

**MEGA-Event Stadiums as vehicles for urban transformation:
An argument for integration**

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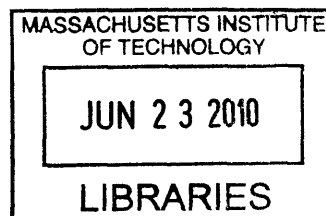
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MEGA-Event Stadiums as vehicles for urban transformation: An argument for integration

by
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on May 20, 2010 in partial fulfillment of the requirements for the degree of
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ABSTRACT

All cultures across the world engage in significant public events whether religious, traditional or competitive. Many of these celebrations, small or large, are central to their communities and cultures, bringing people together on common grounds. Events of this nature have had a long history of contributions to the built environment; often they are a means to exhibit the newest building technologies and national pride and serve as catalysts for urban regeneration. Mega sporting events such as the Olympic games and the World Cup soccer tournaments are classic examples of hallmark events. They have the ability to attract worldwide attention as people from across the globe join together in the host city to cheer for their favorite competitors. These events can correct misconceptions, blur cultural boundaries and even transcend wars, as in the civil war truce in the Ivory Coast during the 2006 World Cup. The cultural and social impacts that reverberate in host cities can be felt across the world.

Mega-events leave a footprint on these cities, physically, economically and socially. It has been argued that these enormous endeavors are worth their equally enormous costs as they often aim to be important catalysts for urban transformation. The international spotlight on the host cities is sufficient reason to draw a large pool of bidders hoping to host these prestigious events. The pride in hosting the event and the opportunity to enhance a nation's image on a worldwide stage can spur investment and growth for the country and city in which the games are located. In addition, the events are a means to focus national and local attention on general improvements, infrastructure projects and the city's expansion. The stadium has the power of becoming the iconic and identifying image of a place; it is more than just a place where sports are held, it is the heart of the people and center of the city.

How the structures built for this one-time purpose will be integrated into the future of these cities is a perennial question. These Mega-Events will continue to be planned and executed, if anything, with more grandeur and lavish spending; it is crucial, therefore, that host-cities achieve progress through these urban transformations on the greater goal of serving the long-term needs of their permanent inhabitants. Site selection is the first, and perhaps most important, step in the process of bidding for and executing these mega events. The site location can have great implications on both the event itself as well as the host city. Amongst other things site selection will produce a ripple effect onto other mega planning efforts such as infrastructure, transportation and long-term urban design goals.

In this thesis, I examine World Cup stadia as an example of mega-event structures, their design principles, development, and long-term use. I posit that careful site selection and innovative design and programming can allow these facilities to thrive as economic and social assets for their host cities both during and well after the event. Furthermore, I argue that the archetypal stadium form needs to be reconsidered in the light of long term impacts and benefits to cities. I suggest that much can be learned from the piazza – another classic urban public form – about how to design a stadium that can function as a connective element in a network of public urban spaces. Through a thorough analysis of the piazza form, I draw inherent characteristics of the piazza and attempt to overlap these on the stadium form. I argue that this flexibility will maximize post-event use of the stadium and enable it to be integrated into the urban fabric and the larger future visions for a city. Planning and design efforts can expand the life and viability of the stadiums both during the event and long after, by supporting the every-day life of their communities.

Thesis Supervisor: Professor Dennis Frenchman
Norman B. and Muriel Leventhal Professor of Urban Design

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- Soledad Méndez

About the Author

Soledad Mendez received her Master of City Planning degree from the Massachusetts Institute of Technology in June of 2010. Here she focused her academic career within the concentration on City Design and Development. In addition, she received certificates in Teaching and Urban Design. Her current research focuses on international design and development, real estate and architecture. Soledad Mendez received her Bachelor of Architecture degree from the University of Notre Dame in 2005 and has practiced in New York City prior to returning to academia. She follows sports, including American football, baseball and soccer and is most interested in the intersection of urban design and sport. In the future she hopes to work more closely on this relationship, as well as on the development of cities world-wide. In addition, Soledad has played soccer for many years, which has added to the passion she has had for this thesis.

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Abbreviations

AAFL	Argentine Association Football League
AU	African Union
CAF	Confederation of African Football
EAM	Ente Autárquico Mundial
FIFA	Fédération Internationale de Football Association
IOC	International Olympic Committee
LEED	Leadership in Energy & Environmental Design
LOC	Local Organizing Committee
MLS	Major League Soccer
PSL	Premier Soccer League
PPS	Project for Public Spaces
SA	South Africa
SAFA	South African Football Association
WC	World Cup

Ode to Football

Soccer starts,
On earth peoples become fans;
Care not wars, care not crimes;
Carry our flags, songs, and drums;
Everyone is dancing, chanting, harmonizing;
Restarted our true engine of human life.

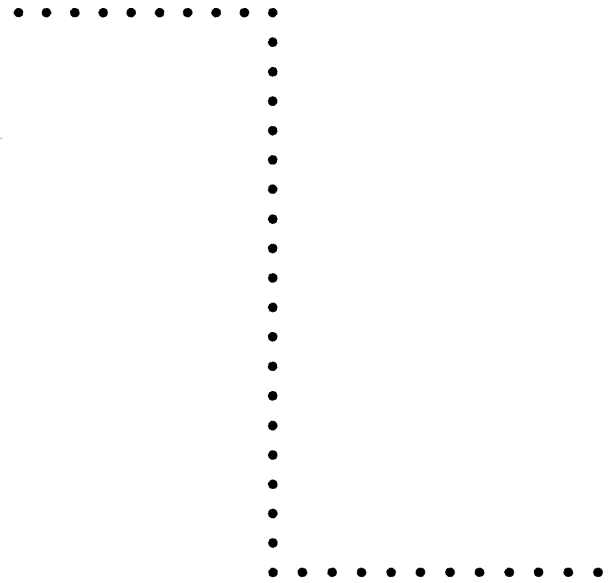
Soccer plays,
On the pitch of our beautiful globe;
Care not politics, care not separatisms;
Carry our joys, passions, and oneness;
Everyone is coming, watching, and sharing;
Rebuilt our perfect sphere in one wholly piece.

Soccer ends,
On the screens of common household;
Care not victory nordefeat, honor or shame;
Carry our beer, tears, hopes; a great memory;
Everywhere we walk, meet, and argue...
Rekindled our souls in her beginning and ending.

Soccer we play and live,
On the street, beach, and green pasture;
Care not hatred of past, injury of nightmares;
Carry our sweat, spirit, and a virtuous living goal;
Every moment of our game in life
Refines our goodly being thru true love of
beautiful game.

- Lajon Liu

CHAPTER 1



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..... MEGA-EVENTS :: INTRODUCTION

*Sport can create hope where once there was despair.
It is more powerful than governments in breaking down racial barriers.
Sport has the power to change the world.*

- Nelson Mandela

HALLMARK EVENTS :: OLYMPIC AND WORLD CUP GAMES

All cultures engage in significant public events whether religious, traditional or competitive. Many of these celebrations, small or large, are central to their communities since they bring people together on common ground. Events of these kinds are by nature temporal, often occurring annually. Some may occur over several days and for that period of time they seize the lives of all who participate in them and engage all those who live and work in the vicinity. In this thesis, I focus on "Hallmark" events, designated as such for the national and international attention they attract and for their importance. Examples of such events include: world fairs, national festivals, expositions, and cultural and sporting occasions.

Not only do these events create an atmosphere of celebration that unites people from across the globe, but often they serve to showcase a country's accomplishments and become a symbol of national pride. The first world's fair was the 'Great Exhibition of the Works of Industry of All Nations' in London in 1851, which acted as a 'showcase' for the achievements of the industrial revolution and the global importance of Britain.¹

Events of this nature have had a long history of contributions to the built environment; often they are a means to exhibit the newest building technologies and serve as catalysts for urban regeneration. The World's Columbian Exposition held in Chicago in 1893 was the opportunity that Chicago needed to lift itself up from the ashes of the Great Chicago Fire,

which had destroyed much of the city in 1871, and to introduce electricity to the general public.² The most iconic and well-known example of the monumentality and permanence of these events is the Eiffel Tower in Paris, France, built for the 1889 Paris Exposition.

Mega sporting events such as the Olympic games and the World Cup soccer tournaments are classic examples of hallmark events. They have the ability to attract worldwide attention and bring together a multitude of international visitors to the host city to cheer for their favorite competitors. These events can correct misconceptions, blur cultural boundaries and even transcend wars. As in the civil war truce in the Ivory Coast during the 2006 World Cup.³ After three years of fighting the president of the Ivory Coast called a truce because the country had qualified for their first ever World Cup. The cultural and social impacts that reverberate in host cities can be felt across the world; their magnitude cannot be underestimated.

The international spotlight on the host cities is sufficient reason to draw a large pool of bidders hoping to host these prestigious events. The pride in hosting the event and the opportunity to enhance a nation's image on a worldwide stage can spur investment and growth for the country and city in which the games are located. The expectation of capturing the sport tourism industry and generating revenue for the city is another large motivating factor for host cities. By capturing the spotlight host cities hope to draw in a pool of future investors after the event.

Impact of mega events within the larger discipline of Urban Planning

Urban planning seeks to integrate multiple strategies for the purpose of improving the built, economic and social environment of the city.⁴ These strategies include land use planning, transportation planning and urban regeneration, among others. Mega sporting events are enormous strategic planning endeavors incorporating each of the sub-disciplines of urban planning. Often times, due to the need for rapid action to meet deadlines, they are planned without integrating their designs into the host city's existing planning strategies and future goals.

In anticipation, host cities must prepare for these large scale events by changing policies, planning methods, economic strategies and, of course, designating and adapting spaces in and around the cities. The host city must select the site for new edifices, prepare for their accessibility, address the constituencies for the project, and mitigate any existing problems with the site. Stadiums are built to accommodate the games; hotels, airports and infrastructure are developed or refurbished to support the influx of tourists. In addition to these new structures, the events are often used as a means to focus national and local attention on general improvements, infrastructure projects and the city's expansion.

More important perhaps than the games themselves is the integration of these changes into larger visions for the city's future. Rapid decision-making and execution in preparation for the event is an unavoidable necessity, but it can also be a benefit, helping to overcome what would otherwise be obstacles to urban development. For better or ill cities must live on well past the event's end. Cities must not compromise their goals for the future of these spaces.

Thesis

Large stadium facilities have great physical implications on the areas that surround them. The unfortunate reality is that single-purpose buildings of huge size and scale have proved to be exceedingly difficult to integrate with future growth and development beyond the event. In some cases they may actually inhibit community and economic growth. Such lessons of past events have not been integrated into plans for future events and so the mistakes are repeated from city to city. In this thesis I posit that sites selected for these projects, and the way they are conceived and designed, need to be better integrated into the life of the city if not its heart, and that the archetypal stadium form needs to be reconsidered in the light of long term impacts and benefits to cities. I suggest that much can be learned from the piazza – another classic urban public form – about how to design a stadium that can function as a connective element in a network of public urban spaces. This flexibility will maximize post-event use of the stadium and enable it to be integrated into the urban fabric and the larger future visions for a city.

MEASURES OF SUCCESS

Current literature attempting to measure the success of Mega-Events is limited mostly to economic analysis. In terms of benefits, or positive impacts, both direct and indirect economic benefits of these events are measured. Direct benefits include capital, new infrastructure and transportation throughout the city. The advertising effects that are used to enhance future tourism are tabulated as indirect economic benefits. Potential negative effects include poor planning and land use, underutilized facilities, exorbitant maintenance costs and overspending. More difficult to measure is the boost in moral and spirit in the community and its' potential effect on spending. These factors have often been overlooked, but are beginning to emerge in the literature as a result of the 2006 World Cup held in Germany. Economic studies provide persuasive arguments that can help convince a city or country to bid for these events; as a result, it is likely that these factors will continue to prevail as mainstream measures of success. The impact on urban form and function over time has been almost entirely overlooked, and therefore is the focus of this study.

Events like the Olympics and the Football World Cup attract billions of international viewers and hundreds of thousands of visiting spectators. Global sports industries continue to grow rapidly; they have expanded from an estimated \$82.8 billion USD in 2004 to \$111.1 billion USD in 2009.⁵ Staging sports events has also become a more competitive and desirable

agenda for the growing pool of aspiring 'world cities.' They are attracted by the potential of a wide range of economic and socio-political benefits.

The magnitude of both challenge and opportunity in planning for and executing mega events is exceptional; they attract highly competitive cities in rigorous and demanding bidding processes. These are enormous planning endeavors that produce short and long-term effects on the host country. For developing countries, in particular, their costs and impacts can have large implications on the public purse of the central government as well as on the cities and ultimately the taxpayers. It is therefore vital that opportunities be weighed against mega-risks of public debt, resource strain and the possibility of international public relations disasters of a poorly executed event. In its aftermath, the question remains: Are mega-events worth their costs?

This question is especially important for developing countries to consider as they enter the pool of bidders for these mega events. History shows that the International Olympic Committee (IOC) has predominantly awarded the Olympic Games to Western, industrialized nations. Only the 1968 and 1988 Games, hosted by Mexico City and Seoul respectively, have been held in developing nations. Rio de Janeiro will be the third, scheduled to host the summer Olympics in 2016 [see Table 1, following page]. Perhaps due to the rich soccer tradition in Latin America, the Federation Internationale de

Table 1: Summer and Winter Olympics Host Cities

Year	Summer Olympics Host City	Winter Olympics Host City
1896	Athens, Greece	Not Held
1900	Paris, France	Not Held
1904	St. Louis, United States	Not Held
1908	London, Great Britain	Not Held
1912	Stockholm, Sweden	Not Held
1916	Not Held	Not Held
1920	Antwerp, Belgium	Not Held
1924	Paris, France	Chamonix, France
1928	Amsterdam, Netherlands	St. Moritz, Switzerland
1932	Los Angeles, United States	Lake Placid, United States
1936	Berlin, Germany	Garmisch/Partenkirchen, Germany
1940	Not Held	Not Held
1944	Not Held	Not Held
1948	London, Great Britain	St. Moritz, Switzerland
1952	Helsinki, Finland	Oslo, Norway
1956	Melbourne, Australia	Cortina d'Ampezzo, Italy
1960	Rome, Italy	Squaw Valley, United States
1964	Tokyo, Japan	Innsbruck, Austria
1968	Mexico City, Mexico	Grenoble, France
1972	Munich, West Germany	Sapporo, Japan
1976	Montreal, Canada	Innsbruck, Austria
1980	Moscow, Soviet Union	Lake Placid, United States
1984	Los Angeles, United States	Sarajevo, Yugoslavia
1988	Seoul, South Korea	Calgary, Canada
1992	Barcelona, Spain	Albertville, France
1994	-	Lillehammer, Norway
1996	Atlanta, United States	-
1998	-	Nagano, Japan
2000	Sydney, Australia	-
2002	-	Salt Lake City, United States
2004	Athens, Greece	-
2006	-	Torino, Italy
2008	Beijing, China	-
2010	-	Vancouver, United States
2012	London, England	-
2014	-	Sochi, Russia
2016	Rio de Janeiro, Brazil	-

Note: In 1994, the Summer and Winter Olympics began to be held on opposite years.

Football Association (FIFA) -- world soccer's ruling body -- has appeared keener to award its tournament to developing nations. Until 1994, the World Cup alternated between Europe and Latin America. Recently, however, FIFA has opened its doors and designated host countries elsewhere. [See Table 2]

Table 2: World Cup Sites

Year	Site
1930	Uruguay
1934	Italy
1938	France
1942	Not Held
1946	Not Held
1950	Brazil
1954	Switzerland
1958	Sweden
1962	Chile
1966	England
1970	Mexico
1974	Germany
1978	Argentina
1982	Spain
1986	Mexico
1990	Italy
1994	United States
1998	France
2002	Japan/South Korea
2006	Germany
2010	South Africa
2014	Brazil

For developing countries, the risks of debt are higher and the allocation of resources for these endeavors is controversial given the state of their economies and their health and housing needs. That said, they may have more to gain as well - these mega-events can serve as a catalyst for the construction of modern transportation and communication systems that they could otherwise not afford. President of South Africa,

Jacob Zuma, expressed South Africa's gains in an interview for Finance and Development by saying: "The country's transport, energy, telecommunications and social infrastructure are being upgraded and expanded. This is contributing to economic development in the midst of a global recession, while improving conditions for investment."⁶ For that reason, it is imperative that they make wise investments that will not strain their economies in later years but instead grant them fruitful returns. Nonetheless, cities world-wide, regardless of their categorization, vigorously compete to host sports mega-events because they perceive that doing so will enhance their image and stimulate their economies.

International sporting events require substantial expenditures on stadium facilities as well as on infrastructure, organization and security and critically depend, therefore, on public subsidies. As noted Table 3, there has been a recent push towards financing these events through private investments. This is a result of the growing costs and debts that they accumulate in preparation for hosting these events. About 60% of the expenditure of the 12 stadiums prepared for the 2006 World Cup in Germany, for example, came directly from club or private investment, 40% was public cost. This is in sharp contrast to the 1974 World Cup, also in Germany, in which 100% of the stadiums were publicly financed.⁷

Nevertheless, most bidders continue to expect and rely on high levels of public funds to finance these endeavors. The 2016 Olympic bids, for example show that four of the seven bidders expect at least 90% of their endeavors to be publicly financed. Only two show a majority of financing from private sources: Chicago and Madrid. (See table 3) Despite the high risks to the public purse, more and more developing countries are bidding to be hosts for these events. This may be because economic impact studies have not yet made it clear whether hosting these events is a boost or a burden.

Table 3: 2016 Olympic Bid Facts and Figures

Bid City	Total Budget (1) in USD million	Funding Source	Total Est. Revenue (2) in USD million
Baku	27.8	92% Public; 8% Private	930
Chicago	49.3	100% Private	2,500
Doha	48	92% Public; 8% Private	784
Madrid	40.4	10% Public; 90% Private	1,611
Prague	22.3	93% Public; 7% Private	969
Rio de Janeiro	42	100% Public	750
Tokyo	48	56% Public; 44% Private	1,557

(1) Includes applicant and candidature stage budget

(2) Includes returns from sponsorships, ticketing, licensing and others

Source: Abatan, Leather, Ross and Ward, 2008, p17.

Literature Review: Boost or Burden?

The first study of the economic impact of hosting the Olympic Games was conducted after the Los Angeles Games of 1984, spurred by reports declaring that Montreal, Canada had acquired a considerable amount of financial deficit as a result of the 1976 Games. The major proponents of sports events are the sports and tourism industries who have good reason to exaggerate the benefits of these mega-events. Recent studies have coined the term 'sport tourism': the industry catering to travel for the purpose of participating in or viewing sporting events. Sports tourism has become one of the fastest growing sectors of the tourism industry. According to Ross Biddiscombe of Sport Business, the estimated global value of sports tourism in 2003 was as high as \$51bn, equivalent to 10% of the total international tourism market.⁸

Ritchie and Adair also claim that there is a growing recognition of sport tourism as both a popular leisure experience and an important economic generator.⁹ They argue that the economies of cities and countries around the world are increasingly reliant on visiting sports enthusiasts from golfers to skiers, or their fans. The Los Angeles Sports and Entertainment Commission reported in 2003 that the average economic impact on a city hosting a major sporting event was US\$32.2 million.¹⁰ According to Bohlmann and Van Heerden, in a study on the impact of hosting major sporting events, the Canadian Sport Tourism Alliance also estimated that an excess of US\$2 billion per annum was generated by the sport tourism industry in Canada in the same year.¹¹

The Olympics and the World Cup Soccer Tournaments have generated many economic studies recently. Kasimati and Bohlmann, for example, have identified four key benefits of hosting world-class sporting events: gains in welfare and employment, enhanced infrastructure base, and increase in number of tourists and local business prospects.¹² These prospects would attract any city, in particular however, these are luring for the developing city looking to generate capital and create jobs for their citizens.

In a related study, Dobson et al. examined the economic impact of the 1996 European Football Championship and found that it brought 280,000 visitors.¹³ £120 million (\$180 million USD) was the calculated economic impact generated by this event, all of which was considered "new money" to the United Kingdom. Here, "new money" is considered money that is made elsewhere, outside of the United Kingdom, but spent here. This includes money spent by tourists as well as investors. In addition, domestic football fans generated a further £75 million

(\$113million USD). Similarly, an impact study of the Seoul Olympics estimated that the city saw a boost in employment amounting to 336,000 new jobs as well as a US\$1.6 billion positive economic impact to their economy.¹⁴

The question remains, however, whether or not these events are, on balance, an economic boost to their hosts. The literature also underlines the potential negative impacts of hosting such events. These include what is called the substitution effect, meaning that typical tourists and residents would be crowded out and displaced by the 'event tourists', as well as high costs of construction and infrastructure and high rental costs. In 2006 Kim et al. argued that the 2002 FIFA World Cup in South Korea was less than satisfactory.¹⁵ They identify benefits in cultural exchanges, natural resources and cultural development; however, they note that South Korea received "lower-than-expected economic benefits," which may be attributed to the fact that soccer is not a major sport in Asia.

Economic impact analyses prepared by event promoters have predicted a number of economic boosts from hosting mega events of this nature. Predictions for the 1994 World Cup in the United States, for example, claimed that it would result in a \$4 billion boost to the United States economy.¹⁶ A study by the Dentsu Institute for Human Studies estimated a \$24.8 billion impact from the Cup for Japan and an \$8.9 billion impact for South Korea. According to Finer (2002) this represents 0.6 and 2.2 percent of the total Japanese and South Korean national incomes, respectively.¹⁷

Similar predictions have been made of the Olympic games. An analysis for the Atlanta Olympic Organizing Committee predicted a \$5.1 billion economic boost and 77,000 new jobs as a result of the Atlanta Games. Likewise, promoters for future summer and winter Olympics bids have boasted possible economic impacts of \$4.3 billion (Houston, 2012), \$5.7 to \$10 billion (Vancouver/Whistler, 2010), and \$11 billion (New York City, 2012). However, post event analyses often do not support these optimistic projections. \$4 billion USD were spent on sporting facilities in preparation for the 1994 FIFA World Cup, and despite pre-event reports of estimated gains amounting to \$4 million per city, US host cities experienced cumulative losses between \$5.5 and \$9.3 billion to the public purse.¹⁸

Post-event examinations suggest that the true economic benefits are typically substantially less than what is predicted by promoters. Despite these generally known findings, the promise of substantial

economic impact continues to provide a justification for public subsidies for mega-event infrastructure. The ability to secure public funds often depends upon convincing the general public that hosting the event will generate economic benefit, providing a strong motive to exaggerate the positive impact of mega-events. As a result, the range of perceived benefits of hosting major sporting events has evolved from a purely financial analysis to include multiple complex social factors that lead cities and countries to identify a wider range of potential returns.¹⁹ Cities and countries ought to take this into consideration when evaluating the promises of mega events and before committing substantial public resources. Perhaps spending of this magnitude can be justified if they are in line with the plans for the futures of these cities.

While no formal analysis comparing the costs of varying site locations within a city has been made. This is the prudent next step to take for both financial analysts as well as future host cities. It would be helpful to compare the costs of inner city stadium sites with those on the outskirts of the city, each of which has disparate and diverse requirements for their development. When selecting their future World Cup or Olympic sites they ought to consider what returns these investments will produce in the long run. This analysis may demonstrate for host countries that a site located closer to the city center, while perhaps more difficult to plan, would likely be less expensive and produce greater profits than a stadium on the outskirts of the city. The post-Cup use of the stadium and its proximity to density and multiple uses will likely have a strong impact on the potential revenue that the stadium could harness.

Successes and Failures:

The successes and failures of mega-events past are largely based on their ability to generate funds equal to or greater than what is spent on the event itself. These cases are not commonly compared to one another, perhaps because the hosts vary greatly in degree of development from 'first world' to 'third world' cities. In addition, funding sources and allocation of funds differ significantly from host to host. Nonetheless, it is useful to see these cases side by side and to consider the reasons why they have been labeled successes or failures. There are many lessons to be learned from their predecessors that can help steer future hosts towards prosperity.

The successes of the World Cups held in France in 1998 and Germany in 2006 are largely attributed to the fact that both countries were highly developed prior to hosting the Cup. Each country restricted the amount of new stadiums to be built and focused their investments on infrastructure costs that were to be utilized by the general public post-event. For Germany, the expenditures on the 12 World Cup stadiums, of which four were newly built, reached more than US\$2 billion. The existing sports clubs and other private investors financed more than 60% of this funding.²⁰

The economic benefits of the 2006 World Cup in Germany were estimated to be as high as USD 10.4 billion. The German Hotel and Catering Association and the Postbank calculated this figure by accounting for 3.3 million foreign visitors spending \$200-265 USD per day. Germany was able to recover many of its expenses through ticket sales, marketing revenue and FIFA contributions. According to this study, much of this surplus revenue is said to have resulted from near capacity sales of game seats. This poses an interesting problem for developing countries. Due to their less stable economies, it may be more difficult for developing countries to obtain private funds. In addition, lowering prices of their tickets in order to allow their own citizens, who could otherwise not afford them, to attend they will likely make less surplus revenue than more developed countries like Germany.

In contrast, France spent less than US\$500 million by restricting their construction works mainly to the reconstruction of existing stadiums, holding the cup in only ten stadiums, and by building only one new stadium: the Stade de France in Saint Denis, an inner suburb of Paris.²¹ The stadiums for these events have not left an iconic imprint on the city, but have been described as "functional." One might argue that had they been better designed, more grandiose then perhaps they would have attracted more tourists

and revenue. Hopes for more tourist dollars and investment is why developing countries often choose to have elaborate iconic stadium designs instead of modest facilities.

Barcelona was able to use the Olympic Games as an opportunity for urban development. While Barcelona has for some time been one of the most visited cities in Spain, hosting the Olympics boosted the city to one of the most popular tourist destinations in Europe.²² Despite the fact that the Olympics left the Spanish central government with a \$4bn debt, and the city with an additional \$2.1bn debt, the 1992 Games have been widely credited not just with transforming the landscape, but also with rebranding the City.²³ First Minister of Scotland, Alex Salmond, called Barcelona's transformation a "template for success" in his speech to Glasgow in preparation for the 2014 Commonwealth Games. This demonstrates that even in debt these mega-events can leave a legacy of success if planned well.

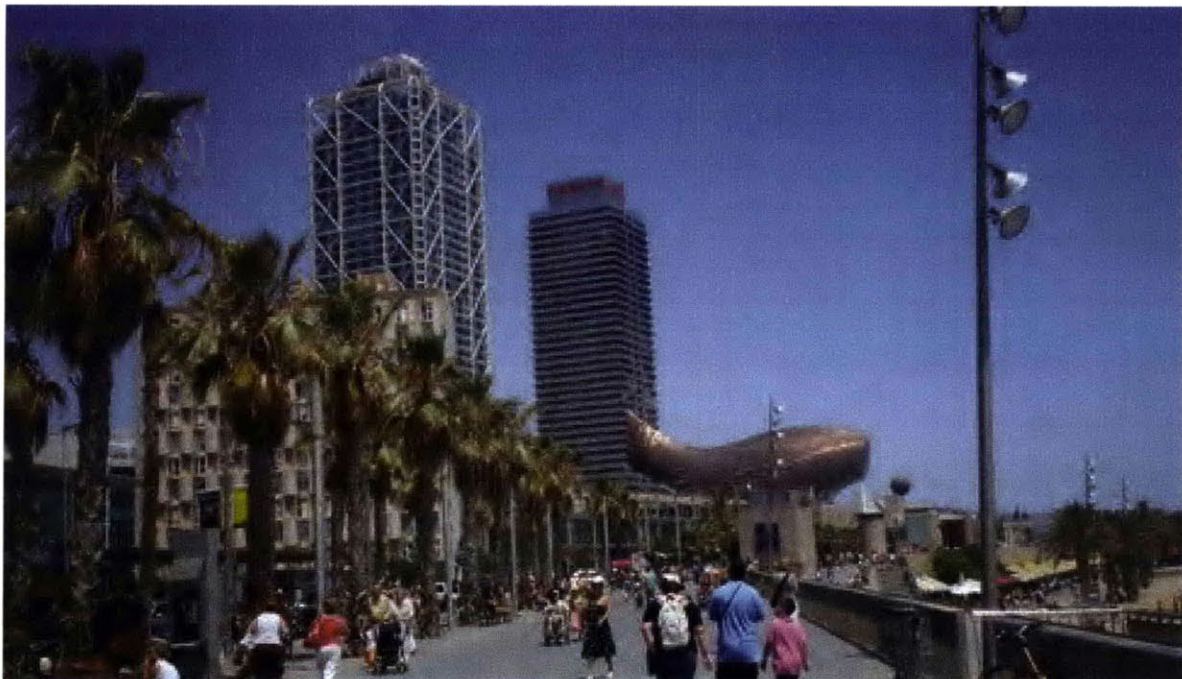
The regeneration of the site of the Olympic Village required extensive renovations to existing sporting facilities. In addition it included two miles of newly installed beaches, the Olympic Harbor and park, the Olympic Ring set atop the hill of Montjuïc, a new sports hall and Olympic stadium, the National Institute of Physical Education of Catalonia, a garden from the 1929 Universal Exhibition, a monolith, and an esplanade. As well as putting Barcelona on the

sporting map, the Olympics brought significant economic and cultural benefits for the city. The increase in tourism is evidenced in the demand for hotel rooms, which rose by 150%.

The Games served as an urban transformer to the city. Since then, another mile of beach has been added and the number of restaurants in that area has increased from seven to 70. While most of the investment for these transformations came from the public pocket (67.3%), it should be noted that a relatively small portion of the costs were spent on stadium construction; the largest expense was spent on roads and transport.²⁴ (See Table 4)



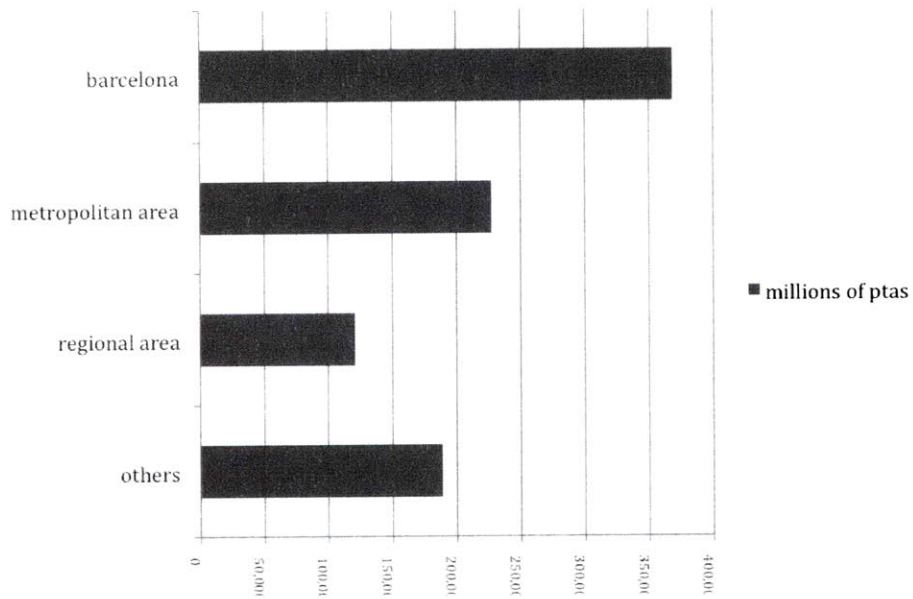
Barcelona's new beach and port
Photo credit: www.barcelonaturisme.com



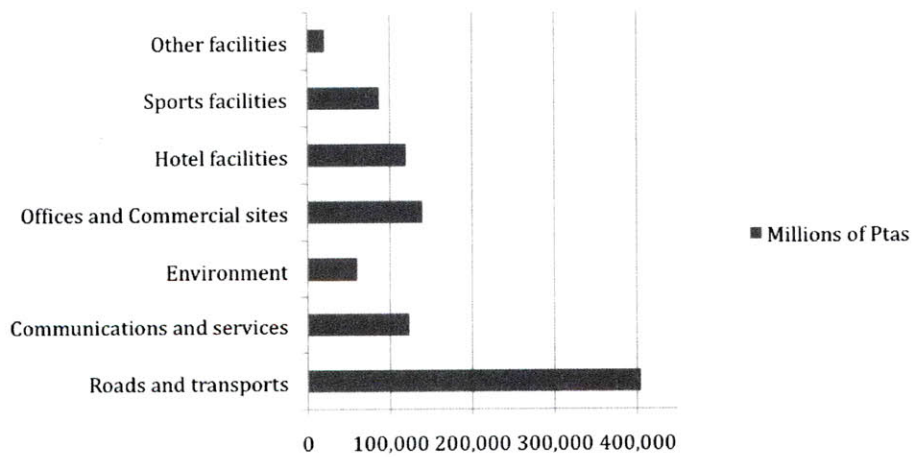
Barcelona Olympic Port
Photo credit: www.barcelonaturisme.com

Table 4: Construction Projects of the 1992 Olympic Games

Geographical distribution of construction projects



Construction Projects of the 1992 Olympic Games



Source: Burnet, 1995

Other cases have been considered economic failures. In these cases, not only was overspending a predominant factor; so was under-planning. Together these conditions have caused both economic deficits as well as social and physical blemishes on the landscapes of their host cities. Individually, healthy finances and good planning may contribute to the success of these projects; but together they make a winning model, as in the Barcelona case. Conversely, when both are neglected the results can give the host city a poor reputation, negating the legacy effect that its leaders had hoped for.

The major failings of the 2004 Olympic Games held in Athens, Greece and the 2002 World Cup Tournament held jointly in Japan and Korea can be attributed to high investment costs and poor post-event planning. In both cases, the majority of stadium facilities have fallen into disuse and disrepair in the years after the games. It is clear that more attention needs to be paid to the planning and design of these facilities for their uses after the events.

FIFA requires that eight to ten stadiums be used to host the World Cup Tournaments. Despite this, and neglecting the fact that neither country has traditionally had a strong soccer culture, Japan and Korea decided to provide ten stadiums each, the vast majority of them newly built. In addition, each of these stadiums is in a different city, spreading the economic gains of tourist spending during the event across all twenty cities. South Korea had learned its lesson from playing host to the 1988 Olympics and came up with creative post-event plans for their stadiums. Looking beyond the typical modern day uses for stadiums of this size such as hosting other sporting events and concerts, South Korea tried its hand at a

different method of generating economic returns by combining two archetypal forms: the stadium and the mall. Their neighbors in Japan, however, had not considered this model; all 10 buildings were built to function as stadiums alone. Today the majority of these are severely underutilized.

All ten of the stadiums in South Korea were designed to become commercial centers (shopping malls) immediately after the World Cup. By 2005, various private businesses rented portions of the stadiums (see Table 5). As seen in Table six, these rents were the largest revenue sources for these facilities post-event. Nevertheless, according to the Ministry of Culture and Tourism, with the exception of the Sang-am Stadium in Seoul, each city is faced with US\$1 to 3 million net minus revenues per year. One can speculate that this is likely due to the smaller populations of many of these cities. Seoul is the country's largest city and therefore has the market to generate the demand and economic power that these large commercial centers require. In the case of the remaining nine cities there is insufficient demand for these mega-malls and they therefore become the cities' and the taxpayers' financial burden.

The case of Athens 2004 Olympics is far worse; today 21 of the 22 venues lie abandoned.²⁵ The open-air swimming pool is empty and stained, not having held any major events since 2004; tiles on the deck are missing, according to Hersh of the Chicago Tribune, and the pool is infested with rust stains.²⁶ Meanwhile, there are squatters camped outside the graffiti-festooned Faliron complex.²⁷ The extent of the disrepair of these facilities that followed the Olympics may not have been predicted, but early warning was given. For example, in 2003 in a study on the Olympic

Table 5: South Korean World Cup stadiums and their renters in the year 2005

City	Renters
Seoul	Carrefour shopping center, gym, swimming pool, CGV movie theater, spa, wedding hall, restaurants, bank
Busan	Shopping center, gym
Daegu	Drive in movies, wedding hall, restaurants. Shops
Incheon	Convention center, gym, spa, golf practice range, restaurants, offices for culture centers, Incheon children's museum
Kwangju	Shopping center, gym, golf practice range, small shops
Daejeon	Gym, swimming pool, golf practice range, bank, restaurants, shops, offices
Ulsan	Drive in movies, wedding hall, restaurants, shops, offices, gym, swimming pool
Suwon	Studios for TV stations, offices, restaurants, shops, warehouses, wedding hall, gym, swimming pool, golf practice range
Jeonju	Spa, wedding hall, golf practice range
Seouipo	Movie theater, spa, water park, museums, exhibition hall, 4-D movie theater, offices

Source: Ministry of Culture and Tourism: <http://www.mct.go.kr>

What can future host cities learn from their predecessors?

Village Mr. Delladetsima identified that “no systematic consideration has been given to the implementation of locally defined goals that are linked to Olympic infrastructures, to potential post-Olympic uses, or to developing joint financial programs.”²⁸ The Olympic Village was simply a nodal development as prescribed by the Olympic program; it was not part of any other broader development strategy.

The Athens Olympics were initially projected to cost \$1.6bn, but ended up costing a record high of €9.4bn [\$14.1bn USD] to stage, closer to \$16bn counting the infrastructure costs.²⁹ This has left Greece with enormous debt; according to an article in The Independent in August 2008, shortly after the games the debt was calculated at €50,000 [\$67,000 USD] per household with maintenance costing as much as €500m [\$753million USD]. Taxpayers are still footing the bill today.³⁰ Fani Palli-Petralia, a New Democracy politician in Greece, confirmed this: “We didn’t find a plan for the post-Olympics development of the venues.” Despite the success of the sporting events themselves and improvements made to the city’s infrastructure, namely its new subway system, Athens’ legacy is among the worst of any Olympiad.

It is interesting to note that each of these successes and failures has produced, to some extent, both positive and negative outcomes. Why are some considered successes and others failures then? This answer cannot be simply left to economic analyses, this is apparent, the positive and negative image of these host cities has more to do with post-event use than with the cost of these facilities.

The most important lesson appears to be to plan for the future. Not only do these enormous endeavors require after-life in order to prosper post event they also need to be well integrated into the plans for the future of the city. The Barcelona case is largely a success because the city continued to invest in and expand this territory; left alone without future plans any of these stadiums and their surrounding areas could easily become derelict and an economic burden to their host city.

This Olympiad has won the world over and is considered a success story despite the debt left behind. This can be attributed to the fact that the design for the 2002 Olympics generated larger urban transformations for the city of Barcelona. The site developed for the Olympics is a thriving social and economic center for the city today because it has seen further investment and therefor further use post-Olympic Games. Conversely, the Athens Olympics which also served as a catalyst for the installation of a new subway system is considered an epic failure. Not only has the construction for these games yielded enormous debt but, in addition, the debt continues to grow because these facilities are not utilized post-Olympic Games. One might argue that it is the under-utilization of these facilities, not simply their costs, that fosters the negative image perceived by the public.

Furthermore, while the economic analyses of these events are an unquestionably important factor for future host-cities to consider, the real impact on their image may just lie on the use of these spaces post-event. Use is something that cities can plan for. The integration of the future of these event spaces into the ultimate plans for the growth of the city both physically and programmatically is fundamental. By

Table 6: The net revenue of the World Cup stadiums in the year 2005

City	Revenues	Rent	Ticket sales	Expenses	net revenue
Seoul	15,971,049	11,816,716	460,926	-7,613,077	8,357,972
Busan	495,000	202,000	456,000	-1,409,000	-914,000
Daegu	191,605	45,752	70,096	-3,269,347	-3,077,742
Incheon	2,201,143	885,947	92,773	-4,025,586	-1,824,443
Kwangju	213,897	161,506	3,811	-1,599,455	-1,385,558
Daejeon	505,831	300,461	26,451	-1,945,605	-1,439,774
Ulsan	1,806,283	771,885	173,727	-2,923,424	-1,117,141
Suwon	11,322,033	763,631	266,252	-12,751,072	-1,429,039
Jeonju	452,924	198,582	175,752	-2,280,587	-1,827,663
Seoquipo	381,665	136,137	45,528	-793,295	-411,630

Unit: 1000 Won (Korean currency, where 1000 Won = US\$ 1

Source: Ministry of culture and tourism: <http://www.mct.go.kr/>

planning the use of these facilities post-mega event future host cities can not only contribute to the growth of their cities but to the positive image of that they portray world-wide.

Host countries should, of course, be cautious with their spending, as it has been shown iconic buildings can be a symbol of national pride increasing potential investment in the area, but they are also expensive endeavors. Not every city should have iconic stadiums; these should be limited in number while more money should be attributed to expanding infrastructure needs to the site. These provisions and plans will provide the opportunity for these sites to continue to grow and to become integrated with the host city.

Finally these experiences point to problems with the iconic stadium form itself. Basically unchanged since roman times, it is ill suited to the function of contemporary cities which required long term productivity and benefits from such large investments.

WHY THE WORLD CUP?

In the book *Soccer Madness*, Janet Lever devotes an entire chapter to the importance of soccer as a sport; this is entitled "Soccer: the premier international sport." In *The Ball is Round*, David Goldblatt claims: "no history of the modern world is complete without an account of soccer." The stadium itself creates a strong, symbolic presence in the landscape of a city. The sense of belonging to a team, of being a part of a greater whole and of having part-ownership of the stadium are all embedded in its' social, political and historic meaning. It is surprising, then, that not more is written in our history books on the subject of the significance of stadiums.

The Fédération Internationale de Football Association [FIFA] boasts 208 member nations; that's 16 more than belong to the United Nations and three more than the International Olympic Committee.³¹ Unlike the Olympic Games, which was designed to demonstrate the abilities of young, unknown athletes in a variety of sports, the World Cup was designed to showcase only the elite soccer professionals. The World cup is the highest level of competition in the globe's most popular participant and spectator sport; there is no contesting its global significance.³²

What is more interesting still is how, by combining these two great forces: the world's most popular sport [soccer] and internationally competitive mega events, the World Cup can have the ability to transform the built environment. There is very little literature on the subject of mega-events as urban transformers,

despite the number of Olympic games and World Cup matches that have been held. It is very interesting, however, to consider how one sporting event, and in the case of the World Cup Tournament one stadium can have such a lasting impact on the city.

Stadium facilities:

The Greeks, Romans, Aztecs and Mayans all had stadiums functioning much in the same way ours do now, which suggests something fundamentally human and basic about their nature. We all participate in sports, but stadiums are not just a place for sport they are profoundly meaningful civic spaces and have been throughout history. They are places where people can share in common experiences and the stories they generate. In this way, stadiums are inseparable from the culture in which they exist. At the same time they are "monuments, places for community interaction, loci of strong identities, repositories of collective memory, sites for ritualized conflict, political battlefields, and nodes in global systems of sport."³³

Like the church, the stadium is a place of congregation and some would say of worship. They are often referred to as temples or shrines; here, rituals, prayer and celebrations take place. Some stadiums, including the Roman Coliseum, Mexico's Estadio Jalisco and Brazil's Estadio Sao Januario even contain churches within their walls.³⁴ Stadiums have been used by the Catholic Church to address large crowds; the Pope himself has spoken at the Maracana in Rio de Janeiro, Brazil on multiple occasions. Nowhere else but in the stadium do we collectively sing the national anthem; this representative of its symbolism. The stadium has the power of becoming the iconic and identifying image of a place; it is more than just a building where sports are held, it is the heart of the people and center of the city – or for brief moments, the world. World Cup stadiums could be considered the cathedrals of "football grounds."

Beyond this, stadiums historically have been significant architectural and monumental features of their towns. The Coliseum, for example, is a symbol of Imperial Rome. The "Birds Nest" stadium built for the 2008 Beijing Olympic Games is recognized throughout the world as the symbol of modern China. The Sangam Stadium in Seoul, South Korea was designed as an icon melding Korean historical forms with technological advances. The design is a symbol of Seoul's recent rejuvenation and newly enhanced outdoor spaces. Throughout the world there are stadiums that carry important histories and more important meanings for the people of these areas.

Hosting major sports events has been an attractive proposition for world cities across the ages. From Ancient Roman times when races and fights were held in the Coliseum and Circus Maximus, cities have invested large sums of public and private finances, energy and resources to hold prestigious and popular sporting competitions. In today's globalized world, the

major sports event market is growing exponentially due to the range of sports offerings and a large international audience with diverse interests. These benefit from high levels of mobility and accessibility to live event coverage and spectatorship.

How the structures built for a one-time purpose can be integrated into the future of these cities, however, is a perennial question. Without a carefully planned afterlife, these new facilities can fall into disuse and leave a scar in the face of the city, enormous debt in its coffers and white elephants overrunning their public spaces. This has been evidenced in a variety of examples across the globe. Most recently, the Chinese Olympic Green built for the 2008 Games, which cost the public \$40bn, has been reported to have already become a lifeless land on the outskirts of the city.³⁵ According to a New York Times article "In the year after the Olympics, the iconic 91,000-seat Bird's Nest hosted Jackie Chan concert, an Italian soccer match, an opera and a presentation of Chinese singing standards."³⁶ Even the local soccer team refuse to make a deal to have it become their home field; today, the only tenants are tourists who pay \$7 to visit the souvenir shop.³⁷ Despite its iconic stadium, without program for future use these buildings fall into disrepair.

Instead of becoming a symbol of national pride, historic monuments to a grand event, or a thriving tourist destination, these magnificently expensive endeavors sometimes become too costly to maintain and end up a dead zone in the urban landscape. In the worst cases, a city may turn its back on the facilities for years, seemingly ashamed of their existence, unable to repair and integrate them into the city and reversing the effects of the icons once created.

Recent media attention has made the selection process and planning increasingly transparent and exposed the economic implications, social justice issues and physical interventions surrounding mega events and their impact on the host country. Temporal by nature, World Cup tournaments sweep in, create a short-lived whirlwind event, and leave behind a lasting footprint on their host cities. Physically, economically and socially the effects on the host are both short and long-term. It can be argued, then, that the most important measure of success is not the preparation for the events, or the events themselves, but what is left once they have passed.

Responsible planning and FIFA

Unlike the Olympics, World Cup Soccer Tournaments impact not just one city, but an entire country. To coordinate an event that reaches such a magnitude of multiple scales of government planning from national to state, city and local authorities, is a huge and enormously complex challenge. The effects of these events are also felt on multiple scales, but perhaps most significantly at the city and local, site-specific, level. For this reason, it is important to consider the lasting effects of these events on the affected local communities as well as its effects on the larger city plan.

This responsibility should fall on the shoulders of the host cities and the host country, primarily. That said, this responsibility should also be manifested in the requirements for bid submissions by FIFA. Today, FIFA has stringent requirements for stadium seating and spacing but no requirements that these stadiums fit into larger plans of the city's future goals; this is both selfish and irresponsible. While stadium designs are encouraged to reach high marks in the green goal program for sustainable design their integration into the future of the city is not even addressed. Perhaps more sustainable than a LEED platinum building is one that is well utilized for daily functions. An enormous building that meets all of the green build standards but sits on the periphery of the city without occupants is certainly not sustainable for a city's economy.

In a report conducted by the Institute for Security Studies called *Player and referee Conflicting interests and the 2010 FIFA World Cup* released just last month, the question of who stands to gain from these events is answered. FIFA is denounced for strong arming host cities in the soul interest in their own profits, confounding decision making with ambiguous relations, and a notoriously secretive processes. What is apparently not clear to FIFA is that the legacy created by the World Cup, good or bad, success or failure has a longer lasting effect than the event itself. This means that the popularity of the World Cup Games in the long run hinges on their ability to create a lasting positive legacy for the host country. It is in the interest of FIFA to balance the short term profits with the long term legacy or "feel good factor" that the events will leave behind. To maintain their own global image and popularity they must advance the long-term goals of these facilities.

The stadium form has become an accepted idea with a given shape, size and function. It is time that this model be revisited for the good of city. The stadium has the potential to strengthen its symbol as a public space by becoming *fully-public* and allowing that the

space be used for non-game functions during more hours of the day. FIFA should require that potential consider the lasting effects of these endeavors and integrate them into their larger planning goals in their bid submissions. This would begin to significantly reduce the risk creating white elephants across the globe.

METHODOLOGY

In this thesis I posit that site selections for mega-event stadium facilities need to be better integrated into the city center, and that the archetypal stadium form itself needs to be reviewed. Through my research of existing World Cup stadiums and the archetypal stadium form I establish existing trends, lessons to be learned and recommendations for future stadium designs.

The thesis is divided into two parts. In the first, I investigate five existing World Cup stadium plans and their sites in order to understand the criteria and consequences of their site selections. The stadiums selected for research include:

Estadio do Maracana in Rio de Janeiro, Brazil: 1950 World Cup (to be renovated for 2014 Cup)

The Estádio Jornalista Mário Filho, commonly called Estádio do Maracanã is an open-air stadium in Rio de Janeiro, Brazil. Named after the Maracanã neighborhood in Rio de Janeiro it was built in anticipation for the 1950 FIFA World Cup. Although the attendance in 1950 reached 199,854, the stadium currently seats 88,992 spectators. It will be renovated and the center of national and international attention once again for the upcoming 2014 World Cup. Despite the reduction in capacity, it remains the largest stadium in South America.³⁸

Estadio Monumental in Buenos Aires, Argentina: 1978 World Cup

The Estadio Monumental Antonio Vespucio Liberti, better known as El Monumental de Nuñez or River Plate Stadium, is a stadium in the Nuñez district of Buenos Aires, Argentina. It is the home venue of Club Atlético River Plate and is named after former club president Antonio Vespucio Liberti. El Monumental was built in 1935 and renovated for the 1978 FIFA World Cup, today it is considered to be the national stadium of Argentina. It has a capacity of 76,600.³⁹

The World Cup Stadium in Seoul, Korea: 2002 World Cup

The Sangam Stadium was built for the 2002 FIFA World Cup. It is located in the districts of Seongsan Mapo-gu, in Seoul, South Korea and has been home of K-League club FC Seoul since 2004. It has a capacity of 68,476.⁴⁰

The Olympiastadion in Berlin, Germany: 2006 World Cup, and

The Olympiastadion was originally built for the 1936 Summer Olympics in the southern part of the Reichssportfeld (today Olympiapark Berlin). After World War II the British military occupation used the northern part of the Reichssportfeld as its headquarters until 1994. It is the ground of club Hertha BSC and was renovated for the 2006 FIFA World Cup.⁴¹

Green Point Stadium in Cape Town, South Africa: 2010 World Cup

The Green Point Stadium in Cape Town will be newly built in anticipation for the 2010 FIFA World Cup. The site will be transformed into a completely new complex of parks and sports facilities including the 70,000 seat, all weather world-class stadium. It will be the symbol of "African Renaissance" at the juncture between Table Mountain and the Atlantic Ocean at the southern tip of Africa.⁴²

These have been selected due to their significance as cultural icons, their size and capacity and because they have all been chosen for either opening or closing matches during their respective World Cups. For each stadium, I have examined scale, capacity, site selection -- specifically, with relation to the surrounding neighborhoods and its proximity to city-center -- accessibility, design and integration to its context, as well as their legacies and the goals for and realities of future use of these spaces, post-Cup.

