

**MILLION DOLLAR BLOCKS**  
By : Stephen Flink

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by

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A thesis submitted in partial fulfillment  
of the requirements for the degree

of

Master of Architecture

in

Architecture

MONTANA STATE UNIVERSITY  
Bozeman, Montana

April 2009

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Stephen Sperling Flink

April 2009

## DEDICATION

I dedicate this thesis to my family John, Pamela, Chelsey, Evan, Jennifer, Gunter and Carly. Without your support and encouragement throughout my college career this would not have been possible, Thank you all and I love you. I would also like to thank my thesis advisors Chris, Mike and Michael for all of the instruction and guidance you provided.

## ABSTRACT

Public housing in today's society is an accumulation of truths. These truths are a construct of institutions that are vastly different and sometimes conflicting but control and arrange life within the community. Public housing has transformed into a place of actual and perceived boundaries which constrict the control residents possess within the housing and its surroundings. The lack of control socially segregates, isolates, and stigmatizes residents as well as creates a dangerous environment. The residents' exclusion from outside communities prohibits them from functioning cohesively within society.

With the objective of reducing crime rates, this thesis focuses on the physical environment's ability to transform the strict boundaries which separate public and private space within public housing. Blurring the influence of existing private spaces will give residents the ability to express territoriality within the public housing complex. A new order will be generated through localized interrelationships of private and public spaces. This environmental transformation will give residents among the public housing a sense of territoriality and the ability for self surveillance within their community. Inducing modes of habitation found outside of the public housing paradigm will return much needed control of space to the residents within the community.

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## [ P r e f a c e ]

Public housing in today's society is an accumulation of truths. These truths are a construct of institutions that are vastly different and sometimes conflicting but control and arrange life within the community. Public housing has transformed into a place of actual and perceived boundaries which constrict the control residents possess within the housing and its surroundings. The lack of control socially segregates, isolates, and stigmatizes residents as well as creates a dangerous environment. The residents' exclusion from outside communities prohibits them from functioning cohesively within society.

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## [ I n t r o d u c t i o n ]

### “Million Dollar Blocks”

**1** *One in 100: Behind Bars In America 2008* ([www.pewcenteronthestates.org](http://www.pewcenteronthestates.org)), p. 5

**2** Eric Cadora, Eric Cadora shows how incarceration is concentrated in particular Brooklyn neighborhoods ([www.prisonersofthecensus.org](http://www.prisonersofthecensus.org))

**VIOLENCE** During the past quarter century the United States prison population has exploded. At the beginning of 2008 the nonpartisan Pew Center reported that 2.33 million Americans were behind bars<sup>1</sup>, leaving the United States as the world leader in the number of residents incarcerated. Tougher state and federal sentencing beginning in the 1980's has led to the escalating prison population.

A recent study conducted by Eric Cadora focuses on the alarming and unprecedented growth in the United States criminal justice system.<sup>2</sup> The study concludes that incarcerated prisoners from Brooklyn, New York originate from specific blocks in inner-

