

THE OLYMPICS AS A SOCIAL OPPORTUNITY

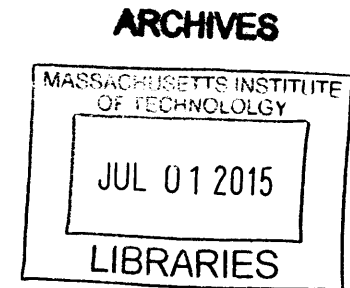
Integrated social housing in Rio de Janeiro

by
Anna Kaertner

Submitted to the Department of Architecture
in partial fulfillment of the requirements for the degree of:

Bachelor of Science in Architecture
at the
Massachusetts Institute of Technology
June 2015

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Integrated social housing in Rio de Janeiro

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Submitted to the Department of Architecture on May 8th, 2015 in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Architecture.

Abstract:

The next Olympic games will be hosted in Rio de Janeiro in the summer of 2016. While the Olympic committee advertises the event as the “games for everyone”, the plans are clearly promoting development and programs that are disproportionately aimed at the wealthy. This has been the course in all cities that have hosted the Olympics, but it is something especially detrimental in Rio. The rich have largely walled themselves off from the city within their gated communities and the low income citizens are relegated to building on top of each other. This creates a spatial paradigm with relatively little in between.

The thesis seeks to use the Olympics as an opportunity to begin reversing the spatial segregation between the wealthy and the poor within the city by proposing an intervention in the Olympic Village, currently designed to become a gated community, to become a mixed income community. The thesis provides an architectural plug-in that activates the ground plane between the residential towers to promote interaction between different socio-economic groups. The programs and architectural landscape of the community present obstacles and opportunities that provoke interaction. This architectural plug-in can become a model that can be applied to other gated communities, starting a process of the disintegration of the gated community to become re-integrated into the city

Thesis Supervisor: Miho Mazereeuw
Title: Ford International Career Development Assistant Professor of Architecture and Urbanism

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and who always provided me with valuable insight and enthusiasm

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and the past four years of studio
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who have always supported me in any endeavor,
and always give me the confidence to do what interests me

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A black and white halftone photograph of a city street scene, possibly a market or a busy thoroughfare, with various structures and what appears to be a vehicle in the distance. The image has a grainy, dotted texture. A large, white, torn-paper cutout is positioned horizontally across the middle of the image. Inside this cutout, the text "THE CITY IS FOR WHOM?" is printed in a bold, black, sans-serif font.

THE CITY IS FOR WHOM?

one
Introduction

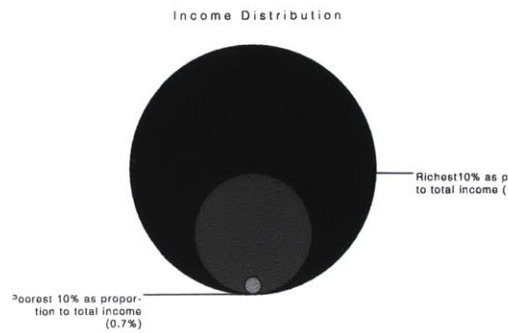
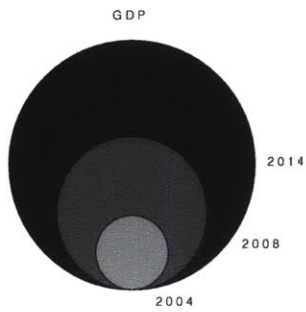
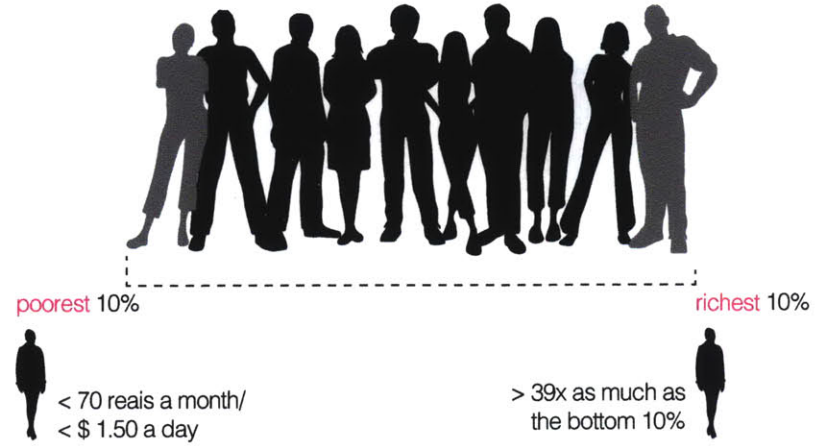
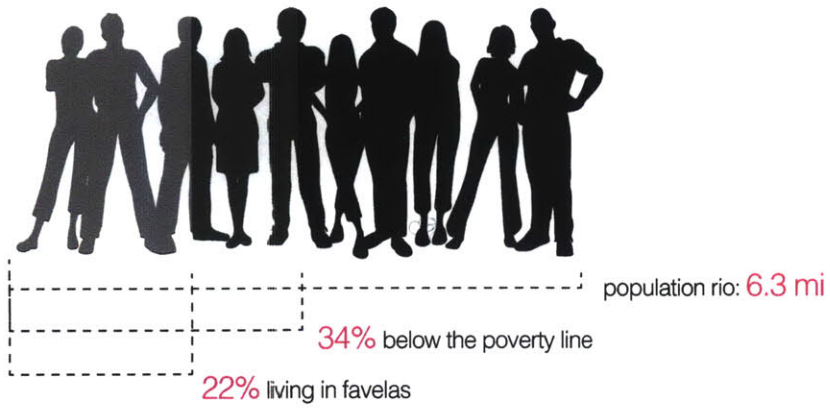
Within every city there exists to a certain extent a dichotomy between two spatial extremes. This dichotomy exists along class lines, the city being divided among the wealthy and the low income citizens of the city. However, the way the problem manifests itself in every city is very much specific to context, culture and space.

Rio de Janeiro is a city that exhibits this dichotomy to an extreme. Within Rio the two opposite ends of the spectrum consist of gated communities on one end and the favelas (Brazil's informal settlements) on the other end. What further exacerbates the issue for Rio is that the city is hosting the summer Olympics in 2016. Hosting this mega event is speeding up the process of gentrification and displacement within the city. The just and democratic planning process within the city has been abandoned during the preparation process, and populations already marginalized in the city have become further excluded. While the Olympic committee advertises the event as the "games for everyone", the plans are clearly promoting development and programs that are disproportionately aimed at the wealthy.

So who is the city for?

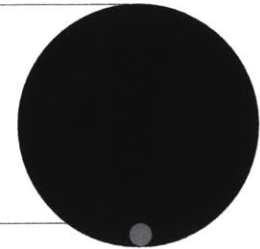
If the current process of planning continues the answer is very clear, the wealthy. However this cannot be the solution as this is not a sustainable growth for the city as it continues to divide the advantaged and disadvantaged from each other.

Alternative solutions need to be developed.



Barra da Tijuca: gated community
Area 63 sq miles
Population: 300,823

Rorcinha: largest favela Rio
Area 0.6 sq miles
Population: 150,000 - 300,000



statistics source: see page 65

Brazil is the fifth largest country in terms of geographic area and population. It is one of the most rapidly expanding countries and its economy is considered to be the seventh largest in the world. While Brazil is a large and wealthy country, most of the wealth is concentrated among the rich; its economy is among the ranks of the most industrialized nations in the world, while its human development index is among the least developed countries. On average the top ten percent in Brazil make thirty-nine times as much as the bottom ten percent.

In Rio de Janeiro, the socio-economic divide found on a national scale is found at the city scale. This economic inequality can be read in the space available for these two social classes. The advantaged have privatized large areas of the city, creating global suburbs with gracious green space between homes and residential towers. The disadvantaged have much less space, resulting in one option, to build up. This inequality has created a deep mistrust between the two groups and enforces the economic divide in a spatial way.

Gated communities in Brazil and Rio became increasingly popular during the 80s and 90s and the literature indicates that this was largely a reaction to crime. However the gated community did not just provide safety in the traditional sense, it also provided safety from "undesired visitors, or in other words, poor people" (Kraas, 161).

This reaction led to the creation of these global suburbs creating heavy urban sprawl in what is otherwise a very dense city. The gated community provide all necessities to its residents, meaning that residents do not even need to leave their community if they do not want to. In other words, the gated communities provide a lifestyle "which provide their enclosed residents with a range of non-residential amenities such as schools, offices shops and gold courses" (Landman, 71).

This urban trend has serious spacial and social ramifications. It has privatized large areas of the city and diverts investment from the overall city into small spatial pockets intended for the wealthy. It is a very wasteful and inefficient urban environment within which every gated community has a mall, security, schools, and other recreational facilities.

On the other end of the housing spectrum is Brazil's informal housing, the favelas. The favelas in Rio are scattered throughout the city, forming small clusters throughout. They are incredibly dense urban spaces and are home to the poorest residents of Rio.

The favelas were ridden with crime during the 80s and 90s and though there is still crime present in the favelas today they are much safer than they used to be. However, the government is continuing to "clean-up" the favelas in preparation for the 2016 summer olympic games. In some cases this has required the relocation of entire favelas and communities. This has created a great deal of tension between the government and the locals who rightly feel that they have been given no choice in the decision that heavily affects their family and livelihood.

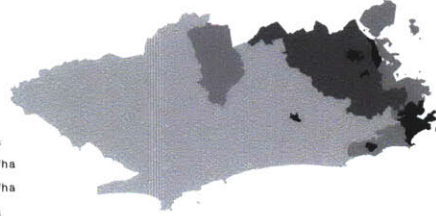
Residents in favelas are being re-located to government housing. However all of these "solutions" continue to enforce the spatial socio-economical segregation already rampant. The government is continuing to create entire communities of poor citizens and meanwhile there is a great deal of investment in the gated communities for the wealthy.

These housing solutions in Rio have exacerbated the divide between the wealthy and poor creating an environment of mistrust between the two. There needs to be an alternative solution in order to begin to alleviate some of these societal and economic issues.



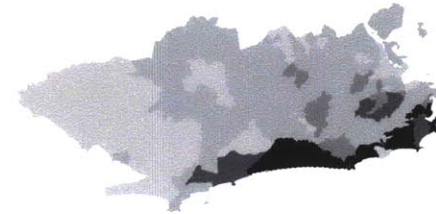
DENSITY

- > 300 /ha
- 150-299 /ha
- 100-149 /ha
- 50-99 /ha
- < 49 /ha



MEDIAN INCOME

- 76,800
- 36,200
- 28,600
- 19,000
- 9,400



FAVELAS IN RIO

- Urbanized
- Natural
- Favelas

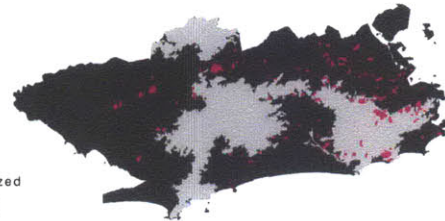
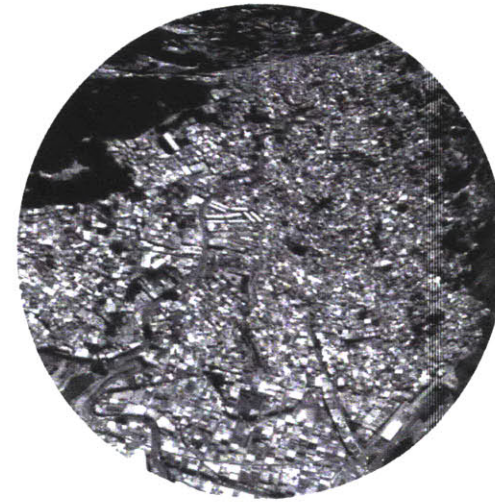


image source: see page 65, statistics source: see page 65



Gated Communities: Barra da Tijuca
Area: 75 hectares
Population in area: 2,123



Favela Rocinha
Area: 75 hectares
Population in area: 78,947 people
37x denser

As is seen through these two population samples. The disparity in densities is extreme. The disadvantaged citizens of the city live in spatial conditions that are thirty-seven times denser than the average gated community.