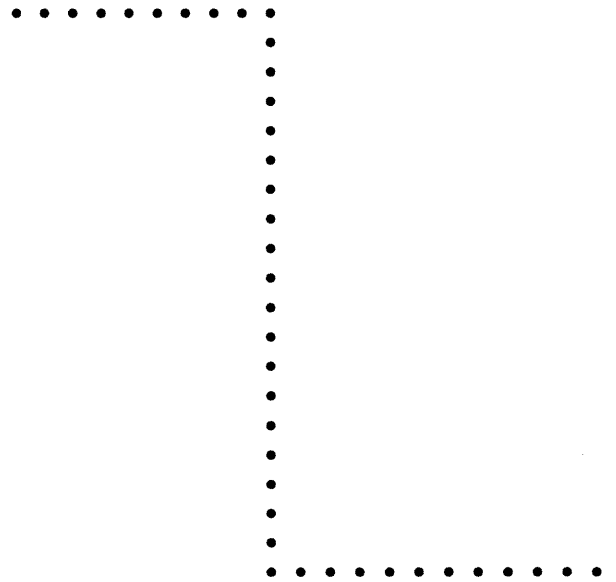
Through this comparison I identify the underlining trends of mega-event stadium design and planning. By doing so I clearly delineate the major planning issues and mistakes that have plagued mega-event stadium facilities of recent past and project ideas about how to overcome these problems.

In my second line of research I investigate the stadium form -- a public architectural form -- and the piazza -- a public urban form. By researching historical transformations of stadiums into public piazzas, such as the "Piazza Anfiteatro" in Lucca, Italy, and the ability of piazzas to house sporting events, as in Piazza Del Campo in Siena I have learned of their natural transformative abilities. Here, I have uncovered their overlaps and discovered that the stadium has a lot to learn from the piazza in order to function as a connective element in a network of public space in the city. This ability to function at multiple scales and for multiple purposes will add increasing value to the stadium and to the host city. I use a series of diagrams to demonstrate methods by which stadiums can integrate into the urban fabric and show how they can be reused for a variety of alternative purposes.

The thesis culminates in a set of guidelines for "adaptive" stadium siting and design. I test the viability of the guidelines on a site for a new stadium planned for the 2014 Cup in Recife, Brazil, as well as on an alternative site that I have selected during a visit to the city in January 2010. I compare effectiveness in integration and the challenges faced by two disparate sites -- the outer city and the inner city. In addition, I will consider how site selection may limit the possible future uses and integration of these stadiums.

World Cup host cities will need to consider these guidelines for their future designs. The outcomes have the potential to enhance their policies, economies and communities as well as to expose what their cultures and cities have to offer to the world both during and after the World Cup Tournaments. In addition, I make recommendations to FIFA that will encourage better planning for the integration of these events into host cities and create a positive legacy both for the city and for FIFA itself. Through this research I challenge Planners and Architects not only to think of the possibilities for adaptive re-use of mega-structures but fundamentally how we think of stadiums today.

CHAPTER 2



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..... MEGA-EVENTS :: IDENTIFYING TRENDS

“Some people think football is a matter of life and death. I assure you, it is much more serious than that.”

- Bill Shankly






[Scottish soccer player and manager 1913-1981]

IDENTIFYING TRENDS :: INTRODUCTION

This chapter seeks to identify the underlying trends of world cup stadium design and planning. Through the comparison of five world cup stadiums in five countries and four continents spanning 60 years time one can observe the forces that have affected stadium siting and the direction in which stadium design is heading. The matrix on the following page has served to compare these case studies side by side. Conclusions have been drawn for each case as well as for each area of study across the five cases.

These case studies have been selected because of their significance as cultural icons, their size and capacity, and also because they have each served or will serve as venues for opening or closing matches during their respective World Cups. They include cities with a long history of a soccer fan base as well as cities with more recent and lesser soccer following; both newly designed and renovated stadiums. If we examine scale, capacity, cost, site selection – specifically with relation to the surrounding neighborhoods and proximity to city-center –, accessibility, design, as well as the goals for and realities of future use of these spaces under disparate conditions, we can begin to identify differences and similarities.

It has been made clear in the previous chapter that the cost implications of these endeavors are great – economically, socially and physically. It is therefore imperative clearly to delineate the major planning issues and mistakes that have plagued mega-event stadium facilities of recent past in order to project ideas about how to overcome these problems.

	Image	LOCATION; context and Proximity to city center	COST (at time of construction/renovation)	SIZE, SCALE and Capacity
Rio de Janeiro, Brazil. Estadio do Maracana. Population: 1970 4.3million, 2000 - 10.8million people. World Cup: 1950/2014		Maracana- Residential Neighborhood. Proximity: 5km to historic city center, 8km to Copacabana Beach (residential neighborhood)	Unknown - has undergone many renovations - is "common knowledge" that the maintenance of the stadium is exorbitant. To be renovated again prior to 2014 Cup - seating to be reduced.	The Maracanã sports complex, which occupies a total area of 304,284m ² . The maximum height is only 24 meters (78 feet). Scale: Within a sporting complex. when originally built scale surrounding stadium was of 1-3 story homes, now there are many condominium style high-rises around the stadium. (scale shift) Capacity: 1950 Cup: 199,854 including popular standing-only stands. Currently seats 82,238 spectators.
Buenos Aires, Argentina. Estadio Monumental. Population: in 1980 - 3million, 2001 census 12million. World Cup: 1978		Nunez district - upper middle class neighborhood. Proximity: 8km to city center (obelisk)	Originally built in 1938. \$4,479,545.80 pesos - reduced by 3million when decided not to build North stands. Renovated in 1958, capacity reached 130,000.	stadium: approx. 700ftx850ft, site: 83,950 m ² . SCALE: Within a sporting complex, high-rise scale buildings decrease to low rise around the stadium. (gradient shift) Capacity: 66,449 - 76,600 including popular standing-only stands.
Seoul, South Korea. The World Cup Stadium in Sangam. Population - 11million people, 24.5million including province. World Cup: 2002		Park: Sang Am Millenium Park. Official name: The Sangam Stadium, named for the Sangam neighborhood. Seongsan, Mapo-gu district. Known as a university and governmental district. Proximity: 18km to city center (world trade center)	The new structure cost about 3.4 trillion won or \$2.8billion US. (The Korean Herald)	Stadium: 57,859m ² , Land area: 216.712m ² , Total building area: 164,829m ² . Scale: Stand alone building in a park, part of a plan including the New Digital Media City. Number of Floors: 1 underground level, 6 stories high (Max elevation at 49.4m). Capacity: 68,476 (66,806 Regular seating; 916 VIP seating; 754 Media seating)
Berlin, Germany. The Olympiastadion. Population: 3.4million, 5 million including province. World Cup: 2006		Park: Olympiapark Berlin. Proximity: 12km to city center.	42 million RM (1936). Renovations occurred in 1974, 2000 and 2004. €242 million (2004)	Stadium 56.616m ² , Circumference: ca. 803m; Height 16,37m (Attika), 21,26m (Roof edge). Opening at Marathon Gate: 24,65m (narrowest spot, Depth below ground level:15m (Pitch), 17,40m, Width North-South: 230,73m; Length East-West: 304,26m, Width Infield: 116,11m; Length Infield: 189,97m. Scale: Within a sporting complex. Lower half of the structure buried 12 meters underground, the playing field was lowered (even more) by 2.65 metres (8.7 ft) Capacity: highest seating capacity in Germany at 74,500.
Cape Town, South Africa. Green Point Stadium. Population: 3.5 million people. World Cup: 2010		Park: 86 hectare Green Point Common, stadium: 10.6 hectare site in the suburb of Green Point. Proximity: 3km to city center.	R4.4 billion (\$600 million)	64meters above ground, 52 m high (15 floors high) Field dimensions - 290 x 265 x 48 m, 250 VIP Suites, Basement parking for 1200 cars. Scale: Within a sporting complex and park, 64 meters above ground. Capacity: 68,000
CONCLUSIONS		OUTSKIRTS OF CITY CENTER ON PARK LAND, GENERALLY VACANT LAND, PARK AND RESIDENTIAL NEIGHBORHOODS.	ENORMOUSLY EXPENSIVE, COSTLY TO MAINTAIN	IMMENSE BUILDINGS AND SITES. BUILT FOR EXTREME CAPACITIES. DIFFICULT TO TRAVERSE. OUT OF SCALE FOR SURROUNDING NEIGHBORHOOD - DUE TO CAPACITY (HEIGHT) AND SIZE (WIDTH). RECOMMENDATIONS: LOWER FIELD INTO THE GROUND TO DECREASE HEIGHT, IMPROVING RELATIONSHIP WITH SURROUNDINGS. WHERE CAN THERE BE REDUCTIONS? (FIFA REQUIREMENTS ENLARGE THE STADIUM SIZE).

ACCESSIBILITY	MULTIFUNCTIONS (Post-Cup uses) AND MATERIALS (flexibility)	LEGACY	CONCLUSIONS
Primarily accessed by car, accessible via subway and commuter rail	Sport: Stadium has mainly been used for club games involving four major futebol clubs in Rio— Vasco, Botafogo, Flamengo and Fluminense. <i>Other uses: part of larger sports complex. Concerts and Pope speeches.</i> Materials: The facades are characterized by a solid and reinforced concrete structure that contains 60 big pillars in 'Y' shape	LEGACY: <i>at time of construction largest stadium in the world,</i>	Surrounding has grown from small scale residences to high-rise condominiums, perhaps addressing the scale of the stadium. Stadium is a Historic site and unlikely to be re-used in different forms - concrete is not conducive to changing form. Stadium is difficult to traverse and costly to maintain.
Primarily accessed by car, located near major roads, located within walking distance from the Barrancas de Belgrano transportation hub	Sport: River Plate (club team) and the Argentinean National Team play here. Field also used for rugby. <i>Other uses: During its early years it contained a school and medical practice. Stadium complex has facilities for tennis, basketball, as well as living quarters for young footballers, a theatre hall, a parking lot, and a museum. Concerts.</i> Materials: 50 km of steps, with 26,000 square meters of concrete and armor almost 3,000 tonnes of steel. Built with spaces diving each section in order to facilitate expansions and control of any demolition or disasters.	LEGACY: <i>Propaganda, hiding of mass atrocities, engineering feats, introduction of color television.</i> The 1978 Cup was a propaganda coup for the military junta that ruled Argentina at the time, many have compared it to the 1936 Olympics in Berlin. Argentina's first industrial, steel and concrete soccer stadium.	Long life of Futbol history, not likely to change use. In addition, concrete not conducive to flexible changes in uses. Not well integrated into its surroundings - scale is too large for the homes around. (see Bombonera for appropriate scale transition)
Accessible from major vehicular highway, two subway lines stopping directly at the stadium for ease of use, five lanes of regional and international railways and a speed-rail to the airport. Parking: 1,396 (535 in Stadium, 861 in park parking lot)	Sport: FC Seoul and K-League (club teams) <i>Other Uses: concerts. First ever World Cup Mall integrated into the design of the stadium. Equipped with a variety of facilities, including multiplex cinemas, shopping center, wedding hall, gym, etc. The stadium is part of larger park facilities.</i> Materials: Audience seats: Pre-cast concrete (P.C) structure; Lower audience seat section: Steel frame structure (Lower level: R.C Structure); Roof: Steel Truss + TENSILE structure + Teflon fabric (covering)	LEGACY: <i>Cleaning up image of Seoul, quality of life, engineering feats, beginning of Digital media city.</i> Originally a landfill site in the 1970s, it was ruined by two gigantic mounds filled with various kinds of garbage measuring up to 92 million m ³ .	Innovative re-use of stadium as a shopping mall - most likely to adapt to multiple uses. Materials are more conducive to change in use than other stadium materials. However, mall-type can only be sustained if there is sufficient market/population. (As exemplified in 9 other Korean stadiums for this same Cup all of which are failing due to lack of market and population.)
Subway, Train, Bus, car. (above ground station 200m away). Average travel time: 7 minutes from Spandau station, 14 minutes from Zoologischer Garten, 22 minutes from Friedrichstrasse, 26 minutes from Alexanderplatz.	Sport: Hertha BSC (club team). <i>Other uses: Currently used as a monument, historic site. After World War II, the stadium complex became a base of operations for British occupying forces.</i> Materials: 70,000 cubic metres of concrete and 20,000 cubic metres of pre-cast reinforced concrete elements were used. 12,000 cubic metres of concrete was demolished and removed and 30,000 cubic metres of natural stone was refurbished. The roof was extended, to cover a total of 37,000 square metres. With 20 roof-supporting columns carrying a weight of 3,500 tons of steel.	LEGACY: <i>Renovation and rejuvenation of image of Berlin, engineering feats.</i> Built by the Nazi government in 1936, the Olympiastadion served as host to the 11th Summer Olympics, the first ever to be viewed worldwide.	Historic site, unlikely to be integrated into the city. Materials are also not conducive for remodeling or integration. Can the maintenance costs be made up through tourism, or is it bound to be a continuous debt to the public?
Expected to be primarily accessed by car. The stadium is connected to the waterfront by a new road connection, Granger Bay Boulevard, and is surrounded by a 60 hectare urban park.	Sport: no team announced to play regularly as of yet; capacity will be reduced to 55,000 to cater for all types of sports, including rugby. <i>Other expected uses: concerts and The stadium will feature corporate hospitality suites, medical, training, conferencing and banqueting facilities.</i> Materials: made with recycled content were specified where possible. 27 types of concrete. South Africa's Sail Group and French-based Stade de France awarded the service contract to operate the stadium Post-Cup as well as manage 85-hectare Greenpoint Common from stadium revenue.	LEGACY: <i>Advertise Cape Town as a center for culture and tourism, update city image, place on the map.</i> Current direct World Cup related investment by the public sector in Cape Town is estimated at over R10 billion. More related investment is said to follow.	New stadium in a parkland within a middle-class neighborhood, despite the fact that soccer is the sport of the lower class/poor people in South Africa. Will this stadium receive adequate usage or fill the stands during games? (The poor cannot afford seats here). In likelihood the maintenance costs will outweigh the income produced by the stadium; it will become a white elephant.
VARYING - STILL VERY CAR DEPENDENT, HOWEVER SIGNS OF A TREND TO INCREASE PUBLIC TRANSPORTATION OPTIONS.	CURRENT DEFINITION OF "MULTI-FUNCTIONAL" IS GENERALLY LIMITED TO SPORT AND CONCERT USAGE. POORLY INTEGRATED INTO DAILY COMMERCE (EXCEPTION: SEOUL, KOREA). MATERIALS CAN ADD OR DEDUCT FROM FLEXIBILITY OF DESIGN	STADIUM DESIGN AND SITING USED AS PHYSICAL AND SYMBOLIC TRANSFORMATION FOR THE CITY AND COUNTRY.	



CAPACITY + COST + USES

* seats **82,238** spectators

* The original cost is unknown; the estimated cost for the upcoming renovation is

R\$460 million [\$253million US]

* entirely *publicly funded*

* The stadium is *shared by four club teams*: Flamengo, Botafogo, Vasco da Gama and Fluminense. Also houses the Maracanã Hall of Fame and occasional concerts

Estádio do Maracanã | Rio de Janeiro, Brazil: 1950

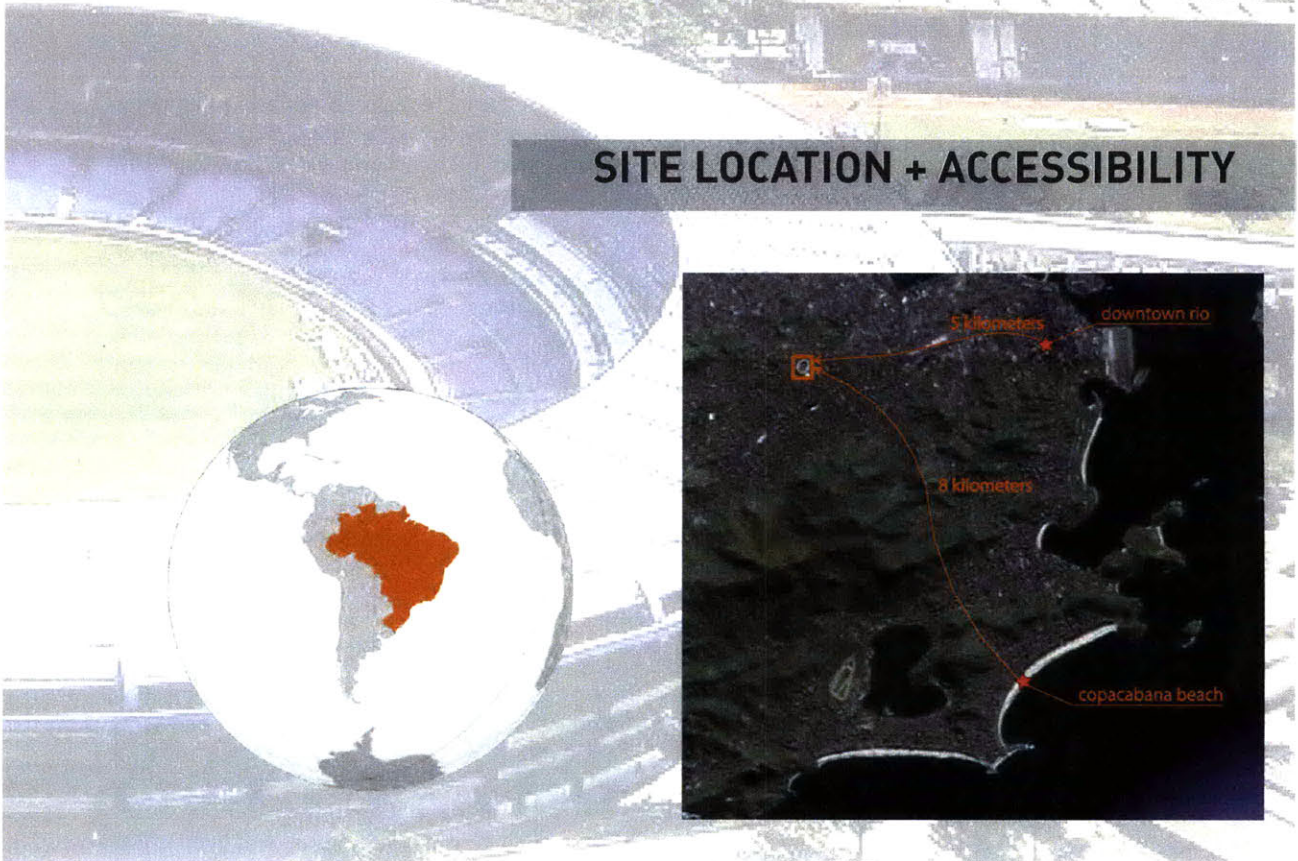
SYMBOLISM + LEGACY

“The *temple* of Brazilian Gods.”

“Engineering *marvel*”

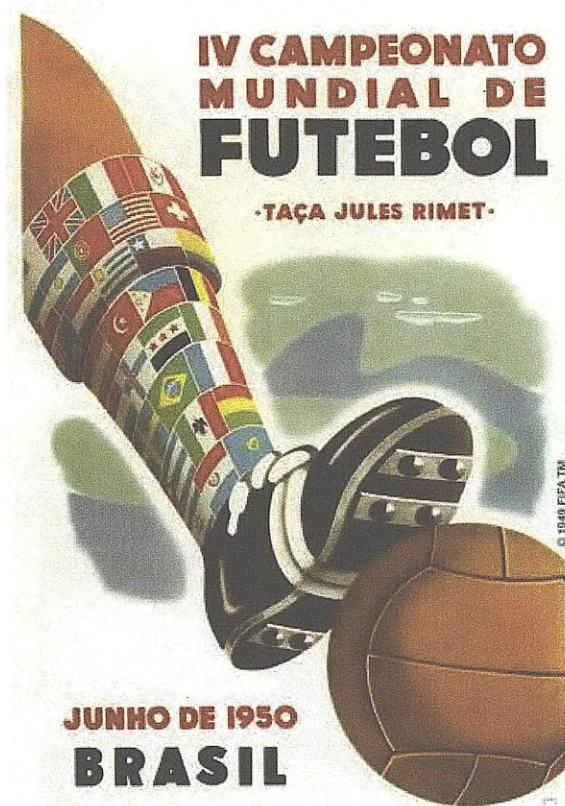
“world’s *most important shrine*,
considered by many the spiritual home of soccer.”

SITE LOCATION + ACCESSIBILITY



Estádio do Maracanã | Rio de Janeiro, Brazil: 1950

The Maracanã was built in anticipation for the 1950 World Cup. It is in this context that I will study the stadium, its siting and its relationship to the city of Rio de Janeiro. The primary focus of the study is on the decision making of the planners, architects and city authorities in the framework of those times. The changes that have occurred since then cannot be overlooked, however. In addition, the stadium stands to return to the center of attention for the 2014 World Cup; this evolution and anticipation for the future will be addressed in this study as well.



Official poster of the 1950 World Cup Games
Photo Credit: www.fifafootball.org

Historical Context + Symbolism + Legacy

Soccer, or Futebol as the Brazilians call it, is said to have been brought to Brazil in 1894 by Charles Miller, the Brazilian-born son of British immigrants who spent his formative years in schools in England. He is considered "the founding father of Brazilian football," according to British journalist Chris Taylor and nearly all Brazilians today.¹

Soccer grew astoundingly quickly in Brazil and spread from the wealthy to the working class like wildfire. In 1904, already equipped with multiple club teams, Rio de Janeiro inaugurated its first official stadium in the upscale neighborhood of Laranjeiras for the Fluminense Football Club. More than thirty clubs were formed and active in Rio by 1906, and it is said that it was "not uncommon to have more than fifteen hundred people in attendance at a [club] match."² The stadium became the common grounds where people of various social classes could share an identity and create a sense of national pride. As Thomas Gaffney -- who has studied the role of soccer in Latin American society -- suggests, "the general effect of the stadium is to create a corpus generalis that temporarily elides the distinctions that pertain beyond the stadium walls."³

It is imperative to understand the breadth and depth that the sport was able to reach in such a short time in order fully to understand the meaning and symbolism behind the construction of the Maracanã stadium in preparation for the 1950 World Cup. During World War II, Brazilian industries and agriculture had seen a boom and the country was now ready to shine on the global platform. The World Cup, which had not been contested since 1938 because of the war, was a perfect opportunity to cast the light on Brazil. Brazilian Journalist Mario Filho first argued for the construction of a national stadium in Rio de Janeiro in an article in *Jornal dos Sports*, titled "O Sonho" (The Dream) in 1945.⁴ He persuaded the public and the government to build the [then] largest stadium in the world as a symbol of national achievement; he claimed "the stadium would give the Brazilian people a new soul, awakening the slumbering giant within."⁵ The spot light of the World Cup and the passion that Brazil had gained for soccer created a momentum that could not be stopped; in 1946 FIFA awarded Brazil the right to host the 1950 World Cup.⁶

According to Thomas Gaffney, the construction of Estádio Jornalista Mário Filho, commonly called Estádio do Maracanã, was a product of local boosterism, nationalist rhetoric, democratic ideologies and sporting discourses. Among other things, it was a means to attain bragging rights both

nationally and globally – “The [then] capital of the Republic could not be behind Sao Paulo in anything; Rio de Janeiro needed a big stadium to show up [the] Pacaembu, [a stadium in Sao Paulo].”⁷ Some have even equated the national significance of the Maracanã stadium in Brazil, to that of the Statue of Liberty in the United States and the Eiffel Tower in France.⁸ This “engineering marvel” as Mario Filho called it, put Rio on the map with the other great capitals of the world.

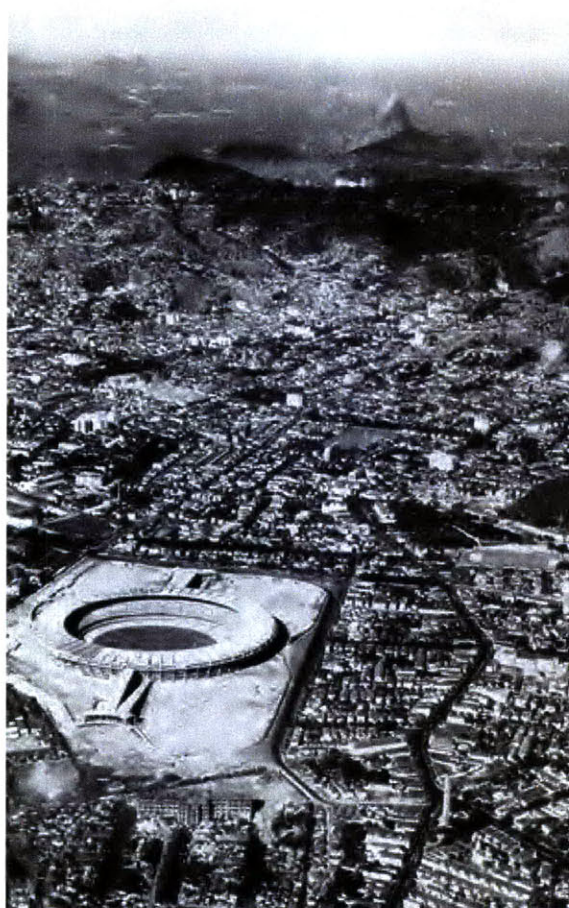
It was then, and is still today, considered the stadium of the people; it is therefore significant that the stadium was built entirely through public funding. The Stadium is officially named after the famous journalist Mario Filho who was a very active proponent of its construction. Its nickname, Maracanã, refers to the neighborhood in which it is located and makes reference to the Tupi-Guarani word meaning “like a rattle,” describing the chestnut-fronted macaw birds of the area known to produce sounds similar to that of a rattle.⁹

The gates to the stadium were opened on July 16, 1950; the following day 150,000 spectators came to watch the friendly match between club teams of Rio and Sao Paulo.¹⁰ The stadium was the jewel of the country as it hosted the 1950 FIFA World Cup, despite the fact that it was still under construction. The official attendance for the final match against Uruguay reached 199,854; it is said, however, that there were more than 200,000 spectators that day, not all counted. Within the crowd were rich, poor, black, white and mulatto Brazilians, tourists, fans and players all sharing the excitement and emotion of the final match of the Cup.

Tragically for the fans, Brazil lost this tournament to Uruguay in the seventy-ninth minute of the final game – a loss that will forever reverberate in the minds and history books of all Brazilians. The construction and presence of the Maracanã, however, remains a symbol of great pride and achievement for the people of Rio and the country of Brazil. Thomas Gaffney has said that it consolidated the stadium as a powerful locus of Brazilian national achievement, social integration, and discourses of industrial democracy. For millions of soccer fans around the world the Maracanã is the “world’s most important shrine, considered by many the spiritual home of soccer.”¹¹

The global spotlight is due to return to the Maracanã for the two largest sporting events in the world: The 2014 World Cup Tournament and the 2016 Olympic Games. During the Cup, the Maracanã will have the honor of hosting the final match to determine the

winner of the tournament. It will also host the opening and closing ceremonies during the Olympics.¹² The city also promises to bring much needed extensions to the existing subway lines in the city and renovations to the subway and commuter rail lines located at the stadium itself in anticipation of the tournament. In planning its future today, as in 1950, Rio de Janeiro has strategically used mega-events and stadium siting as a means to position the city amongst other capital cities of the world. Rio has capitalized on the Brazilian sporting and celebratory culture to open the gateways to these opportunities and what is more it has extended the fruits of its labors to the people through infrastructure.



Construction of the Maracanã, Rio de Janeiro 1949
Photo Credit: www.fifa.com

Site Location + Accessibility

The site chosen for the new world-class stadium was, at that time, barren wasteland. This marshy land between the Trapicheiros and Maracanã rivers was originally the site of the sugar-mills established by the Jesuits. Upon the settlement of the Portuguese royal family, who occupied an area nearby, the value of these lands grew and became the stage for the Derby Club, the royal playing grounds. The Derby Club was founded in 1885 and the new racetrack was inaugurated that year.¹³ A residential neighborhood sprung up around this area but by 1919 the Deputy Director of the racetrack, Linneu de Paula Machado, persuaded the President to swap land for a location closer to the 'South Zone' of the city where a new upper-middle class neighborhood was beginning to emerge. The newly emptied land at Maracanã was then utilized during World War II as a depot for military vehicles. The vast vacant site was a prime location for new development and a new source of national pride.

It is important to note that at the time of its construction Estadio do Maracanã, as it has been nicknamed, was located on the periphery of the city. The municipal area of Rio de Janeiro in 1950 had

approximately 2.8 million residents;¹⁴ the population has more than doubled since then.¹⁵ According to the Brazilian Institute for Geographic and Statistical Studies [IBGE] there were 11,513,000 people residing in the Metropolitan Region of Rio de Janeiro in 2008.¹⁶ The State government's Special Advisor for World Cup 2014 and Rio 2016, Mr. Alvaro Rego Barros, indicated that the population of the City of Rio de Janeiro today is six million placing Rio de Janeiro as the second largest city in Brazil and the third largest in all of South America.

Because of its close proximity to the city center, to major tourist attractions and to the densest residential neighborhoods of Rio (Copacabana and Ipanema in the South Zone), Maracanã is accessible to all, from the wealthiest citizens to members of the working class. In addition, it is literally bounded by Presidente Castelo Branco Avenue to the North, the major roadway that links downtown to the suburbs and runs parallel to the commuter rail. Commuters in and out of the city must travel alongside the Maracanã; the steel posts of the stadium structure frame their first or last view of the skyline.



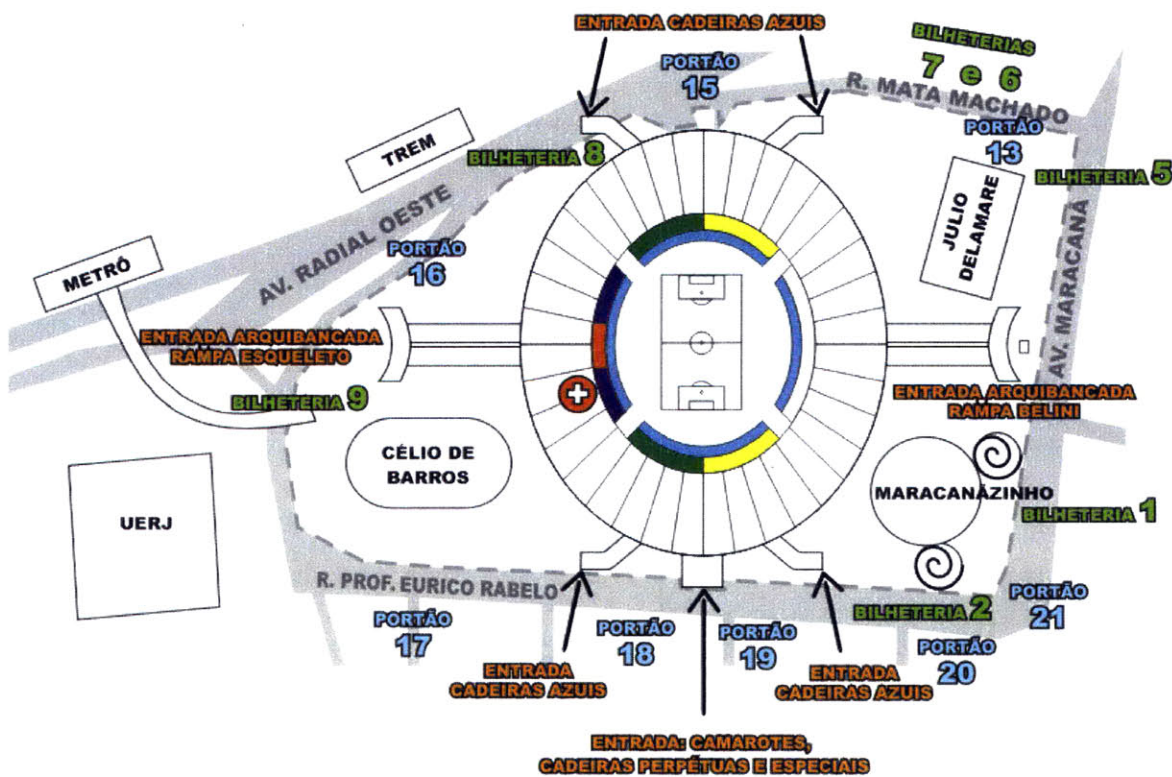
Site location of the stadium
Image created by author

It is therefore evident that the site of the stadium, approximately six kilometers from the historic city center and ten kilometers from the famous Copacabana beach, was - in 1950 - considered to be distant from the city center in a suburban, residential neighborhood. Today, the city has grown the density of the city has absorbed these suburbs; this is evidenced by the recent shift in scale of the area towards rise towers. The Rio de Janeiro State University, one of the largest and most prestigious universities in the city, is also located in Maracanã. It is an important neighborhood within the city fabric, not only for its sporting and academic institutions, but also because it serves to connect the downtown to the suburbs now located even farther out. The size and location of this stadium are appropriate for the city of Rio de Janeiro of today; it has taken 60 years for the city to catch up to the site of the stadium. City planners should consider this when siting new stadium facilities - periphery locations may require over a half a century to be absorbed by the city.

Its location today is in close proximity to the city center, major tourist attractions and the densest residential neighborhoods of Rio (Copacabana and Ipanema in the

South Zone) its location is accessible to all, from the wealthiest citizens to the working class. In addition, it is literally bounded by Presidente Castelo Branco Avenue to the North, the major roadway that links the downtown to the suburbs and runs parallel to the commuter rail. This necessitates that commuters in and out of the city travel alongside the Maracanã; the steel posts of the stadium structure frame their first view of the skyline.

The stadium was originally designed to be accessed primarily by car; the Maracanã has eight vehicular gates that serve for parking and private entrances for the teams and their affiliates. Issues of excessive traffic and pollution, however, have made the city redirect its attention towards public transit options. While this was not the case in its original 1950 design, today the stadium complex has direct access to the commuter rail as well as a metro line. The connection linking the stadium to the maracanã metro station was created in conjunction with one of the stadiums renovations and inaugurated in 1981. Today, the metro connects the stadium to 32 stations throughout the city.



Maracanã site entrances

Photo Credit: www.riobookings.com

Design + Scale + Surroundings

The Maracanã sporting complex occupies a total area of 304,284 square meters; the stadium itself is only 88,443 meters square.¹⁷ The design of the stadium, a collaboration of seven architects, is slightly oval, termed a “false ellipse” because it is not a perfect mathematical ellipse.¹⁸ The architects wanted to improve the view of the playing field by squeezing the typical circular shape to create better views on the long side of the field. At Maracanã stadium the maximum distance between the viewer and the center of the court is 126 meters; the long axis of the stadium is 317 meters in length and a short axis is 279 meters in length.¹⁹ The playing field is 110m long and 75m wide; a 3m x 3m ditch surrounds it to keep fans from stampeding the field. The players use underground tunnels from their locker rooms to access the field for games and practices.

The Maracanã has been renovated several times. The most radical renovation was as a result of the 1998 FIFA regulation that requires that all international

matches be played in all-seater stadiums. This requirement may have had a more profound effect on the social structure within the stadium than on the physical structure. Its effect was to reduce the capacity of the gernal area, which had been designed as standing room only to grant the working class citizens of Rio de Janeiro the opportunity to share in the emotion and celebration of watching a match at a stadium. In addition, more than 30 luxury boxes were installed; altogether this reduced the reported capacity of the stadium from 175,000 to 103,022.²⁰

Before those reforms, the tickets to the gernal were as low as \$0.95US and could hold up to 25,000 spectators.²¹ Today, the cheapest tickets to the stadium have increased twenty fold. Standing room only stands are commonplace in Latin America where large portions of fans visiting the stadium are of working class status and cannot afford to pay for seats. These are also the loudest of fans, those that invent and begin the chants and celebrations that we



The Maracanã in context

Photo Credit: www.brazilcarioca.com

hear reverberating along the stands. One might say that they are the heart of the event and that by outpricing them these changes begin to stifle the life of the stadium. For some "the disappearance of the gerial is emblematic of the loss of traditional public spaces associated with more generalized social changes."²² The seating-only rule is justified by FIFA as a security measure; fans are loud and boisterous and certainly give life to the spectacle, but they can also be rowdy and even violent.

The Maracanã underwent great renovations in preparation for the Pan-American Games of 2007 in order to meet all of the FIFA requirements. The stadium decreased its capacity once again to 88,992, this time by adding bathrooms, parking spaces and media stands as well as two new entrances to the covered seating areas. The gerial area was completely eliminated, replaced with 18,000 seats. The total cost of this renovation was said to be \$196 million.²³ The stadium hosted the opening and closing ceremonies and soccer semifinals and finals for both men and women.

Today the stadium seats 82,238 spectators. This, however, is expected to be reduced yet again in preparation for the 2014 World Cup games.²⁴ The renovation project has been awarded to Castro Mello Architects. The firm has designed a new roof structure for the stadium, as well as a new parking structure for approximately 3,500 spaces. In addition, the subway and commuter rail lines that are near the stadium will be renovated and expanded. The estimated cost for this renovation is R\$460 million [\$253million US].²⁵

The stadium stands only 24 meters [78 feet] above ground. Despite its many renovations, its height has not changed. At the time of its construction the scale of the residential neighborhood, which surrounded the site, was considerably smaller. Then, the majority of buildings that surrounded the site were two to three story single-family homes, churches and schools. Over the years there has been an outcropping of high-rise condominiums in the area as tall as 18 stories in height overlooking the stadium grounds. The scale of the surrounding neighborhood has undoubtedly changed; perhaps this has been in response to the size and scale of the colossal stadium.

The stadium was mostly built of concrete and cement with some strategic use of steel and wood. The exterior is lined with steel stay-poles that buttress the weight of the roof structure onto the outer columns. The roof is built of reinforced concrete panels of 30 meters in width, weighing 96.5 tons.²⁶ The design of this colossal structure was considered an engineering feat in Brazil, often times referred to as "the temple of Brazilian Gods."²⁷ In addition to the seven architects who collaborated in the design of the stadium, six different developers were contracted to build the stadium – each was given ten blocks of the sixty-segment stadium. This division in segments was designed to preserve the integrity of the whole structure; should one segment fail it would not affect the rest of the stadium.²⁸ Presumably the division of labor was done to expedite and reduce the construction time; however, one has to wonder if this was a well-organized endeavor and if it was cost-effective.

The extensive use of concrete and cement comes as no surprise for this type of structure – it is known to expedite construction, reduce costs and have the effect of enduring permanence. That said, the use of such inflexible materials could be responsible for such exorbitant costs of renovations and will undoubtedly make the stadium difficult to adapt to future uses.

The Maracanã stands at the center of a complete sporting complex, which includes a 30,000-seat indoor arena, a 5,000-capacity outdoor track and field facility, and an Olympic size swimming pool. The stadium is shared by four club teams: Flamengo, Botafogo, Vasco da Gama and Fluminense. Flamengo has the largest fan base in Brazil; it is known as the team of the people [the poor]; in reality, however, many people from all social classes support the team.²⁹ Vasco da Gama is one of Flamengo's greatest rivals and has the second largest fan base; it is known as the team supported by Portuguese immigrants. Botafogo is amongst the oldest teams; while it has the smallest fan base it is known for its long-standing traditions and Fluminense is known as the club of the wealthy upper class.

The fact that four teams share the field at Maracanã is significant, especially when considering the rivalry among them. Even in a country thick with soccer history and spirit, this sharing arrangement is necessary to keep a stadium of this size alive. In 2009, the stadium held 89 soccer matches; most club teams play only 38 professional games a year. Without the constant playing time that four teams require, the stadium would likely be underutilized and

would not make economic sense. Some combination of this type should become a model of use required for all new large stadiums built around the world.

The stadium itself also houses a Maracanã Hall of Fame with the name and footprints of 50 of the best players to have played at the stadium. It conducts tours for visitors during non-game days. Maracanã has also been used for concerts; among many entertainers to have performed there are Madonna, The Rolling Stones and Frank Sinatra. In addition, Pope John Paul II has twice addressed large crowds at the stadium.³⁰ This, however, is the limit to its non-sporting uses. Surely, at the cost it requires to maintain and the amount of money spent to renovate it, other possible uses can be contemplated for this space. Perhaps even some alternative uses can be devised that would benefit the community, or that can function daily without disturbing game times.



Concerts at the Maracanã
Photo Credit: www.Flicker.com/selusava



Soccer fans at the Maracanã
Photo Credit: www.RioTurismo.Radical.com.br



The Maracanã during a soccer match
Photo Credit: www.RioTurismo.Radical.com.br



Opening ceremonies of the 2007 Pan American Games
Photo Credit: www.en.wikipedia.org/Estádio_do_Maracanã

Conclusions

Rio de Janeiro has traditionally used mega events such as the World Cup Soccer Tournament Games to put itself and its nation on the map amongst other world cities. The 1950 World Cup served to create an iconic stadium that would both celebrate Brazil's avid soccer culture and foster a soccer legacy that would carry through the ages. For the 2014 Cup the stadium will receive another facelift, which will strengthen its connection to public transportation leaving a legacy both for the stadium and for the surrounding neighborhood.

At the time of its construction the Maracanã broke the world record for the largest soccer stadium in the world. With a capacity for as many as 200,000 spectators its size and scale were unprecedented. As stated, the stadium underwent multiple renovations to meet the changing international standards, which in turn decreased its capacity. It can be imagined that a stadium of the same capacity built under today's regulations would be nearly twice as large and enormously expensive.

The stadium was built on the then outskirts of the city. Sixty years ago the periphery of the city was located much closer to the city center than it is today. As the city has grown the stadium site has also been absorbed into the city shifting from suburban periphery site to an area within the boundaries of Rio de Janeiro. Today the Maracanã is a successful stadium on many accounts: it is situated along an important artery; it is accessible by a variety of means; it houses soccer matches of multiple teams and scales; it has adapted to current standards of design, and it has created profound memories amongst soccer fans. Nevertheless, it remains true that there is room for improvement.

The stadium and its complex are poorly integrated into the neighborhood context within which they live. The neighborhood has grown around the stadium and met its scale; the stadium now has the responsibility to integrate itself into the community. The current privatized space divides and separates the neighborhood making it difficult to traverse and acting as a barrier within the community. The Maracanã has the potential of addressing the street level and, not only connecting, but also servicing its community on a daily basis. By acknowledging and accepting its community the stadium could provide necessary pedestrian connections to public transportation, as well as meet retail needs on the ground floor level; this potential must be harnessed.

It is certain that this stadium is a monument to Brazilian soccer history and therefore it is unlikely

to be demolished, in part or in whole, or to change in form. That said, this does not preclude the ability of the stadium to include alternative uses within its existing space. So long as the stadium remains costly to maintain and renovate, all done with public funds, it should find new means to use the space to generate money and service the community. VIP lounges should be rented out for private parties and conferences; the field could be covered to facilitate a marketplace; perhaps some of its outer edges could be enclosed and designated for other uses.



CAPACITY + COST + USES

* seats **76,609** spectators

* estimated to have cost **\$4,479,545**
pesos to construct in 1935;

\$517 million USD to renovate [1978]

* set within a *larger sporting complex*
for the River Plate Athletic Club, it is also the official stadium
of the National Team, and is occasionally used for concerts.

Estádio Monumental | Buenos Aires, Argentina: 1978

SYMBOLISM + LEGACY

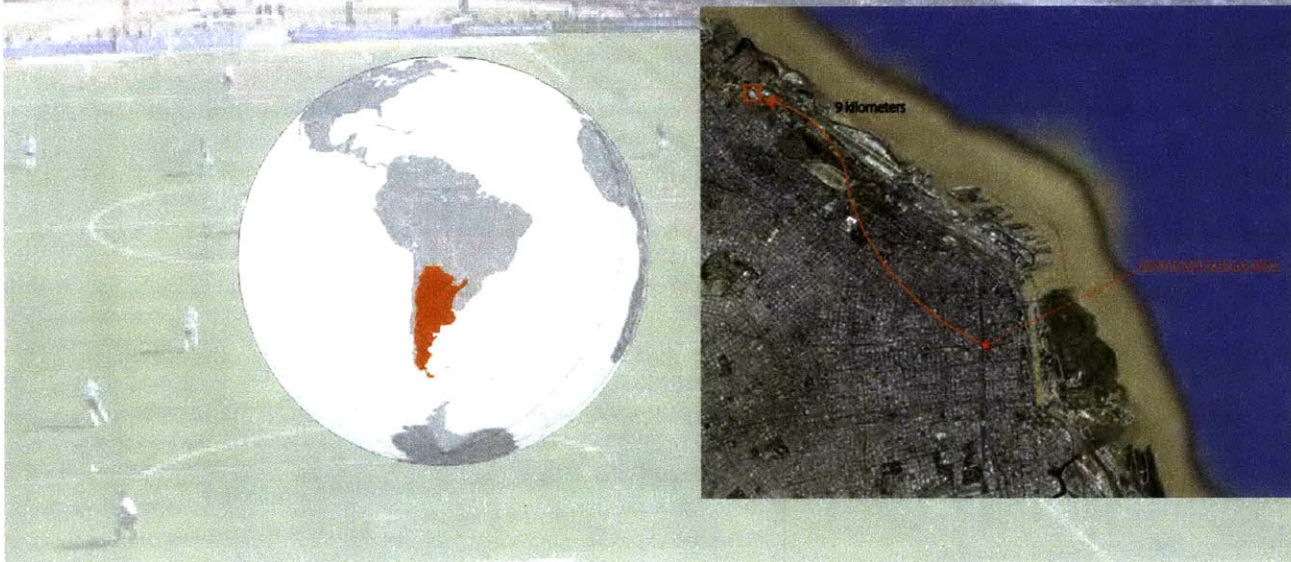
*“propaganda cup... compared to the 1936
Olympics in Berlin”*

*“a gold brooch for **repression**”*

The result for Argentina was a *tainted legacy*
in spite of their first World Cup Championship win

shameless corruption

SITE LOCATION + ACCESSIBILITY



Estadio Monumental | Buenos Aires, Argentina: 1978

El Estadio Monumental was built in 1935. In 1978 Argentina hosted its first and only World Cup. The Monumental was an obvious location for the opening and closing ceremonies of this tournament; its capacity and national significance were unmatched in the city of Buenos Aires at the time. This study will focus on the symbolism and legacy created by the controversial World Cup of 1978. It will also examine the original site selection for the stadium in 1935 as well as the renovations that it underwent in preparation for the World Cup.



Official poster of the 1978 World Cup Games
Photo Credit: www.fifafootball.org

Historical Context + Symbolism + Legacy

Due to the influx of European immigration the population of Buenos Aires exploded between 1870 and 1930; it went from 18,000 inhabitants to 2,250,000.³¹ The countries that have had the greatest influence on Argentinean society are Spain and Italy. The British, however, brought with them the game of soccer; futbol as it is called in Spanish, quickly transformed the physical and social structure of the city of Buenos Aires. The first soccer team in Buenos Aires was organized at the English High School in the 1880s.³² At that time, soccer was limited to the local elite and British expatriates; however, it quickly spread throughout the city and to all social classes. The local press referred to the growing popularity of soccer as a "fever," a "wave," and a "social mania," suggesting that the spread of the sport was contagion-like.³³

The first soccer league in Buenos Aires emerged in 1893; by 1899 there were two divisions and 13 teams. Four of these were from British high schools and nine from local public schools.³⁴ This demonstrates the increase in popularity of the sport among the local porteños, as the inhabitants of Buenos Aires are called. By 1901 there were four divisions in the Argentine Association Football League [AAFL]; and in 1907, Buenos Aires had 350 soccer clubs.³⁵

As a result of the successful rebirth of the 1896 Olympic Games, stadiums had become a feature symbolizing urban modernity. Argentina, an avid admirer of European cities, had aspirations of modeling itself after them. Buenos Aires, therefore, created a set of regulations for club status requiring that they each have a stadium built to meet the city's standards. In his analysis of soccer stadiums' effect on Argentinean culture, Thomas Gaffney nicknames Buenos Aires "stadiolandia" for the sheer quantity of stadiums that exist throughout the city.³⁶ Argentinean historian Julio Frydenberg suggests that the proliferation of stadiums, most of which were very small, served to bring residents of different zones together and facilitated the development of community identities, creating a sense of belonging to a place.³⁷ The popularity of soccer in Argentinean culture has generated a level of competition that resonates from players to fans; historically their greatest rivals are their neighbors the Brazilians. Winning the World cup on home turf would bring great pride to the nation.

FIFA awarded Argentina the organization of the 1978 World Cup a full fourteen years prior to the games during the 1964 FIFA Tokyo congress.³⁸ During this time period many significant events occurred that would scar the history of the country forever. Juan

Peron, the former President, returned from exile in June 1973, days after his party had won the first free and fair elections in 18 years, to be greeted by two million people at Ezeiza Airport and on the roads leading to it. He was expected to speak from a podium on the highway, but before his plane landed there was a mass shooting that is now referred to as the Ezeiza Massacre.³⁹ The welcome-home party was suspended. In October of 1973 he was reelected to office, but only nine months later he passed away of a heart attack. His wife, Isabel Peron, the vice president at the time, took over the presidency. Argentina had been facing difficult political and economic problems that led to an outbreak of violence, which had been developing for many years. Although her regime resorted to viciously repressive policies, Isabel Peron was unable to manage the country and on March 24, 1976 she was overthrown by a military coup d'état.