# BROOKLYN ANNUAL PRISON EXPIDENTURES

\$ MILLIONS

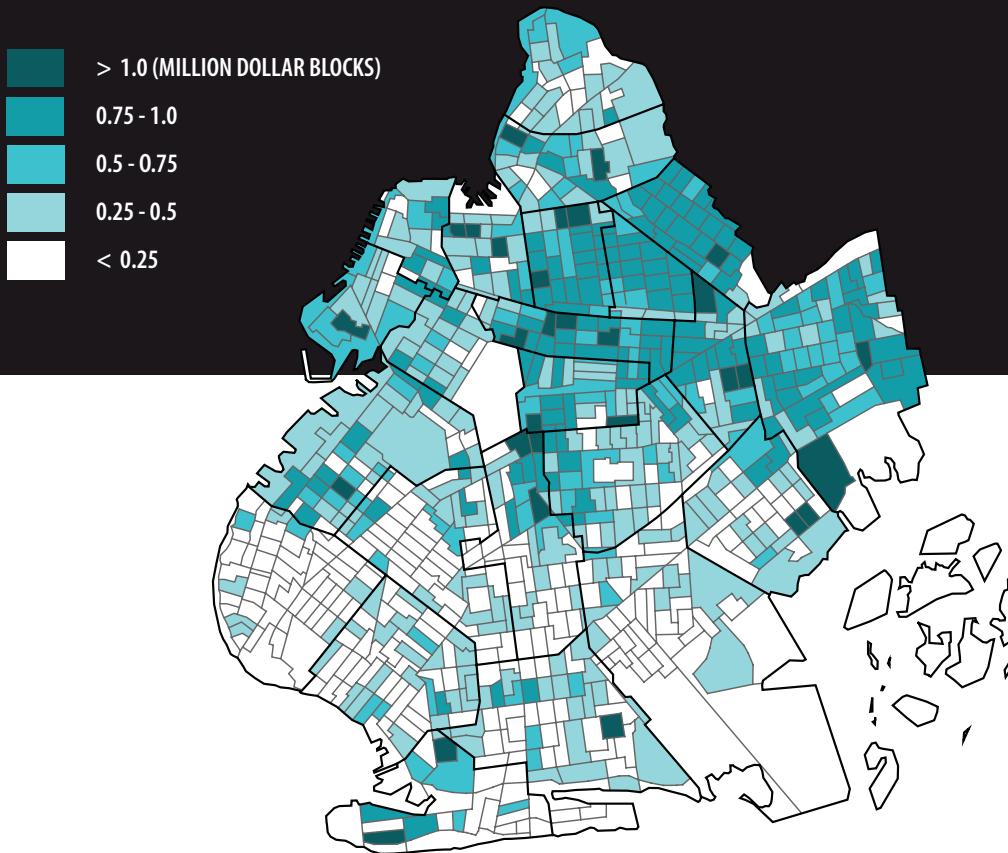


FIG1: BASED ON INFORMATION BY ERIC CADORA



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city neighborhoods. When combined, the legal and living expenditures of prisoners from any one of the studied blocks costs upwards of one million dollars per year. According to the maps created by Cadora, during 2003 there were 35 city blocks plagued by crime. This futile lifestyle becomes routine and many growing up and living in or near these blocks are unavoidably immersed in the crimes which lead to incarceration.

Violence, rape, murder and drugs have become an everyday part of life for people, creating an environment of fear and intimidation. When criminal justice data is aggregated geographically and visualized through mapping, areas of high criminal activity become apparent. The focus is shifted away from the analysis of crime and punishment of a person as an individual occurrence, and toward the analysis of where the crimes occur.



My thesis refocuses the analysis of criminal activity, starting from the inside of the city where these incarcerated residents are coming from and why they are coming from such specific places within the city. As we take a closer look at the actual environment of the Million Dollar Blocks, there is a striking difference between the housing blocks and their surrounding communities, as well as an undeniable consistency from one Million Dollar Block to another. How and why was public housing created? How does spatial organization affect a community and the amount of crime within that community? Is there a solution to the problems inside public housing? My thesis will explore these key questions.

## [ O b s e r v a t i o n ]

**3 Leon Krier, *Architecture: Choice or Fate* (Windsor, UK :Andreas Papadakis, 1998)**

All traditional architecture clearly distinguishes between the public and/or sacred buildings, on the one hand, and the utilitarian and/or private buildings, on the other. The former expresses the qualities of institutions -- dignity, solemnity, grandeur for the *res publica* and the *res sacra*; the latter, the more modest private activities of housing, commerce and industry in the *res privata* and the *res economica*. . . . [I]f museums look like factories and churches like industrial warehouses, a basic value of the state is in crisis. . . .<sup>3</sup>



4 Gwendolyn Wright, *Building the Dream* (Cambridge, Mass.: MIT Press, 1983), p. 227

**Vision** The concrete towers that began to accumulate in cities across America during the 1950's and 60's were an expression of political and economic will and a fixation on apartment quantities that would fulfill promises of housing equality for everyone. At the turn of the 20th Century most large metropolises across the country were experiencing crowded city populations<sup>FIG1</sup> and began calling for slum clearance in the 1930's. Visions of public housing were projected as providing low-income families with healthy, safe and improved environments which would extend into the city. "Advocates of public housing believed that a combination of well designed new housing and the elimination of tenements would alleviate social problems."<sup>4</sup> Planners and architects saw two options for constructing low income housing at high densities. First, they could rebuild the existing walk-up apartments so densely packed together as to have limited land left free of building or they could build high-rise elevator apartment buildings

FIG1: "Street of the Gamblers" in San Francisco's Chinatown, 1905. Gwendolyn Wright, *Building the Dream*, pg. 116



and thereby free a large portion of the project grounds for the required open space and recreation. The second idea was promising and seemed to be the superior public housing, especially in comparison with the existing old, dilapidated slum conditions.