	USA ATLANTA 1996	BRAZIL RIO DE JANEIRO 2016	UK LONDON 2012	SPAIN BARCELONA 1992	GREECE ATHENS 2004	CHINA BEIJING 2008	SEOUL SOUTH KOREA 1988
# Disadvantaged displaced	30,000	*12,000	?????	600	2,700	1.5 mil	720,000

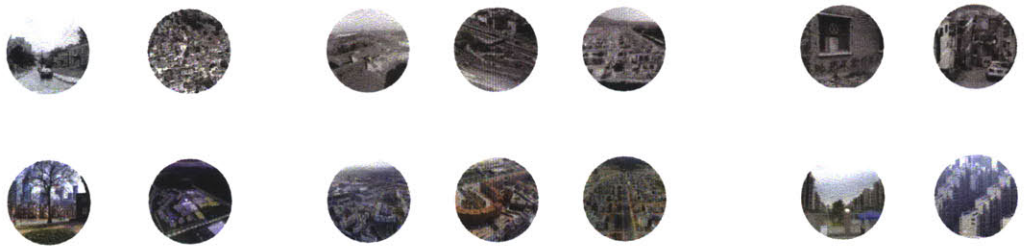


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As is seen through both the number of displaced people from past Olympics and the legacy left behind the Olympics, the negative effects of the Olympics disproportionately affects the lower income residents of the city.

In every single city that has hosted the Olympics, no matter what country or continent there is always a sizable population of displaced peoples, and they are almost always exclusively low income. These figures range from 600 hundred people to 1.5 million displaced people.

The Olympics should become an opportunity to combat this gentrification of the city and can be an opportunity to integrate both the wealthy and poor.



119

Communities listed for partial or complete removal



12,196

favela residents have to leave their homes



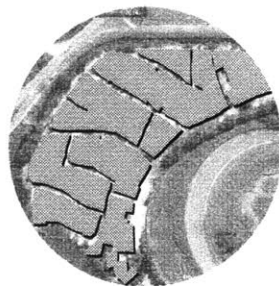
50 miles

some residents moved more than 50 miles from their former homes

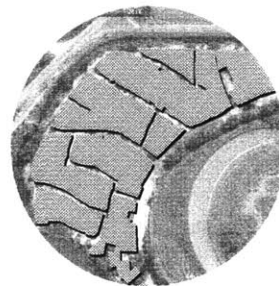


Rio de Janeiro itself is currently undergoing this process of displacement, which is being sped up by the olympics.

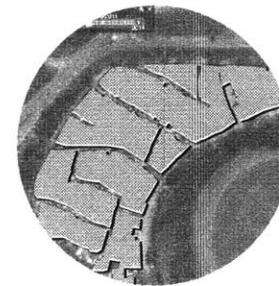
Villa Autodromo is a favela community on the northern corner of the Olympic site that is currently in the process of removal by the city. This can be observed in real time.



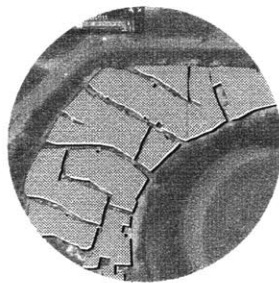
6.2006



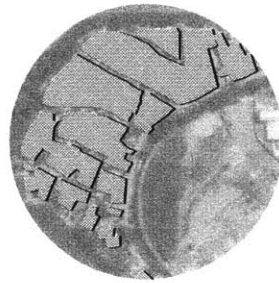
6.2009



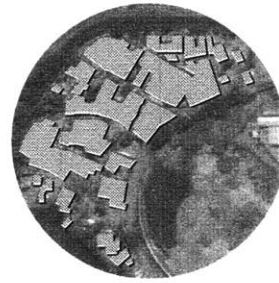
7.2011



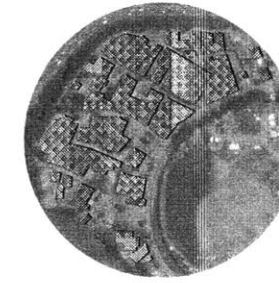
9.2012



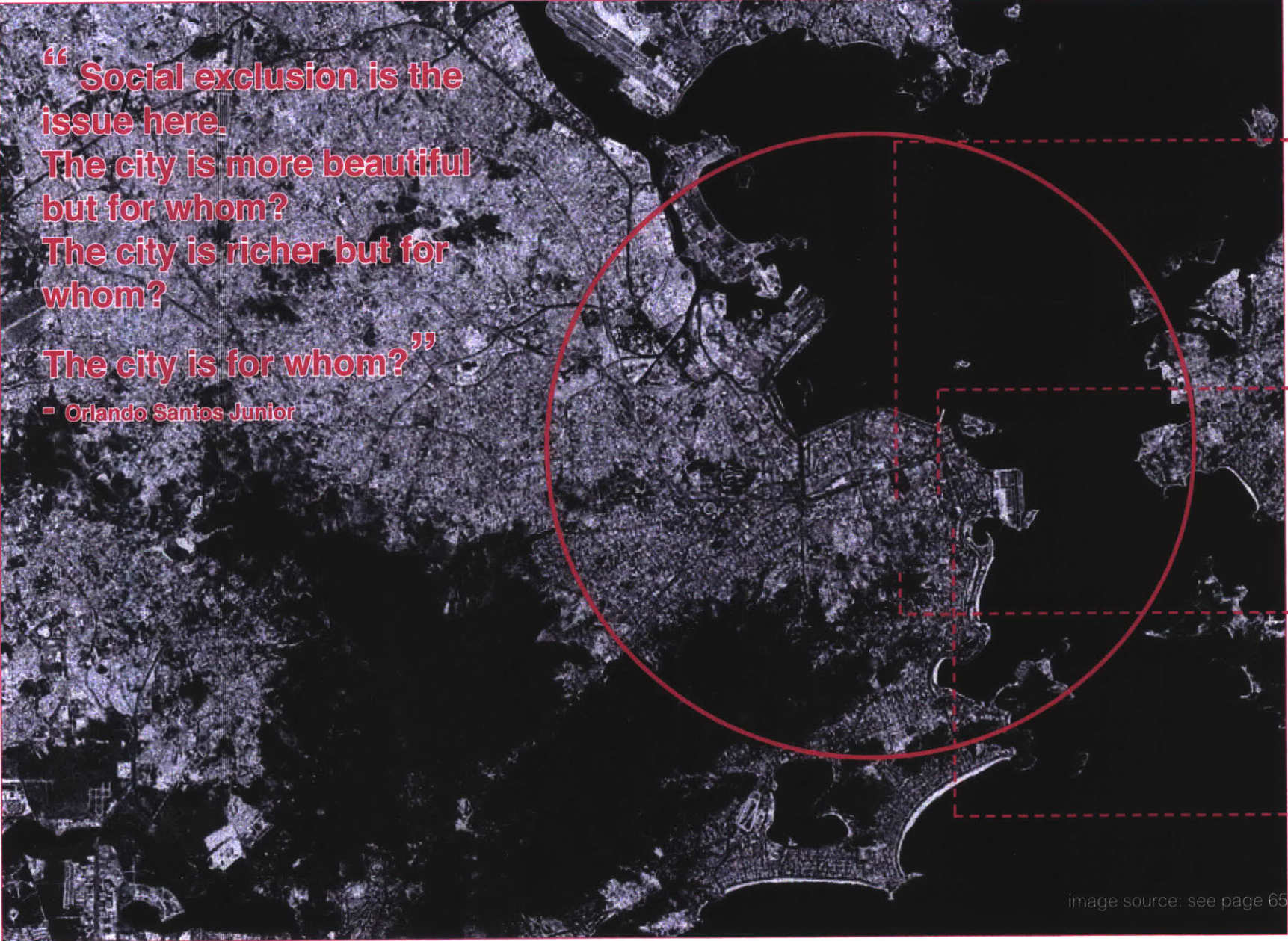
4.2014



8.2014



11.2014



**“ Social exclusion is the issue here.
The city is more beautiful but for whom?
The city is richer but for whom?
The city is for whom? ”**

- Orlando Santos Junior



"I'm fighting for the place where I was born"

"I've lived here in the favela 25 years now"

"We've lived there for more than 10 years"

"I'm going to stay in my home no matter what"

"Every little brick you see in my house, I made myself"

"Where are they going to put all these people?"

"They have no right to take us from our homes"

"They want to take them out to the suburbs"

"This doesn't belong to me anymore"

"It belongs to them, the government. And I'm caught in between"

"They are saying they are going to put an end to our community"

"We only have duties, not rights"

"They want to... make the favela a tourist destination"

"So what do they want?"

"Do we have a choice?"



Barra da Tijuca



% of population



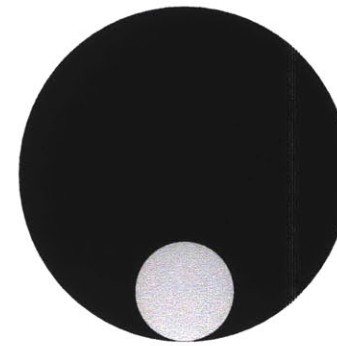
4.7 % of population of Rio

% of area



13% of total area of Rio

% of total taxes



30% of Rio's taxes come from Barra

There are four main Olympic sites, but the main Olympic site of the games is in Barra da Tijuaca, which is Rio's fastest growing region and also the wealthiest region of the city. Considered the Miami of Rio, Barra da Tijuaca is a stylish and wealthy area to which many wealthy are flocking as gated communities continue to flourish.

Barra da Tijuaca is an interesting site for several reasons. It is one of the wealthiest areas of Rio however there is also still a great deal of space for development in the area. It has also been chosen as the main Olympic site. And though the plans from AECOM show a legacy of upscale residential units that will continue to enforce the status quo of the gated community, the Olympics could instead be used to take control of this housing segregation to create a new housing typology not really in existence yet in Rio.



gated communities
2015

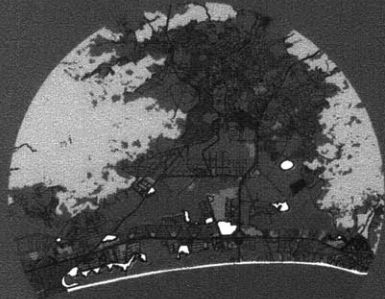


olympic sites
2016

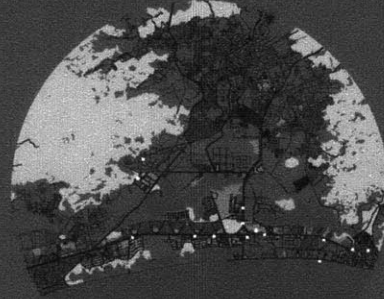


projected
2030

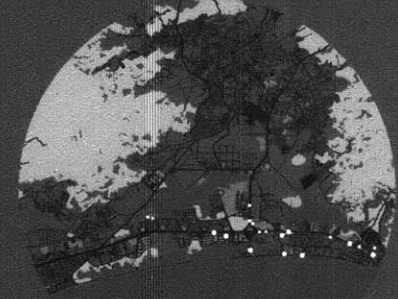
Currently pretty much all of the development that has taken place in Barra da Tijuca is in the form of gated communities. If the Olympic sites in the region fulfill the current legacy plan, then virtually the entire region will be composed of gated communities



