Olympic Legacy Development

The road to success

Colophon

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I Preface

In front of you survey 5 (P5), the final graduation report for the Delft University of Technology within the graduation lab Urban Area Development, part of the department Real Estate & Housing, Faculty of Architecture. The motivation to undertake this research began after a visit of two weeks to Athens, Greece in August 2008.

I had this magical image of the birth city of the Olympic Games, and the host of two modern Olympic festivals in 1896 and 2004. The Olympics with its great buildings, its great sports heroes and the beautiful images you see on television during the biggest sports event in the world. But this magical feeling lost most of its shine after my visit to some of the Olympic venues in Athens. My overall personal interest in sports, combined with the impressions of Athens, lead to the further deepening of the observations I experienced. Empty subway stations, empty Olympic squares, empty stadiums, empty fountains, everything was empty. No people. It gave me a strange and uneasy feeling. Very large buildings, stadiums and public squares, but nobody to fill them, or in other words, to use them. I needed some time to realize what this meant and had to get through to me. This couldn't be the Olympic thought, the intentions of the host city Athens or the International Olympic Comity (IOC). But it was bold reality for the city of Athens.

A thought that arose after some time when I was back in the Netherlands was; '*How can this be prevented in the future*'? I grew up in a house that was more than 500 years old, therefore I tend to have some problems with a building that you build for 50 years or more and it doesn't fit demand after one month of use. It triggered me to find out the reason behind this deserted area with deserted venues, especially when durability is one of the priorities in development nowadays.

This research is relevant on several levels. The Olympic Games is a multi-level event which has effect on several aspects. First of all this research is relevant for social-cultural and scientific reasons. The Games are becoming more expensive and bigger each year. According to Bond & O'Flynn, (2005) Montreal 1968 was left with large depths paid eventually by the taxpayers. Public finance is a large portion of financially realizing the Games, as Preuss (2004) describes in 'Financing the Games' indicating large impact on social levels.

Second of all the Games have an effect on the public domain within a city. Accommodating the Games requires 500 to 600 hectares of space within a city or country (Twynstra Gudde & Nieuwe Gracht, 2008). The fact that many of these Olympic areas do not create a high level of use means they have the wrong effect on public domain than what was intended. The point of departure is creating useful public domain and facilities as one of the core tasks of public services, like local boroughs or municipalities. Improving knowledge on planning the Games with the focus on the post Olympic period is therefore of social relevance.

Integral area development is the basis for this research. "*The call for new type of approach within area development to tackle matters on an integrated basis and sees the connection*

between the physical/spatial, economic and social cultural aspects while taking the effects in an urban perspective into account" (Vrijthoff, Study Manual UAD, TU Delft. 2008) plays a central part in my research, and forms the connection with the scientific relevance. Exploring new ways of planning, process approaches and integrated urban solutions are essential parts of this research programme. A new way of thinking should be stimulated by connecting the relevant issues in planning the Games. Planning and realising the Olympic assignment with a connection to the post Olympic period. The Olympic Games can be a mean to accomplish the postulate goal, where the steering factors in the urban strategy are crucial in realising this goal. The long-term view in this theme on urban level is a direct link to the research programme of Urban Area Development (UAD) within the Master of Real Estate & Housing (RE&H). It is focused on designing a long-term planning on urban area level, taking into account the different interests and means of stakeholders within the context of the Olympic Games with a focus on accommodation level.

This research came together with the support of group of people. Without their support and enthusiasm I would not have been able to deliver this result. Hereby I would like to thank all the interviewees, Piet van Ruler, Wim Keijsers, Nelleke Penninx, Jan Jacob Trip, Henk Markerink, Mark Monsma, Jan Linssen, Javier Lasunción and Heiko Trittler, that took the time to provide me their knowledge and insights for my research. From the Delft University of Technology I would like to especially thank Yawei Chen and Philip Koppels in guiding me in the process of graduation on the complex phenomenon of the Olympic Games and its legacy. I have experienced their input, theoretical supervision and coaching as very useful and pleasant. I would also like to thank Iljan van Hardevelt and Eva Limonard from Twynstra Gudde in providing me with the opportunity to graduate at their company. During my graduation I received the needed guidance and professional input. Accompanying me to Barcelona in particular was a special part of my graduation. It was a very useful study trip and provided interesting knowledge for my research. Thanks to the support of Twynstra Gudde this study trip was made possible. To conclude I want to thank my family and friends for their support during my graduation year.

Its Okke Bakker
Amsterdam, 30 October 2009

II Abstract

The legacy of the Olympic Games proofs to be problematic for many former host cities. A legacy most of the cities were after when bidding for the Games, only with a different outcome in mind. Large-scale urban areas within cities with empty stadiums and Olympic parks as a result. The post – Olympic period offers to little demand for the created venues and public space. Liveliness in these public spaces is far to be found and the vitality of the Olympic accommodations was an experience short lived. Planning of the Games succeeded in the part of organising the Olympic Games but failed to generate a legacy with long-term perspectives.

This research investigates how future Olympic host cities can create their legacy before hand and control its outcome after the Games. This has resulted in this master thesis which presents further deepening of the understanding 'legacy' with its three main pillars of social – cultural, financial – economic and physical – environmental aspects. Further focus on the more tangible physical – environmental pillar with the identification of 5 key variables. Variables that create footing for liveliness and vitality to arise derived from urban planning perspectives. These variables are *urban planning, mobility, routing, scale* and *programme*. Apart from identifying these variables a model is presented that connects these variables with the process of urban area development and Olympic development with the organisation to control the overall realisation of legacy development.

III Abbreviations

Olympic

IOC	International Olympic Committee
NOC	National Olympic Committee
NOC*NSF	Nederlands Olympisch Comité * Nederlandse Sport Federaties (Dutch Olympic Committee * Dutch Sports Federations)
OCOG	Organising Committee Olympic Games
COOB	Barcelona Olympic Organising Committee
DOCOG	Dutch Organising Committee Olympic Games (*hypothetical*)
IBC	International Broadcast Centre
MPC	Main Press Centre

Non – Olympic

VROM	Ministry of Housing, Spatial Planning and the Environment (Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer)
BLF	British Property Federation
ULI	Urban Land Institute

IV Table of Contents

1 Introduction

The first chapter forms the introduction and background of the research. It describes the problem observed, the resulting research question, the objectives and the matching research design, which gives insight in the scientific course and methods of this research. The last section also introduces the empirical steps that are going to be part of this thesis.

1.1 The Games

Olympic Summer Games

There is no sports event bigger and greater than the Olympic Games, especially the Olympic Summer Games (hereafter referred as Olympic Games). The first modern Olympic Games were organised in 1896 in Athens. This was the start of long history of what became the biggest sports event in the world. It started in 1896 with 241 athletes in 43 events from 14 different countries, to 10.500 athletes in 302 events from 204 'countries'[1] in the 2008 Beijing Games, and this great spectacle takes place in no more then 16 days (excl. Paralympics).

But the Olympic Games became much more than sports and an Olympic thought only. Economics, politics and large-scale developments are bigger than ever when a city, region or country facilitates the Olympics. The growing media attention and sponsor presence made it possible for the Games to become a broader viewed spectacle presenting itself over the world. Cities started to use the Olympics for other reasons than only to present its self but realize goals on broader social, economical and environmental levels. The Games provide opportunities to attract inward investment and encourage private-sector land development that are now so important to the activity of urban regeneration (Gold & Gold, 2007). Hosting the Olympic Games to regenerate urban areas became visible from the 1960 Rome Olympics onward and proved to be a significant factor in Olympic planning (Coaffee, 2007). The Olympic Games made it possible for cities to reach their urban plans. It became a tool. The Roman channelled substantial investment into new infrastructure, which began to be planned hand-in-hand with new sporting facilities. The key moment in using the regenerative impacts of hosting the Summer Olympics was undoubtedly 1992 Barcelona Games. Barcelona used the Olympic Games for re-imaging the city, region and country. "Just as individuals and new groups seek to redefine their identity, so too places, particularly de-industrialised cities (or groups of actors within them), seek to re-image the identity of place" (Gratton & Henry, 2001).

[1] There are twelve territories or other entities that have been permitted by the International Olympic Committee to have their own National Olympic Committee (NOC). By having an independent NOC, each of these twelve places is able to compete in the Olympic Games and plans on sending athletes to Beijing for the 2008 Summer Games there. Thus, the total of 192 independent countries and 12 territories equals the number 204 that is being thrown about as the number of "countries" competing in the Summer Games.

Olympic accommodations

Cities organizing the Olympic Games have great responsibility to deliver the Games on time and striving to do it better than its predecessor. Much of this time is consumed by realizing the infrastructure, venues, village, supporting accommodations and making it greater than the past Olympic Games. This all together forms a complex real estate assignment. It is not only a complex assignment; it is also a great expenditure. The level of development and size of the city will determine the economic dimension of the Olympic Games (Preuss, 2004). A trend in increasing costs can be observed in hosting the Olympic Games. The organizational complexity of the Games becomes more complex due to the growing size of the Olympics. For example the cost of the Atlanta Games were around 2.021 million US$, the Sydney Games were around 3.438 million US$ and the Athens Olympic Games were more then 5.000 million US$ (Preuss, 2004). This tremendous growth in costs has now led to an IOC[2] Olympic Games Study Commission recommendation in relation to post Olympic use:

'Maximize temporary installations over permanent construction especially where legacy requirements are lower than Games requirements' (IOC, 2003)

This is a very interesting recommendation, it says to only build permanent venues when a city actually needs them. Not needing those venues is the very reason why cities are left with unusable and underused buildings after the Games. A problem also the IOC has underlined.

Hosting the Olympic Games is usually not the main goal for a city, region or country. Thriving goals are urban regeneration and urban renewal of cities where deindustrialization is affecting their economies (Gold & Gold, 2007). Examples showing host cities ending up with venues and urban areas that are not being used, despite urban regeneration goals raises questions. Discrepancies in IOC demands and host cities objectives could results in these mismatches after the Games, which also could have to do with wrong execution of the assignment.

White Elephants

A common problem occurring directly after the Olympic Games is the creation of 'white elephants[3]'. The general definition of a 'white elephant' is that it is a burdensome possession and that it causes more trouble that it is worth. In a financial way, this means the object/possession whose costs, particularly the costs of upkeep, exceed its usefulness. Apart from it being a financial burden, it forms a spatial burden, space within a city that could have been used in a different way, maybe a better way, generating more public satisfaction than a

[2] International Olympic Committee (Comité International Olympique)

[3] A valuable possession which its owner cannot dispose of and whose cost (particularly cost of upkeep) exceeds its usefulness. Origin: White (albino) elephants were regarded as holy in ancient times in Thailand and other Asian countries. Keeping a white elephant was a very expensive undertaking, since the owner had to provide the elephant with special food and provide access for people who wanted to worship it. If a Thai King became dissatisfied with a subordinate, he would give him a white elephant. The gift would, in most cases, ruin the recipient.

building that is not being used, including its direct surroundings. Within an Olympic context the expression 'white elephant' refers to underused or vacant facilities in the post-Olympic period or as Kozloff (2007) simply puts it as being 'empty venues'. Examples are the Birds nest in Beijing, the Olympic Stadium of Athens, and many other Olympic venues all over the world.

As written before, the Olympic Games last for 16 days, 27 days in total (if you include the Paralympics as well). The venues and infrastructure, to be able to host the Olympics, are created for one month of Olympic use. Former Olympics have shown numerous times how these 'white elephants' occur, but why it keeps on happening stays a question. Robinson and Torvik (2003) claim in 'White Elephants', in the Journal of Public Economics that it has to do with the governance and politicians who bid for these events or start these projects with negative social surplus value. Trying to gain political support with politically attractive projects, where the very inefficiency of such projects makes them politically appealing, because others can't start them for that very reason. (Robinson & Torvik, 2003) Projects without a valuable use after the Games could be reasons why host cities do not reach their pre-set goals, get negative publicity and lose a great deal of money.

There has been inadequate attention paid to planning for the post-Games period and the legacy of an Olympic Games. Bid cities focus to such a large extent on winning the bid, planning for the Games and staging successful Games that the post-Games period has been neglected. (Cashman, 2002)

Cashman states in 2002 that cities neglect the post-Games period because of the focus on the event itself, where post-Games period and legacy planning are totally lost out of sight. This, with the greater goal of urban regeneration in mind, is strange to occur when they, theoretically, bid for re-imaging or urban regeneration goals.

The Olympic venues are organized in several ways and the one element almost always occurring is the Olympic Park, where the main venues are located. One of the more recent Olympics, the 1996 Atlanta Games is an exception of the trend. It chose to realize an Olympic park without sports venues and use scattered locations in the city itself for the main venues. But in other Olympic cities like, Barcelona, Sydney, Athens and Beijing the Organizing Committee Olympic Games (OCOG) chose for Olympic Parks with the main venues centralized. Eventually, directly after the Games were over, these were the locations where the match with real estate demand was hard to make and white elephants arose.

The role of the preconditions the IOC has for the Olympic assignment could also be part of the problem that is occurring in previous host cities. Within the inductive part of the research this will be elaborated to find out to what extent this is contributing.

1.2 Problem statement

Apart from the advantages the Olympics create, the Olympic assignment causes certain problems within the cities on an urban and real estate perspective. Under-use of the Olympic park and the accommodations is causing many other problems around it on social, economical and environmental scales. But changes have been made, such as scaling down venue size after the Olympic use and creating better integrated Olympic villages for residential use in order to improve these negative consequences. These measures are clearly not enough when modern Olympic host cities are still delivering 'white elephants' despite downscale measures and Olympic parks nobody uses. Cities are unable to prevent this from happening and underestimate the impact it has on a socio-cultural, economical and spatial/environmental scale. Therefore the problem is formulated as follows:

Due to failing attention and control by host cities during the planning of the Games, white elephants and desolate areas arise in their cities in the post Olympic period.

This should not happen in the European contemporary way of urban development, where sustainability is one of the up-most important issues of modern times. This calls for a new way of organizing and planning the Olympic assignment.

1.3 Research question

The term Olympic *legacy*[4] encompasses a lot in itself. Legacy creation is crucial during the Olympic development in the host city. The term legacy encompasses many aspects and the way it scores depends on which aspect it is judged. Legacy on an Olympic scale contains levels like sports, environment, economics, socio-cultural, politics and real estate. Altogether these levels form the Olympic legacy but are seldom seen in this way. When legacy is mentioned it is usually seen from one perspective and often the real estate aspect is not mentioned, or is from a subordinated matter. A lot of research has been done on the economical level of legacy Olympic Games deliver. For example, Preuss has done great research on this level, and Roche approached Olympic legacy in a sociological way on the level of global culture. Gratton and Henry (2001) looked at the role of sport in economic and social regeneration perspective. Gold and Gold (2007) give a comprehensive overview of the evolution of the Games from 1896 until 2012 and the changing relationship between cities and the Olympic Games. Many of these studies bring answers to the question on what went right and wrong. Give an overview of what the Games have delivered in the country, region or city, but leave questions unanswered. How to actually improve post Olympic use and provide practical process improvements for future implementation? In specific, the main Olympic venues in the Olympic Park, and how to plan for the post Olympic period in the chaos of organizing the Olympic Games in an urban and accommodation perspective. These aspects

[4] A sum of money, or a specified article, given to another by will…
transf. and fig.; esp. = anything handed down by an ancestor or predecessor. Gold, R. & Gold, M. et al. (2007)

and problems have lead to the main research question of the study:

How can Olympic host cities develop their Olympic urban area strategy to increase the liveliness and vitality of their main Olympic Parks and venues in the Post-Olympic period?

Two aspects within this research question are of special interest within the research. These aspects are liveliness and vitality. Liveliness is a qualitative understanding and can be interpreted as mixed activity throughout the day. Both Jacobs (1961) and Florida (2002) stress that liveliness is primarily about a mix of people, and that a mix of functions is a means to achieve this (Trip, 2007: 70). A mix of users is another aspect within liveliness to achieve. By having a mix of users, activity can be present throughout the day. For example in a shopping street it can be lively during day time but dead calm in the evening if nobody lives there. In an Olympic context liveliness can be interpreted as the amount of visitors making use of the facilities in the public space created for the Olympics. This could be the Olympic park with its main venues. A way to measure liveliness, for example in the case research, can be approached in different ways. A quantitative way would be to measure each day what the amount of visitors is at a certain area. For this research it won't be possible to measure it in such a way. A different approach is therefore applied. The case cities are checked on several variables that should be present to create the right footing for liveliness and are generally assessed on the amount of use throughout the visit of the sites. Apart from this, use of venues is presented where possible. The establishment of these variables is presented in chapter 2.

The other aspect is vitality. This aspect is also a qualitative aspect but is experienced more on accommodation level. The aspect vitality comprehends the performance of a single or group of accommodations that can be seen as the amount of chance of functioning in a social, economic and environmental way. By having a certain level of diversity, entailing more than just a mix of functions, urban vitality can be created (Trip, 2007). This approach of vitality means none of the three pillars is more important than another. For the case research this aspect is also approached in a similar way as the aspect liveliness. The research focuses on the more tangible aspects within legacy, being the urban and accommodation interventions originated through the Games. For the accommodations this means certain principles have to be in place to be able to be vital. One of the objectives within this research is to define these aspects that need to be in place for the legacy to flourish. Chapter 2 will further elaborate on this aspect.

1.4 Research objectives

The intention within this research is to find answers on how to develop the accommodations and the areas of the Olympics into a vital part within the post-Olympic period. Vital parts within a city to accomplish pre-set goals apart of the Olympics. This will result in a development model including the determining steps, decisions and overall process that will contribute to this. The development model should support the creation of an Olympic bid on

city level. Apart from this aspect it should support the realisation of the Olympics with a long-term perspective with integrated urban development aspects. This process should integrate the accommodation level as a vital part of this total assignment. A part of this objective is identifying the variables of legacy regarding liveliness and vitality. Legacy variables that should create the foundation for future use and liveliness in Olympic parks and accommodations form this objective.

Design a development model that will support and guide in urban accommodation strategy making, connecting the Olympic assignment to post Olympic goals.

To answer the research question certain steps have to be taken. The first step is to find further theoretical framing. In which the Olympic assignment, legacy, liveliness and vitality are further elaborated. In order to find variables those are crucial in legacy development. The second step is to analyse two case studies on the performance of their legacy and the presence of the variables set out in chapter 2. The third step is to cross analyse the findings in the case studies and conclude on the position of the variables in relation to the performance of each city. The fourth step will be in the direction of the development model. In order to develop a model, existing and used models are elaborated to find discrepancies and aspects in which the models do not fit the Olympic development process and approach. Transforming these models into the Olympic legacy development model with input from the indicative and theoretical research forms the last step. This will be concluded with final findings and recommendations.

1.5 Methodology

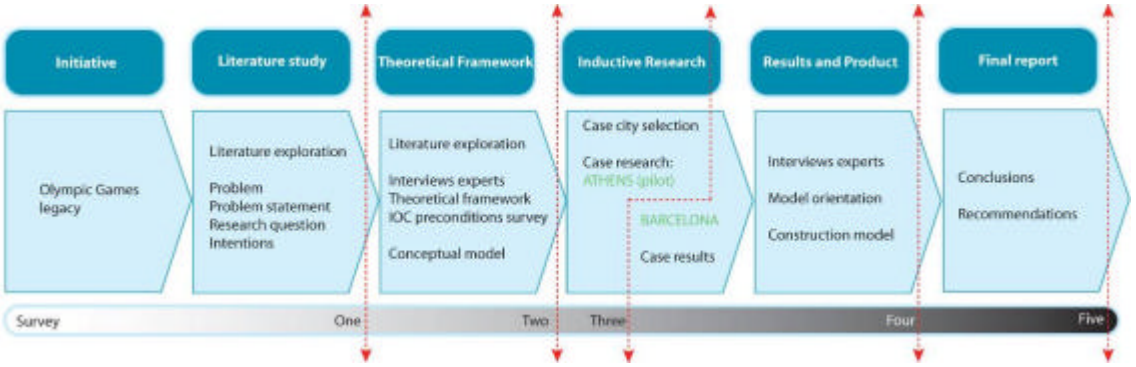

Figure 1, Research design

Figure 1 gives an overall image of the phases that have been walked through for this research. The above research design also shows the usage of case research in the third phase of the research. Case research is the main method within this research in which the observations are obtained and the variables are being scored. Alongside the case research interviews and literature reviews are executed to create the theoretical basis for the research and the case study to be able to answer the research question.

Interviews were conducted to create a broader base for the research and find practical input. The interviews can be separated into four categories with public related input, private related input and case specific input, all on an expert basis. The three themes are urban planning, management and organisation, Olympic Games and Case study interviews. The goal within these interviews is to review the theoretical notion in relation to the general view in practice. The interviews that are being conducted are the following.

Urban Development:

- Piet van Ruler, *Twynstra Gudde, urban area development*;
- Wim Keijsers, *Nieuwe Gracht, urban area development as designer and consultant;*
- Nelleke Penninx, *Urban Planning Amsterdam, urban development in relation to Amsterdam 2028;*
-

Management / Organisation;

- Henk Markerink, *CEO Amsterdam ArenA, stadium development and consultancy;*
- Jan Linssen, *Venlo Greenpark director, mega event management in relation to post use;*

Olympic Games

- Mark Monsma, *NOC*NSF, Programme manager / Public affairs*

Interviews are also conducted with two Barcelona experts in Barcelona. Urban planning and management / organisation were the two fields of expertise on which the interviews focused.

Case related urban planning:

- Heiko Trittler, Architect Barcelona

Case related management / organisation:

- Javier Lasunción, Consultant and Museum director

The selection of the case study cities is described in the following section.

1.6 Case City Selection Criteria

The case studies Athens and Barcelona will be analysed in order to find aspects that are crucial for liveliness and vitality of Olympic heritage and what effects the Olympic demands have on the former Olympic cities.
The case cities were chosen by using several selection criteria. The case cities must have certain characteristics to make cross case analysis possible.

- *Main goal for bidding for the Olympic Games is urban rejuvenation or regeneration.*
- *GDP[5] is within proximity from each other. No less than $10.000 per capita.*
- *Western political system.*
- *Games not far apart in time, due to changes in content and size of the Games.*
- *Only Summer Games, due to size and impact difference.*
- *Host cities must have chosen for main Olympic park with their main venues.*

Not only the cases are subjected to the selection criteria, also the venues located in the Olympic Park have to comply with certain criteria. In this research there will only be looked at permanent buildings that where used and build, rebuild or renovated for the Olympic Games. The focus point will lie at sport venues or sport complexes and less on supporting real estate as the Olympic village, only when of influence it will be incorporated.

Figure 2, Location overview Modern Olympic Summer Games, until 2004. (Jones Lang LaSalle)

[5] Gross Domestic Product, total cost of all finished goods and services produced within the country in a stipulated period of time (usually a 365-day year).

'The use of the Games to re-invigorate sluggish or declining urban economies was essentially a product of new thinking from late-1970s, when growing awareness of the pervasiveness of deindustrialization led city planners to take action to stimulate new sources of employment. Given clear recognition that urban regeneration through traditional production-based approaches looked progressively more implausible, which became interested in alternative strategies that relied on service industries and consumption to supply the locomotive of growth' (Gold & Gold, 2007). Olympic Games from this moment of shifting awareness are possible case cities. This creates the following list.

Olympic Games from the late 1970s onward:

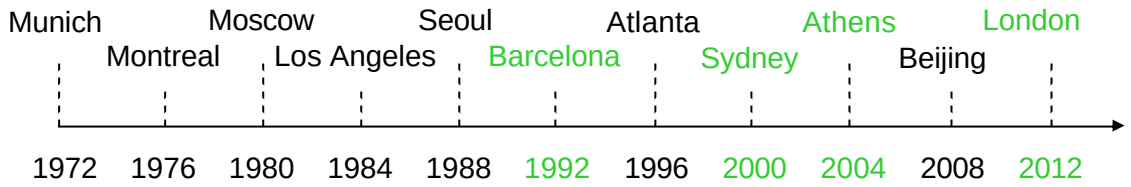

Figure 3, Olympic Host Cities from 1972

Olympic Games host cities that comply with the case city criteria are highlighted green. The 1992, 2000, 2004 and the upcoming 2012 Games could be part of the research. The Games that will be part of the case research will be 1992 Barcelona and 2004 Athens. These cases are chosen because of their similar location specifications and comparable demographic situation and compliance with the above selection criteria. The case research will be executed in the next research phase, chapter 3 and 4. Background and detailed specifications of the case research can be found within the appendix section.

1.7 Structure report

The research model in figure 1 can largely be seen as the bookmarker for this report, displaying the content and steps. Chapter 1 introduces the problem, the research question and the objectives of this research. Chapter 2 sets out the theory behind the Olympic assignment, legacy and urban planning in relation to the Olympics. This chapter sets out the problem in more detail. Chapter 3 and 4 are the case study elaboration, each concluding with an analysis. Chapter 3 sets out Athens 2004 and chapter 4 sets out Barcelona 1992. Chapter 5 forms the cross case analysis based on the analysis from chapter 3 and 4. These chapters form the basis for chapter 6 in which the development model is set out. Chapter 7 presents the conclusions on all aspects within the research and presents recommendations for further research.

2 Research Elaboration

As described in chapter one, many former host cities of the Olympic Games are being confronted with 'white elephants' in their Olympic real estate portfolio. Due to lack of controlling the process of planning the Games, or a lack of insight in future use, the vitality for use of certain venues is lost out of sight. Venues are realized while the city has no post use for them, or estimations on attracting events and future use proof not being realistic in the post Olympic years. This results in major financial problems for cities and investors, and it leaves urban regeneration plans undone with brand new, state of the art venues empty. Somewhere along the process of realising the real estate assignment in urban perspective things go wrong.

The research question; ***"How can Olympic host cities develop their Olympic urban area strategy to increase the liveliness and vitality of their main Olympic Parks and venues in the Post-Olympic period?"*** will be further elaborated in the theoretical framework. The goal is to create profound background for this research from the available literature and interviews with professionals on urban area development, accommodation and area management.

2.1 Planning the Games

Why is developing urban area strategy of that importance? Cashman states in 2002 that the Olympic Games have becoming larger since 1984 when more athletes are involving and media and sponsor presence is getting greater. The expectations for host cities is also higher since the IOC decided to add a third pillar; environment, to the strand of Olympism in 1994, which demands cities to deliver cleaner and greener Olympic Games.
This all has lead to a larger impact on a city, and it is this impact that makes it relevant for cities to develop urban strategy for the post Olympic impacts the Games will have. These impacts can be divided into four separate periods.

- *The preparation of a bid and the winning of the right to host the Games;*
- *The seven year period of preparation for the staging of the Games;*
- *The short period (16 days in 2000) when the Olympic Games are staged followed by the Paralympic Games;*
- *The much longer post-Games era.*

(Cashman, 2002)

In the Netherlands voices are arising to host the Olympic Games in 2028, symbolically one hundred years after the Amsterdam Olympics where held. The first exploratory researches are being executed to find out the feasibility of such a plan. This means roughly 20 years before the Games would possibly be held, planning starts. The effects will be visible and felt much longer after that, in Amsterdam you can still see evidence of the 1928 Games and the results

of the candidature of 1992. It can be said that extensive and thorough planning is crucial to make hosting the Olympic Games a success. Planning also consists of building strategy and has many different levels. On the tangible area of hosting the Games two levels can be distinguished; one is being the area level and the second being the accommodation level. Both are essential in developing a strategy in the process of legacy creation, which is done for the post-Olympic period, after all, the longest period.

2.1.1 Urban planning

Roche (2000) describes one of the many paradoxes of the modern Olympics as follows; *'On the one hand, each Olympic Games is both utterly standardised, in that is run according to IOC rules and the incorporated rules of the numerous governing bodies regulating the sports represented and on the standardised periodicity of its four-year calendar. On the other hand, each Olympic Games is also utterly unique. (....) They are unique not just in the changing casts of athletes and in their performance and achievements, but also, obviously, in terms of their sites and locations*'. This uniqueness is what host cities drive to bid for the Games and make it such a prestigious event. Although the Olympic Games assignment is utterly standardised, its integration within the city is not standardised at all. The sites and locations are the images the host city wants to use in their pursuit in re-imaging, or 'place market'[1] their city and make their possible urban goals of regeneration a success. Connection with urban regeneration plans is what should be found. There is no single agreed definition of the terms urban regeneration or urban renewal. Robert and Sykes (2000) describe it, in Olympic Cities, as '*a comprehensive integrated vision and action which leads to the resolution of urban problems and which seeks to bring about lasting change in the economic, social, physical and environmental condition of an area that has been the subject of change*'. This integrated vision must be imbedded in urban planning to realize pre-set goals as proves to be difficult for many host cities. Many urban planning strategies have been used and tried over the long history the Olympics Games know. Los Angeles 1984 was the first to limit its costs on urban development because the citizens refused to pay the costs for these plans. For the latter part privately financed Games were the result of this refusal of local citizens (Coaffee, 2007). Interesting was the fact that these Games did not deliver white elephants and underused areas. The accommodations were not clustered in an Olympic park form but scattered over the city. Existing or newly build accommodations were part of private investment projects and only realized in places were there was a need for these functions. Their urban planning strategy was therefore totally different in relation to, for example, Barcelona, Sydney and Athens, but the one with the least amount of physical urban scars within the city. It has to be noted that in general Los Angeles is seen as the capitalist Games with an intangible legacy.