From that day on the three armed forces governed through the Junta of Commanders-in-Chief, and appointed General Jorge Rafael Videla, the chief of the Army, as President. The military dictatorship terrorized the country killing thousands and "disappearing" many thousands more under the so-called "National Reorganization Process." Argentina faced serious isolation in world affairs as a result of these human rights violations.

Having inherited the responsibility of hosting the World Cup, the junta immediately saw the potential of a global event held both domestically and internationally to legitimize the regime internally and externally. The Junta first appointed General Omar Actis as president of the World Cup Organizing Committee, however, he was assassinated before the games began and the opposition guerrillas were initially blamed.⁴⁰ The murder has never been clarified, however author David Goldblatt intimates that his assassination may have been ordered by his successor, Admiral Carlos Alberto Lacoste, who is said to have skimmed millions of dollars off of the transformations leading to the World Cup.⁴¹ Controlling the media coverage and the perception of the city the junta strategically coordinated and controlled the 1978 World Cup in order to maintain a positive image. As a result, it is often referred to as the "propaganda cup" and compared to the 1936 Olympics in Berlin.⁴²

The junta used the World Cup to increase its hold on the people. The event and especially the fact that Argentina won its first championship title bought the Junta a few more years of unchallenged control. Amidst the fanfare, just ten blocks from the stadium

Monumental, was the ESMA, one of the torture concentration camps in the city.⁴³ The cartoon on following page depicts this proximity. According to The Los Angeles Times one woman said "The 1978 World Cup was a gold brooch for repression, a mundial [world cup] that was made to wash the faces of the murderers ... in front of the world."⁴⁴ Victims of torture who survived have recounted their experiences of the World Cup, telling how their torturers celebrated while conducting electric shock 'treatment' or dragged them out to the streets in cars to watch the rest of the country yelling and screaming in happiness. At the time, it also created a means to distract the public with a false sense of security and cheerfulness in a time of darkness and torture. How could anyone believe that such atrocities were occurring when the country had just orchestrated and won their first World Cup?

It is not clear why FIFA did not take back the host award from Argentina when it was evident that the country was facing turmoil long before 1978. The Cup



Posters in protest of the 1978 World Cup
Photo Credit: <http://www.iisg.nl/collections/tourism/>

could have been awarded to another country, as had happened previously when Colombia relinquished award of the host site due to economic struggles, if not cancelled altogether. The result for Argentina was a tainted legacy; in spite of their first World Cup Championship win the memory of deceit and of these sinister times left a bad taste in the mouths of Argentines.



Cartoon depicting the juxtaposition of the times and stadium location
Photo Credit: www.lanacion.com.ar

Publicidad francesa contra el mundial '78

CONTRE LA DICTATURE EN ARGENTINE
BOYCOTT DE LA COUPE DU MONDE 78



Posters in protest of the 1978 World Cup
Photo Credit: www.artofrevolution.co.uk



El Monumental during the 1978 World Cup
Photo Credit: www.solofutbol.cl

The international community did speak against the crimes committed by the dictatorship. Amnesty International, for example, launched the campaign slogan "Football Yes, Torture No" in order to educate journalists covering the Games.⁴⁵ Led by the Netherlands, several nations talked of boycotting the World Cup in protest, though the boycott never happened.⁴⁶ The best player in the world at the time, Johann Cruyff of the Netherlands, did not participate because of concerns for his security. Despite their complaints, the international community partook in the events of the Cup, facilitating the growth of the country, and as a result the power of the military Junta.

The Ente Autárquico Mundial [EAM] was created by the junta to orchestrate the preparations for the Cup.⁴⁷ In addition to the construction of three stadiums and the renovation of three others in Argentina, the developments in anticipation for the World Cup brought some social benefits to the city of Buenos Aires. These included the upgrading of airports, highway infrastructure systems, hotel accommodations, radio and telecommunications as well as the introduction of color television to the country.⁴⁸ While some investment was made on lasting transportation and communications systems

the benefits of these were outweighed by the negative memories of the sinister abuses of the military Junta. It is unlikely that any type of investment could offset this effect, but perhaps more effort should have been placed on public benefits such as public transportation and recreational spaces. These efforts could have also carried positive benefits throughout a longer trajectory of the city's future.

Today, Buenos Aires has seventy-nine professional soccer stadiums, more than any other city.⁴⁹ Estadio Antonio Vespucio Liberti, commonly referred to as "El Monumental," was built in 1935 in the upper class neighborhood of Núñez. It opened May 25, 1936 reporting 70,000 spectators for its first club match.⁵⁰ Originally the shape of a horseshoe, the stadium was later expanded to complete the ring in 1958. The capacity was expanded to reach a total of 100,000 spectators, including standing-room only bleachers.⁵¹ In preparation for the 1978 World Cup Tournament Games the stadium received a final face lift, improving its seating but decreasing its capacity to 76,609 spectators as a result of the removal of the standing-room only stands.⁵² The renovations were said to have brought the stadium to a level of luxury that Argentina had never seen before.⁵³

Site Location + Accessibility

Since its inception the stadium has been the home venue of Club Atlético River Plate. The stadium is located approximately 8.5 kilometers North of the city center. The neighborhood of Núñez, where the stadium is located, was annexed into the city of Buenos Aires in the late 1800s. The growth of the city was gradual, however, and at the time of construction the land selected for the stadium was located on the margins of the city. The land was considered so undesirable and of such little value that the city of Buenos Aires donated 35,000 square meters of the 83,950 square meter lot.⁵⁴ Over time, however, as Buenos Aires has grown the site of the stadium has been absorbed into the city. Núñez has become one of the most expensive upper-middle class neighborhoods in Buenos Aires. In addition, Núñez is only a few blocks North of the fashionable and traditional enclave of Belgrano.

Today the site is considerably more valuable as it shares the amenities of multiple nearby transportation options, the views of the Rio de la Plata (River Plate in

English) and a close proximity to the city center. The physical expansion of the downtown of Buenos Aires can be witnessed event today; high-rise residential towers have intruded on the suburban communities that once were. Few single-family homes can now be seen interspersed within these taller structures; and the city center continues to expand. That said, the history and the legacy of the stadium carry such significance in the social and cultural structure of the city that it is highly unlikely that the stadium itself will ever be demolished nor radically changed. The stadium is considered to be the national stadium of Argentina.

The stadium was originally designed to be primarily accessed by car. In the 1970s the priority was again given to private transportation, as evidenced by heavy investment in high speed highway systems in areas of great urban density, in preparation for the World Cup. Avenida Leopoldo Lugones and Avenida Presidente Figueroa Alcorta, two of the major arteries that lead



Site location of the stadium
Image created by author

to the city's waterfront and center from the North, bind the stadium site on two sides. "Jorge Newbery" or Aeroparque Airport is also conveniently located just 2.5 miles South which enables the passerby to view the stadium as they enter or exit the city from the North. The Ezeiza international airport, officially called "Ministro Pistarini," lies about 20 miles to the West, but it is very well connected to the stadium through motorways.

Today, Buenos Aires is the third largest city in Latin America with a population of 13 million in the metropolitan region.⁵⁵ In a city of this size, with a soccer culture of this magnitude, it is important to offer spectators a variety of transportation options. As such, today the stadium is within walking distance from the Barrancas de Belgrano transportation hub on the D line of the metro, as well as accessible by bus. Two commuter rail lines also service the neighborhood of Belgrano, which enables the working classes to access the stadium via public transportation. The stadium's proximity to the

city center and the fact that it is grounded within a community make the site accessible to a variety of people as a destination as well as daily use.

Improvements could be made, however, to connect the stadium to its surrounding amenities. El Monumental should have a direct connection to the Ciudad Universitaria, the campus annex of the University of Buenos Aires, and the waterfront beyond. This would necessitate a means to cross Avenida Leopoldo Lugones, a high-speed highway. Better access to the campus would also improve the latter's connection to the Belgrano neighborhood as well as extend the celebrations at the stadium to these parks. In addition, the stadium complex should have stronger pedestrian connections to the immediate neighborhood. This would facilitate the procession of pedestrians on game days, add a more celebratory arrival to the stadium from the community and improve the streetscape for game days as much as for typical daily routines.



El Monumental Stadium in context with the waterfront beyond, facing North
Photo Credit: www.horadefutbol.com

Design + Scale + Surroundings

The architects José Aslan and Héctor Ezcurra carried out the stadium project; the construction of the horseshoe-shaped stadium was completed in just two years.⁵⁶ It was constructed in three separate parts, with spacing dividing each section; this was likely a preventative measure meant to preserve the stands in the case of a structural collapse. The separation of these parts maintains the integrity of the individual sections.

The foundation of this building contributed to its expense – the pillars are buried eight meters deep into the soil in order to prevent any movement that could affect the stadium. The soil at the site was soft, marshy land, not suited for heavy construction. In part this was due to its location near the waters' edge but it was also the result of a large local water supply line bursting.⁵⁷ Luckily, or perhaps due to rigorous design, El Monumental has not seen any major structural failures since its inauguration, as has been the case of many other stadiums, including, for

example Maracanã in Rio de Janeiro. Restorations have been made to the Monumental, the largest of which involved completing the circular design as originally intended by the architects.

The stadium itself is approximately eight stories tall; it stands in a complex of sporting facilities used by the club teams as well as by fans who pay membership dues to the Club Atlético River Plate. The complex is private, belonging to the Club and its members. It is enclosed by high walls and bound by streets on all sides. As seen in the photographs, the stadium stands tall amongst the two- to three-story residential community surrounding it. Buenos Aires is a very dense city with many apartment and condominium buildings. Single-family homes with private yards are therefore very rare and very expensive. The property values around the stadium are likely quite high. Judging from the close proximity of mid-level structures, it is not hard to predict that the scale of this area will increase in the future. Today,



El Monumental Stadium in context with the city beyond.

Photo Credit: www.stadiumvibe.com

the buildings increase in scale to six to eight stories within a radius of just a few blocks and then quickly rise past 15 stories to accommodate the height of the expanding city. The stadium itself is an oval of approximately 700 by 850 feet. The site is difficult to traverse, thereby acting as a barrier that blocks access to the waterfront.

Increased permeability through the site and new connections to significant amenities would improve the circulation in the area on game days as well as for its neighbor's daily. In addition, there exists an opportunity to incorporate a new development that might bring new amenities and entertainment to the area, capitalize on the added daily pedestrian traffic and better integrate the stadium into its surroundings.

El Monumental was Argentina's first industrial, steel and concrete soccer stadium. Its cost in 1935 is estimated to have been \$4,479,545 pesos. In order to build it River Plate Athletic Club requested a loan from the government of 2,500,000 pesos, which took decades to repay.⁵⁸ The Club was unable to find sufficient funding to complete the stadium and had to postpone construction on the North gallery (seating section) for many years. A total of 50 kilometers of stands were built using 26,000 cubic meters of concrete and 3,000 tons of steel.⁵⁹ In just two years the price of steel rose so significantly that it would have cost three times as much to buy the steel alone than the construction cost of the entire stadium at that time.

The costs required to renovate the stadium in preparation for the 1978 World Cup have not been officially disclosed but some have estimated it to have reached \$517 million USD.⁶⁰ According to an article in Pagina 12, a well known periodical in Argentina, this was said to have been \$400million more than what was spent in the following World Cup held in Spain.⁶¹ In his book, *The Ball is Round*, David Goldblatt claims that the total cost of the Argentinean World Cup was "at least \$700million."⁶² What is worse is that Lacoste, who was in charge of the EAM, publicly boasted that he never presented a single balance sheet; according to him, the accounts consisted of just seven facets that were not worth the trouble of putting on a spreadsheet.⁶³ This level of shameless corruption and greed has contributed to the plagued legacy of this World Cup in Argentina. Future World Cup hosts must enforce stronger methods of control and transparency when dealing with public funds; the costs are too great. Additionally, FIFA should require full disclosure of these expenses; the fear of corruption and over spending could deter future countries and cities from bidding to host the Cup.

El Monumental is the home of River Plate Athletic Club, one of the two most followed clubs in the country. The Argentinean national soccer team ["la selección"] plays its matches here; this includes friendly matches as well as important qualifiers to international sporting events. In addition to the 1978 final match and closing ceremonies, other significant soccer events have been hosted here including the First Pan American Games held in 1951.⁶⁴ While soccer is the prevalent sport played in the stadium, though other sports occasionally reign for a day. Occasionally, rugby-union matches featuring Los Pumas, the Argentinean national rugby union team, take the field. The stadium is also used as a large concert venue: Peter Gabriel, Tina Turner, Michael

Conclusions:

Jackson and Madonna have all performed here.⁶⁵

During its early years the stadium complex also contained a school, medical practice and a short-term prison to prosecute fans who stepped out of line.⁶⁶ The complex includes tennis and basketball courts, as well as courts for "indoor" soccer where players play five on five and the boundaries of the courts are established by the walls, which can be used to bounce the ball off and redirect it. In addition, the site houses living quarters for young footballers, a small theatre hall, a parking lot, and a museum and shop dedicated to the stadium and River Plate Athletic Club.⁶⁷ The mix of uses practically constitutes a small town. They are, however, only utilized for the sporting club.

The site is equipped with areas that have multiple and diverse functions, yet its access is limited and controlled. Allowing public access to these functions, as well as incorporating new developments, would create a more vibrant area around the stadium, bringing amenities to the community as well as tourists. Additionally, this could bring a larger, more diverse group of users to the stadium more hours of the day.

The 1978 World Cup Tournament has left a tarnished social legacy on the city of Buenos Aires. The military propaganda and troubled political times will not soon be forgotten. The stadium, however, is still considered a monument to the highlights in the soccer history of the country. Its image is on postcards throughout the city and it is visited by tourists daily; its cultural significance and soccer legacy are unquestionable. Considering that it is in excellent condition it is very likely that it will continue to serve as a soccer stadium for a very long time. It would likely require another facelift, and perhaps a roof in order to upgrade its image for a future World Cup, but it would certainly be a likely contender to host another event of this magnitude.

Once at a significant distance to the city center, today the city has absorbed it. The stadium sits within a suburban neighborhood; it is out of scale for its surroundings. The materials of the stadium are not conducive to change; it is more likely that the city center and neighboring community will continue to grow, eventually reaching the scale of the stadium. As the city of Buenos Aires has grown this areas has become a prime location in close proximity to the



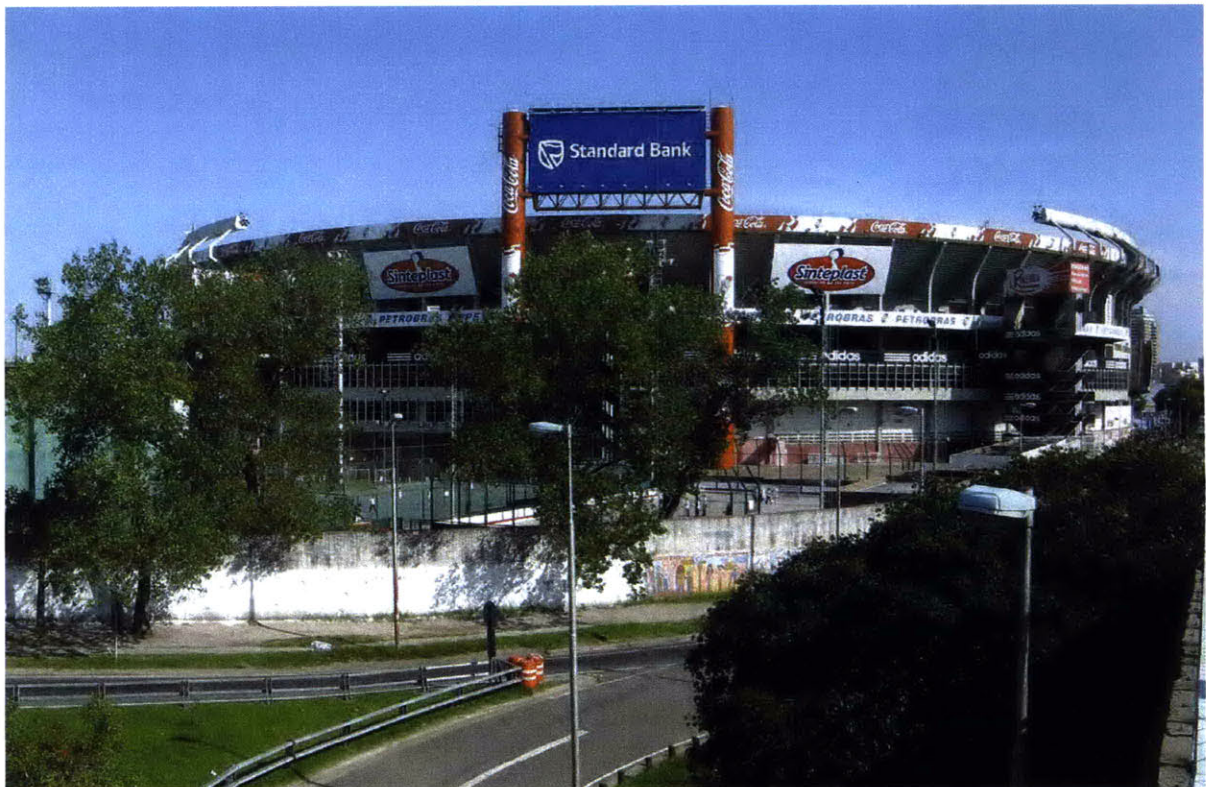
El Monumental Stadium during a River Plate Club match
Photo Credit: www.soccersource.blogspot.com

expanding city center. Today the stadium is highly accessible by multiple means of public transportation and all social classes and its access is no longer reliant on vehicular transit.

The stadium complex was designed to have tall walls surrounding the site that delineate its private nature. This has not changed over time, as such, today it is poorly connected to the amenities surrounding it; the site acts as a barrier blocking access to the waterfront. This limits the potential of the site. River Plate Athletic Club should use the stadium site to become the link that connects the neighborhoods of Núñez and Belgrano to Ciudad Universitaria and the waterfront beyond. Increasing permeability through the site will draw pedestrian activity.

By utilizing the site's existing diverse functions and creating new development in the area could add a new vibrant life to the stadium site. Bringing amenities to the neighborhood will generate activity, thus creating a new sense of place. River Plate Athletic Club and the city of Buenos Aires should recognize the value creation opportunity of this site; by optimizing its use and creating a sense of place that is publicly accessible, the site could retain tourists and porteños,

as well as locals of Belgrano, Núñez and the northern suburbs of the city and could activate the space.



El Monumental Stadium demonstrating walls surrounding the site.
Photo Credit: www.soccersource.blogspot.com



CAPACITY + COST + USES

* seats approximately *70,000* spectators

* The new structure cost about *3.4 trillion won* [\$2.8 billion US.]

* The World Cup Mall has reportedly produced more than

\$3.5 billion U.S. profit

* the *first-ever hybrid* shopping mall/sports stadium in the world.

The World Cup Stadium in Sangam | Seoul, South Korea: 2002

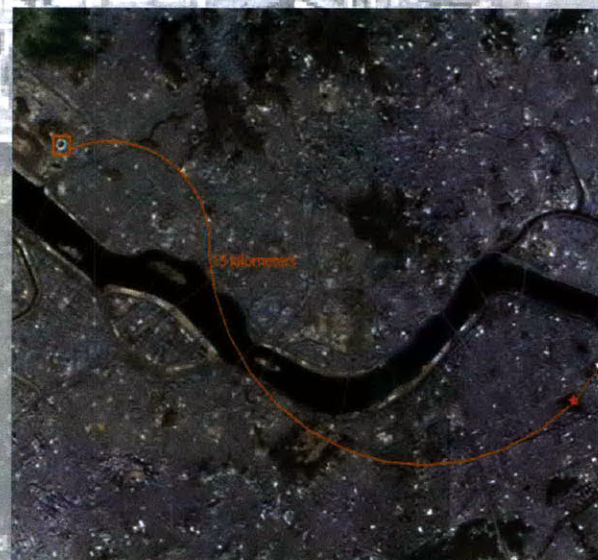
SYMBOLISM + LEGACY

The World Cup was *a catalyst for urban transformation* in Seoul

The World Cup stadium was an integral part of a larger scheme to *rehabilitate a neglected area* of the city

This positive change in the attitude of the government and the people has been **infectious**

SITE LOCATION + ACCESSIBILITY



The World Cup Stadium in Sangam | Seoul, South Korea: 2002

The 2002 World Cup was co-hosted by Japan and South Korea – two countries with relatively weaker soccer cultures. This study examines the motivations behind and effects of the site selection and design of this world-class soccer stadium. Here I inspect the innovative stadium design and legacy effects of the World Cup Stadium on the city of Seoul.



Official poster of the 2002 World Cup Games
Photo Credit: www.fifafootball.org

Historical Context + Symbolism + Legacy

Soccer history in South Korea has a similar trajectory as in the rest of the world; it was brought by the British and used as a means to communicate where language barriers failed them. The popularity of the sport, however, grew at a much slower rate. Martial arts, kite flying and Korean wrestling (similar to Sumo wrestling) had strongly rooted traditions in the culture and therefore maintained popularity. It was not until the second half of the twentieth century that soccer began to grow in popularity; and not until 1983 that the K-League, South Korea's only professional soccer league, was founded. It may seem surprising then, that a country with relatively recent soccer culture like South Korea would bid to host a soccer event of this magnitude.

Seoul, literally meaning "capital city," has acted as such for over six centuries; however, the city was nearly completely destroyed after the Korean War ending in 1953. The following years for the city were of repair and reestablishment. Dr. Donyun Kim of the Seoul Development Institute describes the period between the 1960s and 1990s as the period of "quantitative growth;" a time of massive rural-to-urban migration and population growth. Today, Seoul's metropolitan region, including Incheon and Gyeonggi, is home to nearly half of the country's population: 24.5 million people.⁶⁸ Despite Seoul's economic advantages, this rapid growth was likely the leading contributing factor to the massive amount of environmental pollution that ensued.

The opportunity to host the 2002 World Cup Soccer Games in South Korea was the catalyst for the urban transformation that Seoul needed after three decades of decline.⁶⁹ The international spotlight on Seoul brought on by the World Cup Games shifted national, regional and local attention to this site and enabled the creation of the Sangam New Millennium Town. This new urban design plan included the World Cup stadium, Digital Media City, and a series of urban parks to service the community as well as visitors. The World Cup stadium was an integral part of a larger scheme to rehabilitate a neglected area of the city into a "model city of innovation where ecology, culture and IT were infused."⁷⁰ The focus on structured parks demonstrates the city's aim to enhance the quality of life of its citizens and raise the ecological sustainability of the area through the creation of these parks and outdoor activities.⁷¹ The metropolitan government itself credits the World Cup plans for this site as the leading factor for the transformation of "Nanjido [into] an eco-friendly area."⁷²

This positive change in the attitude of the government and the people has been infectious; it has led to a multitude of new programs created for the improvement of city life and the city's image. The success of the plans for the World Cup games reorganized the priorities of the Mayor and the people of Seoul. In his inaugural address in 2002, mayor Myung-bak Lee emphasized his commitment to the people and the environment of Seoul. He has since restored the Cheonggyecheon Stream, which had been polluted and covered by roads, refocused attention towards public transportation, and invested in more green spaces throughout the city.⁷³ The significance of the transformation of the site goes far beyond the design of a new stadium; it is a representation of the City's commitment to a healthier lifestyle for its people.



Rendering of design development for the stadium and surrounding area
Photo Credit: www.sisul.or.kr

Site Location + Accessibility

The stadium is located on the outskirts of the city, in the far West area of Mapo-gu district which is by the lower basin of the Han River. It is approximately 18 kilometers from the city center (World Trade Center). It is important to note that the stadium site was selected for three reasons: first, because the area was considered plagued; second, the sites required little population displacement; and third, the development of Incheon International Airport, which took 10 years to plan and opened in 2001, promised an influx of people entering Seoul from the North West.

The site itself had been a landfill since 1978. It was the repository for all of the City's waste measuring 100 meters high and two kilometers in length. It contributed to air and water pollution, which at the time was considered among the worst in the world.⁷⁴ The placement of the stadium would afford the city the ability to reform this space and advance the city's image as well as create new recreational amenities for its citizens and provide a base for future expansion of the city.

The site, at the half way point between the newly

opened Incheon International Airport and downtown Seoul, was a prime location for new development. The airport is the world's 2nd busiest airport in terms of international users. It promised to bring a constant flow of passengers through the site as they travel to their final destinations.⁷⁵ Not only would the stadium serve as an iconic image at the gateway of the city as one enters from the airport, but it would also provide the investment in infrastructure necessary for the development of new transportation means and accessibility into the city.⁷⁶

The design behind the Sangam Millennium Park and the World Cup Stadium encompasses multiple levels of transportation and access under the principle that all citizens must be able to access the stadium and the areas around it. The transportation features include a major vehicular highway, two subway lines (stopping directly at the stadium), five lanes of regional and international railways and a speed-rail to the airport. This emphasis on transportation on this site comes as no surprise because the area had been, in fact, the site for the old rail station to Europe; today it is considered "the new gateway to Seoul."⁷⁷



Site location of the stadium
Image created by author

Design + Scale + Surroundings

The World Cup Stadium in Sangam seats approximately 70,000 spectators including 66,806 regular seats, 916 for VIP and 754 for media and over 1,000 seats in members-only boxes. The stadium complex, including parking at its periphery, occupies 216,712 m²; the stadium itself is only 57,859m² of this. The design is said to draw inspiration from the traditional Korean kite design set in a landscape of parks and from sailboats that float in the nearby Han River.⁷⁸ The roof, designed in the shape of a traditional Korean kite, is supported by 16 masts and covers 90% of the stadium seating. It is clad with fiberglass fabric and polycarbonate glazing meant to resemble hanji, a traditional, semi-transparent Korean paper.⁷⁹ It is an icon representing Korean history as it soars into the future with technological advances; it is a symbol of Seoul's rejuvenation and enhanced outdoor spaces.

Millennium Park includes five separate parks: the Peace Park near the stadium with a pond, lawns and plazas for cultural activities; the Sky Park with an ecological preservation site; Sunset Park and public golf course; Nanji Stream Park; and the Nanchi Riverfront Park with camping grounds and other

activities. These parklands with outdoor amenities and activated spaces will continue to bring people from the city to the area to enjoy its many activities and amenities.

The stadium itself is rectangular in shape and measures 304m x 279m; however, it has a thicker exterior shell incorporated into the design, which houses the World Cup Mall. South Korea pioneered this new designer merger that combines sporting and extensive retail facilities in one structure. The cost of the new structure has been estimated at 3.4 trillion won (\$2.8 billion US), according to The Korean Herald. The stadium building stands alone at the edge of Millennium Park; it is six stories tall at 49.4 meters (162 feet). The building has one underground level with 535 parking spaces within it and another 861 parking spaces in the parking lot surrounding it.

The triangle-shaped site is surrounded by road and river. With two of its edges abutting major transit roads that lead into the city and a third along the Han River basin, it has little opportunity to weld into the connective tissue of the surrounding city. Across the river basin stand multiple condominium buildings 10-

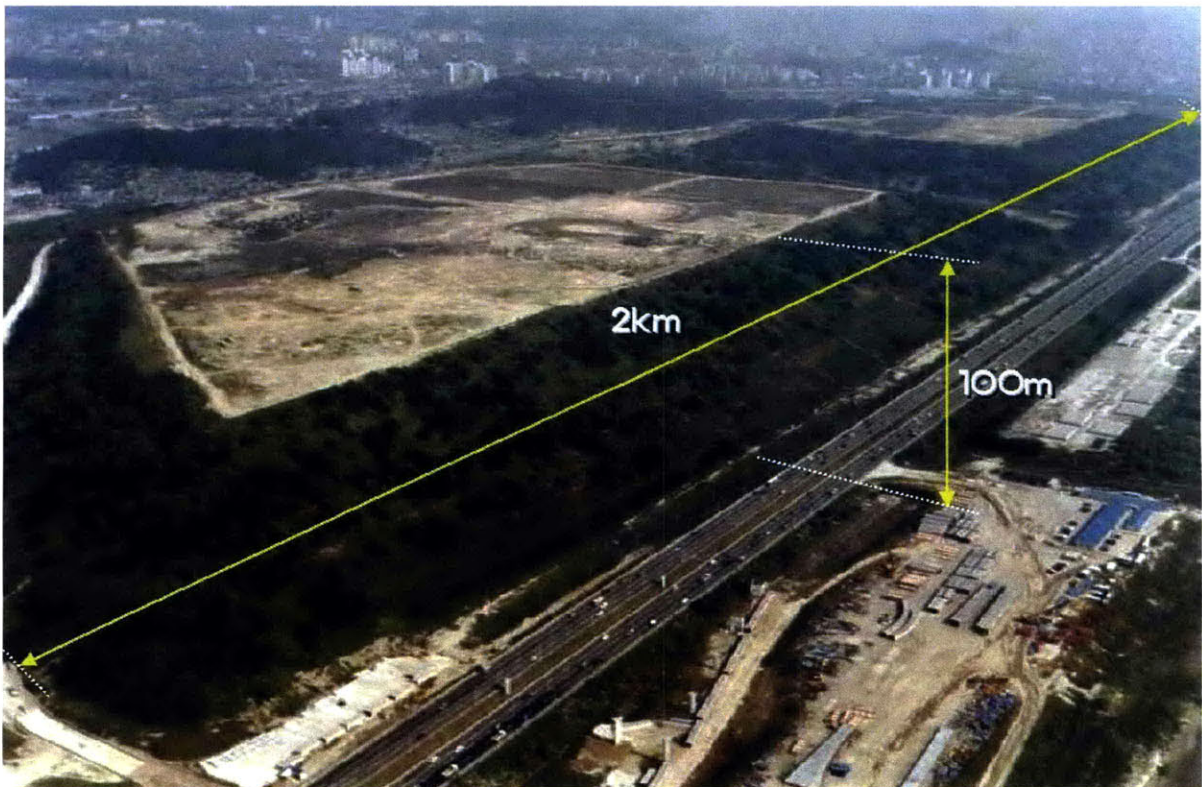


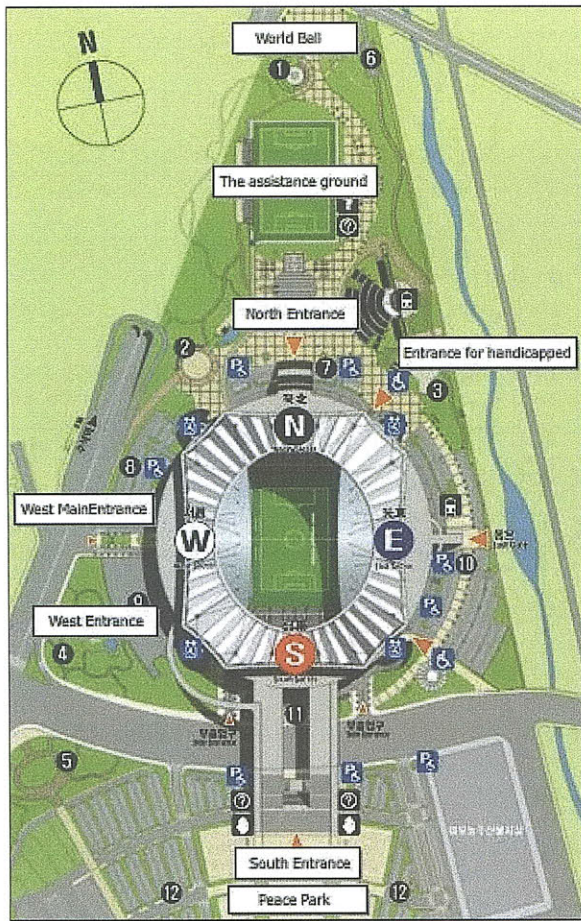
Image of landfill site
Photo Credit: www.sisul.or.kr

20 stories in height. While the stadium itself is quite tall, it is the appropriate height for its neighboring community and one could envision it becoming well integrated into it in the future. Its siting as an extension of the city linking transportation to the future Media City and to the airport may seem advantageous; its island effect, however, keeps it isolated from the community around it.

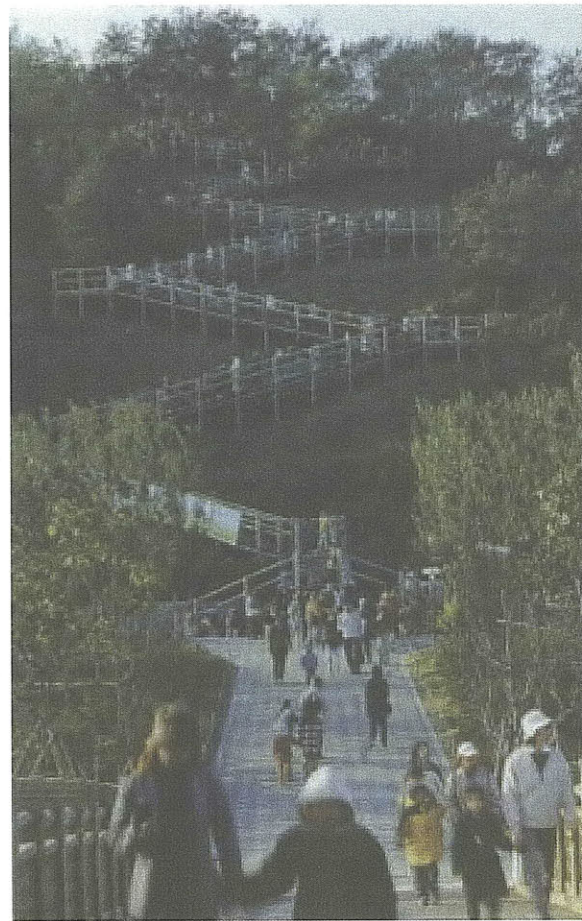
Materials + Cost + Multiple uses

Today the stadium is primarily used by Football Club Seoul (FC Seoul), a local club team, for games of the Korea Professional Football League (K-League) as well as the site of the occasional concert. The majority of the structure is built of pre-cast concrete, including the parking lot, mall and lower audience seating. The middle sections are built with a steel frame structure while the roof is made of steel trusses and a fiberglass fabric. It is evident both by its design and its materials that the stadium is a project of national pride expected to endure the test of time. It was not designed to be disassembled but to house multiple uses within one structure.

The stadium itself is also the site of the World Cup Mall - the first-ever hybrid shopping mall/sports stadium in the world. It was launched on May 23, 2003 by the Seoul Metropolitan Government as a complex for shopping, cultural and sports activities, and instantly became an attraction for those living north



Stadium plan and immediate surroundings
 Photo Credit: www.knto.or.kr/



New EcoPark within stadium development site
 Photo Credit: <http://www.lifeinkorea.com/>

of the Hangnag River. [See image on following page] The stadium still functions as such, holding sporting events such as the Peace Cup tournament, and provides the field as a venue for concerts and cultural events. Equipped with a variety of facilities, including multiplex cinemas, shopping malls, wedding halls, gyms, saunas and discount stores, the stadium is a huge cultural complex where visitors – both locals and tourists - can enjoy recreational and cultural activities and shopping.

The multitude of uses and opportunities to experience the building may be the reason it has been a success story. The site draws in a variety of users from sports aficionados to moviegoers and everyday shoppers. To date the World Cup Mall has reportedly produced an overall profit of more than 3.5 billion U.S. dollars.⁸⁰ Even so, one might argue that it could be more successful still if it were better integrated into the urban fabric as opposed to being a destination

point. It would then have the potential to catch the passersby as they travel to and from their home instead of waiting for them to pay the stadium a visit. Additionally, the success of a mall depends primarily on the market need and consumer demand in the city. In the case of Seoul, the largest, most populated city in South Korea, this mall has been a financial success: its revenue is greater than its maintenance cost (as seen in the tables below). This is not the case for the remaining 9 stadiums in South Korea. Each one of them can be considered a relative failure since in none do the revenues cover maintenance costs. This is so despite the adoption of diverse business plans, some of which include the same mall/sports center hybrid as in Seoul.

South Korea shared the role of host with Japan for the 2002 World Cup Games, a decision that at first glance appears to have been a wise move. One might think that sharing the cost required to prepare for

Table 1: South Korean World Cup stadiums and their renters in the year 2005

City	Renters
Seoul	Carrefour shopping center, gym, swimming pool, CGV movie theater, spa, wedding hall, restaurants, bank
Busan	Shopping center, gym
Daegu	Drive in movies, wedding hall, restaurants. Shops
Incheon	Convention center, gym, spa, golf practice range, restaurants, offices for culture centers, Incheon children's museum
Kwangju	Shopping center, gym, golf practice range, small shops
Daejeon	Gym, swimming pool, golf practice range, bank, restaurants, shops, offices
Ulsan	Drive in movies, wedding hall, restaurants, shops, offices, gym, swimming pool
Suwon	Studios for TV stations, offices, restaurants, shops, warehouses, wedding hall, gym, swimming pool, golf practice range
Jeonju	Spa, wedding hall, golf practice range
Seoquipo	Movie theater, spa, water park, museums, exhibition hall, 4-D movie theater, offices

Source: Ministry of Culture and Tourism: <http://www.mct.go.kr>

Table 2: The net revenue of the World Cup stadiums in the year 2005

City	Revenues	Rent	Ticket sales	Expenses	net revenue
Seoul	15,971,049	11,816,716	460,926	-7,613,077	8,357,972
Busan	495,000	202,000	456,000	-1,409,000	-914,000
Daegu	191,605	45,752	70,096	-3,269,347	-3,077,742
Incheon	2,201,143	885,947	92,773	-4,025,586	-1,824,443
Kwangju	213,897	161,506	3,811	-1,599,455	-1,385,558
Daejeon	505,831	300,461	26,451	-1,945,605	-1,439,774
Ulsan	1,806,283	771,885	173,727	-2,923,424	-1,117,141
Suwon	11,322,033	763,631	266,252	-12,751,072	-1,429,039
Jeonju	452,924	198,582	175,752	-2,280,587	-1,827,663
Seoquipo	381,665	136,137	45,528	-793,295	-411,630

Unit: 1000 Won (Korean currency, where 1000 Won = US\$ 1)

Source: Ministry of culture and tourism: <http://www.mct.go.kr/>

an event of this magnitude would help alleviate the financial burden of this undertaking. It is surprising then to note that each country chose to build 10 stadiums in 10 cities for this 33-day event, especially considering that FIFA only required a total of eight stadiums. Consequently, more money was spent on the construction of stadiums for the 2002 World Cup than for any before. It also means that the matches, tourists and money spent were also dispersed over these 20 cities instead of concentrated into four or five. No analysis has been made to determine that spreading the wealth, as it were, actually brought greater financial gains to the country; however, it is quite apparent that more money was spent building 10 new stadiums than could have been spent building five.



Image of Mall within World Cup Stadium
Photo Credit: www.sisul.or.kr

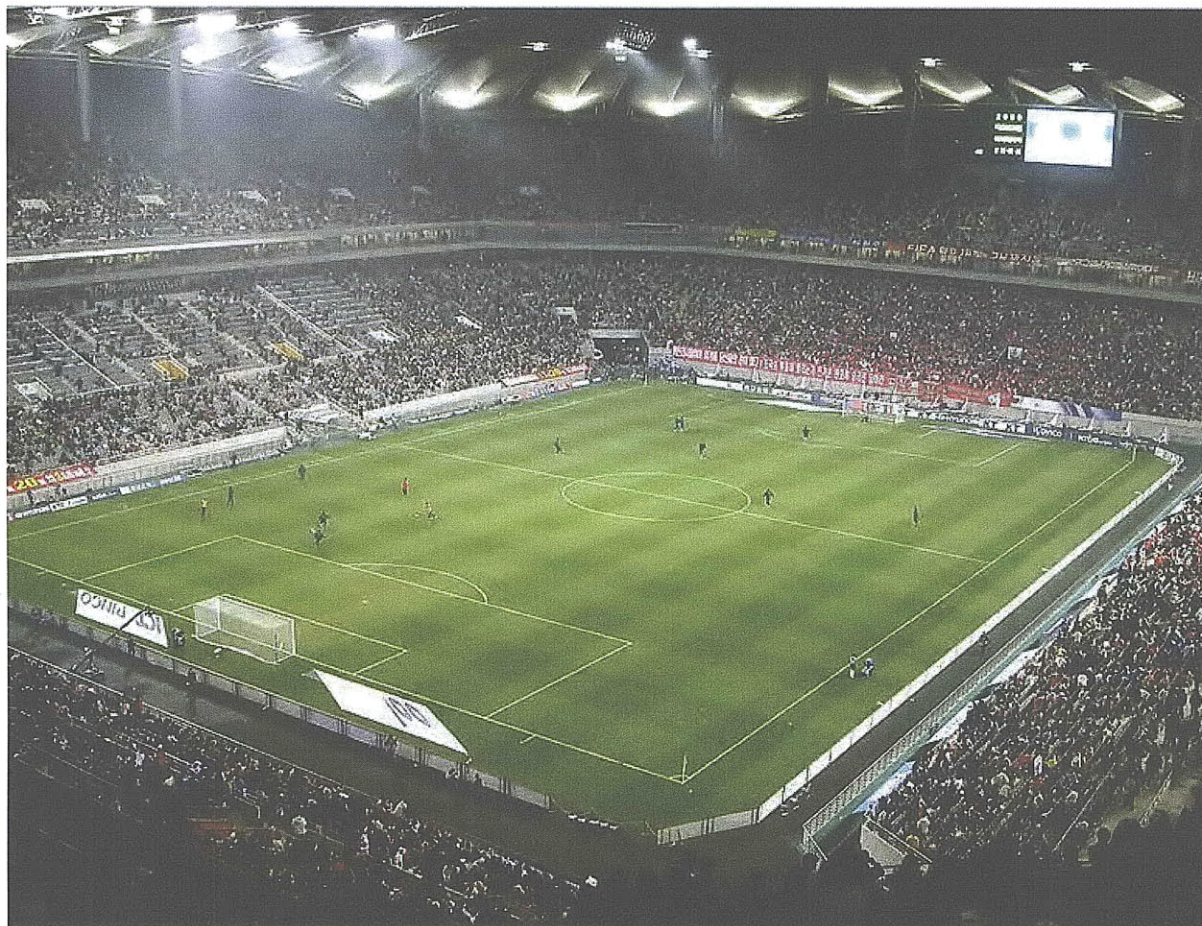


Image of stadium during FC Seoul Club match
Photo Credit: www.skyscrapercity.com

Conclusions

The opportunistic use of hosting a mega-event such as the World Cup to rejuvenate a plagued land and accelerate future growth in this area is an unquestionable success. The stadium itself serves as an icon in the landscape and its transformation is a legacy left by this shift in priorities by the government. Not only has this legacy had an effect on the lifestyles of the people of the area; it has also carried over to other areas of Seoul as exemplified by the Cheonggyecheon river restoration.

The stadium itself has a larger footprint and mass than is required for its capacity; this is a result of the incorporation of the shopping mall complex within the stadium walls. While this may have added to the initial costs of the stadium, it is this marrying of forms that has allowed the city to generate profit from the stadium post-Cup. The proactive innovative design for future uses of stadiums, as seen in the design of the Sangam World Cup Stadium, is unprecedented. These types of multi-use spaces are more likely to adapt to future uses and needs of the city. The idea of a practical multi-use facility design should become a model for future stadium design worldwide. That said, future host cities should consider their own populations and market conditions in order to evaluate the likelihood of economic success while retaining a design centered on flexibility and adaptability.

The site of the stadium is admittedly on the outskirts of the city of Seoul. Its location, however, has served as a connector to the international airport. In addition, the siting of the stadium was part of a larger vision for the expansion of the city of Seoul and the growth of the new Digital Media City. While this has not yet been realized, it is under construction and with continued investment promises to become a successful endeavor. All host cities should be required to present their design bids within the context of larger future goals; without future plans any new stadium of this magnitude runs the risk of becoming a white elephant. As noted earlier, if well coordinated into the future growth of the city these plans have the potential of being lauded, as was the case for Barcelona.

The design of the stadium could, however, gain from better integration into the urban fabric that surrounds it. Sitting on an island of its own, it remains a destination point not meant for casual encounters. Unlike other areas of the city, one must plan to visit the stadium [or shopping mall]; it does not attract the transient or the meanderer as they traverse the city.

Greater integration could also enable a greater spectrum of possible future uses. For example, as

it is sited today it is unlikely that this building could transform into residential units as was recently done with Highbury Stadium in London. The uses of these facilities [the stadium and the shopping mall] have the potential, however, be repurposed into hotel spaces, conference rooms or even offices. If the field were accessible its potential uses could multiply – it could house a fair, farmers market, a wedding or perhaps become an outdoor courtyard to its surrounding buildings.



CAPACITY + COST + USES

* Seats **74,500** spectators.

* The original cost of the stadium is estimated at

27 million Marks

The renovation was estimated to be a

\$283 million project

* home of Hertha Berliner Sport-Club, also used for

Concerts

The Olympiastadion | Berlin, Germany: 2006

SYMBOLISM + LEGACY

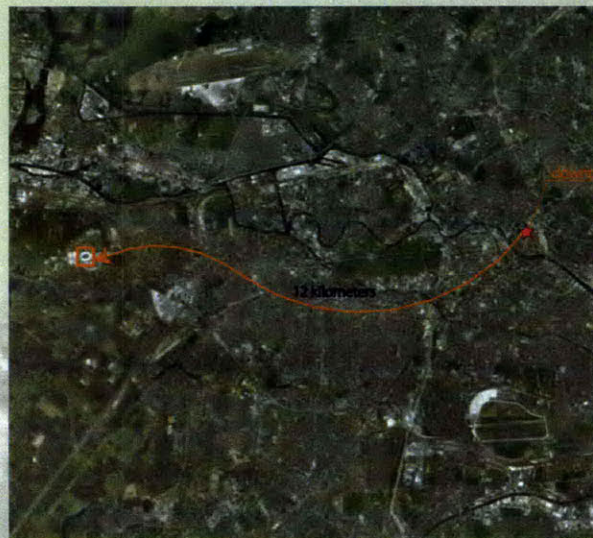
A chance to polish, modernize and *improve the country's image* to the world.

Thoroughly modernized "while meticulously preserving its Nazi heritage."

"A time to make friends"

Refurbished Berlin's prestige as the country's capital city.

SITE LOCATION + ACCESSIBILITY



The Olympiastadion | Berlin, Germany: 2006

The Olympiastadion is the oldest of the stadiums studied here and the centerpiece of the most recent World Cup Tournament. This demonstrates the stadiums' ability to be revitalized and updated according to current technologies. The study focuses primarily on the legacy intended: a rejuvenated image for the city of Berlin and this historic stadium. Here I examine the site selection, design and stadium functions in order to determine how long this legacy effect will last.



Official poster of the 2006 World Cup Games
Photo Credit: www.fifafootball.org

Historical Context + Symbolism + Legacy

The Olympiastadion was originally built in anticipation of the 1916 Summer Olympics in the southern part of the Reichssportfeld (Imperial Sports Area), today called Olympiapark, Berlin.⁸¹ These Games were cancelled due to World War I, but the stadium was built; the design was created by architect Otto March. His son Werner March later renovated the stadium for the 1936 Olympics. At the time, Hitler and the Nazi regime quickly understood the valuable propaganda opportunity the Olympic Games presented and supported the construction of the new stadium; the government contributed six million marks.⁸² World War I and II brought some damage to the building but the structure remained intact. The British military occupation, after World War II, used the northern part of the Reichssportfeld as its headquarters until 1994.

Germany's history until 1945 had earned it a reputation of bellicosity and willingness to conquer other nations.⁸³ The Holocaust cast a shadow over Germany's image for generations; this was felt even within the country itself. In addition, after 1945 Berlin became a symbol as the focal point of tensions between East and West during the Cold War, and particularly of the painful division of the country. These reminders of a turbulent past needed to be overcome. The reunification of the divided city after the breakdown of communism in Europe on October 3, 1990, brought a new desire to break with its tainted past. "The Germans are conscious that they are probably the most unpopular nation in Europe, for obvious historical reasons," wrote journalist Glenn Moore in *The Independent* about the state of the nation at the start of the 2006 World Cup.⁸⁴

The organizing bodies of the 2006 World Cup – the federal government, the tourist board and the Local Organising Committee – approached this huge sporting event as a chance to polish, modernize and improve the country's image to the world. Not only did they set out to improve their stadium facilities, infrastructure and transportation options, but also to present a new persona of the Nation in the eyes of the world. The official slogan of the games, for example, was "A time to make friends," which attempted to cover up any negative image from the past and send a clear welcoming message to the world. The FIFA German World Cup Organization Committee and the German Tourist Board together launched an initiative to "cheer up" the country to receive its new international guests and called it *The National Service and Friendliness Campaign*.⁸⁵

According to Sturgess and Brady, who reported on the effects of the 2006 World Cup in a report for World

Economics, the campaign worked: "Anyone who spent any time in Germany during the last World Cup could not have failed to notice the feel-good factor around the nation."⁸⁶ Germany intended to spread this rejuvenated image of itself throughout the world and an event of this magnitude created the medium by which to do so. After the Cup, FIFA stated that the 2006 World Cup stood as "one of the most watched events in television history, garnering an estimated 26.29 billion viewers, compiled over the course of the tournament; the final alone attracted an estimated audience of 715.1 million people."⁸⁷

The reuse of the historic Olympic stadium site gave a new image of advancement and pride to an area overshadowed with negative memories. The intention was to present a more modern and more positive Germany.⁸⁸ Rather than build a new stadium, which may have cost less, the Germans have reconstructed a landmark "in a way that thoroughly modernizes it, while meticulously preserving its Nazi heritage."⁸⁹ Volkwin Marg, a Hamburg architect whose firm oversaw the renovation, said "You can't overcome history by destroying it, we have to overcome our role in history by demonstrating it."⁹⁰ The 2006 World Cup tournament served to refurbish not only its stadium but also Berlin's prestige as the country's capital city.