public space



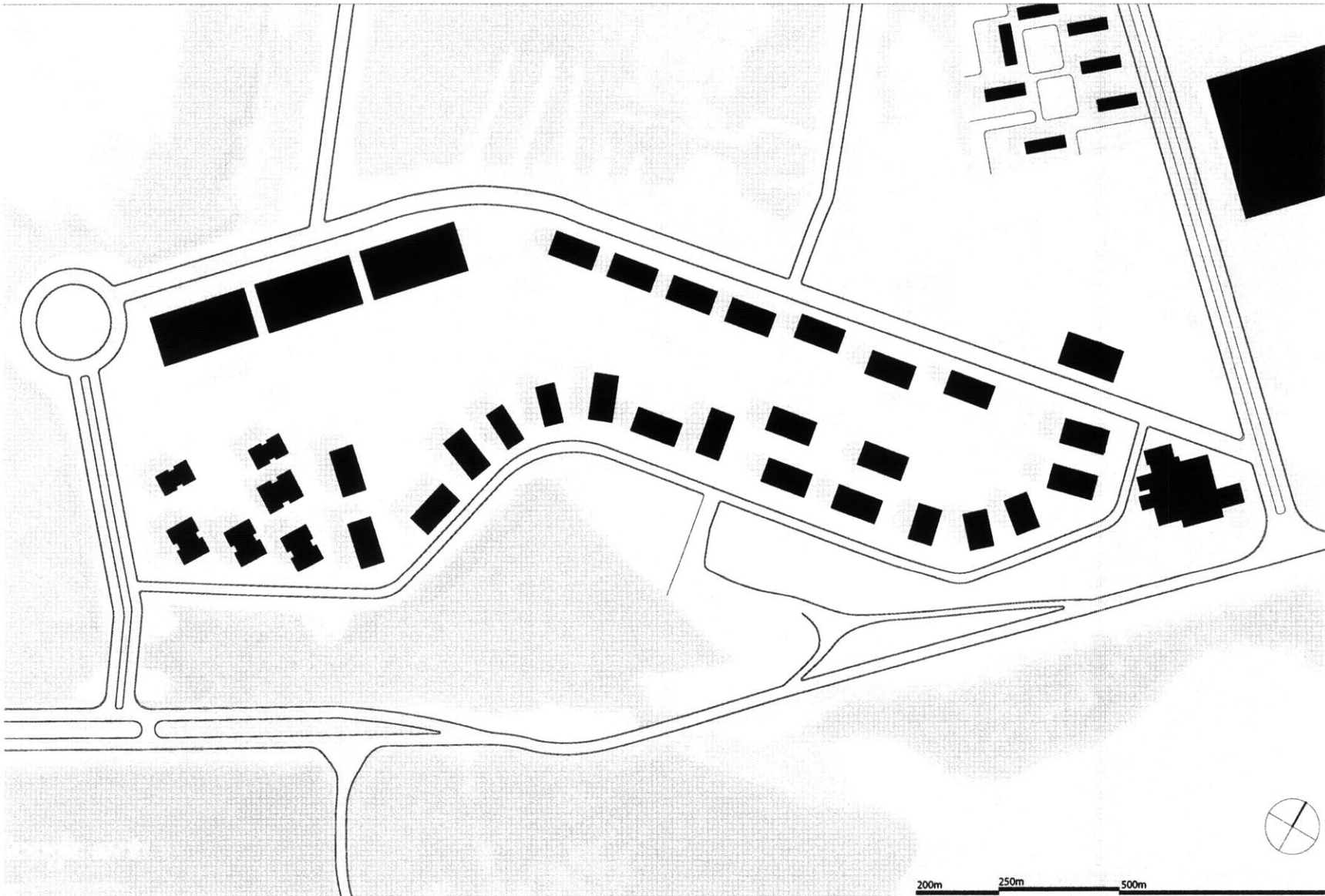
entertainment



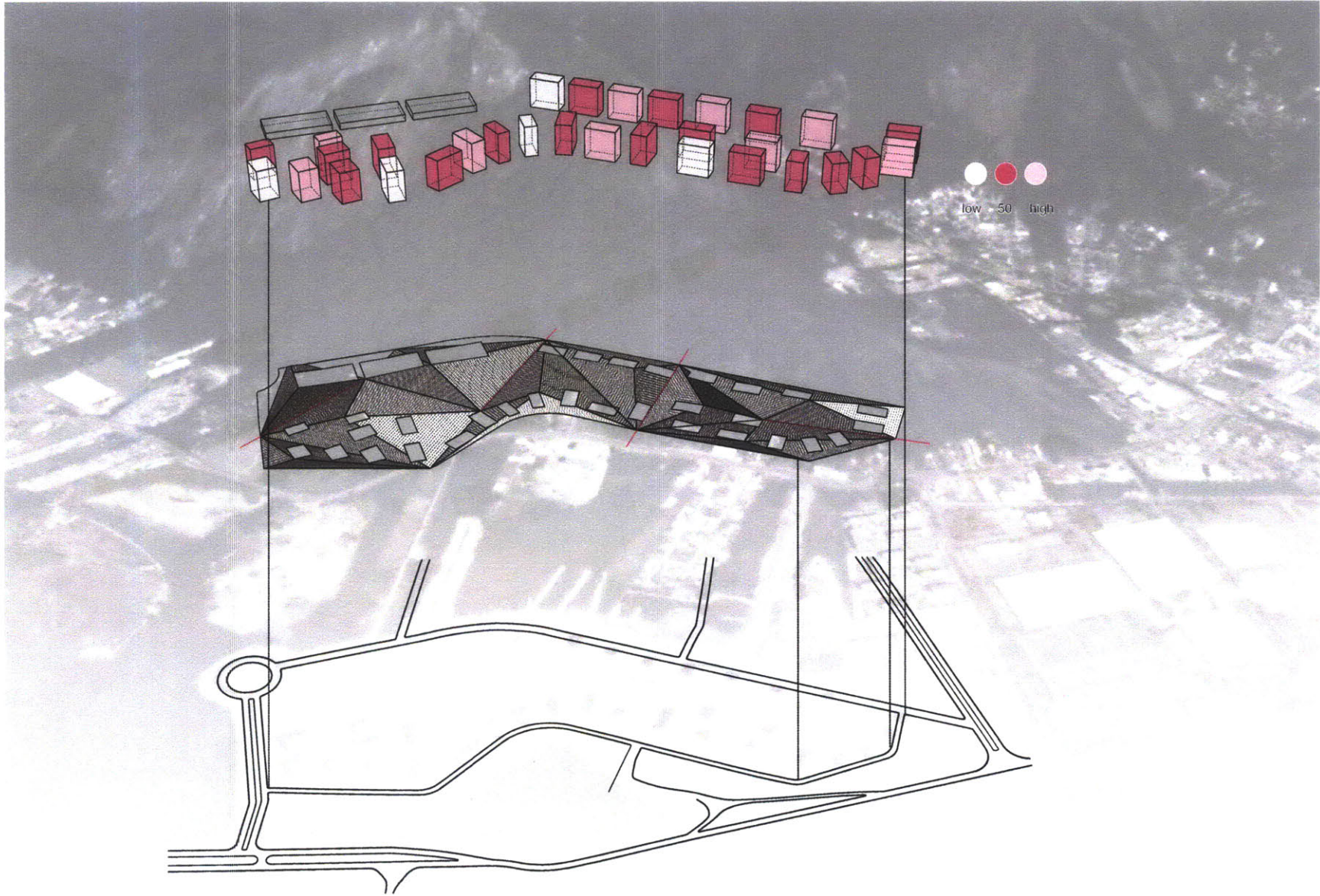
public amenities

While gated communities provide a good sense of safety, they provide little else. There is generally a lack of public programming and public space that can really be utilized by community members. There is a very strict spatial segregation within gated communities themselves that restrict activities to certain areas. This also provides an opportunity to increase activity and opportunities for activity within gated communities





Current plan for the Olympic village. As can be seen based on the plan, there is ample space between the towers to activate the space between the residential towers

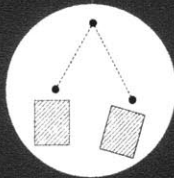


three Intervention

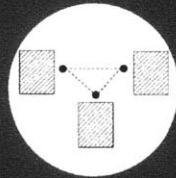
The thesis utilizes the space around the existing residential towers as an opportunity for activation that can promote interaction between what can become a mixed income community. These interactions will begin to break down the mistrust and disconnection between the two social classes.

There are three main areas of focus within the site which have been worked out in greater detail.

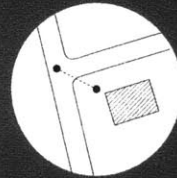
The three areas chosen exemplify a specific interaction between different occupants of the community. The first area is the entrance to the site and has been named spatial condition one. The second exemplifies an area of the site that is rather exclusively about just resident to resident interaction. The third spacial condition is about both resident to resident interaction but also the interaction between the residents and non-residents.



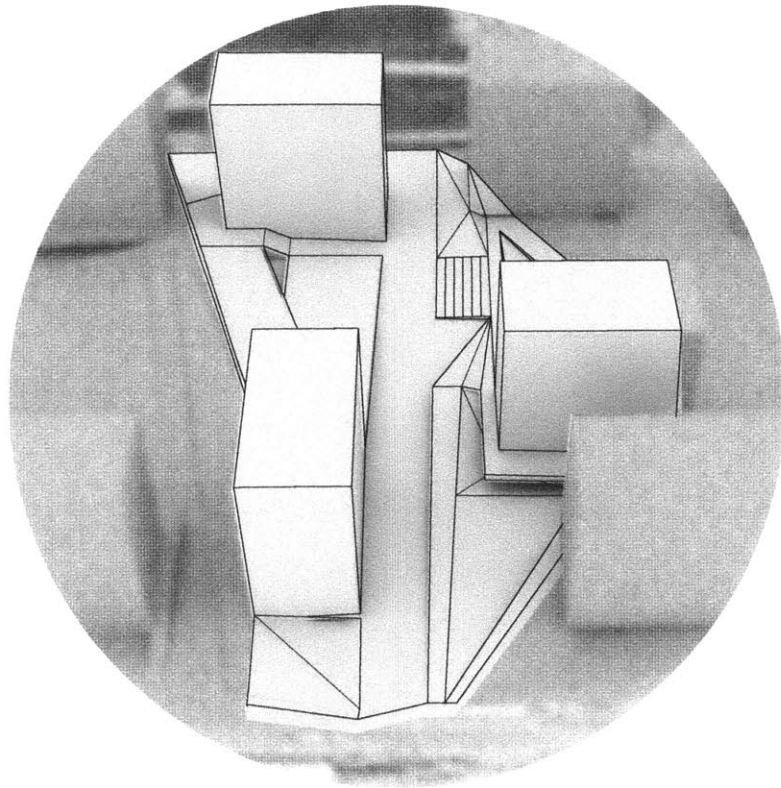
RESIDENT : RESIDENT: OUTSIDE



RESIDENT : RESIDENT



RESIDENT: OUTSIDE



MARKET C1 INTERACTION

Spatial condition one provides the whole community with a new entrance to the site. It also provides a way to begin breaking up the idea of the community as an island surrounded by infrastructure and begins to re-integrate the site with the surrounding area.

The program for this condition is an open market place that promotes a process of exchange between the residents and non-residents. The market presents a sort of mediated interaction through which both residents and non-residents see a benefit.

The lobby spaces of the residential towers have completely opened up to become a part of the architectural landscape that becomes the market place. There is virtually no separation between living and commercial space as the market presents an opportunity for residents of the community to become business owners, which is an integral part of the exchange between the different users. The market place becomes the first space for the break-down of the mistrust between the social groups.



EATING



**OPPORTUNITIES
FOR OBSERVATION**

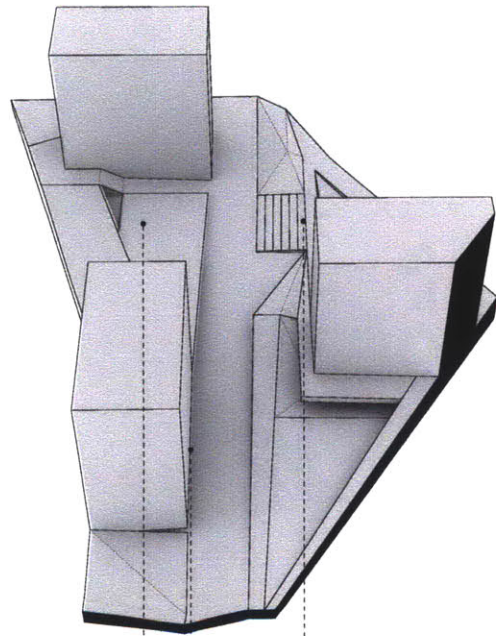


SPACE FOR GATHERING



ATMOSPHERE

Certain aspects of Brazilian culture and specificity of spaces were cataloged to understand some of the requirements for public space. In spatial condition one some of these aspects manifest themselves through the market place which through the changes in lighting conditions and level changes start to provide both atmosphere similar to other spaces in Brazil. It also presents an opportunity for observation as there are many instances to sit and watch what is happening in the market place.