Barcelona was the first city to use a substantial part of the Olympic budget for non-Olympic purposes. Coaffee (2007) described that large parts of the Olympic budget were used for

[1] Involves the striving to sell the image of a place as to make it more attractive to economic enterprises, tourists and inhabitants. Philo and Kearns, 1993.

infrastructural purposes due to the growing population, high levels of unemployment and deprivation of certain neighbourhoods. The regeneration of the Poblenou area and constructing the ring road around Barcelona were fundamental projects for the regeneration of Barcelona, part of the urban planning strategy of Barcelona. The aspect of 'new centrality' [2] was one of the leading aspects in this strategy and made sure Olympic developments were realised in areas Barcelona already wanted to change. This changed the appearance of the city with the regeneration of the Barcelona seafront as one of the biggest changes for the city. The underlying model is known as the 'Barcelona Model' [3]. The most important element was to emphasize the need for long-term planning and strategic planning rather than piecemeal and area-specific interventions that had been associated with many of the previous Summer Games. Barcelona strategically linked wide-scale urban regeneration with the Olympics with success (Gold & Gold, 2007). Barcelona managed to organise all the different aspects of hosting the Olympics, meanwhile it achieved urban regenerative goals. They proved that Olympic legacies could be positive in terms of urban planning and regeneration. This wide-scale approach is still an example for future host cities. Although this will not be a guarantee for success, cities like Sydney and Athens, who also looked carefully at their pre assessors, found out that their planning is not the immediate key to success in the post Olympics. Controlling this process, and being able to make the right choices when needed to, is critical.

2.1.2 Financing the Games

The way the Games are financed is an important step in the organising process. Are the Games publicly financed or are they mostly privately financed? The way a city, region or country chooses to organise the Games in terms of public – private partnerships (PPP) has effect on the level of influence the governance will have and how long-term and strategic planning can be organised. The income needed for organising the Games is derived from numerous sources. These are principally major TV revenues, corporate sponsorships, ticket sales, merchandising and various other sources (e.g. public sectors, lotteries, etc.) (Roche, 2000). Over the years the Games have been financed in many different ways. The figure below indicates the different shifts in public / private share. For Barcelona a combination of publicly and privately financed Games, resulted in both a tangible and intangible legacy. The Los Angeles 1984 Games where an example in privately financed Games and later Atlanta following this example, which resulted in a more intangible legacy. Paragraph 2.4, Venue vitality, will further elaborate on tangible and intangible legacies.

[2] New city centres with a diversity of facilities to facilitate the surrounding neighbourhoods. (Marshall, T. 2004)

[3] Normative Barcelona model for Olympic city regeneration. Gold, R. & Gold, M. et al. (2007) *Olympic Cities.* p. 155. London: publisher Routledge.

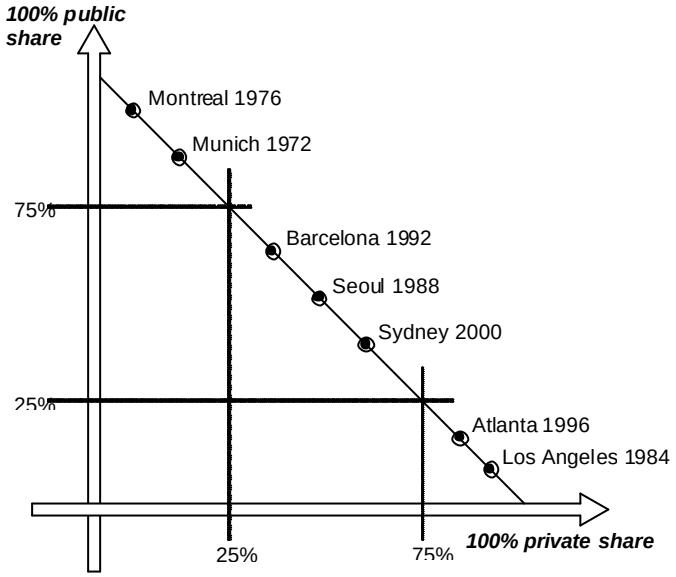

Figure 4, Public and private investments in Olympic Summer Games. (Preuss, 2004)

The choice of finance is an influencing factor in the way the legacy will form. *'The Los Angeles 1984 Games where seen as 'great for the city' and 'contributed to a sense that this was the place to get things done', but where seen, in some quarters as the 'capitalist' Olympics'* (Gold & Gold, 2007). These Games left a more intangible legacy instead of a combination of both. Barcelona clearly delivered a combination of the two, where the (tangible) look of the city had changed but also the image (intangible) of the city as a tourist destination. The highly publicly financed Montreal 1976 Games left a big burden on the city because pre assumed revenues never came, which meant that eventually the taxpayer became the victim. Montreal paid the last instalment payment on the 1976 Games in 2004 (Bond & O'Flynn, 2005). Their choice of financing the Games publicly meant that the city was bearing the biggest risks, and with the knowledge of hindsight it wasn't the best.

When organising the Games, choices on what a city wants to deliver as post Olympic legacy, have to be made in advance. Their (urban) plan and finance strategy have significant effects on the result and what it will deliver on a economic, environmental and socio-cultural level, with Montreal being of one of the worst-case scenario's and Barcelona one of the best-case scenario's in the history of modern Olympic Games as an example.

A part of the problem also lies in the fact that it is very hard to compare Olympic host cities with another in terms of benchmarking, therefore learning from mistakes, and the fact that there are little examples of the 'right way' of organizing and financing the Olympic Games on a accommodation and area level. Difficulties in translating it to the local area in a host city and the little experience by initiators of the Olympic Games makes the Olympic assignment a difficult one.

2.1.3 Conclusions

Designing urban planning strategy is about connecting the Olympic assignment with the local Masterplan on a city level. The Olympic timeline that gets introduced when bidding for the Games, change the way 'normal' urban development takes place. Olympic urban

interventions generate a lasting change within the environment. A distinction can be made between area and accommodation level within this assignment. To cluster or disperse accommodations have different effects on urban planning strategies. The way these are organised in an organisational and financial way, in terms of PPP it determines the influence and risks cities and stakeholders encounter and have.

2.2 Olympic accommodations

The most tangible part of the Olympic Games are the buildings and infrastructure. These are permanent interventions in the city leaving its marks in the urban context of the build environment. But what are these accommodations (venues) and infrastructures and how can these be classified? And what are the rules and regulations of the IOC concerning these venues?

2.2.1 Classification

The IOC distinguishes three different elements in their manual for candidate cities on the level of real estate realisation; *Competition Venues, Olympic Village* and *Accommodation*. With competition venues is meant all the buildings related to sports activities, the Olympic village should house all athletes and team officials (coaches, medical staff, etc.), which are approximately 16.000 people and the accommodation aspect encompasses the housing of various categories of accredited persons and national and international spectators and visitors to the Games (IOC, 2008). The village in terms of mobility is at the centre of the Games. All venues and facilities have to be within 45 minutes from the Olympic village. Within these three elements the following functions can be distinct:

- *Sports Facilities*
- *Olympic Village*
- *IBC & MPC*
- *Other (Hotels, hostels, etc.)*

The OCOG is responsible for the coordination and realization of these different elements for the Games, obliged by the IOC. In order to further understand the difference in sports venues, which will be the main focus point, the following categories can be distinguished from the Olympic functions. Huijsmans (2005) described these categories in her Master Thesis '*The Olympic Games in the Delta Metropolis' (De Olympische Spelen in de Deltametropool)*.

- *Specific stadiums* (Olympic Stadium, Football, Velodrome, etc.)
- *Complexes* (Hockey complex, Tennis complex, Aquatics centre, etc.)
- *Indoor halls* (Volleyball, Handball, Judo, etc.)
- *Landscapes* (Equestrian, Rowing, Marathon, Sailing, etc.)

As former Olympic host cities have shown, the integration of their main venues has caused problems over the years in the post-Olympic period. The venues that have caused problems can be found under all four categories. The following paragraph will indicate what is generally described as *main* Olympic venues.

2.2.2 Main Venues

The dictionary describes the term 'venue' as follows: 'A place of gathering'. If translated in an Olympic context a venue can be called; 'A place of gathering during the Olympics', or 'A place of gathering with an Olympic function'. Several definitions for 'Olympic Venues' are circulating in the literature. Heurkens (2005) provides a well description of this term. He defines Olympic venues as; '*The locations or places of action with an Olympic function*'. This definition is suitable to describe what is meant with the term Olympic venue. Olympic Venues are the embodiment of the knowledge and learning of a host city. The venues and infrastructure will be their showpieces in presenting the world what is has accomplished as 'global city'[4].

This research will mainly focus on the main venues of the Olympic Games and the parks they are situated in. The following section will further elaborate on the classification and description of these main venues.

The Olympic Park[5] is the centre stage for the Olympic Games, and usually this park also contains the main Olympic venues. Over the years several cities have chosen to centralise certain venues in this park. Seoul 1988, Barcelona 1992, Sydney 2000, Athens 2004, Beijing 2008 and London 2012, even cities before 1988, have chosen to locate their main venues in the Olympic Park. What can be concluded is that the following venues are generally seen as main venues that are being centralized in the Olympic Parks (Twynstra Gudde & Nieuwe Gracht, 2008):

- *Olympic Stadium* (Athletics, opening and closing ceremony)
- *Aquatics centre* (Swimming, Diving, Water Polo and Synchronized Swimming)
- *Velodrome* (Track cycling)
- *Indoor halls* (Basketball, Handball, Volleyball, etc.)
- *Olympic Village* (Athletes housing)

In terms of non-sports venues it is generally so that the IBC and the MPC are also located in, or next to the Olympic Park, in Sydney 2000 and London 2012 the Olympic Village was/is also part of the Olympic Park. The village forms a different part of the main Olympic venues. It does not have a competition role and can be described as housing. Former host cities have shown a better match in supply and demand of the Olympic Village in their cities than they have with their other main Olympic venues. Olympic Village projects have better adapted in

[4] City that has tangible effect on global affairs through socio – economic means (Sassen, 2001)

[5] An Olympic Park is a group of venues with an Olympic function when a country hosts the Olympic Games.

finding the match with the future demand, although pre-set goals of environmental, and socio-cultural aspects are still hard to accomplish. Social aspects in developing the Olympic Village can be affordable housing and public facilities.

2.2.3 Venue vitality

Organising the Olympic Games is all about legacy creation, as mentioned before, the post-Games era is much longer than the pre-Olympic period (Cashman, 2002). Every host city will create legacy, but the way it will be experienced and judged is from another dimension. Whether the venues can cover their exploitation cost with their ability to generate benefits is one way to measure performance. This aspect of generating a financial surplus is called venue viability and is an economic performance aspect. Viability of the venues is in a financial way of interest but does not present anything on the level of social and spatial performance of the venue. Another way to measure the performance of legacy of Olympic venues can be a more integrated way. This integrated way combines the level of use, economic performance and environmental performance after the Games. This gives an indication on the level of activity that takes place, the role in its environment and economic importance of the accommodation. This can be called the level of vitality, an indicator combining more than one dimension. In terms of legacy performance of accommodations, vitality is what should be strived for, in order to achieve a more solid foundation for the future.

The process of realizing this vitality has proven to be complex and just a few former Olympic host cities have succeeded with adapting to the post Olympic period. The connection between Olympic use to post-Olympic use and the ability to judge what the demand will be in the post-Olympic period is hard to make. Choices on what to realize have to be made 6 to 7 years in advance. Large amounts of public money and market dependent amounts of private funds over this period of 6 to 7 years of planning are needed to realise sites, constructing transport and infrastructure for the Olympics. Adjusting the sites to their post Olympic conditions is also desired in this period (Gold & Gold, 2007). The condensed timeline for planning means that opportunities to react on changes are limited (Kozloff, 2007). Some of the host cities have been able to realize this; others are left with non-vital accommodations forming herds of 'white elephants'.

It will be important to know how public and private parties can identify the determining factors in the process of planning the legacy. In order to create vitality among the accommodations created for the Olympics.

2.2.4 Conclusions

One of the tangible parts of the Olympic assignment is the accommodations it encompasses. The IOC mentions three categories, *Competition Venues, Olympic Village* and *Accommodations.* These accommodations can be divided into stadiums, complexes, indoor halls and landscapes. Within these categories main venues can be distinguished as the Olympic village, Olympic stadium, Aquatics centre, Velodrome and the Indoor Halls. Apart from the Olympic village, these main venues are causing the most problems in post Olympic times. Several Olympic cities have clustered these venues in the form of Olympic parks. The

vitality of these venues is low and causes problems on social, economic and spatial-environmental levels.

2.3 Legacy

In this research the aim is to present a comprehensive understanding of legacy creation and planning, the long term performance of Olympic real estate and area development on their host city or region. Presenting important factors and steps that need to be taken in order to improve possible use and liveliness of Olympic Park areas and venues in the future, but also creating the right circumstances to increase the likeliness of post Olympic development is the central aim. It is therefore important to understand the term legacy in depth, where it originated from, what it means and how to define it in terms of Olympic Games or mega event planning.

2.3.1 Legacy comprehension

Legacy creation, nowadays, is getting more important for IOC and host cities in planning their Games. Often financial grounds where the reason for complaints about the Olympic venues. Public concerns were raised in for example the Montreal Games of 1976 that paid their last dept in 2005, from mainly taxpayer's money. Public resistance can become very dominant (Bond & O'Flynn, 2005). There are two reasons for public resistance; first, when host cities can not clearly motivate their reasons to host the Olympics and being unable to present realistic post Olympic plans and second, when they are able to present 'realistic' plans, but only to find out that after the Games exploiting the Olympic facilities is not that flourishing. This legacy realization became apparent around the Sydney Games where sustainability became one of the key items for those Games at the time (Gold & Gold, 2007). Games should be green and sustainable and nowadays cities won't even distinguish themselves when propagating to host 'green' or 'sustainable' Games. Unfortunately Sydney is still having difficulties in realizing post Games usage for their Homebush Bay area, although things are improving nine years after the Games were hosted. Another host city, Athens, also faces difficulties in finding post Olympic usage and exploiting the catalyst effect the Games should have. Nine years after the first 'green' Games in Sydney, followed by Athens and Beijing, host cities are still not capable of turning their Olympic Parks into successful integrated vital parts of their city or region. The problem of how to create legacy appears to be present in most of the former Olympic hosts.

2.3.2 Legacy understanding

The exact time when the term 'legacy' emerged in the Olympic scene is difficult to determine with any precision. The IOC archive holdings in Lausanne suggest that the first significant mention occurred in 1956 in relation to the Melbourne Games (McIntosh, 2003). Prior to that, the idea of impact did not really extend to a physical legacy (Gold & Gold, 2007). It is an important question how the term legacy is being meant in general. Is legacy just a fashionable word that we need to use nowadays or does legacy actually mean and add something to the discussion when the Olympic Games are being organised or evaluated?

Probably the most important question that needs to be asked is how this legacy should look like when bidding for the Games? As mentioned in 'Olympic Cities' by Gold & Gold (2007), legacy is being associated with impact, impact on physical and non-physical levels. It is this impact that is interpreted so widely and diverse that makes it important to gain better insight on this term. Even when discussing Olympic parks and their venues, impact is created on physical and non-physical levels.

Legacy understanding has been deepened in the last decade on various aspects. The IOC has tried to get better insight on this term by organising a symposium about the legacy of the Olympic Games. The symposium, 'The Legacy of the Olympic Games: 1984 – 2000' aimed to explore the various aspects of the Olympic Games legacy. Two important issues mentioned at this Symposium where two new insights on sustainability of the facilities and the planning awareness of the post Olympic period by the IOC; '*The Symposium has also been informed by the new plans of the IOC in relation to the sustainability of the facilities and projects of the Olympic cities, maintaining the quality of the facilities for the athletes, but avoiding any form of luxury and those investments that cannot be justified in the long-term benefit of the citizens. The host city should be aware of the opportunities offered by the organisation of the Games, but also the risks. The Organising Committees and future bid cities are also recommended to establish Post-Olympic planning, taking into consideration legacy in the context of sustainable development and that the Games are a community project, involving the whole host population*' (IOC, 2002). The realisation of the difference and importance of both sustainable tangible and intangible legacy aspects was one of the more important conclusions by the symposium. '*The effects of the legacy have many aspects and dimensions, ranging from the more commonly recognized aspects – architecture, urban planning, city marketing, sports infrastructures, economic and tourist development– to others that are just as, if not more important, but that are less recognized. In particular, it is necessary to point out the importance of so called intangible legacies, such as production of ideas and cultural values, intercultural and non-exclusionary experiences (based on gender, ethnicity or physical abilities), popular memory, education, archives, collective effort and voluntarism, new sport practioners, notoriety on a global scale, experience and know-how*'. This symposium has gained insight in the different aspects which can be called legacy and pointing out the importance of intangible versus tangible, were tangible and intangible are other ways of describing physical and non-physical impacts.

2.3.3 Legacy specification

Clearly there are many interpretations of the word legacy, making it necessary to specify which aspect is being meant when using this term. Legacy comprehends three different pillars, what are commonly known as social-cultural, financial-economic and physical-environmental pillars. Literature predominantly describes and assesses legacy on these pillars. Preuss (2004) in 'The economics of Staging the Olympics', Gold (2004) in 'Olympic Cities', Cashman (2002) in 'Impact of the Games on Olympic host cities and Ritchie (2000) in 'Turning 16 days into 16 years' are all addressing the matter broadly in these terms, all on

different scales and focus. Legacy in terms of financial – economic aspects comprehends the sustainability of economic benefits in a long-term perspective, economic effects, which would not have occurred without the Games (Preuss, 2004). This pillar is often the most important pillar in the motivation of hosting the Games, as described before, Los Angeles created a good economic legacy. It is this economic perspective that sometimes leads to lesser importance or attention for the social-cultural pillar. This pillar comprehends the legacy that is to be created on social and cultural aspects. Benefits like higher level of public facilities, social housing (Cox et al. 1994), community cohesion (Ritchie, 2000), experience and know-how (IOC Legacy Symposium, 2002), urban renewal and cultural inclusion (Roche, 2000) are aspects that can be related to social-cultural legacy. These aspects can originate from hosting the Games. The physical-environmental pillar encompasses the more tangible aspects within legacy creation. This means new infrastructure on the levels of transport, accommodations and urban space, which encompasses large scale urban renewal (Gold & Gold, 2007; Roche 2000).

Apart from the different pillars, different scales can be distinguished. Trip (2007) distinguishes in his table with elements of quality of place[6], different scales. In this table he distinguishes four levels; Project area, neighbourhood, urban district, city and region. These levels can also be distinguished within the pillars of legacy. For each pillar the levels are slightly different interpreted. The spatial-environmental pillar comprehends the levels of country, city, area and building. The economical pillar focuses on economic scales being, (national) economy, city economy, local economy and business scale. For the last pillar, the social-cultural pillar, the following scales can be distinguished; society, public, visitors, users. These scales within the social-cultural pillar are the people and users of a city ranging from the city level to the building level. Eventually when things go wrong with legacy development, it is the social pillar within legacy that will experience the burden. It is the pillar that represents the people of the host nation and therefore should not be underestimated.

The described theory by Preuss, Cox, Ritchie, Roche and Gold do not focus in detail on the aspect this research is trying to do, primarily the performance of the Olympic developments in the form of an Olympic Park with its main venues. It is this part of the legacy that demands large investments, for example the Athens Games spend more then $ 3,96 billion[7] on new sports accommodations and renovation. These aspects have large impact in a city on building and area level on all three pillars. It is the sports accommodations, the facilities and the areas that are being created or renovated for the Games that are further elaborated in this research. This framing has been chosen because it has a large impact both on a physical level as on a non-physical level and proves to be very complicated for cities to comprehend.

[6] Indicative schedule of various elements of quality of place working particularly on different scales (schedule in appendix section)

[7] Athens info guide (Internet site)

2.3.4 Conclusions

Legacy is a neutral term that needs specification when mentioned. In an Olympic context legacy can mean anything the Games have created, either positive or negative. Apart from its performance, legacy can be divided into a tangible part and intangible part. Tangible aspects are architecture, urban planning and sports infrastructure. Intangible aspects are for example production of ideas and cultural values, education, voluntarism, experience and know-how (IOC Legacy Symposium, 2002). These tangible and intangible aspects operate on social-cultural, financial-economic and physical-environmental levels. Good balance of these levels determines the success of legacy creation. A possible definition of a successful legacy could be as follows;

'Created movement and impact by the Olympic Games is turned into long term benefits on a social-cultural, financial-economical and physical-environmental scale'.

For Olympic area development, especially Olympic Parks, this can be translated into;

'Ongoing urban development after the Olympic Games further integrating the Games interventions into the urban environment'.

The legacy model displays the three pillars legacy contains, with pillar 'legacy' in the middle forming the centre. Legacy, as described in section 2.3.3, operates on multiple levels. The more tangible part of legacy is created in the spatial – environmental pillar operating on country, city, area – location and accommodation level. The pillar this research focuses on. Olympic Games are awarded to a city but have influence on the multiple levels outside the city scale.

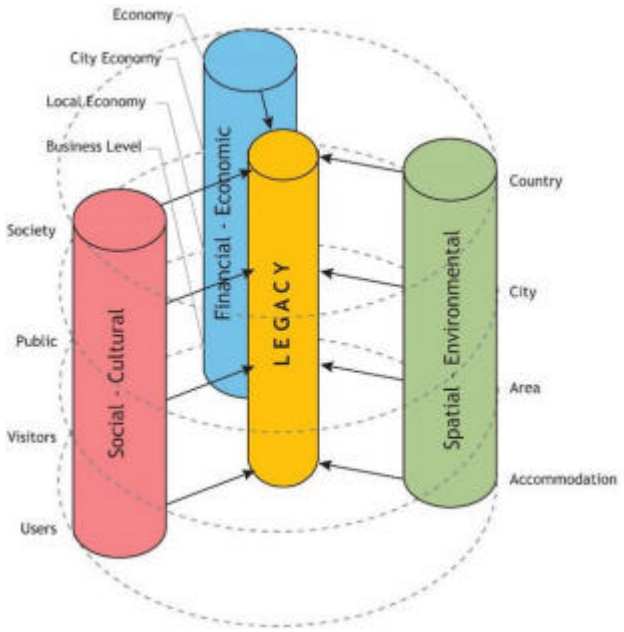

Figure 5, Three pillar Legacy model

2.4 Legacy in operation

This paragraph will elaborate on the performance a legacy should have according the above described approach. The problem statement indicated that many Olympic host cities have encountered problems in finding post usage for their main venues. They create and leave behind under-used state-of-the-art venues and areas in their city, which can be called 'white elephants'. To assess the cases it is important to layout the essential elements of analysis. By making legacy operational it will create the possibility to measure the level of legacy in the case cities. The measurement of legacy will take place according variables that create the right footing for a legacy with vital characteristics and liveliness prospects. It is not the variables that create liveliness and vitality, but the users of the parks and the accommodations itself. By creating a certain 'DNA' according the variables the base is put in place for these consequences to develop. The actual measurement itself takes place by inductive observations in the case study cities. Further elaboration on the measurement of the variables is elaborated from page 34 to 36.

2.4.1 Urban Area Development

When drawing the parallel with urban area development, as these Olympic Parks eventually are, certain issues are important in creating new or regeneration projects. Sustainable development, figure 6, should be the core essence of every development that is undertaken. The three core elements in sustainable development are the social, environmental and economical spheres. Important in developing new or existing areas certain elements in these spheres are of special interest. From a public view, liveliness and vitality should be created in the social, economic and the (environmental) physical context.

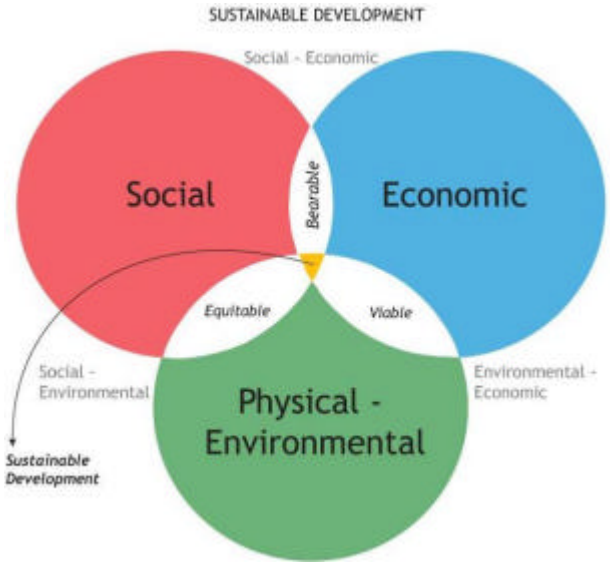

Figure 6, Adaptation 'Sustainable development model' (IUCN Renowned Thinkers Meeting, 2006)

Professional input by interviews (specification can be found in the appendix) and previous research suggested that vitality in urban area development can be accomplished through

certain elements. Eventually the user, or end user, is the one who creates this liveliness, attracted or supported by these elements. Interviews with Wim Keijsers form urban area design bureau Nieuwe Gracht (Utrecht, The Netherlands) and Nelleke Penninx from the Physical Planning department Amsterdam mentioned the following aspects that should be presented in order to deliver vitality and liveliness in urban area development; mobility, routing, (human) scale, diversity in facilities and functions, architecture and reaching integration (Keijsers and Penninx, personal interview, 2009). The elements, which contribute to this process and the results, are the key indicators in assessing the cases for this research. The goal is to find out where the successes and failures are within Olympic development. More variables could be identified when other focus areas would be addressed. The focus in this research is on the more urban development aspects within Olympic development. When more intangible aspects are added a broader range of variables can be formed. Due to the focus on urban development this framing is chosen.

Vehbi and Hoskara (2009) created a model for sustainability of historic urban quarters, on three levels, economic, social and physical revitalization. Although the focus in the model is on historic revitalization and on inner city development, the elements presented in this model touch the core essence of creating vitality and 'sustainability'. When assessing the cases on their legacy creation vitality is of core essence in the case areas. This focus is made because of the fact that use of the venues and areas after the Games is of more concern than whether the area and venues are sustainable in an environmental way to a certain extend. This does not imply that environmentally sustainable is of less importance when developing these venues and areas. In contrary, when newly or revitalized areas are being build, this should be one of the top priorities, in order to create a vital and lively area after the Games. When post-assessing the areas after the Games, indicators that can value vitality and liveliness are of greater importance.

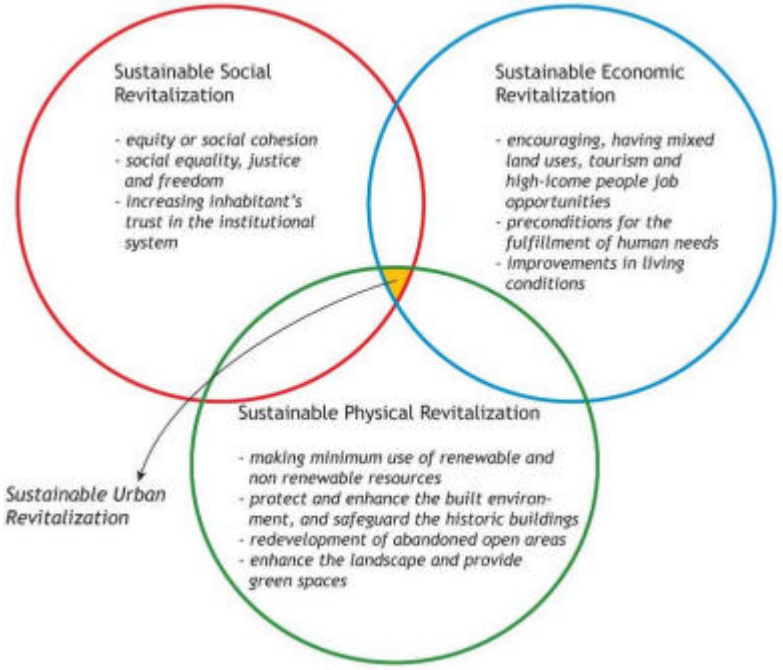

Figure 7, Model for sustainability of historic urban quarters. (Vehbi and Hoskara, 2009)

Jan Jacob Trip further elaborates in his dissertation 'What Makes a City? Planning for 'Quality of Place' (2007) on liveliness and diversity, where quality of place is seen as an essential part for liveliness at high-speed train station area development. His research makes a distinction on two levels of indicators, tangible and intangible, and small scale and large scale, meaning subordinated from project area to a regional scale. This way of making distinction between the various elements of analysis, can give a clear overview on what the different characteristics are and how the areas perform.
Indicators are formed using the input from the interviews, theory by Vehbi and Hoskara, Trip and urban area development characteristics. This enables to asses the cases in a way that it will give an optimum view on their functioning as a part of the city and their vitality.

The variables or elements of Olympic urban area development are set out in the following table. The table sets out the different variables in relation to the level of spatial dimension.

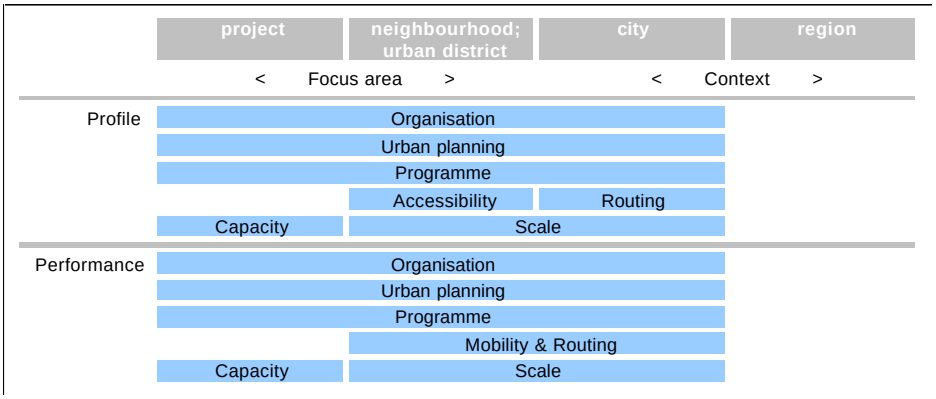

Figure 8, Case variables

The variables that are part of the profile section is meant to generate an overall view of the present situation. The variables that are part of the performance section are indicators of the level of performance the case locations provide. The combination of profile and performance create an image on why the case city performed in a certain way. Further elaboration of the variables is presented in the appendix. The focus in this case analysis will be on the Olympic Park(s) the former host cities have, which means a venue and area scale. City and region/country level will more contextual.

