good	Average	Good	Average	Average	Average	Average						
Landmarks and art works	N	Y	N	N	N	N	N						
General Appearance/Aesthetics	Average	Average	Average	Low	Low	Low	Average						
Quality of Landscape	Average	Average	Average	Low	Low	Low	Average						
Vegetation													
Heavy Vegetation Cover, Sparse Vegetation Cover, Landscaped Areas (shrubs/flowers etc.), Lawn	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	Y Trees Lawn Flowers Veg	N	N	N	N						
Water Features													
Fountains, Play Fountains	N	Y	N	N	N	N	N						
Playground Areas	N	N	N	N	N	N	N						
Flows and People													
FLOWS													
Number of people	Med	Med	Med	Low	Low	Low	Low						
ACTIVITIES													
Sport: Cycling/Running	N	N	N	N	Y, exercise machines	N	Both along the sea line						There are a couple of bike rentals, however the space is too small and fragmented for training

Walking/Resting/Chatting	All	All	All	N	N	N	All				
Playing	N	Y	Y	N	N	N	N				
Working	Maintenance work for the F1 race				N	N	N				
Other (Specify)	-	-	-	-	-	-	-				
DEMOGRAPHICS											
Females vs. Males	Both	Both	Both	--	--	--	Both				
Families vs. Singles	Adult	Adult	Adult	None	None	None	All				
Young vs. Adults	A	A	A	None	None	None	Both				
Elderly vs. Kids	Adult	Adult	Adult	None	None	None	All				
Locals vs. Tourists	T	T	R	None	None	None	LT				
Ethnicities: W B Ar I As	W	W	W	W	W	W	W				
Notes:	-	-	-	-	-	-	-	Too much concrete everywhere			

Appendix L: Tool 3 - Matrix for the comparative analysis of the interviews, Rio de Janeiro

Interviewee Number	Section 1 – Legacy definition and main issues	Section 2 – Best practices, main achievements, and pitfalls of the 2014 World Cup and 2016 Games	Section 3 – Events, cities, opportunities, and challenges
Number 1 (Academia)	<ul style="list-style-type: none"> Continuing evolving concept, too fluid 	<ul style="list-style-type: none"> The Rio master plan was adapted to the need of the vents, not the opposite Social exclusion Lack of public participation 	<ul style="list-style-type: none"> WC: spread event, it involves more cities. Here, focus more on stadiums and hotels. Olympics are a city-based, city level event. Olympics vs. other minor sports event: scale and dimension
Number 2 (Event Governing body)	<ul style="list-style-type: none"> Legacy has to last for a long-term, at least 30 years Right balance of temporary and permanent infrastructure Focus on integration and convergence (social side) 	<p>A bit early (we should wait at least 10 years after the event) to discuss positive legacies and benefits however</p>	<ul style="list-style-type: none"> Best opportunities for big and developed cities Corruption need to be avoided (risky for emerging cities) The context is everything. Legacy depends on the context and local needs.
Number 3 (Academia)	<ul style="list-style-type: none"> Cities are dynamic, so legacy plans need to be flexible and adaptable. You plan for 'now', but your plans will be ready when the city has already changed. Time: over 30 years. 	<ul style="list-style-type: none"> Eviction in Porto Maravilha The Museum of Tomorrow is ugly and a waste of public money All that sports infrastructure not needed 	<ul style="list-style-type: none"> Cultural diversity: adaptation of previous planning models to local needs
Number 4 Private Sector, Architect)	<ul style="list-style-type: none"> Planning the legacy and post-event use well in advance 	<ul style="list-style-type: none"> Eviction Corruption and scandals Transport: not realized what promised Creation of gated areas 	<ul style="list-style-type: none"> Focus on transport, which is a major infrastructure for integration. Rio de Janeiro (2016 Olympics): there will be physical regeneration but not social. There will not be any process of convergence and inequalities will remain and probably increase.
Number 5 (Academia)	<ul style="list-style-type: none"> Importance of knowledge transfer, from city to city, and mapping successful stories and best practices 	<ul style="list-style-type: none"> White elephants. Costs more than tripled Families evicted 	<ul style="list-style-type: none"> Independently from the event or hosting city: Focus on the social and physical sides

	<ul style="list-style-type: none"> • Time is also critical in terms of planning: legacy needs to be planned well before the event. 		
Number 6 (Academia)	<ul style="list-style-type: none"> • Planning of legacy: the sooner, the better. • Link the sports sites with the surroundings, with what is around. 	<ul style="list-style-type: none"> • Social side: eviction, displacement and gentrification 	<ul style="list-style-type: none"> • More challenges for developing cities. But it can work starting with small events and then stage bigger events (i.e.. Asian Games, and then WC).
Number 7 (Academia)	<ul style="list-style-type: none"> • Planning ahead is better than retrofit • Time: over 30 years • Fluid concept 	<ul style="list-style-type: none"> • Social side: eviction, displacement and gentrification 	<ul style="list-style-type: none"> • Rio de Janeiro, Doha and other emerging cities: they have more opportunities, but also more challenges • The approach in Rio: they started with the hosting of smaller events, and then little by little, they hosted more international and important events (from Pan American Games to Olympics), theoretically, similar approach to London, with a focus on regeneration, transport, and residential. The approach focuses on a mix of temporary and permanent venues. The use of water is also important.

Appendix M: Research Ethics Review Exemption



Qatar University Institutional Review Board QU-IRB

November 10, 2015

Ms. Simona Azzali
College of Engineering
Qatar University
Tel.: 55143129
Email: sazzali@qu.edu.qa

Dear Ms. Simona Azzali,

Sub.: Research Ethics Review Exemption (PhD Dissertation)

**Ref.: Project titled, "Promoting Sustainable Urbanism in the City of Doha:
An investigation into the Impact of Mega Sport Events on the Urban
Environment"**

We would like to inform you that your application along with the supporting documents provided for the above proposal, is reviewed and having met all the requirements, has been exempted from the full ethics review.

Please note that any changes/modification or additions to the original submitted protocol should be reported to the committee to seek approval prior to continuation.

Your Research Ethics Approval No. is: **QU-IRB 507-E/15**

Kindly refer to this number in all your future correspondence pertaining to this project.

Best wishes,

A handwritten signature in blue ink that reads "K. Alali".

Dr. Khalid Al-Ali
Chairperson, QU-IRB