2016

welcome zone

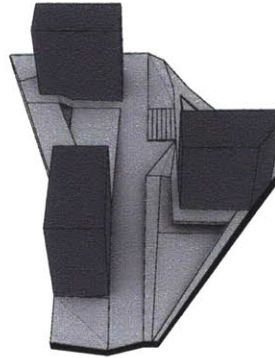
check-in

2020

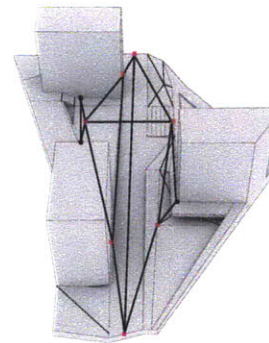
plaza

market

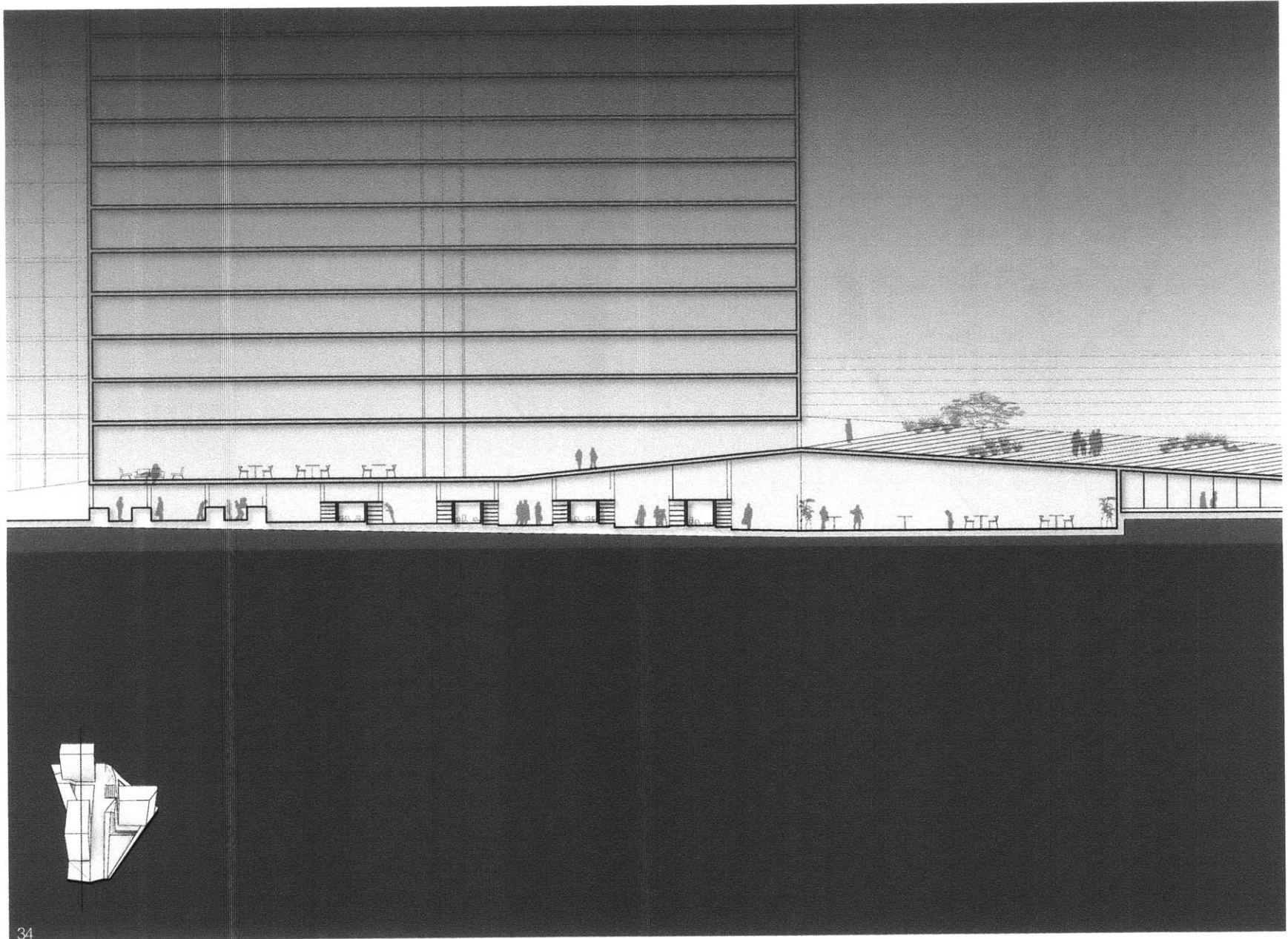
pool

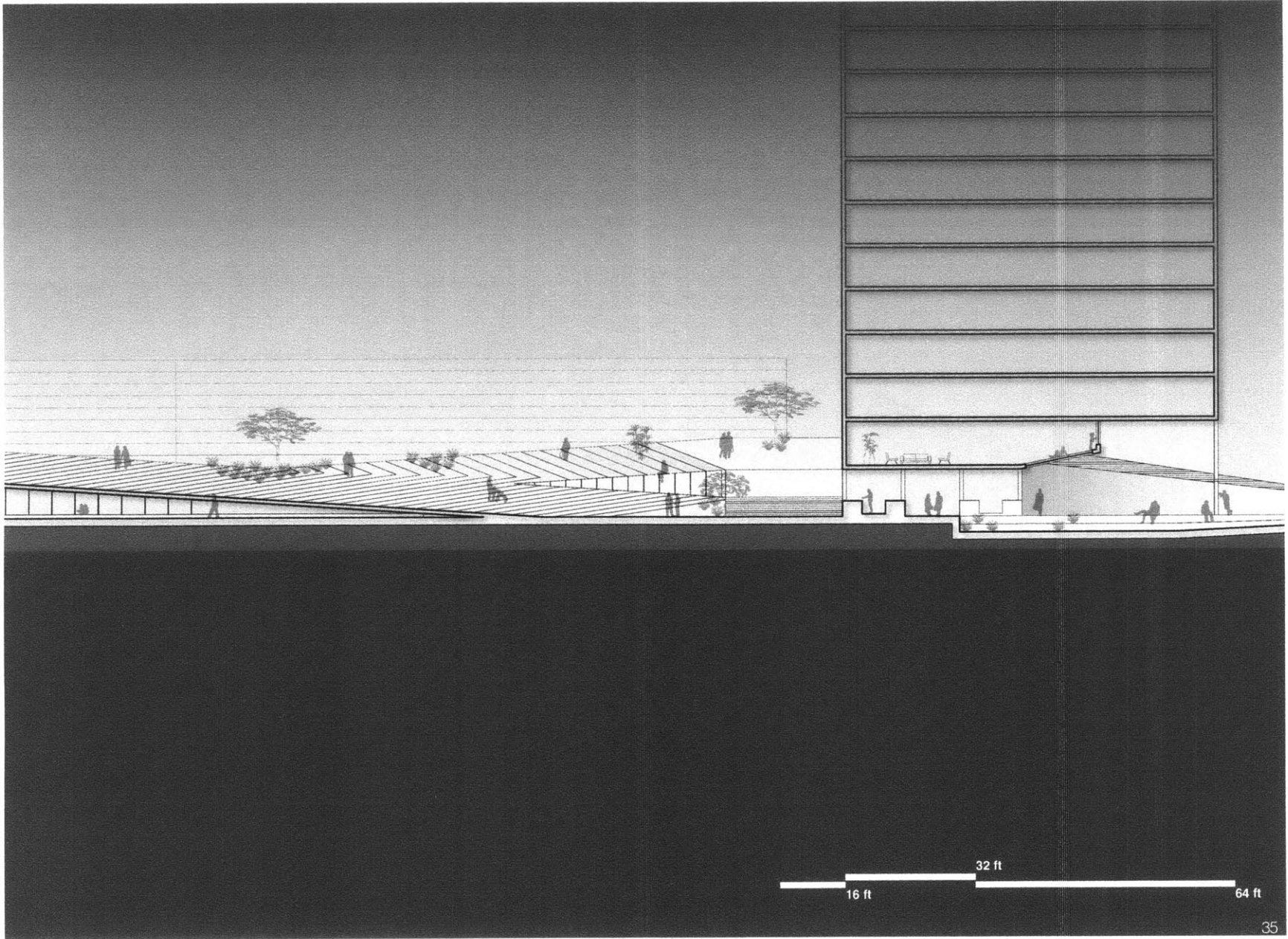


Axon showing existing towers within spatial condition 1.



Axon showing circulation through the site and the points of interaction between the different occupants, athletes, future residents, and future non-residents. As seen through the figure generated a web of interaction is formed to promote interaction between the users.