The historic stadium after its restoration
Photo Credit: www.olympiastadion-berlin.de



The Olympiastadion during the 1936 Olympics
Photo Credit: www.olympics.ballparks.com

Site Location + Accessibility

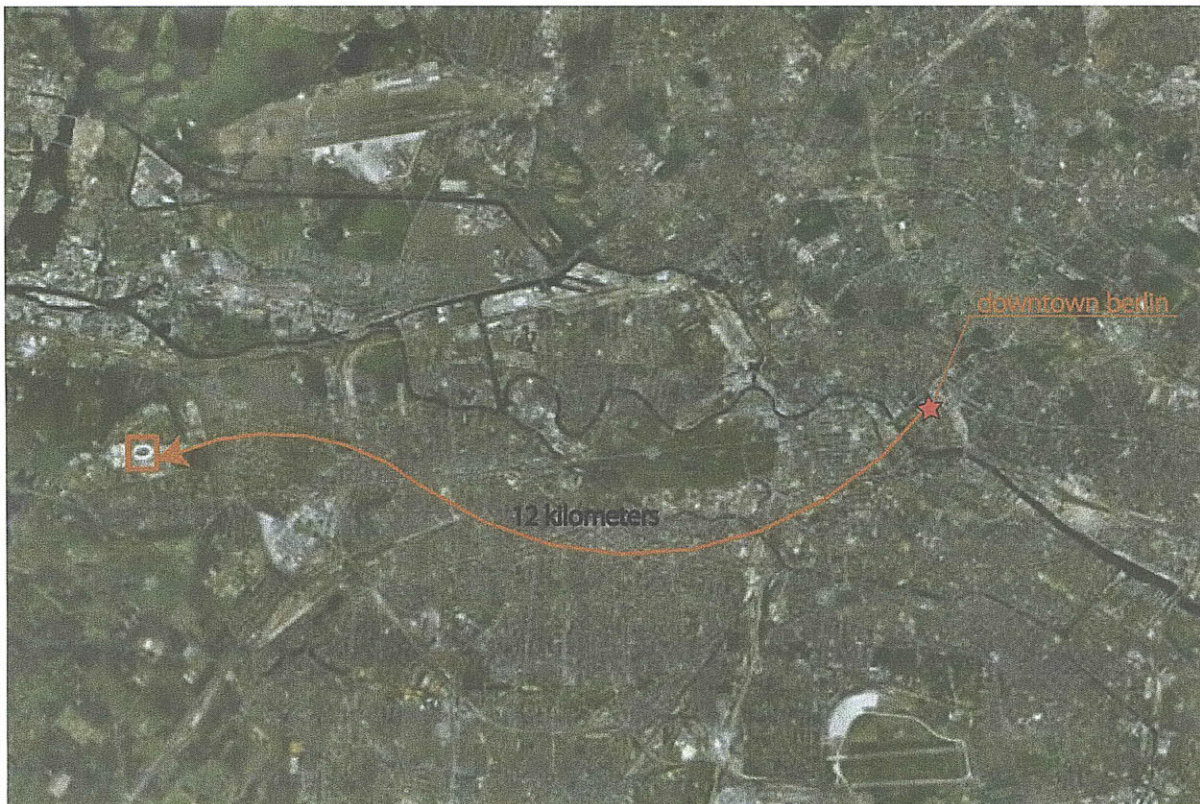
The site has a long history as a designated public space used for sporting facilities. In 1904 Emperor Wilhelm II designated the site to become a "people's park." By 1909 a horseracing track was built on this site, later to be replaced by the Deutsches Stadion (National Stadium).⁹¹ In 1925 it began to be called "Sportforum," today the site remains a large sporting complex. On the outskirts of the city, it was the obvious siting choice for the new stadium complex in 1916 as Germans prepared for the Olympic Games. The site has since been designated a historic sporting ground; it will not likely be integrated into the city fabric even if the city were to expand at great speed. That said, it was both economically and symbolically wiser for the city to choose to renovate, update and rejuvenate the stadium on this site rather than to build a new one where it would have been unnecessary.

Today, as the city has grown and expanded, the site is only 12km from the downtown area. Berlin's population is the largest of all German cities, yet relatively small compared to other world cities; it has only 3.4 million inhabitants.⁹² The site is located directly between the two major arteries that are used when entering or exiting Berlin from the West. The

stadium itself is at the end of the axis of Olympische Strasse, which leads to the city center.

Berlin's main planning initiatives for the accessibility of the stadium and throughout the city were directed towards pedestrians. The entire main street called June 17th was shut down to traffic during the month of the World Cup, giving visitors and citizens alike a gathering place for World Cup festivities. The street was filled with crowds, bar booths and television sets; it resembled street life during the Carnival in Brazil. The stadium location near the main entrance of the city and off the main June 17th street made it a prominent site for visitors and Germans alike both during and after World Cup events.

Today, as the streets are back in service, the stadium is accessible by subway, train, car, bus, bicycle and pedestrian transit. The average travel time to Spandau station downtown is seven minutes; it takes approximately 14 minutes to get to the Zoologischer Garten, 22 minutes to Friedrichstrasse and 26 minutes to Alexanderplatz – all of the most well known districts and residential neighborhoods of the city.



Site location of the stadium
Image created by author



June 17th Avenue during the World Cup festivities
Photo Credit: www.theworldcupingermany.com



The Olympiastadion post-renovations [2006]
Photo Credit: <http://de.structurae.de/>

Design + Scale + Surroundings

The stadium was originally designed by Otto March. He was unable to see its inauguration, however, and his son Werner March was credited with the first renovation of the stadium. The stadium itself occupies 56,616 m² with a circumference of 803 m. It was intentionally designed to sink 12 m below ground level and reach only 13 meters (42 feet) above ground. This created a commanding, highly visible building at a humanizing scale. The layout of the stands for the audience was planned above and below a circular middle gallery that lies at ground level.⁹³

The Olympiastadion is said to have once reached 110,000 spectators, when standing room-only areas were permitted.⁹⁴ Today it remains the stadium with the highest seating capacity in Germany at 74,500 spectators. The field itself measures 116 meters by 189 meters while the entire building measures 230 meters by 304 meters. The new roof, supported by 20 filigree steel columns standing in the upper ring, has increased the height of the building to 21 meters [69 feet] from the ground level. The roof structure appears light, as if it were floating above the stadium. The renovation also lowered the infield by 2.65 meters

in order to incorporate two more rows of seating. The inner gallery between lower and upper ring has now been filled with 76 new VIP boxes and 13 new skyboxes were installed in the former press stands in the upper ring.

Part of the greater historic Olympic sports complex, the Olympiastadion in Berlin is also part of a larger design that today is used as a visitors' center. Within the complex are also: The 28-acre Maifeld (Mayfield) lawn, used as recreational space as well as for gymnastic demonstrations; the Waldbühne Forest Theatre, an outdoor amphitheater; and historic sites such as the Glockenturm Bell Tower and the Langemarck-Halle where flags were raised to commemorate WWI soldiers who fought in the battle of Langemarck.⁹⁵ Today these sites are venues for sports events and concerts as well as a national landmark and tourist center. The place is easily accessible, but purposefully not well integrated into the urban fabric around it. The dramatic entrances, vantage points and plazas create a sense of hierarchy and mark one's arrival to an important, sacred place.



The new roof on the Olympiastadion as seen from above.

Photo Credit: www.theworldcupingermany.com

Materials + Cost + Multiple uses

The stadium was originally built with 70,000 cubic meters of concrete and 20,000 cubic meters of pre-cast reinforced concrete; the exterior façade, however, was replaced with 30,000 cubic meters of natural stone when it was refurbished. The roof, designed as a light cantilevering steel construction with an upper and lower membrane, evokes the progress made by Germany since the days of Hitler. The total length of the steel truss work is estimated at 68 meters and is visible through the translucent membrane. Twenty supporting columns carry a weight of 3,500 tons of steel down from the roof. The renovations to the existing stadium demonstrate the strong will of the Germans to create modern, efficient design as well as to rejuvenate their image.

The original cost of the stadium is officially unknown, but was estimated in 1936 at 27 million Marks.⁹⁶ The 2004 renovation was estimated to be a \$283 million project.⁹⁷ This demonstrates that the renovation of an existing stadium can cost as much, if not more, than a new stadium. On the other hand, displacement and infrastructure are not prevalent issues in renovation projects as they are in new construction. They can also result in some major savings without sacrificing the symbolism and iconic nature of the previously existing large stadium.

The site serves multiple functions including various sporting events and concerts and as a general cultural venue year-round. The stadium is the home of Hertha Berliner Sport-Club von 1892 (Hertha BSC), the best-known club team in Berlin. In addition, the stadium itself houses a restaurant, a chapel, a bell tower and a gift shop. The site serves as a historic

tourist attraction, but it is also used for daily leisure; Germans are often seen running or lounging on the nearby lawns.⁹⁸



The Olympiastadion filling on game day
Photo Credit: www.berlin2009.org

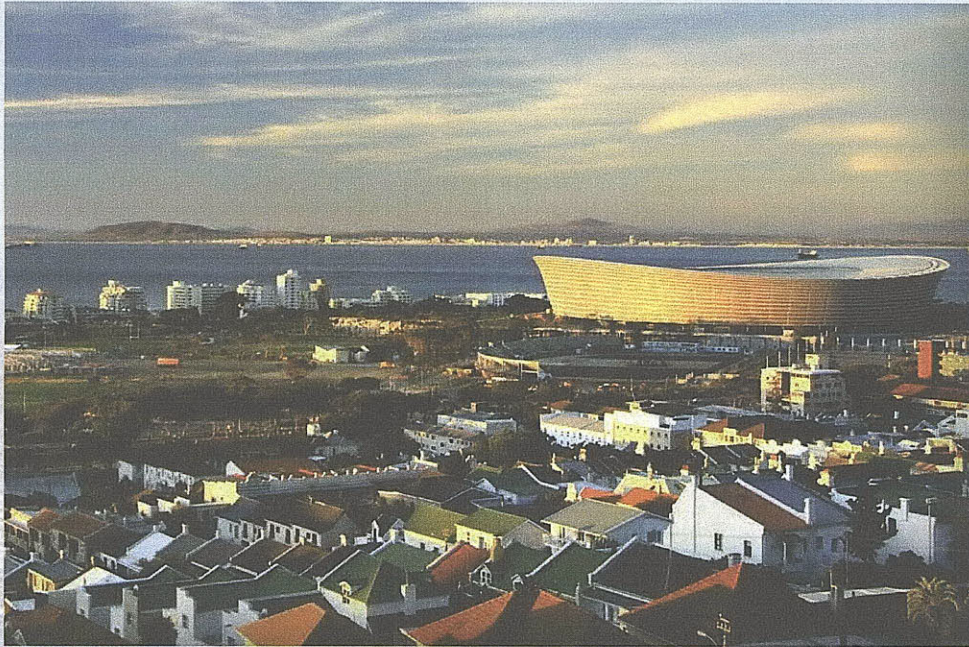
Conclusions

The stadium renovation represents an effort to overcome the glum, disappointing image that the city had carried. Despite the cost of the immense investments made, it has achieved the intended goals: to rejuvenate the city's image and create spaces adequate for the World Cup Tournament. The World Cup has afforded the city the opportunity to expose and advertise itself to the international market – tourism and beyond. Not just a useful space, this complex is a symbol that makes the citizens proud. This shift in the city's image has the potential of leaving a lasting legacy on the city – that said, if the stadium were more centrally located, impacting the daily image and lives of the city and the people this legacy may have been more powerful.

The stadium sits within a larger sporting complex; therefore its scale is objective. The added roof may have increased the height of the stadium, however this has not had a profound effect on the skyline of the city, nor of the area. When it was originally constructed it was on the outskirts of the city, today, despite the fact that the city has grown it remains on the margins.

As a historic site, it is unlikely ever to be integrated into the urban fabric that grows around it. The site itself is expected to remain a preservation site, enclosed, maintained and controlled as it is now. The building is impermeable and does not address the street level in a humanizing way. Visitors cannot engage with and penetrate the building to enter shops, cafes or museums, for example. Such amenities could create greater attraction to the site on a regular basis. Additional retail on the building itself – currently lacking – could respect the historic nature of this site, and in addition generate income. A mix of uses and functions on the ground level could create spaces and places for alternative experiences that could maintain the interest of the visitor and require their return for a second visit.

The flexibility and adaptability of the stadium for alternative uses is narrow; the stadium location, shape and size may never change again. Its general programming, however, if altered, could likely generate a profit instead of increasing the debt that it collects now. It is the responsibility of the city to churn creative solutions to these static problems instead of watching the building as it contributes to mounting public debt that burns a hole in the pockets of its citizens.



CAPACITY + COST + USES

* capacity for *68,000* spectators

* estimated at *R4.5 billion* [5.7 million US dollars.]

* plans for post-Cup use of the stadium are *limited*.

* The city has entered into a *contract* with a consortium who will be responsible for the stadium's operation post Cup.

Cape Town Stadium | Cape Town, South Africa: 2010

SYMBOLISM + LEGACY

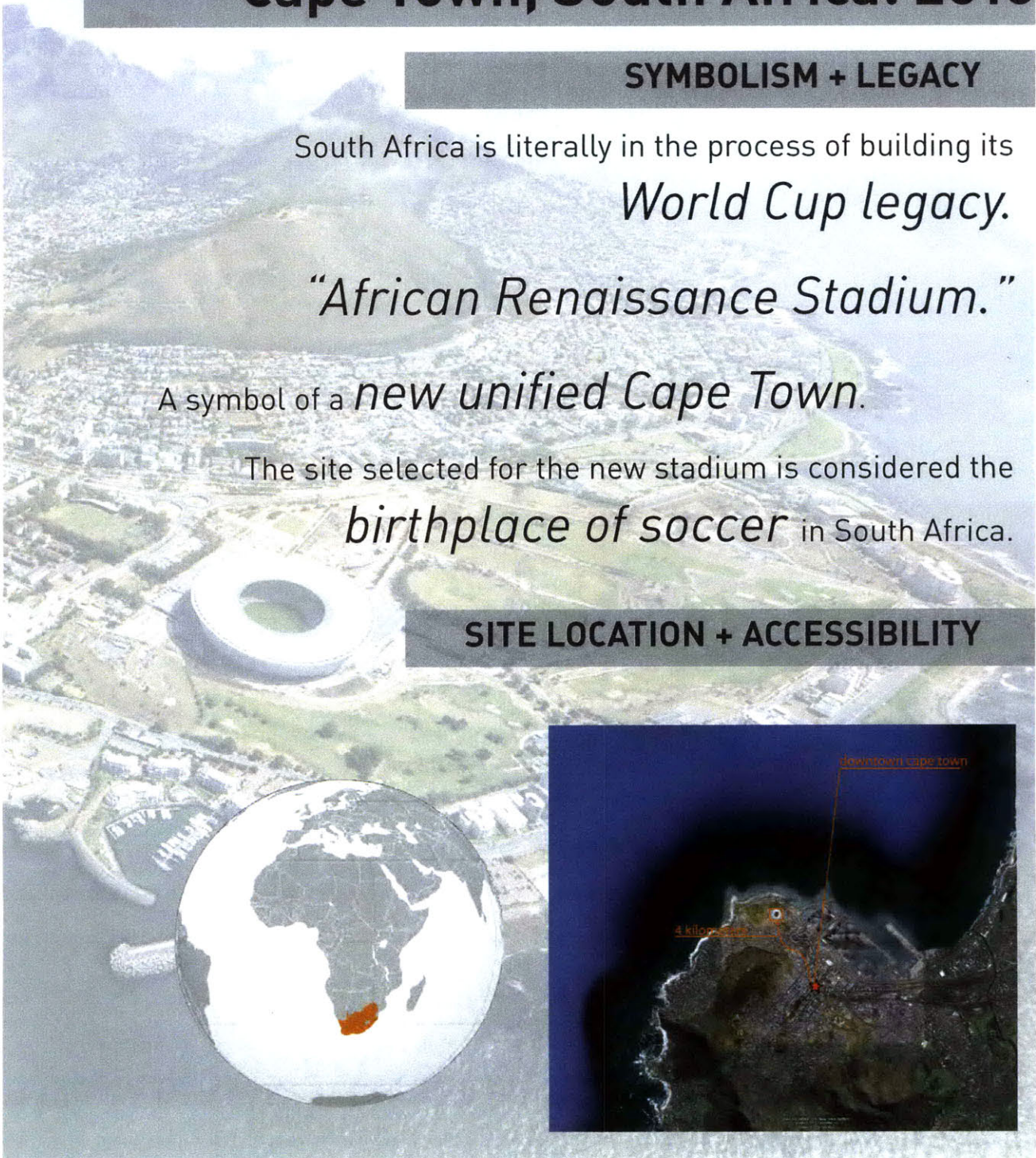
South Africa is literally in the process of building its
World Cup legacy.

“African Renaissance Stadium.”

A symbol of a *new unified Cape Town.*

The site selected for the new stadium is considered the
birthplace of soccer in South Africa.

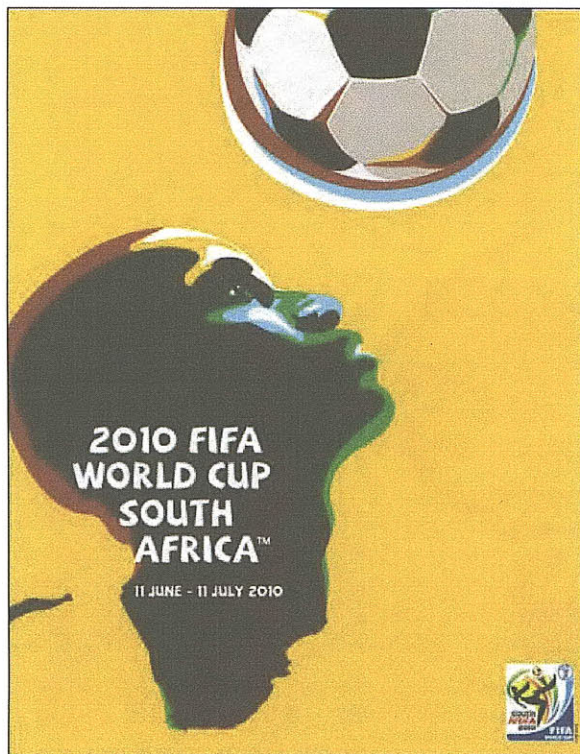
SITE LOCATION + ACCESSIBILITY



Cape Town Stadium |

Cape Town, South Africa: 2010

The Cape Town Stadium is a new, state of the art facility built in anticipation of the upcoming 2010 World Cup. This study seeks to examine the legacy effects that are intended by the decision to host the World Cup in South Africa. The site selection, planning and design of this new facility have the potential to facilitate or deter this effect. Here I consider the recent choices made by City Planners and Architects as well as the alternatives.



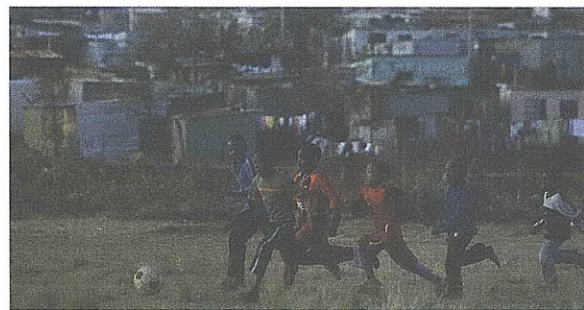
Official poster of the 2010 World Cup Games
Photo Credit: www.capetownmagazine.com

Historical Context + Symbolism + Legacy

Soccer is the most popular sport in South Africa, though it contends for that title with cricket, rugby and swimming.⁹⁹ Soccer, like all of those sports, was brought to South Africa by the British in the 19th century and has suffered from elitism, racism and segregation. The Football Association of South Africa (FASA) was suspended from participating in FIFA matches in 1961, 1962 and again in 1964 due to the segregated teams created under the apartheid government.¹⁰⁰ They were subsequently expelled in 1976 after the Soweto uprising and were not recognized again by FIFA until 1992 when the organization was renamed the South African Football Association in order to remove any racial stigma that remained.¹⁰¹ 18 years later, the tensions in South Africa linger, but the opportunity to host the 2010 World Cup Games is a means by which the country can clear its name and set forth a positive image internationally and on home turf.

South Africa is literally in the process of building its World Cup legacy. The country has decided to host the 2010 tournament games in nine cities and ten stadiums, five of which are newly built. The economic expectations are as high as the costs - the 33-day event itself is estimated to generate 15.6 billion Rand [over \$2billion USD] from foreign visitors. Irvin Khoza, the Chairman of the 2010 FIFA World Cup Organizing Committee in South Africa, noted in a public speech that the promise that the World Cup would bolster the economy by approximately \$6 billion and create as many as 159,000 new jobs was a large factor leveraging South Africa's desire to enter the tournament bid.¹⁰²

Cape Town, the "Mother City", is the oldest city in South Africa and has a population of about 3.5 million.¹⁰³ The site selected for the new stadium - Green Point Common - is considered the birthplace of soccer in South Africa. The first recorded public soccer game was staged on the Common in 1862.¹⁰⁴



Impromptu soccer pitch in South Africa
Photo Credit: www.nytimes.com

The site, however, remains the posh, predominantly white suburb that it once was, while the popularity of the sport has since shifted to the black majority and the poor. The selection of this site and its state of the art design may be a strategic attempt by the city to increase the popularity of the sport amongst the wealthy upper class.

Instead of renovating existing stadiums, the city of Cape Town has elected to build a new, world-class stadium to represent its strength and ability to stand among other world-class cities. This is exemplified by the nickname given to the structure: "African Renaissance Stadium."¹⁰⁵ "African Renaissance" is a term popularized by President Mbeki's post-apartheid speech to symbolize Africa's ability to overcome the current challenges confronting the continent. He later listed the elements that comprise the African Renaissance: social cohesion, democracy, economic rebuilding and growth, and the establishment of Africa as a significant player in geo-political affairs. The coined nickname carries with it high expectations for the World Cup, for the stadium and for the future of the city. A symbol of a new unified Cape Town, the stadium will be the spotlight of much media attention, as it will host eight world cup matches. In order to meet these expectations, however, the stadium must lead by example and provide space for all social classes within the stadium as well as sufficient public benefits for all of the citizens of Cape Town.

The opportunity to participate as host for the 2010 FIFA World Cup has afforded Cape Town unprecedented means to provide for its citizens. As a result, the city has unlocked national government expenditure on public infrastructure that would not normally be available. Its major legacy projects include the new

urban park, better public transportation, improved infrastructure and a growing economy. The city will upgrade the existing rail network (including a R440m upgraded central Cape Town Station) and the first phase of a new Integrated Rapid Transit (IRT) system with a connection to Cape Town International Airport, which itself is being expanded. Significant investment has also been made to improve pedestrian environments and public spaces and to create dedicated bicycle routes. The new Green Point Stadium in Cape Town is expected to create a massive sports infrastructure legacy on the Green Point Common. The 103Ha [257 acres] parkland of Green Point Urban Park will include improved sports facilities, fields and clubs, a 9-hole golf course and the new 12.5Ha [31 acres] Green Point Park, a public amenity of major metropolitan significance.¹⁰⁶

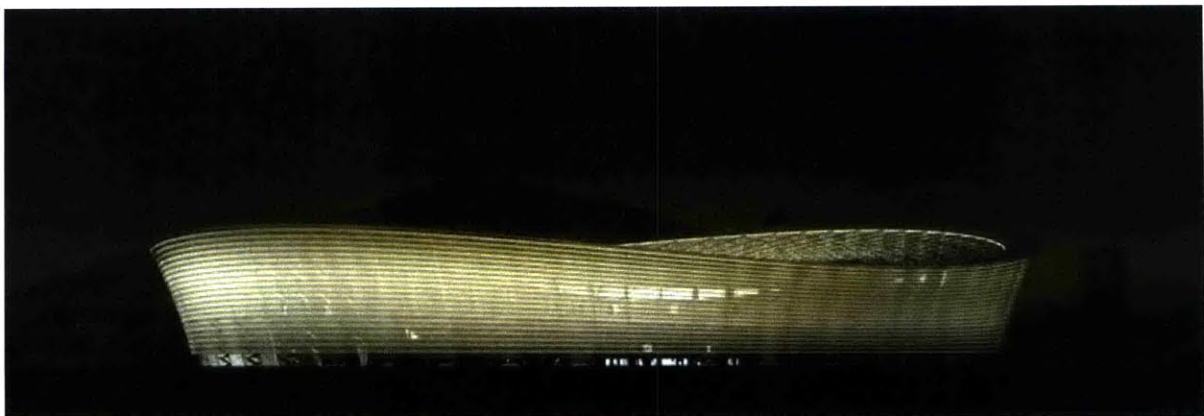


Image of the new iconic stadium
Photo Credit: <http://www.capetown.gov.za>

Site Location + Accessibility

Prior to the 2010 World Cup bid, the city of Cape Town had three stadium facilities: the original Green Point Stadium that held 18,000 people; Athlone Stadium located in a predominantly poor, black neighborhood with a 30,000 person capacity; and the nearby Newlands Blue Downs Stadium, a 68,000-seat venue. Given the massive popularity of football in the townships surrounding the latter two stadiums, it might have been more appropriate to renovate them for the 2010 World Cup. FIFA, however, rejected each of these alternatives stating that they were in "unattractive locations." The Johannesburg-based Mail & Guardian newspaper reported that a FIFA delegate had said that Athlone, which is surrounded by low-cost and informal housing, was not an appropriate site to host a billion dollar event. He was quoted as saying: "A billion television viewers don't want to see shacks and poverty on this scale."

In a report conducted by the Institute for Security Studies called *Player and referee Conflicting interests and the 2010 FIFA World Cup* released just last month, FIFA is denounced for strong arming the government in Cape Town in the soul interest in their own profits and confounding decision making with ambiguous relations. It is undeniable that the final site selection

for the new stadium is one of great beauty; it will surely be the centerpiece of many postcards. Whether it is put to good use post-event is yet to be seen. Its location and accessibility will have much to do with its ability to attract sufficient activity to sustain its costs. An empty stadium could have the opposite effect than is hoped - it could create a negative legacy for the city.

The site for the new Cape Town Stadium was chosen for its scenic surroundings at the City's coast, for its easy links with transportation infrastructure, and for its ability to stage construction of a stadium with capacity for 68,000 spectators. In a report to the Mayor in 2006, Bayette Development Consulting indicated that Green Point Stadium would require high costs but its' siting would increase the potential for private sponsorship. This may be true, but without a secure fan base that can afford the tickets to the stadium the stadium will likely remain empty generating debt. Perhaps, more money should have been spent to upgrade these underserved, poor areas instead of on a new stadium and parklands in an upper-class suburb without a fan base for the sport. This would have at least made these great expenses justifiable by improving an area of the city in need.

Located in the suburb of Green Point, only 4



Site location of the stadium
Image created by author

Design + Scale + Surroundings

kilometers from the city center. When balanced with the city's population of fewer than 3.5 million, however, the distance to the city center becomes much greater.¹⁰⁷ The site itself was uninhabited and preserved as a large urban park. It is within a five minute walking distance from the Queen Victoria and Prince Alfred (V&A) waterfront – Cape Town's number one tourist destination.¹⁰⁸ The stadium is connected to the waterfront by a new road, Granger Bay Boulevard. The City has upgraded roads and supplied the city with additional public transportation options and infrastructure that will endure post-World Cup. These include: shuttle bus services, upgrades and expansions to the existing rail lines, bicycles for hire, taxis, and minibus taxis. In addition, the government has deliberately made improvements to pedestrian amenities in an effort to reduce vehicular transit.

During the games, major roads will be closed to facilitate a Fan Walk from the downtown central railway station at Adderley Street to the stadium entrance – a distance of approximately 2.5 km. Pedestrian access to the stadium is also provided from the V&A Waterfront. The city has set forth strong efforts and campaigns to encourage fans to walk to and from the stadium.

The design is state of the art. Premier in the field of stadium design, the German firm GMP Architects are the lead designers of the Cape Town Stadium, as well as of three other stadiums being built or renovated for the 2010 World Cup Games. They have collaborated with local architecture firms Louis Karol and Associates and Point Architects. The building itself is located on the Green Point Common, a 103-hectare [257 acres] park centered between the twin icons of Table Mountain and Robben Island. It was designed to seat 68,000 spectators and stands 64 meters [210 feet] above ground. The architects describe the design as "a sculptural object" in the landscape.¹⁰⁹

The Green Point Common also features other sporting facilities including rugby fields, a cricket pitch, tennis courts, and a 9-hole golf course. In addition, there is a 12,5-hectare public park (Green Point Urban Park) for residents and visitors. Next to these spaces the stadium stands quite tall, distinguishable over the skyline of the buildings that border the coast with a backdrop of Table Mountain beyond. The view is stunning on a postcard; however, the experience of this immense structure up close is overwhelming to the spectator. A design with a sunken field, and



Site design for the Cape Town Stadium

Photo Credit: <http://www.capetown.travel>

Materials + Cost + Multiple uses

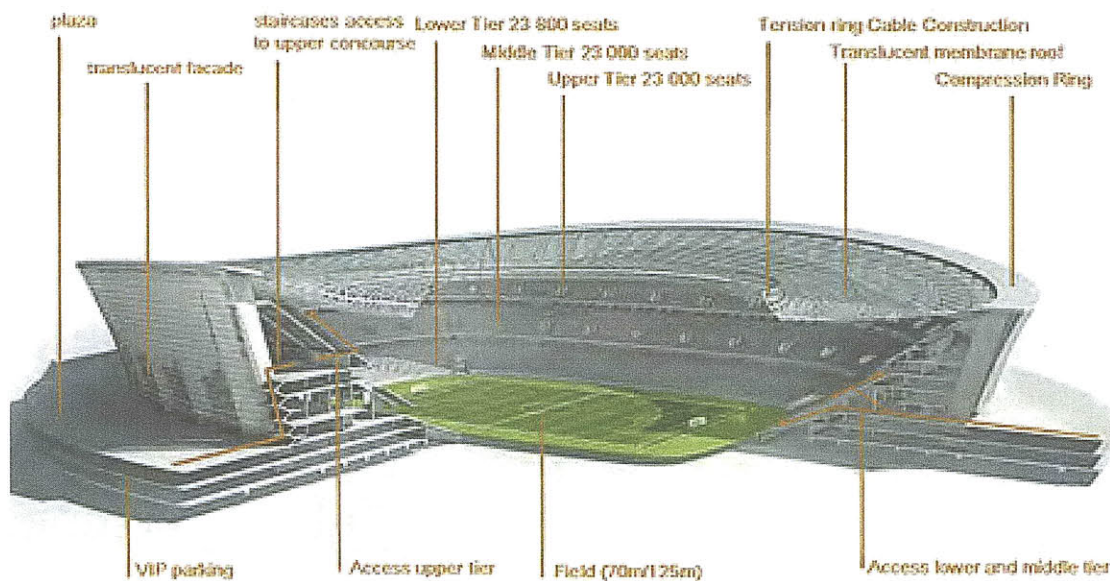
fewer underground parking spaces would likely have mitigated this effect, creating a more humanizing edge, though the result would also diminish the height and prominence of the building.

There was an emphasis on sustainable, efficient design as well as re-use of existing materials from the old Green Point stadium. When it was demolished to make way for the new stadium, 95% of the components were recycled and reused.¹¹⁰ Cape Town was determined to make a name for itself within the green movement. As it launched the Green Goal program, the city committed "to raising awareness, minimizing waste, diversifying and using energy efficiently, and constructing infrastructure with future generations in mind."¹¹¹

The roof structure was a particular challenge, as it also had to be strong enough to handle the city's notorious winds. The 36,000 square meter roof design drew inspiration from the design of a bicycle wheel with an outer compression ring and an inner tension ring.¹¹² Approximately 72 cables link the outer and inner rings of the circle; the double layer of roofing helps to reduce the turbulence from the winds as well as to create a sound-absorbent volume. The exterior has 16mm-thick laminated safety glass panels, while the ceiling panels underneath are made of woven PVC fabric. Water from the stadium roof and drainage of the pitch is pumped into ponds on the Green Point Common, thus reducing dependency on potable water.¹¹³

The stadium construction used 27 different types of concrete incorporating recycled content wherever possible. The structure is meant to be solid and enduring; it was not designed with the ability in mind to disassemble or remodel it in the future. The exterior envelope of the façade is made of woven fiberglass coated with Teflon, which gives it a modern appearance and reflects the conditions of its surroundings. While the design of the Cape Town Stadium, with its bright, clean swooping lines commands a strong presence in the landscape, it does not anticipate future adaptations or upgrades. If the building is, in fact, to endure over the next 50 years then one should expect that it too will be affected by the trends of the future and require upgrading to its image lest it age and become a white elephant in the landscape of the city.

It is valuable to compare the estimated costs of South Africa's World Cup with those of other recent hosts in order to understand such large scale spending. In contrast with Germany, South Africa's financing will largely come from public funding; this is because private financing is hardly available from local soccer clubs, which do not have the same financial power as clubs of other countries.¹¹⁴ Germany's infrastructure was also considerably more developed than South Africa's, which has meant that South Africa has necessarily spent more money on roads and infrastructure as well.



Cape Town Stadium design
Photo Credit: <http://www.capetown.gov.za>

The site, however, remains the posh, predominantly white suburb that it once was, while the popularity of the sport has since shifted to the black majority and the poor. The selection of this site and its state of the art design may be a strategic attempt by the city to increase the popularity of the sport amongst the wealthy upper class.

Instead of renovating existing stadiums, the city of Cape Town has elected to build a new, world-class stadium to represent its strength and ability to stand among other world-class cities. This is exemplified by the nickname given to the structure: "African Renaissance Stadium."¹⁰⁵ "African Renaissance" is a term popularized by President Mbeki's post-apartheid speech to symbolize Africa's ability to overcome the current challenges confronting the continent. He later listed the elements that comprise the African Renaissance: social cohesion, democracy, economic rebuilding and growth, and the establishment of Africa as a significant player in geo-political affairs. The coined nickname carries with it high expectations for the World Cup, for the stadium and for the future of the city. A symbol of a new unified Cape Town, the stadium will be the spotlight of much media attention, as it will host eight world cup matches. In order to meet these expectations, however, the stadium must lead by example and provide space for all social classes within the stadium as well as sufficient public benefits for all of the citizens of Cape Town.

The opportunity to participate as host for the 2010 FIFA World Cup has afforded Cape Town unprecedented means to provide for its citizens. As a result, the city has unlocked national government expenditure on public infrastructure that would not normally be available. Its major legacy projects include the new

urban park, better public transportation, improved infrastructure and a growing economy. The city will upgrade the existing rail network (including a R440m upgraded central Cape Town Station) and the first phase of a new Integrated Rapid Transit (IRT) system with a connection to Cape Town International Airport, which itself is being expanded. Significant investment has also been made to improve pedestrian environments and public spaces and to create dedicated bicycle routes. The new Green Point Stadium in Cape Town is expected to create a massive sports infrastructure legacy on the Green Point Common. The 103Ha [257 acres] parkland of Green Point Urban Park will include improved sports facilities, fields and clubs, a 9-hole golf course and the new 12.5Ha [31 acres] Green Point Park, a public amenity of major metropolitan significance.¹⁰⁶

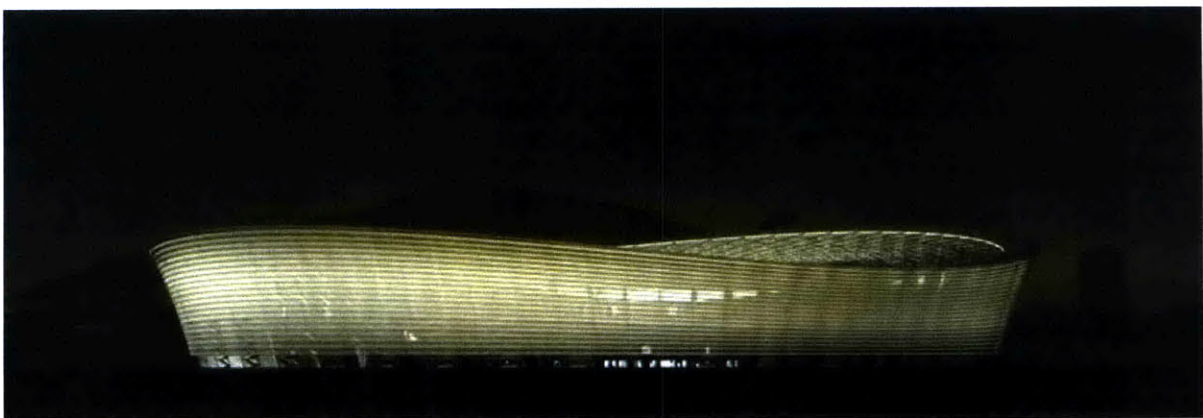


Image of the new iconic stadium
Photo Credit: <http://www.capetown.gov.za>

Conclusions

The 2010 World Cup Games afford South Africa a means to clear its name and set forth a positive image internationally as well as on home turf. The Cape Town Stadium, nicknamed the "African Renaissance Stadium," is meant to serve as a symbol of post-apartheid social cohesion and growth. This legacy, if successful, could change the social dynamics of the city forever. To be effective, this promise must be met with physical, social and political changes throughout the city. Furthermore, it cannot be limited to 2010 (the year of the Cup) but must be invested in and persevered on for many years to come.

The opportunity to host eight of the matches of the 2010 FIFA World Cup has had a profound effect on the physical infrastructure of the city that will carry on to the lives of its citizens well after the Cup has ended. The benefits of new transportation centers and upgraded facilities and the amenities of a new urban park will likely transform the lifestyles of the people of Cape Town. The design of the stadium and its site location at the coast has created a truly iconic image for the city. It is hoped that this upgraded image will attract tourists and foreign investment. In addition, it may serve to lift the spirit of South Africans, as they will take pride in their new world-class soccer facility.

The site location, in a posh suburban community on the periphery of the city center, however, may negate the efforts to create a more unified city. While its

location may serve to popularize soccer amongst the upper class and therefore attract wealthier spectators to the stadium, it may also leave a sour taste in the mouths of the avid soccer fans who are generally counted among the masses of the poor. A more neutral location might have achieved the iconographic intentions of the current design without jeopardizing the intended meaning of country unity in hosting a mega-event like the World Cup.

Not only is the stadium location out of place for the current soccer fans, its design may result in outpricing those very fans. The size, scale and capacity of the stadium are unprecedented for the city of Cape Town. Whether it will be fully occupied in post-Cup events is questionable. It is, however, very unlikely that it will make a profit from tourist visits and soccer matches alone. There are no current plans to alter its uses post-Cup, which could forecast a somber future for the stadium. Without a broader vision this facility may face the same impending doom of many of its predecessors: underutilization and exorbitant debt.

It is the responsibility of the city to continue to program the space and to make it accessible for all of its citizens. Integration into the daily economic and social lives of the city is essential for these enormous endeavors to become good public investments instead of white elephants.



Cape Town Stadium during the 2009 FIFA Confederations Cup
Photo Credit: <http://www.capetown.gov.za>

CASE STUDY OBSERVATIONS :: IDENTIFYING TRENDS

The five case studies selected for research demonstrate the wide spectrum of possible outcomes and effects that the World Cup can have on a city through the design and placement of a single building. In order to harness the potential of these mega-event facilities one must first identify the trends present in the planning and design of these over time. The case studies presented here underline five notable trends of World Cup stadium development:

Their designs aim at becoming iconic symbols and legacy projects for their respective cities;

They are enormous; their size, scale and cost has notably increased

Their site locations are progressively farther from the city center over time

They are poorly integrated into their surroundings, and into the daily lives of the city; accessibility is limited; and

Flexibility and uses are narrow.

Each of these factors contributes directly to the amount of investment required to build these structures, and likewise has an effect on how much benefit the city receives from these investments. Host cities should examine these trends carefully and consider how to ameliorate the negative effects that have been recently experienced, both for the economic success of these events and for the lasting effects on their economies thereafter.

1. Their designs aim at becoming iconic symbols and legacy projects for their respective cities.

It is the goal of most cities erecting new stadiums to create an iconic building. An icon is defined by Webster as a name, face, picture, edifice or even a person readily recognized as having some well-known significance or embodying certain qualities that represents something of greater importance through literal or figurative meaning. "Iconic architecture" is generally considered to be innovative (for its time) and unique; examples include the Sydney Opera House and the Guggenheim Museum in Bilbao. They are said to create a feeling of regional pride, inspiration and identification. Reaching beyond practicality or financial measures, they become landmarks and part of the memorable character of the cities thereby "getting their name on the world map"¹¹⁶ in the same way that towering skyscrapers like New York City's Empire State Building or Kuala Lumpur's Petronas Twin Towers serve as city landmarks.

Iconic buildings provide an aesthetic focus in the city's landscape and can attract urban development. Cities use this rationale to justify tremendous investments in sports stadiums and expect that this asset will create an investment domino effect.¹¹⁷ The Green Point Stadium in Cape Town and the World Cup Stadium in Sangam, Seoul both have clear aims to create sweeping, captivating structures on their landscapes to catch the eye of the global market. These projects flashy designs are more than the product of egotistical design professionals; they are designed to cradle the symbol of progress and aspirations for growth of their city and country. In addition, they hope to create newfound pride in their own citizens and to lure future investments into their cities.

The Maracanã and the Olympiastadion are undoubtedly national icons and symbols. In both cases they carry with them the weight of the memory of events in the country's history. The 1950 World Cup served as the catalyst that enabled the creation of this emblematic symbol for Rio, and the upcoming 2014 Cup will serve as redemption. In the case of the Olympiastadion in Berlin, the World Cup has served to refurbish a tarnished image and to clear it of its past. The renovation of the stadium successfully renewed the city's image creating a legacy that will carry on well into the future of the city. The World Cup Stadium in Sangam, Seoul has also served as a catalyst to the rejuvenation of a derelict site. In addition, this has catalyzed further beautification of the city of Seoul, adding public amenities in the forms of natural landscapes throughout the city. The 2002 World Cup and the stadium design will forevermore

be praised for the positive changes that these new public amenities have given the people of Seoul.

The magnitude and global interest of these events enable large-scale development and spending that could otherwise take decades to accomplish. Large amounts of monies are made available in order to invest in facilities and infrastructure for these events. There is no doubt that these stadiums are built with the intention of leaving behind lasting legacies for their cities. It would be wise, however, for World Cup host cities to take advantage of these opportunities and of the accelerated pace of change in order to bring forward long-term plans. The only case study that can make a claim for rising up to that challenge is that of Seoul, South Korea, whose transformation of the area around the stadium site has not only brought new parkland to the city but also led to the new digital media city in Seoul. The project has attracted 22,000 jobs 10,000 residents and is already on the largest media industry clusters in Asia, on track to provide 60,000 jobs by its completion in 2015. Among other elements it has become home to all of the major TV networks in Korea, leading cell phone, internet and game companies, and tallest tower in Asia – the 150 story Seoul Landmark Tower is now under construction overlooking the stadium.

2. *They are enormous; their size, scale and cost have notably increased.*

The notable increase in size and scale of these structures has an inherent effect on spending and cost of building: the larger they are the more expensive the construction costs. Likewise, size has a ripple effect across other expenses such as lighting, heating and maintenance. The size will likely also have a negative effect on the amount of potential return that the city can achieve from these structures.

FIFA's requirements state that any stadium used during the cup must seat a minimum of 40,000 spectators. Many World Cup stadiums being built today are designed to seat over twice as many. This is particularly true for stadiums hosting the opening and closing matches; four of the five cases reviewed here hold 68,000 or more spectators. The Maracanã was built to hold 200,000 spectators for the 1950 World Cup, according to the standards of those times. Despite their enormous size, the capacity of these stadiums is being reduced in order to accommodate security concerns and greater luxuries in seating, VIP areas and room for the media. The Maracanã currently holds less than half of its original capacity [82,238 spectators] and it will be reduced once again for the 2014 Cup.

These requirements are often dictated by FIFA. As they lean towards greater comfort and security for the spectator and more room for new technologies the stadiums continue to grow yet seat less people. A 40,000-seat stadium by these standards may be as large as a 150,000-seat stadium 60 years ago, and conversely older stadiums are now outdated requiring extensive renovations to meet today's standards. FIFA has required, for example, that all new stadiums have four changing rooms for the teams as opposed to the traditional two. This may be to accommodate tight scheduling in between matches, but it has very real physical implications within the stadium that may not be necessary post-Cup.

These newer, more spacious facilities in turn escalate ticket prices to a cost often unaffordable to the masses. This is unfortunate because they are often the most avid of fans. More importantly perhaps, these are the spectators who attend games regularly well after the Cup has passed. This is certainly the case for Brazil, Argentina and South Africa, whose poor have a strong historical presence in the soccer stadium.

It is understandable that the city would want to reap the benefits of high priced tickets to stadiums during the Cup, but this must be balanced with post-cup costs and revenues. Post mega-event, these facilities will likely have a difficult time filling their

seats or re-using these enormous buildings for other purposes. Designers and planners alike will have to tackle this issue. The answers may be as simple as finding a middle ground in seating capacity, loosening up the stringent rules that regulate these seating arrangements or perhaps disassembling parts of the stadium after the event to make them more adequate for their future events.

The scale of mega-events intensifies the factors that contribute to isolation. Since they must accommodate a massive amount of people they result in occupation of a vast area, which is multiplied when parking facilities are included. This may also be attributed to the targeting of upper-class citizens who prefer the luxury of traveling in personal vehicles instead of public transportation. As evidenced by the Seoul case, some host cities have attempted to use new stadium facilities to catalyze the birth of mini cities [comparable to an Olympic village], which in turn requires even larger areas.

In addition, as currently designed these stadiums are so large that they are cumbersome to traverse and they become obstacles within their communities. The new Cape Town stadium, for example, which has the capacity to hold up to 68,000 spectators, is equivalent to the length of four manhattan streets in length and as wide as one avenue. This may seem quite walkable but when compared to Madison Square Garden for example, which takes up just two city blocks and one avenue, one can imagine just how large this really is. This is amplified when taking into account the size of the surrounding parking lots. The new stadium design for the city of Recife, Brazil, which is expected to hold 48,500 spectators, calls for 6,000 parking spaces. This is equivalent to 180,000 square meters [1,920,000 square feet].

The lack of permeability is a problem on two levels: first, because of the inability to engage the street level; and second, because it creates the added burden of having to walk around them to reach a destination point on the other side. This is exacerbated when these stadiums are paired with other sporting facilities and enclosed by walls and gates as in the cases of the Maracanã, the Monumental and the Olympiastadion. Designers should instead aim to improve the relationship of the stadium to its surroundings; this may mean reducing the height of the stadium by placing the field below ground level. Incorporating retail shops, cafes or even small exhibit spaces at the street level could generate more activity as well as revenue and in turn make the stadiums more welcoming to the public.

3. Their site locations are progressively farther from the city center.

Site selection is the first, and perhaps most important, step in the process of bidding for and organizing these mega events. The site location can have great implications on both the event itself as well as on the host city. Among other things, site selection will produce a ripple effect onto other mega planning efforts such as infrastructure, transportation and long-term urban design goals.

These cases underline the fact that mega-event stadium facilities increasingly tend to be located on the outskirts of cities. This has largely been a result of the introduction of the car into modern society in the 1920s. Roads have made it possible to isolate the stadium making it a destination point that depends on vehicular transportation and thus parking. The Olympiastadion, the Maracanã and the Monumental, which were all built before 1950, were sited on the then periphery of the city. The Maracanã and the Monumental have since been absorbed into the expanding city. This is often the hope for new developments; however, this growth usually follows some era of prosperity, which is difficult to predict. What is certain, however, is that major efforts by the city in the forms of continued investment and expansion towards these areas will be required.

In the cases of Seoul and Cape Town the distance of the stadium to the city center may appear to be quite different at first glance (18 km and 3km respectively). However, when examining their populations and relative densities it becomes apparent that these locations are actually on the periphery of their respective cities. Seoul has a population of nearly 10.5 million people, which more than doubles when considering the metropolitan region; its density is estimated at 17,288/km².¹¹⁸ Cape Town is a much smaller city of nearly 3.5 million people with a density of 1,424.6/km².¹¹⁹ It is therefore not surprising that the Cape Town site, like the Seoul site, is considered to be in a suburb of the city, not within the center of the city itself.

Host cities are likely learning that stadiums built on the outskirts of cities do not, by themselves, produce sufficient economic or social impacts to justify these tremendous expenditures. As a result, in more recent years host countries have been creating 'World Cup cities' in conjunction with their investments in new stadiums. Some examples of this are the Olympic Green in China, the Stuttgart Center in Germany and the case presented here of the Seoul Digital Media City in South Korea. These new 'cities' often include shopping centers, residential units and office

buildings, all of the necessities of a small downtown. With the increase in facilities and uses, the sites have required increasingly more land and therefore stadiums are being built farther and farther away from the city center. No longer simply destination points, they now necessitate greater and more sophisticated public transportation and infrastructure to accommodate these new uses.

Sport facilities are worth the expense if they anchor the city and provide spectators with a reason to visit their neighborhoods and spend money on other activities. It is interesting that so many cities have attempted to create new downtowns around stadium construction. These have not generally proven successful, however, and the reason at least in part is because they are so far from the existing downtown. Without a strong historic or community value they do not create new residential centers necessary for economic generation. While efforts to correct the many issues identified with the outer-city stadium locations has met some success, particularly in the United States, this has not yet translated to mega-event stadiums.

When determining the right site, host cities should consider the implications these sites have on spending on infrastructure needs and the expected economic returns after the event. None of these stadiums were originally sited within the city center; it is apparent through these cases that newly built stadiums in the recent past are sited progressively farther from their downtowns relative to their populations and densities. While this may be a result of the size requirements and parking desires for these facilities, there does not appear to be any effort to integrate the stadium into the existing city fabric. This alternative could have the potential to revitalize dilapidating downtowns, a prospect that could have greater economic and social

4. *They are poorly integrated into their surroundings, and into the daily lives of the city; accessibility is limited.*

impact on the city.

The older stadiums examined -- those built before 1950: the Maracanã, the Monumental and the Olympiastadion -- were built as part of a larger private sporting complex. They are characterized by their tall walls and gated entrances. These sites deliberately separate themselves from their neighboring communities; instead of integrating into the urban fabric and welcoming through traffic, these sites delineate their boundaries and are impermeable. This may have been conceived as an act of preservation; however, it has alienated these stadiums from their communities and stunted the area's development.