Urban Planning

"The moment a host city decides to bid for the Olympic Games their urban Masterplan must be put in place first, with the Olympic plan fitting into this. If regeneration is to be at the forefront of the Games, then the future use of Olympic facilities and land must be considered now and not later". **(BPF and the ULI, 2006)**

This variable is part of the research because it indicates whether the Olympic developments are part of a greater plan on region or city level. Theory states that Olympic developments

should connect to emerging developments or be part of city planning projects to function as a catalyst in stead of a of being a starting point for new development (BPF & ULI, 2006; Twynstra Gudde & Nieuwe Gracht, 2008). The more a case area is part of urban planning the more successful it will be in social-cultural, financial-economic and physical-environmental levels. In relation to liveliness and vitality it is crucial to connect the long-term plans of a city to the Olympic developments. Urban planning is about organising the city for optimum use by its users. By choosing a different direction for Olympic developments this optimum use is compromised, limiting vitality and liveliness chances.

Mobility

Mobility is one of the variables of assessment because this aspect has to do with accessibility and travel time. Accessibility and travel time have effect on the performance of a certain area, which has its on use and liveliness (Trip, 2007; Keijsers, personal interview 2009). Mobility will be measured in terms of travel time in relation to travel distance. These values will be comparable with other Olympic areas case research will elaborate. In terms of a performance score, mobility will score high on low travel times and will score low on high travel times in relation to travel distance. In this way each location can be scored individually and in relation to the other case locations. The consequence for liveliness, when mobility scores low, is a lower chance of users or mixed group of users in the specific area. This signifies lower liveliness in the Olympic urban area. In terms of vitality, bad mobility has the same effect on vitality as on liveliness.

Routing

The aspect routing is mentioned in the interviews multiple times as an influential aspect in generating use and liveliness in urban area development (Keijsers and Penninx, personal interview 2009). This aspect is part of the case research to see whether this aspect is of influence on Olympic area development. The variable routing implies that the location should be part of certain route through a city, meaning that every city has certain network through its city on which many people travel from location '*a*' to location '*b*'. These routes can also be commuter routes.

"Olympic parks or parks in general, should never be located at the end of a certain route, unless the end of this route is the ocean" (Keijsers, personal interview 2009)

Where the ocean is a metaphor for the unrelentingly border this route has to stop. For an Olympic park it is essential to be part of this network within a city. The level of connection within such a network will determine the score for this variable within the case research. Closely related to the variables above, effect on liveliness and vitality in relation to routing generates users when routing has been integrated within the city. Badly connected areas and accommodations raise the barrier for potential users, resulting in bad circumstances for potential vitality and liveliness.

Scale

Scale is a variable that is applicable on two scales; scale on an area level and scale on a building level. The latter is expressed in capacity of a certain venue (Gold & Gold, 2007). Scale on area level is interpreted in terms of proportions with the urban or building context (Trip, 2007). When proportions in relation to the urban or building context is experienced as balanced the score on this variable will be high, when the proportions are not attune the score will be low. This variable is part of the case research because Olympic scale is of another dimension then average city scale and those should be close together in terms of perception by possible users. Liveliness is affected by scale because users have a certain perception of scale in certain proportions. When these proportions do not connect with the amount of use and human perception liveliness is affected. Vitality operates on a building level and deals with capacity issues and amount of floor space it uses. For example a stadium which uses its capacity for 50% is less attractive in terms of perception and experience opposing a stadium that is fully used.

Programme

Programme is the last major variable the case research will focus on. With programme is meant what kinds of functions are present on area level. Theory states that a mix of functions is desired to generate use and liveliness on different times through a normal day (Vehbi and Hoskara, 2009; Trip, 2007). Contemporary urban area development has a clear focus on this mix of functions in order to generate diversification and use (Grant, 2002). Within the case research it will be examined whether this diversification generates a higher level of liveliness in relation to mono-functional compositions. On accommodation level the amount of use, or chances of use stands for the scoring on this variable.

Apart from the content related variables, an organisation survey is also part of the case research. The way venues and areas are organised and the way they perform according the above variables give insights on how these organisation forms function with Olympic related real estate perspectives and their effect on liveliness and vitality.

2.4.2 Conclusions

Legacy made operational resulted in variables that can give scoring to the performance of legacy in relation to the social-cultural, financial-economic and physical-environmental pillars. Central in this scoring is the level of liveliness and vitality that is realised on area and accommodation level because it is part of the three pillars. Described theory of urban area development, with liveliness and vitality as objective, forms the base of the resulting variables. The variables that are being scored are *urban planning, mobility, routing, scale* and *programme*. The variables came together through the above described literature and interviews with experts. The next section will describe the conceptual model in which the variables are connected with process and organisation.

2.5 Conceptual model

There is no Olympic host city in history that was unable to organise the Olympic Games due to own error. But there have been host cities with difficulties in organising and planning the Games, like Athens 2004 who got an official warning from the IOC (Associated Press, 2004), but not ever it resulted in not hosting the Games. As the problem statement and theoretical framing point out, planning and creating legacy experiences a lot of difficulties, which results in not achieving legacy objectives. The planning process, of which the Games are part, is different from what is known and generally accepted as, the accommodation or area development cycle. The 'normal' cycle consists of six phases, being the initiative, definition, design, preparation, realisation and the use / management phase (Pluijmers, 2000; VROM, *Travel guide Area Development*, 2009). Olympic phasing is generally the same but runs through a different timeline, described by Cashman (2002), page 15, and knows an additional phase being the transition phase. A transition phase after the first (Olympic) use phase to post Olympic use. These aspects make Olympic development and therefore legacy development different from what is accepted as normal development.
As presented legacy consists of three major pillars on which balance should be strived for. The derived variables have to be framed into a certain process and organisation form, because without process and organization these variables are uncontrollable. Would this be framed into the 'normal' process of development, and organisation models as urban and accommodation development know, discrepancies will arise.

The conceptual model shown in figure 9 displays the three main aspects in legacy development which combined should create the basis for legacy. It is a draft version, the beginning of the final model that is presented in chapter 6.

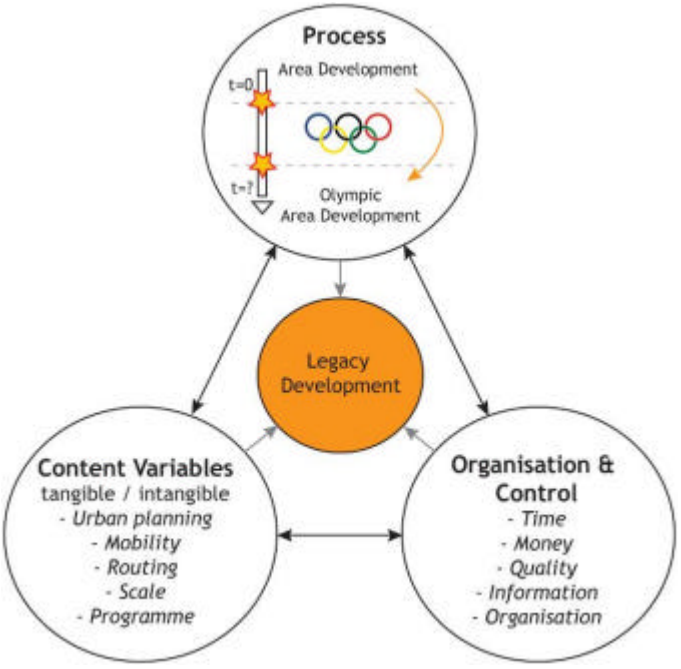

Figure 9, Conceptual model

The first part of the conceptual model represents the process of urban area development integrated with Olympic development, showing the discrepancies on where Olympic development is forcing a different direction. Short-term Olympic objectives combined with long-term urban area objectives forming a possible tool, or could function as a catalyst in urban development (Wagt, van der. 2009). The second part concerns the variables elaborated in the previous sections. It is the combination of the variables and the connection of long-term and short-term perspectives that enhances the post-Olympic perspectives. The third part of the conceptual model is the organisation and control part. For initiators with Olympic plans like municipalities or public-private partnership combinations this model should guide them through the process. It is the task for the organisation with its role in controlling the process to walk through the phases of development. Concerning content, focus is on the execution of the variables in the development of the long-term urban plans and short-term Olympic plans.

In chapter 3 and 4 the variables are examined in the case studies. After each case study an analysis is presented. Chapter 5 combines the two analysis in a cross case analysis. Chapter 6 describes the first results and elaborates on the construction of the final model. Chapter 7 forms the final conclusion of the total research.


TM ©
ATHENS 2004

3 Athens 2004

3.1 Introduction

'The 2004 Games where the best ever', was the statement Jacques Rogge, chairman of the IOC, made during the closing ceremony at the Olympic Spiros Louis Stadium in Athens. Five years later the city of Athens can question whether this is something they are utilizing. The legacy they have created, according most of the literature, is not 'the best ever'. A further detailed look at the Olympic venues and areas Athens is being conducted to gain further knowledge about the reasons why Athens is finding difficulties in utilizing their Olympic legacy, and what part of this legacy is generating problems.

A telling new phrase, interpreted by Hubbard (2005) from "The Independent', in the IOC's evaluation report on the bidding cities for 2012 is best read between the lines, "Given the magnitude of the project, careful planning would be required to ensure all facilities are delivered on time". In other words, we don't want a repeat of the Athens experience, thank you very much" (Hubbard, 2005). Implying that Athens already started on the wrong foot, when the planning for the Games completion was not the way the IOC would like it to see. These delays caused Athens an official warning by the IOC April the 20th of 2000[1] expressing their concerns on the planning and preparations of the Games. Former IOC President Juan Antonio Samaranch gave them the yellow card to let them know they were close of losing the games, 4 years before they should start. In spite of the problems encountered, Athens was able to realize the Games on time. Resulting in new, state of the art infrastructure and venues, which is the main topic for the first case research.

General information Athens Metropolitan

The metropolis Athens has about 3 million inhabitants, 775.000 are part of the city of Athens. The total population of Greece is over 10 million and is growing at a rate of 0,127%. The GDP per capita is currently around $30.600 which is more than double the GDP of 8 years ago.

Fast facts	Around 2000	2008
Population Greece	10.601.527	10.737.428
Population Metropolitan Athens	3.073.000	3.700.000
Population Athens	772.000	750.000
GDP Greece	$13.900	$30.600
Square Km Greece		131.957
Square Km Metro Athens		2.929
Square Km Athens		411

Table 1, Quick facts Athens and Greece

[1] Associated Press, Aug. 20th 2004

The city of Athens has a density of about 1.804 inhabitants per square meter. Figure one gives quick insight in the general facts of Greece and Athens. The population of Athens had a peak population of 885.737 in 1981 and decreased since then. Athens found its bottom in 2001 at around 745.541 and is slightly increasing in population since then.

The organisation of the Games brought certain costs to the city. These costs can be divided into operating costs and costs for venues and accommodations and costs for telecommunication, hotels, infrastructure and others. The organisation of the 2004 Olympic Games was the most expensive Games till that time on the level of security. The security costs were never as high as in 2004. Due to the history of the Games with terrorist attacks in 1972 Munich, 1996 Atlanta and the recent New York terrorist assault in September 2001, Athens was on high alert on everything concerning safety. Over 12% of the total budget was spent on security measures. Overviews of the Olympic expenditures of Athens are found in table 2.

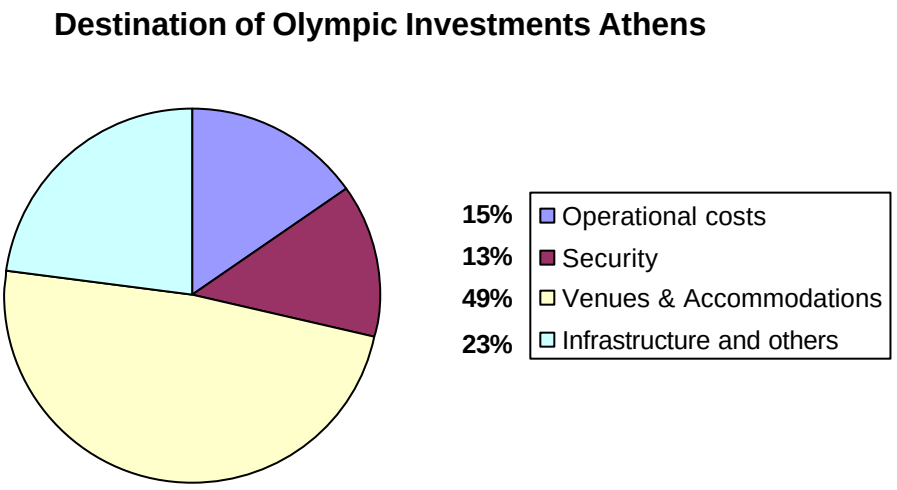

Figure 10, Olympic investments

Olympic Expenditures		2004
Operational (organising costs)	±	$2.322.000.000
Venues and accommodation	±	$3.960.000.000
Infrastructure and others	±	$1.840.000.000
Total Olympic Costs	±	$8.122.000.000

Table 2, Olympic Costs Athens

The maintenance costs of the venues and accommodations, being 49% of the total budget in relation to the Olympic expenditures is around $ 100 million a year. These maintenance costs even seem low when around 3-4% is taken into account with, but with no revenues in exchange this is a considerable amount to deal with.

3.1.1 Olympic Parks

Athens was nominated to host the first Olympics after the 'Millennium Games' of 2000 in Sydney. They had tried to win the Olympic bid for 1996 to celebrate the 100th anniversary of the modern Olympic Games, but lost in the final round from Atlanta. Eight years later Athens had succeeded in bidding for the Games, although their bid was finished just in time. Their bid was mainly based on the sentiment Athens has with the Olympics but was able to host a successful sporting event.

The 'real' reason for hosting the Games was the chance for Athens to realize large changes in the highly congested infrastructure; the major projects were a new city highway, a new airport and a metro and tram network. To house the events the city realized numerous new facilities or renovated existing venues, among the world famous, first Olympic stadium, Panathinaiko. With this large scale construction Athens had chosen for a strategy of building three Olympic Parks. The renovated Olympic Athletic Centre of Athens (OAKA), former host of the Mediterranean Games, the newly build Faliro Olympic Bay Complex and the Hellenikon Olympic Complex realized on the old, partially closed, city Airport.

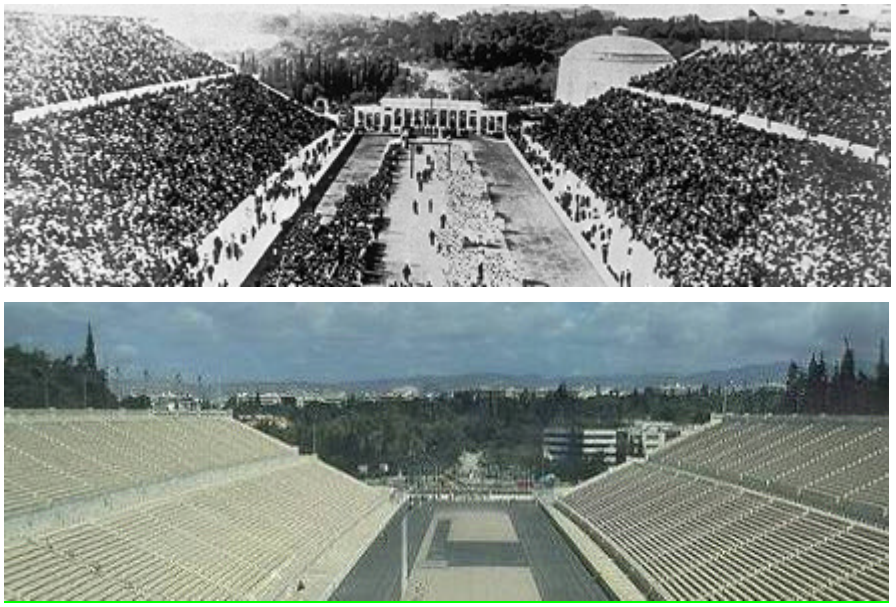

Figure 11, Panathinaiko stadium, 1870 – 2004

These parks contained most of the main Olympic venues for hosting sports like athletics, cycling, aquatics, tennis, hockey, baseball, volleyball, basketball and sailing. This choice could have originated from the preference of the IOC of having 'compact Games' whatever this practically means. This preference is derived mainly from the thought of giving the Olympic movement the change to witness multiple events and reducing the travel time for athletes. The demand of a travel time between the Olympic village and all of the venues is therefore set at 45 minutes.

3.1.2 Structure

The structure of the chapter is as follows. It will deal with the three Olympic parks, where the OAKA will be fully presented in the main thesis and the highlights of the both parks Faliro Bay and Hellenikon will be discussed in the appendix. The second part of the case research will deal with the analysis of the case, discussing urban planning, mobility, routing, scale and programme and the way the Games are organised.

3.2 Olympic Athletic Centre of Athens

The Olympic Athletic Centre of Athens, also called OAKA was originally built in the beginning of the 80^{ties} which was the host of the Mediterranean Games of 1991, the 11th edition of these Games. This area was appointed to host the main events of the Olympic Games 13 years after the Mediterranean Games had taken place. This area, 70 acres large, was appointed to host cycling, tennis, swimming, indoor sports and the opening and closing ceremony at the Olympic Stadium. These 13 years had taken its toll on most of the venues present and the public space surrounding these venues. Major renovation and redesigning the venues and public space made it possible to host the 2004 Games. This renovation was done by designs of the famous architect Santiago Calatrava, also responsible for the roofing of the Olympic Stadium and the Velodrome. The following paragraphs will give a detailed description of the different venues containing this Olympic Park, starting with general information about the park itself.

Figure 12, Locations Olympic Parks Athens

3.2.1 General description OAKA

The park is owned by the national government, which has created a special real estate management company to control the properties. This governmental company is called 'Hellenic Olympic Properties' and has the supervision on 70 acres of public space and venues.

Figure 13, Mediterranean configuration (l) and the Olympic Configuration (r)

The location of this area is at the north of the centre of Athens, as shown in figure 2.

Accessibility

The OAKA is accessible in multiple ways, ranging from private transport to several public transports, figure 14, which are all shown in the following schemes. The park is situated north from the city centre at the intersection of two main roads and next to the main railroad trace and has its own subway station, Irini, in the north western part of the park.

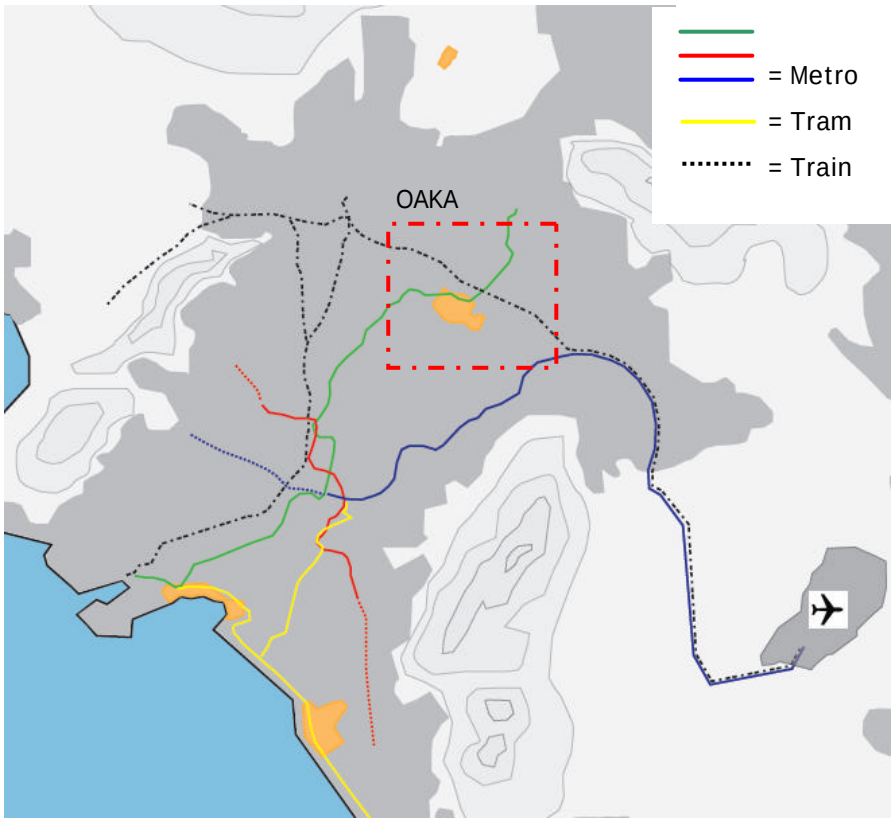

Figure 14, Public transport Athens

Originally there was second station planned at the eastern side of the Park, next to the Olympic stadium, called OAKA, but until now this station has not been build. The Main Olympic park is accessible by car, bus and metro. The park has one pedestrian bridge which connects the park with a small neighbourhood attached to the south of the park, figure 5. The whole park is surrounded by motorways, which two of them are important roads for the city of Athens with high amounts of traffic. Because of these roads the park is isolated from the rest of the city of Athens, although the metro station Irini makes the Olympic park easy accessible. The Park is located about 9 kilometres north from the city centre and about 25 kilometres from the airport.

Figure 15, Accessibility OAKA

The Olympic village is located outside of Athens and is situated 14 kilometres north of the OAKA. Interesting distances to know, apart from the distances between the Olympic Village and the OAKA, are the distances between the OAKA and major residential and transport hubs, in relation to the post Olympic period.

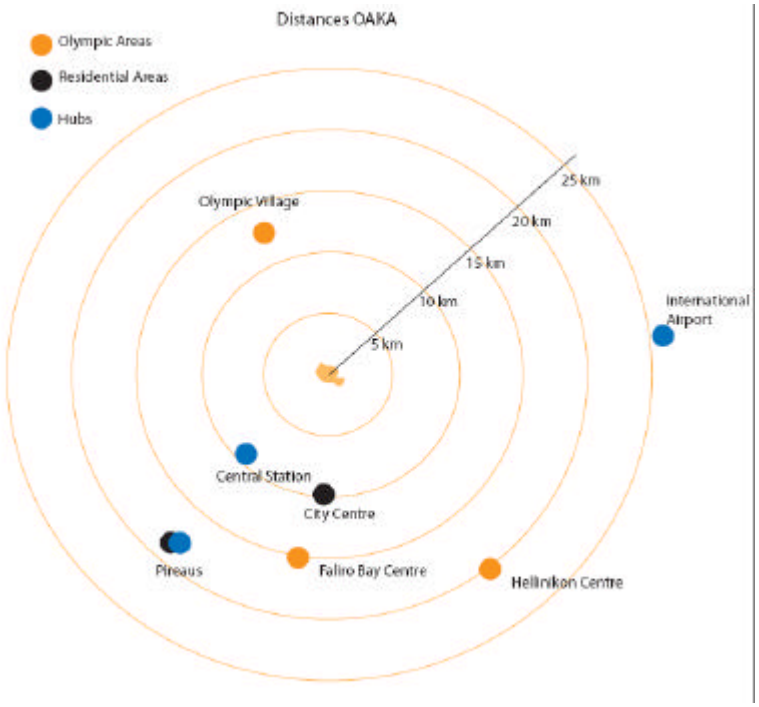

Figure 16, Travel distances Athens in relation to OAKA

The OAKA lies in the middle of a large urban area where the surroundings are mainly residential and offices. One of the more important locations in the city of Athens is the harbour and town of Pireaus. The metropolitan area of Athens has approximately 3 million inhabitants and the city has approximately 775.000 inhabitants and covers an area of 428 square kilometres, which means a density of 1.804 inhabitants per square meter. The travel distances and times are represented in figure 16 and 17, to gain better insight in what these figures mean in relation the main Olympic Park.

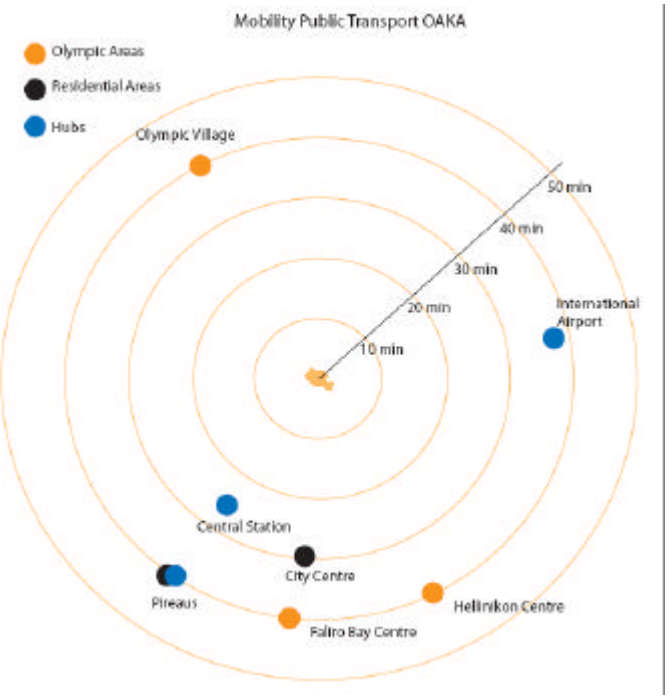

Figure 17, Travel times in relation to OAKA

Programme

The park is completely designed for sports and the gathering of large amounts of people, fit to house the visitors of all the venues at once. The functions present at the park are limiting to stadiums and public park space. The stadiums itself have little supporting (commercial) amenities to offer the public in terms of restaurants, bars and leisure functions in general. The park has 5 Olympic venues with approximately a total capacity of ± 147.050 seats to accommodate the spectators, table 3.

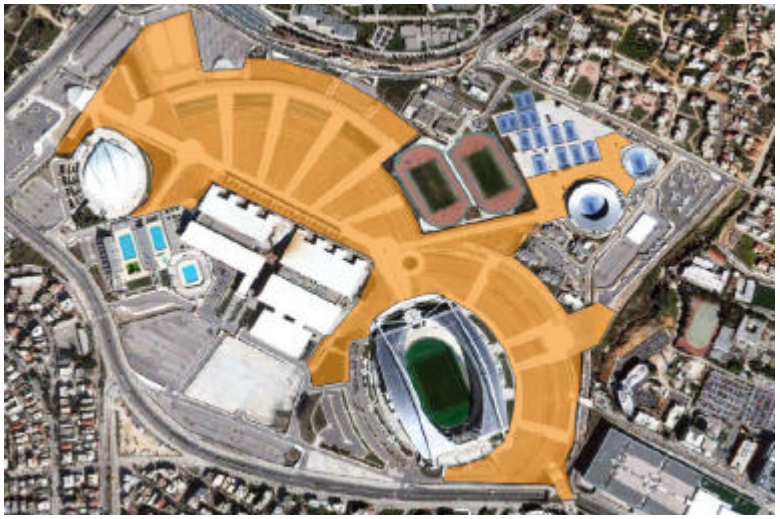

Figure 18, Public Space of the OAKA (orange section)

The terrain can easily process these kinds of amounts of people by the public space it has around the venues. Figure 18 gives an indication of the public space around the venues, specified in m2 in figure 19, which results in an overview of land use by the venues, in relation to the total square meters the OAKA is designed for.

Capacity OAKA Venues	
Olympic Stadium	**72.000**
Indoor Hall	**18.500**
Aquatics Centre	**23.000**
Veldrome	**5.250**
Tennis Complex	**28.300**
Total	**147.050**

Table 3, Capacity venues OAKA

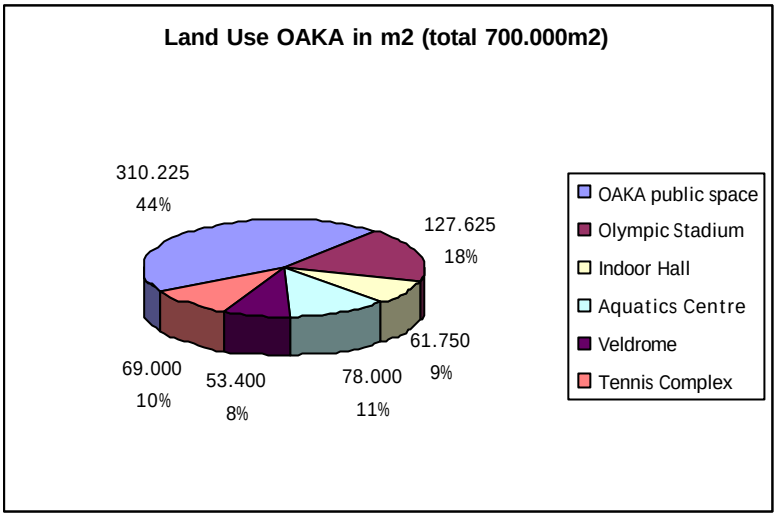

Figure 19, Land use in m2 of the OAKA

Post Use

The park itself has no fixed post usage, and is mainly used by the separate events of the different venues present, which will be discussed in the following chapters. Some examples of use since the Olympic are mainly protest marches and manifestations, next to the fact that the park is open to the public. Even (non-official) police force trainings are held at the park because of the large, abandoned open space.

Surrounding areas

The areas that surround the OAKA can be divided into five different areas. All of them are mainly housing with some small scale office related areas. At the south-eastern side of the park offices situated in a small office park. The main buildings are the former IBC, currently the shopping mall 'Golden Hall' and the MPC. To the north of the park a view offices are located there as well. The other three areas are housing. There are many places in Athens with small scale office activity mixed with housing, only view areas are predominantly office related.