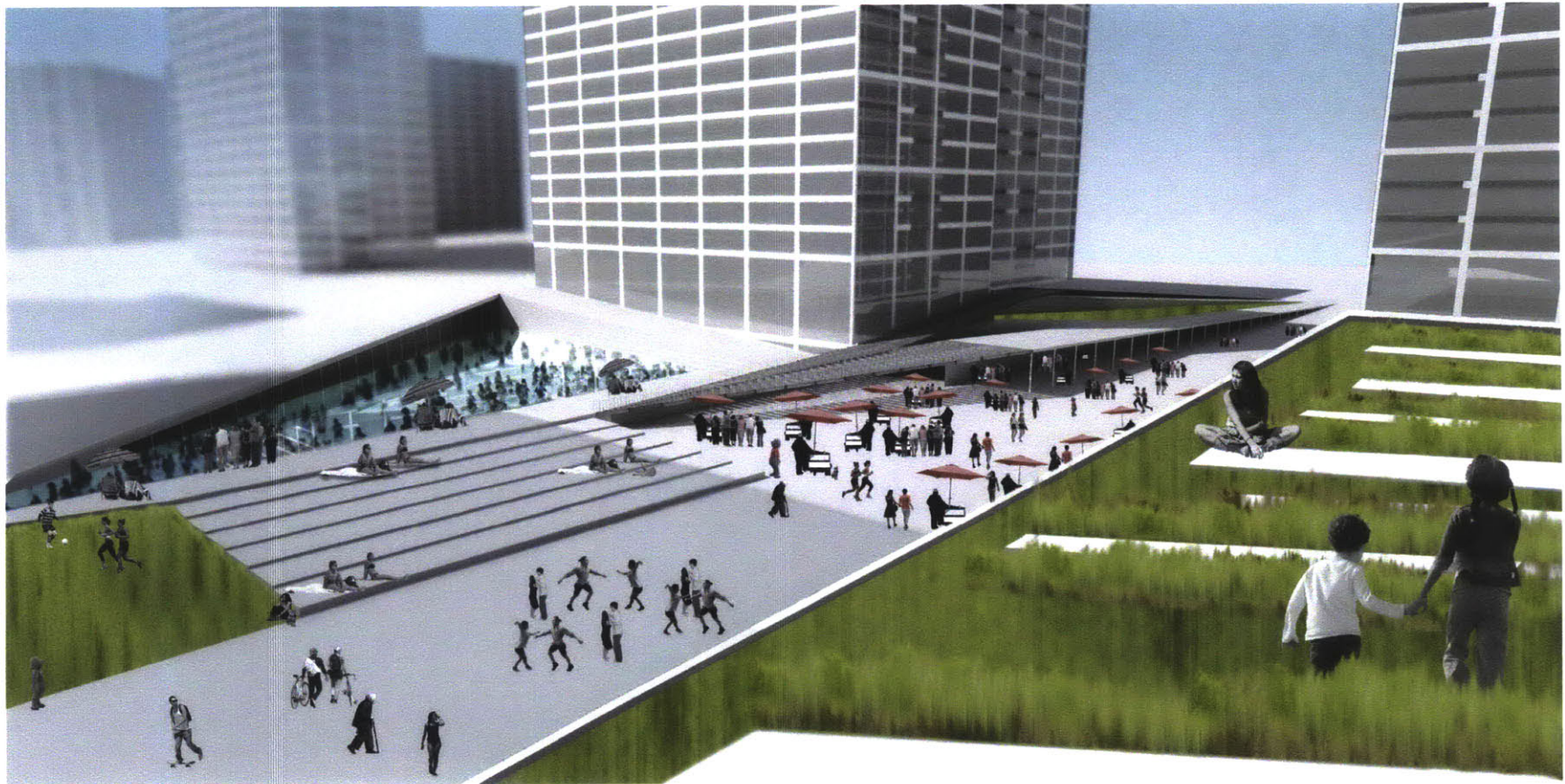


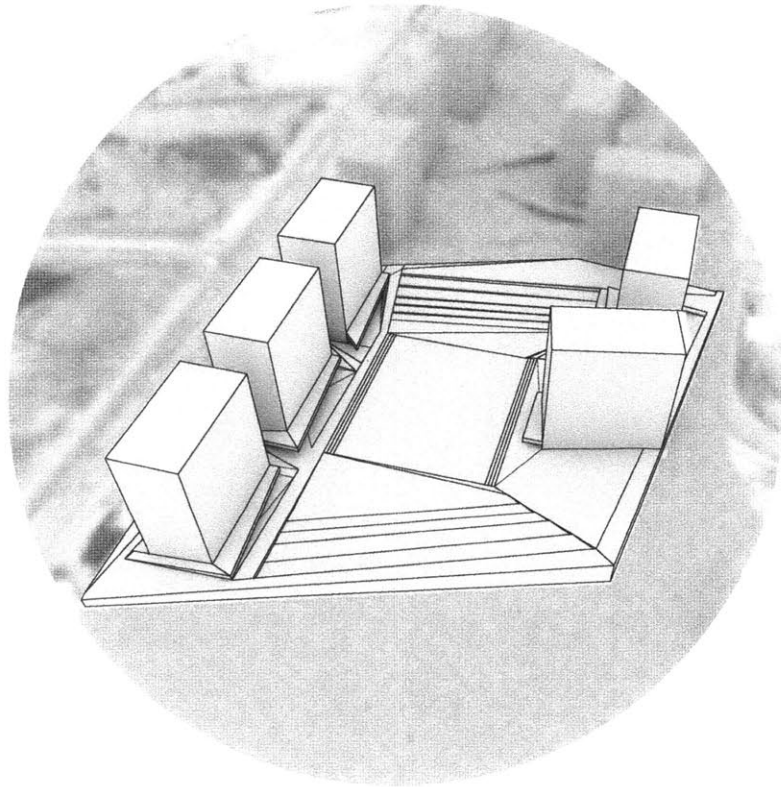


16 ft

32 ft

64 ft





ACTIVE PLAY C2

Spatial condition two is about the resident to resident interaction. This interaction is important as it is the space which is most private in terms of outside interaction but where there is the arguably the most mistrust between the wealthy and low income residents of the area.

The program for this condition is an architectural landscape that comes together at the center as a soccer field and is surrounded by smaller plots of land that can become community gardens and private gardens for some of the residents. By placing the field at the center the residential towers as well as the gardens automatically become passive observers of whatever is happening on the field. This shared experience and will also begin breaking down the mistrust between residents.

The lobby spaces of the residential towers are partially open to allow them to become a part of the landscape so that immediately upon exiting the building the resident is a part of the game and thereby passively or actively participating.



PLAYING



**OPPORTUNITIES
FOR OBSERVATION**

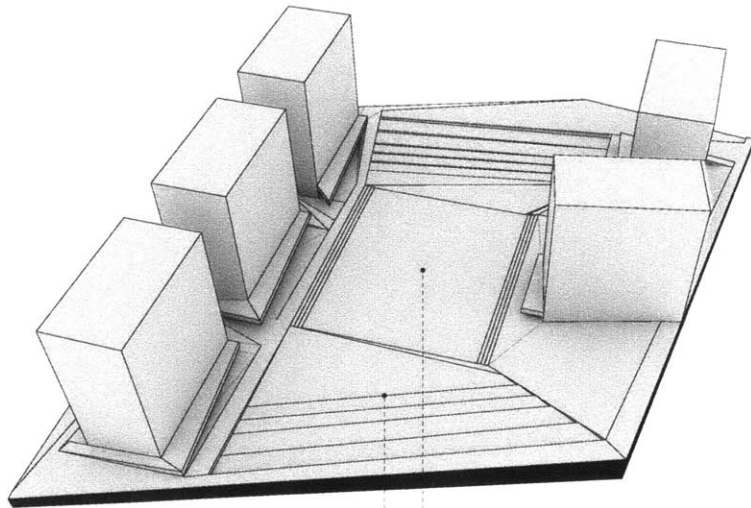


SPACE FOR GATHERING



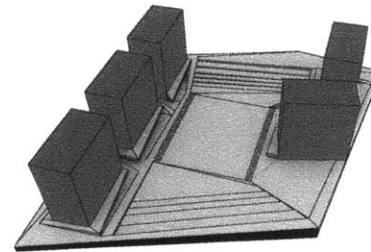
ATMOSPHERE

Certain aspects of Brazilian culture and specificity of spaces were cataloged to understand some of the requirements for public space. In spatial condition two the component of play is incredibly important as it serves as the single most important component that can breakdown the barrier between the classes. The whole landscape and the residential towers become opportunities for observation as well as a space for gathering. Another important aspect is the demand for green space and small private gardens which Brazilians often achieve through the placement of potted plants, this has been translated into the private gardens which provide an opportunity for green space.

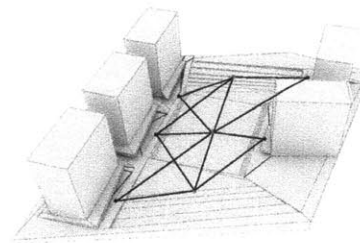


2016 outdoor training facility

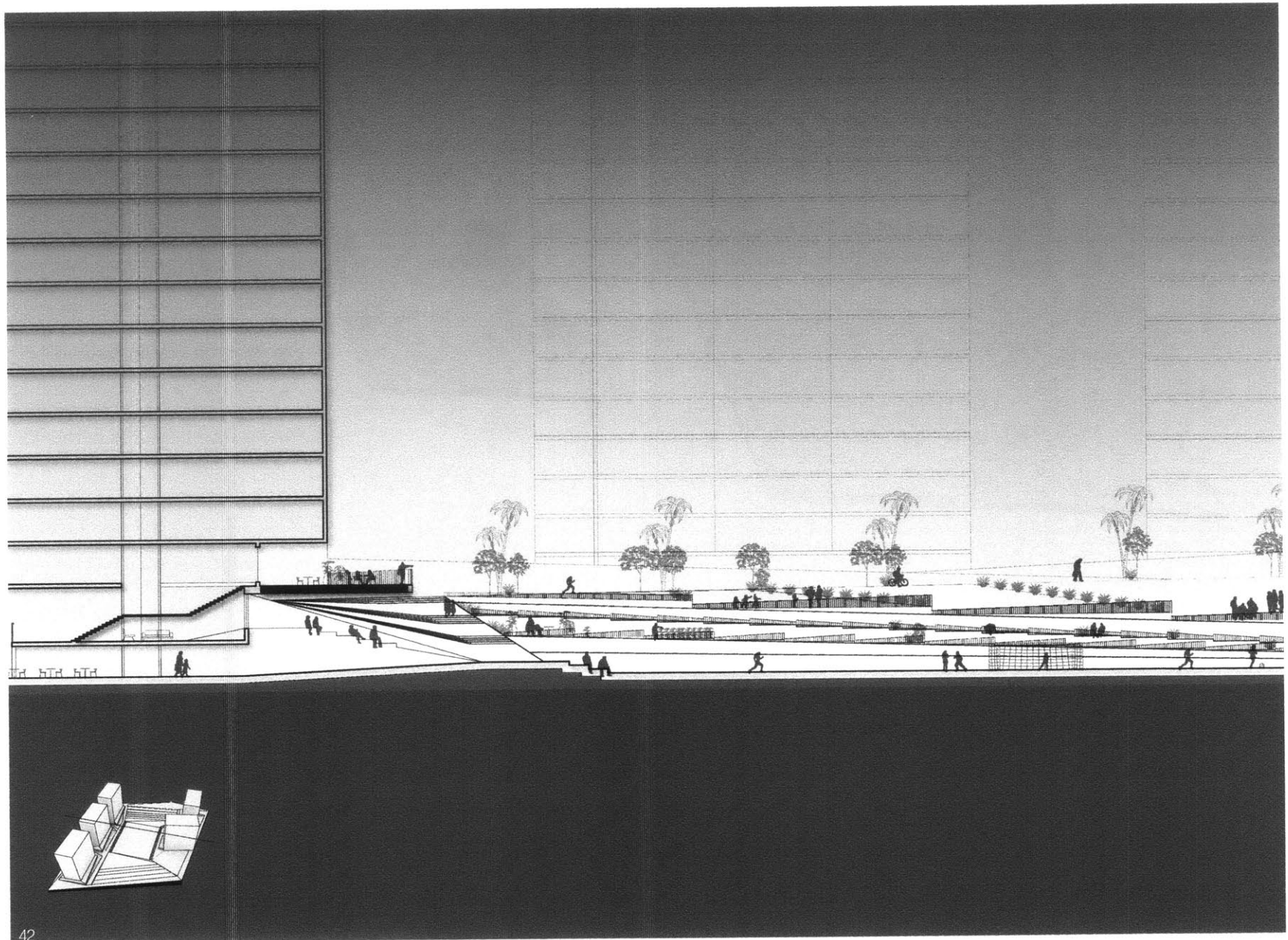
2020 community living space soccer field

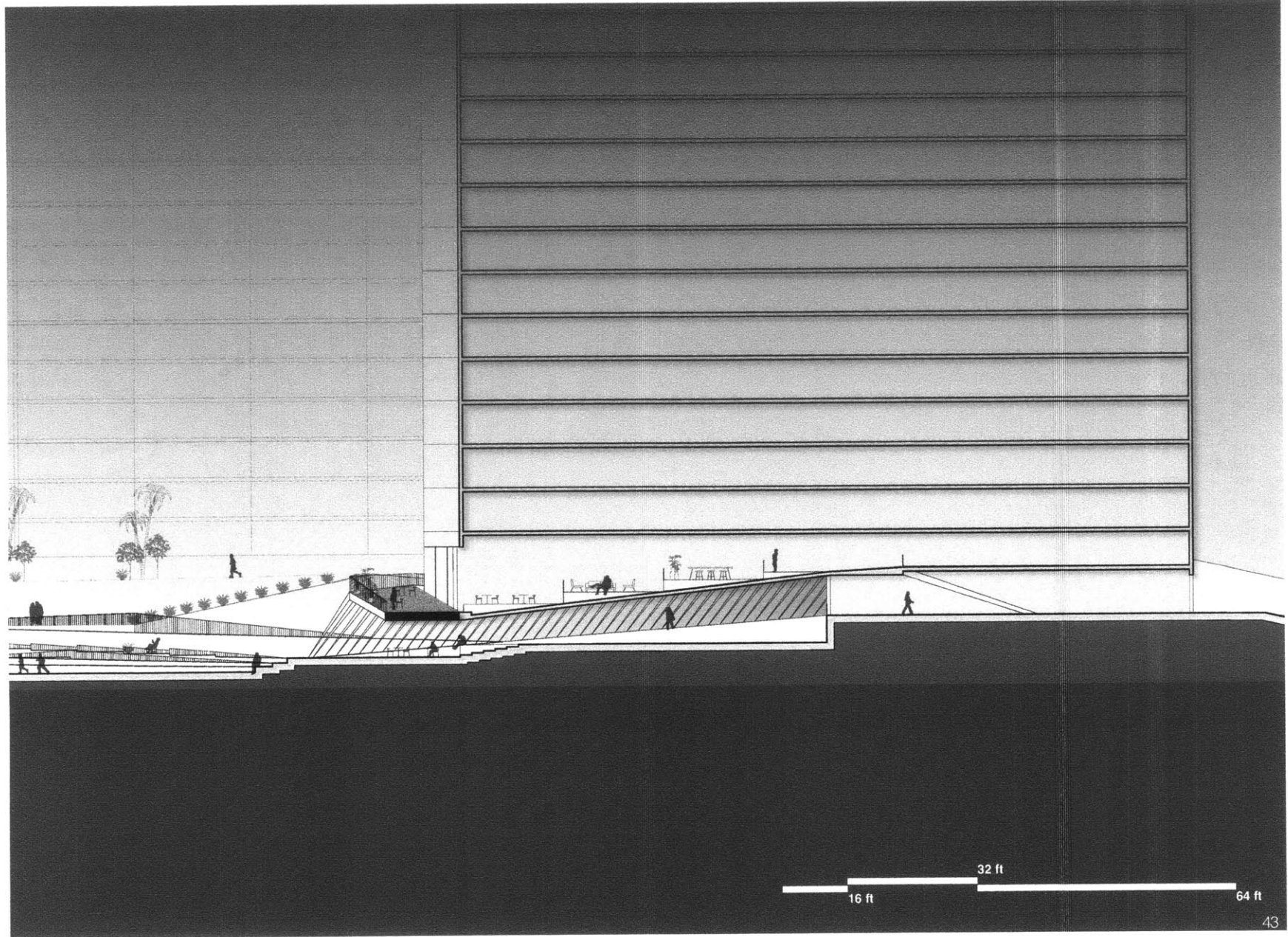


Axon showing existing towers within spatial condition 2.