The Seoul and Cape Town cases are set in public parks. None of these cases demonstrates an urban, or even suburban stadium that is integrated into the environment within which it sits. In each of these cases the stadium acts as a stand alone, ignoring its context completely. As stated, the Maracanã, Monumental and Olympiastadion were the centerpiece of large sporting complexes, which therefore required that the stadium be planned in conjunction with these other spaces. In the case of Seoul and Cape Town, however, the stadium is meant to appear as a singular object in the urban landscape. The trend towards singularity and further away from integration is apparent. In the first cases the stadium site acted as an island with barrier walls separating it from the existing city fabric; in the latter the stadium sits within a greater, greener island. In this condition it is not required to even address the neighboring streets or city fabric; it stands alone on a green canvas.

The urban fabric does, however, present multiple difficulties for these large facilities. In particular, space is limited and of high value, which may be expensive and require complex design strategies for integration and construction of these stadiums. The luxury of an empty canvas is never the case in an urban downtown. Integration may be a complex design endeavor but it has the potential to create a stronger relationship with the city. If well executed both the stadium and the urban fabric can benefit from their close proximity; the stadium could bring large masses to the area on weekends and holidays while the daily functions of the downtown could activate the stadium during the week. In addition, sites closer to the city's downtown will inherit the values of the area's community, have access to the existing infrastructure and potentially boost the city's economy.

The accessibility of the stadium is evolving, shifting

from completely controlled to limited access. In these cases the stadiums are enclosed within larger facilities and access is completely controlled. The Seoul and Cape Town stadiums demonstrate this recent trend shift. The World Cup stadium in Seoul is the pioneer. Here the public is able to access the stadium building and its entire shopping center on a daily basis; the fields and stands, however, are separated and have restricted access. Members of the public can gather or disperse throughout the shopping center at their own will, without a rigid timeline and activity. That said, their access is limited to only certain areas and a sense of surveillance and control is ever present. Like the older stadiums, the Green Point Stadium in Cape Town is set in a sporting complex. The Green Point Commons, however, is designated as public parkland, like the park complex in Seoul, Korea. While the sporting facilities require entry fees, the pedestrian can walk through the park and right up to the stadium without meeting any gates or fences. The control here is limited to the interior of the stadium, while the exterior is public, monitored space.

This shift in design may indicate that stadium facilities have become too static and are currently not generating sufficient income on their own but require greater access to their sites in order to activate them daily. In the future we may see a new model that allows greater access, perhaps even complete access to the stadium. The design of the stadium could eventually incorporate pedestrian thoroughways, which could serve to ameliorate the problem of impermeability. This new model would certainly enhance the relationship between the building and the pedestrian and could serve to create more avenues for the generation of revenues year round.

Car dependency is prevalent in stadium design. The Monumental in Buenos Aires, Argentina and the Olympiastadion in Berlin, Germany, both built in the late 1930s, suffer from a lack of public transportation options delivering spectators to their door. The Maracanã, the World Cup Stadium in Sangam and the Green Point Stadium have all incorporated public transportation options in their designs and renovations. The Maracanã, which was renovated several times, received a train station off of the commuter rail and later a subway station leading directly to its doors. The World Cup Stadium in Sangam, Seoul has multiple subway lines that run directly below the stadium. This movement towards increasing public access to the stadium has enabled middle and low-income citizens to partake in the celebrations.

5. Flexibility and uses are limited.

In addition, adding public transportation options provides a public good to the city and the neighborhood, and in all likelihood to other areas further outside the city. In stadiums the size of these it is imperative to incorporate multiple public access routes into the design in order to bring large masses of spectators to the site. If access is limited to vehicular transit alone, many middle and low-income citizens will not be able to attend the games. If so, the stadiums will not likely meet capacity in post-cup games.

Today the definition of "multi-functional" with regards to stadium design is generally limited to sport facilities that can easily stage music concerts or large congregations for religious or political speeches. These uses are not new to stadium design; they date back as far as the Roman Coliseum.

The World Cup Stadium in Seoul, South Korea, is the first of its class – a stadium facility that captures the uses of a shopping center within its envelope. This integration of uses has enabled the stadium to become a multipurpose facility that can function year round. In addition, this has captured a new type of revenue that helps to maintain the facility. As exemplified by the other nine stadiums in South Korea, however, this is not a strict formula that can be replicated anywhere.

The Maracanã, the Monumental and the Olympiastadion have each tried to adapt to this new idea of bringing people -- and with them daily commerce -- to the stadium for purposes other than watching soccer matches. For that purpose they have created tours and outlets to sell sports paraphernalia; this, however, is limited to soccer fans. In order to serve a greater public future stadium designers and World Cup planners will need to attract a variety of users to the site, not only for soccer or sport-related tourism but also for daily needs. Future stadium designers and city planners must learn from the South Korea cases and create innovative multi-use stadium structures that fit the needs of their own cities.

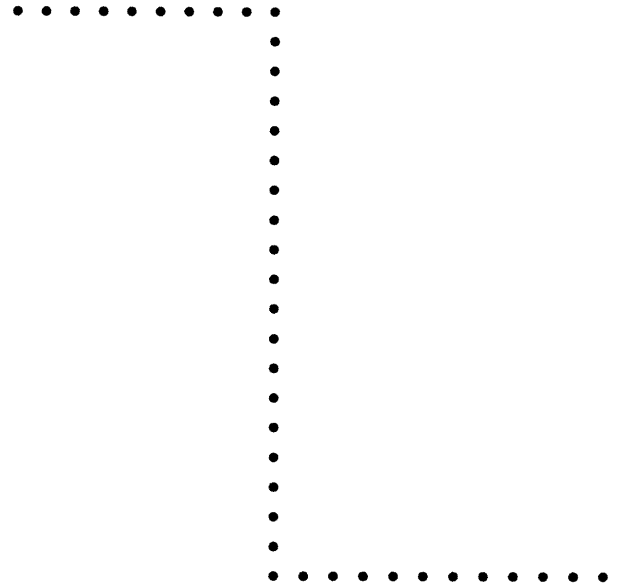
Planning ahead for the uses of these buildings post mega-event should be an integral part of the initial design concept. This will also likely require the use of flexible materials. Today, stadiums are largely built of reinforced concrete, as shown in each of the cases here. Continuing in this path will limit the possible re-uses of the stadium and require costly maintenance and renovations. Instead, the use of materials that can be easily disassembled and reassembled can result in making the buildings' shape flexible and adaptable. Not only can the functions within these walls be repurposed, but the entire stadium form could morph to the changing needs of the city. These stadiums cannot be left to become 'white elephants,' as they are often described, nor can they all be made into malls as in the case of South Korea. It will require a team of varied disciplines including economists, planners and designers, to design these mega structures for each of their respective cities so that they can be re-purposed for future uses.

Conclusions:

Mega-Events of this kind will continue to be planned and executed, if anything, with more grandeur and lavish spending; it is crucial, therefore, that host cities achieve progress through these urban transformations toward the greater goal of serving the long-term needs of their permanent inhabitants. The extent to which newly constructed sports facilities represent a good public investment depends not only on the immediate economic impact of the mega event but also on the use of the facility after the event. Developing countries in particular need to weigh the opportunity costs of hosting against other uses of public funds. The cost of hosting these events is enormous and rising; it is therefore imperative that the returns justify these costs for host cities and their citizens.

Rapid development and large crowds may be the leading factors in the decisions on site selection of World Cup stadiums; given their tremendous expense, however, host cities cannot afford to use these as the only criteria. They must learn to integrate the stadium into their cities. Stadiums need to be able to function with the urban context on a daily basis, not simply for the event itself. Furthermore, they can no longer be thought of as single purpose buildings on parking-lot islands; they must be designed for multi-purpose use with functions that can contribute and be integrated into the life of the city surrounding it. To achieve these goals they will require more than better siting. They will likely demand re-thinking the form of the stadium as an urban building type.

CHAPTER 3



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..... MEGA-EVENTS :: COMPARING PUBLIC FORMS

“Just like words and sentences, forms depend on how they are ‘read’ and which images they are able to conjure up for the ‘reader.’ A form can evoke different images in different people and in different situations, and thus take on a different meaning, and it is the phenomenon of this experience that is the key to an altered awareness of form, which will enable us to make things that are better suited for more situations.”

- ‘Huiswerk voor meer herbergzame vorm,’ Forum 1973.

COMPARING PUBLIC FORMS :: INTRODUCTION

This chapter seeks to identify how we think about stadiums today. The analysis of these metaphors will reveal the common elements that resonate in each of these forms. Underlining their likenesses exposes the limitations of these forms. Here, I present a new metaphor for the stadium in the context of the city: the piazza.

An examination of the history of stadium transformation manifests the ability of the stadium to adapt to the changing needs of the city. For its part, the piazza has also demonstrated a capacity to temporally transform and so to accept the functions of a stadium. The connected relationship between these forms has not yet been formally analyzed. In this chapter, these forms are compared in order to draw lessons for the future of stadium form.

If the stadium is to overcome the major planning issues and mistakes that have plagued mega-event facilities of recent past it must learn to transform and meet the changing needs of the city. This chapter proposes alternatives by which the modern stadium can become an integral part of the daily functions of the city.

METAPHORS FOR THE STADIUM

In philosophy, essentialism is the view that, for any specific kind of entity, there is a set of characteristics or properties all of which any entity of that kind must possess.² “Several of the essential features that constitute a stadium are shared with other structures and in that sense, the literature offers several metaphors for the stadium: monument or memorial, a church, a theater, and a prison; these are some of the most common. It is useful to examine why the stadium is likened to these other typologies in order to consider what characteristics they have in common and what characteristics they lack.

The Monument, the Church, the Theater, and the Prison

The memorial is defined in the Merriam-Webster dictionary as “something that keeps remembrance alive.”³ Like all memorials, stadiums are testaments to a time, a space, and a place; they create memories and histories and provoke emotions in the spectator that carry through generations. The monument is erected to commemorate and act as a reminder of something notable or important. World Cup stadiums are not only built to house sport but also to commemorate the hosting of a prestigious international event and as testimony to the triumphs of world-class teams.

Christopher Gaffney describes how the stadium functions monumentally within the city in his book *Temples of Earthbound Gods*. In the city, stadiums act as markers of orientation, like an obelisk or a dome; they are anchors, recognizable symbols in the city fabric that identify its location. When a night game is being played and the lights flood the sky, for example, the location is advertised and a viewer can identify his or her proximity to the place. Throughout the world stadiums are associated with place; this is true both for the resident and non-resident. Fenway Park, for example is a recognizable symbol of the city of Boston. Similarly, they create a recognizable identity to that place; the Red Sox, like any city’s team, is linked directly to the culture of the city. The permanence and historical continuity of the stadium

provides us with links to the past; a means to identify, through ritual, with the generations passed.⁴ This symbolic connection endows the place with meaning and a sense of belonging to something greater than self. The stadium not only reminds us of past events like the memorial does; it is also a living memory that continues to promise memorable moments in the future.

Like the church, the stadium is a place of congregation – and some would say of worship. They are often referred to as temples or shrines. Here, rituals, prayers and celebrations take place. In his introduction to *The Stadium and The City*, John Bale recognizes the stadium as a phenomenon of modern urban life. He says, "It is in the stadium rather than in city squares, the concert hall or the cathedral that we find the largest urban congregations, at pre-ordained times and at regular intervals, to witness sporting rituals and records."⁵ It is not surprising then that stadiums have been used as gathering spaces to address crowds; Pope John Paul II spoke at Estadio Maracana in Rio de Janeiro, Brazil on two separate occasions.

Argentinean social anthropologist Eduardo Archetti states that soccer has "rituals comparable to religious ceremonies."⁶ Danish researcher of cultural studies Niels Kayser Nielsen elaborates on this description and states that both soccer and worship have "developed ceremonies and a liturgy, which, within the framework of locations with particularly 'sacred' qualities, develop cult-like behavior."⁷ When leaving the field, scoring a goal or saving a shot many soccer players make the sign of the cross, kiss their hands and raise them to the sky or lift their shirts up, shaking them as if thanking God for His blessings.

This is particularly prevalent in Latin America but those symbols are recognized worldwide as religious and ceremonial.

In addition to the intensity of shared experience, pilgrimage and ritual are two interrelated behaviors that give stadiums a sense of sacredness. The access by crowds to the stadium can be assimilated to the street processions linked to some particularly important religious ceremonies. Avid sports fans travel in masses, chanting and singing on the way to the stadium. While visiting Argentina during the 2002 World Cup (played elsewhere) I recall traveling through the subway to a public plaza where the game was publicly televised and feeling the subway car jolt up and down as the passengers jumped in unison, chanting. The seasonal cycle of sports can also be compared to the yearly cycles of religion. They keep us hopeful for the next season whether defending a championship or redeeming our losses. This is similar to the days of celebration and sacrifices that reoccur yearly in many religions. Despite any evidence to the contrary, stadiums stand out in the collective memory as sacred.

The stadium has also been thought of as a theater. This metaphor may have originated in the name amphitheater, a form created by the Romans, which joined together two Greek theaters to create an ellipse.⁸ The stadium, like the theater, is a place for entertainment, spectacle and performance. Stadiums are, unquestionably, places of high levels of drama and emotion, arguably greater than those created in a theater, as sport is not scripted. The excitement of a good match as it develops and unfurls is much like a play, with tension and climax and, for some, a dramatic ending. In his book *Making Sense of Sport*,



Image of the Washington Monument
Photo Credit: www.visitdc.com



Image of the Church
Photo Credit: www.texasescapes.com

Cashmore writes that "as soon as the unpredictable element of competition is gone...[sport]... becomes pure theater."⁹

In addition, both sport and theater have two major occupants: the 'players' and the 'audience.' Here, the application of the theater metaphor is directed more towards the modern theater in which the spectator is distanced from the actors on the stage and does not engage in the action. The spatial segmentation and separation of these two parties is characteristic of both sports stadiums and modern theaters; this shift towards separation can be seen in the history of both typologies.¹⁰ Space is further subdivided to separate spectators by class and social status, creating an apparent hierarchy through physical dividing lines and proximity to the action.

Perhaps most surprising, however, the prison has also been mentioned as a metaphor for the stadium. According to Gaffney, the stadium is one of the spaces most highly subjected to surveillance. They are arguably the most secure buildings in the city.¹¹ He and John Bale both compare the stadium to the penitentiary through the lens of the panoptic mechanism. The term, originally named by nineteenth century philosopher Jeremy Bentham, is a prison design that makes the space "self-regulating."¹² The building itself, facing in on the field and on the other spectators, becomes a "machine for creating and sustaining a power relation independent of the person who exercises it."¹³ The design of the stadium, which optimizes the views of the field for the spectator, mimics the panoptic mechanism in that all of the spectators are also made easily visible under security surveillance. As spectators we are subject to this mechanism and we also enforce it. By observing

the rules of the stadium, seat allotments, and other spectators we monitor each other and are aware that other spectators are watching us. This, as Gaffney describes, thereby creates spiraling systems of control that limit its transgressive and transformative potential.

Historically, the stadium has been used as a site of incarceration. The Prater Stadium in Vienna, Germany, now known as the Ernst Happel Stadium, was once used by the Gestapo to hold Jews before their final trip to the concentration camps.¹⁴ Chile's infamous Estadio Nacional was used as a detention center and torture chamber during Augusto Pinochet's dictatorship. In *The Ball is Round: a global history of soccer*, David Goldblatt retells the painful stories of many survivors. He describes how men and women were "herded into the underground made of dressing rooms and offices, left to starve, subjected to brutal torture, interrogation and mock firing squads; or were simply executed."¹⁵

While some may think that stadiums are difficult to secure to prevent escapes of masses, this is a misconception. The limited amount of entrances to and exits from the stadium make it similar to a fortress, and its maze-like qualities with long winding corridors and small adjacent rooms facilitate interrogation under harsh conditions. Even today, it is not uncommon for the police in Buenos Aires to use the stadium like an animal pen holding spectators in until the opponents' fans have left; this is considered a safety measure. Some stadiums, like the Maracana in Rio de Janeiro, for example, have judge's chambers and prison cells designed into their walls as well. These are used to prosecute those who violate stadium laws on the premises.



Image of a theater
Photo Credit: www.fainc.com



Image of a prison
Photo Credit: www.federal-prison.org

The Stadium as a Piazza: an argument for a new metaphor

These metaphors are useful in that they depict the many characteristics of the stadium and reveal how we think of the stadium form. The stadium, the theater and the church are all temporal by nature, engaging the visitor in orchestrated, planned events. In the case of the prison, the inmate is not a visitor and each hour of the day is highly planned. Recreation yards are used temporally on rigid, fixed schedules to enforce a hierarchy and order. The space in each of these cases serves to create a common bond amongst those who experience it, while maintaining a distinct separation between spectators and players or, in the case of the prison, inmates and guards. There exists one commonality in all of these typologies, however: they are all highly controlled spaces. Control is both implicit and explicit through the use of physical divisions of public and private spaces, a sense of hierarchy and the peer-monitoring system described above. They each seek to condition human movement through the design of architecture and space. In the stadium, for example, tall fences or moats are used to prohibit access to the center field.

In the context of the city, however, the stadium might be better compared to the piazza. They have similar shapes, sizes and scale, but fundamentally they function differently. The piazza is a public gathering space; it can, however, be used to address a crowd, as the site for shows or sporting events, festivals or

market places. The piazza is not limited to temporal use but instead functions year-round and around the clock; it does not shut off, there are no 'in-between' times. This allows the piazza to foster the temporal memories and histories in the same way as the stadium, but also creates a useful, multi-functional space that offers more opportunities to build meaning.

The space created by the piazza is easily interconnected to the city's street system allowing a continuous pedestrian flow through the city. This connectivity and accessibility is enabled through the multiple, unguarded openings into the piazza. One might even say that the open space of the piazza, in contrast to the narrow streets that lead to it, draws the pedestrian in. The essential difference between piazza and stadium typologies, however, is that the piazza form does not seek to control the movement of the pedestrians; they are free to move about, to come and go as they please. This factor enables the piazza to become a multifunctional, valued public space in the urban fabric of the city.

In the city the pedestrian values freedom, flexibility and choice. The piazza provides for the needs of the public and creates a valuable space that can house diverse functions. If the stadium is to become a connecting tissue of the public space of the city, it will need to take lessons from the piazza.



Image of Piazza San Marco, Venice, Italy
Photo Credit: www.corfu-pictures.com

A HISTORY OF TRANSFORMATION

Buildings, dwellings and spaces have been adapted, expanded and repurposed. This ability to alter the built form to meet society's changing needs demonstrates the resiliency and adaptability of human nature. The term adaptive reuse defines a process that converts older buildings for new uses while retaining their structural shell and historic features. While the stadium has often been monumentalized and preserved for its social and historical significance, there are examples of similar transformations.

The stadium form, like the piazza, has a long history of transformation and adaptation enabling it to accommodate the changing needs of society. The same is true for the stadium today, as exemplified in many recent US and Canadian baseball parks that have incorporated diverse uses in the stadium complex, including hotels, conference centers and shopping centers. The World Cup soccer stadium in Seoul, South Korea, for example, houses a shopping center within its walls in order to appeal to greater masses and increase its hours of activity. As designers and planners consider the possibilities of these transformations, I advocate a broader, more flexible stadium design, which can function as both a stadium and a piazza. This will enable the stadium to be multi-functional and to meet a variety of needs of the city. It will increase its functioning hours from temporal to daily use and open the stadium up to serve as a connection to other public spaces in the city.

As discussed earlier, stadiums are a public architectural form; it is therefore not surprising that stadiums have retained this public quality during their transformations. Historically, there are examples of stadiums that have transformed from quasi-public to fully public in nature. They have become piazzas or town squares functioning as the heart of public life of the city. In other cases, they have housed entire towns, acting as a fortress to provide security to the people and encompassing all of the public and private spaces of a small city. Here I review some cases of transformations of stadiums into piazzas or public spaces. Additionally, I will demonstrate two cases of piazzas that temporally transform to accommodate sport in order to justify this marrying of forms.

Transformations of Stadiums into Piazzas

The "Piazza dell'Anfiteatro" in Lucca, Italy is an example of an ancient stadium that was absorbed by the town. The stadium is said to date as far back as the 2nd century A.D. It was built on an elliptical plan with two rows of 54 arcades and a maximum capacity of 10,000 spectators.¹⁶ Over time, as the need for a stadium diminished, its entryways were permanently blocked with stones; the form, however, remained intact.

Later it was used as a strong foundation for residences that were built on top of and within the stadium walls. It was architect Lorenzo Nottolini who, in the 1800s, proposed clearing the buildings that crowded the interior of the stadium to revive its original shape.¹⁷ Today, the space functions as the city's central piazza; it is 75 meters by 50 meters [246 by 164 feet] in size. The uses within the walls of the stadium have changed – today, the first floor has shops, cafés and restaurants with residences above. Its center is accessible through four entrances on cardinal points; these archways are the remains of the upper tier of the original stadium. The ground level has risen over time, but the shape and volume of the piazza today mimic that of the original stadium.¹⁸

Piazza dell'Anfiteatro, also called Piazza del Mercato, is the most well known public space in Lucca; it is the vibrant city center. During the year it is the home of various markets, performances and general encounters between the city's people.¹⁹ In addition, it is a successful tourist site; it captures daily and temporal functions and is used by both its residents and tourists. Once a quasi-public building, opened only for temporal sporting events it is now fully public and made available at any hour of the day or night. While its function has adapted and remains flexible, the form and legacy of the stadium have carried through the centuries.

Similarly, the Arles Amphitheater in Southern France was used as a fortress in the middle ages.²⁰ The oval shaped stadium, inspired by the Roman Coliseum, also housed gladiator fights and chariot races; it was capable of seating over 20,000 spectators. It was built in the first century AD, and was considered to be the temple of sport at the time.²¹

At the fall of the Roman Empire the stadium became a center for refuge and inhabited as a town in and of itself. It was likely the most secure building in the



Piazza dell'Anfiteatro, Lucca Italy as seen from above

Photo Credit: www.goeurope.com

city, built of stone with only four entrance gates.²² As people took shelter in the stadium, new construction emerged within its walls. The stadium contained all of the major building typologies, including residences housing 2000 inhabitants, and two chapels.²³ The amphitheatre became the entire town. With a public square built in the center of the arena, it was able to fulfill the functions of everyday life of its residents.

Writer Prosper Mérimée championed the return of the stadium to its original function in the 1800s. Shortly thereafter, the area was expropriated and the buildings within the stadium were demolished.²⁴ The stadium was restored to its original state and function, which demonstrates the resiliency of the stadium form; it was altered under the changing circumstances of the city and then the process was reversed to return to its originally intended state. Today the stadium is used for sport, bull fighting and public concerts. Bleacher style seating, much like scaffolding, is used for spectator viewing in order to protect this memorial site. It is also a historic place, declared a World Heritage site by UNESCO in 1981, and a popular tourist destination.



Lucca, Italy Photo Credit: www.traveljournal.com



Rendering of the occupied Arles Amphitheater Photo Credit: Herman Hertzberger, 1991.



The Amphitheater in Arles, France as seen from above

Photo Credit: <http://france-for-visitors.com>

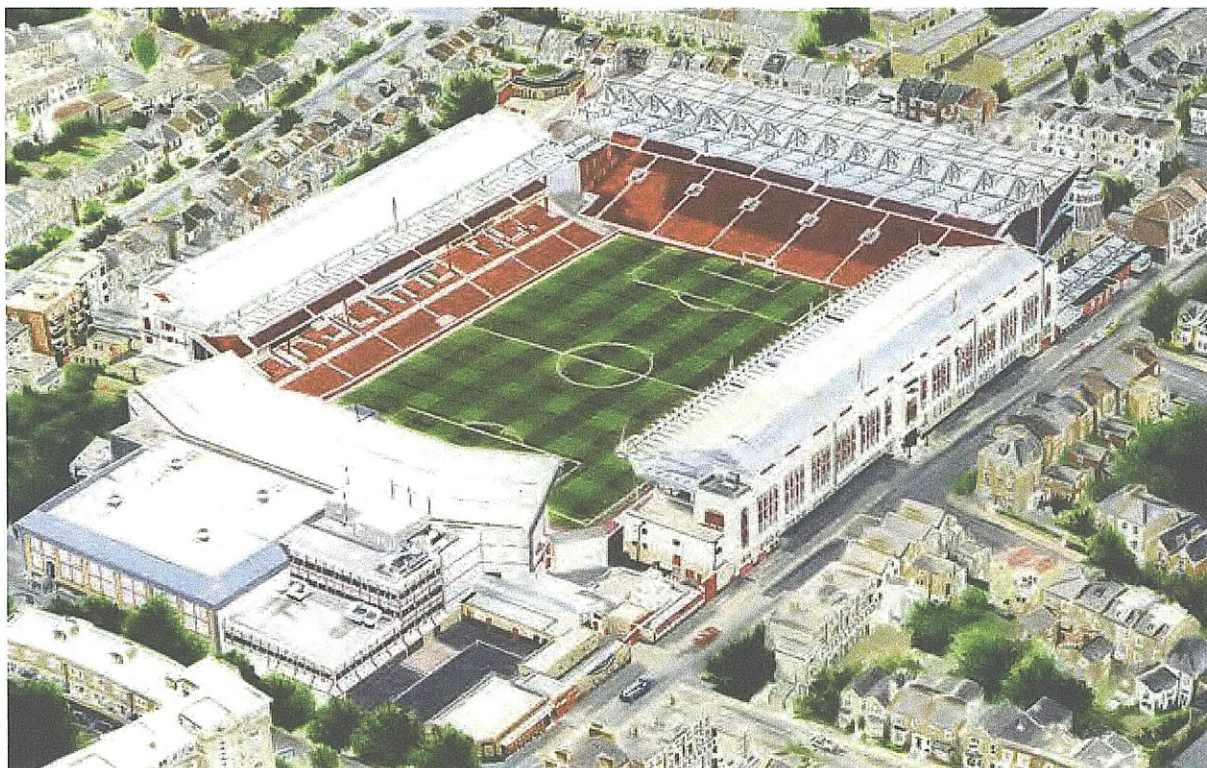
A recent example of stadium transformation is the adaptation of the Highbury Stadium in London. Arsenal, the first division club team, moved to Highbury Stadium in 1913 despite local opposition from residents. Its 93-year span in this location forged a strong sense of place and belonging to the community. In May 2006 the Club moved to its new 60,000 capacity Emirates Stadium just 280 meters away from the old stadium. The architects of Allies & Morrison have converted Highbury Stadium into over 650 high specification apartments; the development was named 'Highbury Square.'²⁵

The development cost £191 million [\$255million USD].²⁶ While the soccer field is no longer there, the new design pays tribute to the stadium's original rectangular arrangement. The Art Deco facades facing Avenell Road have been kept as have the ends of the bleacher style seating, which can be seen at the short sides of the buildings. The former football pitch has been transformed into a two-acre landscaped garden, occupying the exact dimensions of the former pitch. The apartments face inwards towards a central garden square, in the same way in which the original seating was oriented.²⁷ This central garden remains the focal point of the development.

The courtyard can be publicly accessed and was designed to encompass a pedestrian route that services the community by linking Avenell Road to Highbury Hill.²⁸ This is a public amenity for many of the residents of the area and a convenient path for many who use Arsenal tube station, just a short walk from there.²⁹ The innovative re-use of the stadium has enabled the memory and legacy of the original use to live on, while serving the needs of the community



Image of Highbury Stadium in residential community
Photo Credit: www.arsenal.com



Rendering of Highbury Stadium
Photo Credit: www.arsenalfriends.com

today.

In this case, the once private, inaccessible field has become a public garden open to everyone. The seating areas, which were once quasi-public, are enveloped by private homes. The public to private relationship has flipped, creating a square-like [or piazza-like] configuration; this has opened up the center to free-flowing public use and created avenues to traverse the space. In the piazza, unlike in this garden, the



Image of apartments and garden
Photo Credit: www.highburysquare.com

first floor level would also have a diverse mix of uses and amenities that could service the public.

In each of these examples the subsequent use of the stadium was not deliberately built into the design of the original structure. Rather, it is its ability to adapt and accept the changes necessary for the given circumstance that has enabled these changing uses. The public-ness of the form is modified: it changes from quasi-public to fully public, and then, in the case of Arena D'Arles, back to quasi-public. The structure of the stadium remains unaltered, however, which demonstrates that the stadium form has been adaptable and resilient over time. It accepts a variety of uses while remaining fundamentally unchanged. In each of these uses the basic form of the stadium remains present, visible from a bird's eye view and symbolically in the shape of the place. Stadiums designed today should also contemplate adaptation to the changing needs of the future. This will require that they allow for flexibility of multiple uses. While it was not the case in these examples that future transformations were incorporated into the original design, diverse future uses can be planned for and should be the responsibility of architects and urban planners today.



Rendering of redevelopment of Highbury Stadium
Photo Credit: www.highburysquare.com

Transformations of Piazzas into Stadiums

There are examples of existing piazzas that temporarily transform in order to make way for sporting events and therefore to function in the same way as the stadium does today. Originally designed for religious processions, feats of horsemanship, or as a market place, the piazza has forever been a site that allows for both the common interactions of daily function and multiple uses of the same space.³⁰ Public spaces, like the Italian piazza, play a strong role in most cultures; the Aztec, Maya, Toltec and Inca all incorporated large open spaces into their temple complexes which also served as large scale gathering places for events.³¹

The piazza today is used both individually and collectively. People sit and observe the passersby, while others gather to toss around the soccerball or frisbee; people pass through, stop to enjoy it and activate it at all hours of the day. These informal, flexible spaces allow the user to determine the activities that they will partake in, which gives the user

a role in creating or participating in the various uses of these spaces. This flexibility enables the piazza to foster collective and individual memories and stories and builds its character and sense of place.

Piazza del Campo in Siena, Italy is said to evoke the impression of an urban living room.³² Often likened to a fan or a shell, the shape of this piazza has many similarities to the Greek amphitheater. In addition, due to its topography it is funnel-shaped and angled towards the Palazzo Pubblico and thus reflects the traditional shape of the theater.³³ This large open space has the inward-looking quality of a stadium, and not surprisingly it also works well as one.

The majority of the year the piazza serves the daily needs of the community; people often loiter there, sitting in cafes or even on the floor of the piazza. A total of eleven streets end at the piazza; it is an extremely accessible and convenient site in the city. While it was originally designed to serve as a gathering space



Piazza del Campo, Siena Italy as seen from the Tower
Photo Credit: www.sienaonline.net

for the city, it has historically been the site of many public tournaments including jousting, bullfighting and large scale fighting matches.³⁴

Nowadays, as it has done for over 1000 years, the piazza transforms completely twice a year in order to provide the arena for the well-known horserace called Il Palio dell'Contrade. Bleachers are set up and perched up against the walls of the piazza; underneath a path is maintained in order to allow access to the shops below during the event. A track is temporarily formed along the periphery of the piazza, and at the center a large mass of people is corralled together for the momentary event. The race, which lasts only 90 seconds, is said to host 61,000 people including those who view it from their windows, balconies and loggias. In addition, the roofs of old houses surrounding the square are littered with onlookers.³⁵

Here the piazza's unrestricted open space serves both daily activities and special event functions, adapting

to the temporal needs of the city. The flexibility enables the piazza to act temporarily as a stadium and creates defined zones, public and private spaces and separation between 'performers' and spectators characteristic of the stadium.



Image Il Palio dell'Contrade horse Race
Photo Credit: www.sienaonline.net



Piazza del Campo, Siena Italy during Il Palio dell'Contrade as seen from the Tower
Photo Credit: www.tuscany.italy.co.uk

A second example of this flexibility can be found in Plaza Mayor in Chinchón, Spain. This plaza, as it is called in Spanish, dates back to the 15th century. Due to its proximity to Madrid, only 50 km Southeast, it is an attraction for Spaniards and international tourists alike. Part of the Holy Saturday pilgrimage each year; it is considered a historic and artistic heritage community.³⁶

The plaza has an irregular shape, resembling the Roman oval amphitheater with a central stage. Eight streets converge here and the plaza itself slopes down towards the center where the action takes place. Along its interior walls the buildings are filled with restaurants, bars and cafés with residences and hotel rooms above. The lower level acts as a colonnade, with above balconies called “claros” or clearstories, creating shade to protect from the sun. The character of the plaza, with its repeating columns along the balconies, is very rhythmic, like that of the Roman Coliseum. This is typical of the stadium form, and yet, because the buildings were not designed and built at the same time, they often have varying heights and floor levels.

For most of the year the plaza serves as a central market square and tourist destination and is also often used as the stage for theatrical shows and festivals. Two festivals take place in the plaza: the Chinchón Festival de anis y vino, a celebration of locally distilled anisette and wine, and the Garlic Festival. In addition, the plaza is made famous for the annual bull-fighting tournament called the corrida.³⁷ This flexibility to adapt to multiple activities and to accept multiple uses allows the plaza to become a memorable space for the user. It can accept daily rituals as well as those of annual festivals and events.

During these events the plaza transforms completely. For the corrida a ring is created in the center and rows of seats are placed along the floor level abutting the residences at the edges.³⁸ The colonnade is preserved for circulation, used much in the same way as the circulation paths typical of stadium design today. Residents of these homes sell off the seats in front of their doors to make extra money during the events.³⁹ Their balconies also act as grandstands for optimal viewing of the center stage. Here, the public and private lines blur.



Plaza Mayor, Chinchón, Spain.

Photo Credit: www.andaluciaimagen.com

Year-round Plaza Mayor is an unrestricted public space allowing complete freedom of movement for the pedestrian. Members of the public are the primary and most important users of the space; the plaza caters to them. The circumstance of the corrida changes the social and formal structure of the space for this short period of time. The event limits the movement of the space by occupying the center of the piazza and separating the spectator from the bullfighting. The private homes become public viewing stations and the public space in front of these residences becomes temporarily privately owned, rented out for the show.⁴⁰ Movement is restricted and the space and spectators are controlled. They are required to pay admission and sit in certain areas and the crowd itself further restricts their space. This may add to the emotive nature of the event space.

Networks of public spaces shape the life and culture of a place. The piazza, plaza or square, as it may be called in different cultures, is an archetypal urban form serving as a common gathering place that links the continuous tissues of public realm of the city. The piazza provides a pedestrian-scale interface with the

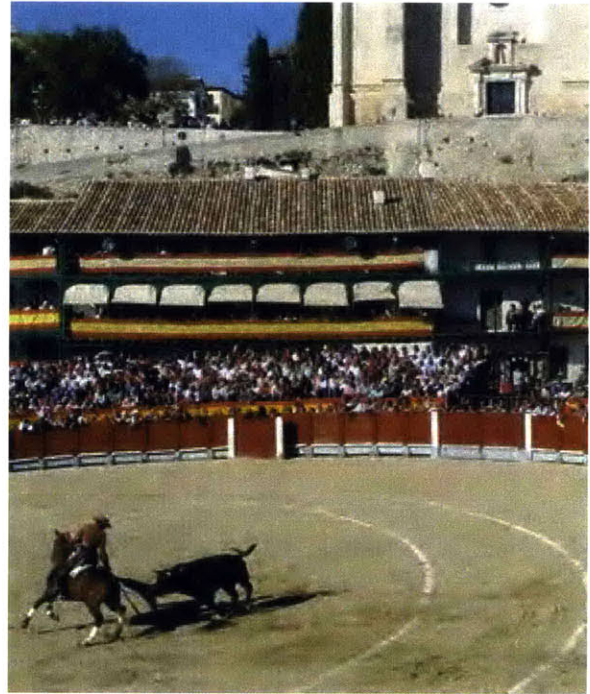


Image of Plaza Mayor during the 'Corrida' Photo Credit: www.andaluciaimagen.com



Plaza Mayor, Chinchón, Spain as set up for the 'Corrida' [bull fighting event]
Photo Credit: www.travelpod.com

city, serves as a space for commonplace interactions and creates a distinct feeling or sense of place. This form is fully public allowing for unrestricted access and flowing movement throughout the city, which promotes a sense of conviviality among diverse sectors of the population.⁴¹

In addition, as demonstrated through these examples, the piazza can act as a theater, festival grounds, or even a stadium. Through the enforcement of controls it can become quasi-public to suit the needs of the event to take place within it. This inherent flexibility is largely due to its proximity to other activities and to the density of the city. Without these qualities it could not perform several functions and would be merely a distant destination point, perhaps comparable to fair grounds.

The complexity of the current stadium type is largely due to the demands of a constantly evolving society. With a rapidly moving culture, the needs of the city are continually shifting and society as a whole is going to demand more from the stadium. It is no longer adequate for the stadium to be used as a single venue nor to satisfy only a singular need; it must be multi-functional and adaptable to multiple uses. The current definition of multi-functional stadiums is limited to sport and concert venues; this is insufficient. Today's stadium form will be incapable of meeting current and future demands. Architects and planners must collaborate to create a dichotic facility; one that can support the mass viewing of sporting events and also provide a unique public space that can sustain activity year-round.

PUBLIC FORM :: LESSONS FOR THE STADIUM

"Whatever space and time mean, place and occasion mean more. For space in the image of man is place, and time in the image of man is occasion."

- Aldo van Eyck, 1962⁴²

A dense body of literature on public space has been published over the years. Renowned authors Camillo Sitte, Kevin Lynch, and William Whyte, amongst many others, have covered this topic, their focus ranging from the uses, types and psychology to the design of public spaces. Good public spaces are identifiable with or without knowledge of the literature, however. While the literature seeks to distinguish the characteristics of these kinds of places, knowing a good public place from a bad one is innate; it comes naturally. As Enrique Peñalosa, the former mayor of Bogota has said, "[Public Space] can't be measured with economics; it must be felt by the soul."⁴³ Generally we judge a space by how frequently it is used or popular it is, or simply by how comfortable it feels. William Whyte described this plainly by saying "what attracts people most, it would appear, are other people."⁴⁴

Good public spaces can be found all over the globe, in every culture and in every city. The Public Squares Edition of Making Places published by Project for Public Spaces [PPS] has ranked the World's 16 best squares. A second article identifies the top 12 public squares in the U.S. and Canada. These spaces are so celebrated that many have become international

landmarks. PPS seeks to explain just what makes these places so special and to work with cities to create successful spaces much like these in their own communities.

Six principles of good public space:

Here I identify six principles that make a piazza a good public space:

Location,
Accessibility,
Identity,
Program,
Connectivity, and
Flexibility.

I support my assessment through the works of Kevin Lynch in *Good City Form*, Clare Cooper Marcus, Carolyn Francis and Rob Russell in *People Places*, and the Ten Principles for Creating Public Squares presented by Project for Public Spaces. By reviewing the piazza's abilities to exude these qualities we can draw lessons from the piazza that may enable the stadium form to become more adaptable and more valuable within the city fabric.

In order to demonstrate these qualities and compare these forms graphically I use Piazza Navona as the subject of this comparison. Though it is ranked third according to PPS, many would say Piazza Navona is the greatest piazza in the world. PPS claims that this is "because it has all the qualities that a great square should have; it is filled with people even at night and in the dead of winter."⁴⁵ I propose that it is because it maximizes its potential through these six principles and provides Roman residents and tourists alike with amenities not often found in the thick of the city.

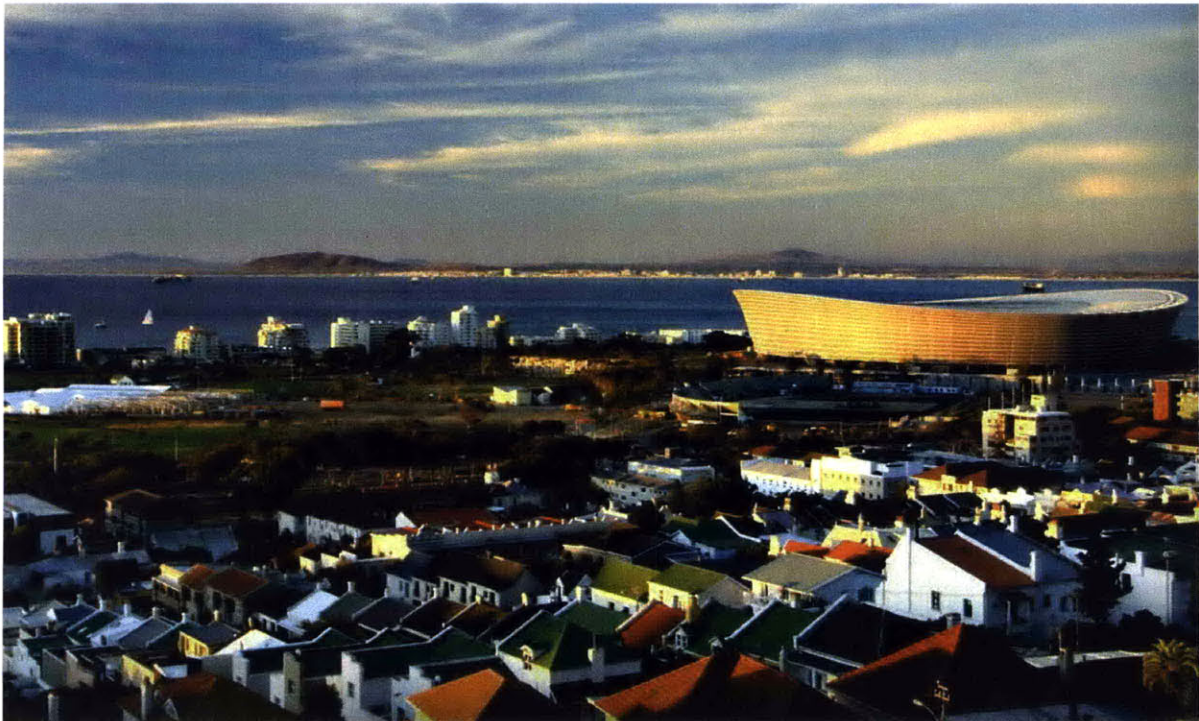
Location: *a tract of land designated for a purpose*

A public space refers to an area or place that is open and accessible to all citizens. This sets the first requirement for public spaces: location. To be successful any public place needs to be easily reached and, therefore, its proximity to the user and other uses is an important feature. The piazza, centrally located, takes the prime real estate in the city and becomes the focal point of activity. This is arguably what makes the piazza work as well as it does. It would not be nearly as successful if it were outside of the city and required users to drive to it or visit it as a destination point because it would not be convenient. The piazza creates amenities for the daily life of the city.

A common argument in favor of placing the stadium distant from the city center is that it is too monumental in size and scale for the urban fabric. I have examined five of the great public spaces from the rankings generated by PPS: Washington Square in New York City, Grand Square in Krakow, Poland, Grote Markt in Brussels, Belgium, Trafalgar Square in London, United Kingdom, and Piazza Navona in Rome, Italy in order to consider their sizes relative to the soccer field and to a World Cup soccer stadium. These are all well-known, successful public spaces; the question is: can the stadium provide a great public space or is it simply too large?

Here I have overlaid a soccer field with the dimensions of 100 meters by 65 meters as well as the outline of a stadium facility on the aerial view of these five urban plazas. According to FIFA's regulations the dimensions of the field can vary from 100 to 110 meters [328-360ft] in length and from 64 to 75 meters [210-246ft] in width.⁴⁶ The outline is that of a real stadium with the capacity to hold 68,000 spectators, which is approximately midrange in size for a World Cup venue. FIFA requires that any World Cup stadium have a minimum capacity of 40,000 spectators, though most tournaments have at least one stadium that can hold up to 85,000 spectators; these are usually the hosts of opening or championship matches. The dimensions of this footprint are 720 feet by 640 feet.

As evidenced through these overlays, the dimensions of a soccer field will often fit within the walls of these piazzas. This demonstrates that a soccer field, at least in its dimensional qualities, has the potential of becoming a great public space; it is neither too large nor too small. In fact, with the exception of Grand Square in Krakow, it is apparent that many successful public spaces take on a rectangular shape, similar in proportions to that of the soccer field. In the case of the Grote Markt in Brussels, the dimensions of



Rendering of the new iconic stadium in context of V&A waterfront shown for scale comparison
Photo Credit: <http://greenpointstadium-and-capetown.blogspot.com>

Washington Square Park, New York City

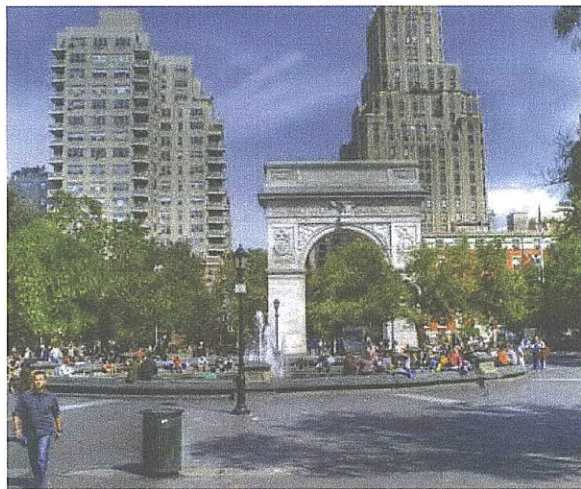


Photo Credit: <http://www.nycparks.gov.org>

Washington Square Park, New York City:
297 meters by 147 meters. [975 by 483 feet]

the pitch are nearly the same as the piazza space; the soccer field is slightly shorter and wider than this piazza. In other cases the length of the stadium often fits within the width of the piazza; however the piazza is much longer. The Grand Square in Krakow, Poland is so large that the entire stadium can almost fit within its perimeters. These factors indicate that some dense areas may require a larger public space than can be provided by the size of the pitch.

The footprint of the stadium itself is a different story. In most cases, with the exception of Grand Square in Krakow, the footprint of the stadium extends over the

Grand Square, Krakow, Poland

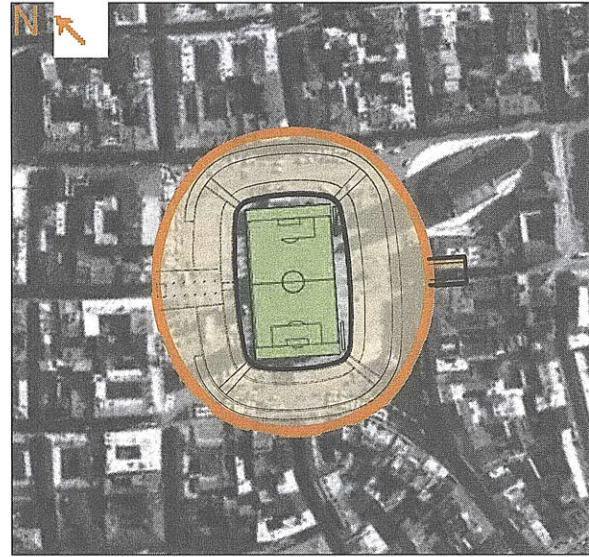


Photo Credit: <http://www.krakow-info.com>

Grand Square, Krakow:
nearly 190 meters square. [621 by 625 feet]

periphery buildings of the square; the shape and size appear large and out of place. However, if we imagine that some streets would lead into the center of the stadium, create access and break up its' massing, and that stadium walls could become the lining of the piazza itself - then the size of the stadium does not appear so daunting. When thought of this way, it is not so different from many piazzas we see today.

The depth of the periphery of the stadium [approximately 170 feet] is very similar to the depths of the surrounding buildings of the square, in fact. This is likely because most prominent piazzas have

Grote Markt, Brussels, Belgium

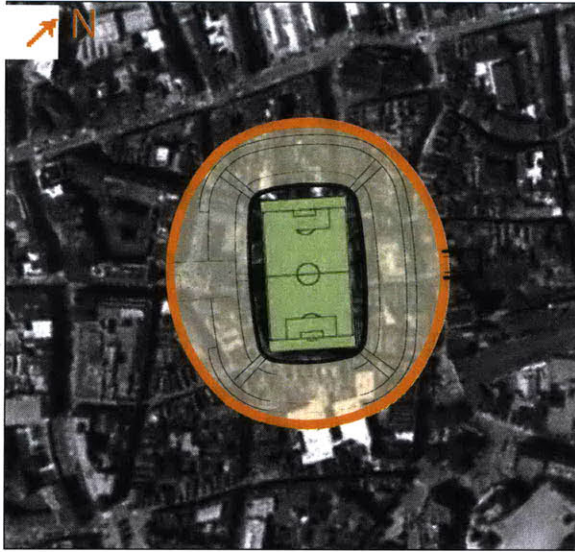


Photo Credit: <http://www.planetware.com>

Grote Markt, Brussels:
107 meters by 57 meters. [350 by 186 feet]

equally prominent architecture at their peripheries, whether civic, religious or institutional in nature. That said, one very apparent contrast in the city fabric is that the blocks that surround these piazzas are made of multiple smaller buildings with varying rooflines. This is not currently the case in stadium design; perhaps these variations would dilute the presence of the form. However, it is not inconceivable to imagine a stadium with irregular parts. This is not uncommon among baseball stadia in the US and Canada. In addition, by maintaining the oval shape of the stadium in the piazza, the presence of the form would be conveyed, as is the case in Piazza Navona.