Slums were terribly overcrowded. An example of this was the “railroad tenement” which was a public housing arrangement introduced toward the middle of the 19th Century and despite criticism the design endured. **FIG2** The building was a ninety-one-foot long, solid rectangular block. The physical characteristics of these tenements limited light and air into the building through the street and alley only. In large American cities such as Boston, New York City, Chicago and Philadelphia, these tenements averaged three to four stories in height and often exceeded sixty-four occupants. With high occupancy and lack of hallways, privacy was nearly impossible. People moved throughout bedrooms

**FIG2: Evolution of the New York Tenement House**

Gwendolyn Wright, *Building the Dream* (Cambridge, Mass.: MIT Press, 1983), pg. 119



**5 Architecture Forum, *The Magazine of Building*, January 1952, p. 101**

to navigate the building and the high concentration of people made public health a major issue. Dark, damp and stagnant environments coupled with limited sanitary services provided a breeding ground for disease. High numbers of residents also caused excess stress on the structures themselves and the tenements rapidly deteriorated. **FIG3**

Architects saw these existing tenements as congesting their sites. They lacked open spaces to incubate control, health, recreation and socializing. To alleviate the problem, their solutions became vertical elevator buildings. Architects argued that, "you can't give a city family decent living space in most situations if you have to build on the ground. You've got to build upward, and design substitutes for the ground."<sup>5</sup>

Pruitt-Igoe is a fine example of this type of thinking. A federally funded housing project

6 Michel Foucault, *Discipline & Punish* (Paris : Editions Gillimard, 1975), p. 170



located in St. Louis, Missouri designed by local architects George Hellmuth and Minoru Yamasaki in 1951 and completed four years later was one of the largest and most famous elevator housing developments created. It replaced outdated tenements built in the 1800's which were debilitating city life in the heart of St. Louis. Pruitt-Igoe <sup>FIG4</sup> replaced fifty-seven acres of this suffocating slum according to the most progressive ideals for public housing construction of the day. Pruitt-Igoe's scheme became the prevalent social and architectural thinking of its time and during the early 1950's it was proclaimed the greatest public housing project in the country and an architectural innovation.

During this time, housing officials believed that the living conditions of poor families could be improved if they were situated in model environments. "The chief function of the disciplinary power is to train, rather than to select and to levy."<sup>6</sup> Reforming the slums

**7 Gwendolyn Wright, *Building the Dream* (Cambridge, Mass.: MIT Press, 1983), p. 234**

**8 Gwendolyn Wright, *Building the Dream* (Cambridge, Mass.: MIT Press, 1983), p. 238**

became the architectural strategy for controlling residents. "Champions of public housing declared that it would cut mortality rates and stamp out prostitution, reduce crime and eliminate juvenile delinquency-if housing authorities had enough control. There was less rhetoric about building communities and more talk about enforcing order."<sup>7</sup> The control enforced upon residents created separation between the adjacent communities.

Federally financed, publicly owned housing for the poor was scrutinized by the average American. Americans expressed their dissatisfaction with financially supporting the bottom third of the so-called maladaptive inner city population, the visual intrusion of public housing into the suburbs, the harmful effects on adjacent property values, and the concentration of poverty and crime. Slogans read "Government housing is not Free" and "Can you afford to pay somebody else's rent?"<sup>8</sup> A stigmatized typology had

emerged, and according to the “not-in-my-background” communities, it was to remain in the inner-cities. This identity has remained embedded in the aesthetics of public housing to this day leaving public housing residents victims of their environment.

**Reality** The production of tangible low-rent housing for everyone was actualized with the Housing Act of 1949. However, the good hearted idea of equal housing for all would soon entrench the poor in their high-rise ghettos. The housing projects were dominated by three primary factors. First, the restrictive regulations and guidelines enforced by the Federal Housing Administration (FHA) denied residents the opportunity to better themselves. Second, the conception of the modernist city and its influences affected the elevator apartments and its residents. Finally, the spatial organization of the housing projects created and confined residents to dangerous living