Axon showing circulation through the site and the points of interaction between the different occupants, athletes, future residents, and future non-residents.

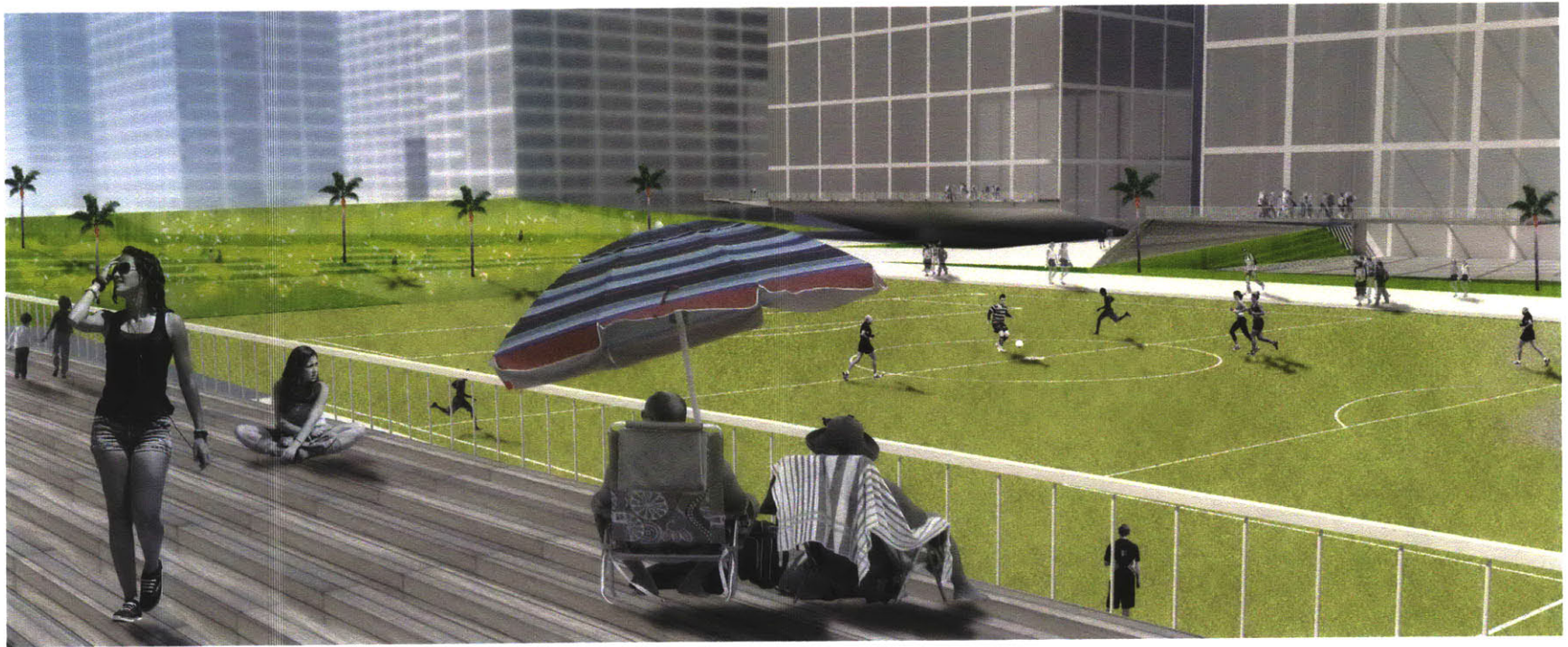


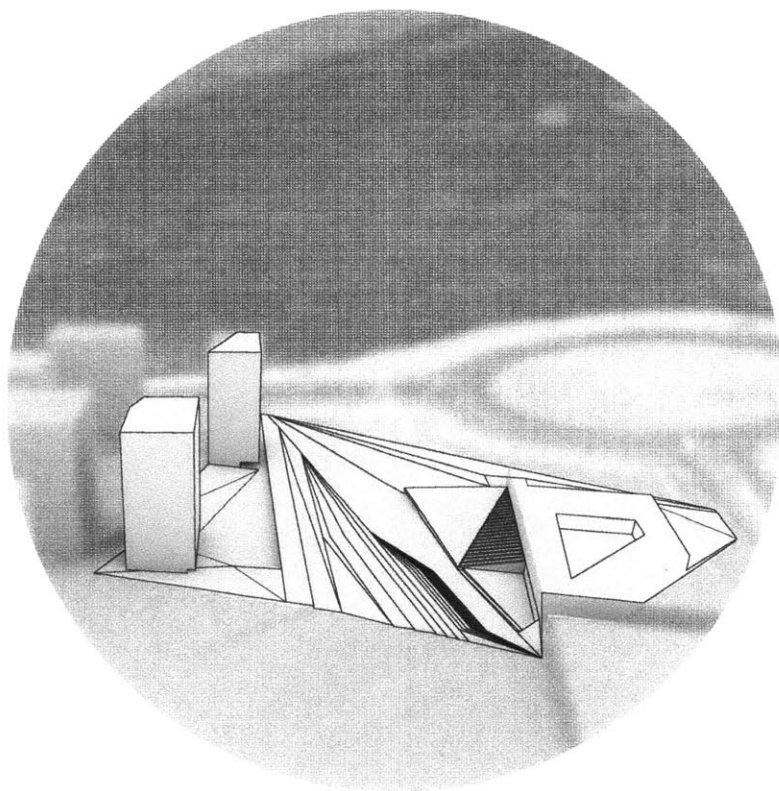


16 ft

32 ft

64 ft





PUBLIC C3 LIVING ROOM

Spatial condition three is about the interaction between the residents and the preschool that will re-purpose the existing Olympic training facility.

The program for this condition is articulated again through the architectural landscape that forms a community complex through the preschool, library and amphitheater as an area that provides opportunities for many different activities and points of interactions between residents and also between residents and non residents. The seating for the theater space articulates a landscape that moves from the scale of individual seats to larger and more private garden areas that allow the residents the ability to remain separate as casual observers without directly interacting with the activities occurring.

This spatial condition allows for the most privacy to the residents with a separate access to the residential towers. This provides the residents with a sense of privacy and safety that still promotes interaction without demanding it.



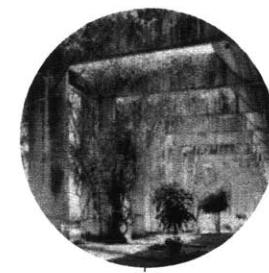
DANCING



**OPPORTUNITIES
FOR OBSERVATION**

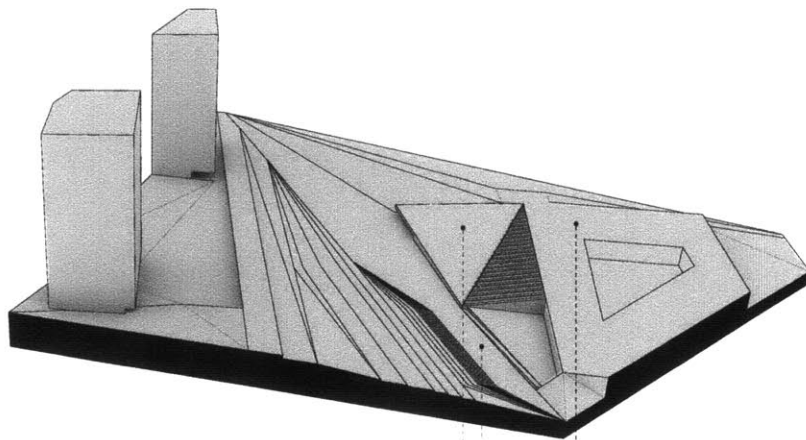


SPACE FOR GATHERING



ATMOSPHERE

Certain aspects of Brazilian culture and specificity of spaces were cataloged to understand some of the requirements for public space. In spatial condition three all of these aspects come together in one place. The theater becomes a space for gathering and observation and provides an atmosphere of interaction. The library also becomes a space for gathering as it is no longer fully enclosed but partially open creating an atmosphere of filtered light that is often found in Brazilian architecture