Trafalgar Square, London, England



Photo Credit: <http://www.london.gov.uk>

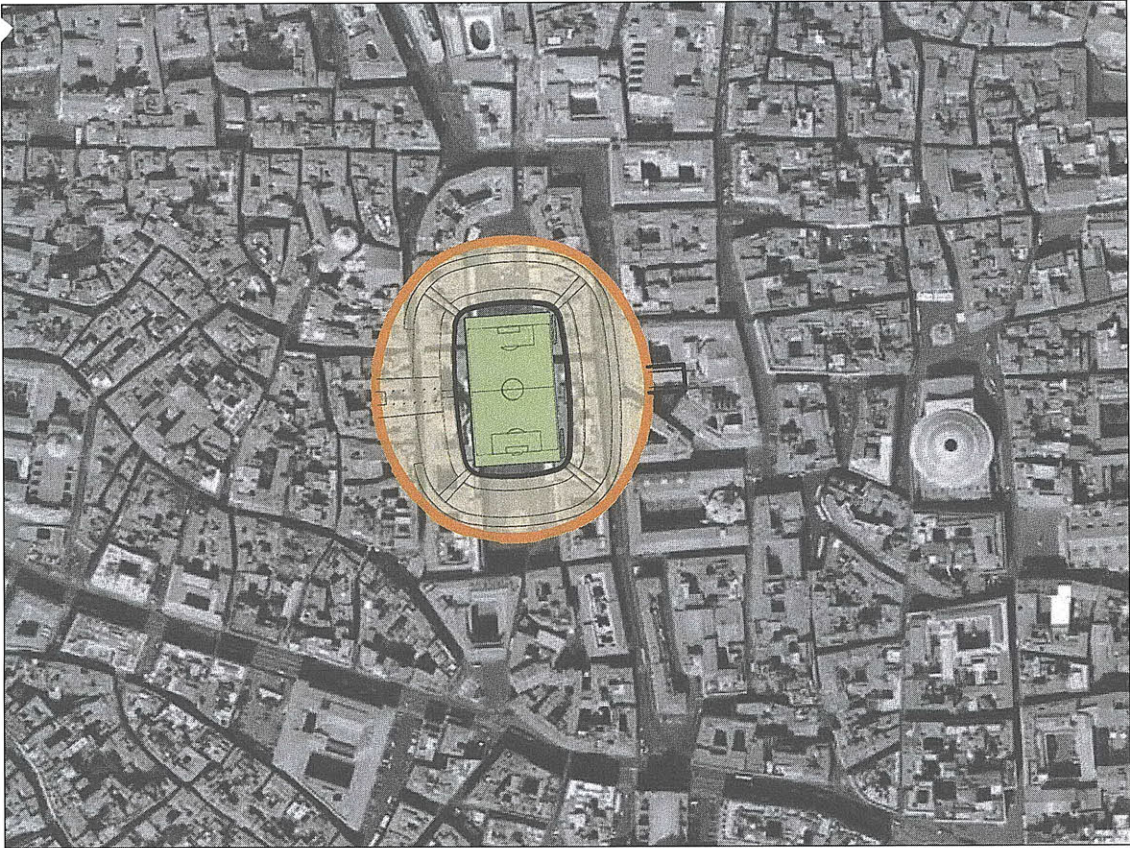
Trafalgar Square, London:
142 meters by 105 meters. [465 by 343 feet]

Related to its size but decidedly more significant is the scale of the piazza. An out of scale space can feel unwelcoming and fail to create the right atmosphere for a comfortable environment. The scale of a space is understood by analyzing the relationship of its size and height, which creates a volume that contains the space. While the piazza is an open air space, its volume is dictated by the height of the buildings on its periphery in relation to its width. Often times, to mitigate need for tall buildings with the desired building height for public spaces, architects and planners will create setbacks from the edge of the building in order to create a perceived volume while

Comparing Public Forms :: 131

Piazza Navona, Rome, Italy

N ↑



Piazza Navona, Rome: 276 meters in length by 54 meters in width. [906 by 177 feet]



Image of Piazza Navona facing South
Photo Credit: <http://www.romainteractive.com>



Image of Piazza Navona from above
 Photo Credit: <http://www.partecipiamo.it>

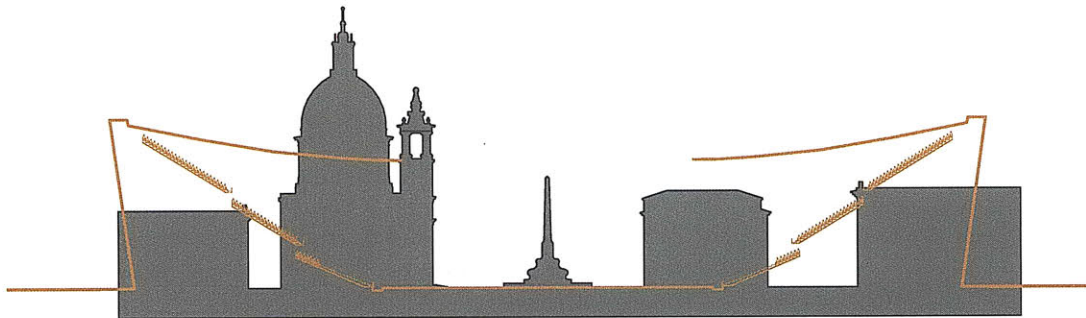
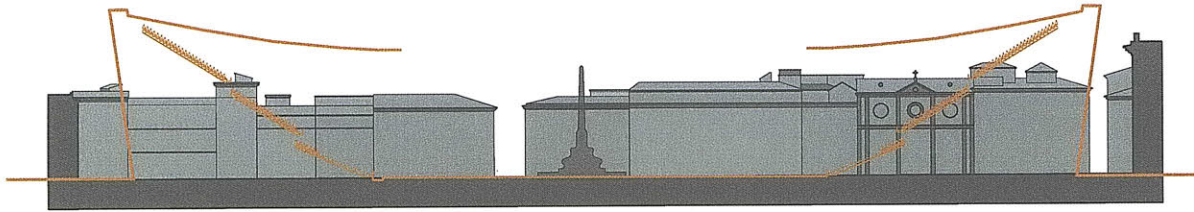


Image of Piazza Navona facing South
 Photo Credit: <http://www.romainteractive.com>

maximizing the height of their building.

Piazza Navona has a very comfortable scale; its buildings are the appropriate height for this space. If the piazza were as wide as it is long however, the space would feel immense and out of scale; the buildings within it would lose their architectural significance. It is therefore more relevant to consider its scale by looking at the section cut of the piazza in the short direction, which reveals the perceived volume of the space. The Piazza is 54 meters [177 feet] wide; the majority of its buildings are approximately 27 meters [88 feet] in height, while the top of the spire of Sant'Angese in Agone reaches as high as 62 meters [205 feet].⁴⁷ This is not perceived from the piazza, however, because it is set back from the façade of the church.

As seen by the overlaid section cuts of Piazza Navona and the Stadium, [on the following page] the stadium is much taller. This is especially noticeable when walking along the exterior edge, where the façade of the stadium has no set backs and reaches its



piazza navona :: stadium overlays

- | stadium profile
- section cut
- elevation beyond

Diagram depicting scale of Piazza Navona with stadium section overlay
 Produced by Author

highest point. An imaginary narrow street here creates a claustrophobic feeling. This could be remedied perhaps through the use of topography, [or engineering] so that the street level is made higher than the pitch, thereby reducing the perceived height of the exterior façade.

create both a desirable stadium and a successful piazza space.

The perceived volume from the field as compared to the piazza can vary depending on whether or not the stadium has a projecting roof to protect spectators from the elements. The gradual incline of the stands creates a funnel effect, which makes the perceived volume of the space much larger since there is no vertical façade to delineate the height of the space. The projected roof, however, creates a distinct separation, which marks the height of the space and limits the size of the volume; here the scale may feel constrained. The designer can adjust the scale of the space in many ways; for example, by lowering the level of the field from ground level or by making use of temporary stands to widen the field. One could imagine a combination of design choices that could

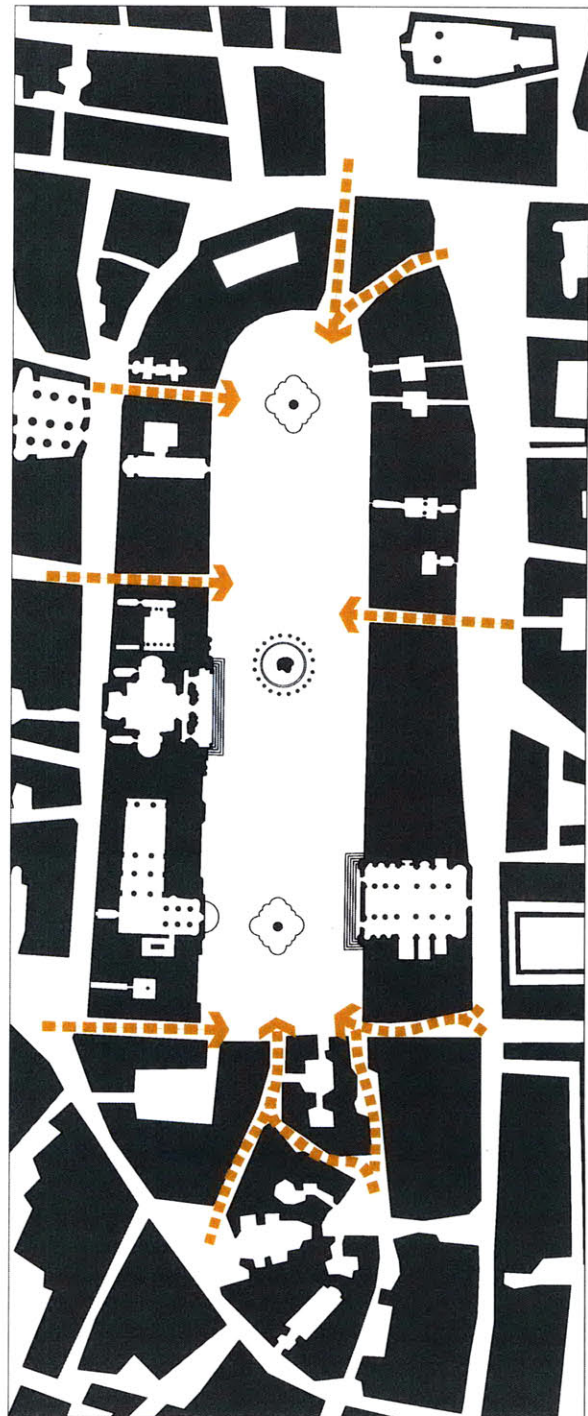
Accessibility: *capable of being reached.*

The piazza is often at the intersection or end of multiple streets, which pronounce its location through visibility and enhance its accessibility. Piazza Navona, for example, has nine entrances, all exclusively for pedestrians. The piazza is only one block North of Corso Vittorio Emmanuelle II, one of the most transited roads of the city, and is perpendicular to Ponte Umberto I, a bridge leading over the Tiber River. In addition, its many streets lead further into the city fabric connecting to other landmarks such as the Pantheon and Campo dei Fiori.

PPS likens the piazza to an octopus with tentacles [streets] reaching into the surrounding neighborhood. Its publication, *Ten Principles for Creating Public Squares*, states, "the influence of a good square [or piazza] starts at least a block away. Vehicles slow down, walking becomes more enjoyable, and pedestrian traffic increases." This emphasizes the nature of piazzas to attract pedestrian movement, and to create a comfortable environment. Here, Piazza Navona facilitates access through it to other areas as well as to it and the uses within it whether they are shops, benches or events.

Kevin Lynch discusses the values implicit in city design in his *Good City Form*; continuity, he suggests, is the first of three root values of all human settlements. The piazza is a prime example of the creation of continuity of movement and flow of pedestrian traffic in the city. The piazza creates a more efficient, shorter route for the pedestrian traversing it from end to end; it serves as a circulation path through the city. In addition, in the case of Piazza Navona, the continuity of the urban fabric is present in the multiple uses that surround the piazza. While this open space may appear to disrupt the pattern and rhythm of the movement of the city, in fact it acts in just the opposite way: it facilitates movement free of constraints and a straighter path to one's destination.

Stadiums are often sited outside of the city center and are thus neither convenient nor conducive to daily use. Elaborate road systems have made them more accessible for the vehicle and, in rare cases; public transportation options have made them more reachable for the masses. Nevertheless, they continue to be difficult to access regularly. Often times, as in the case of Rio de Janeiro's Maracana, Buenos Aires' Estadio Monumental and Berlin's Olympiastadion, walls surround the stadiums making them inaccessible to the public. Instead of allowing a free-flowing pedestrian movement through these communities, the stadium and its grounds act as roadblocks that divert traffic around them and lengthen commute times. They break the natural



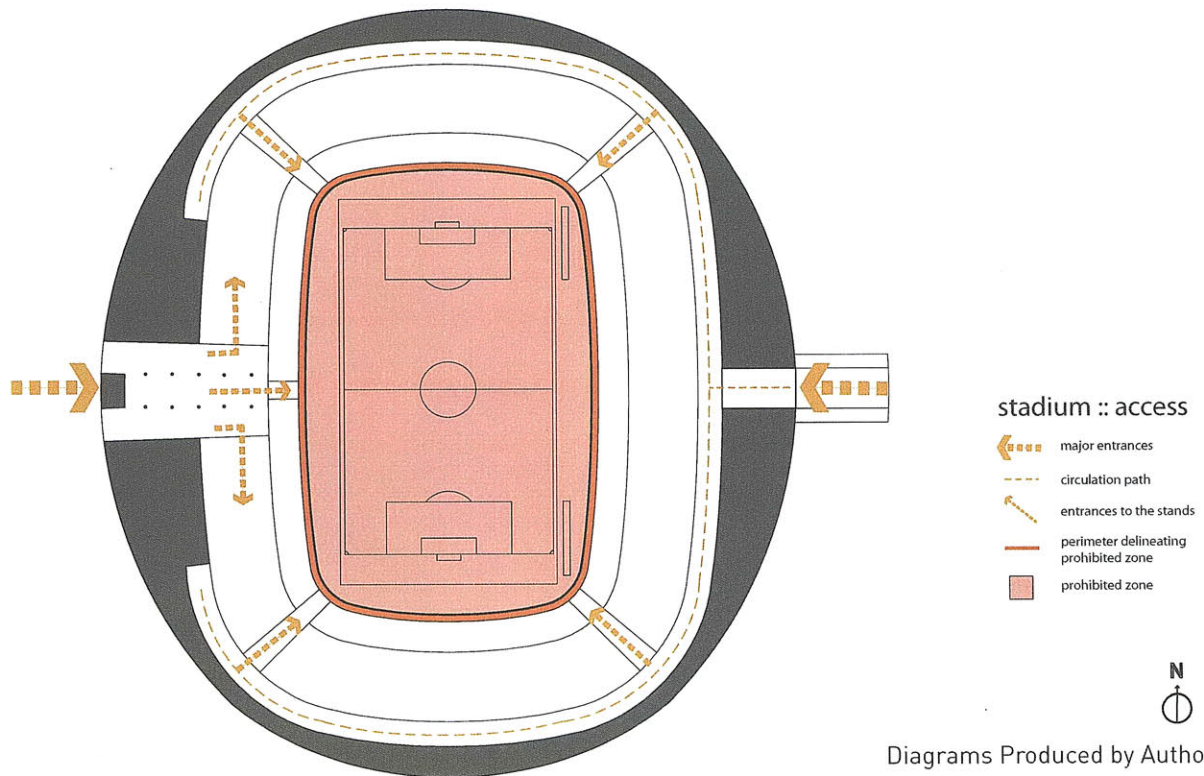
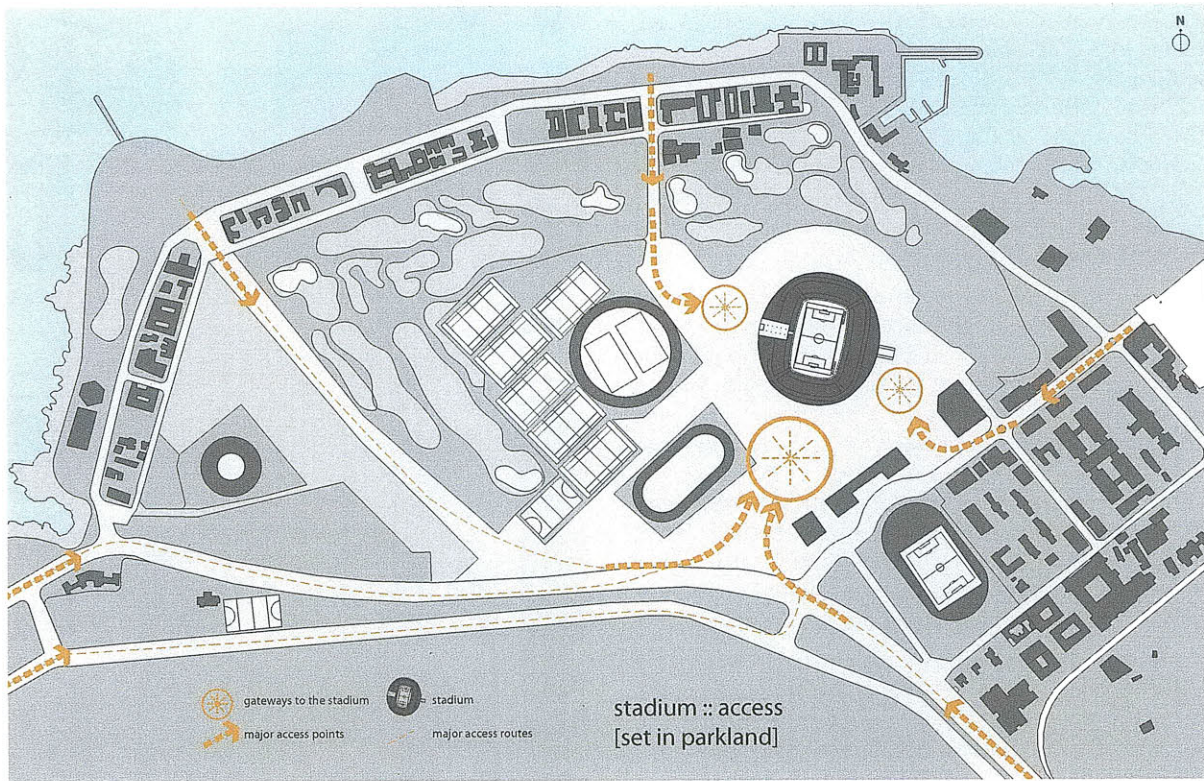
piazza navona :: access

 public entry points



Diagrams Produced by Author

flow of the streets and the continuity of the city. Below is an analysis of the access points for the new Cape Town Stadium built for the 2010 World Cup Games.



Diagrams Produced by Author

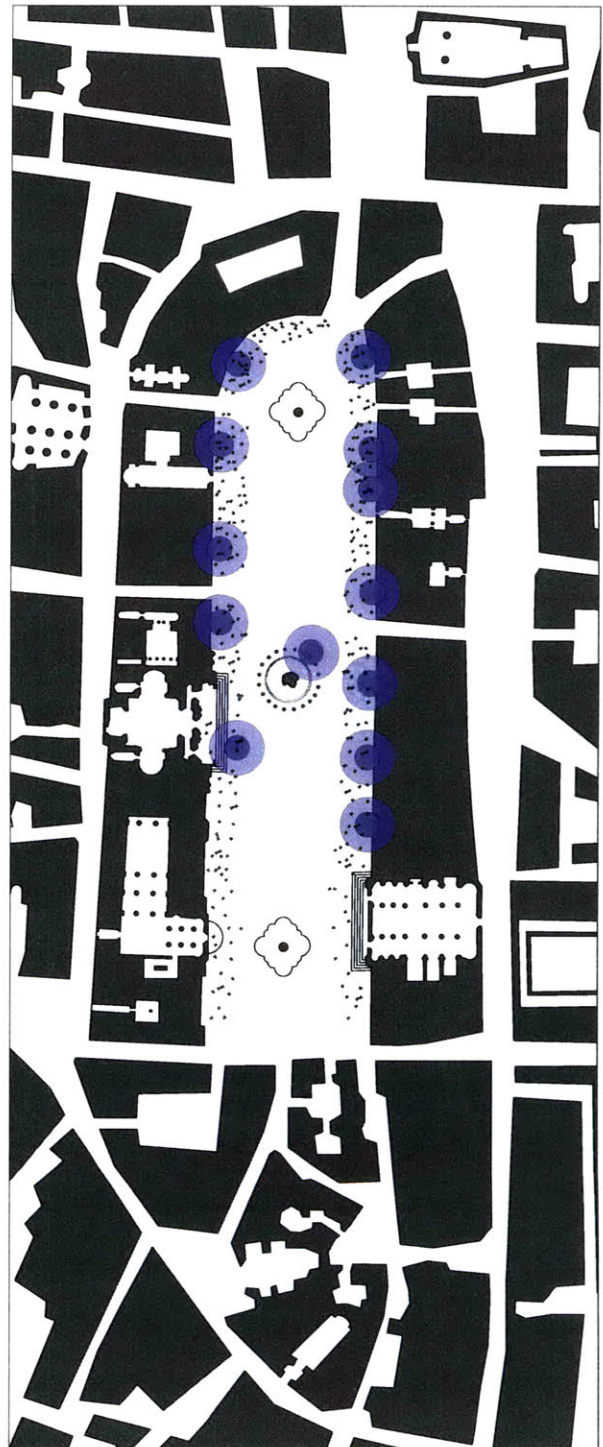
Identity: *distinguishing character*

Historically, piazzas have been at the center of communities physically and symbolically. The image or identity of the piazza is often closely tied to the civic buildings located within it such as a cathedral or city hall. Major events, festivals or activities can also create an identity for a place. These events identify the piazza and distinguish it from all others, sometimes making them world famous. Much like the memorial, the identity of the place has the ability both to make the place recognizable and to connect the user to a moment in history. The knowledge that one shares a similar experience to those from many years ago adds a deeper meaning to the place.

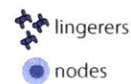
Piazza Navona has a distinct identity which as been built upon through layers of history. The square is built on a former stadium, known as 'Circus Agonalis,' built by Emperor Domitian in 86 AD. This explains its irregular shape: 276 meters [906ft] long by 55 meters [177ft] wide. In addition, it is the site of architectural and sculptural landmarks like Bernini's Fontana dei Quattro Fiumi, Borromini's Sant'Agnese in Agone and Rainaldi's Pamphilij Palace. The distinct shape and architectural quality of the piazza add prominence and a presence to the square. The piazza is easily identifiable by the image of its fountain or an aerial view.

The piazza has also been the site of many festivals; the elaborate celebrations of the Pamphilij family flooded the center of the piazza every weekend in August. Today, the piazza holds the annual Christmas fair and houses daily artist vendors and impromptu theatrical displays. To participate in these rituals and to be in a place where such elaborate events have taken place fosters personal and profound memories and makes the space meaningful.

In addition, the piazza creates attractions and destinations for the everyday user. According to PPS, all great public places have a variety of smaller "places" within them, or "subspaces" as they are called in *People Places*.⁴⁸ These provide multiple nodes in the plaza and appeal to various people. Piazza Navona has three distinct areas: the North, South and center, each of which has its own fountain. These nodes attract different types of people and diverse interactions, the North, for example, is busier with many more cafés than the South, while the center often attracts tourists who visit the church or photograph the fountain. These smaller subdivisions make a large space more manageable for the person and together characterize a place that can draw people in throughout the day. Unique experiences claim a stronger hold on a person's memories because they allow that person to find personal space



piazza navona :: nodes



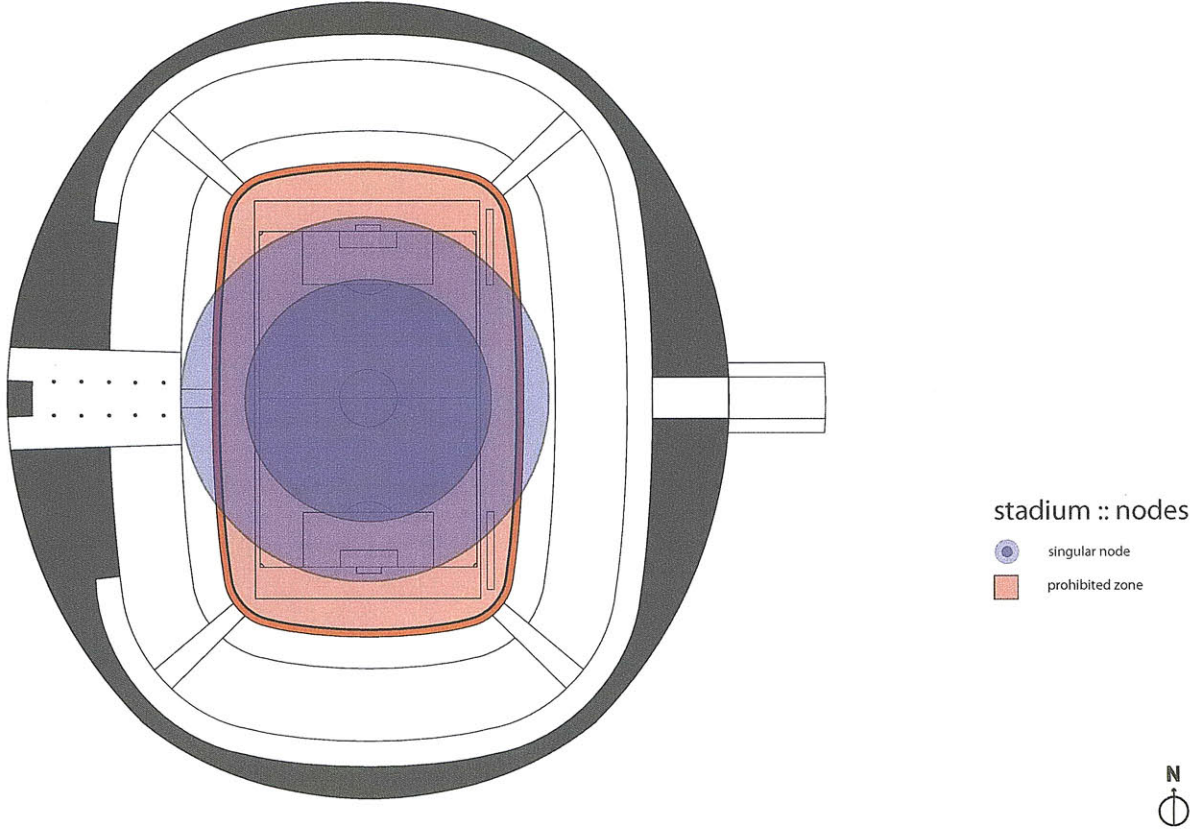
Diagrams Produced by Author

within the greater whole.

In *People Places* Clare Cooper Marcus et al., analyze a study conducted by Joardar and Neill in 1978 of reactions to public plazas. They conclude that visual complexity is a desirable trait of any public space.⁴⁹ This can be achieved in many ways; for example, through variations in architecture, the addition of water features or plantings, art installations or by activating the space through multiple uses and activities. Piazza Navona incorporates each of these examples in one space. The facades that line the piazza were each built separately; they have a similar style but they have varying heights, colors and details. Some buildings depict their hierarchy through the architecture, as in the Pamphilij Palazzo, and the multiple uses on the ground floors and in the center of the piazza create a very complex organism that attracts nearly any kind of person. Visual complexity can add to the identity of the place and, furthermore, these variations can add to the personal connection

that one has with the place.

Today the stadium is not built as a compilation of various buildings as a city street might be. Instead, it is one continuous entity; this can both augment and, as described above, detract from the meaning of the place. The sameness of the stadium solidifies the notion of a collective experience. When one looks around and sees everyone experiencing the same environment, this is unifying. The shared experience and connection to the past events of the same place, in the same way intensify the identity and meaning of the space. The form of the stadium is recognizable worldwide, which alone demonstrates its significance. With that said, however, the stadium does not create a space for individual experiences. Box seating or VIP sections may seem on the surface to be different environments but because the experience is so focused on the field, the center of the action, the experience is collective, not personal.



Diagrams Produced by Author

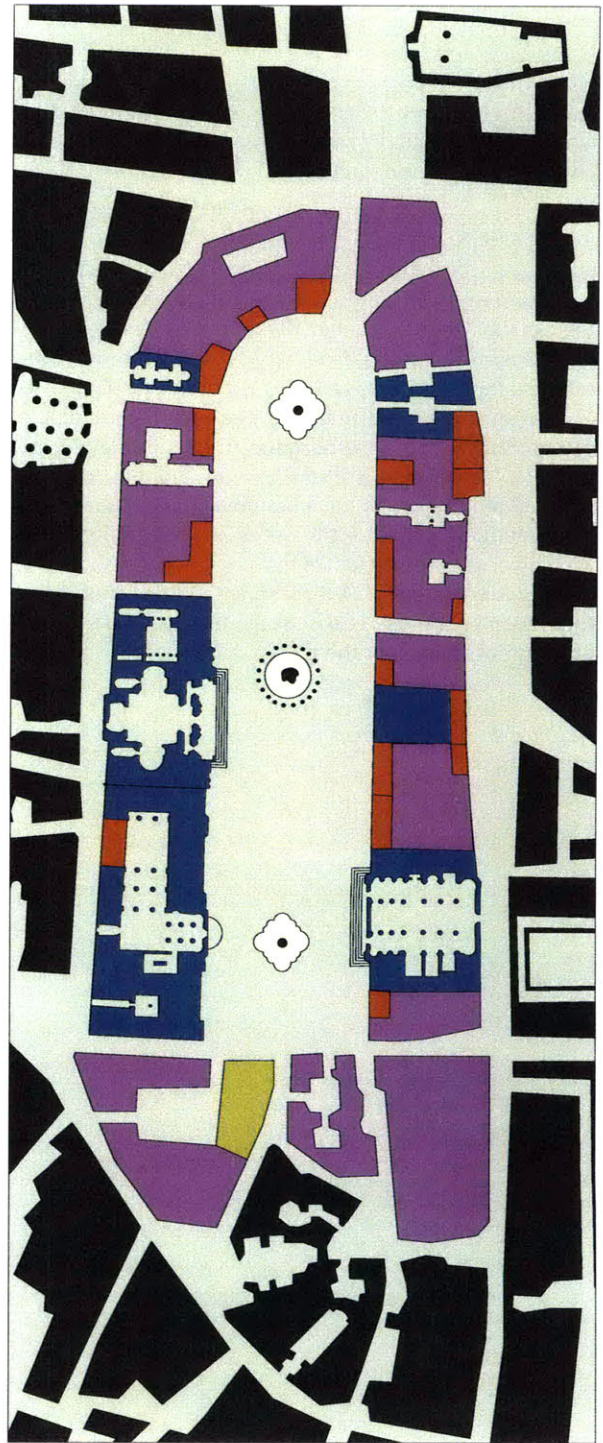
Program: activities, services and amenities that interact with the user

Kevin Lynch suggested that "The piazza is intended as an activity focus, at the heart of some intensive urban area... It contains features meant to attract groups of people and to facilitate meetings..."⁵⁰ The uses and activities that occur in the piazza and along its outer edges attract the user and activates the space. Those uses and activities include both permanent and temporal amenities, which address the needs of everyday life as well as attract users for specific events.

The variety of uses provided at Piazza Navona meets the needs of its users. Restaurants, cafés and gellaterias address the very common need for food and sustenance of the everyday user as well as the occasional dessert for the sweet tooth. These alternative types also accommodate varying desires of the public and invite a larger diversity of people to experience the piazza. In addition, small shops like the old-fashioned toy store at the North end of the piazza, Al Sogno, are a convenience for the passer-by and, in this case, a cultural landmark for the piazza.

As a result of the surrounding uses that line the edges of the piazza, two distinct zones are created: the inner piazza and the outer piazza. This term was adapted by PPS from the ideas of the famous landscape planner Frederick Olmsted, who discussed the "inner" and the "outer" park. PPS asserts that "an active, welcoming outer square is essential to the well-being of the inner square." This is clearly present in Piazza Navona, whose outer piazza area is filled with amenities for the everyday user. The amenities of the piazza help establish a convivial setting for social interaction.

The traffic patterns and density of spaces of the piazza can be compared to that of the stadium. It can be noted, for example, that the entryways of the piazza, like those of the stadium on game days, are often the most congested areas. This is followed by a ring of activity along the periphery of the square, which can be interpreted as the stands filled with spectators that face the field. In the piazza, this area is filled with all types of uses from transients trying to pass by to lingerers sitting at café tables or entering and exiting shops, while in the stadium they are all spectators. The center is the least compacted area in both forms. While the piazza allows for free movement through the center, this space is still often the site of informal



piazza navona :: nodes

- surrounding buildings
- institutional and religious
- commercial uses
- mixed: residential and office
- hotel

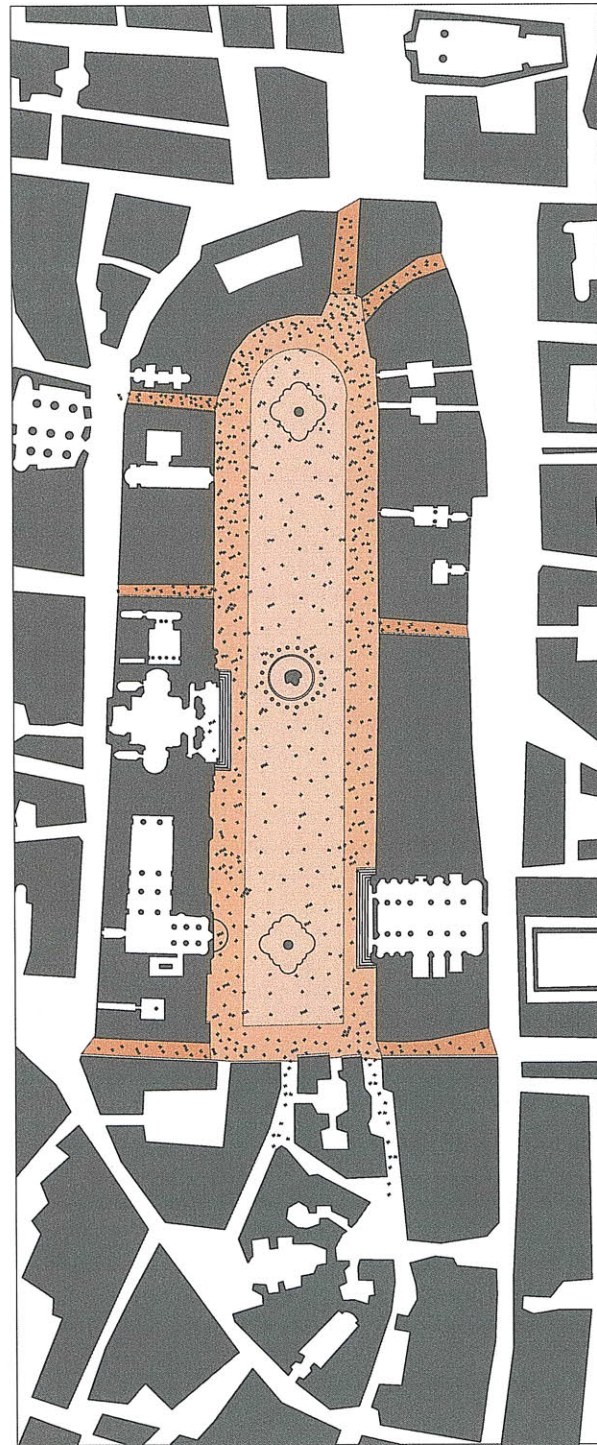


Diagrams Produced by Author

Comparing Public Forms :: 139

performers observed by those in the cafés. In the stadium, however, this space is reserved for the teams [performers]; it is inaccessible and does not provide uses for the spectator.

The stadium could benefit from attracting multiple users, which will likely require the stadium to add a mix of uses embedded into its walls. Today the World Cup stadium has limited uses; it caters only to sports and concert venues. Generally they have vendors who offer limited food and beverage options, and perhaps temporary stores that sell sports paraphernalia. The private spaces for the teams are equipped with locker rooms, shower areas, emergency treatment facilities, meeting areas and sometimes an indoor practice area. Often VIP areas have banquet rooms that serve as meeting grounds for the elites as well as personal viewing boxes. The effect is that the building becomes used only temporarily. A diverse set of uses that meet the needs of the city can activate the space daily and during more hours of the day.



piazza navona :: inner + outer

- entryways
- inner piazza
- outer piazza
- all users



Diagrams Produced by Author

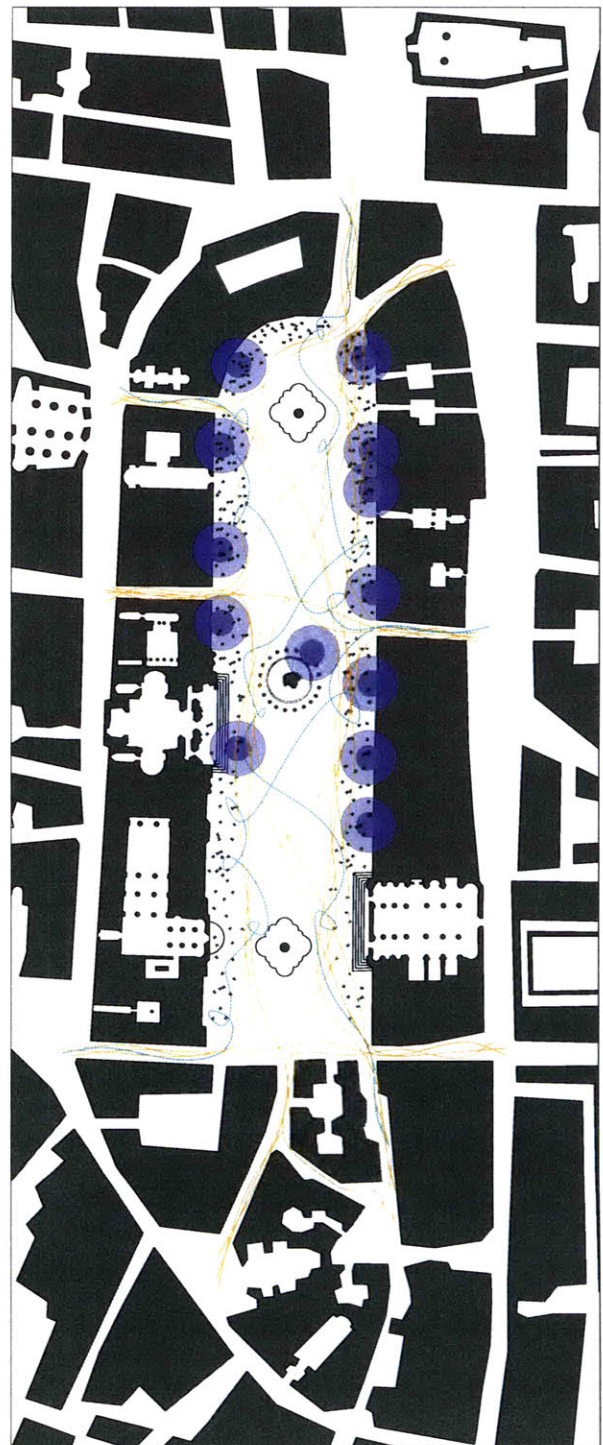
Connectivity: *the ability to join two entities*

In the city, connection occurs not only between people and places, but also between people and other people. Public spaces create a platform for this kind of interaction. The piazza, an unrestricted public space, allows access by all types of people including those of all races and social classes. This is a highly under-recognized, unique social condition in the city; here they can each stop and enjoy the same amenities such as sunlight, a social atmosphere and a place to sit, for example.

In *People Places* Clare Cooper Marcus et al., state that “a successful piazza is one that encourages people to remain in it, [though, they do] not exclude passers through it as users.”⁵¹ Piazza Navona, like any good public space, attracts multiple users. These include “transients” who travel through the space to get to their destinations, “meanderers” who wander and explore the city at their own pace and “lingerers” who may stop to access the shops and cafes within it or simply to enjoy the space. Transient paths, as shown in the diagram to the right, connect one entrance of the piazza to the other along the shortest distance. This is the efficient path, often the path selected by the businessman or woman, who uses the piazza on a daily commute to and from work.

The blue dashed line attempts to depict the wandering path of the meanderer. Here these users stroll through the space without a need to rush through it; therefore, they may wander through the space at a leisurely pace, seemingly without direction and perhaps even leave from the same entrance they entered. The lingerers are depicted in this diagram by radiating circles located at the nodes in the piazza including outdoor seating, cafes, fountains and shops. These users can be active or inactive. Shoppers, for example, would be active lingerers since they stay and use the stores or cafés that line the space. Others that sit and observe like spectators of a sport are inactive users of the space. Lingerers occupy the space of the piazza for the longest time of these three users, and therefore reap the benefits of connection both to the piazza and to other users most.

The piazza can enhance the connection between people by providing a space for interaction on a daily basis as well as through an event or activity. A common activity that is full of meaning can foster a deeper connection between strangers. This can be as simple as people watching an impromptu street performer or as orchestrated as line dancing at an open-air concert. In addition, when coupled with history and tradition, these event spaces have the ability to connect the user to a previous time, therefore substantially increasing their significance.



piazza navona :: users

- transients
- meanderers
- lingerers
- nodes



Diagrams Produced by Author

The stadium has only one type of user – the spectator. However, since spectators are both anticipating the event and aware that they have come to share in this common activity, their connection to one another can be full of meaning. That being said, lower classes are generally excluded from these events by excessive controls and increased ticket pricing. The largest and loudest fan bases of soccer have traditionally been in the lower social classes, and excessive costs can result in out pricing them. The ability of the stadium to connect both people to the place and people to people could be enhanced by protecting these spectators who enliven the atmosphere. Moreover, stadiums can foster alternative types of connections if they create avenues by which socially diverse users can enjoy the space and the spectacle.

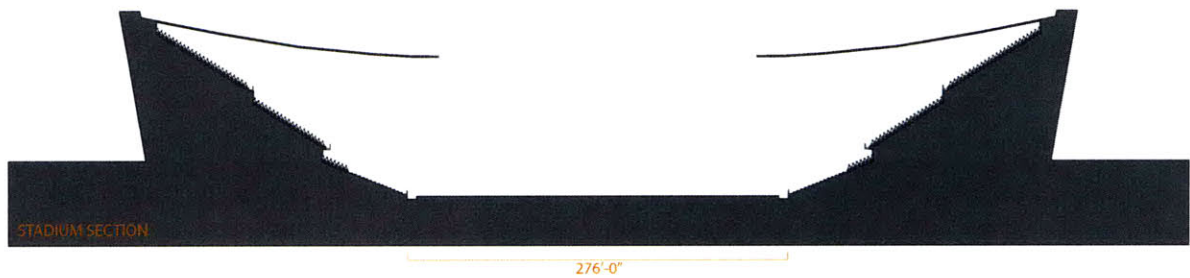
Flexibility: *characterized by capability to adapt to new or changing requirements*

The third value that Kevin Lynch identifies as being at the root of all human settlements is openness, by which he means flexibility. Cities and human behavior are susceptible to change, and for that reason we must expect change and plan for it. Unfortunately, the direction and timing of change is difficult to predict. Through flexibility of space we can, however, create a tolerance that can accept the dynamism of change.

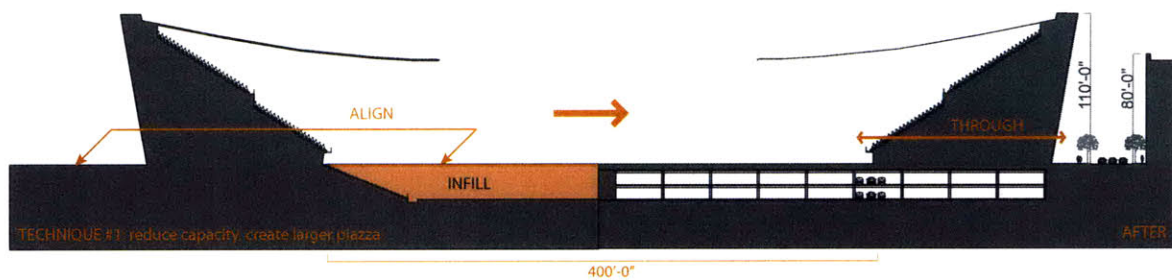
As PPS states, “a successful square can’t flourish with just one design or management strategy.” Great squares incorporate change into their designs, including weekly and seasonal attractions and temporary displays. The piazza, often with a central open space, creates a platform for multiple venues such as summer cafés, vendors or winter ice-skating rinks. Despite its three fountains, Piazza Navona is a very flexible space. It offers room for temporary markets to set up, such as the seasonal Christmas market or the artists’ stands that line the piazza in organized rows. It has the potential to incorporate small theater spaces, summer concerts or fashion catwalks with temporary bleacher seating. It could also host small swimming pools, playgrounds for children to play in or be the site of a carnival, the end of a procession or the venue of a festival celebration. It can be the location of a political rally or movement, or simply subject to reconfiguration by the user through the use of movable furniture. The valuable real estate of the center of the piazza, because it is accessible, has unlimited potential for multiple uses.

In conversation, the stadium is often considered to be a building with multiple, flexible uses because it can house sports venues as well as concerts. This is insufficient. The first step that the stadium could take towards becoming more flexible would be to program its outer shell to accept a multitude of alternative uses. These could be flexible spaces that alternate from conference rooms to offices and then to VIP boxes to service games. Alternatively, this might include permanent functions, such as hotel rooms as was done at the Toronto Sky Dome, shopping centers with public viewing areas or offices that serve as the backdrop for television screens and scoreboards during games.

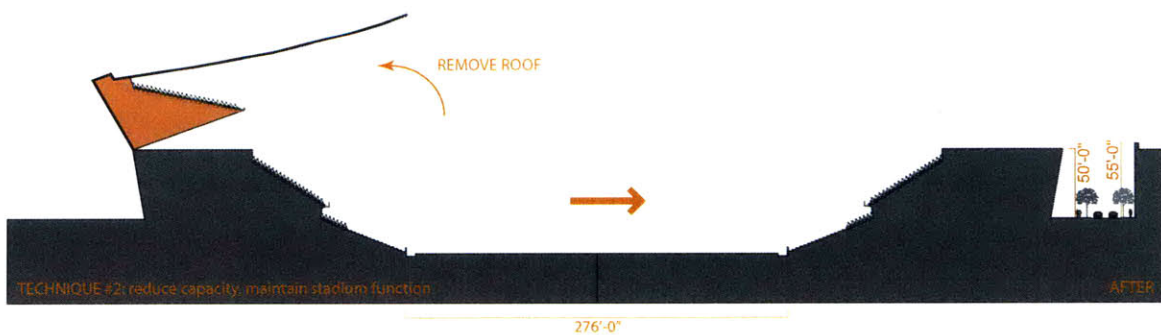
Here I have created a series of diagrams that serve to demonstrate alternative physical transformations that could be implemented on the stadium in order to adapt it to future uses. [see pages 143-144]



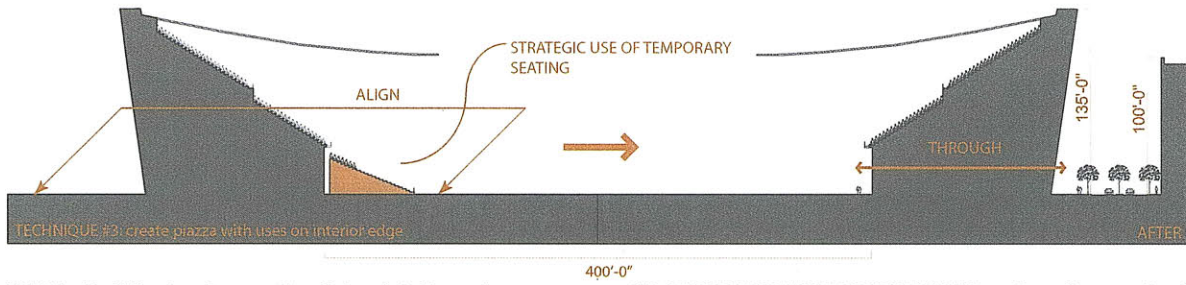
The stadium is shown with the pitch at a lower level than the entrance from the ground level - a typical stadium design approach



INFILL - reduces the capacity of the stadium (to allow it to meet the smaller capacity of club games) Here, the infill is used to house parking below grade. Creating throughways makes the stadium easier to traverse during non-game days.

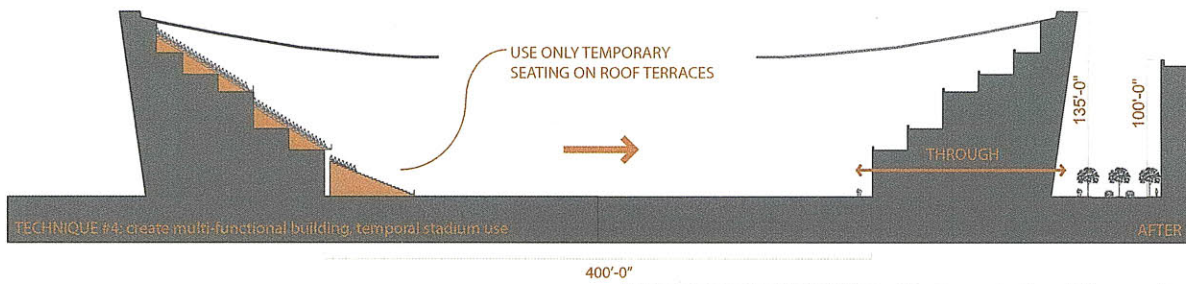


ROOF REMOVAL - reduces the capacity of the stadium (to allow it to meet the smaller capacity of club games) In addition, this may allow it to fit into the surrounding context of the city fabric without appearing colossal in scale.

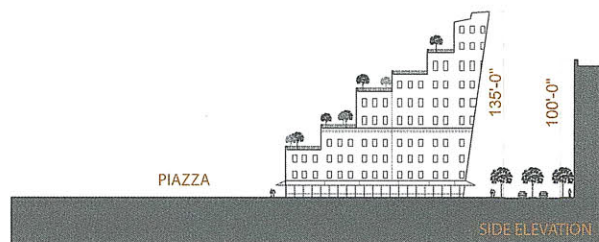


NOTE: In the following diagrams the pitch and stadium entrance level are aligned.

STRATEGIC USE OF TEMPORARY SEATING - reduces the capacity of the stadium (to allow it to meet the smaller capacity of club games) This also reduces the depth of the shell of the building and enables the piazza space to function with supporting uses at its interior edges . Throughways makes the form easier to traverse; here the piazza becomes the primary function of the structure, the stadium form and function remain present and visible.