**9 Gwendolyn Wright, *Building the Dream* (Cambridge, Mass.: MIT Press, 1983), p. 227**

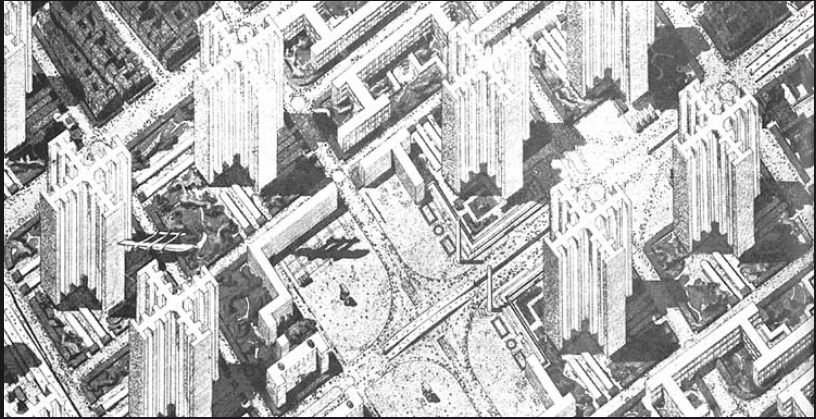
environments. These factors have led to the severely distressed public housing conditions. With regard to resident opportunities, the FHA's income level cap did not empower the residents to change their status among society. "The restrictive cost regulations and guidelines enforced by the Federal Housing Administration (FHA) mandated unit cost ceilings, controlled amenity spending, and dictated densities and room sizes for the public housing projects. These regulations led to colossal apartment towers of stark physical environment, which made living unpleasant and depressing for the residents."<sup>9</sup> Public housing of this sort was supposed to be a temporary living condition for working residents. Instead, residents became stuck in a system of bad policies. The FHA failed public housing by enforcing the above stated income limits. These limits discouraged work and savings because an increase in earned income would trigger the loss of public benefits, further demoralizing residents. There was no incentive to find

a job and better oneself which kept people from leaving the public housing. With an extreme limit on incomes, the distribution of illegal drugs and crime then became an appealing and necessary method of income. Drug trafficking and crime created income that was unmonitored by the government and allowed residents to stay in the housing.

Private economic interests soon saw space for secure investments in the elevator apartments within public housing projects. The new urban environment consisting of “towers in the park” allowed densities to remain high on valuable land, while still offering abundant park space for residents. The modernist style was an attractive investments model for the FHA and private interests for one reason – its cost. This approach allowed investors to maximize their profits through an increase of renters. In theory, this appealed to both the well being of the residents in terms of recreational space and the private

investors who could continue to increase their profits by building up. In the context of strict economy and efficiency, public housing projects were standardized to specific exterior appearances as well as interior spatial arrangements. This trade-off was a decline in quality in all of its aspects – aesthetics, materials, details, scale and proportion, as well as a wealth of absolutes. The universal aesthetics and spatial organization of modern architecture made these housing projects obtrusive in their neighborhood environments and further segregated the residents from society.

Thirdly, in many instances the FHA did provide improved housing in a material sense, however, they did not address any segregation patterns due to the spatial organization of the housing projects. The new public housing arrangement contrasted how the majority of Americans were living in type and appearance. A generation of architects influenced by Le



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Courbusier and the modernist style began creating what they considered sleek skyscrapers in comparison to the deteriorated city slums. FIG2 Their ideal housing development was an automobile-free superblock. The blocks consisted of four to twelve closed off blocks with no intervening streets. The elimination of streets allowed planners to use more ground when calculating for densities but the physical layout further alienated residents from the community by replacing an active city streetscape with isolated park spaces. Ultimately public housing had one function in the community; to house the low income population. The lack of city streets and functionality of the area gave no reason for upwardly mobile citizens to enter into the housing project, reducing the safety of the superblock. Where public housing projects did meet the adjacent communities they failed to address the city with their ambiguous ground level, anonymous facades and lack of scale. The buildings turned their backs to the street, becoming introverted and focused on the “park enclaves”

**10 Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY : Random House Inc, 1961), p. 105**

**11 Mike Davis, *City of Quartz* (London, UK : Verso, 1990), p. 226**

within the buildings. “The relatively dead backs of the buildings, or worse still, blank end walls thus face the streets.”<sup>10</sup> This type of planning removes residents’ connection to street activity thus, their control and surveillance of their community was lost. Mike Davis has observed the same seclusion, “The American city. . . is being systematically turned inside out – or, rather, outside in.”<sup>11</sup> Due to the public housing’s organization, all activities are internalized thus encouraging criminal practice because of the seclusion from the city and lack of public traffic that non-superblocks receive. This type of internalization created a sense of fear and lack of awareness of outside activities.