Figure 20, Surrounding areas OAKA

3.2.2 Spiros Louis Stadium (Olympic Stadium)

The Olympic Stadium is the main stadium of the Olympics and the Olympic Park. It was first used as the main stadium for the Mediterranean Games originally opened in 1982 to be completely renovated to become the Olympic Stadium of the 2004 Summer Games. Completion of this renovation was realized just one month before the start of the Games.

Figure 21, OAKA stadium Mediterranean configuration (l) and the Olympic stadium Configuration (r)

The renovation of the stadium has cost the Greek government € 265 million in order to get it to Olympic standards, and to the architectural norm Athens desired, which meant a roof designed by Calatrava situated in a park also designed by the same architect. The renovation meant a rebirth of the area which had been host of the Mediterranean Games, 13 years before, in terms of legacy, an interesting fact, although the venues were to a large extent not suitable to host the Olympic Games. The renovation created a state of the art venue, which was used for athletics, opening and closing ceremony and football during the Games.

Quick Facts Louis Spiros Stadium

The figure below gives quick insight in the facts of the Olympic Stadium of Athens, being the largest stadium Greece has.

Quick Facts Spiros Louis Stadium	
PPP	100% Public
Tender	Panathinaikos, until 2007
Renovation Costs	**€ 265.000.000**
Capacity	**± 72.000 seats**
Functions	Athletics, Football, Concerts

Table 4, Quick facts Olympic stadium Athens

Programme

The stadium is designed for mainly for sports functions, like athletics and football. The stadium is also used for concerts and large manifestations, for example Madonna, Tina Turner and the Rolling Stones gave their world tour concert at this stadium, with crowds over 75.000 people.

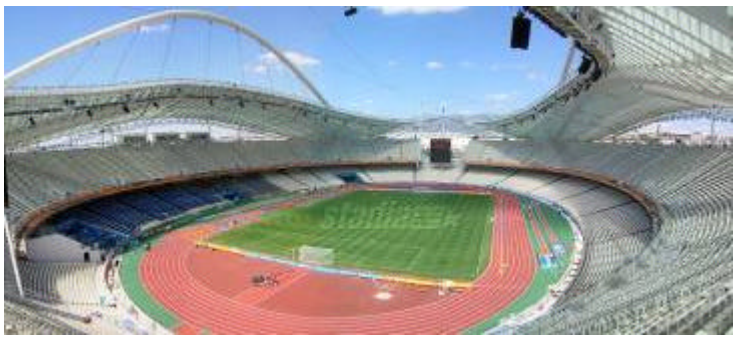

Figure 22, Olympic Stadium Athens

The flexibility of the stadium is not that great, meaning the configuration as it is, cannot be changed. Pitch is a 400 meter athletics track including the athletics necessities with inside a grass pitch suitable for multi uses.

Accessibility

The accessibility of the stadium is mainly the same as the OAKA park, being it a big part of this Olympic park. The stadium is situated at the south east of the park and functions as one of the landmarks of the park. It is accessible by one pedestrian bridge, next to the stadium, and by the public area around the stadium connecting it with the main entrance of the park and with metro station Irini.

Figure 23, Metro and tram connection, (www.athens-today.com)

As mentioned before, the original plans included a metro station next to the Olympic Stadium, but this has never been realized, as well as the, shorter metro line connecting it directly with the city centre. The stadium is also accessible by car. Several parking lots are available to accommodate the motor vehicles. Although in practice public transport proves it will get you there more efficient.

Post Use

After the Games the stadium managed to get users as the Greece National Football Team, Olympiacos Piraeus, Panathinaikos and AEK Athens. Panathinaikos was the last user of the

stadium but have returned to their home grounds. Football is a sport that can pull large crowds, and because of that able to use the large capacity Louis Spiros Stadium has. Only athletics stadiums are not fully suitable for football caused by the 400m track around the pitch, creating a large distance between the field and the spectators. Currently no long term tender is participating in the stadium and use of the facility limits it self to occasional events like concerts and sports events. The last major sports event was the Champions League final in 2007, 3 years after the Games had taken place. The last world or European athletics events were the Games of 2004. In terms of non – sports events the stadium was host for several artists as mentioned before for their world tours.

3.2.3 International Broadcast Centre and Main Press Centre

The International Broadcast Centre (IBC) and the Main Press Centre (MPC) are two different types of Olympic Venues. They both are non sports venues with supporting functions during the Games.

The function of the IBC is to accommodate the international broadcasting agents with studios and other supporting facilities to make broadcasting of the Games possible. In this building multiple studios are erected and television, internet and radio broadcasting is realized. The broadcasting of the Athens Games was coordinated by the Athens Olympic Broadcasting Organisation[2]. There organisation implied:

- Televised more than 4,000 hours of live Olympic coverage
- Provided coverage of 300 Olympic events
- Utilised more than 1,000 cameras and 450 video tape machines
- Employed 3,700 personnel
- Worked with more than 12,000 accredited rights-holding broadcast personnel

A special feature of the IBC Athens was the ability of utilizing the roof for media coverage overlooking the OAKA. The MPC serves mainly as a workplace for the press and contains functions as conference rooms, office space and supporting functions. The MPC multi-storey office complex is located at a key intersection on Kifisias Avenue in Marousi, in an area with a large concentration of offices, near the OAKA Olympic Complex and the Helexpo Exhibition Centre. The Centre consists of 2 interconnected buildings, in an inverted "L" shape. There are two entrances, one along Kifisias Avenue and the other on the side of OAKA. This building complex houses an amphitheatre with a capacity of 800 seats, state of the art audiovisual and simultaneous translation equipment, which can easily host conferences, meetings and press conferences. It also has 3 adjacent rooms, with 50 seats each, which can be combined to create a larger hall with a capacity of 150 seats. The building has a two level restaurant area with an autonomous food preparation area. The building offers open plan office space, and is well-equipped with a sophisticated fire detection system climate control and the HVAC

[2] www.olympic.org

system operates independently in each building. (Hellenic Olympic Properties, 2009) At the Athens games the IBC and the MPC were located next to each other, right along the OAKA park.


Figure 24, IBC and MPC

Quick Facts IBC and MPC

Quick Facts IBC & MPC		
IBC		
Tender	Lamda Development	
Renovation Costs	**€ 75**	mln*
Value (expected)	**€ 123**	mln*
Realized Build Area	**68.695**	sq.m.
Realized Lot Coverage Area	**30.760**	sq.m.
Current Function(s)	Shopping mall	
MPC		
Tender	Greek Ministry of Health	
Total Land Plot Area	**14.329**	sq.m.
Realized Built Area	**28.660**	sq.m.
Realized Lot Coverage Area	**4.296**	sq.m.
Current Function(s)	Greek Ministry of Health	

* Lamda Development

Table 5, Quick facts IBC & MPC

Post Use

Lamda Development was awarded a forty-year lease in a tender concluded in August 2006 for the former IBC, converting it into a shopping mall called, 'The Golden Hall'. The Main Press Centre will house the Health Ministry and related agencies in its two interconnected multi-storey buildings. As a result of the move to new facilities –the two buildings cover a total of 28.500 square m. The ministry's services will be housed under a single roof in a less congested suburb, rather than being scattered between six different buildings in the centre of the capital. The Emergency Services (EKAB) will be the first agency to move in the venue (Hellenic Olympic Properties, 2009).

Figure 25, Transformation IBC to Golden Hall. (www.skyscrapercity.com)

3.2.4 OAKA Venues

The other venues located on the OAKA are the tennis complex, the indoor hall, the velodrome and the aquatics centre. These venues are not further described in the analysis but will be shortly set out in this paragraph.

These venues are all renovated venues from the former Mediterranean Games or newly build for the Olympics. No specific or continues post use is found for these venues, with the indoor hall as exception. The velodrome is used as a training facility and sometimes hosts an event. The aquatics centre is open to the public at certain times but has not yet been able to reach the public. The indoor hall is being used for diverse events but is mainly used by the basketball club Panathinaikos. It has a capacity of 18.000 but is rarely full. Post usage of this venue is not that bad. The tennis complex is nowadays a public tennis centre and opens to the public. It is not known to what extent the intensity is of the usage.

Problematic for these venues is the scale. The stadiums are all permanent facilities with Olympic dimensions. The aquatics centre, the tennis complex and the indoor hall are all too big for Athens standards. The velodrome is not that large but is a sports facility for a sport that has low participation.

The two other Olympic complexes, Faliro Coastal Zone Olympic Complex and Hellenikon are elaborated in the appendix.

3.3 Analysis Case Research Athens

The second part of the case research will deal with the analysis of the case, analyzing urban planning, mobility, routing, scale, programme and organisation. The chapter will conclude with the first preliminary conclusions based on the results so far. Every Olympic park will be analyzed separately in this chapter elaborating the case research results of chapter three.

3.3.1 Urban planning

Whether Athens had a strategy on a level of urban area development and the venues related to the Games is not entirely clear, but had several plans and goals it wanted to achieve. Strategy is mainly focused on the way on how to achieve the benefits the venues and areas should have for the city, with a public interest. As described in the above paragraph the venues are in public control with no market input. This has influence on the way post use of the venues is developing. Due to several political changes and problems Athens encountered in the preparation of the Games, planning for the post Olympic period or legacy sustained considerable damage.

Athens had decided that it wanted to transform two large areas in the city. These two areas being the Faliro Bay and the Hellenikon were to be transformed into urban parks with certain functions supporting these areas. These two areas should have been the main goal for the city in regards to urban city development. The lacking of clear focus and goals on what it wanted to achieve with these areas caused dispersion on which direction Athens should go in, making hosting the Olympic the primary goal.

Athens had to catch up on many levels within the cities development that hosting the Games was something this city would not be able to easily do. Large arrears in infrastructure, in quantity and quality hotels, venues and supporting accommodations made hosting the Games a huge task for Athens with finally time becoming the biggest threat to Athens making hosting the Olympics a race against the clock.

Getting control on the post Olympic legacy and strengthening this is something the city of Athens is still working on, even 5 years after the Games instead of making use of this legacy the city has, despite the problems it encounters.

3.3.2 Mobility

The mobility in Athens has grown considerably. Before the Games tram, metro and major motorways were not present. The Games forced Athens to change its infrastructure in order to reach Olympic standards. The IOC demands a capacity of 50.000 persons per hour and a maximum travel time of 45 minutes between the Olympic Village and the venues for the Games itself. Because of this demand Athens created important public transport connections through its metropolitan area.

The OAKA with its position in the northern part of the city has been connected to the city by

a metro line and nearby the major motorway to the international airport and the main routing to the rest of the region. Not completing the second metro line to the OAKA directly from the eastern part of the city centre mains a lack of connection to this part of the city which is a considerably large part of Athens. The area is therefore only accessible by one metro line, connecting the western part of the city to the OAKA.
Faliro Coastal Zone Olympic Complex close to the major harbour district is well accessible by public transport, creating a connection between the coastal zone, the harbour and the city centre, all the potential to process high quantities of people. The Hellenikon Complex which is only accessible by tram and bus is much less capable of processing these kinds of quantities. The tram is a slow moving form of public transport and knows many stops. Not completing the metro line form the city centre is a great missing for the area. All traffic, being public and private, has to move along the coast to reach the Hellenikon Complex. In practise a time consuming pursuit.

It can possibly be a problem that Athens has mainly tried to connect the Olympic areas to the city because it needed to, not knowing why these should be connected disregarding the Games. They considerably have increased the mobility in Athens but at certain areas no real connections have been made making post Olympic functioning harder than it should be.

3.3.3 Routing

As mentioned by the interviewees and the literature, routing is an important part of creating vitality and liveliness in a specific area. People or flows of people commute in a certain way trough a city, these routings are the locations facilities should be located at, providing these functions to the users. A great example in Athens is the Olympiacos stadium located at an intersection between the centre of Athens and the harbour of Pireaus along the ring road of Athens, attracting people and creating liveliness and vitality. The three Olympic parks all have a different routing and locations within the city. OAKA being an inner city location, Faliro a coastal zone and Hellenikon a mix between a coastal area and suburb of Athens, not directly at the sea side, and not a high density area like the OAKA surroundings.

OAKA is located between the city centre and the major motorway connecting the airport to the city and the rest of the region and even country. The routing to the OAKA leads to the suburbs of Athens with no significant destinations around it. The main routes are primarily the airport to the city centre and its harbour in Pireaus, not directly passing OAKA. There are no important flows of people or other forms of traffic crossing the OAKA and making it more the end of a routing than an important part of the major traffic flows of Athens, there are no significant amenities or locations to go to.

Faliro bay is a different kind of area, particularly because of its sea side position. Unlike inner city locations, routing through the area is not possible and therefore less important. Accessibility is of more importance for these locations. Faliro bay has a well established connection the rest of the city of Athens making it easy accessible. The movement of traffic

is concentrating on several locations in the city; one of these locations is the coastal zone of Athens, making Faliro Bay an important part of these major routings. But to the lack of programme or mix of functions this area is not part of the routine for the people of Athens.

Hellenikon Complex with its location just outside of the city is located on one of the larger commuting routes Athens has. This routing is only possible by motorway and was planned to be supported by a metro line. Because of this lack of public routing the area has to rely on its motorway routing running along side the Olympic park.

3.3.4 Scale

One of the big issues of the Olympic Games is the scale and magnitude of the event. The Games are growing in size every four years making the event, in terms of urban area development and real estate, demand a great deal of space and infrastructure. This means the accommodation of large quantities of people in multiple venues and public areas. Quantities a city can hardly produce on its own. The OAKA, Faliro bay and Hellenikon Complex contain fourteen venues with a large capacity and matching public space. For a site like the OAKA with a capacity of 147.050 in venue seats over a total of five venues, table 3, and a matching public space capable of handling these amounts creates massive overcapacity in post Olympic operating times. This is no different at the two other Olympic Parks Athens has, creating oversized areas and venues.

The IOC has certain demands which have large effects on the long term. Demanding large capacities for the Olympic venues to be able to accommodate as much spectators as possible, not being fully aware of the post Olympic effects this has, creates problems on more levels than just the venue level. A venue with large capacities also demands a matching public space to accommodate the venue and public and private transport facilities to support these amounts of people. This also has a relation with the amount and quality of supporting facilities like hotels and other supporting accommodations. Downsizing a venue is a solution on a venue level but does not tackle the total, exceeding levels mentioned above.

Sports federations like the IOC, FIFA, UEFA and others have different objectives as to organising cities. These sports federations would like to grant as much access to the events as possible. For example the European Football Championships are being organised in Poland and the Ukraine in 2012. These two countries need to accommodate large amounts of spectators not only in hotels but also in stadiums with capacities they do not have the demand for in their countries. Forcing those countries to construct venues in which they do not have experience and demand for. Currently the demand for hosting a world cup final acquires a venue with a capacity of 80.0000, a capacity only 5 football clubs in Europe can deal with. A problem Henk Markerink, CEO Amsterdam ArenA, warns for in the future, after experiencing how quickly these demands can change over the course of a possible bid for the Netherlands for the World Cup in the future, when demands for the final stadium went up from 70.000 to 80.000 (Markerink, personal interview, 2009).

3.3.5 Programme

Standing out in the case research findings is the mono functional character the Olympic parks have. The all rely on sports events and activities. The OAKA is totally mono functional with 5 sports venues and no supporting amenities. Faliro bay has a less mono functional character in relation to the OAKA but doesn't offer a great deal of variety. The Hellenikon area is closed for most of its area because it has no programme that can support any use at the moment. Only the Hellenikon Arena offers a multi functional venue within this area, but does not provide in any commercial or leisure amenities. Plans for the Faliro Bay and the Hellenikon area focus on transforming it into Metropolitan Parks.

One of the biggest reasons these areas are very mono functional and not well integrated has to do with security measurements. As described in the introduction Athens spent more than 12% of their budget on security measurements, something that becomes visible when looking at the Olympic areas from a distance. All three Olympic areas are mono functional and totally closed off on all sides situated in an open public space. The OAKA contains the largest venues and the biggest open space which is controlled easily in terms of security. These characteristics or qualities have negative influence on the scale and programme causing problems on the aspect of liveliness and use. For the other two areas the situation it is not much different and causing the same problems.
It seems that Athens had great trouble incorporating the security measures in the design to realize a programme and area which better supports post use and liveliness.

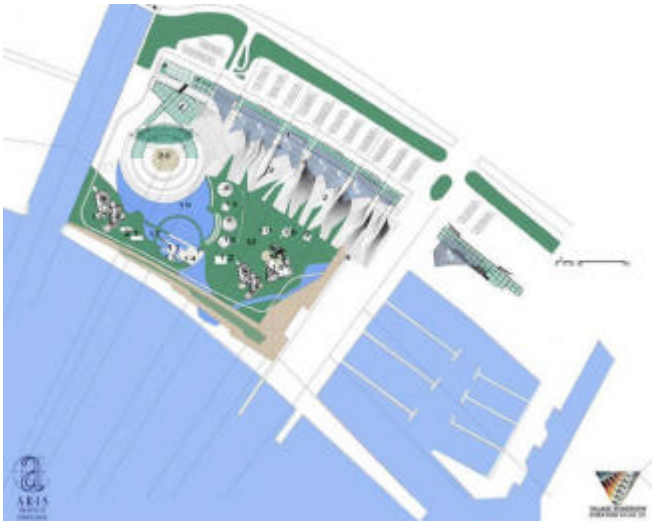

Figure 26, One of the urban development plans for Faliro Bay

Faliro bay

After the Games new plans were made to find solutions for the urban Olympic areas. For the Faliro bay this resulted in spatial plans and thoughts of realizing a theme park bringing the park to the city integrating the Olympic facilities in the plan. Figure 26 is an example of such a plan that has been created for the coastal zone. Striking is the fact that these plans were drawn up after the Games when these areas had gotten more shape. In terms of post Olympic

developments these plans should have been far more developed and the city should have started these urban transformations before the Games even were acquired. Starting new developments with the Olympic as a catalyst are high risk undertakings. This currently resulting in urban areas which are not being used and time hasn't yet come to develop these sites. Olympic momentum is gone and developing these sites has turned from creating chances into damage controlling.

Hellenikon

Hellenikon is some extraordinary characteristics. This Olympic area is the former city airport of Athens. The Olympics presented the opportunity to develop a larger airport outside the city and develop the airport into a new urban area, integrated with the city. Instead of cleaning this area and starting with a clear urban Masterplan Athens did something else. The intervention made for the Olympics seem rather hurried and not well thought through. Olympic facilities are built literally on the former runway and about half of the airport structures are still present. Plans are now being made to transform this area into an area with a mix of functions and with high quality greenery for recreation. Also the Hellenikon area final goals are formed after the Games took place and the momentum of the Games has long been gone.

Figure 27, One of the urban development plans of Hellenikon

3.3.6 Conclusions

As theory indicates in chapter two, balance should be achieved on three pillars on different scales to achieve prosperous legacy foundations. The above results need to be reflected on this theory to draw conclusions in this matter, as will be done in the case research of Barcelona. The pillars, representing social – cultural, financial – economic and physical - environmental values, are supported by certain content over the dimensions of country, region, city and area. The case analysis has a focus on the city and area level. The content of

which these pillars should consist can be categorised in certain elements of Olympic Urban Area Development, organisation and process all of which together can be called Olympic Legacy Strategy.

Important for areas to find connection with users is integration with surrounding areas and regions. Integration has to do with the above elements, urban planning, mobility, routing, scale and programme. The OAKA, Faliro bay and Hellenikon are areas solely been created with an Olympic purpose and therefore hard to integrate as they are. The Olympic Parks in Athens show island characteristics in the middle of the metropolitan area of Athens, although mobility is on a fair level.

Olympic Urban Area Development

Use or re-use of the areas and venues is one of the core elements that should be a goal when creating the infrastructure and venues for the Games, in terms of sustainability and vitality. The mono functional character these parks have made post Olympic use difficult, the routing not being great and the scale largely exceeds possible demand in Athens. Mainly the sport venues can be used only for sports and concerts, but exceptions are present in Athens. Important to know from these venues with post Olympic use are the venue characteristics and whether there are similarities between them.

OAKA has two venues that have found post Olympic usage four to five years after the Games. These venues are not located directly on the park but adjacent to the park. The IBC and the MPC are venues with post Olympic functions. The MPC has found a tender in the local government and the IBC has found a private tender in the commercial sector of development. Both the venues did not have a sports function before the Games and were used as broadcasting and office space.

Figure 28, Former IBC, mall 'Golden Hall'

The interesting project is the transformation of the IBC into a high quality shopping mall. This is the only venue thus far that underwent serious transformation to create post usage. This venue has been tendered to the developer Lamda Development for 40 years. This venue has certain characteristics that stand out. This venue did not have a sports related function, has an open floor plan, well connected to the city in terms of mobility and does not lie in the

OAKA complex. Citizens of Athens mainly travel by car and therefore it is important to be easy accessible by car. Surrounding functions in this area are small scale offices but mainly housing. The function of shopping mall needs large amounts of people which it can attract from surrounding areas.

The other venue that has post Olympic usage is the Hellenikon Arena at the Hellenikon Complex. This venue is mainly a large hall with also a free arrange able space. This venue is also used for other activities than sports only, although it is not transformed into a new function like the IBC. The similarity of this venue with the IBC is the fact that it is not a sports function only and has largely a free arrange able floor plan.

The post Olympic usage of the sports venues limits itself to local sports clubs like basketball and football, two popular sports in Greece, moving to an Olympic facility or like the Peace and Friendship stadium where Olympiacos Pireaus basketball club was already accommodated.

Organisation

Athens created a 100% governmental owned body that is owner of all the venues and areas the Games had created, with exceptions like privately owned venues not specially built for the Games but shortly rented for the Olympic Games. The venues of the OAKA, Faliro bay and Hellenikon Complex are part of this body called Hellenic Olympic Properties (HOP). This is a huge portfolio and also concerns the areas around the stadiums. HOP strategy is lead by the idea that all venues should stay publicly owned in order to protect the public interests and therefore is only looking at long term tenders for the facilities. Leasing the venues is part of the strategy of transforming the parks that these venues are located in to metropolitan and green orientated parks. At all three parks the HOP finds problems that hinder the development. Political and juridical problems are interfering concerning the venues, land use and permits, although steps are being made to get these problems out of the way[3].

Results

What can be concluded is that Athens has indeed encountered serious problems with creating vitality and liveliness in the Olympic Parks in the five years after the Games took place.

Within the first case research several elements have been presented which can be important in creating this vitality and liveliness and have been evaluated over the past paragraphs.

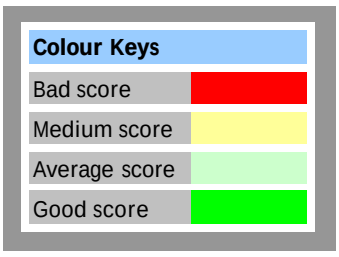

Figure 29, Colour keys result schemes

[3] Hatziemmanouil, Christos. 2005. Making the best use of Olympic facilities

Faliro Coastal Zone Olympic Complex

Present in Athens	Preconditions Urban Area Development
Island structure	Urban Planning
Accessible	Mobility
Connected	Routing
Olympic Scale	Scale
Mono-functional	Programme
Lost in preperation	Organisation

OAKA

Present in Athens	Preconditions Urban Area Development
Island structure	Urban Planning
Accessible	Mobility
Semi connected	Routing
Olympic Scale	Scale
Mono-functional	Programme
Lost in preperation	Organisation

Hellinikon

Present in Athens	Preconditions Urban Area Development
Island structure	Urban Planning
Accessible	Mobility
No connection	Routing
Olympic Scale	Scale
Mono-functional	Programme
Lost in preperation	Organisation

Table 6, Conclusions Olympic Parks Athens

In the above tables can be seen on what can be concluded on the different Olympic Parks. In general the Olympic Parks score the same but with some minor differences, especially the routing is slightly different form each other, mainly because of the different locations. The problems encountered focus around the area of getting Olympic development into the next phase, called the post Olympic period, developments which are necessary to get to the preliminary goals. These areas encounter difficulties in turning Olympic developments into 'normal' urban area developments. The foundations laid down in these areas are clearly not good enough or does not form the right developing ground for the future which several reasons have been presented.


Barcelona '92

4 Barcelona 1992

4.1 Introduction

The Barcelona Games are one of the 'success stories' for urban planners in the world in the history of the Olympic Games. And with success story is meant that the games created a great (urban) legacy for the city after the Games had left. Apart from the event being hosted according the standards of the IOC and accomplishing great sports achievements Barcelona set its name for the rest of the world.
The reason of bidding for the 1992 Games originated for Barcelona on a logical moment in a historic perspective. With world exhibitions (EXPO) in 1888 and 1929 Barcelona had set name for itself as a city who knows how to stage world wide events and using them to exhibit the city to the world, as well as being candidate for the Olympics in 1936 (Berlin) and in 1972 (Munich).

The Olympic Games were the ultimate event for Barcelona to show its liberation of Dictator Francisco Franco and the recent entry of Spain in the European Union in 1986, which was in the same year they got awarded the Games. Barcelona had started to transform its city after these large governance reforms and the Olympic Games were the boost it needed to get urban transformation in second gear. After the Games, in 2004, Barcelona hosted the self created cultural event 'Forum 2004' which created another catalyst effect for the city of Barcelona to finish its urban line it had started at the end of 1980. Critics are less enthusiastic about the Forum 2004 because of it being an unclear defined event and not creating the legacy the Games did for Barcelona.
After the Barcelona Games literature is mentioning the 'Barcelona Model', which represents the urban regeneration linked to major sporting events acting as a benchmark or 'blueprint' for other cities bidding for the Olympics around the world. Projects related to Barcelona 1992 changed the look and appearance of the city, with the regenerated Barcelona Seafront and the Calatrava communication mast becoming recognizable symbols of the new Barcelona. (Gold & Gold, 2007) The Barcelona model is not that easy to reproduce because there are several ideas and executions of the Barcelona model. Many cities have tried to copy the urban successes of Barcelona but did not succeed in such a way as Barcelona did. Even Barcelona was not capable of reproducing there own success of the 1992 Olympic Games with organising the Forum 2004, which has probably something to do with the effect of a certain moment in time and the process a city is in.
For example Barcelona started to invest in public spaces in the beginning of 1980 in order to enhance the quality of the public spaces in the city. These investments created, indirectly, liveliness in the streets because people were attracted to the streets and parks which attracted local stores to develop in the streets. A bottom up approach, which meant starting with quality in public space, generated success for Barcelona.

General information Barcelona

Barcelona is part of the region Cataluña, which covers an area of 32.114 square kilometres and has an official population of 7.210.508[4] with a GDP of around 33.700 per capita[5]. Barcelona has 1.631.000 inhabitants in 2008 and covers an area of 101 square kilometres. The metropolitan area of Barcelona has a population of around a 3.200.000, which makes this metropolitan area one of the largest city areas on the Mediterranean coast.

Fast facts	1988	2008
Population Cataluña	6.077.000	7.200.000
Population Metropolitan Barcelona	3.083.000	3.200.000
Population Barcelona	1.704.000	1.631.000
GDP Spain	$8.702	$33.700
Square Km Cataluña		32.106
Square Km Barcelona		101

Table 7, Quick facts Cataluña and Barcelona[6]

Barcelona had a peak in its population around 1979 with a population of almost 2 million, this descended trough the eighties and nineties when it bottomed out in 2000 with around a population of 1.5 million. It started to increase again since then, because younger people were returning to the city, it looks like the city has found some balance because the last few years the population is quite stable.

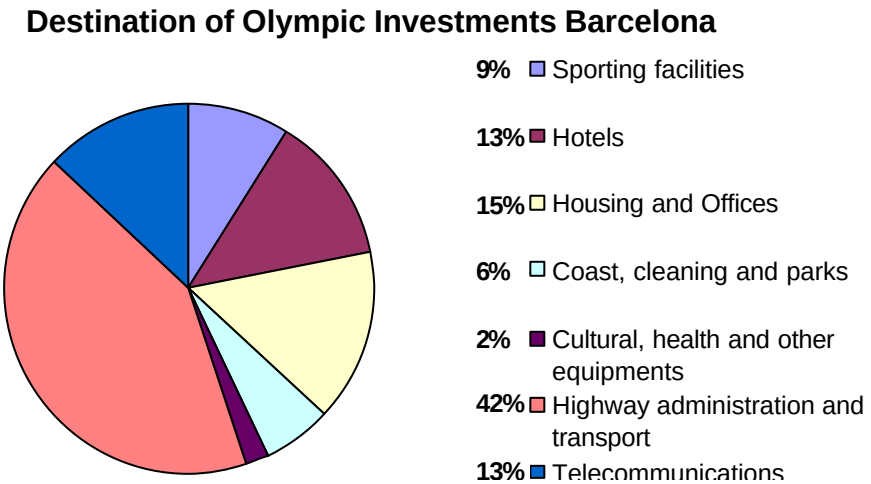

Figure 30, Olympic Investments division (Excl. operational costs, Brunet, 2002)

[4] www.idescat.cat

[5] www.indexmundi.com

[6] www.country-data.com, www.indexmundi.com and Conversi (1997)

Hosting the Games were financially the most expensive Games in the history of the Olympic Games, although this isn't a shocking statistic because the Games are becoming increasingly more expensive each four years. For Barcelona hosting the Games had strong urban objectives naturally bringing along high investment costs. Infrastructural interventions like constructing a ring road around Barcelona, which more will be elaborated in the upcoming paragraphs, and starting new urban regeneration, come at high prices. The costs for hosting the Olympics can therefore be divided into separate parts. Operational costs for organising the event, costs for venues and accommodations and costs for telecommunication, hotels, infrastructure and others. Barcelona's expenditures are shown in figure 29. Although it is not clear in the exact figures but estimates tell about 72% of the 1.4 billion budget by the COOB (Barcelona Olympic Organizing Committee) is on spend building or renovating Olympic venues (Zarnowski, 1993).