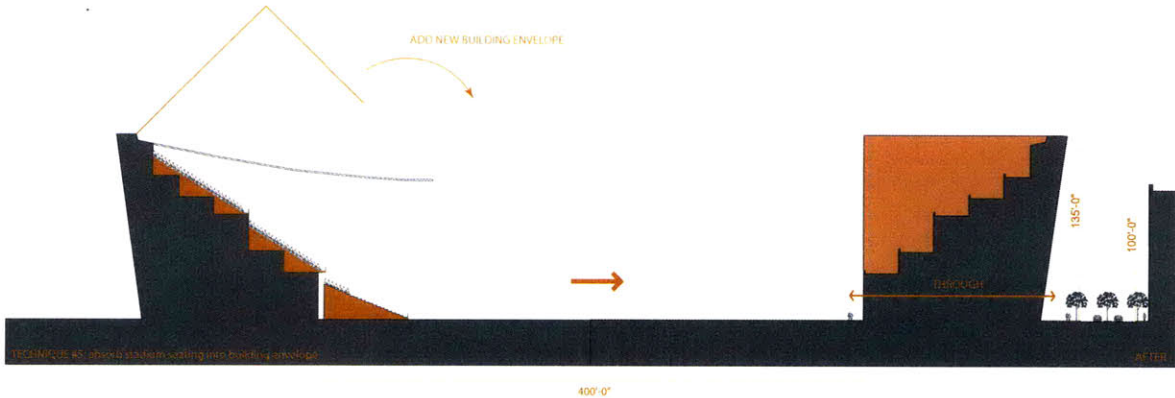


TEMPORARY SEATING ONLY- Enables the reduction of the capacity of the stadium (to allow it to meet the smaller capacity of club games) This also reduces the depth of the shell of the building and enables the piazza space to function with supporting uses at its interior edges . Throughways makes the form easier to traverse; here the piazza becomes the primary function of the structure, the stadium seating may disappear but its function remains.

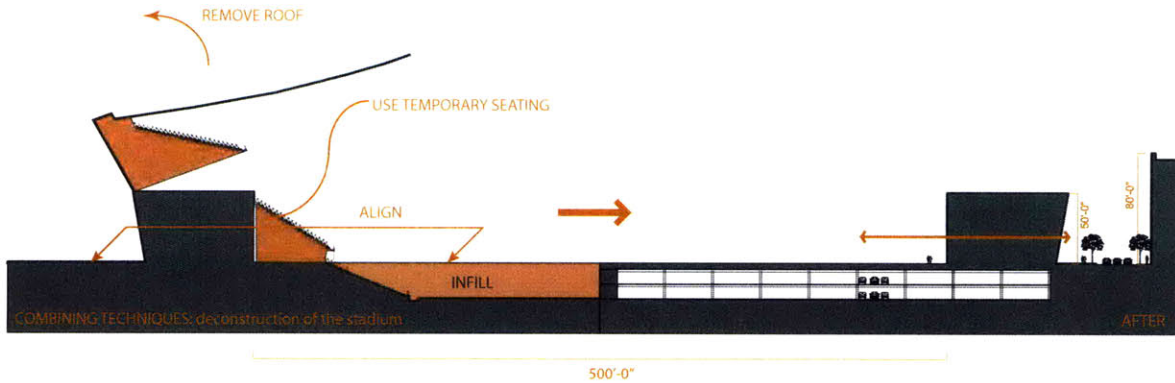


SIDE ELEVATION OF THE ABOVE TECHNIQUE

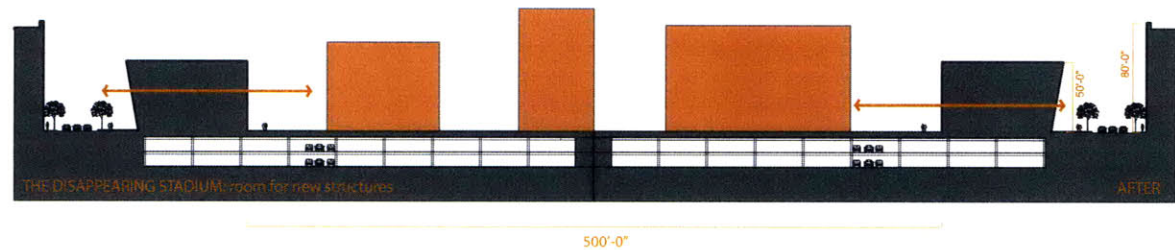
Diagrams Produced by Author



ABSORB STADIUM SEATING INTO BUILDING ENVELOPE - reduces the capacity of the stadium (to allow it to meet the smaller capacity of club games) This enables greater possibility of uses within the shell of the stadium. Throughways makes the form easier to traverse. The piazza becomes the primary function of the structure, the stadium seating may disappear but its function remains.



COMBINING TECHNIQUES - Demonstrates the deconstruction of the stadium which can enable a variety of options for both form and function that may better serve the city post-event.



THE DISAPPEARING STADIUM - Demonstrates the opportunity presented with the space left behind once the stadium is deconstructed.

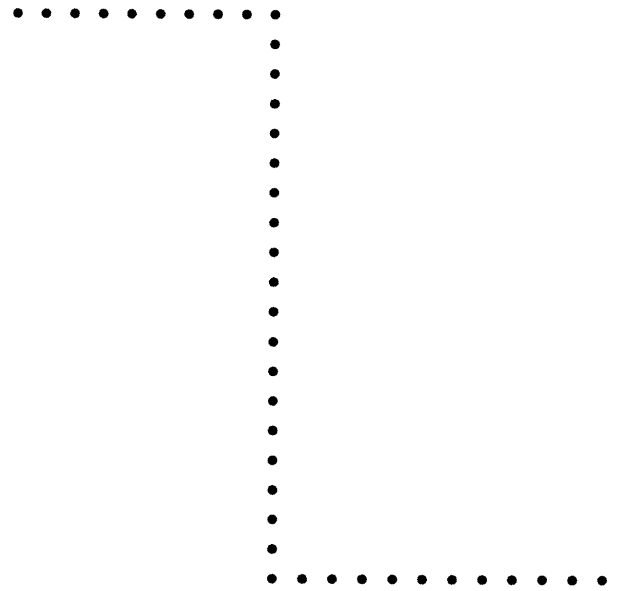
CONCLUSIONS

The most restricting feature of the stadium, which limits its flexibility, is the inaccessibility to the center of the space: the field. This space could easily be utilized in the same way as a piazza if controls were lifted and access made unrestricted. The space could have temporary seating, movable fountains or public ice-skating rinks. This is not so outlandish when you consider that Fenway, the Red Sox baseball stadium, now hosts a Bruins National Hockey League game annually. With developing technologies, the field could slide under the buildings, become synthetic or be on a lower platform with the piazza floating above it in the near future. A stadium that could function as a piazza on a daily basis but be transformed back into its stadium function for games would be a much stronger contributor to the life of the city. In order to respond to the natural fluctuations of the needs of the city, flexibility needs to be built into the stadium form.

Stadium design must triumph over the major planning issues and trends that have plagued mega-event facilities of recent past. It must continue to learn to transform and meet the changing needs of the city and to become an integral part of its daily functions. This chapter has stressed the historical relationship and similarities between the stadium and the piazza. These seemingly disparate forms, perhaps surprisingly, have historically had a strong symbiotic relationship. Through this analysis this chapter challenges architects and city planners to reexamine the form of the stadium itself in order to maximize its potential as a public form.

The six principles studied above illustrate the qualities of the piazza that enables it to become valued public space in the city. The study of the stadium through the lens of these principles demonstrates its current inefficiencies as a public form. Only through this examination can one begin to dissect the stadium form in order to determine how it can become more malleable and useful as a public form. A variety of alternatives for stadium transformation have been presented. These may enable the stadium to maximize its own potential as a public form. This chapter attempts to marry these two archetypal public forms in the hopes of producing a new form that can serve the city daily as well as temporally; both as stadium and as a piazza.

CHAPTER 4



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..... MEGA-EVENTS :: WHAT LIES AHEAD

Its not about politics, or religion or the economy;

*Its not about borders, history, trade, oil, water, gas,
mineral rights, human rights or animal rights;*

Its not about global warming, global pandemics, GDP, Nato or Kyoto;

*Its not about elections, sanctions, proliferations,
he said, she said, my land, your land, no mans land;*

*Its not about the stock market, black market, orange alerts, green homes, hope,
change, fear or loathing;*

*Its not about communism, socialism or capitalism,
war or peace, love or hate;*

*This is about the one month, every four years, when we all agree on one thing
- 32 nations - 1 world watching.*

- ESPN Commercial for the 2010 FIFA World Cup

WHAT LIES AHEAD? :: INTRODUCTION

This chapter takes a look at Brazil, the next World Cup host country (after South Africa in 2010). Specifically, it analyzes the siting and design for a new stadium in the city of Recife. The purpose is to determine whether or not the design for Recife represents a continuation of the trends identified in chapter 2. As noted, these endeavors come at a high cost and worse: if poorly planned those costs can become a financial burden to the city and its people for many decades to come. This chapter evaluates the proposed design on the basis of those trends and makes suggestions for its improvement.

Through multiple interviews, site visits and investigations I have sought to uncover the reasons behind the decisions made in the design for the new stadium. I present here my findings and my interpretations of those decisions and their likely effects. In addition, I propose an alternative site location for the new stadium that incorporates the hybrid stadium + piazza form. I intend to demonstrate that the values of good public space can be presented in a flexible downtown stadium for the city of Recife, addressing the six principles established in chapter 3.

BRAZIL: 2014 :: THE CUP COMES HOME

For the 2014 World Cup Games soccer is finally returning home to Brazil.

Soccer may have been first organized as a sport in England but nearly every conversation about it makes its way back to Brazil. Brazil has been called the "country of soccer," the "home of the greatest players in the history of soccer," and the sport itself has been dubbed "the beautiful game" when discussing the Brazilian players. When Brazil was awarded the tournament the president Luiz Inacio da Silva expressed the country's excitement and dedication to the sport by saying "Soccer is more than a sport for us, it's a national passion."¹ Even FIFA claims that "Brazil is Football" in its 2007 inspection report.²

These claims are not all unjustified either; Brazilians' dedication to the sport is exemplified by the fact that they are the only nation to have participated in the final rounds of every FIFA World Cup in the history of the tournament. In addition, they have taken home the gold five separate times, which is by far more than any other soccer power has accomplished yet.³ Soccer, the most popular sport in Brazil, is celebrated by all of the masses regardless of social class, gender or age. It attracts women and children to the stadium and the days when the national team plays during the World Cup the president declares a national holiday. There is no doubt that Brazil will produce a successful, vibrant mega-event viewed around the world. Whether or not the investments will be strategically planned to be worth the costs, however, is another question.

It came as no surprise that Brazil was awarded the tournament, as they were the only country to bid. This



Photo Credit: www.boston.com

was a result of FIFA's rotation policy, adopted in 2006, which determined the region in which the Cup would be held based on a six-confederation rotation. By this rule, the 2014 Cup was set to go to the CONMEBOL confederation in South America; the majority of South American countries, however, supported Brazil's bid, opting out of bidding themselves.⁴ Colombia had originally intended to bid but withdrew in April 2007.⁵ After this bidding process the policy has been abandoned. Nonetheless, upon learning that Brazil would be the 2014 host country celebrations broke out throughout the country. Green and yellow banners with the words 'The 2014 World Cup is ours' were swung at the foot of the famous Christ the Redeemer statue overlooking the city of Rio de Janeiro.⁶ For Brazilians, this World Cup will be their chance to redeem their name, after their tragic loss in the finals in 1950, as winners in their own country.

Not only does Brazil hope to use the international spotlight to demonstrate its position as a soccer powerhouse, but also to advertise their country, its progress and potential. In recent history Brazil has shown exponential economic growth. It has gone from having the largest economy in South America to the second-largest economy in all of the Americas, surpassing Canada.⁷ As a result of its recent diversification from a mostly agriculture-based market, Brazil has become less dependent on the US and therefore has shown less signs of pains from the current recession.⁸ Goldman Sachs has forecasted that, by 2050, Brazil will be the world's fourth largest economy, outranked only by China, the US and India.⁹

In the last twenty years Brazil has become more stable politically, economically and socially. Francisco Ferreira, a lead economist at the World Bank, said in a New York Times article that Brazil has shrunk its income gap by 6 percent since 2001. According to Marcelo Cortes Neri, the director of the Center for Social Policies at the Getúlio Vargas Foundation in Rio de Janeiro, the top 10 percent of Brazil's earners saw their cumulative income rise by 7 percent from 2001 to 2006, but the bottom 10 percent shot up by

58 percent.¹⁰ Stabilization and progress in these two sectors has attracted investors to the region.

In addition, the Brazilian government has demonstrated its commitment to economic expansion; in July of 2005 a new "Innovation Law" was passed making Brazil an increasingly attractive location for innovation-minded businesses.¹¹ The law has provided incentives to increase innovative activities, as well as to facilitate scientific and technological research by private companies.¹² These incentives have already opened the door to multiple investors and rising companies in Brazil.

The World Cup comes at the perfect time for Brazil. It seems that Brazil has been preparing for an event of this magnitude for some time. Now that the country is approaching a trifecta of economic growth, social stability and plans for future investment they are well prepared for the global spotlight. The promise of a means to surge forward large-scale investments is a driving force in their hopes to host the World Cup. In addition, the event could direct attention to the country and invite new potential investors; this could potentially draw innovation-minded companies to set up their businesses here, for example.



The twelve selected host cities for the 2014 World Cup
Photo Credit: www.worldcupcities2014.com

RECIFE, BRAZIL

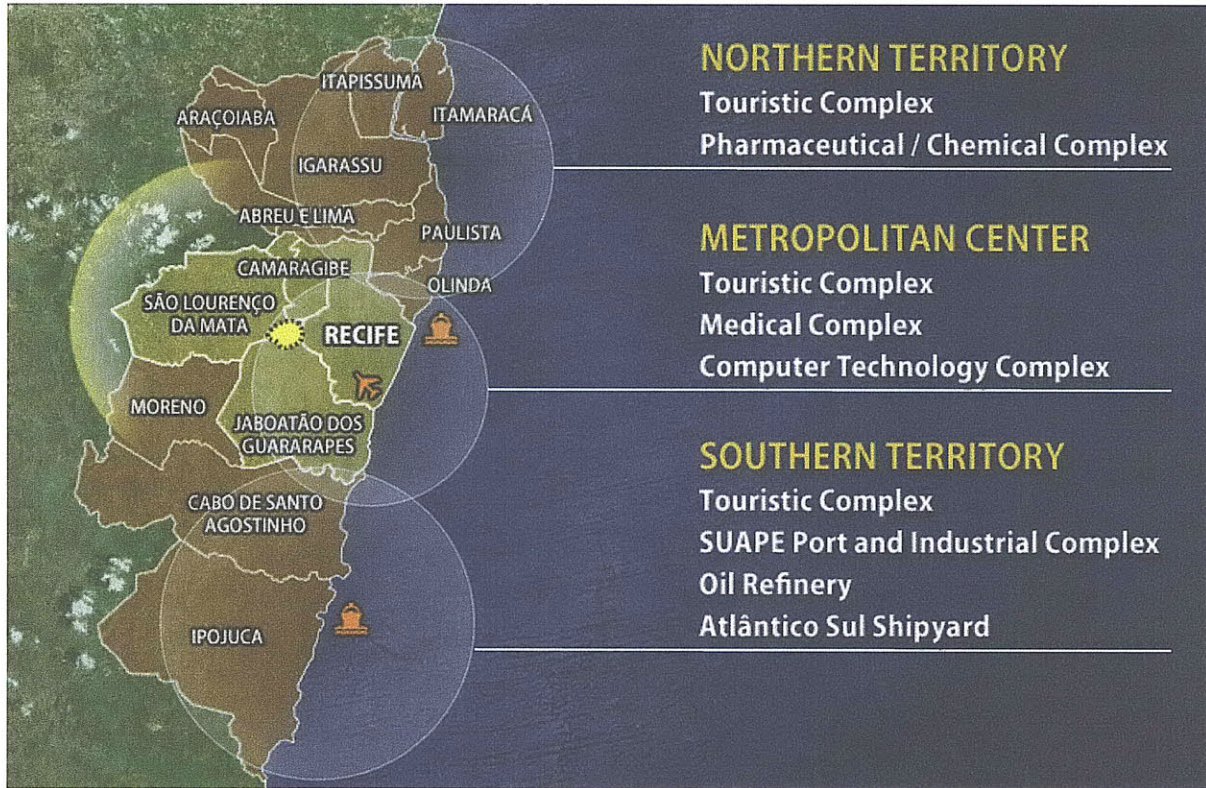
Twelve cities were selected to host the Cup; these include the three capitals of Brazil: Rio de Janeiro, considered the cultural capital; Sao Paulo, the economic capital; and Brasilia, the government capital. Recife, the capital of the Northeastern state of Pernambuco, was another obvious choice. It is at the center of the country's fifth-largest metropolitan area consisting of a conurbation of 14 cities that together make up a population of approximately 3.7 million people.¹³ Located at the coast, it has historically been an important port city serving as an economic anchor for the region. In fact, the city is often called 'the capital of the North-East'.¹⁴



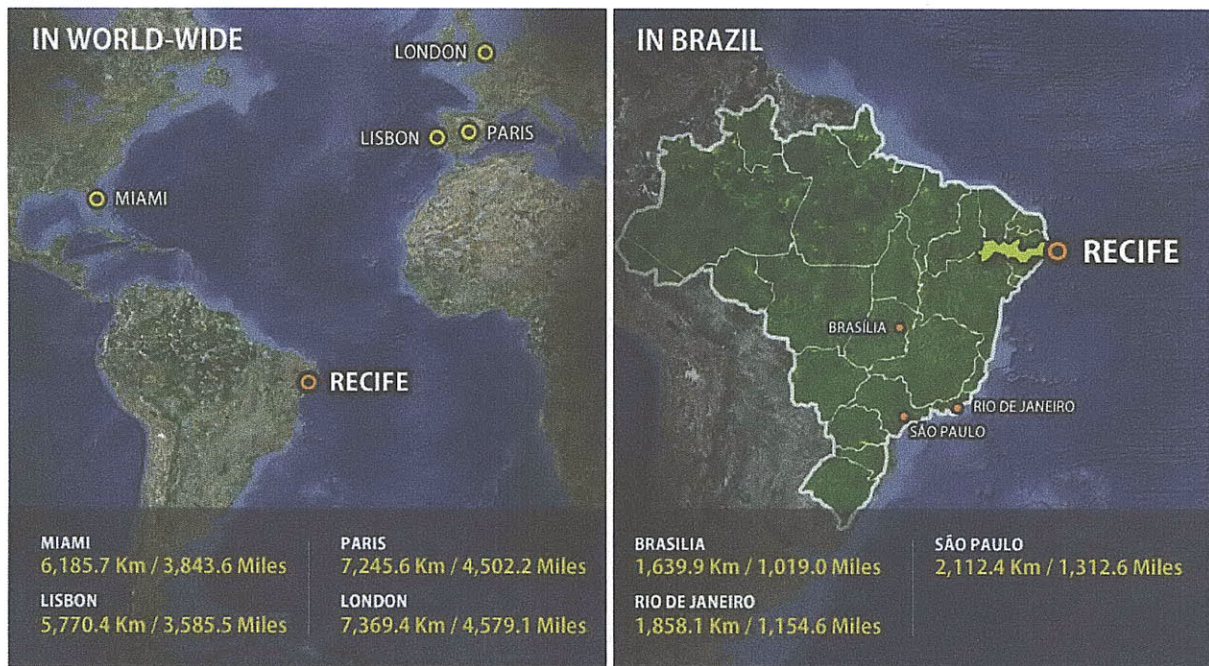
Image of 'Marco Zero' in Recife's old downtown
Photo Credit: www.recifeguide.com

Recife was founded in this location for its close proximity to international waterways and the global market. Recife was born of its port industries; two international ports continue to service Recife today; one of them is located at the coast of the city itself. The significance of the city's growth, starting in this location, is demarcated by a landmark referred to as Marco Zero [ground zero, in English]. Today, many government offices are located in this area of Recife; a small market and historic site are also here to draw in out-of-town visitors. The buildings are largely in need of repair and revitalization, but the old structures remain and serve as a testament to the history of the area. Armed officers police the public spaces in order to ensure security for locals and tourists alike.

Recife is easily accessible from major international cities, including Miami, Lisbon, Paris and London. The distance between Recife and Miami, for example, is approximately 6,185 kilometers [3,843 miles], which translates into a seven hour forty minute flight. Rio de Janeiro is another 1,858 kilometers [1,019 miles] South, approximately a 3-hour flight from Recife. The international airport in Recife, Guararapes, was expanded in 2004 to accommodate 5 million passengers per year.¹⁵ In addition, the region called "the North-East" (of which Recife is a part) includes seven major capital cities (among them Fortaleza, Natal and Salvador) and is serviced by six international airports and five international ports. The city of Recife is very well situated to receive major



Images depicting the city of Recife's prime location
 Photo Credit: presentation provided by the government of Pernambuco



Images depicting the city of Recife's prime location
 Photo Credit: presentation provided by the government of Pernambuco

international traffic both during the World Cup Games and thereafter.

Today Recife is known for tourism and education and more recently for its "Porto Digital." In 2005 Business Week reported that the Porto Digital business park had 85 IT businesses calling Brazil a "hot incubator for tech startups."¹⁶ According to the state's report to FIFA, presented in January 2009, this number had more than doubled; reaching 200 IT related companies throughout Recife. Some of the big names that have set up shop here are IBM, Samsung and Dell.¹⁷ The country's information technology industry has been growing 10 percent a year since 2000 and Recife is at the heart of it.¹⁸

The city of Recife itself has a population of approximately 1.5 million residents.¹⁹ While it is a relatively small city, it has historically been the vacation site of many wealthy families from Rio, Sao Paulo and Brasilia, and is accustomed to the influx of tourists. Both Recife and its nearby neighbor Olinda are well known for Dutch influences, which attract tourists year round. They are only 5 kilometers away from Marco Zero, so visitors often combine these destinations in one trip. UNESCO declared the city of Olinda a World Heritage site in 1982. It is a picturesque hillside town that looks upon the port and city of Recife. Recife has been nicknamed 'the Brazilian Venice' because of its architectural legacy and over 50 bridges. This year-round tourist attraction has made Recife well equipped for the large crowds expected for the World Cup. Comparatively, other major cities such as Rio de Janeiro have been said to have insufficient number of hotel rooms.²⁰

During Carnival, which occurs annually in February, Brazilian cities hold their biggest celebration. According to the Guinness Book of World Records, more than 1.5 million people travel between Recife and Olinda within 24 hours during Carnival. This influx of tourists represents a large cultural celebration as well as a large economic return for these cities. Recife reports that Carnival represents an investment of \$40 million Reais (\$22.4 million US dollars) and a return of \$250 million Reais (\$140.2 million US) each year.²¹ The World Cup represents for Recife a celebration that will attract the global market. The opportunity to show off its recent progress and its position in the development of IT-related businesses to the world will not be passed up.



Image of Recife during carnival
Photo Credit: www.recifeguide.wordpress.com

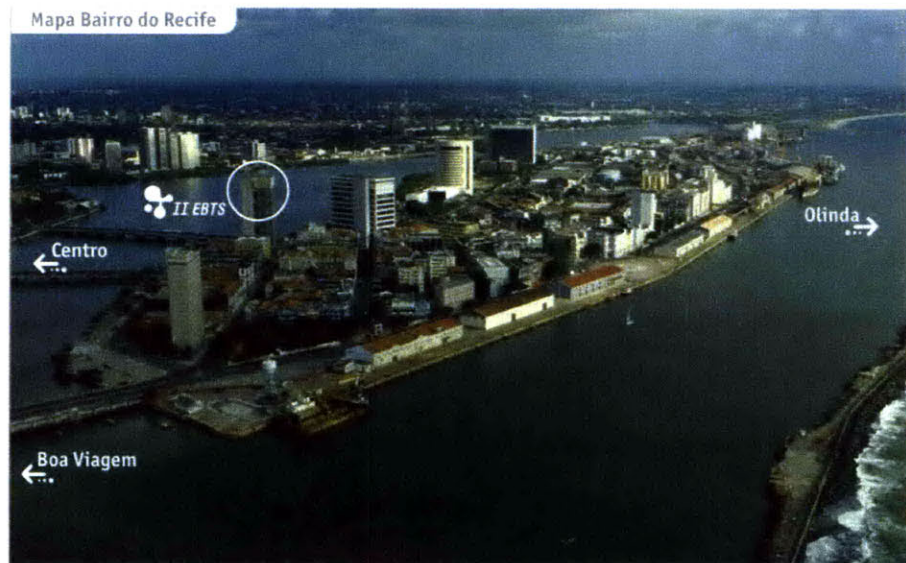


Image of Recife Antigo from above, the site of a 'Porto Digital' conference
Photo Credit: www.ETBS2007.org

Recife also has a strong soccer history; the city alone has three well-known club teams: Sport Club do Recife, Santa Cruz Futebol Clube and Clube Náutico Capibaribe. Their history dates as far back as 1901. All three clubs boast a large following of devoted fans and their own private stadiums, called Ilha do Retiro, Arruda and Aflitos respectively. They are located in close proximity to the city center and grounded within the community of each club's supporters. Within their own neighborhoods they have become iconic symbols that contribute to the distinct identity, sense of place and belonging. In addition, they serve as points of reference in the greater context of the city. Marco Zero, the city's old historic center, is only 4.6 kilometers from the stadium located farthest North - Arruda, and 3.5 - 3.7 kilometers from each of the others.

The stadiums have a capacity of 35,000, 60,000 and 28,000 spectators respectively. Extensive renovations would be required to prepare any of these stadiums for the World Cup and those renovations would have reduced their capacities. On the other hand, renovating

them would likely have been less expensive than building a new stadium altogether. It is unclear why these stadiums were not considered for renovation for the World Cup, but one can speculate that it has to do with their locations, embedded into the fabric of the city. Urban sites are generally considered more complex and difficult sites to construct upon because of their proximity to other buildings. They do not allow much room for staging and therefore require highly coordinated construction.

The 2014 FIFA World Cup promises to bring a new, large, world-class stadium to Recife. In addition, the World Cup has the potential to update the city's image, to advertise its recent successes and to elevate its status in the eyes of the world. If well coordinated, the World Cup Games could add momentum to the city's growth. By harnessing this potential Recife stands to gain far more than good soccer history and tourist dollars from the legacy of the Cup. Conversely, as the experience of other mega-event hosts shows, if managed poorly the city and state could create an unmanageable amount of debt for their citizens.



Site location for each club team stadium
Diagram produced by author



Estadio Arruda, Photo Credit: www.coralnet.com.br



Ilha do Retiro, Photo Credit: www.soccerway.com



Estadio Aflitos, Photo Credit: www.nautico-pe.com.br

Introduction to the stadium: Estádio Capibaribe

The proposed site for the new stadium straddles the borders of Recife, Camarage, Jaboatao de Guararapes and Sao Lourenço da Mata. While it is advertised as a new stadium in Recife, the stadium itself is currently planned to be within the boundaries of Sao Lourenço da Mata. The name of the stadium appears to be undecided – sometimes it is called Estadio Capibaribe, other times it is called Maracatu Arena, Arena Recife or the Recife World Cup stadium. This identity crisis may be a result of the site location selected for the stadium. While it may not seem like a large problem today, this complex border relationship may prove to be a huge headache in the future. Beyond ascertaining the right name for the stadium, it will be important to determine whose responsibility it will be to maintain it and who stands to gain from any profits it makes. The state may be the greater governing body of the site but local authorities will need to manage its construction and maintenance long after the Cup.

The site itself was selected for three primary reasons: 1. It is government owned; 2. It requires very little displacement of families; and 3. It is expected to facilitate the expansion of the city of Recife towards the West.²² A 270-hectare area of mostly unoccupied land, this new plan will only affect approximately

50 families; this would be highly improbable in an urban setting where space is more constrained. The distance to the city center is much greater, however – it is located 19 km from Marco Zero, the downtown marker and 19km from the Guararapes International airport.

In a report by the state of Pernambuco to FIFA officials the stadium is presented as a part of a larger plan to build a “World Cup City” which is described as a “new urban core.”²³ The site will include a 46,154 capacity stadium with a 6,000-car parking lot and 320-bus parking lot, a regional hospital, 9,000 units of high-rise, low-income residential towers, a State University Clinical school, a shopping center and parkland.²⁴ According to the Secretary of Economic and Tourism Development of Sao Lourenço da Mata, Marcos Robalinho, the housing program was once intended to serve upper-middle class citizens but was modified in an effort to prevent the deepening of income inequalities among the people of the area.²⁵

Originally, as the above report indicates, the plan also called for buildings dedicated to governmental use. According to Mr. Milton Botler, the Director of Planning and Urban Development for the state of Pernambuco interviewed in January 2010, this idea

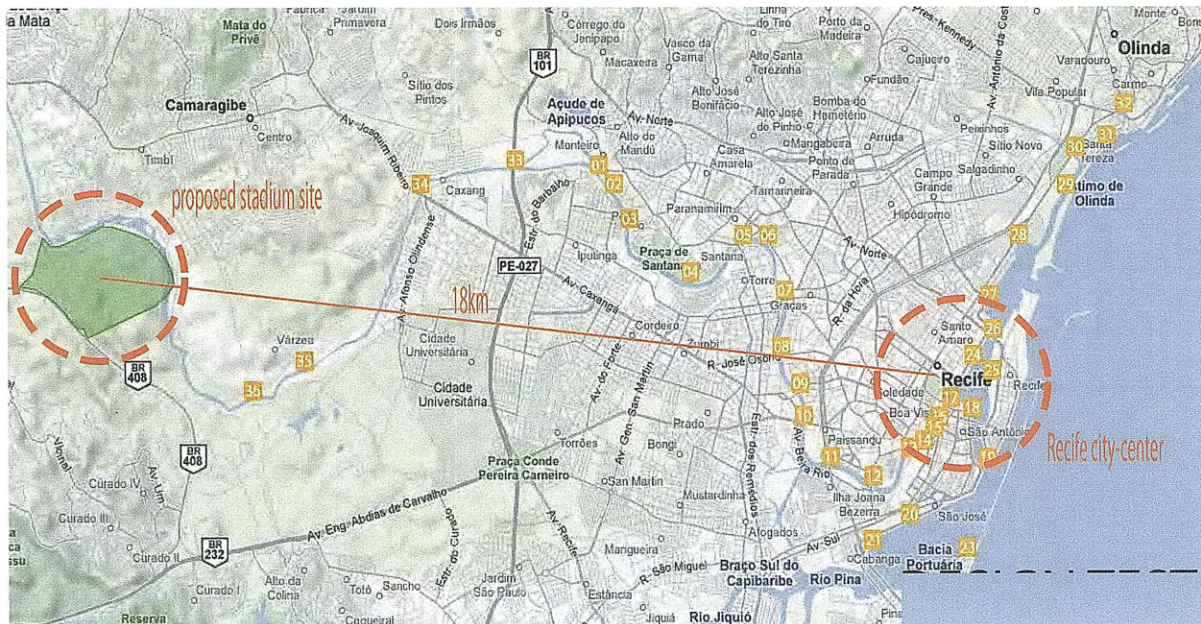


Diagram of stadium site location
Diagram produced by author

has been removed from the plans. Government officials prefer to stay in the historic city center where they are currently located. In addition, according to Mr. Botler, "moving the administrative buildings out of downtown Recife would have negative impacts on the economy and commercial areas of the downtown."²⁶ There is a fear that the move would lead to further abandonment and disrepair of the downtown.

The Sao Paulo Architect Daniel Fernandes, who envisioned the design concept of the stadium, intended for it to appear naturally integrated into the landscape as if it had formed from the land. He hoped the design would minimize the visual impact of the stadium on the land. Local artisanal artifacts with diamond patterns resembling the scales of a snake inspired the semi-transparent mesh on the buildings' facade, which can filter and regulate the sunlight entering into the stadium.²⁷ A cantilevered roof will project over the upper grandstands. The roof is composed of two parts: the outer ring of lightweight cement panels providing shade, and the inner ring made of a transparent material allowing light to filter into the stands.²⁸

In addition, the building aspires to be a leader in efficient, environmentally friendly design. The exterior photovoltaic panels will gather enough solar energy to power 20,000 homes; this will be used to

heat the water used in kitchens, bathrooms and changing rooms in the stadium.²⁹ The design also calls for capturing and reusing rain and grey water throughout the building; it is estimated that the reuse of these systems will reduce the dependency on fresh water sources by 60%.³⁰



Rendering of the stadium design
Photo Credit: Report issued to FIFA from the state of Pernambuco



Rendering of the stadium and surrounding site development design
Photo Credit: presentation provided by the government of Pernambuco

In line with recent trends

It is regretful to note that the trends of passed World Cup stadiums identified in chapter 3 continue to be present in the design of future World Cup stadium facilities. The design for the new stadium in Recife not only represents a continuation of these trends, but in some cases amplifies them. This is a dangerous prospect for the city of Recife and the state of Pernambuco; its analysis is merited. It is hoped that through this examination recommendations can be set forth for its improvement before its too late. Here the proposed design for the stadium and its location are analyzed through the lens of each trend identified in chapter 2.

1. The design aims at becoming an iconic symbol and a legacy project for Recife.

The aspiration to meet high sustainability standards clearly indicates that the stadium project aims at creating a legacy project. If achieved, the stadium will underline Recife's ability to harness the newest technologies to project the need for sustainable design. This is an important feature that will set the stadium apart from others and afford it global recognition. It will, however, come at a cost; these innovations are never cheap.

The new state-of-the-art stadium for the World Cup Games has proven to be a catalyst for new development – a new World Cup City. The "new urban core," as it is referred to, will be a legacy in and of itself. The idea was likely adapted from the 'Olympic Village,' though no other World Cup host has planned to erect a complete city in conjunction with the stadium. Even if construction is staggered and the majority of the new "World Cup City" is built post-Cup, the novelty effect will make it known worldwide.

Construction at this location alone will require expanding infrastructure to the area: water, sewage and electrical lines for the World Cup City and its neighboring areas. The addition of public



Rendering of the stadium design

Photo Credit: presentation provided by the government of Pernambuco

transportation options, albeit not exactly convenient to the stadium, will improve access to Recife's downtown for those who live in these areas. The legacy will also be felt regionally through the expansion of the existing road systems.

During its construction the stadium is expected to create much needed employment opportunities to the people of the state of Pernambuco. The Secretary of Economic and Tourism Development of Sao Lourenço da Mata, Marcos Robalinho, confirmed this and noted that this was one of their greatest concerns.³¹ The continued construction of the World Cup City could provide employment for these citizens for years to come.

2. Its site location is far from the city center.

The site is 19 kilometers, approximately 12 miles, from Marco Zero. This distance may seem relatively short, but for a city the size of Recife it is considerable. The city has a population of only 1.5 million people, and a density of 7,163.3/km².³² Density is an important measure here; the fact that it is as high as it is demonstrates that the population is concentrated, not spread out. When compared to Boston, which has a density of 4,947/km², and New York City with a density of 10,606/km², two much larger and more populated cities, Recife is extraordinarily dense.³³ This condition exacerbates the feeling and perception of distance. It is very unlikely that the people of Recife will want to travel that far to watch club matches post-Cup. In an interview with Mr. Zeca Brandao, the Executive Secretary of Urban Operations for the state of Pernambuco, he expressed his concern that "19 kilometers is far from here [downtown Recife]; abandonment is a big risk of this project."³⁴

"Access and limited transportation options are a disadvantage to this site," admitted the stadium's architect, Daniel Fernandes. The primary means of access to the site will be via vehicular transit; this has required the introduction of additional infrastructure projects in order to expand the roads. It is expected that many spectators will travel from the South, so the state plans to double the capacity of the BR-408 highway artery, which links to BR-232 and connects the major North-South highway BR-101 to the site. In addition, to facilitate the connection to the city center the North UR-7 roadway, which connects to Caxanga Avenue, will be expanded. Odebrecht, a large infrastructure and real estate corporation in Brazil, will lead most of this work. They have strong interests in the project and not surprisingly are also among its investors; they are involved in many of the decision-making processes. One has to wonder how much they have steered the siting selection for their own interests.

In an attempt to integrate public access to the site, Metrorec, the State-owned company that runs the metro of Recife, has announced plans to build a new station near the site. The new stop will be located between the existing Rodoviária and Camaragibe stations, approximately 600 meters (0.4 miles) from the entrance to the World Cup City and 2.5km (1.6 miles) from the stadium.³⁵ The link between the metro station and the stadium will be via a shuttle bus service.

Spectator visiting the new stadium during the World Cup Tournament will likely use public transit. From downtown Recife this will only require them to take

3. It is enormous in size, scale and cost.

the subway 14 stops before transferring to the shuttle bus at the station. From Boa Viagem, the tourist area along the beach, they will need to take the subway between four and eight stops (depending on ones distance from the city center) before transferring to the correct subway line. This may not be the most convenient means of access to the stadium for the average spectator. That said, the new metro station would leave a long-lasting impression on the area. Sao Lourenço da Mata and its surrounding areas are one among the poorest in the region. The new metro station will provide a valuable service connecting these citizens to the city of Recife.

The total construction area for the stadium is estimated at 129,581m²; it occupies 60 hectares of the 260-hectare site.³⁶ Approximately the same amount of space is allotted for the parking lots that surround the stadium as for the stadium itself. The amount of parking necessary for a stadium of this kind is unclear. According to an article in The Rio Times, "FIFA defines the need for an average of one parking spot for every six people attending any of the World Cup matches in the radius of one mile from the stadium."³⁷ Looking at some of the stadiums used in recent Cups, the amount of parking varies. For example, the World Cup Stadium in Seoul, South Korea, which was built for the 2002 games, has a total of 3,601 parking spaces; the Olympiastadion in Berlin, Germany has only 600 spaces advertised on its website, while the Allianz Arena in Munich has 9,800 spaces. The new Soccer Stadium in Johannesburg, South Africa, however, tops them all with 15,000 spaces. It is hard to imagine why the variations are so great, or how stadiums like Berlin have managed the excessive requirements presented by FIFA with so few spaces to offer. The Capibaribe stadium has 6,000 parking spaces planned for cars, and an extra 320 bus spaces, far fewer than some. And yet the amount of space contemplated in Recife seems wasteful.

As the architect pointed out, "the advantage of selecting a virgin site such as this one is that there is ample room for growth."³⁸ In the same light, since the stadium will be the first building constructed in the area it also has the power to set the scale for it; without a built environment around it the stadium has no point of reference to build from. The anticipated height of the stadium is approximately 65 meters [215 feet] above the entrance level. The entrance of the stadium is approximately six meters [20 feet] above the level of the playing field. This design feature serves to reduce the height of the stadium as well as to facilitate the dispersal of spectators to their seats. The result, despite its attempts to decrease its height, is that the stadium will appear tall and out of scale in this vast empty land. Eventually, the addition of new, appropriately scaled buildings as part of World Cup City will help make the stadium feel grounded.

At its maximum capacity the stadium can seat over 48,000 persons; 18,000 of them will have lower grandstand seating, which will descend from the ground level floor. The area below the lower grandstands will service the players with changing rooms, meeting areas, health services and equipment storage. Space has been allotted for parking for television and media crews, sponsors, emergency medical vehicles and VIPs.³⁹ Amenities such as

4. *The stadium is poorly integrated into the city and its surroundings; accessibility is limited.*

restrooms, restaurants, refreshment stands and gift shops will be accessible from the ground and upper grandstand levels.

The cost of construction of the stadium alone is estimated at R\$500 million (\$300 million USD). In addition, the infrastructure costs related to stadium construction, including renovation and updating of major roadways, has been estimated at R\$1.6billion.⁴⁰ It is early yet and – as projects of this nature in the past have shown – the prices only go up. Sustainable design features, for example, are estimated to increase construction costs from 5% to 7%.⁴¹ It would be exceptionally rare for a project of this magnitude to fall under budget and this is not expected. The cost of the stadium and related projects is extremely high, in particular for a city the size of Recife. The project is expected to be funded by private-public partnerships. If investors are not found, however, the expense will fall on the state government and consequently on the people. It is the responsibility of the planners and architects on board to discuss the ramifications of site selection on the cost of the stadium.

The design suffers from certain ramifications inherent to site selection; namely, car dependency and lack of connection to other vibrant urban spaces. The latter is addressed in the design for the World Cup City, as it adds parkland, residences and a shopping center. It assumes, however, that people will travel to these places and that some will want to live there. In addition, the location of the stadium with respect to the rest of the World Cup City on the periphery limits its integration to the new urban fabric. The extensive parking lot area around the stadium creates a dead zone that prevents it from becoming a central element in the life of the new city.

The stadium and World Cup City design attempts to address the needs of two different constituencies: the upper-class spectators expected to come to the stadium and the working and lower-class citizens who will reside in the affordable housing units to be built. The success of the design hinges on marrying these two, as opposed to ignoring their relationships. If these are not addressed, tensions will likely arise. The stadium could gain from further integration



Rendering of the stadium design and immediate surroundings on the site - demonstrating poor integration
Photo Credit: presentation provided by the government of Pernambuco

into the design of the World Cup City. If it becomes a central structure in the urban design, accessed and utilized regularly, even daily, the stadium could assume a new identity in the community. Both could benefit from greater accessibility, particularly public transit options to and from the center of Recife.

It will be difficult to ensure that the stadium has adequate capacity during club games to keep it from feeling empty and thereby discouraging attendance. The goal of bringing people to the area will demand more than just a nice stadium. The design should include strong anchors, a mix of uses that can support both daily and evening functions, good access points and a long list of amenities. It will be important to create value here in order to get people to travel this distance. In addition, considering the high-risk factor of the site, every building – not just the stadium -- should be designed with flexibility of uses in mind to adjust to future needs. This flexibility could help keep the project alive and interesting.

Integration of the project into the city of Recife is lost due to site location. It is hoped that it will function as a small city on its own; the risk of failure in that endeavor, however, are high. Without a community, a history and a sense of place, all of which develop over many years, this new World Cup City is not likely to see short-term success.

5. Design lacks flexibility and its projected uses are limited.

Capibaribe stadium is expected to be primarily used for soccer after the World Cup Games. According to Mr. Silvio Bompastor, the Executive Secretary of the Program for Public-Private Partnerships [PPP] in Pernambuco, "it is easy to find interest in the project, though it has proven more difficult to find teams that are interested in playing in the arena after the World Cup"⁴² The three club teams of Recife were expected to enter negotiations with the state in February, 2010 to determine who would call the new stadium 'home field' after its construction. As of this writing, no team has yet been announced to take the new stadium on as its own.

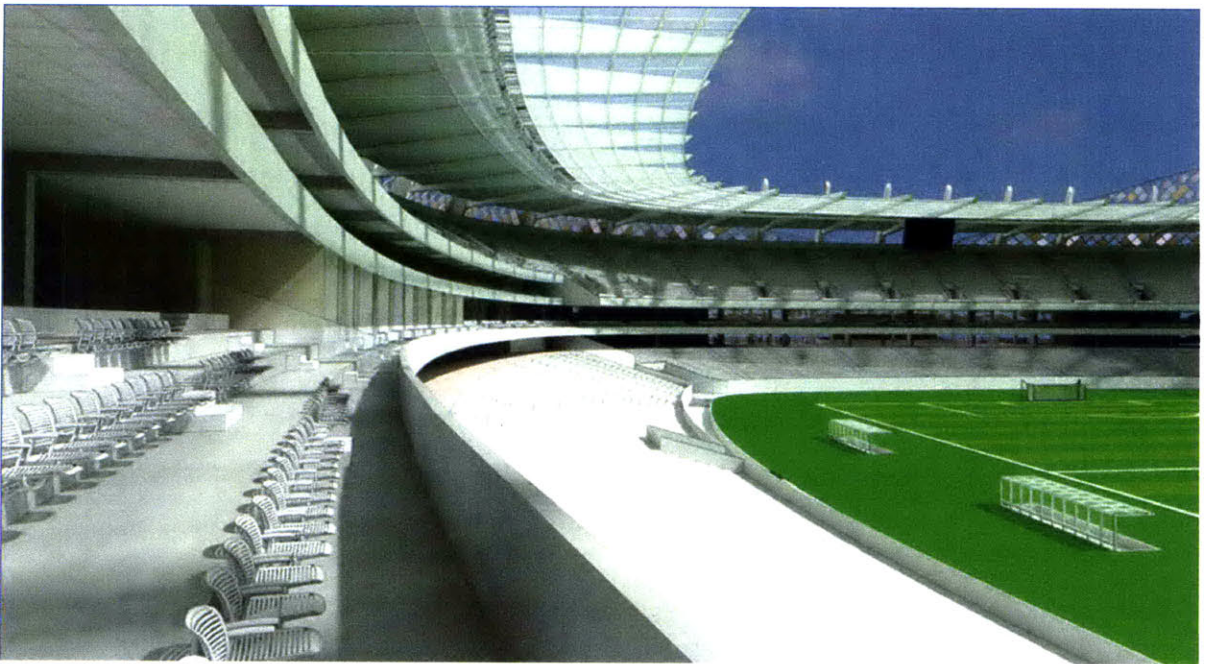
The state hopes to persuade all three of them, or at least two teams, to share the turf. According to Mr. Bompastor, the state has created incentives to lure the teams into these deals; without regular games the stadium will certainly be underutilized.⁴³ It will be difficult, however, to persuade any of these teams to leave their own home turf, which is embedded within a community of their fans and holds many years of history. The worse case scenario is feared: the new site could end up like China's Bird's Nest, which failed to strike a deal with the city's local soccer team and is now empty. According to a New York Times article, the iconic Bird's Nest has only hosted three events in the year since the close of the Olympics.⁴⁴

The majority of the structure will be made of local Capibaribe-mixed concrete with metal reinforcement. The choice of materials was mainly guided by cost constraints – the price of steel, which would increase the flexibility of the design, is too high in Brazil, according to architect Daniel Fernandes.⁴⁵ The current design, however, is not conducive to reuse or redesign to serve the future needs of the area. The design, and perhaps also the materials used, should be reviewed to allow room for flexibility and adaptation to potential future uses. Lessons from its predecessors such as the Maracanã may also provide inspiration for future flexibility in design. In the Maracanã, the stands were purposefully built in 60 segments in order to expedite construction and prevent collapse. While this may have been a preservation tactic instead of a progressive design approach, the design permits a level of flexibility not yet realized in this stadium.

The new structure will also be capable of hosting concerts; other than that, no other uses have been considered for the stadium.⁴⁶ This definition of multi-use is antiquated and unacceptable today. The design should include a variety of alternative uses for the stadium including temporal and daily uses. This is the only way to maximize its potential and generate



Rendering of the stadium design in sectional perspective - demonstrating singular use of the stadium design
Photo Credit: presentation provided by the government of Pernambuco



Rendering of the stadium design in sectional perspective - demonstrating level of luxury and uses
Photo Credit: presentation provided by the government of Pernambuco

profits from its construction and maintenance. Perhaps some of the other functions of the World Cup City could be held in the stadium. The clinical school could rent out space for laboratories; office buildings could combine VIP sections into conference rooms or hold banquets here. As long as circulation and access are adequately addressed, parts of the building could be enclosed to create permanent private workspaces. If the stadium has trouble meeting capacity post-Cup, perhaps it could be reduced in size by eliminating some of its stands. These alternatives need to be studied and analyzed if the stadium is to thrive after the World Cup.

Conclusions:

The new 2014 FIFA World Cup stadium could have a great impact on the city of Recife. It has the potential to add momentum to the city's growth in the niches of tourism, education and IT businesses. The World Cup games will capture the attention of the global market and Recife can take advantage of that to propel itself into the future. The city's location is prime for international traffic, and its existing tourism infrastructure will carry it a long way towards these goals. The stadium site, however, is too far out of the City's center. This location adds costs and significant risk to the success of the project.

It is also an impediment to advertising the City's greatest amenities during this mega-event, such as its thriving information technologies sector. Unlike most Brazilian cities, Recife has the benefit of a significant downtown, the attraction of a historical port town and the luxury of sprawling beaches. By selecting a site distant from these amenities the city cheats itself. The millions of people who watch the World Cup on TV will not be able to see the skyline, beaches and architecture of the city when the camera zooms in and out of the stadium. Instead, they will see vast green land and a small town in the distance, as this is where the site is located.

In addition, the city misses the opportunity to forge a stronger connection with its neighboring city of Olinda. Today these two are very much a joint tourist destination; harboring and developing this connection physically through the siting of the stadium and additional transportation options would greatly enhance the visitor's experience. Today to reach Olinda from Boa Viagem, where most tourists stay on the beach, one must take the subway or bus into the city and then take another bus to Olinda; this takes about an hour and a half. An expansion of the subway system to create a direct route would benefit the visitor as well as create a link between these coastal cities that could be used by daily commuters.

The current site location will not, in our lifetime or the next, become an extension of Recife's center. At best, and assuming further construction follows after the games, it will become a destination point, a clustered community on the outskirts of Recife. The city and state would be better served selecting a site closer to the city center that could advertise its merits and service its people best. In addition, the design of the stadium with its energy efficient technologies may put it out of reach for the eventual residents for whom the World Cup City is conceived. This is an important concern: not only will the stadium potentially become the center of social tension, but it could also suffer

from being underutilized. By pricing its neighbors out and not being sufficiently convenient for those who can pay the tickets but come from farther away it could become an economic burden and a white elephant to the area.

The city of Recife would be wise to rethink its strategies in the siting and design of this new World Cup stadium. The potential benefits of hosting the World Cup Games are many, but the threats of under-planning, poor investment and over-spending are great. City officials should take a closer look at Recife's merits, amenities and current social conditions in order to use the Cup to propel the city forward. Marrying the needs and investments that will result from hosting the World Cup with the needs and future plans of the city could create plans for really positive change for the city. More importantly perhaps, that change could be seen within our lifetimes.

RETHINKING RECIFE'S STADIUM

Step one: location

The site selection has a tremendous impact on the costs and effects of the stadium. It is often the first decision made in the process of planning, designing and implementing any project. Its ramifications should not be overlooked; these decisions cannot be made hastily. As seen in the previous section, the current site selection for the World Cup Stadium in Recife runs a high risk of abandonment. The city was not left without alternatives, however. Two alternative sites were published in the index of a report presented to FIFA by the state of Pernambuco, categorized here as outskirts site and periphery site. In this section I compare these site locations and their values and consequences in order to better understand the reasons behind their selection and ultimate rejection. This may reveal the underlying factors that contributed to the final site selection. It may also inform future stadium site selections.