2016

public viewing

olympic exhibition

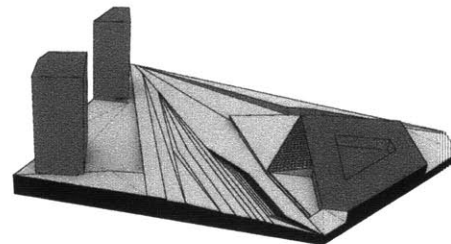
olympic training facility

2020

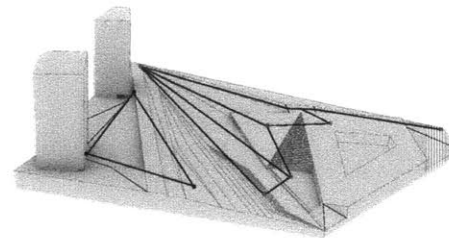
amphitheater

library

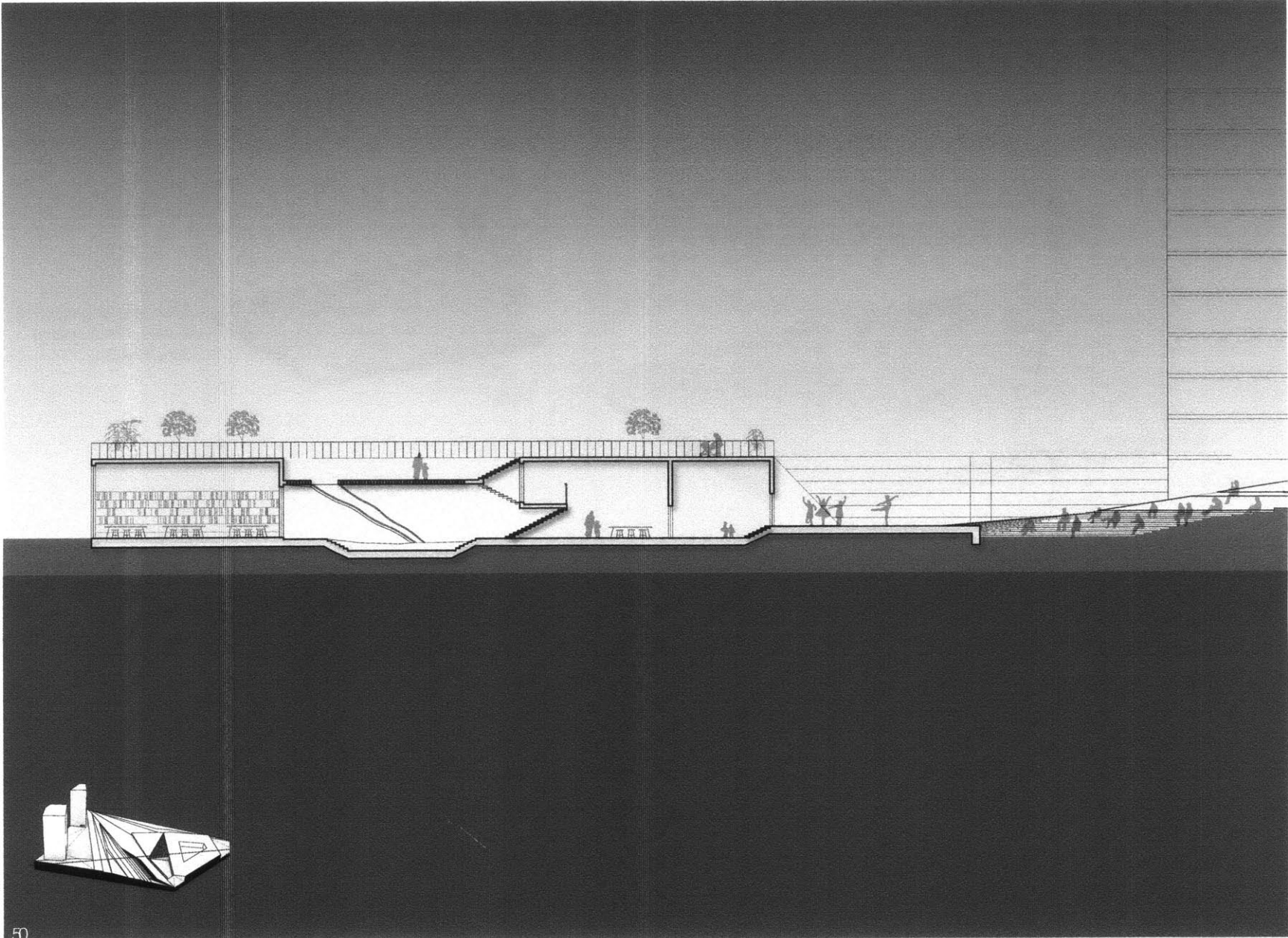
pre-school

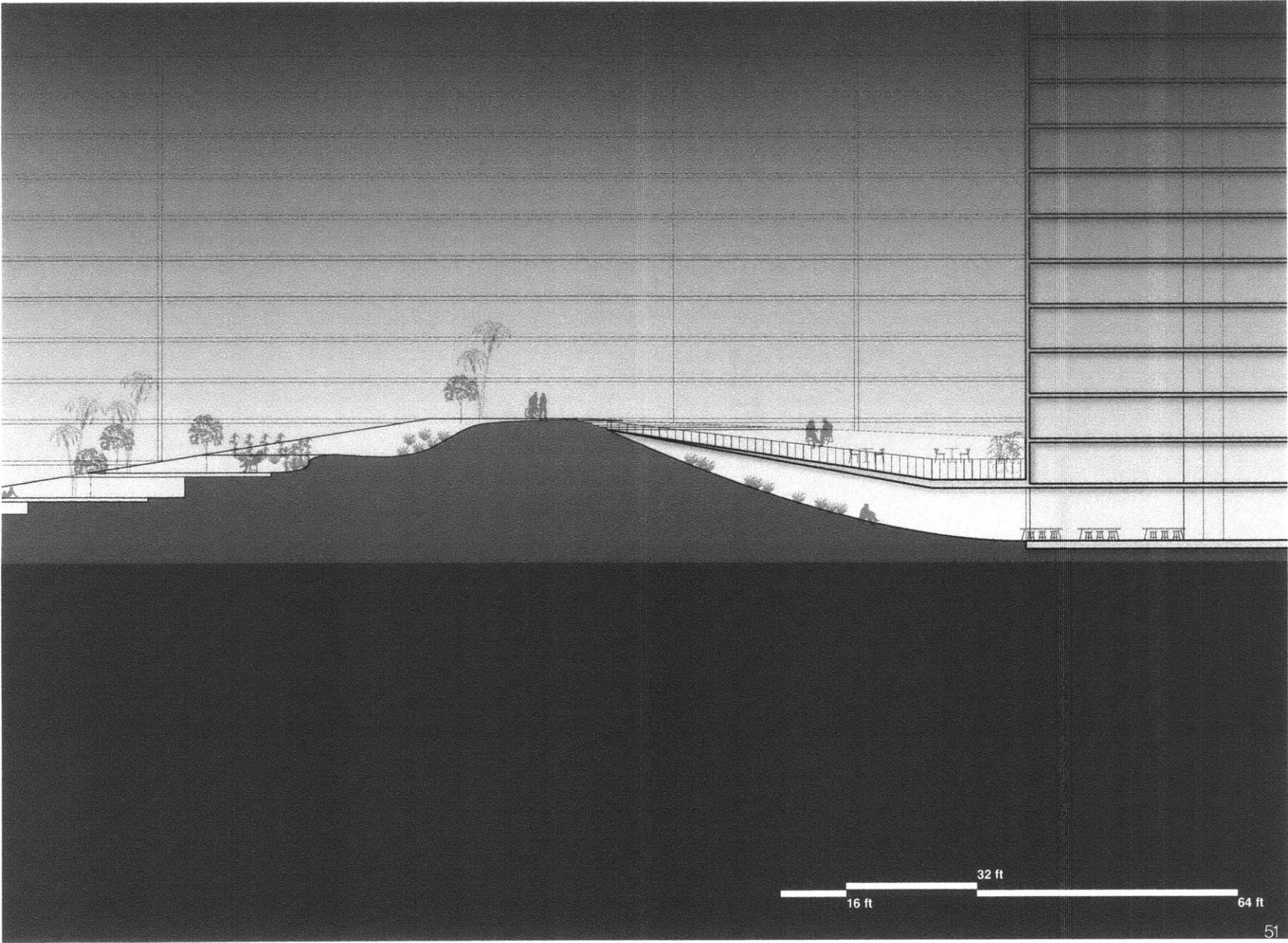


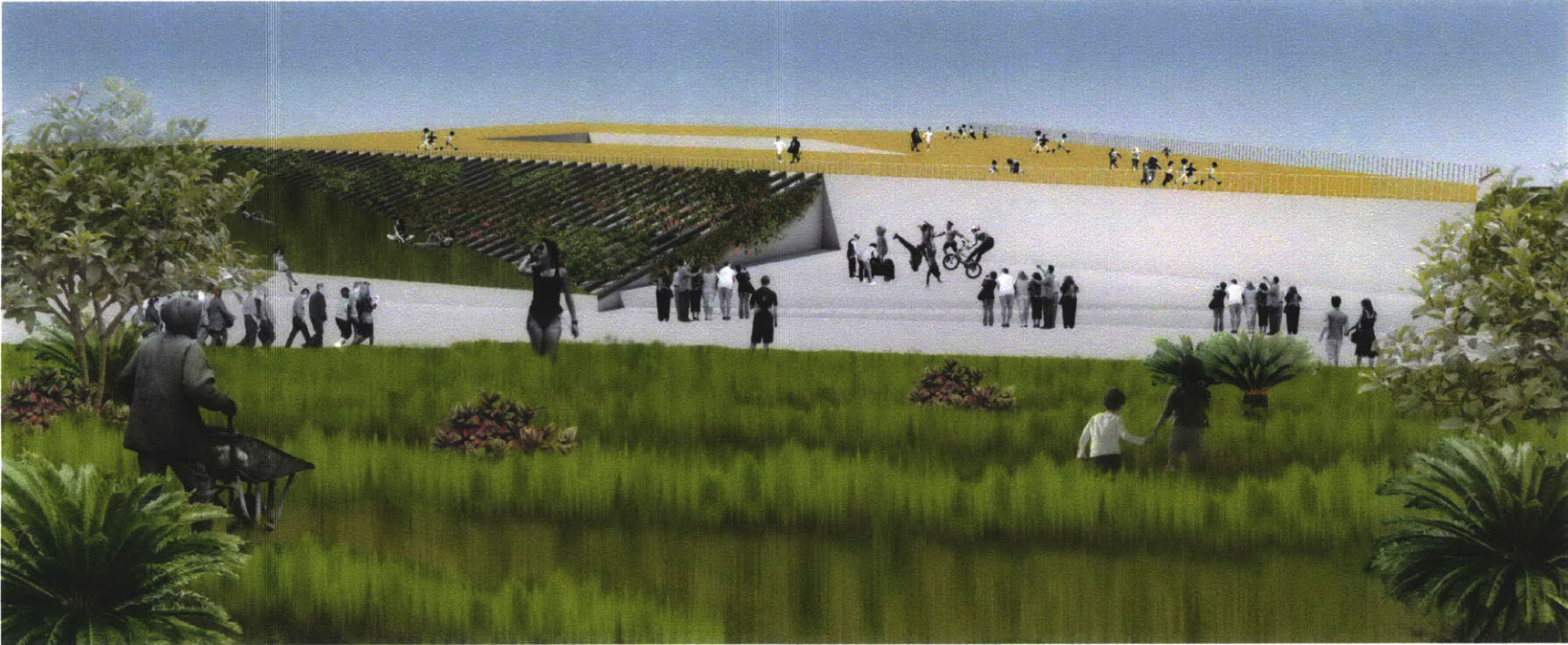
Axon showing existing towers within spatial condition 3.



Axon showing circulation through the site and the points of interaction between the different occupants, athletes, future residents, and future non-residents.

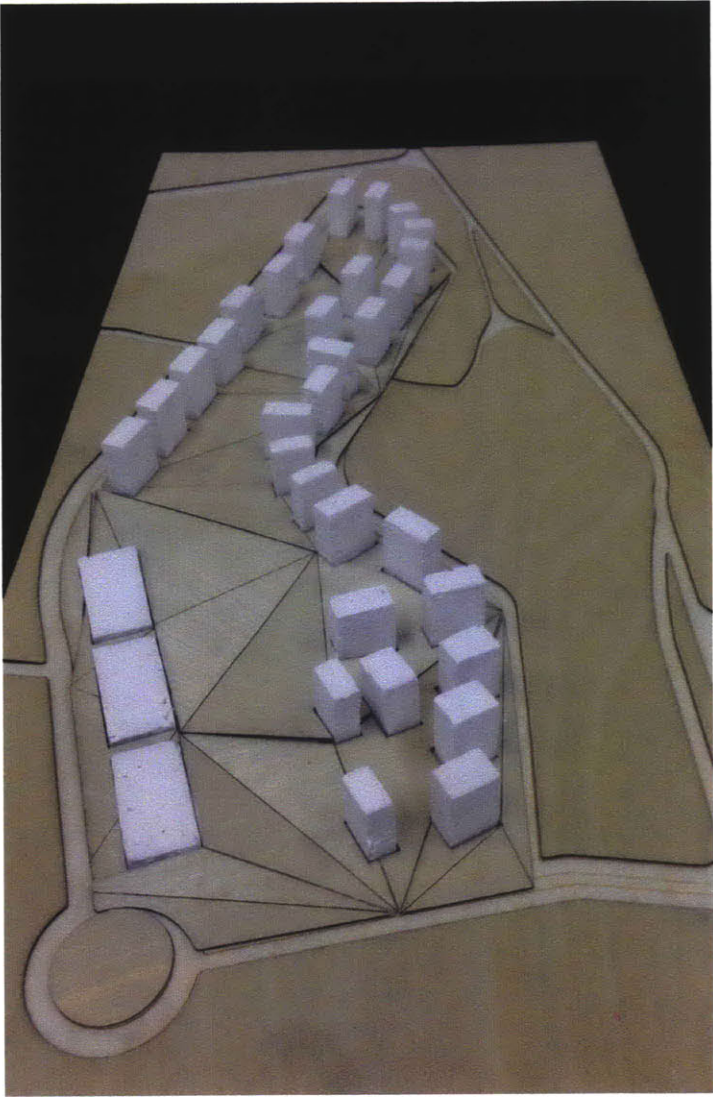
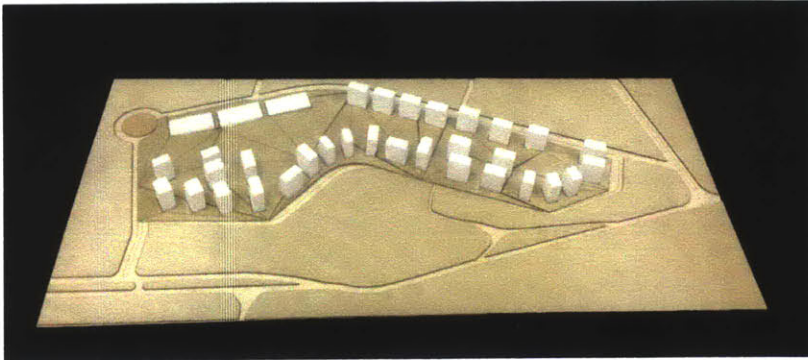
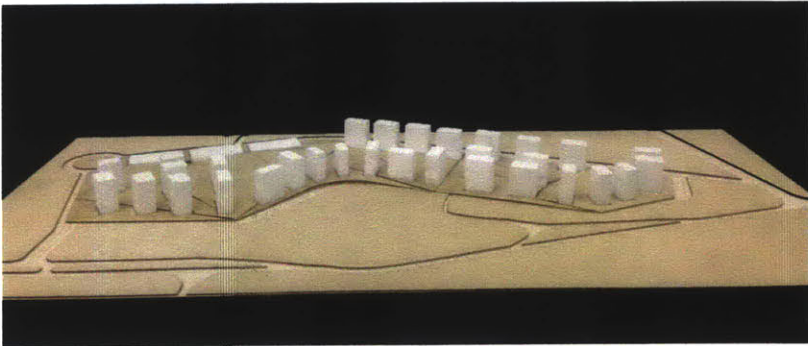
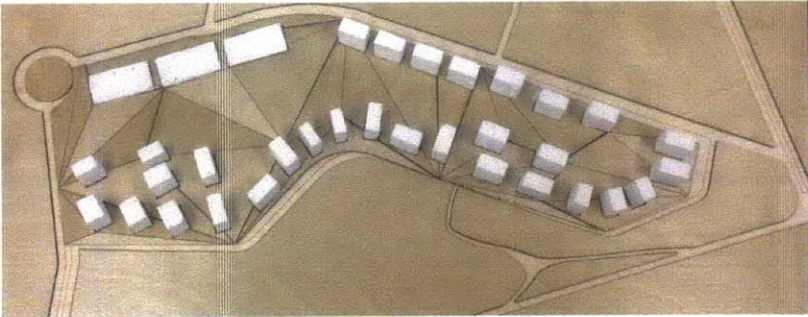