Olympic Expenditures		**1992**
Operational (organising costs)	±	**$1.678.000.000**
Venues and accommodation*	±	**$1.008.000.000**
Total	±	**$9.855.000.000**
Total Olympic Costs	±	**11.533.000.000**
* 72% of 1.400.000.000 COOB Budget		

Table 8, Olympic costs in US Dollars (Sketchbook, 2008)

4.1.1 Olympic area strategy

Back to Barcelona hosting the 1992 Olympics; Barcelona started with a clear goal in mind, to achieve success on economical, social and environmental level. This success was achieved by creating a clear defined urban plan which supported the overall goal of the Barcelona Games. The planning project for the Olympic Games was the first to take shape from ideas where the wanted to take advantage of the scale and capacity of urban transformation implied by the Olympic Games. The urban goals were to:

- Open the city to the sea;
- Distribute spatially the improvements and re-equip the city's sporting facilities;
- Promote communication infrastructures, especially the road network. (Marshall, 2004)

Figure 31, Ring road overview Barcelona

Barcelona realized these goals to a large extend by strategically implementing the Games in its city. To achieve the three main goals Barcelona had to think of a way it would meet IOC regulation but also meet pre set goals the city wanted to achieve through the organisation of the Games. It placed the Olympic locations along the future ring road of Barcelona and by choosing these locations Barcelona could realize this large infrastructural assignment and achieve Olympic regulations.

Figure 32, New centrality, remodelled picture from Marshall (2004)

Barcelona was developing rapidly at the end of the 20th century and was developing a logistic problem. Traffic from the north (France and the rest of Europe) or southwest of the city (Valencia and Madrid) travelling through Barcelona had to drive through the city centre. In

the years of preparation of the Barcelona 1992 Games the city realized a ring road around the city making it possible for traffic to drive around the city instead of through the city, one of the larger accomplishments achieved by the city because of hosting the Games.

The city of Barcelona chose to host the Games in four locations. The model of the four Olympic areas attempted to take advantage of the beneficial effects of the reforms in the city. Marshall (2004) stated in 'Transforming Barcelona; "This model generated another project on the same lines: the areas of new centrality" [7].
By choosing to realize the Olympic centres in this way it supported the urban renewal theory Barcelona had already started. The city created new centres in order to realize a higher level of facilities in more diverse parts of the city and adding quality. Ten areas were proposed in the region of Barcelona. Two of those areas, Vall d'Hebron and Vila Olímpica were allocated to serve Olympic use. The other two Olympic areas, Montjuïc and Diagonal were added to the list being areas with strong emphasis on public facilities (Marshall, 2004).

Olympic locations

Barcelona chose to host the Olympics in four locations, apart form rowing and soccer all venues were located in the city. Each location had its own properties. In the following paragraphs each location will be introduced starting with the city hill Montjuïc.

Figure 33, Olympic locations Barcelona

Montjuïc

In Montjuïc the objective was to profile it as the most important park of the city, completing urbanization with new installations like the Olympic main venues. The Olympic Games were used to strengthen its central role in the city as it had done over the history in Barcelona (Marshall, 2004).

[7] Marshall, T. (2004) *Transforming Barcelona,* New York: Routledge

As stated before Barcelona had been the world stage for two times as the location for the world exhibition, 1888 and 1929, using the Montjuïc hill for the 1929 exhibition. The Montjuïc had a rich history of sports and culture events such as cycling and formula one racing events. The Games formed the lead to reset the reputation and significance of the Montjuïc.
This meant relocation of (illegal) housing and regeneration of Montjuïc real estate.

Figure 34, Montjuïc, 1929 EXPO terrain

The city hill was the main stage in the 1992 Olympics with the main Olympic venues centralized in the Olympic Park, called the Olympic Ring, with the Olympic Stadium, Olympic Hall and the Aquatics Centre together.

Parc de Mar

The second main Olympic site was the Olympic Port with the Olympic Village adjacent to it, called the Parc de Mar. This area was chosen to function as a catalyst to stimulate the development towards the Mediterranean Sea, part of the 'opening up Barcelona towards the sea' objective. Poblenou is the urban area where this objective was to start from. By cleaning up the coastal line, create artificial beaches and develop the Olympic Port just north from the historical harbour, the city was (re)introduced with the Mediterranean Sea.

Figure 35, Poblenou / Parc de Mar

The Olympic Village overlooking the ocean was the beginning of the transformation of the Poblenou towards the north of the city along the coastline with a new catalyst in 2004 when Barcelona was the host of Forum 2004, finishing the 'Diagonal', one of the major connections in the city, connecting the west with the east. The Olympic Village and port were the starting point for new developments in the Poblenou area, being a modern start after deindustrialization of the old industry of Barcelona had set in. Lively areas were living, working and recreation are in relative harmony with each other making it a pleasant area to live and stay.

Figure 36, (l) Construction last section Diagonal, (r) same section finished as park function, former housing seen on left picture

The Poblenou and the Montjuïc areas are the two areas that are still quite recognizable as former Olympic areas, with Montjuïc still being the most Olympic related area because of its stadiums and could be called as the point of reference for the Olympic experience of '92. Vall d'Hebron and the Olympic area at the end of the Diagonal are the two other main Olympic areas in the city, but less recognizable as such nowadays.

Olympic Park Vall d'Hebron

Vall d'Hebron was one of the two Olympic centres who were part of the original model for new centrality. The reason for choosing this area was because of the spatial conditions that allowed service sector buildings and public facilities. This was possible because sufficient empty space was available or urban renewal was necessary because of decayed real estate and areas or space being obsolete. (Marshall, 2004) The fact that this area was originally part of the master plan Barcelona had made, without having the Games, showed the clear connection of realizing urban goals with a catalyst like the Olympic Games.

The area hosted 4 Olympic sports and one demonstration sport and was not organised in a park area form. This included the Velòdrom with Track cycling, an Archery facility, Tennis complex and the Pavelló de la Vall d'Hebron for Volleyball. Only the Velodrome was not self-supporting after the Games, but more on this will be elaborated in the paragraph *Olympic Venue Strategy*.

Olympic area Diagonal

The second area for 'new centrality' was the Olympic area 'Diagonal' marking the end or beginning of the 'Diagonal' connection west to east. This Olympic area is home to the biggest football club of Barcelona, FC Barcelona. The football club also represents other sports like Futsal (indoor football), Handball, Basketball and Roller Hockey, all housed at this central area. During the Games it was used for football, judo and equestrian events. Also this area was used for demonstration sports like Teakwondo and Roller Hockey.

Figure 37, Olympic area 'FC Barcelona'

Currently one of the more significant sports areas of Barcelona. FC Barcelona is one of the ways the people of Barcelona express their affinity with the fact of being Catalan, a strong social affinity that dates back many years in the Catalan history, making this sports area not only a place for sports but also a strong cultural anchor point for the Catalan culture.

Along with Vall d'Hebron the Olympic area Diagonal is well integrated with the city and is fulfilling an important role in the city on a social-cultural, economical and environmental level.

These two areas will not be further elaborated in the case research because the areas and the facilities created or used for the Olympics do not belong to the more problematic parts of the Olympic assignment and have not been organised in a central park form, unlike the

Olympic park Montjuïc, but will be incorporated in the general analyses. In relation to the Athens case research the Olympic park Montjuïc and the Olympic port and village area are being further elaborated. On venue level all four locations will be mentioned.

4.1.2 Olympic Venue strategy

Barcelona being chosen as the host for the '92 Olympics had to realize a certain amount of venues in order to house the sport and cultural events necessary for the Games. The city had a clear notion or strategy as you could call it, on this aspect.

Sports Participation

Sports participation in the (local) society is an important factor for Olympic community for hosting the Games. Barcelona had 36% of the population in 1983 do some kind of physical or sporting activity at least once a week and saw that number rise to 47% in 1989. This clearly marked that Barcelona already had large sports participation before the Games and after the Games this even went up to 51% in 1995. Around 300.000 citizens are part of one of the city's 1.200 sports associations and organisations. Together they offer more than 100 different types of sporting activities in Barcelona. These facts clearly mark the importance of sports in Barcelona and created a good foundation for the Olympic venue strategy (Truño, 1995).

The considerable amount of new or to be renovated accommodations also had to be managed. This logistically meant an impossible task for the municipality of Barcelona. Enric Truño (1995) wrote an article about the way Barcelona had managed their Olympic Venues in Barcelona and stated "that as a result, a new by-law was passed in 1991 affecting the use of municipal sports installations. Firstly, this by-law was passed unanimously by all the political groupings within the Council, thus indicating the unity of vision required for the city's management of sports issues. Secondly, the by-law introduced new management systems, including what was known as 'concerned management' based on the State's new contract laws and the new law affecting local government. 'Concerned management'[8] meant that a private organisation could obtain management of a municipal installation by entering a public competition, although the Council would maintain control of and monitor this management by means of a monitoring commission, and would also have the power to make vital decisions concerning issues such as service rates, programmes of action, budgeting, and maintenance plans", making clear how the 'normal' venues were organised in Barcelona.

[8] Truño, E. (1995) "Barcelona: City of sport" p. 8-10, *The Keys to success: the social, sporting, economic and communications impact of Barcelona '92.*

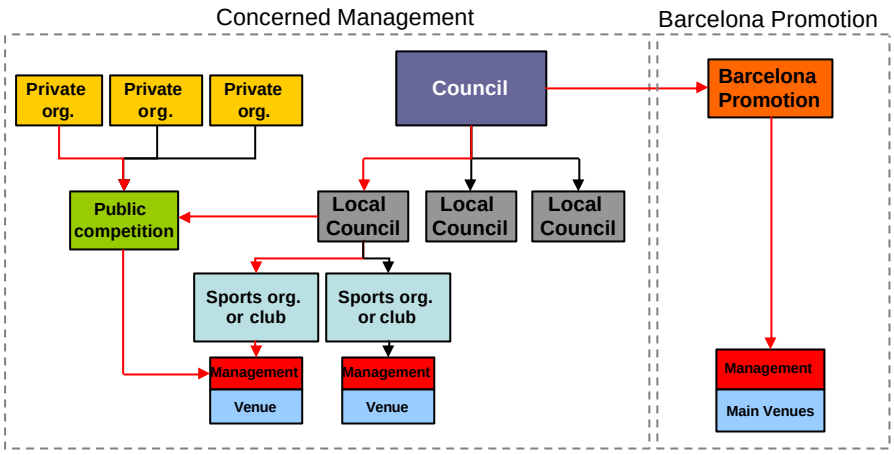

Figure 38, Management models Barcelona '92

This management model was mainly focused on the facilities or accommodations 'concerned management' was fit for. The venues a city that is organising the Olympics find most trouble in managing the main venues. Barcelona also found a solution for this by creating a municipal joint-stock company, with 100% municipal capital, called 'Barcelona Promoció'[9].

	Palau d'Esports		Velòdrom d'Horta		Olympic Stadium		Palau Sant Jordi		Total	
	Events	Spectators	Events	Spectators	Events	Spectators	Events	Spectators	Events	Spectators
Sports events	35	51,392	3	8,095	12	213,821	38	268,984		
Musical events	24	63,355	64	39,641	2	64,500	17	151,624		
Family events	14	28,738	0	-	0	-	10	96,120		
Various	9	39,173	0	-	54	46,124	64	442,781		
Total	82	182,658	67	47,736	68	324,445	129	959,509	346	1,514,348

Number of events and spectators in the course of 1994 in the four installations run by Barcelona Promoció.

Table 9, Venue performance in 1994 run by Barcelona Promoció (Truño, 1995)

The venues that were part of this management company were the 'flagship installations' as Barcelona called the main, vital to their Olympic image, related venues. These venues were the Olympic Stadium, the Palau Sant Jordi, the Palau Municipal d'Esports, and the Velòdrom. The Olympic Stadium and the Palau Sant Jordi are part of the main Olympic park on top of the Montjuïc, the Velòdrom is part of the Olympic area Vall d'Hebron and the Palau Municipal d'Esports is a stand alone building on the foot of the Montjuïc. By managing the venues in these two different models provided a useful and in practise proven concept of a mix between public involvement and private knowledge and commitment.

Table one gives insight in the performance of the venues/accommodations BP manages in relation with use. This management model performed well over the years as the example of 1994 indicates. Former advisor of the municipality during the bidding phase of the '92

[9] Truño, E. (1995) "Barcelona: City of sport" p. 9-10, *The Keys to success: the social, sporting, economic and communications impact of Barcelona '92.*

Olympics, Javier Lasunción, currently director of events and pedagogic services of the 'Fundació Barcelona Olympica', part of the Olympic Museum explained that this management model was successful because of the simplicity of its task (Lasunción, personal interview, 2009). It had to manage four former Olympic sports venues in such a way its financials would stay in the black, which they did by attracting sports, culture and music events to the venues. A team of experts on this field was committed to this task and did this until 2004.
In 2004 the model was changed. In 2004 Barcelona hosted the cultural / environmental event: 'Forum'. The 'Forum 2004' was a self created international event by the city of Barcelona to extend the legacy of the Olympics and use this event as a catalyst to achieve more goals Barcelona had set, and again on an urban level as well. This event delivered another event site in the city with accommodations to be managed. Decided was that Barcelona Promoció had to manage these accommodations as well, although these were no sports accommodations. The identity of the management organisation was changed to Barcelona de Serveis Municipals (B:SM) and therefore became part of a much larger municipality organisation.

According to Lasunción this was not good for the results Barcelona Promoció was achieving before the merge with B:SM. Expertise became blurred and no clear goals were there to achieve. The Forum 2004 is an event which has many objectives and goals. This does not coincide well with the Olympic legacy Barcelona Promoció had to manage. No exact numbers are know but according to Lasunción the Forum site is not viable and the Olympic venues are not getting the management as they did before the introduction of the Forum. Lack of expertise and clear meaning of the Forum event site are proofing to be problematic in relation to viable venue and accommodation management.

4.1.3 Conclusions

But how did the Olympic sites actually perform over the years on a real estate and area level, seen from a perspective of *use* and *liveliness*? Are the buildings and areas especially created for the Games integrated into the daily use of the city, can the people living in or visiting Barcelona find those areas, do they perform on an acceptable level, or in other words, do the find balance in the three pillars of legacy? The case research in the following paragraph will try to find answers to these questions.

4.2 Olympic Park Montjuïc

As described in the introduction the Olympic Park Montjuïc was host of most of the main venues of the '92 Games, and can therefore be called the main Olympic Park, or Olympic Ring as it is being called in Barcelona. The Montjuïc hill is also the host of many other cultural heritage of Barcelona. In 1929 this was the central stage for the World Exhibition and many buildings on this hill are still from that exhibition. The Montjuïc Olympic park houses three major venues and two less significant venues being a wrestling venue and a Baseball field. After the Games the wrestling centre became a university facility used as a sports education

faculty called the National Physical Education Institute of Catalonia (NPEIC). The Baseball pitch is still used occasionally but has no permanent stadium facilities.

Figure 39, Olympic Ring Barcelona

Accessibility

Montjuïc is accessible in different ways ranging from private transport to several public transport possibilities and is located on the southern edge of the historical centre. The orientation of the build environment of the hill is mainly focused on the EXPO area. A grand entry is created on the western side of the hill that grants entrance to the hill, the EXPO buildings and the Olympic Ring.

Barcelona has four different forms of (major) public transport, although it is not available through the whole city. The different forms are:

- Tram
- Bus
- Train
- Metro

Barcelona also has two special forms of public transport, which are more tourist forms of transport and are both connecting the Montjuïc with the city centre. One is the Telefèric de Montjuïc, a cable cart connecting the old port with the hill and the other is the Funicular de Montjuïc, a cable train connecting a metro line with the Montjuïc.

The Olympic ring is not accessible by any public transport but the city bus. The rest of the public transport does not get you all the way to the Olympic Ring.

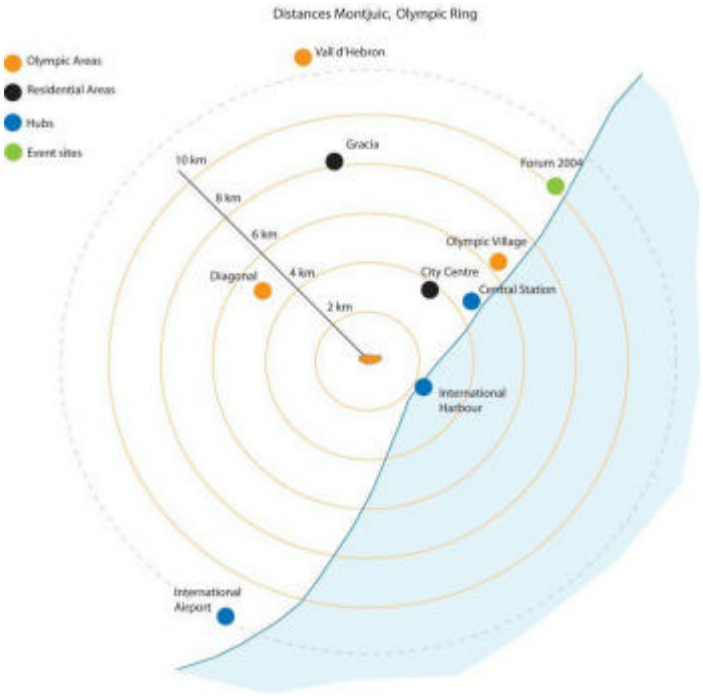

Figure 40, Travel distances from Montjuïc Olympic ring

This does not make the Olympic park easy accessible, a walk takes at least 10 minutes from the nearest metro station or Telefèric/Funicular station. Figure 39 and 40 display the travel distances and times from the Montjuïc Olympic Ring to the different locations, using the official travel estimates from Transports Metropol tans de Barcelona[10].

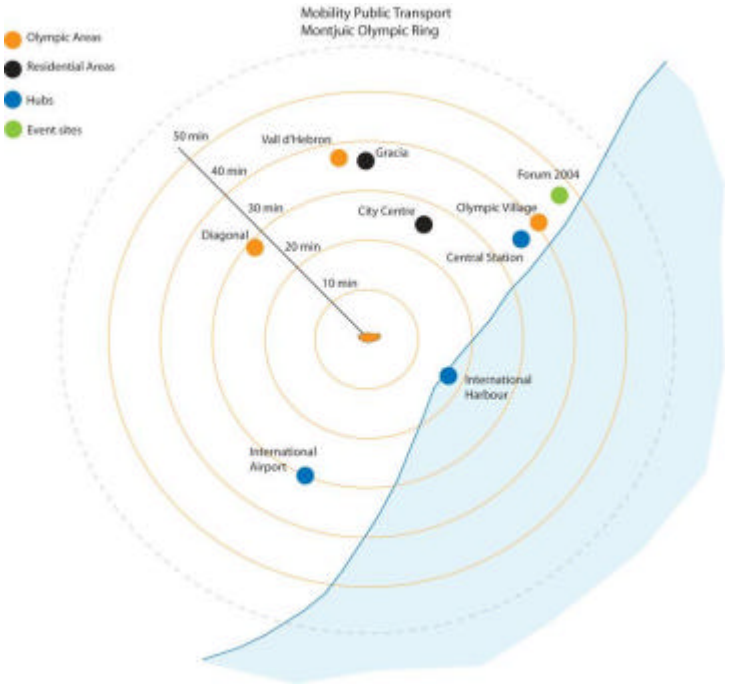

Figure 41, Travel times from Montjuïc Olympic Ring

[10] http://www.tmb.cat/ca_ES/home.jsp

Programme

The location and the Programme of the Olympic ring did not originate over one night. Several attempts were made to organise the Olympic Games over history and posted themselves as candidate in 1936 and 1972 (along with Madrid). The first candidate attempt resulted in the current Olympic Stadium and the second attempt resulted in the Picornell aquatics centre. The rest of the programme of the Olympic ring consists of the Olympic Hall, Palau Sant Jordi, a Baseball pitch, the wrestling centre and the communication tower by Calatrava and were build when winning the bid in 1987 to host the '92 Olympics.

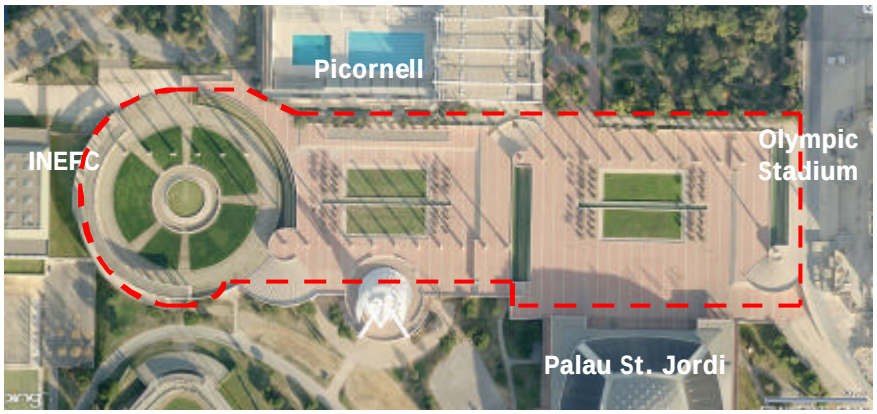

Figure 42, Public space Olympic Ring

The programme only consists of stadiums and park area. The wrestling centre is converted into a university facility for sports education and the Picornell aquatics centre is a public facility.

The total area the Olympic Ring is situated on is about 25 acres, which about a little less than half is public space, organised as a park to control spectator flows.

The park has little to no commercial functions like restaurants, bars and leisure functions, the Olympic stadium has a little of these functions to offer to the tourists but is of very small scale. The total capacity of the Olympic ring currently is about 76.000 seats, divided over five venues, which two of them have only temporary seats. Currently the Olympic Stadium, the Palau Sant Jordi and the Aquatics centre are in function. Figure thirteen gives a quick overview of the capacities of the Olympic Ring venues.

Capacity Olympic Ring Venues	Games	Currently
Olympic Stadium	70.000	56.000
Indoor Hall	17.000	17.000
Aquatics Centre	10.000	3.000
Baseball	temp.	0
Wrestling	temp.	0
Total	97.000	76.000

Table 10, Capacity venues from the Olympic Ring

Post Use

Post use of the park can be called limited, most of the time the park is abandoned. Apart form the moments venues are being used for events like music or sports related issues the park is empty, except for an occasional open air event organised in the park. The park is not part of the daily routine people have in Barcelona and is more focused on the EXPO side of the Montjuïc were the large Plaça d'Espanya is located. Explained in the introduction, the main venues were part of management company 'Barcelona Promoció'. The post usage of the Olympic Ring park is not that high, but the venues have scored quite well over the years. The following paragraphs this will be illustrated.

4.2.1 Estadi Olímpic Lluís Companys

The Olympic stadium was built in 1927 for the EXPO of 1929 and the 1936 Olympics, which it did not win. But eventually the stadium was used for the '92 Olympics and served its function 65 years later.

Figure 43, World Exhibition configuration of the Estadi Olímpic Lluís Companys

The stadium needed to be renovated to meet IOC and the standards of that time. The city chose to demolish almost the entire stadium except the historic façade. The inside was totally rebuilt and a capacity of approximately 70.00 seats was created for the Games, which was achieved by lowering the original field. After the Games the stadium was downsized to approximately 56.000 seats. The stadium was used for the opening and closing ceremony of the Games and hosted the athletics programme.

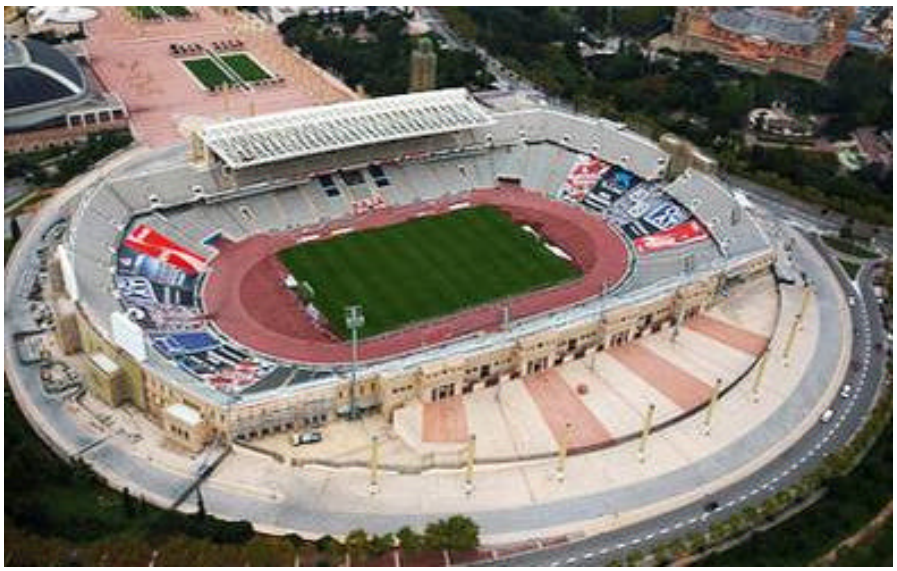

Figure 44, Olympic configuration of the Estadi Olímpic Lluís Companys

Quick Facts Estadi Olímpic Lluís Companys

The renovation costs of the stadium are not known, or not made publicly. The facts that are public are listed below for quick insight in the situation of the Olympic stadium. For example in 1994, table 9, the stadium hosted 82 events and approximately 182.000 visitors.

Quick Facts Estadi Olímpic Lluís Companys	
PPP	*Barcelona Promotion* merged with *Barcelona de Serveis Municipals (B:SM)* in 2004 (100% public)
Tender	RCD Espanyol, until 2009
Capacity	**± 56.000 seats**
Functions	Athletics, Football, Concerts

Table 11, Quick facts Olympic stadium Barcelona

Programme

The stadium is being used for many different functions over the years, being sports, culture and music events. Because the stadium has no roof it is not as much used as the Palau Sant Jordi, situated next to the Olympic Stadium. The stadium consists of two rings with seats, a 400m athletics track and a football pitch which meets FIFA standards.

Post Use

The post use of the stadium has been quite considerable for it being an Athletics stadium. This stadium hosts numerous events each year ranging from concerts to sports events. For the past eleven years the stadium was used by RCD Espanyol, a major league football club, but is leaving the stadium per September this year. A major concert area is one of the other

functions this stadium fulfils. The most recent concert was given by Madonna for her world tour. Apart the events this stadium fulfils its role as a tourist destination. The stadium functions as an icon that thousand of tourists visit each year. Interesting fact is the way the stadium is using its icon function. Tourist tours stop at the main gate of the stadium and let the tourist enter the stadium. A simple route along a small section of the stadium is passed by many tourists each year. Small commercial functions offer souvenirs, drinks and food. Interesting fact is that a certain percentage of the turnover flows back into the stadium that is used for maintenance and other costs concerning the state of the stadium. Peculiar is the fact that the original front façade of the stadium is not seen by most of the tourists because the main gate is located at the northern side of the stadium and only see this section after leaving again by coach to the next icon Barcelona has plenty of.

4.2.2 Palau Sant Jordi

The Palau Sant Jordi is the second major venue the Olympic Ring contains and also part of the B:SM, former Barcelona Promoció. This stadium was built especially for the Olympic Games to function as the Olympic Hall.

Figure 45, Palau Sant Jordi, (r) Multifunctional indoor floor

The stadium was designed by a Japanese architect, Arata Isozaki who was asked to design a multifunctional stadium the city of Barcelona could also exploit after the Games for sport, cultural, business and musical events. The stadium was built in 1990 and opened in September 1990, opening its doors 2 years before the Games would arrive. Like many other venues Barcelona used for the Olympics, it had time to get the venues operational before the Games would start.

Quick Facts Palau Sant Jordi

Quick Facts Palau Sant Jordi	
PPP	*Barcelona Promotion* merged with *Barcelona de Serveis Municipals (B:SM)* in 2004 (100% public)
Tender	No tender, use on event basis
Capacity	**± 13.000 - 17.000 seats for sports and 20.000 for concerts**
Functions	Multifunctional (basketball, athletics, swimming, concerts, business, etc)

Table 12, Quick facts Palau Sant Jordi

Programme & Accessibility

The stadium has a multifunctional programme. It can be adapted to various functions. It has a multifunctional floor and flexible stands. Adjacent to the building is a smaller scale venue which is called the Palau Sant Jordi Club, which is used for smaller scale events. The stadium is also accessible by trucks which make it very suitable for concerts and events with large stage or sports attributes. For example concert tours by musicians carry large own stage materials on trucks through Europe and only use stadiums which allow them to enter with their trucks. The stadium also has a roof which makes it independent of whether influences and attractive for multiple purposes. The accessibility is like the Olympic stadium next to it, being part of the Olympic Ring, making it easy accessible.

Post Use

The stadium was opened 2 years before the start of the Games and was used since then. Only the Games meant a different use for the one month the Games lasted. After the Games the stadium hosted numerous events with the extraordinary example of the 2003 World Aquatics Championships which was realized with installing a temporary swimming pool, with the luck of the stands being exactly high enough to fit the pool. It proved to be economically favorable to build a temporary pool than use the outdoor with temporary stands. The results achieved by the management in 1994, table 9, shows the Palau Sant Jordi scoring best of the four venues. This venue alone was responsible for 63% of the amount of spectators visited the four venues managed by Barcelona Promoció and hosted the most events out of the four venues. This stadium is still being used for a wide range of events and still maintains to keep up with newly build venues in Spain.

4.2.3 Piscines Picornell

The Picornell swimming complex was build in 1970 to host the European Aquatics Championships and with the future purpose of hosting the Olympic Games in 1972 (Munich). After not being chosen as the host for the '72 Olympics it was used as a public pool as it still does after hosting the aquatics programme of the '92 Olympics. For the Olympics it was renovated and a temporary stand of 7.000 seats was added, bringing the total capacity to 10.000. The aquatics programme was hosted over two locations, the two pools at the Olympic Ring and the Municipal pool just outside the Olympic Ring on the Montjuïc.