Outskirt and Periphery stadium site comparison

Three sites were reviewed by the state of Pernambuco prior to making the final site selection. The Capibaribe Stadium, the final site selected, examined above, represents the case of the outskirts site. As noted, it is located 19 kilometers from the city center. The advantages of this site are that it is government owned land and that its proximity to major roadways makes it easily accessible by car. In addition, it is a vast picturesque landscape with few existing occupants and room for expansion, a developer's dream. While these advantages suggest that the project should surge ahead at fast speeds, the reality is that construction is already late by two months.⁴⁷

The distance from Recife's downtown or from any cultural metropolitan center is a disadvantage. This not only requires longer travel times to reach the site but also means that the area will not have the cultural and community amenities of other site locations. It will prove difficult to create a desirable sense of place and attract residents to an area without any to begin with. Other disadvantages of this site location include its lack of infrastructure. Providing it will require higher initial implementation costs. In addition, the site depends on future investments and growth in order to make use of the infrastructure brought to the site.

Alternative 1: Jiquiá Stadium

The site designated for the new Jiquiá stadium is located nine kilometers from Marco Zero, within the neighborhood of Jiquiá. The site is privately owned and originally staged for the development of high-rise residential condominiums. It is located on Avenida Recife, a heavily transited avenue that connects downtown Recife to the suburbs. In addition, it is near the interstate highway BR101.

The design for this site included the stadium, parking lot and a small area for residential construction. A contract was begun with the soccer team Clube Náutico Capibaribe in order to ensure that they would contract the use of the stadium. For this reason, the stadium was not designed to allow multiple functions. The project itself was proposed by a private business group, which could make the negotiations between the city and state government and the business group more difficult.

The advantages of this site are directly related to its proximity to transportation services. Not only is it near both local and interstate roads, facilitating vehicular access to the site, but it is also within

one kilometer of the metro stations Santa Luzia and Werneck. The site is equidistant from Recife's downtown and the Guararapes International airport; only nine kilometers in each direction. It will also reap the benefits of existing infrastructure in the area as well as nearby commercial and residential areas. In addition, the site is tangent to an area of land selected to become a part of a larger metropolitan park system named Jiquiá Park. The development of a new World Cup stadium here could advance that development as well and bring natural amenities to this urban area.

The disadvantages of the site are limited land and proximity to existing residences. This limits the parking availability, which is considered a big strike against the project in the report, and makes construction staging difficult. The state government showed concern for the private ownership of the land and "mono-functional" concept of the stadium. In addition, the design presented was of a stadium for 30,000 spectators, which does not meet FIFA's minimum requirement.



Rendering of alternative 1 site

Photo Credit: Government of Pernambuco report to FIFA (Appendix)

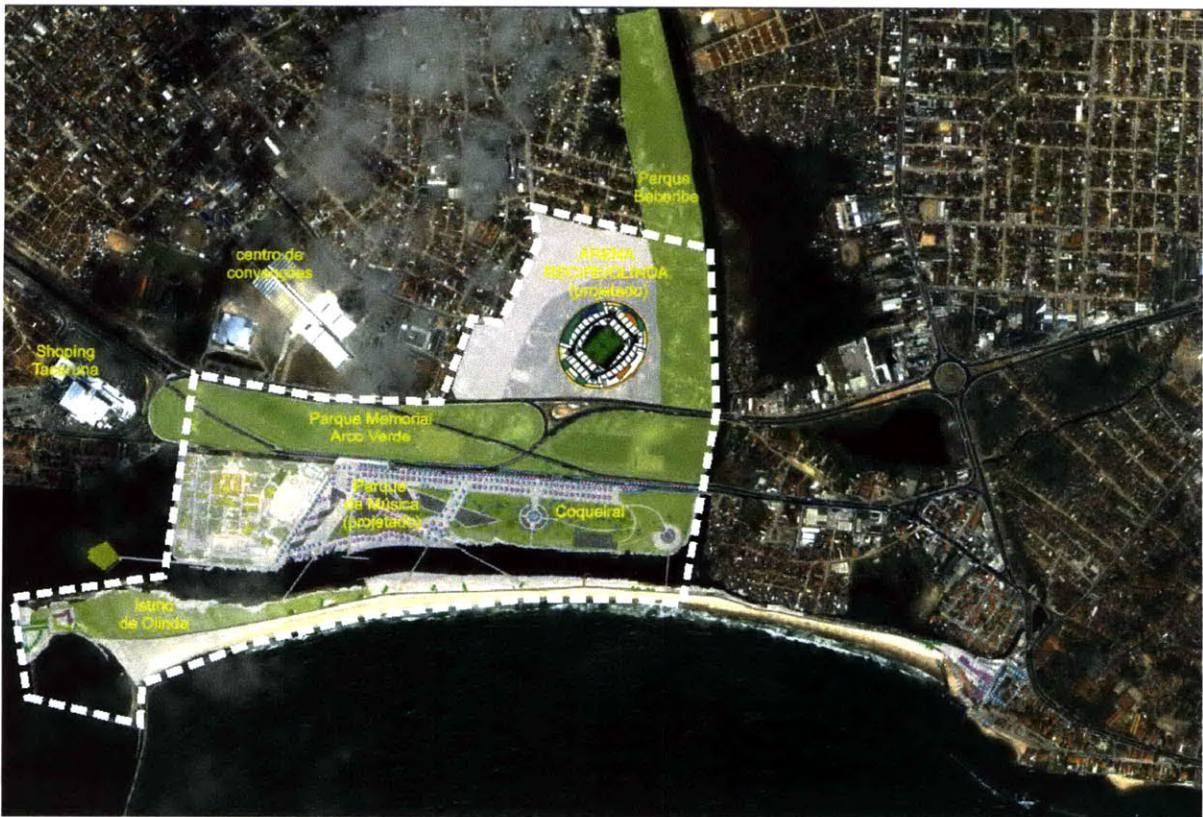
Alternative 2: The Salgadinho Complex

The Salgadinho Complex is a periphery site location; it is located at a transition area between the municipalities of Recife and Olinda at the banks of the Bemberibe River, only four kilometers from Marco Zero. It was first identified as a prospective site in a feasibility study conducted by the Advisory Amsterdam Arena and PTZ Arquitetura and Consultoria, a project spearheaded by the Netherlands Government. After analyzing six areas, they recommended this location as the best-suited site for the new World Cup stadium.

The advantages of this site include its proximity to the downtowns of both Recife and Olinda and as a result a diverse array of services and commercial and cultural attractions. This site takes advantage of the area's existing infrastructure and road services. In addition, it has the potential to encourage further public transportation options that could connect downtown Recife to Olinda. The design itself called for a multi-use stadium that would include offices, bars, restaurants, an entertainment center and convention center. The site was expected to include additional residential units, offices, hotels, commercial uses and parkland.

Perhaps the most significant note, however, is that this site has been called a "territory of opportunities" in the report published by Metr pole 2010 and the Metr pole Estrat gica. As the report indicates, the site is slotted for investment "irrespective of the Cup." This coordination with future visions for expansion of the city could not be more ideal; it is reminiscent of the lauded Barcelona case in which the Olympic Games served as a catalyst for investment in the existing plans for expansion of the city.

This site also has some disadvantages. Currently it has a high volume of housing on the site that would require relocation. Approximately 3,500 residences, 50% of which are currently considered "at risk" structures, would have to be removed to make way for the new stadium. "At risk" structures are informal dwellings that are constructed without respecting construction regulations; often they are unstable and prone to structural failure. The relocation of these homes is a complex task for any city; that said, when taking into consideration that FIFA had awarded the World Cup to Brazil a full fourteen years prior to the games, it becomes impossible to believe that they



Rendering of alternative 2 site

Photo Credit: Government of Pernambuco report to FIFA (Appendix)

would not have enough time to complete this part of the planning endeavor.⁴⁸

Relocation may also have an adverse effect on the interest of private investments. Investors may be interested in these real estate deals, but they do not want to become known for having a hand in the removal of these citizens. This would have to be planned with sufficient anticipation in order to ensure the interest of the residents and of private investors alike. In addition, the report indicates that the soil at the site is of poor quality, likely due to its frontage on the Bemberibe River. This condition will require deeper foundations for any structures built on the site, adding significant costs to the project.

Conclusions:

The fears of relocation and private ownership of the land may have been the greatest deterrents for use of these alternative sites. Their costs may have been high, especially in the case of the Salgadinho Complex, due to its soil quality; however, it could be argued that this would be balanced with the money saved from using local infrastructure. In any case, these problems as well as many other disadvantages have realistic, albeit complex, solutions. [See table on following page]

In contrast, the economic and social ramifications, not to mention risk, of Capibaribe, a site so distant from the city center, cannot be easily solved; the problem is inherent in the site itself. So why was it selected? In likelihood because it was the easiest solution; it does not require dealing with and moving multiple existing residents, site constraints of an existing urban fabric or the existing private owners of the land – its an area that practically didn't exist. In addition, I speculate that the interest of investors, namely Odebrecht -- a large infrastructure and real estate corporation which stands to gain from all of the infrastructure investment -- may have had a strong hand in the siting selection. The easiest solution may not be the wisest. In this case, I suspect that it will likely prove to be the most expensive and the least likely to succeed.

	Advantages	Disadvantages
Cabiparibe Stadium (Outskirt Stadium)	<ol style="list-style-type: none"> 1. Government owned land 2. Requires little population displacement (approximately 50 families) 3. Virgin site allowing space for staging construction and future expansion 	<ol style="list-style-type: none"> 1. Location at 19km is far from downtown 2. Expensive infrastructure costs 3. Limited public transportation options 4. Car dependence is high 5. Difficulty in finding club teams interested in playing at the stadium 6. Difficulty in finding interest in living in this area 7. Stadium is a single function building 8. Stadium is poorly integrated into the 'World cup city'
Alternative 1: Estadio Jiquiá (Periphery Stadium)	<ol style="list-style-type: none"> 1. Location at 9km from city center and Guararapes International Airport 2. Existing infrastructure in the area 3. Location near vehicular transportation options: Avenida Recife and interstate BR101 4. Within one kilometer of 2 Metro stations 5. Contracts with club team underway 6. Nearby land slotted to become public parkland 	<ol style="list-style-type: none"> 1. Privately owned land 2. Site planned for condominiums 3. Limited size of plot of land (for parking and staging construction) 4. Single function building 5. Design called for a stadium of 30,000 spectators (less than FIFA requirements)
Alternative 2: The Salgadoinho Complex (Periphery Stadium)	<ol style="list-style-type: none"> 1. Location at a transition area between downtown Recife and neighboring Olinda 2. Only 4km from downtown Recife 3. Existing infrastructure in the area 4. Located along important connector roads 5. Potential to enhance public transportation options to connect Recife and Olinda 6. Multi-use stadium design 7. Part of a larger expansion strategy (irrespective of the Cup) which would include increased density to the area 8. Considered a "territory of opportunities" 	<ol style="list-style-type: none"> 1. High volume of housing on the site (approximately 3,500 residences, 50% considered "at risk") 2. Investors may be averse to a site that requires population relocation 3. Poor soil quality requiring deeper foundations

DESIGN TEST :: An argument for integration: the downtown stadium site

The city of Recife has three club teams, each with its own stadium. In a city that has met its quota of stadium facilities, an innovative look at stadium design and stadium form is necessary. Brazil, a soccer-crazed country with a multitude of stadium facilities, may look like an exception in the world today, but as more World Cup and Olympic stadiums are built across the globe more cities will find themselves in this predicament. What will they do with so many world-class facilities?

Recife has no need for a fourth stadium. In fact, unless at least one team agrees to play in the new stadium, it will be wasted. I have made a case for marrying the stadium and the piazza forms. The ability to accept each other's qualities [i.e. control, access, and identity] and to transform back and forth between these two uses makes them an ideal pairing. Furthermore, they serve the city well by creating useful spaces for both daily and temporal functions. In this seemingly extreme case, perhaps the stadium design could be built to transform into a piazza post-Cup and abandon its stadium form altogether. This may not be necessary, but as an alternative to building more white elephants that bring with them enormous financial burdens and little or no profit, it creates a fine prospect for the future of the city.

In this final section I advance these propositions and suggest a new site for the World Cup stadium in Recife. I evaluate the downtown stadium site and its ability to perform based on the six principles of good

public form: location, accessibility, identity, program, connectivity, and flexibility.

More than just an alternative site, this is an alternative form capable of functioning as a stadium or as a piazza as the needs of the city require. To do this successfully the stadium cannot stand alone, it will require that the remainder of the lot around it be programmed with additional buildings including residences, offices, commerce and conveniences. The design hinges on its location near the city center as well as underserved residential communities. By acting as a connector between these areas as well as attracting multiple types of users to the site for activities other than sport the space can be used during more hours and for more purposes than a stadium alone could.

Six principles of good public form:

Location

The success of a public space hinges on its location. It must be easily reached and, therefore, its proximity to the user and other uses is an important feature. I have argued that the stadium must mimic the piazza and become an integral member of the city fabric; therefore, the stadium must occupy the prime real estate of the city – its center. This location benefits from being at the convergence of activity and thus becomes the heart of the city.

It is located in the center of the city on the island that connects the historic downtown to the three primary zones: Zona Norte, the more dense residential area known for its historic aristocratic feel; Zona Oeste, the sprawling suburbs known for lush green spaces and the site of the Federal University of Pernambuco; and the Zona Sul which is home to many middle-class Brazilians and is famous for beaches, hotels and tourism. The nickname given to the city “the Venice of Brazil” is in reference to the historic bridges that link the island to the mainland.

Traditionally the island was an important port area for the city, housing many manufacturing and storage facilities that were central to the city’s economic growth. Today the area has many picturesque streets, historic churches and romantic views by the waterfront. There is a mix of residences, shopping areas, historic landmarks, restaurants, bars and hotels. Still, the area is riddled with old, empty warehouses and derelict, vacant land. The site I have selected for the stadium offers a solution for this underutilized land and addresses the desire for a new stadium for the 2010 World Cup. In addition, it seeks to reestablish the connection between São José, the Northeastern area of the island and Capanga and Ilha Joana Bezerra, the communities to the Southwest of the island.

The site is located along the water’s edge where today lays a two-lane road called Rua Engenheiro Jose Estelita. Beyond is a large parcel of unused land with occasional unused warehouse buildings; together they represent a great opportunity for the city. With careful planning, rerouting of the existing road and design, this locale could become the site for the new World Cup stadium as well as a new public space for the city. By revitalizing this site, the city of Recife can rebuild its waterfront, develop this unused land with a vibrant residential, commercial and business center and bring public amenities to the area. This could be the change the city needs to create a new image for itself that will be seen by the entire world.



Diagram of proposed site selection
 Diagram produced by author

Accessibility

Locally, there are many means to access the site. Major vehicular arteries Avenida Sul and Rua Papa João Paulo II service São José. The current traffic on Rua Engenheiro Jose Estelita would likely be redirected to Avenida Sul, which runs parallel to the waterfront and next to the site. This would likely serve as the main vehicular access route to the stadium and its surrounding areas. Despite its grand boulevards and avenues, the area's high density and diverse mix of uses makes it prone to pedestrian traffic. The location of the stadium and surrounding developments will provide continued pedestrian connections to the communities south of the site, which are currently cut off from the downtown.

The site is at the terminus of Avenida Dantas Barreto, the major boulevard that runs directly to Praça da Republica and the State House. This important vantage point, directing the view towards the end of a long boulevard, warrants the presence of a significant structure. The stadium, a symbol of the area's rich soccer culture and history and a legacy to this prestigious event, will have its main entrance at this location. One can imagine the boulevard acting as a

great procession of the masses during the World Cup, Carnival, game days and other major festivals. Its prominent location will serve as a daily reminder of these historic moments and also as a daily attraction at the waterfront.

The central train station Estação do Recife is conveniently located in São José, a walk of less than one kilometer to the site. This service provides public transportation (the metro) to the city center daily. Many hotels and the dwellings of middle class citizens are along the beach front in Boa Viagem, South of the city; the existing metro line will likely be the convenient and preferred means of access to the stadium during game days. In addition, the location of the stadium and waterfront attractions will bring both locals and tourists to this downtown area on weekends and during longer hours of the day. The continuation of the neighboring streets and grid in the new development will provide access to the stadium and waterfront.

The water's edge may seem like a disadvantage in that it does not allow for through access in its direction,

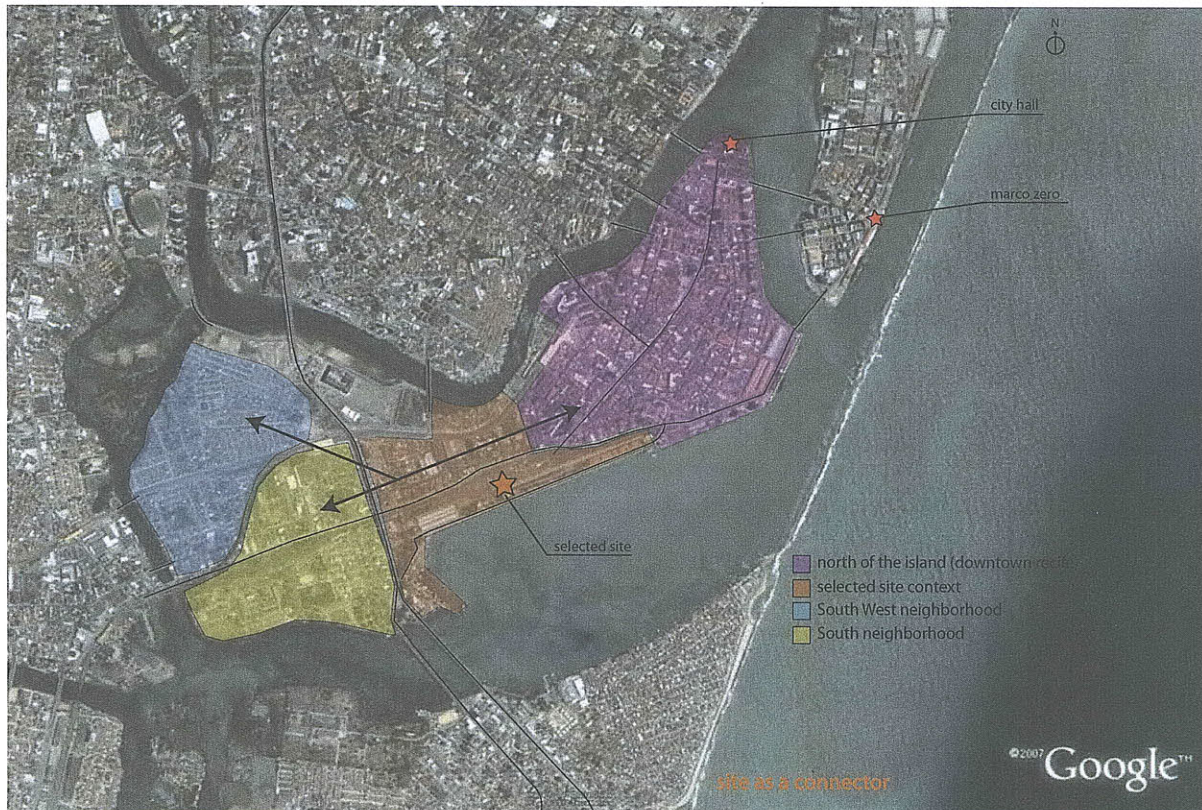


Diagram of proposed site selection as connector between existing neighborhoods
Diagram produced by author

but it is certainly a desired destination point. In addition to providing an opportunity for public space along the waterfront, the place could serve as a new water pavilion and dock for the area. Services such as boat rentals, water tours and even exhibits could be provided along the water's edge in order to allow visitors and citizens alike to engage with the water. Conversely, the waterways could become an alternative means to access the site; locals could sail or motor here, dock their boats and enjoy the park before returning home.

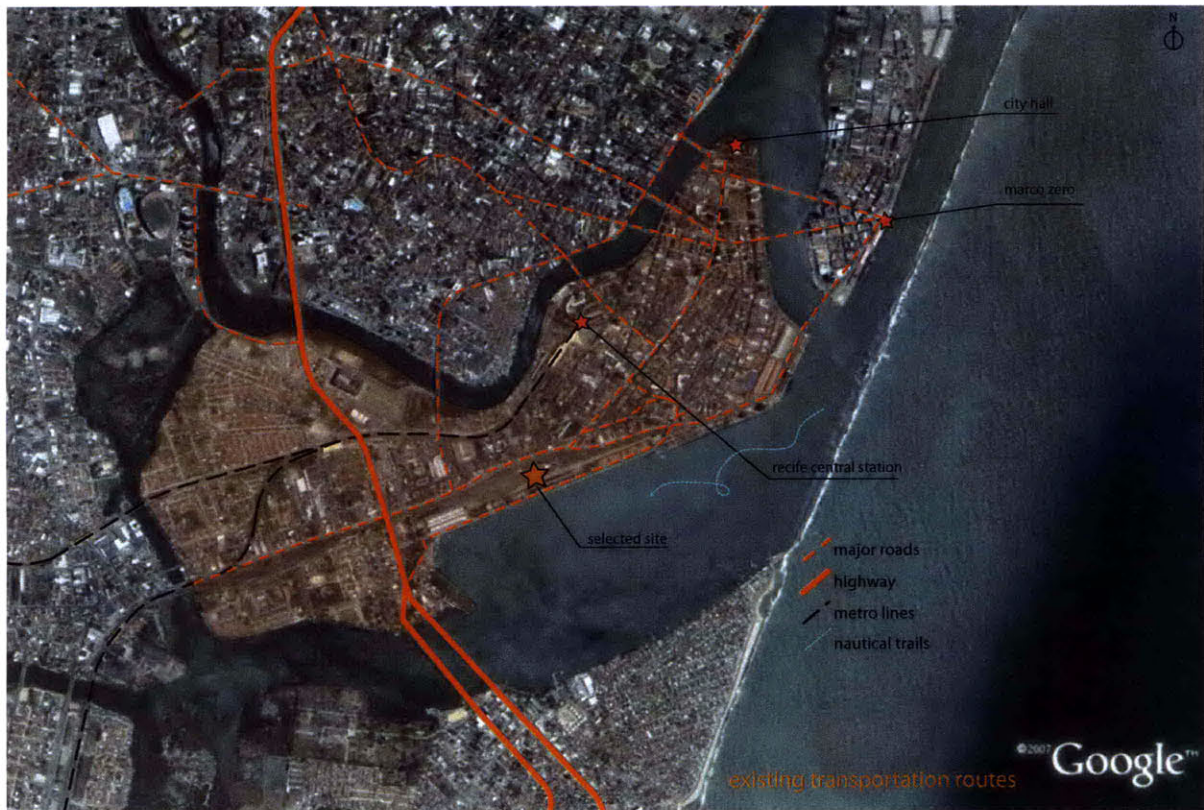


Diagram of proposed site selection and existing transportation conditions
Diagram produced by author



Diagram of proposed site selection and proposed transportation routes.

Diagram produced by author



Diagram of proposed site selection.

Diagram produced by author

Identity

The form of the stadium, often circular or oval, a derivation from its ancestor the Roman amphitheater, is recognizable worldwide. This alone demonstrates its significance. Its location at a prominent site, at the end of an axis of an important street, underlines its importance. Not only will the 2014 World Cup Games, a mega-event, create a historic identity for the place, but also its architectural presence and siting on their own have the power to reverberate this meaning.

As a piazza the center of the stadium will be accessible to the everyday user that would arrive from the city center or adjacent communities. In addition, with diverse uses surrounding the stadium including residences, office and retail, the site will attract new users to the area for multiple purposes. This openness and availability for daily use will attract different types of people and create a space for diverse interactions. These opportunities for unique experiences build multiple and disparate memories in the minds of users that will give the space a new identity. Its ability to provide space for a variety of uses simultaneously will enable this piazza to create disparate memories for its many users. The oval shape is maintained in order to carry on the legacy

of the stadium even if it never functions as one again.

One might consider the waterfront to have its own separate identity; this piazza space, however, could also benefit from becoming an extension of it. The stadium will be seen not only from the land but also from the water and from the air. Its image, with the river as its foreground and the city as its backdrop will be on every postcard. It would be a missed opportunity if the site did not address the waterfront. Here, the building projects into the water to create a sweeping curvilinear edge and allows the existing river walk to traverse its center on non-game days.

The building's shell could become facilities for boat rentals with a promenade and dock extending from them. The upper stands along the water's edge could be removed permanently in order to allow a lower skyline that could bring more natural sunlight into the piazza. The stadium, if maintained, could become three-sided, or perhaps temporary lower stands could be placed in front of the shops, as is done in Siena, during soccer matches. This new hybrid form has the ability to generate multiple simultaneous functions for the space.

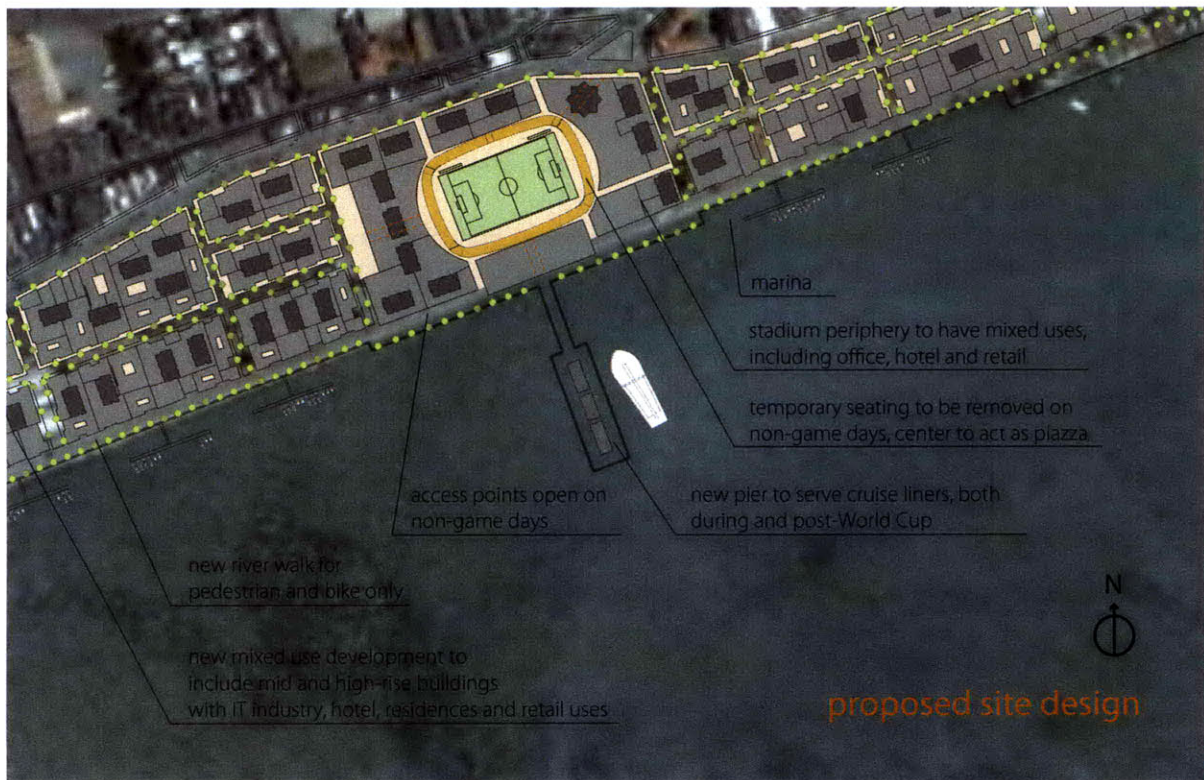


Diagram of proposed site design
Diagram produced by author

Program

In order to become a vital resource and contributor to the city at large, the building will require a mix of uses embedded within its walls. These uses may include places to eat, sit, shop or visit, among many others. For example, one area might be devoted to a gallery or museum that could attract tourists and intellectuals while next door a café and dessert house might bring families to the area. The uses and activities must include both permanent and temporal amenities that address the needs of everyday life as well as attract users for specific events. Offices for the flourishing IT businesses, for example, would supply the space with users on a regular basis.

In the case of this design, I would recommend that the project call for a healthy mix in its program. This should include residential and office towers, retail and convenience as well as some civic and entertainment spaces. These alternatives accommodate varying desires of the public and invite a larger diversity of people to experience the space. In addition, this ensures that the project does not rely too heavily on one program use in order to create a profit; instead it creates a balance that is both profitable for the city and convenient for the user. The amenities are not only convenient and useful but help to establish a convivial setting for social interaction.

A diverse set of uses that meet the needs of the city can activate the space daily and during more hours of the day. The program mix for this design should be determined through a feasibility and need analysis for the area; however, I would certainly recommend office space, hotel and residential units to supply the area with daily usage as well as attractions such as museums, restaurants, shops and waterfront amenities.

The design of its program, both fixed and temporal, should be the responsibility of both the planners and the architects. A variety of seasonal and event uses must be planned in advance of its completion to ensure that the space provides attractions that continuously bring users to the site. Aside from a sports venue, the space could be used to stage musical and theatrical performances, as a site for Carnival festivities, New Year celebrations and weekly flea markets. Each month could have a different theme; here I propose an event for each calendar month, many of which are rooted in the culture of the area:

January: New Year's celebration;

February: Carnival procession and masquerade ball (a famous local tradition);

March: Marine month, boating and water activities;

April: Sugarcane exhibition, a dedication to the industry that made the city;

June: Race Car Expo;

July: World Cup of Soccer celebration; on off years a historic exhibition and soccer related activities could be played;

August: Folklore Month. Exhibitions of local folkloric traditions (local tradition);

September: Surubim Rodeo event (local tradition);

October: IT Month; Innovative designs on display in the piazza;

November: Northeast Fair of Animals Exhibitions and contests featuring local livestock (local tradition);

December: Christmas Serenade and Nativity scene (local tradition).⁴⁹

Connectivity

The design aims at connecting people to places as well as people with other people; public spaces with unrestricted access create a platform for this kind of interaction. The social diversity of the place -- inviting people of all classes, colors and ages to stop and enjoy the same amenities -- will create a uniquely warm atmosphere that is characteristic of Brazil and of Recife itself. Recife, the closest point in Brazil to Africa, has historically been a city with distinct racial diversity and thus a colorful culture. The streets project that diversity daily. Public spaces like this can carry that message and connect people of disparate backgrounds simply through their accessibility. In addition, its central courtyard can be used as a means to display these cultural roots through festivals or exhibitions, for example.

Density is an important feature of this site. As such, its design should maintain the dense characteristics of the downtown as well as create natural amenities for the city. Density of people and of activities will also contribute to the connectivity of the place. A near empty place will not provide its users with the opportunity to connect with one another; therefore, density of people is a requirement. Density of uses or an increased overlapping of activities may bring

diverse people together in a shared space for different activities. This overlap and intensity of activities and densities fosters the connection between people.

The site will accept a variety of users, including transients, meanderers and lingerers who can use the space for their own purposes and interact with the space in different ways. By providing a space for interaction on a daily basis as well as through an event or activity the design enables many types of connections. Events such as soccer matches and Carnival provide a common activity that is full of meaning and can foster a deeper connection between strangers. In addition, when coupled with history and tradition, these event spaces have the ability to connect the user to a previous time, therefore substantially increasing their significance. For example, this site could connect its users to the 2014 World Cup through memory long after the event has passed.



Perspective demonstrating procession to World Cup Games and festivities on route to stadium.
Produced by author

Flexibility

The most restrictive feature of the stadium, which limits its flexibility, is the inaccessibility to the center of the space: the field. This design marries the stadium form and the piazza form thereby lifting the controls typical of the stadium and making access unrestricted, as is the case for the piazza. This opens up the center and stretches the stadium's use beyond sports venues and concert facilities. In addition, its outer shell anticipates a diverse and changing program. One use should readily convert into another if the need arises: a conference room could become a banquet hall or gallery space or VIP rooms by the introduction or removal of furniture and temporary walls, for example.

The piazza may also be required to transform back into the stadium for games, concerts and other major events. This will require temporary reinstatement of control over the space. Office spaces, conference rooms and hotels can double as viewing boxes and be "rented" during game time. Not only will this require hired guards or police to regulate and enforce this control and direct the masses, but also a detailed plan for this transformation. For example, temporary seating may be erected within the piazza space. Additionally, the piazza entrance points will need to be regulated and a physical barrier will be needed to separate the fans from the players. Supplementary means of exit may be necessary; this may be achieved, for example through the use of temporary stairs at the entryways.

Cities and human behavior are susceptible to change, and for that reason the design must expect change and plan for it. Through flexibility of space the design creates a tolerance that can accept the dynamism of change. It is the responsibility of planners and designers, however, to anticipate and plan for this change.

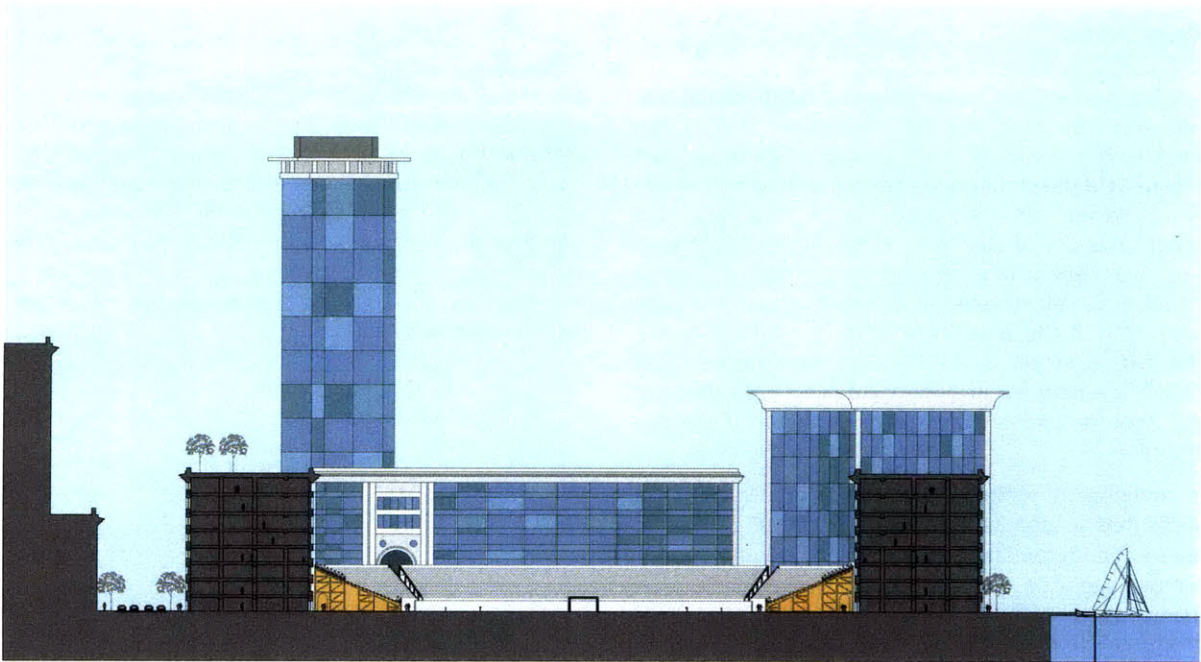


Diagram of proposed stadium design with temporary seating
Diagram produced by author

proposed design :: stadium
 ■ section cut
 ■ temporary stands

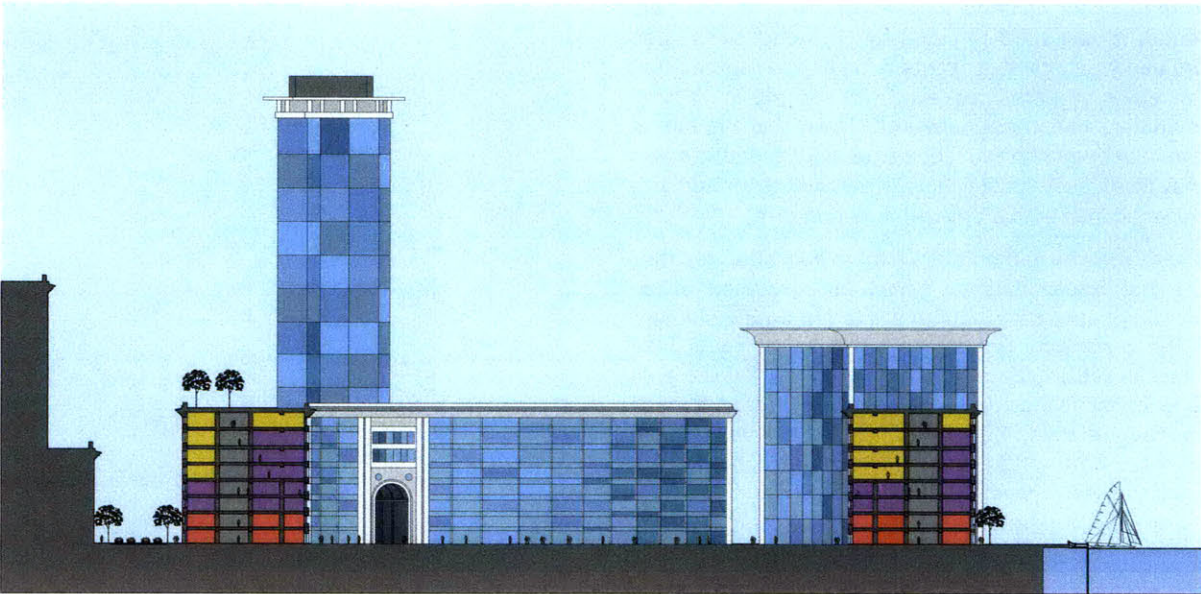


Diagram of proposed stadium design and building uses
Diagram produced by author

proposed design :: use
 ■ surrounding buildings
 ■ circulation
 ■ commercial uses
 ■ office
 ■ hotel

Reflections

The design test presented offers an alternative for site selection that is often overlooked today: the downtown site. It contends that this site would not only benefit the stadium by making it more accessible via a variety of transportation modes but also benefit the city of Recife by rehabilitating a derelict site. Investment in a new stadium in this site could catalyze further development, which would unify the two poles of the island and attract multiple users. The site is in desperate need of development; the World Cup stadium project could repurpose this site and simultaneously create a new image for the city of Recife.

In addition, it makes a case for the hybrid form presented in chapter 3. This form addresses the needs of both the stadium and the piazza and creates a more valuable real estate alternative for the city than a single purpose facility could ever offer. The design test attempts to point to some new directions in stadium and city design that could benefit their respective futures. Its success, however, is highly dependent on the site selection and the area's density. It would not be a successful model for a site on the outskirts of the city, and would likely be difficult to sustain on a periphery site.

With that said, an unoccupied downtown site, as I have found, is very hard to come by. If found, such sites are likely very costly or require expensive remediation for environmental concerns, for example. Prime locations, like these, are not cheap and neither is constructing on them. Their proximity to dense areas may be an asset post-construction but its limited size makes construction difficult to coordinate.

These may be difficulties of an urban site, but they are not impossibilities. Even an occupied urban location could be a potential site for a new stadium if the conditions required renovation. It could take years to relocate families from a site even if the area is unfit for living. Luckily for future hosts of mega sporting events, nowadays both the International Olympic Committee and FIFA announce hosts with approximately 10 years anticipation. Host cities have no excuse for poor planning, they simply need to get moving and make important decisions, like site selection, earlier. The consequences are too great to wait until the last minute.

Lastly, this design test underestimates the complexities of planning a mega event of this scale. The planning of a World Cup stadium encompasses multiple scales of government planning from national to state, city and local authorities; it is a huge and enormously complex challenge. This design test

prioritizes the effects of these events at the city and local, site-specific, level. The lengthy decision making process should not be underestimated. The next step would include an analysis of the project's financial feasibility and the development of the stadium design. Together these could take this design proposal from its schematic phase towards reality. Once built, this may become the next new model for the urban transformative stadium.

FINAL THOUGHTS + RECOMMENDATIONS

Mega sporting events are enormous strategic planning endeavors incorporating each of the sub-disciplines of urban planning. In anticipation, stadiums are built to accommodate the games; hotels, airports and infrastructure are developed or refurbished to support the influx of tourists. In addition to these new structures, the events are often used as a means to focus national and local attention on general improvements, infrastructure projects and the city's expansion. Mega-Events such as the World Cup have the ability to harness the power of urban transformation and this must not be ignored.

Often times, due to the need for rapid action to meet deadlines, they are planned without integrating their designs into the host city's existing planning strategies and future goals. The unfortunate fact is that this often results in enormous financial burdens for the public. Planning endeavors of this Mega-scale are not surprisingly costly, however, these expenses can be justified by demonstrating their role in the future growth of the city both for the private and the public benefit.

It is not enough to sit back and wait for the need to rehabilitate and reuse these facilities. Planners and architects today need to face this challenge head-on and design multi-purpose spaces that can have longer life expectancies and greater uses for these cities. This thesis challenges planners and architects alike to rethink the direction in which we are headed with stadium design. The results are too permanent

and too costly to ignore. The stadium form must be updated to maximize post-event use and enable it to be integrated into the urban fabric both physically and programmatically - and thus into the larger visions for the future of the city.

The responsibility to weigh in post mega-event plans and city goals must fall primarily on the local government in each of these cities. It should, however, also be at the forefront of the decisions for national government bodies, committees formed to oversee these events, the Local Organizing Committee (LOC) and even FIFA, in the case of the World Cup. It is vital for each of these parties that the Games are a success - but long-term success of these spaces will create a lasting effect on the mass approval of these events and furthermore on the global image of these organizations. It is therefore equally important that they incorporate future plans and expectations into their own roles.

FIFA has recently been the center of much negative media attention. The organization has been accused of corruption, greed and scandal. In a recent report conducted by the Institute for Security Studies called *Player and referee Conflicting interests and the 2010 FIFA World Cup* released just last month, the question of who stands to gain from these events is answered. FIFA is denounced for strong arming host cities in the soul interest in their own profits, confounding decision making with ambiguous relations, and a notoriously secretive processes. It is not surprising

that the organization stands to make a profit. It may not seem fair that they are able to skirt all investment costs of these events and are only obligated to “rent” the stadium from the city during the World Cup. A balance must be maintained in which both parties can profit from the event; FIFA is able to generate short term economic profits and the host city is able to invest in long-term gains for their citizens. FIFA not only has the ability, but also the responsibility, to create this balance. It is in the interest of all parties that the legacy effect of the World Cup Tournament Games is positive, both during and long after the event.

Here, I have created a short list of recommendations that will enable FIFA to advance their global image and secure a positive legacy in each World Cup host city:

1. Think beyond the Cup.

It is important that FIFA realize their potential gains and losses as a result of the World Cup legacy effects which last much longer than the event itself. Not only does a negative legacy leave a scar on the host city, but consequently this reduces the image of the World Cup itself and of FIFA, its organizing body. This may act as a deterrent for potential hosts who may think twice before bidding for to host the games. In addition, this negative legacy may dissuade potential investors who do not want to taint their own image as a result of relations with this negative legacy. Lastly, it may also have an effect on attendance and acceptance of spectators. Conversely, a positive legacy will enable FIFA to gain greater popularity across the globe. This will be felt both by the competition amongst host countries bidding for the event and by the interests of investors and spectators alike. This positive legacy has the potential to extend the ‘feel good factor’ well after the games.

2. Require plans for the future.

FIFA should require that bid submission include plans for the integration of these stadiums into future plans of the host city. Today, host cities are required to adhere to stringent requirements for their site selections, stadium designs and processes. No requirements are made for these to have future uses, alternate functions or to become integrated into the city fabric. By requiring that the future of these facilities be taken into account early on, during the bidding itself, FIFA not only demonstrates an interest in the long-term image of these stadium facilities but also reduces the risk that they will become white elephants on the urban landscape. Taking this small step has the potential to make great improvements to the legacy effect of the World Cup Games.

3. Establish open relationships with host cities - and do this early.

It is clear that both FIFA and the host city have heavy interests in the World Cup Games; each has the potential to receive gains. In addition, each also runs the risk of a negative legacy effect. While this risk may seem weightier for the host city, as established earlier, it can also have a negative impact on the World Cup itself and therefore on FIFA’s image. As a result it is important that all parties demonstrate a culture of transparency and lay out firmly their interests and potential gains in this process. This mutual understanding should carry through the entire process of bidding, preparing and hosting the events. Secrecy and undisclosed information will only feed the potential negative image that FIFA has already begun to establish for itself.

Furthermore, this relationship should be established early on in the preparations process. Host countries are given 10-12 years advance notice and thus there is no excuse for poor planning. It should be the responsibility of FIFA to foster this relationship immediately after the host is established in order to encourage host cities to plan appropriately.

4. Necessitate transparent agreements and record keeping

Establishing a transparent relationship between FIFA and host cities may also encourage host cities to create similar transparencies in their own negotiations with investors and contractors alike. Furthermore, each party’s interests should be clearly defined in order to determine that no one party is strong arming another. All contractual agreements should be recorded and disclosed. A publication of financial information and routine inspection of financial records will help to create lines of accountability amongst multiple

actors. Third party investigatory bodies should be created in order to ensure oversight and accountability and enforce sanctions on violators. These cannot be created within FIFA, but must be required and respected by all parties. Without the necessary checks and balances conflicts of interest and in likelihood corruption may go undetected. These are notoriously common in the construction business and as such have the ability to taint the global image of the World Cup.

These four recommendations will help both upcoming host cities and FIFA to align their goals for a successful World Cup and for the positive lasting legacy that will reverberate for centuries to come. In light of recent reports it is in the common interests of FIFA and future World Cup hosts to regain the public's approval and to establish stronger planning strategies for the future.

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APPENDIX

MEGA-Event

as urban trans

- a boost or a b



Piazza Anfiteatro, Lucca, Italy

STADIUMS: A MEGA-FORM.

By comparing stadium form to urban mega forms, such as the piazza, overlapping principles can be drawn-out. These can be used to inform stadium design and its integration into the urban fabric of the city. Examples: Piazza del Campo in Siena, Italy is used biannually for a horse race and the "Piazza Anfiteatro" in Lucca was built on the site of a Roman amphitheatre - it maintains its elliptical shape while housing a vibrant city center.



Soccer field super

former burden?

Mega-events have the ability to make the world stand still, hold its breath and observe as people from across the globe join together to cheer for their favorite competitors. Cities across the globe aggressively compete for the chance to host these events in the hopes to stimulate their economies. Mega-events leave a physical, economic and social footprint on these cities that lasts much longer than the event itself. How the structures built for this one-time purpose will be integrated into the future of these cities remains to be seen. I will study the following 5 stadiums:



Estadio Monumental - Buenos Aires, Argentina (1978)



The Sangam Stadium - Seoul, Korea (2002)

The Olympiastadion - Berlin, Germany (2006)

Green Point Stadium - Cape Town, South Africa (2010)

The Maracana - Rio de Janeiro, Brazil (1950/2014)



INTEGRATION AND RE-USE
I will propose guidelines for integration of stadia into their host cities through a series of diagrams. In addition, I will demonstrate how to reuse the stadium and its field for a variety of alternative purposes. For example, through the deconstruction of select areas of the stadium one could retain the form while allowing for pedestrians to cross the site more easily. I will conduct a design test of my principles on the proposed 2014 WC stadium for Recife, Brazil.



Thesis proposal poster [created by author November 2009]

AUTHOR'S RESUME

CANDACE SOLEDAD MÉNDEZ

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EDUCATION:

Massachusetts Institute of Technology, Cambridge MA

- Department of Urban Studies and Planning
- Degree candidate in Master of City Planning (expected graduation May 2010)
- Urban Design Certificate candidate; Teaching certificate candidate
- Research Assistanceship on the redesign of aging communities in Japan with Adele Santos
- Teaching Assistanceship in Urban Design Seminar with Dennis Frenchman

University of Notre Dame, Notre Dame, IN

- Professional Degree in Architecture - May 2005 – Cum Laude Honors*
- Minor in Furniture Design and execution
- American Institute of Architectural Students - Notre Dame Secretary 2004-2005
- Rome Studies Abroad Program September 2002-May 2003

EXPERIENCE:

Engineers without Borders, New York, NY September 2007 - Present

- Pro Bono*
- Design of expansion of a primary school in Usalama, Kenya
- Travel to Kenya for presentations to authorities and expansion of community participation.
- Photorealistic renderings of design for publication and fundraising

Maria Elosua Architect | Urban Designer, New York, NY June 2009-February 2010

- Freelance Research Assistant*
- Research on Prefabricated Homes precedence and Building Technologies

Ferguson & Shamamian Architects, New York, NY June 2005 – September 2008

- Project Manager/Designer*
- Project management, construction administration and project completion
- Design development on various high end residences and client presentations; including site planning and site design
- Responsible for construction document drawings, issuing documents to the Department of Buildings and Landmarks presentations

Architecture for Humanity, New York, NY September 2005 - May 2008

- Pro Bono*
- Participation in design charettes and meetings in preparation for presentations

NYC Mentoring Program, New York, NY August 2005 – June 2006

- Pro Bono*
- Individual mentoring of high school students interested in architecture as a career

Oliver Cope Architect, New York, NY May – December 2004

- Architectural intern*
- Conducted building surveys on historic structures and prepared updated drawing set
- Design development schematic design, interior design, detail work and final watercolor rendering
- Assumed responsibility for various construction document drawings

HONORS AND PUBLICATIONS:

- “Doing Good and Doing Well”* Craig Kellogg, INTERIOR DESIGN, Reed Elsevier Inc. November 1, 2009
- Federal Home Loan Bank of Boston Affordable Housing Development Competition - third place award Spring 2009
- “Acroterion,”* School of Architecture, University of Notre Dame, Notre Dame, IN 2002-2005
- “Como: The Modernity of Tradition,”* Samir Younes and Ettore Maria Mazzola, eds., Gangemi Editore, Rome. 2003
- National Dean’s List* 2004-2005
- Dean’s Honor List* six semesters
- Special Commendation for Design in Studio four semesters

ACCREDITATION AND SKILLS:

Architectural Registration Examinations in New York State in progress · Fluent in Spanish · Proficient in Italian · AutoCAD2009 · Vector works · PhotoshopCS4 · Adobe IllustratorCS4 · In DesignCS4 · Watercolor/pen and ink rendering ·

**MEGA-Event Stadiums as vehicles for urban transformation:
An argument for integration**

by Soledad Mendez

SUBMITTED TO THE DEPARTMENT OF URBAN STUDIES AND PLANNING
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER IN CITY PLANNING
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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