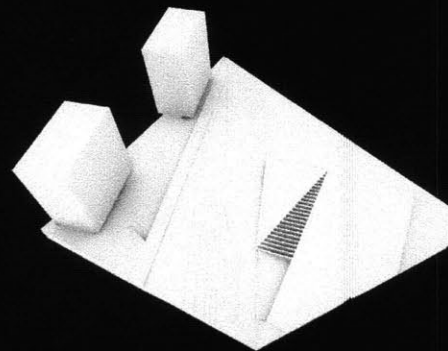
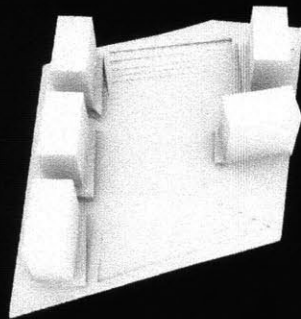
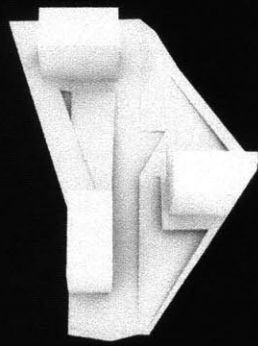




four
Appendices

Final Models

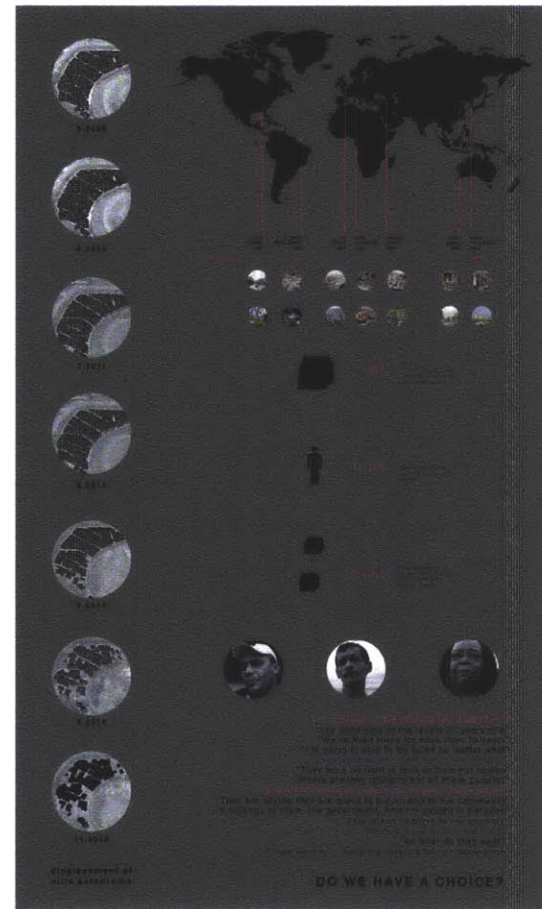
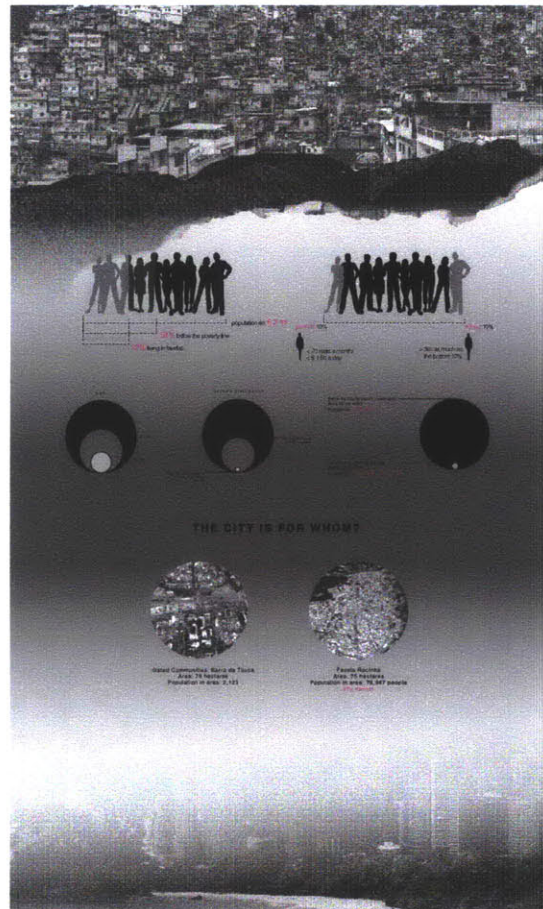


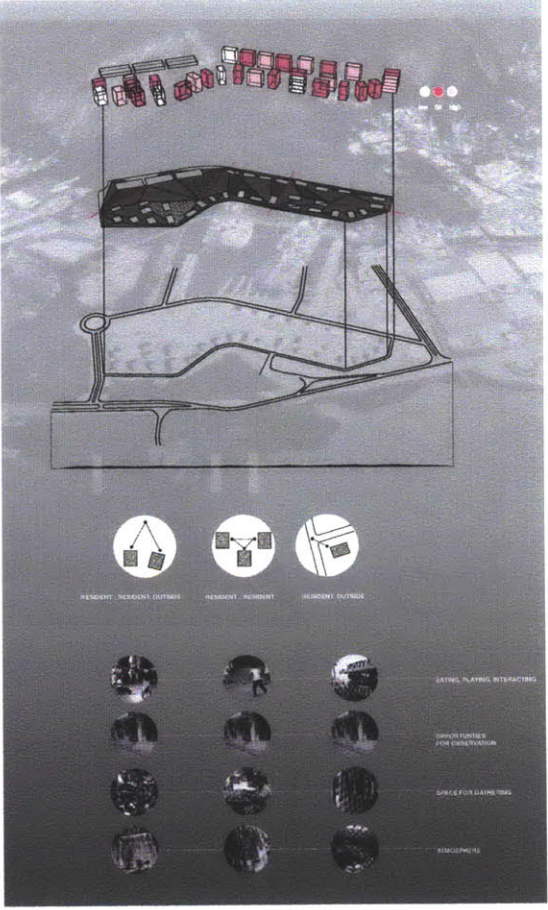
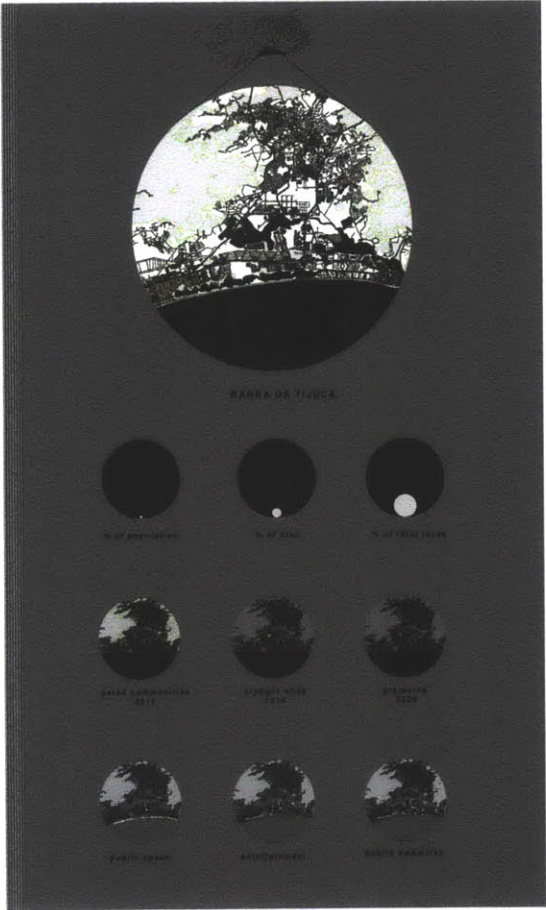


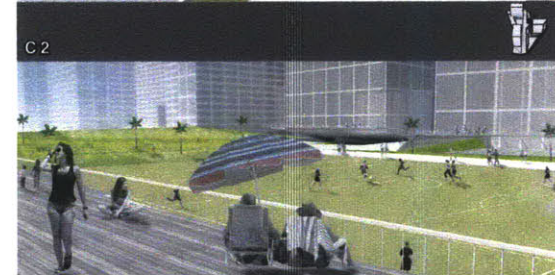
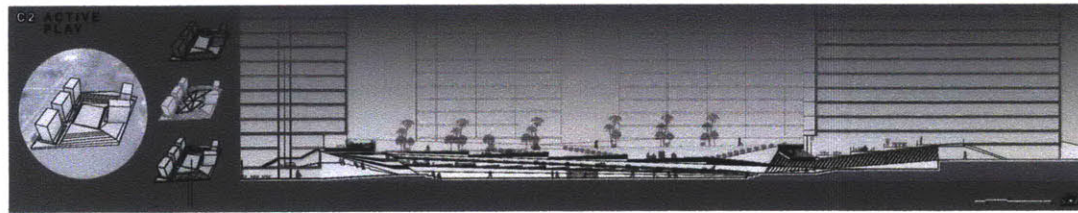
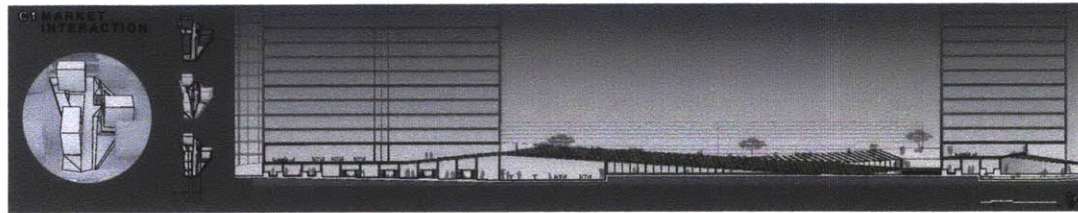
Thesis Defense: May 15th 2015



Final Boards







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