Figure 46, Olympic Swimming pools

The municipal pool hosted the preliminary rounds for diving and the water polo of the aquatics programme of the '92 Olympics. Originally this venue was build for the EXPO of 1929 and was renovated for the Mediterranean Games of 1955 and again for the '92 Olympics were a temporary stand of 6.500 seats was installed. Nowadays it serves as a public pool for the residents of Barcelona in summer time.

Quick Facts Piscines Picornell

Quick Facts Piscines Picornell	
PPP	*Barcelona Promotion* merged with *Barcelona de Serveis Municipals (B:SM)* in 2004 (100% public)
Tender	No tender, public pool
Capacity	**± 3.000 seats (10.000 during the Olympics)**
Functions	Public and championship pool

Table 13, Quick facts Piscines Picornell

Post Use

Post use of the pool complex is predominantly the use as a public pool. This venue is the only venue in the Olympic Ring that is open for public use, and is used throughout the whole year.

The other Olympic complex, Parc the Mar is elaborated in the appendix.

4.3 Analyse Case Research Barcelona

The case research data elaborated this chapter will be analysed on several different indicators influencing use and liveliness of Olympic parks and venues, or can be called elements of Olympic Urban Area Development. The analysis will deal with mobility, routing, programme, scale and integration, and analyze the strategy used and judging the current post Olympic use with a look at overall process. Central in the analysis will be the Olympic Ring and the Parc de Mar, on a general level Vall d'Hebron and the Diagonal will be included as well. The subjects further looked into are the same as the first case research analysis on Athens, starting with the level of mobility. Mobility, routing, programme, scale and integration are all subjects on city and area level, programme, scale and integration are also of influence on location/building level. For a more detailed description of the different meaning and content of these indicators see chapter 2.

4.3.1 Urban Planning

Strategy has many aspects and levels. Each pillar has its own strategy combined forming the overall strategy. Strategy in relation to Olympic legacy on urban levels with the aspects of liveliness in mind concerns all pillars but has a strong relation with the tangible part of legacy. In relation to venues or accommodations with its surrounding areas and management the chosen strategy is of large influence.

Barcelona started with an urban Masterplan it wanted to realize in a certain way. The Olympic Games were fit into this Masterplan to create a certain catalyst effect in order to achieve the objectives more effective. The urban plan of four Olympic locations fitting in the urban Masterplan that was designed a view years before the Games were awarded is clear evidence of the Olympics being used as a mean to realize a larger goal. This urban strategy was a solid foundation to further build their legacy on. As stated in the first paragraph Barcelona had been capable of creating an urban legacy for its city, a legacy that is still clearly visible in the city of Barcelona. Strategy supported with the right way of management and creating solid steps to build Barcelona was capable of achieving these urban goals. But even Barcelona was not able to repeat their success of '92 when organising the Forum 2004, which indicates there is another factor that has influence on legacy building with strong urban connections. This factor could be time in relation to where the nation or city is in. Barcelona was at a time period in which they chose for a certain strategy that turned out to be fitting, seventeen years later meant different variables that were of influence in the legacy creation concerning the Forum.

4.3.2 Mobility

Construction of the metro in Barcelona started around 1924 with the first line through the city, with a second line in 1929 for the world exhibition, continuing building on the metro system through the years with even now still adding lnes. One of the larger undertakings Barcelona realized was the ring road around the city centre. This was a major step in improving mobility in Barcelona. To meet IOC standards they placed the Olympic centres

along this ring road or at strategic locations in the city making it easy accessible by public transport.

Montjuïc

The Olympic Ring is located at the Montjuïc which is not directly accessible by metro but only by bus. The nearby Plaça Espanya is well connected with the metro system and is a 10 minute walk to the Olympic Ring. Interesting to see is the longer the distance becomes between the Olympic Ring and the other Olympic locations or important centres in Barcelona travel time relatively becomes shorter as shown in figure 9 and 10. Travel times to and from the Olympic Ring are not that great because of the fact the only direct public transport link is the bus.

Parc de Mar

Parc de Mar is a different situation. It was an area which did not make part of the normal routine of Barcelonan citizens. This area was totally new to the city from the beginning of the 90thees. Interesting fact is that the port is also not directly connected to the metro system but on the other hand the Olympic Village is directly connected. Figure 19 and 20 clearly show the level of connectivity, or level of mobility. Travel distances are quite significant but all are within the IOC standards of 45 minutes, even the Airport, despite its relative remote location is because of the level of public transport well connected. Interesting fact is the relative long travel time to the Forum site despite its close proximity of less than 4 kilometres. The reason is the slow moving form of transportation by tram and the course of the track running along the Diagonal.

Vall d'Hebron

Vall d'Hebron is situated around the ring road and well accessible by public transport of all forms expect the tram. Being located at the ring it is also well accessible by car. Because of the metro connection this area has no problem on a mobility level.

Diagonal

Diagonal is not situated along the ring road but at the starting point of the Diagonal. This area is very well connected with the rest of the city by metro, tram and bus. Travel times from and to this location are of Olympic quality.

4.3.3 Routing

Routing has much to do with the aspect of use and liveliness. An area can be well connected but when it is situated in the wrong place in relation to other facilities or functions post use can be disappointing or even result in abandoned areas as one of the causes. Every city has flows of traffic and people, public facilities and sports venues located on, next or in proximity of these routes increase the flow of people along these sites. Barcelona has four major Olympic areas which all are part of a certain routing. The location of all four Olympic areas will be elaborated starting with the Olympic Ring on Montjuïc.

Montjuïc

The routing of this location is not that great. It is situated at the top of the hill Montjuïc and is therefore isolated to a certain extent. It is at the end of the main road on the Montjuïc and becomes an end location. End locations are not supporting use of such areas because there is nothing to travel further to. This could be one of the reasons this area is low in use, apart from events hosted at the different venues attracting people for the specific moment.

Parc de Mar

Parc de Mar is clearly part of the coastal route in Barcelona, being the connection between the historical centre and the Forum site, with different functions and facilities in and around. A daily flow of people traverses along this route providing a constant supply. Keijsers, urban land architect (personal interview, 2009), stated that 'an (event) site can never be at an ending of a certain route, the only exception is when the ocean is the end'. Parc de Mar proves to be part of a routing with multiple sides leading to different places, only the ocean marks an ending at the southern side of this area adding quality to the area because of the different uses the beach and ocean provide. Interesting fact is the Forum site marking the end of the Diagonal is facing serious post use problems, which this routing problem could be one of.

Vall d'Hebron

Vall d'Hebron is clearly part of the circular routing along the city with large residential areas around it. Being located along the ring road of Barcelona makes it an area with lots of movement. The Olympic area is also opened up by the city road visible in figure 1, 2 and 3 leading to the city centre. This crossing of two important roads provides Vall d'Hebron with sufficient supply of people.

Diagonal

Of the four Olympic locations Diagonal is literally part of one of the major routings through the city, it even has the name of the life line of Barcelona. This location is a special one because of the functions located in this area. It is home of the local pride of Catalan, Football Club Barcelona. This location is capable of handling large amounts of people every day and lies at the entrance of Barcelona, an example of being part of a major routing.

4.3.4 Scale

The influential factor of scale can also be seen on different levels. Scale in relation to the building and the surrounding area is important within its context. Scale has to do with capacity of sport venues and with the size and design of the public spaces around the facilities. Barcelona chose at multiple occasions to use temporary stands and facilities because of post use reasons and the division of the sports and supporting accommodations over 4 major and several smaller locations made it possible to maintain a certain human scale on area level.

The Olympic Ring is the only Olympic location in Barcelona which combines three major venues at one location.

Figure 47, Public space Olympic Ring

The area surrounding these venues needs to be designed to handle the amount of spectators these buildings can house. The Olympic Ring in relation to its adjacent buildings is not that big. About half of the total park area is public space and has been designed in a diverse way. Differentiation of heights and design make the park quite well organized and not to overwhelming when walking trough.
Despite a reasonable design, on which no objective comment can be made on quality, post use of the park is low although the scale of the park is relatively in proportion.

The scale of the venues can be called quite reasonable because several functions had temporary stand for the Games which were removed after the 16 days of Olympic Games, bringing it back to Barcelonan scale. The one venue that has the most difficulties is the Olympic Stadium and also being the largest Olympic Venue although it downsized after the Games, apart from the Camp Nou of FC Barcelona.

Parc de Mar

The scale of Parc de Mar is much like normal city scale Barcelona consists of. Although being a relatively new area the scale relates to the surrounding areas. The beach side has two major high-rises and are functioning as a landmark in Barcelona surrounded by commercial functions equipped to fit the surroundings. These functions were designed to fit the surroundings but also making it fit for Olympics. These two objectives can be quite far apart on certain occasions but is well achieved in Parc de Mar.
The Village is part of a much larger project and therefore part of a scale well exceeding the Olympic window. The village is realized on a location new housing would have been realized even when the Olympics would not have taken place. The Olympics added certain quality to the village by realizing IOC demands on levels like physical less mobile persons. Making it easy accessible and spacious for Barcelonan standards, this resulted in above average prices for the Olympic apartments but were all sold in less than 5 years.

The scale of the marina fits the surroundings well and because of this scale its supports its

role as second (leisure) port in Barcelona well. As well as the village, the port was going to be realized even when the Olympics wouldn't be awarded to Barcelona. These preconditions are important in relation to the post use of the Olympic areas.

4.3.5 Programme

Programme can be seen on two different levels. First there is the city or area level second there is the location or building level. In both situations a certain programme is realized or defined. In this section of analysis the two locations Montjuïc and Parc de Mar will be analyzed on their area programme and if applicable on their venue programme, which concerns multifunctional qualities or special features concerning the building adding a certain quality which improves post use and liveliness to the location.

Montjuïc

The Olympic Ring consists of 5 venues, all introduced and described in chapter 5. The programme of this Olympic Ring consists of sports venues and one university accommodation. Added to the location was a museum function for educational purposes some years after the Olympic Games. The programme of this area is solely these functions, no commercial or leisure functions are within this area, making it very mono functional on an area level.

The Olympic Stadium appears to have functioned quite well over the years having RCD Espanyol as tender with a football game every two weeks and along side to that a major concert location. But with the football club leaving to their new 'own stadium' because of capacity and sentimental reasons the Olympic Stadium will drop in use in the future. Even Lasunción was not sure what was going to be the future for the stadium. Lasunción pointed out several reasons of difficulties in use for the Olympic Stadium or athletics stadiums.
First of all only one sport is big enough to fill these types of stadiums in Europe being football, which already makes the core programme of such a stadium less useful. But even a city like Barcelona with the large stadium of Camp Nou (± 100.000 spec.) already in the city centre cannot fill a second stadium, also with the fact that in the case of Barcelona, Espanyol doesn't have that many spectators.
The second problem of athletics stadiums is the 400 meter track. This is a problem because it creates distance between the stands and the centre field which is used for football or other forms of football. Players and spectators don't like the atmosphere that is created by this barrier.
A third, maybe a less important one, but significant enough, the Olympic Stadium usually does not have skyboxes[11] to rent or sell to business or private investors, something that is quite normal or important in relation to football stadiums.
A fourth reason is the sentimental factor that is important to supporters of football clubs. An Olympic Stadium does not 'feel' like their 'own' stadium and therefore proves to be hard to integrate.

[11] Private (business) section with several seats at a stadium with a view on the pitch

The Palau Sant Jordi is the second major stadium at the Olympic Ring showing an impressive post Olympic use. This stadium was finished 2 years prior to the Games and was a facility that was much needed by the city of Barcelona because it did not have such a stadium at its disposal. The stadium functions as a multifunctional arena for a wide range of events and uses. The design of the building with a large roof is very flexible and therefore capable of handling multiple functions. Stands can be expanded and every possible floor can be installed, ranging from ice rinks to swimming pools. Because there is no real competitor for the Palau Sant Jordi the stadium functions well as sports arena, music dome and business events.

The Baseball Park is an accommodation with no permanent grand stands. The accommodation has a small section which provides a certain amount of seats and some supporting facilities. The park is use for certain events but is very low in use. The sport is not big in Barcelona/Spain making it hard to find use for it. Currently the sport is not Olympic.
Because of the preset function of the National Physical Education Institute of Catalonia (NPEIC), during the Games the wrestling accommodation at the Olympic Ring, post use was already taken care of. The sports education centre was designed with the post use in mind making the transition easy. This building is in daily use.

The last venue on the Olympic Ring is the Aquatics centre. This swimming pool was an existing accommodation, built in 1970 and temporarily expanded for the Games. The centre functioned as a public pool and still does after the Games. This venue is not part of the Barcelona Promoció because the management is done by a municipal division called Piscines Picornell including the municipal pools just outside the Olympic Ring.

Parc de Mar

The Parc de Mar has no major sports accommodation except the Port Olímpic. This programme of this port was designed with the post, commercial use in mind. Designed to fit 740 moorings and function as a commercial centre for leisure and retail, with a temporary function as Olympic Port. The function as important port for the Mediterranean Sea was the objective and being a starting point for new development along the coast. After the Games the moorings were installed and the former premises of the different nations used as equipment and workshop rooms for their sailing and surfing activities were transformed into nightlife and restaurant functions, creating a mix of functions in the area.

Figure 48, Olympic Village

The Olympic Village provided new housing in Barcelona and provided housing which was accessible by persons with physical disabilities. The village has 2.048 apartments and were sold little over the average price in Barcelona. The village also contains local shopping facilities and services. Much of the services are found at the Port Olímpic area, forming one area of housing, commercial functions, leisure functions and several service functions. (Carbonell, 2002)

4.3.6 Conclusions

As theory indicates in chapter two, balance should be achieved on three levels (pillars) on different scales to achieve prosperous legacy foundations. The above results need to be reflected on this theory to draw conclusions in this matter, as done as well in the case research of Athens. The pillars, representing environment, economics and social – cultural values are supported by certain content over the dimensions of country, region, city and area. The case analysis has a focus on the city and area level. The content of which these pillars should consist can be categorised in certain elements of Olympic Urban Area Development, organisation and process all of which together can be called Olympic Legacy Strategy.

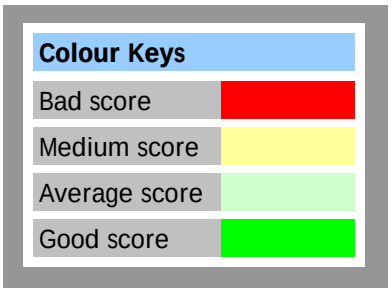

Figure 49, Colour keys result schemes

Olympic Urban Area Development

The factors of importance of (Olympic) urban area development are a well established mobility, being part of a significant routing, having a certain mix of functions, created a fitting scale and realized integration. These factors been realized to a certain extend in Barcelona. Barcelona had four major Olympic areas, which two of them were of significant importance.

The Olympic Ring on the hill of Montjuïc does not score that well on these indicators although

some of the venues score well on post use. This overall scoring has to do with the use and liveliness in this area. Major factors in the case of the moderate scoring of the Olympic Ring are mainly the mono functional nature of the area and not being part of a great routing which causes it to be not well integrated and scoring low on post use on area and building level.

Olympic Ring Montjuïc	
Present in Barcelona	**Preconditions Urban Area Development**
Not fully achieved	Urban Planning
Accessible	Mobility
Semi connected	Routing
Reasonable Olympic Scale	Scale
Mono-functional	Programme
Well organised	Organisation

Table 14, Olympic Ring scoring

In Parc de Mar the situation is different. In this situation post use of venues may be less the case but it being fully created in line with the Olympic standards it is a clear example. This area has created an accessible area that is part of a major route in Barcelona. These developments boosted developments alongside the area and the beaches have made a giant leap since the implementation of the Olympic bid. Coastline was cleaned and new housing arose. The realized programme is a very diverse mix of functions which all are well integrated and in use. The scale is to compare with 'normal' urban areas in Barcelona making it with hindsight the right scale for this area. Observations at this location confirm this.

Olympic Parc de Mar	
Present in Barcelona	**Preconditions Urban Area Development**
Fitted urban planning	Urban Planning
Accessible	Mobility
Connected	Routing
Barcelonan Scale	Scale
Mix of functions	Programme
Wel organised	Organisation

Table 15, Parc de Mar scoring

The two other locations in Barcelona, Vall d'Hebron and Diagonal have also achieved high integration in the city of Barcelona although these areas are more sports related locations.

Organisation

The second major factor in Olympic legacy creation is the organisation, or management of the areas and venues. As described in chapter two in figure 4, Barcelona was in relation to

Public Private Partnerships for about 70% publicly financed. This can also be found in the way the organisation of the venues and areas was arranged. Chosen was to create two main organisations, being Barcelona Promoció and Concerned management. Both highly controlled by public hands. Only concerned management had created the option for private involvement but with public control. These two ways of management, as described in paragraph § 4.1.2 were successful in creating post Olympic use by having the right stakeholders in the right place. In the concerned management model local involvement was the key to success and for Barcelona Promoció the clear task it needed to realize. Venues or accommodations outside of these management models were either part of sports clubs, organisations or commercial functions privately controlled. All of this was part of the '92 Olympic strategy

Overall can be concluded that Barcelona achieved many goals it had set and especially did well on an urban perspective. Parc de Mar, Vall d'Hebron and Diagonal are well integrated areas in the city and meant a catalyst for developments for the future. A decent strategy with the right attention for the three pillars legacy should be founded on. Although Barcelona is generally mentioned as being the example of legacy creation some annotations can be made on the Montjuïc part of the Olympics. The Montjuïc Olympic Ring did not bring Barcelona what it had in mind, being; 'to complete the urbanization of the mountain as the most important park of the city. These new installations would strengthen its functional role in the city, and the celebration of the Olympic Games would reinforce its meaning in the citizens' collective imagination'. (Marshall, 2004) Two objectives that are being described are urbanization to the most important park and strengthening the meaning of the park in the citizens' collective imagination. The new installations in the park do not attract the amounts of people they would like to see and the therefore not part of the collective image, which reasons are described in the case research.

5 Cross Case Analysis

This chapter presents the cross case analysis of the examined cases described in the previous chapters. The main objective of this chapter is to examine the differences and similarities between the two cases and presenting conclusions on which variables are of most influence and have the largest effect on the level of legacy in terms of use and liveliness in relation to the empirical results. In paragraph 5.1 an overview is given on the general information on both cases, in paragraph 5.2 the variable scoring is summarised and in 5.3 the conclusions are presented. Paragraph 5.4 presents the variables that are of most influence within legacy creation. This forms the final step towards the development model.

The different locations within each case are crossed examined instead of using a city average. In this way the clearest image can be presented on each location and building level. The locations used will be, in the case of Athens, *OAKA*, *Hellenikon* and *Faliro Bay* and for Barcelona *Montjuïc* and *Parc de Mar*.

5.1 Results per location

This section will examine each variable per location. The variables will be presented in the order as presented in the case research, to start with the general information about each city before switching to location specific cross case analysis.

Both cities show comparable numbers in economic, demographic and geographic terms. The cities are both located at the Mediterranean Sea and have similar climates, although Athens is slightly warmer on average. The GDP's of both countries have risen around 200% in the last 8 years and show similar population figures, although there is a difference on city level but this has to do with the surface area that is called city area. For Barcelona the first GDP figure is representing the time when the Games were appropriated to Barcelona in relation to Spain and the first figure of Athens is representing the GDP figure 2 years after the Games were appropriated to Athens.

	Athens	Barcelona
Economic situation		
GDP per capita		$8.700 (1988)
	$13.900 (2000)	$17.300 (2000)
	$30.600 (2008)	$33.700 (2008)
Demografic situation		
Population		
Metropolitan	3.700.000	3.200.000
City	750.000	1.630.000
Population density per sq km		
Metropolitan	1.259	1000
City	19.133	15.739
Geografic situation		
Sq km Metropolitan Area	2.928	3.236
Sq km City Area	39	101

Table 16, General information Athens and Barcelona

These figures are relatively close to each other and have grown considerably in relation to other European countries.

5.1.1 Urban planning

Scoring of the variables is done according table 17. Focus of this research is on the urban legacy these cities have created. Both cities had different motives for organising the Olympic Games and both cities used different strategies to reach their preset goals. Their urban goals had in common that they both wanted to upgrade their infrastructure on a road and public transport level and regenerate certain urban areas.

Very good	++
Good	+
Medium	o
Bad	-
Very bad	--

Table 17, scoring

It appears that for Athens this was in terms of tangible legacy, the part that has succeeded the most. Barcelona also had clear goals on urban structure of the city and how it wanted to achieve this. This resulted in a ring road network, opening up the city to the ocean and starting the redevelopment of the Poblenou area.

	Athens			Barcelona	
Urban Planning	**OAKA**	**Faliro Bay**	**Hellenikon**	**Montjuïc**	**Parc de Mar**
Part of urban masterplan					x
Added to fit urban masterplan		x	x	x	
Isolated plan	x		x		
Scoring	-	o	--	o	++

Table 18, Position of Olympic parks in urban Masterplans

Barcelona's starting point was the Masterplan it had in place from the late 1970's and adapted it to fit in the Olympic Games. Central in this plan was new centrality[1] and managing traffic in a different way, mainly better-organised way. The spatial demands the Olympics acquired were fitted in the Masterplan still supporting the larger long-term goal as centre aim, while never loosing this aim out of sight.

Athens did not approach their urban challenge in this way. It did have certain (urban) plans but not as well founded as for Barcelona and in the case of Athens these plans were formed with the Games as the important part of their assignment. Athens even used the Barcelona approach to design their plans for the Olympics but did not achieve what it wanted to achieve in terms of Olympic Parks and venue development. In the end proving the world it was able to host the Olympic Games became there forefront objective and proofed to be much harder than anticipated.

5.1.2 Mobility

Mobility is the second variable that for each case has been elaborated. Table 19 shows the different transportation times and distances of the Olympic Parks in relation to the city

[1] Marshall, T. (2004) *Transforming Barcelona,* New York: Routledge

centre, Olympic Village and international airport.

	Athens			Barcelona	
	OAKA	**Faliro Bay**	**Hellenikon**	**Montjuïc**	**Parc de Mar**
Public transport					
Olympic Village to ->	40 min.	48 min.	50 min. +	40 min.	n.a. (incl. Village)
City centre to ->	30 min.	17 min.	24 min.	25 min.	23 min.
Airport to ->	37 min.	45 min.	30 min.	30 min.	40 min.
Travel distance					
Olympic Village to ->	13 km	24 km	32 km	6,5 km	n.a. (incl. Village)
City centre to ->	10 km	5,5 km	12 km	3,5 km	3 km
Airport to ->	25 km	37 km	30 km	12 km	17,4 km
Scoring	+	+	o	o	+

Table 19, Mobility variable

Mobility in all five locations is reasonable. Only the Olympic village in relation to the locations in Athens does not qualify as well accessible, travel times are well above 40 minutes making it distant and isolated.
For the case of Barcelona the Montjuïc is well connected to the city only the Olympic Ring situated on top of the Montjuïc is lacking connection adding considerable travel time in relation to the distance.

5.1.3 Routing

Table 20 compares the different Olympic parks in relation to the major commuting routes in the city.

	Athens			Barcelona	
	OAKA	**Faliro Bay**	**Hellenikon**	**Montjuïc**	**Parc de Mar**
Routing					
High commuting route		v	v	1/2 v	v
Low commuting route	v			1/2 v	
Scoring	-	+	+	o	+

Table 20, Routing results

The OAKA is in spite of being the major Olympic park, not part of a major route within Athens. The two other Olympic parks of Athens do in fact connect to these kinds of routes that have significance in Athens but do not make use of this favourable location. On the other hand, neither Barcelona's Olympic Park is part of major commuting routes. The three other locations in Barcelona, two of which are not represented in table 20 due to less significance, do in fact make part of important commuting routes. Parc de Mar clearly does make part of such a commuting route and experiences it daily forming the connection between east Barcelona and the rest of the city, generating high use of the area.

5.1.4 Scale

The variable scale is to be described on two levels, the area level and the venue level. On the

area level scale is expressed in square meters or hectares and on a venue level it is expressed in amount of capacity. The factor scale on an area level is mainly a perception factor, which expresses itself in the way public space is relating to a human scale.

	Athens			Barcelona	
	OAKA	**Faliro Bay**	**Hellenikon**	**Montjuïc**	**Parc de Mar**
Area	± 70 ha	± 123 ha	± 78 ha	± 25 ha	n.a.
Public space	± 31 ha	n.a.	n.a.	± 12 ha	-
Public space %	44%	-	-	45%	-
Scoring	-	o	-	o	+

Table 21, Scale Olympic Parks

Scale can be operationalised into the amount of public (open) space in relation to the amount of total space and on a venue level this is measured in capacity. On a venue level the post Olympic scale is also added to indicate the possible transformation that has or can occur.
Athens has applied a larger scale for their Olympic Parks in relation to Barcelona. Barcelona, in terms of parks, has predominantly only the Olympic Ring as an Olympic park configuration. Parc the Mar and the other two areas are more integrated areas with less of a park association. The Olympic Ring in relation to OAKA is almost three times smaller but with the same amount of venues. Both have about 45% of public space within these Olympic Parks but relatively OAKA is of much larger scale.
The venues presented in table 22 are chosen because these are the main venues that are proving to be difficult venues to generate post usage for and therefore the most interesting to display.

	Athens		Barcelona	
	OAKA		**Montjuïc**	
Facilities	Olympic	Post Olympic	Olympic	Post Olympic
Capacity				
Olympic Stadium	72.000	72.000	70.000	56.000
Indoor Hall	18.000	18.000	17.000	17000 *
Aquatics Centre	11.500	11.500	10.000	3.000
Scoring	-	-	o	+
* Multi configurable				

Table 22, Scale in terms of capacity of Olympic Venues

The capacity of the venues in Olympic use is almost identical between both cities. Differences are focused on post usage of the venues. Barcelona has downsized the Olympic Stadium and the Aquatics centre. The Indoor Hall of Barcelona is a multi configurable venue, which can be used for many different functions. The maximum capacity is around 18.000 and can be reduced to 15.000. Athens has built permanent seating capacity which it did not downsize for the post Olympic period and the Indoor hall of Athens is much less multi configurable due to its permanent character. The venues look similar due to IOC regulations,

but Barcelona built venues that were either flexible in capacity or able to downsize after the Games and created smaller scale Olympic areas. The performance of these venues and areas is better in relation to the performance of the much larger Olympic areas in Athens with the original Olympic size venues.

5.1.5 Programme

Each of the Olympic Parks has a certain programme, of which the nature of these programmes is presented in table 23. The functions are divided into retail, leisure/culture, housing, offices, and services and sports related functions. Strikingly clear are the mono-functional characters of the parks, with only the Faliro Bay and the two parks in Barcelona having more than one function, with Parc de Mar standing out. This park is clearly different in relation to the other parks because this park has no major sporting facilities, except for the Olympic port. The Montjuïc has one multifunctional facility and the Olympic museum, which gives it a slightly more diverse programme. Athens has no other functions but sports related functions within its parks, with the exception of Faliro Bay, which has a movie theatre and small-scale commercial functions supporting it.

	Athens			Barcelona	
	OAKA	**Faliro Bay**	**Hellenikon**	**Montjuïc**	**Parc de Mar**
Functions					
Retail	0	semi	0	0	v
Leisure / culture	0	v	0	v *	v
Housing	0	0	0	0	v
Offices	0	0	0	0	v
Services	0	0	0	0	v
Sports	v	v	v	v	v
Scoring	-	-	-	o	+
* Multifunctional facilities					

Table 23, Programme variable

In relation to the level of use and daily activity, the Olympic park without sport facilities generates the highest use. Table 23 indicates Parc de Mar as the area with the most diverse programme. This area has a diverse programme and therefore attracts a larger spectrum of users and increasing the chance of generating use and liveliness. The other locations have a mono-functional nature and only address one specific group of users. In terms of performance of these areas this becomes clear.

5.1.6 Organisation

According to Preuss (2004) the Barcelona Olympic Games were about 70% publicly and 30% privately invested and can also be seen in table 24 when assessing the level of investments on a venue level. Athens predominantly financed the Olympic Games in a public way, mainly organised by the Hellenic Olympic Properties (HOP) management company, strictly controlled by the government.

	Athens			Barcelona	
Investments	**OAKA**	**Faliro Bay**	**Hellenikon**	**Montjuïc**	**Parc de Mar**
Public	100%	50%	100%	80%	
Public - Private				20%	100%
Private		50%			
Scoring	-	-	-	+	++

Table 24, Organisation forms in terms of PPP

The venues were handed over to the HOP after the Games. Many of the venues (22) organised through this HOP are vacant and looking for tenders. This organisation is working on several strategies to tender the venues, but finds lots of trouble doing so. Business plans for these venues were written after the Games, this in contradiction to Barcelona. Barcelona used two models to organise the Olympic venues. Most of the smaller venues and supporting accommodation were organised in a public-private way with local management control. Only the large, main venues, on which they anticipated to have less market for are organised in a public way in a separate management company. The difference with Athens is the amount of venues managed by one body and the moment this management body got operational. Barcelona did not separate these periods and had commitment from the moment the city started their bid and had to manage a much smaller amount of venues.

Both cities used a public approach to secure public interest and money, only executed it in a different way, which resulted in different results. Athens hosted the Games 5 years ago and therefore had less time to gain the same results as Barcelona did, only Barcelona was much quicker in reaching positive results in the same amount of time, as for example is displayed in table 9 in chapter 4.

5.2 Variable scoring

This section of the case analysis highlights the variables, which are proving to be of most influence in Olympic park vitality and liveliness. The in section 2.4 described way of scoring the variables in relation to vitality and liveliness comes together in the below displayed table 25. Variables that empirically prove to be of influence are being further elaborated. Section 5.1 of the cross case analysis pointed out that all of the above described variables score differently, some being large and others being small differences.

	Athens			Barcelona	
Urban Planning	**OAKA**	**Faliro Bay**	**Hellenikon**	**Montjuïc**	**Parc de Mar**
Urban Planning	Bad	Medium	Very bad	Medium	Very good
Mobility	Good	Good	Medium	Medium	Good
Routing	Bad	Good	Good	Medium	Good
Scale	Bad	Medium	Bad	Medium	Good
Programme	Bad	Bad	Bad	Medium	Good
Organisation	Bad	Bad	Bad	Good	Very good
Liveliness and vitality scoring	Bad	Medium	Bad	Medium	Good

Table 25, Overall scoring Olympic Parks and accommodations

The scoring on the level of liveliness and vitality is derived from the observations during the project area visits. This is also combined with the available information on number of events and visitor numbers of those areas and accommodations. This scoring in relation to the scoring of the variables brings forward certain relations. The case analyses of Barcelona brings out Parc de Mar as the location scoring well on liveliness and use and other locations in Barcelona have several venues that are performing well on their post Olympic use. The variables that seem to have a positive effect on liveliness and vitality in this area are:

- Urban Planning
- Mobility
- Routing
- Scale
- Programme
- Organisation

It can be concluded that the location is well accessible and is part of major routing(s) within the city. It has a mixed programme of functions and a scale that fits the area or surroundings. The organisation is derived from different management models and is part of urban planning the city had envisioned with long term perspectives. On a venue level this means an organisation fitting the scale and function of the venue, a programme that is either flexible or fitting a specific user fixed for a number of years (sports club) and fits into its surroundings. Only this area has no large sports venues making it different from the rest of the locations, except the Olympic marina. The fact that post use and liveliness on this location has much to do with the absence of (large) sports facilities could be very significant. The areas or venues that are not performing are either scoring badly on all the variables or certain ones in specific. In the case of Barcelona the Olympic Ring on top of Montjuïc scores mainly on the programme of the park. The park is mono-functional and therefore does not attract a diverse group of people to the area. People visiting the park are either small groups of tourist or visitors to a certain event. The routing is also not that great making it slightly harder for people to find the area. The scale of the area and performance of certain venues is not that bad due to the right forms of management and scale within the surrounding.

In the case of Athens, all three Olympic parks under-perform in terms of use and liveliness. Similarities between the three parks are predominantly being mono-functional, over-scaled, wrong management and lacking of long term urban planning. On a venue level these factors are also applicable. Interesting to see is the fairly high level of accessibility of the parks because of the high standard of mobility and the routing of two of the three parks being favourable but performance is still below standard.

5.3 Conclusions

Overall can bee seen that all factors have to be in place to make sure a certain vitality and liveliness can occur. Most clearly the difference can be seen between Parc de Mar and the rest of the Olympic locations, being a location without major Olympic sports venues within its premises. Stadiums or Olympic venues are accommodations that have their backs against the surroundings and the front of the building in the middle, away from the surroundings. The pitch, the field, the arena is where the action is taking place attracting thousands of spectators at once. Usually arriving shortly before the game and leaving the area directly after the game. Therefore these venues are subtracting large amounts of people for short period of time from the surroundings without the area to experience the liveliness that could originate from it, making these facilities, although large amounts of people are involved, isolated urban structures. Therefore use of these venues is not the single task to achieve. In order to get people to certain areas, a certain programme has to be offered. This programme needs to be a certain mix of functions to solve the problem of traditional sports venues, attracting people away from the street instead getting people on the street. A certain scale should be applied that feels appealing to the users and such an area needs to be well accessible. To support this on a city level it needs to fit the general strategy a city has in order to generate the right developments in the right areas. The management form of these venues depends on the nature and functions of these venues, to chose for certain public, private or combination form.
The Olympic situations Athens and Barcelona display are Olympic Parks with five venues or more on one location. Both situations find trouble on all the variables. The mono-functional character does not attract the people needed although accessibility is on an appropriate level, but simply have no reason to go there. All venues are stadiums resulting in empty public spaces when the venues are in use. And Venues are of Olympic scale, which is too large in relation to 'normal' use.

From the past 5 Olympic Games, 4 former host cities organised their main Olympic venues in one or more Olympic Parks, two of which this research has further elaborated and pointed out to be underused and far from lively. Also Sydney and Beijing are experiencing difficulties in finding post use of the venues and surrounding areas. Only Atlanta in 1996 did not situate the venues in one area and is called upon this day the 'commercial' Olympic Games because of its financial success, rather than their tangible legacy success. Organising the main venues in centralized parks without other supporting oriented functions with 'normal' scale configurations increases the change of post Olympic periods with empty, underused public spaces and venues. This is pointing out that the variables; *programme* and *scale,* are important factors in terms of used and lively former Olympic areas.

It should be mentioned that these conclusions are based on two case researches and therefore should be supported by more case researches in the future that are comparable. For example Sydney and Atlanta could be added to further strengthen these conclusions, as

being Olympics Games that have had more than 9 and 13 years to organise their post Olympic configuration.

5.4 Legacy variables

The cross case analyses clearly showed all variables, urban planning, mobility, routing, scale and programme being of significant influence, besides how this was all organised. But not all variables are causing problems in relation to the Olympic Games and post Olympic development. The problems focus around the variables urban planning, routing, scale and programme. It will be these variables the host cities and Olympic organising committees should focus on during Olympic area and venue development. As written before, it is not the variables that create liveliness and vitality; it is the variables that create the right footing for liveliness and vitality to arise. Eventually it is the user of the venues and the parks that bring liveliness and vitality to the post Olympic legacy.

Urban Planning

The first variable of significance is the connection of Olympic plans with urban strategy, or planning. This first aspect sounds logical in urban area development, but surprisingly this is not always the case with Olympic development. As mentioned in previous research it is crucial to link Olympic developments with upcoming developments, increasing the chance of post Olympic development in the future. For that reason connecting with urban planning or Masterplan visions is important.

Routing

The variable routing is of the same nature as urban planning. It is connected to a large extend with urban planning and well thought through location selection according to urban Masterplan and planning obviates this problem.

Scale

Scale is causing problems on two levels, area and building level. Building and area proportions are what people relate to when they feel comfortable and safe. Olympic areas and buildings are usually of scales and dimensions that are only fit for Olympic proportions, taking into account the millions of spectators and visitors. After the Games these proportions are one of the causes that use and liveliness of area and building is disappointing.

Programme

The second variable causing problems is the programme, maybe one of the most significant variables of all and also operating on venue and area level. The programme realised determines who participate and at what time they make use of the area and facilities. The Olympic programme is largely a mono-functional programme focused on sports. Choosing to cluster venues on one site creates a high concentration of single use buildings, which does not comply with the 'stimulating' factors for liveliness and use. The mono-functional character of venues does not have to be problematic, some examples of combining multiple functions in

one stadium could on the one hand support diverse use at multiple times but on the other hand could also limit the core usage of such a venue. A careful definition and design phase should be walked through, weigh alternatives, but adding programme after or before the Games is recommended.

It can be concluded that four out of five variables are proving to be problematic in the elaborated cases. Urban planning and routing problems are caused by bad planning or bad management in terms of planning the Games from a city point of view. Scale and programme problems are generated by contradicting demands the IOC imposes in relation to legacy factors. The fifth variable; mobility, proves to be of influence but generally evolves well in relation to Olympic development. Handling the four potentially problem-causing variables should be the focus. All of these elements within the Olympic Games come together in the bid document. This document is the blueprint a host city forms, eight years in advance of possible hosting the Olympic Games, in order to run as Olympic candidate city. It is this document that has to come together through careful planning and designing to secure legacy after the Games, after all, everything in this document determines future development of the specific areas and accommodations.

6 Olympic development

The results derived from the case research and theoretical framework, are framed into a development model. This development model describes process and decision making, highlighting the crucial parts within this Olympic development. A model that points out important aspects within the process to obviate problems encountered in previous Olympic host cities. The focus is on shortening the transition phase of Olympic to post Olympic use in relation to previous experiences. The model should support the creation of a fitting legacy within the host city. This all is framed in an abstract reproduction to orderly give insight in the complex process of Olympic development.

6.2 Development models

Important to find out is how to develop this bid in the future when cities want to be candidates. In Olympic Games development the initiative takers have little to no experience in realising such a programme with this level of prestige and it is therefore crucial to guide potential initiatives from the beginning, starting to focus on what kind of process this encompasses. How does this process look like, what are the differences with 'normal' area and accommodation development? Which steps need to be taken and which decision-making process needs to be walked through in order to deliver the plan that is legacy proof? The next paragraphs will further explain this process and the content it should contain.

Olympic Games development is about realizing Olympic urban areas and supporting accommodations to strengthen public domain and goals a city has. Models on developing public accommodations or service related functions are the starting point for the Olympic development model.
The 'Leisure services business development model' created by Pluijmers, 2000 and the 'Health Care Boulevard[2] development model' by Grift and Muijsers (2005) are development models that support the development of complex processes of public- and healthcare accommodations. The model by Pluijmers supports the development of business, business in direct relation to the accommodation. This model has is first about the product and services meant for the market, consumer and user and after that for aspects of the primary process, like supporting accommodation.

[2] A concentration of healthcare related services clustered in one building or combination of buildings.

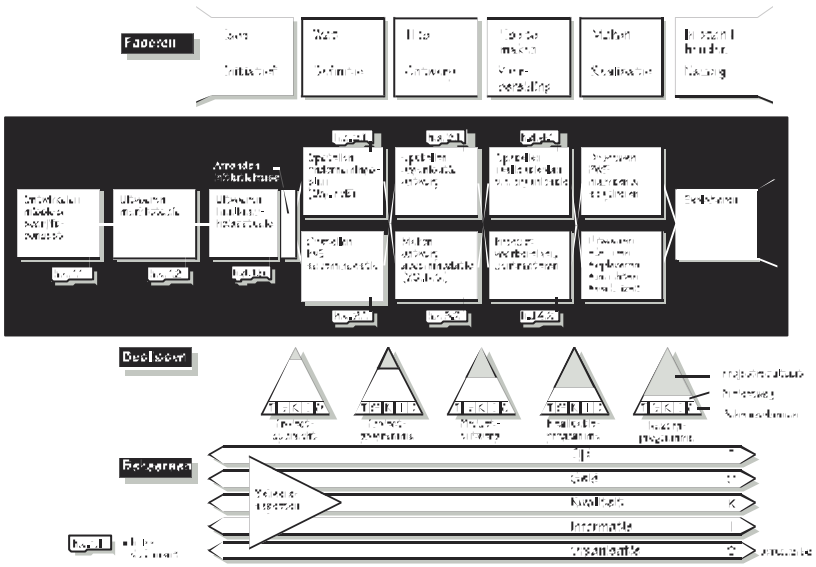

Figure 50, Leisure services business development model (Pluijmers, 2000)

This model can also be utilised for Olympic use although certain adaptations are necessary in relation to Olympic development. The Olympic areas and accommodations have one thing in common with the 'Leisure services business development model' where the accommodation or surrounding area is a primary a mean of production for the products or services that are being consumed within these areas or accommodations. This demands attention for the physical realization of these accommodations and areas but the market, the product offered, the organisation and business processes are leading. (Pluijmers, 2000) After all, the accommodation should be the mean to realize the product. For a sports accommodation this is the game that is being held within the accommodation. This is similar to Olympic Games development, building the Olympic areas and accommodations should never be the main goal of a municipality or the OCOG but should be the successful hosting of the Games and securing the legacy needs within a city.

The model by Grift and Muijsers focuses on the development of healthcare boulevards, a new trend in the Netherlands. The factors of success that are embedded in this model are:

- Location as starting point
- Develop a central vision on target groups, services and character of the building
- Strong spatial image
- Strive for one integral group, only offer what is market for
- Start small when necessary
- Feasibility
- Focus on exploitation, less on needed financing
- Only stakeholders that are needed
- Social and politic basis
- Marketing and communication

On the level of phasing, organisation and physical aspects both models are comparable and useful for Olympic developments. The healthcare model is also interesting because of its

focuses on location, long-term vision, integral approach on different services, focus on exploitation and less on financing because of long-term perspectives and the combination of different users in one development project.

The one thing these models do not deal with is the area aspect, or at least do not deal with (public) space outside the building location itself. For Olympic development this is necessary because of its scale and impact outside accommodation level. On area level, phasing and what steps need to be taken within each phase are leading within the process.

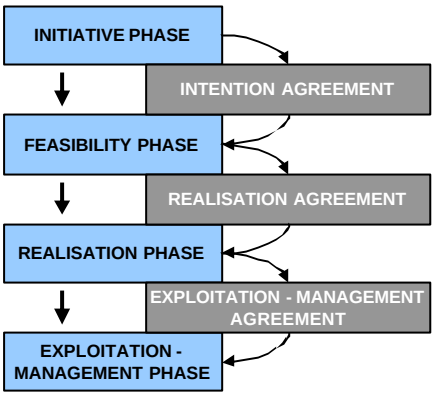

Figure 51, Area development phases (VROM, Reiswijzer Gebiedsontwikkeling, 2009)

The urban area development phasing by VROM (2009) sets out phasing for area development also in six steps but in a more abstract way when compared with the phasing by Pluijmers. The feasibility phase is the coordinating phase which contains the definition, design and preparation phase. At the end of each phase a decision document is formed. It is within this phase a large part of the bid is designed. The biggest difference within the phasing on area level, are the steps taken on the different aspects. Section 6.4 will further elaborate on this.

6.2.1 Constrains existing models

Both models are useful for Olympic development and combined with area development could form a complete model. There are essential aspects these models need to adapt on to be able to fit the development process and content of Olympic Games.

The dual purpose of Olympic development and long-term use is not obviated in these models, and the connection with urban area perspectives is missing. Also the particular timeframe the Olympic developments are part of, creates a different phasing in time. Apart from process differences, the content should focus on extra aspects that have come forward in the case research and described in section 5.4, plus the continuance check of balance on the legacy pillars.

Attuning these different aspects over a certain time frame within different organisations proves to be difficult with the way cities realized the Games so far and therefore calls for a new approach. Following sections will set out the construction of the model and the incorporation of these crucial aspects.

6.3 Connecting the Games

When bidding for the Games a city should connect their objectives with the realisation of the Games, monitoring the social – cultural, financial – economic and physical – environmental pillars. Olympic Games development is moving on different scales, ranging from country level to building level, each with their own objectives. This research is about the physical aspects the Games initiate and focuses on the main Olympic park with its accommodations singling out area and accommodation level, the main Olympic venues are eventually the most problematic accommodations. These two levels have to deal with the physical aspects of mobility, scale, routing, urban planning and programming to create the right footing for post Olympic development. Within the two objectives, the realization of the accommodations and public spaces should never become the primary target.

Athens organisational and planning form lost the broader perspective out of sight. Athens had put one organisation in charge to arrange the accommodation aspects of the Games. Their objective was realizing venues suitable for hosting the events of the Games. Post - Olympic use was not part of their task. Organising the Games was a parallel process alongside many other objectives the city had going on.

It is essential to align both missions together, before forming the bid. This can be achieved by making sure different stakeholders or organisations work together to achieve their own goals but with mutual long-term interests, by bringing together stakeholders early in the process to find this connection in interests. This relation is visualized in the figure 50, which is applicable on multiple levels working from the top to the bottom.

Figure 52, Connecting Olympics with host city (Olympic interpretation of 'mission to product/services relation scheme' by Pluijmers, 2000)

When a host city chooses to form a bid or is selected within a country to become possible candidate city several processes start in relation to forming a bid. On a level of Olympic park development a host city must choose how to incorporate the Olympic Games within their city. The BPF and the ULI (2006) recommended that urban Masterplan must be put in place first with the Olympics fitting into that. This recommendation also proves itself in the case

research. Apart from fitting the Olympics on area level as the BPF and the ULI recommend, connecting this with the accommodation level is essential. As described in previous paragraphs the connection between host city objectives and Olympic objectives need to be established. This will form the basis of all further steps within the process. A bid is essentially the blueprint of how the city will organise the Games, but even more importantly how it incorporates the Olympic Games in their city development on multiple levels. The total picture of forming a bid, realizing and managing what has been developed can be visualized in the alongside figure. Consisting of a certain process that will guide the way from A to B, the content it should incorporate, and the way it has to be organised.

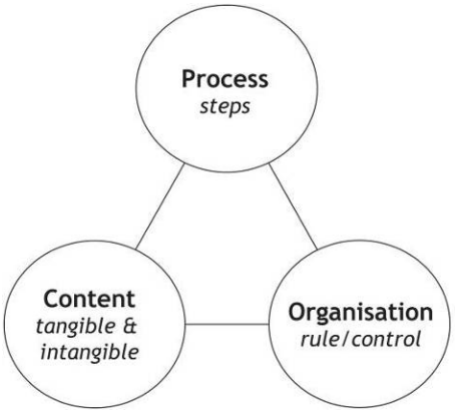

Figure 53, Olympic development aspects

6.4 Olympic legacy development model

The goal of the model is to guide initiators in the complex development process of integrated Olympic urban development. These can be municipalities, urban planning departments, OCOG's, Public Private Bodies, etc. The set up of the model will be elaborated in the following sections. Starting with the aspects of area development and working the way down to accommodation level, to conclude with the overall model.

6.4.1 Constructing the bid

The Olympic development model operates on accommodation and on area level. The model operates on area and accommodation development because the Olympic assignment operates on these two levels. This connection is essential because decisions made on area level, form the base for the Olympic development assignment.

Barcelona is a positive example on the aspect of connecting area level with building level. By connecting the Olympic assignment to urban structures the city wanted to realize, the right footing was created for the development of the Games. Integration was therefore better to realise.

On accommodation level the focus is on organisation and business development and physical accommodation development. On area level the focus is on organisation and business development. This part of the model is based on the 'TPW'[3] concept from Twynstra Gudde because this model guides the initiators in the clearest way, and has the focus on organisation and product in stead of focus on the Olympic, high profile, accommodation that has to be realized. In terms of long-term planning, area development forms the basic strategy that is

[3] Concept of Thematic Project Working by Twynstra Gudde

leading. The phasing by VROM (2009) forms the basic phasing on area level for the Olympic model, but is integrated with the Olympic timeline. The Olympics, as Cashman (2002) described in 'Impact of the Games on Olympic host cities' can be divided into 'the preparation of a bid and the winning of the right to host the Games, the seven year period of preparation for the staging of the Games, the short period (16 days in 2000) when the Olympic Games are staged followed by the Paralympic Games and the much longer post-Games era'.

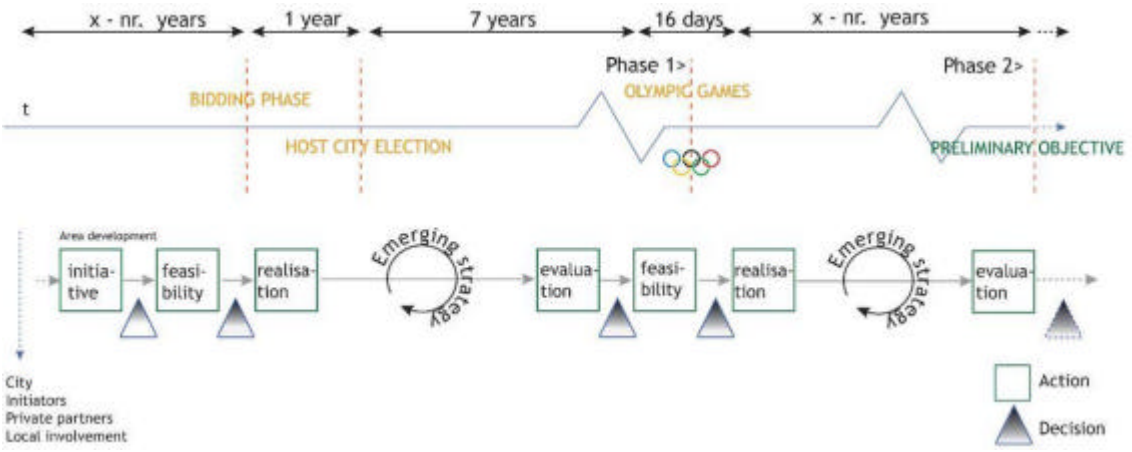

Figure 54, Area development in Olympic perspective

The first two phases are essential in terms of post Olympic development and transformation. When these steps are walked through lightly, legacy is at stake. Realizing accommodation as primary target will lead to under use, non-vital and non-liveliness areas, and asking oneself after the Games what should be done with the area and the Olympic accommodations in terms of ways of exploitation and possible use is far too late. Therefore the focus is on long-term area perspectives. These first phases will be emphasised in this chapter. The initiative, feasibility and realisation phase are constantly in motion and constantly working on a flexible strategy, giving shape to the final goal. Figure 52 is an abstract version of the area level of the model set out over time. The area process is also continuously in motion as where at accommodation level certain cycles finish, for example when an accommodation build is completed.

Figure 54 shows two clear phases, one with a focus on Olympic Games, *phase one*, and the other on realizing an integrated urban area, *phase two*, both with their own sub-phasing. This first phase should result in a clear definition of the process of the Olympic Games and result in a clear objective of the second phase. Within this initiative and defining phase, flexibility should be kept in mind due to the long time-span and possible changes. For example changes in vision, economics or plan direction can occur. An economic crisis as currently is enfolding has large effect on long-term plans. Aspects like sustainability and employment as objectives can suddenly become part of the long term-plans, which have their effect on city planning, and financial setbacks can drastically affect plans. A clear, current example is the London Olympic Lower Lea Valley, which has been struck by the severe economic crisis which has led

to withdrawal of private parties and results in adjusting to ambitious plans. The Olympic village is now realized in a trimmed down version and athletes must share apartments. Evaluation moments on strategy and room for emerging strategy[4], can avoid this and keep long-term development plans flexible and up to date by adjusting direction by what is observed.

Initiative Phase

The model starts on the level of area development. The first step is to define the area/business concept. This encompasses forming a mission, strategic intentions, goals and overall strategy. The integration of the Olympic goals with long-term area goals should be central in this phase. This aspect is crucial because further in the process decisions are made that make proper integration difficult when this aspect was not outspoken. Decisions should be made on what the goal is of the designated urban area, what Olympic functions can contribute to these urban intentions and which stakeholders are involved.

In relation to the variables, urban planning and programme are of importance in the initiative phase. Urban structures on a city or regional scale determine the future direction the city will develop in. Connecting the Games developments with these intentions is central. The relation with programme is crucial to determine what programme of the Games should be developed where and what supporting programme has to be added.

Establishing organisation with long-term perspectives is the next part of the first step. Why should this organisation be established, what is the mission, how does the organisation wants to position itself, who are the initiators and what kind of products/services does it want to realize within the area? The model by Grift and Muijsers (2005) also tries to focus on this combination of stakeholders to find integration. The special aspect for the Olympics is the two end goals this organisation will have, being the end of phase one and final goal, phase two.

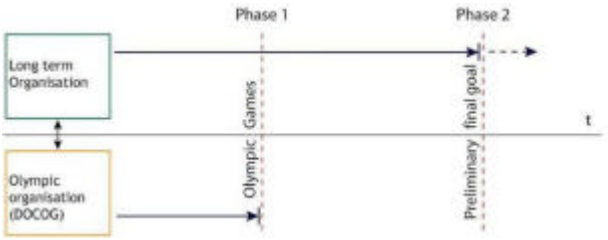

Figure 55, Organisation timeline and field

Olympic programme for this area could be the organisation of the opening and closing ceremony, athletics programme, aquatics programme and Olympic indoor competitions. By choosing to cluster these parts of the programme, the election chance to be host for the

[4] 'Emergent strategy originates not in the mind of the strategist, but in the interaction of the organization with its environment' (Mintzberg, 1987)

Olympic Games can increase. It will also increase the risk of under-used facilities and lack of liveliness when looking at former Olympic cities and the current host London. Knowing this, the way of integrating these parts of the Olympic programme in the surrounding urban areas is essential. Therefore ***integration*** is the key-word in Olympic developments.

As introduced in the first part of this chapter, scale and programme make Olympic integration difficult. By making sure Olympic developments on area and on accommodation level find connection with urban scale and programme during, but more importantly, after the Games, is essential. As Cashman (2002) describes in 'Impact of the Games on Olympic host cities' this period after the Games is susceptible to Olympic depression and without clear plans on how to get through this transition phase Olympic parks are vulnerable. During this first step forming a general outline of the final goal in terms of mission, intentions, strategy and objectives, with a strong emphasis on Olympic integration is the objective. How are the Games being put into service to achieve preset goals in and outside urban development? Within these steps it is time to start linking products and services to the above intentions and goals to start getting an overall image of what needs to be realized to achieve these objectives within the area. The above products and services, for example sport services and housing, can than be checked in a market survey whether product and markets connect. When market situations prove promising further steps can be undertaken. A feasibility check should be the next step to undertake by mapping the risks and financial and organisational feasibility of the main intentions of the overall organisation.

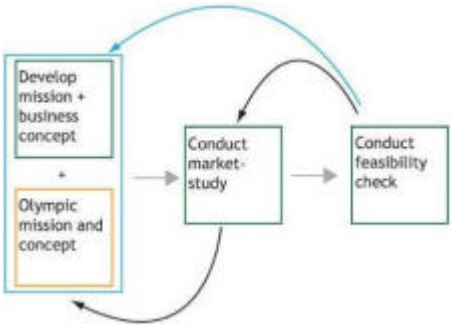

Figure 56, Initiative phase area development with forward and backward steps

Phasing of the Olympic assignment should be defined in this phase in order to get an overall picture of developments that need to be organised in the overall process. Defining what needs to be developed outside the Olympic assignment is also crucial.

In both cases the main Olympic parks are mono functional. Due to this mono functionality liveliness and vitality of public space and realised venues is disappointing. By defining what programme should be added in these areas, or what should be transformed or removed in the post-Olympic period, liveliness and vitality chances could increase.

The first three steps within the initiative phase are steps that can be seen as a cycle, improving and changing the content of these steps in order to get a better plan. This can also be seen in the abstract version of the initiative phase in figure 56. The market and feasibility study should create a picture of what kind of programme could be realized within the area. Most probable the total Olympic programme won't be fitting the market, in a public and private way.

	INITIATIVE PHASE	AREA LEVEL
?	Preferred final objective	Design for designated urban area: intentions and preferred urban climate.
?	Long-term organisation	Establish managing body that is capable of guarding long-term perspectives in relation to short-term objectives (Olympic included). Stakeholder analysis and collaboration exploration (public influence necessary for social aspects).
?	General programme	Outline of intended mix of programme. Diversification in programme should be strived for.
?	Olympic organisation	Coordinating body for Olympic objective. Knowledge for Olympic input.
?	Olympic application	City scale and programme are leading, only matching Olympic programme and scale can be permanent interventions in urban context.
?	Market survey	General market enquiry for level of social/economic support.
?	Feasibility	Financial enquiry calculations

Table 26, Points of interest Initiative Phase

The points of interest shown in table 26 should always, for each phase, be checked on level of balance on the legacy pillars (page 31).

The process on area level has been started and this means initiatives on accommodation level will, or should, start when concerning Olympic developments. This is a major difference with 'normal' development where initiatives usually originate from market demand or public need, whether or not initiated from municipalities. Because forming a bid concerns detailed descriptions of what to develop in the upcoming years, the initiators have to define these steps. When this does not happen organically this has to happen unnaturally. The model by Pluijmers forms the base for the steps that need to be taken on accommodation level and starts to run parallel to the area development process. This step will further be elaborated after the feasibility phase on area level but in practice should run parallel. The next step within the parallel process should focus on the non-fitting part of the programme within the assignment. Post Olympic problems focus around this mismatch in programme and scale.

Feasibility Phase

On area level, definition of the Olympic site and the long-term perspective must be tuned. Programme should be defined in terms requirements within the urban area. This should lead to an official document which is the starting point for the initiatives on accommodation level. Without a clear defined (Master) plan, developments on an area level will not be developed according long-term perspective and objectives won't be met. Also procedures and permits

applications should be started to safe valuable time within the process. The three steps that need to be taken are; definition, design and preparation. All these form the base of further development on accommodation level. Olympic developments should only be partially part of the urban development, this means non Olympic related programme can be fully defined, designed and prepared before moving on to the realization phase. For Olympic developments this is slightly different due to the fact election is not yet certain. Olympic aspects should fully be defined but design should focus on conceptual studies when locations will fulfil a post Olympic function in a different form. Temporary and 100% re-use of Olympic programme can be defined and designed to great detail due to its permanent character.

	FEASIBILITY PHASE	AREA LEVEL
?	Preferred final objective	Definition of Olympic programme which supports final goal. Definition and concept designs of final goal in terms of programme and phasing.
?	Long-term organisation	Define specific tasks per stakeholder. Define the Olympic input in terms of what will function as permanent or temporary catalyst, and how stakeholders collaborate in long and short-term perspectives.
?	General programme	Definition of overall programme of first and second phase. Sub-phasing for each phase in terms of programme to be realized. For every Olympic accommodation must be defined who will be responsible in terms of venue management.
?	Olympic organisation	Establish predecessor local OCOG until election host Olympic Games, for Olympic objective.
?	Olympic application	Final definition and concept design Olympic programme for urban location. Including management and organisational side. Operationalised in terms of: who, what, when and where.
?	Feasibility	Feasibility check total plan organisation and programme. Including Olympic scenario and exclusive Olympics scenario.
?	Risk Analysis	Risk analysis on long-term plan definition. Potential user disembarkment for single plan sections elaboration and financial risks attached to that.

Table 27, Points of interest Feasibility phase

The variables that are of interest during the initiative phase and the feasibility phase (definition and design) on area level are predominantly definition and conceptual designs of urban planning and programme. Mobility, routing and scale are aspects that are to be tuned in the following steps of the process.

Initiatives accommodation level

For an Olympic bid, aspects on building level have to be initiated and defined. What venues are being realized for the Olympics? Are they new, temporary or existing? What will be their specifications? These aspects have to be defined to know what their role is going to be in the long-term urban plans. For the main long-term organisation on area level it is far more important to define what kind of products or services it wants to offer in the urban area before, during and after the Olympics in stead of what kind of accommodations should be realized. To fine-tune these aspects it is essential to have a parallel process when forming the bid. Executing these both on area and accommodation level creates a legacy proof bid. The formation of the bid finishes after the concept design part of the design phase.

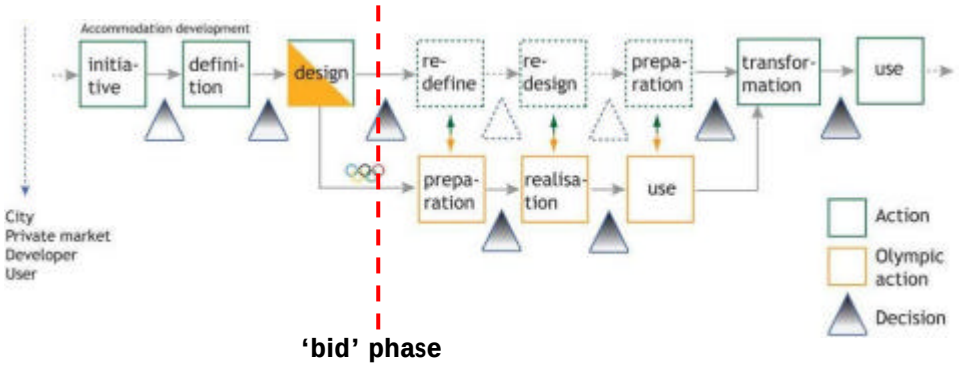

Figure 57, Legacy Olympic business and accommodation development cycle

The part of this phase that should be emphasized is creating organisation on long-term and Olympic-term timelines. Each period is responsible for their own objectives but with a focus on collaboration in terms of how to strengthen their plans for each other.

The Dutch Floriade[5] of 2012 is a great example of a construction that seems fitting. Two organisations are formed, each responsible for their own objectives with different timelines. One organisation focussing on long-term perspectives of the area and content, in this case Venlo GreenPark, and the second organisation focussing on hosting the event, the 2012 Floriade. Eventually the Venlo GreenPark organisation will continue developing this area after the event is finished and the matching organisation has been dismantled (Linssen, personal interview, 2009).

Although the scale of this event is much smaller then that of the Olympics and these organisations are responsible of both scales, it is a great example of integration of long-term and event-term timelines and objectives.

	INITIATIVE PHASE	ACCOMMODATION LEVEL
?	Preferred final objective	What product can it deliver in relation to the Olympics and the post Olympic period? Does a certain function/product fit urban climate?
?	Long-term organisation	Create managing body that is capable of guarding long-term perspectives in relation to short-term objectives (public involvement necessary for long-term area and social aspects).
?	General programme	Does programme fit Olympic and post Olympic product? If not, what can be done to change this?
?	Olympic organisation	Olympic influence necessary for preconditions Olympic venues. Collaboration between long-term and Olympic term stressed. (Athens example)
?	Olympic application	Clearly state what the Olympic role is going to be in supporting the long-term objective. What is its catalyst function, even when it is a temporary function.
?	Market Survey	General market enquiry for level of social/economic support on long-term. (Olympic programme, whether there is, or isn't market for, it has to be realized to host the Olympics)
?	Feasibility check	Financial enquiries on long-term exploitation

Table 28, Points of interest Initiative Phase accommodation development

[5] Floriade is a World Horticultural Expo staged once every ten years in the Netherlands

Definition on accommodation level

Within the definition phase (which can be seen in figure 55) business plans and a programme of requirements must be developed for the accommodation or accommodations. The way these accommodations are organised, in terms of Public – Private Partnerships, depends on the market situation, but has influence on the outcome.

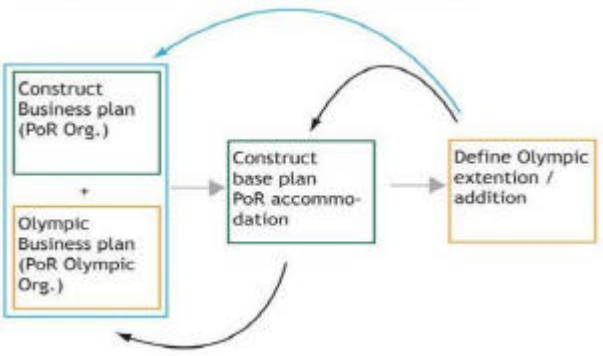

Figure 58, Definition phase, building level.

Representative examples are the Montreal 1968 Games as being the most public organised Games and the Los Angeles 1984 Games being the most privately organised Games. Montreal is mentioned as one of worst Olympic Games in terms of financial losses and Los Angeles is one of the most commercial Games, which the IOC was, in both cases, not happy with. Barcelona can be once again mentioned as being a good example of public – private proportions. What can be learned from those methods is to look for the public interest in the specific parts of the programme. To find a certain body for the specific programme that has private objectives in terms of making profit but guards the public interest (page 74) is what should be strived for. Local culture and economic situations determine to large extend what kind of management bodies are created but long-term perspectives are not to be underestimated. Economic situations can drastically change which can lead to problems in private organisations. The Olympic deadline can not be postponed which leaves the public bodies responsible at the end (London example). The management bodies should obviate these risks. For Olympic or other public developments it is possible that one organisation has a business model that will develop several accommodations as primary production mean. The definition phase plays a crucial role in this and should deliver an overall definition of the first phase (pre-Olympic) and an outline of the second phase (post-Olympic) of its role in urban area development.

Several options are possible within the Olympic park development in terms of accommodation development. It is possible that certain products or services created through hosting the Olympics fit urban strategy. The two products this phase should deliver is the business plan for the organisation and the programme of requirements for the accommodation. Within these accommodations legacy can be created in a tangible form. When creating programme of requirements the differences will become clear between programme fitting urban area and city, and programme that is excess for the designated area. It is for these parts that a

different design approach should be applied.

	DEFINITION PHASE	ACCOMMODATION LEVEL
?	Management & Organisation	When defying production and long-term objectives, organisation must be formed to be involved with the post Olympic management. Combination of Olympic and post Olympic use when permanent is constructed should stand central.
?	Organisation form	Essential in organisation form is public interest, financial health and market knowledge of product, with long-term objectives in combination with Olympic use.
?	Urban preconditions	Matching urban planning
?	Olympic versus Post Olympic	Choices in programme of requirements. What will be permanent and what temporary. In cases of indefinable programme due to insecure post Olympic management or use, flexible or open design options should be elaborated. Permanent, specific Olympic use realisation increases risks of post use.
?	Feasibility	Feasibility check plan organisation. Feasibility programme combination Olympic - post Olympic combination.
?	Risk analysis	Risk analysis on long-term plan definition (focus on organisation & management constructions. Risk-bearing sharing and deviation)

Table 29, Points of interest Definition Phase accommodation development

Concept design phase

This different design approach starts by looking at the Olympic assignment in a different way. For example a new trend was seen at the 2008 UEFA European Football Championships in Austria and Switzerland. The scale of the local stadiums was not large enough to accommodate all interested, but that did not stop spectators to visit the cities that accommodated their national team. Central squares were turned into large theatres to watch the Games hand in hand with the opponents from different nations. Perception, experience and being part of the European Football Championships is what they are looking for, even when this meant that they could not be in the stadium. These championships showed that even when stadiums are not mega, people can be part of the experience such an event creates. How the Games can further exploit the Olympic experience is an interesting question but these European Championships proved the world, or at least Europe, that scale and programme do not drastically have to be altered to host such an event.

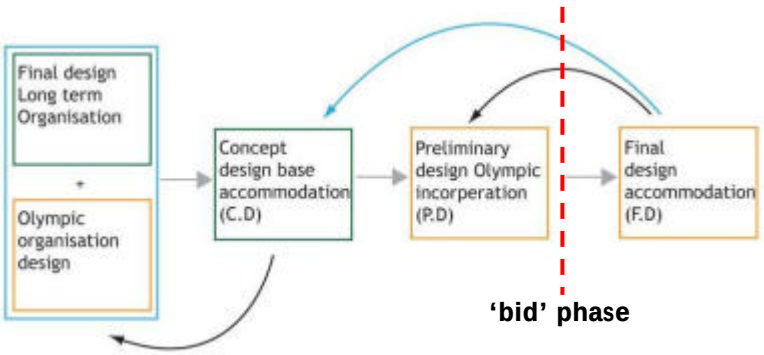

Figure 59, Design phase, building level

	DESIGN PHASE	ACCOMMODATION LEVEL
?	Management & Organisation	Long-term organisation aligns focus on long-term. Olympic organisation/temporary organisation focuses on realisation Olympic venue and operation of venue.
?	Designs	Urban design -> concept design. Fitting long-term accommodation in urban context, relating accommodations and relation of possible temporary (up scaled) Olympic form. Urban fitting and preliminary ideas on accommodation are more important in this phase th
?	Flexibility	Flexibility is important in possible changing visions or economic circumstances. Open design or flexible interpretation of Olympic assignment is crucial. Olympic preconditions without future use to be designed in a temporary way.
?	Olympic versus Post Olympic	Consensus on physical characteristics of the accommodation, relation and design choices on how to deal with Olympic preconditions and final objective after Olympic use in relation to urban perspectives.

Table 30, Points of interest Design Phase accommodation development

Constructing partially temporarily could be a solution. For example London Olympic stadium is designed in this way. Products or services created by the Olympics that do not fit in urban strategy can only function as intangible legacy catalyst. Meaning its presents during the Games boosts external interest in the specific country, city or area, or at least should be exploited like this, after the Games its physical presence will be deconstructed.

6.4.2 Bid content

It is difficult to determine when and in what detail the Olympic bid should be developed. When elected to host the Olympics, a city still has 6 years to fine-tune the designs and business plans on the level of accommodations, although procedures and permits can be complicated and time consuming. The better defined and documented the greater the chance post Olympic developments can be initiated or developed, and the sooner developments start, the better it will be for election chances and creating an integrated plan. On the level of area development certain aspects should be defined or started when bidding for the Games. Figure 58 gives an overview on what these aspects are.

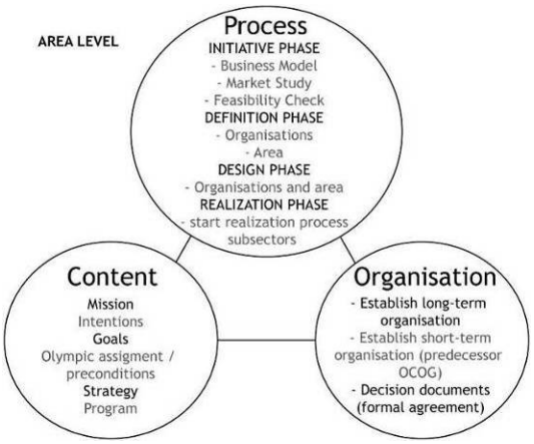

Figure 60, Process, Organisation and Content area level

When bidding for the Games a city should already be developing their designated area, showing the right intentions to the world as city ready for the Games. Or, at least that is

what the IOC imposes, during the selection last October of the 2016 Olympic Games, this aspect did not play a significant role. A city that is going to organise such an event should already show their intentions and commitment years prior to the actual event, even before bidding for the event. The first step should therefore define mission, intentions, goals, Olympic integration, strategy and overall programme in the first two or three steps of the process by the established organisations.

Mission:

- Olympic thought should be part of urban development long-term mission (social involvement).
- Aspect of sport must be key-item in developments.

Intentions:

- Make sure intentions have a strong socio-cultural degree.
- Convince the world why the concerning city deserves to be elected (it must be granted by the world, and it is still a city that is being elected, NOT a country).
- Apart from Olympic preconditions create balance on socio-cultural, financial – economic and spatial-environmental pillars.

Goals:

- Apart from hosting the Games in a way the world has never seen, form clear SMART[6] goals in terms of long-term area objectives.
- Defining how the selected areas should look and how to develop these areas with a focus on post Olympics, which creates founding for legacy, which the IOC judges.
- Define the Olympics as a clear goal, but let it be part of a greater (urban) goal.

Olympic integration:

- Olympic integration needs foundation on multiple levels. In urban area terms this will mean finding mutual goals and deploy them to strengthen both objectives. Realization is needed on the different scales and programme both objectives have.

Special attention on connection with urban Masterplans and urban future visions is essential. Apart from that, plans on mobility, routing and scale should be outspoken to increase the level of integration.

Strategy:

- Combine all of the above in a strategy that will enable the host city to realize Olympic integration and successfully host the Games. Strategy on how to achieve goals. Focus on connecting organisations and supporting each other in realizing goals with room for emerging strategy.

[6] Stands for : Specific, Measurable, Attractive, Realizable and Timeable.

Strategy needs management to deploy. Not only deploying strategy is important, making room for emerging strategy and being flexible is of essence. Finding suitable management within local and regional formats is therefore one of the first steps to undertake.

Apart from clearly defining the bid on an area level this phase should define what actions are to be taken in the *second* phase, after all, that is when the legacy will reveal itself. As case research indicates Olympic areas are mono-functional and scale does not fit the surroundings. It is this second phase where other programme can be added and scale can be transformed, as long it was taken into account in the plan making.

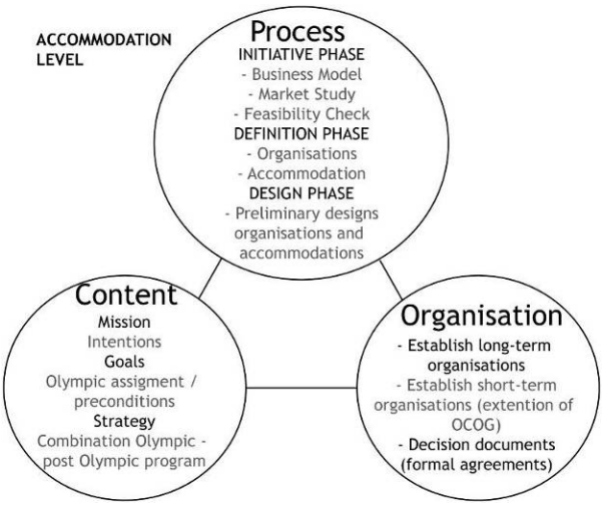

Figure 61, Process, Organisation and Content accommodation level

On accommodation level definitions should also be formed. The products and services the area should deliver in the first and second phase are defined on area level and the organisations that are supposed to deliver these services are to be established. For the Olympic bid it has to be established whether Olympic functions are housed only for the Olympics or whether there is market for certain parts of the Olympic programme in post Olympic times. It is for these functions a dual organisation is needed. For each accommodation mission, intentions, goals, Olympic preconditions, strategy and the combination of Olympic – post Olympic programme should be defined. In this phase it is possible certain functions are already started or finished, this programme can also be part of the Olympic bid. Steps that need to be defined should be, whether before or after the Games transformation or programme needs to be added. Demolishing should never occur, although deconstructing could, when planned in advance.

Mission:

- What product does it want to offer during and after the Games?
- When no role is possible in post Olympics, re-location or temporary construction is needed.

Intentions:

- What does it contribute to the Games and the urban area in the post Olympic period?
- How does it operate on the socio-cultural, financial – economic and spatial-environmental pillars?

Goals:

- Can post Olympic and Olympic goals be supporting or can they be mutual? Does it contribute to overall Olympic and urban strategy?

Olympic – post Olympic:

- Relation and role of accommodation in terms of Olympic and post Olympic use.

Variables that need thorough deepening and elaboration in relation to the position of the venues in Olympic and post-Olympic terms are programme and scale. These two variables, on the level of vitality of the venues, are essential. Programme needs to offer a diverse range of functions and scale needs to fit demand in terms of capacity of stadiums and halls.

Strategy:

- Making sure accommodation fits urban and Olympic strategy.

6.4.3 Realizing the Games

The election process for the host city starts when a city has officially handed in their bid. This is a period of around one year that the IOC assesses the bid books of applicant cities. The process of Olympic development should, and does not stop during this phase. After all, the city wants to develop the designated area, eventually with or without the Olympic Games. Certain developments not directly related to winning the bid can start. Developments dependent whether being elected to host the Olympics should further develop design on both organisation as on accommodation level.

When development of an Olympic accommodation with post Olympic purpose can start, because of Olympic election, the parallel process continues. This also accounts for the area level. As figure 60 indicates, preparation of the Olympic organisation and accommodation start to work towards final stages. During the same time post Olympic organisation further develops its business plan for the post Olympic period, constantly communicating with the Olympic organisation in terms of survey and control.

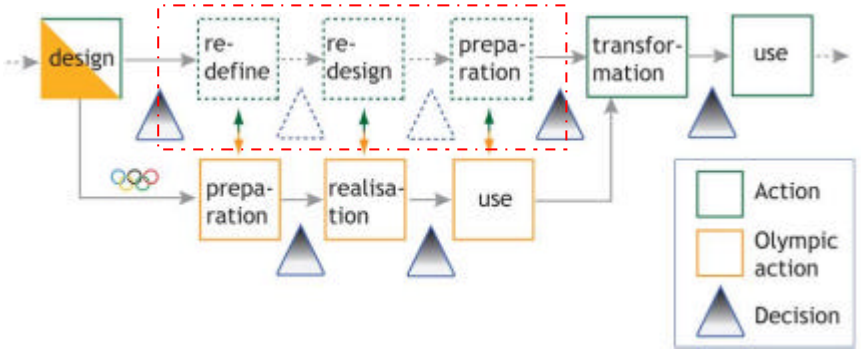

Figure 62, Dynamic Olympic – post Olympic organisation and accommodation development

Emerging strategy and transformation

The interaction during the preparation, realisation and use phase of the Olympic operation with the dotted section in figure 62 representing the organisation of the long-term focus is crucial in post-Olympic transformation or development. At a certain time the accommodation with an Olympic function has to be prepared and realised, the objective of that period is realising the Olympic goal. For the post-Olympic organisation other objectives are central, but could be part in Olympic management of this accommodation. By further defining their business plan, by means of input generated by possible changed market situations, Olympic influences, different visions emerged over time, will cause changes in long-term perspectives and strategy. When preparation of the Games start on an *organisational level* it is time to re-define or at least evaluate the following aspects in the way they possibly are influenced by external changes and emerged strategy:

- product and services
- organisations
- financials

And on the level of *programme definition / re-definition* it is essential for the following aspects:

- scale
- mix of functions
- financials

For example during the evaluation of the long-term organisation of the aquatics centre, the organisation found out through market surveys that market for recreational swimming were more efficient/used instead of trained swimming. This can have effect on the products and services such an organisation would like to provide in and have its effect on programme of requirements, with the financial consequences in the business plan. By handling this during the emerging phase, transition from Olympic to post – Olympic can flow smoothly. By doing so possible catalyst effects are optimized in the preparation and realisation phase of the post Olympic function. This phase determines the duration and success of the transition phase

from Olympic to post Olympic use, the most difficult time in Olympic development. Olympic euphoria can change quickly to depression and business as normal is not developing.
When the re-definition and re-design phase are carefully treated, organisation and accommodation for the post-Olympic period will become apparent. Re-evaluating definition and design is repetition of the definition and design phase as is part of the 'normal' development phase. This re-evaluation phase should lead to transformation or new developments in the transition phase of Olympic use to post-Olympic use.

6.4.4 Overall model and utilization

The overall model shows the complex dual and parallel processes Olympic development is part of, figure 63. As started in the first section of the model elaboration, area level is the red wire through the whole process; everything is attached to this line. After the initiative phase the model starts to walk through a parallel and dual process that can be divided into the development of the bid, Olympic accommodation development, Olympic and post Olympic development and normal development, all in one process, each with its own objectives but part of the greater aim. These different processes are part of the bigger aim because when the Olympics are not appointed to the host city, non-Olympic developments are, or should, still go on. Realizing this urban area, with social, economical and environmental awareness is, even without Olympic Games still possible through this model. The orange sections are Olympic related developments and the green sections are post- or non-Olympic developments.

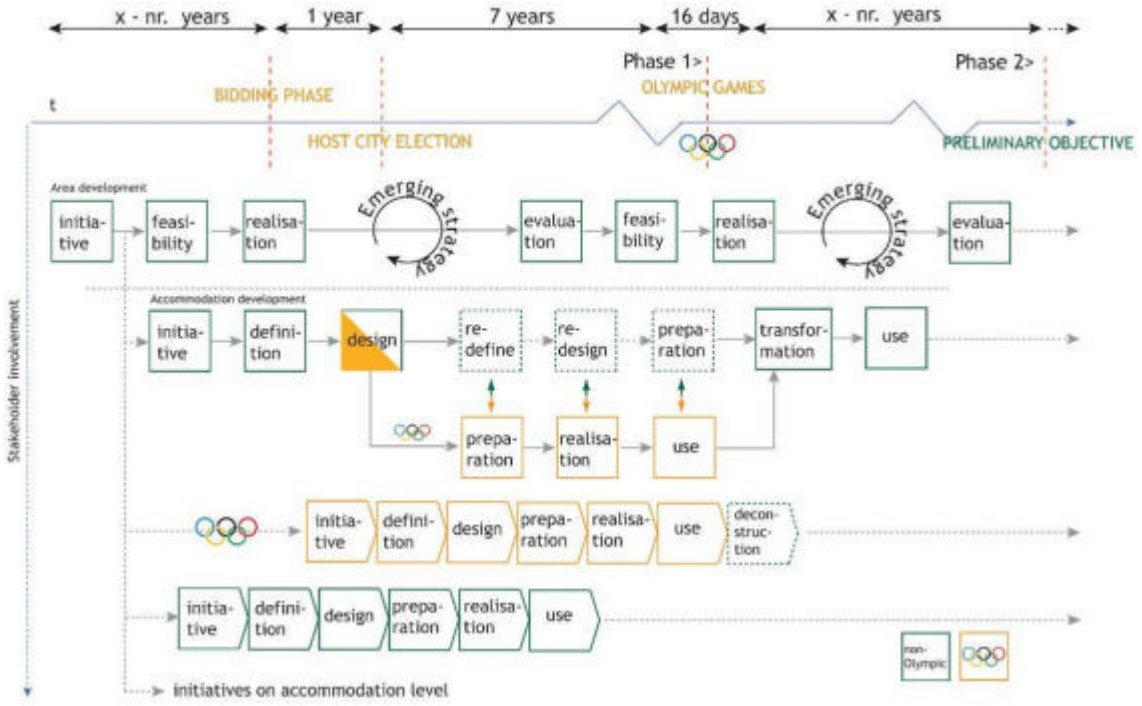

Figure 63, Overall model urban Olympic area and accommodation development

The developments displayed in orange are programme the area is not able to support in post Olympic times. These accommodations are to be developed in a temporary way or in a way

the can be rebuild in a different location. Deconstruction should be strived for, instead of demolishing. The green developments are permanent interventions to support the urban area objectives. The development processes displayed in orange and green can fully be walked through with the 'normal' development model by Pluijmers, with relation to the overall long-term area objectives.

6.5 Conclusions

Olympic development is a combination of process, content and organisation. The model sets out these three aspects in an integrated way. First of all the process can be derived from the model by its overall presentation. Both original and starting point models can be found within this model and the phasing by VROM as well. On area level the VROM area development phasing has been set out over the Olympic timeline. On accommodation level Pluijmers, and Grift and Muijsers, forms the basis of the model. By combining these models with the Olympic timeline a model is formed to create awareness and guidance on phasing that is different from 'normal' development, focus on cooperation between organisations in relation to time is central. This is the part on which Olympic process is made clear.

There should be balance on social – cultural, financial – economic and physical – environmental aspects within the objectives a city or country wants to realise. Urban area development, as conclusions presented in the first part of the research, indicated certain aspects proved to be crucial. The model guides the practical realisation of the tangible physical – environmental pillar. It is this content aspect within the model that safeguards the awareness on the aspects within this pillar. The model supports the content development in relation to the variables this research presented.

This is to be organised by cooperating organisations with awareness for each others goals and long-term perspectives. The physical interference by the Olympic Games on aspects of urban planning, routing, scale and programme have influence on the liveliness and vitality chances within the Olympic areas, as described in section 2.4. Each step within the model sets out what aspects are of interest at what time. Safeguarding the right enrolment of these aspects in overall plan-making and execution of the plans need constant control on these variables.

The ways the physical interventions and organisation forms are planned, designed and executed have effect on realising the pre-set goals. By using the Olympic development model initiators and those involved are guided in realising a combination of goals. Organisation of the Olympic Games integrated with urban area development, achieving post Olympic development and liveliness in the public space.

7 Conclusions

The report started with the research question; '**How can Olympic host cities develop their Olympic urban area strategy to increase the liveliness and vitality of their main Olympic Parks and venues in the Post-Olympic period?**' Creation of lveliness and vitality in post Olympic times is what this research has tried to provide an answer in. Legacy and legacy development have been central items in answering this question. Part of the answer is the legacy model, the tangible aspects within physical – environmental pillar and the development model that guides initiators and organisations in realising legacy. The following section will present the conclusions that can be drawn from this research.

7.1 General conclusions

Generating a vital and lively legacy by hosting the Olympic Games proved to be difficult in the history of the Games. The term legacy has therefore been elaborated in this research. Three central pillars of legacy are defined. It can be concluded that in order to generate legacy, balance in Olympic plans needs foundation on all three pillars; social – cultural, financial – economic and physical – environmental. Combined these pillars form the total aspect of legacy, whether with a positive or a negative outcome.

This research has focused on the tangible aspects within legacy of the physical – environmental pillar. This focus is chosen because of the large impact the Olympic assignment brings along, with its large venues and parks. By identifying variables within this pillar that are factors of success for liveliness and vitality in post – Olympic times, it becomes possible to control legacy development. The objective of creating the right footing for development of liveliness and vitality is central in legacy development. Both case studies, Athens and Barcelona, showed varying successes in terms of liveliness and vitality in their Olympic parks and Olympic accommodations. Five variables are distinguished within urban development that creates chances or footing for vitality and liveliness to arise. These variables are *urban planning*, *mobility*, *routing*, *scale* and *programme*. The aspect that became apparent was the mono-functional character of the Olympic parks and accommodations. The combination of large scale public space in a surrounding of large scale sports accommodations proves to have a negative effect on liveliness and vitality. Areas with diversification in functions and users prove to have a higher degree of liveliness and vitality in comparison with the mono-functional areas.

One of the possible reasons could be the high standard of security during the Games. Having open public spaces with only sports accommodations creates a better controllable area, opposing an area with a mix in functions like housing, offices and commercial functions. Creating the need to either design the Olympic assignment in a different way or add functions in the transition phase of Olympic use to post-Olympic use.

Another aspect that can be distinguished is the organisational part of the Olympic Games, controlling and realising the Games. The above aspects, for example, scale and diversification

of functions and users have to be planned and controlled by organisations within a certain process. The constitutions of these organisations have influence on the execution of these variables. This research has presented important aspects to control for these organisations but has not investigated in detail how these should be constituted and what the most successful public-private partnerships would be. What can be concluded is that connecting long-term business objectives with short-term (Olympic) objectives is essential in planning and controlling integration and diversification, no matter what organisational form is applied. The history of the Games has proved private involvement to be important but public parties are eventually responsible for the execution within the city.

The research has resulted in a development model based on several existing development approaches known in the Netherlands, on an area and accommodation level. It connects process, content and organisation with the aim of developing the Olympic assignment. This development model provides the essential guidance in planning the Olympic bid, the Olympic Games and the post Games period. The model provides a process approach with crucial Olympic and urban development aspects. This model also highlights the connections in Olympic and non-Olympic components and what should be developed dually and separate, guarding the execution of the variables. One of the central themes in the model is creating awareness in the interrelated aspects of Olympic development and urban area development in long- and short-term perspective.

Olympic host cities can increase the liveliness and vitality of their main Olympic venues and parks by creating an Olympic plan founded on the three pillars of the legacy model. In relation to the tangible aspects of this legacy, organisations and initiators should steer on the 5 key variables part of the physical – environmental pillar. Urban planning, mobility, routing, scale and programme are the variables in which the tangible aspects of the Olympic Games should be controlled on. Connecting process, organisation and content creates the Olympic urban area strategy host cities need to be able to realise and control their pre-set objectives.

7.2 Recommendations

Olympic Games research on legacy aspects is unlike the long history of the Games still a rather untouched theme. As the legacy elaboration indicated, many aspects are involved when this theme is mentioned. In this research the aspects of urban planning in relation to the Olympic Games, the physical – environmental pillar, has been central. Deepening on Olympic legacy or Mega-events legacy on the other pillars remains a topic suitable for further deepening.

This research presented variables that are of influence in the way legacy develops itself. Development of the Olympic assignment is closely related to urban area development. Also the process in which these developments should be incorporated has been presented. The first recommendation that can be done is the aspect of constituting organisation. What organisational form can provide the connection between long-term urban area perspectives and short-term Olympic objectives is to be further researched. In specific, the organisational role in between the two aspects of process and content are to be further deepened. This aspect of long-term objectives is a difficult aspect in relation to the Olympic timeline. Many of the decisions to be made are difficult to determine due to the long time span. Research on how organisation or possible organisation forms can deal with this uncertainty is of interest.
The research also indicated the difficult time a host cities get launched into when the Games have left. This forms the second recommendation. The transition phase of Olympic use to post Olympic use is a phase many Olympic host cities lose control. Developments tend to fade out and the Olympic boost is turning into a post – Olympic depression. The model and the incorporation of the variables should support plan making in such a way that the transition phase can be optimised. Therefore it is recommended that deductive research is performed, possibly on the intended candidature of the Netherlands in 2028, with a choice for a certain city. The third and last recommendation relates to the reliability of the two case studies. To improve the reliability more case studies can be performed in order to better substantiate the findings and perform broader legacy research.

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