These public housing towers remove residents from the supervision of the common park areas of the site at many levels. At ground level, residents six plus stories in the air are ill equipped to observe or manipulate any activities at ground level, leaving control of the

**12 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York, NY : MacMillan Publishing Co., 1973), p. 27**



space ambiguous and available to others who have entered the site. According to Oscar Newman the increase in height of the apartment buildings equates to an increase in crime within the superblocks. “In New York City, 95 percent of the Housing Authority’s projects greater than six stories in height and larger than a thousand units in size have higher crime rates per thousand residents than those which are both smaller and lower.”<sup>12</sup> The high buildings create an area where no resident has any control over who is coming and going and what types of activities are occurring and thus, the spaces are left to be uncontrolled. In many instances these public spaces are not defended by anyone but are taken over by outsiders. On the inside of the buildings the corridors for circulation have no sense of belonging to the residents. A lack of visual connection, restrictive space and numerous blind corners and recesses also make the hallways particularly dangerous. **FIG3**



**13 Susan J Popkin, Victoria E Gwiasda, Lynn M Olson, *The Hidden War* (Piscataway, NJ : Rutgers University Press, 2000), p. 52**

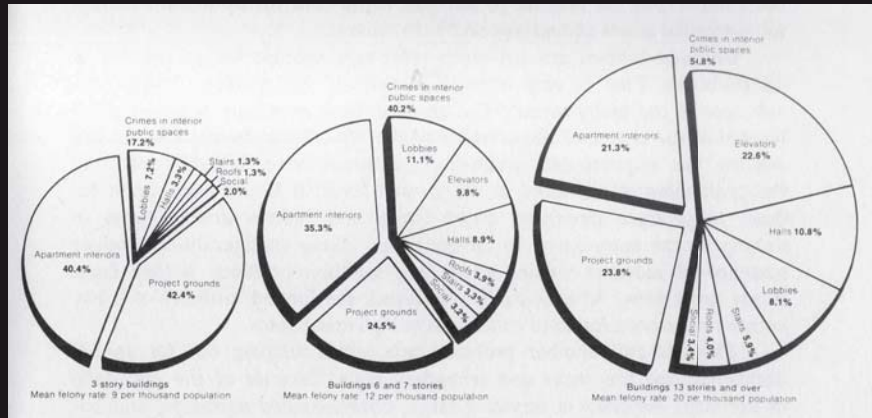
These problems existed in the acclaimed Pruitt-Igoe housing project in St. Louis, Missouri. An investigation was done to explore the quality of life of the residents, one resident reported that “people who don’t live in the project come in and make a lot of trouble by fights, stealing, drinking, and the like.”<sup>13</sup> The following paragraph is an excerpt which speaks about how the lack of control in Rockwell Gardens, **FIG4** a public housing project in Chicago, Illinois resulted in the housing blocks becoming gang held territory with conditions of extreme violence.

*Having three powerful gangs battling for power in such a small community -- Rockwell was only eight high-rise buildings -- created a highly volatile situation; residents were living in the midst of what was essentially an urban guerilla war zone. In May 1994, more than two-thirds of the residents reported that “shootings and violence” were big problems both*

14 Susan J Popkin, Victoria E Gwiasda, Lynn M Olson, *The Hidden War* (Piscataway, NJ : Rutgers University Press, 2000), p. 52

*inside and outside their buildings. Nearly 30 percent of residents reported that a bullet had been shot into their home in the past twelve months; 59 percent reported that “young people” (gangs) were controlling their building; About 35 percent reported “big problems” with people being attacked or robbed inside, and 44 percent reported this was a serious problem outside; 19 percent said that rape or other sexual attacks were big problems inside their buildings, and 26 percent said that rape was a big problem outside; and 40 percent reported that burglary was a big problem.<sup>14</sup>*

Residents went on to describe times of gang conflict when gangs would intimidate and place fear upon residents. Gangs controlled much of what was going on in the housing as well as who was entering and leaving. Gangs will usually take over sections



**15 Susan J Popkin, Victoria E Gwiasda, Lynn M Olson, *The Hidden War* (Piscataway, NJ: Rutgers University Press, 2000), p. 78**

or entire buildings for drug trafficking, claiming territory and to gain the most valuable vantages within the housing block. The public housing buildings were valuable to gangs because they could shoot into other buildings and onto the routes of entrance at ground level without surveillance. One victim of the gang activity told of an experience where she arrived home to her apartment and found gang members beating a young man outside her door. "I come up the stairs and they had just blocked everything. I couldn't even go in my door and they told me I couldn't come in until they get through."<sup>15</sup> Residents rarely reported these crimes to police or security guards because they feared to intervene when they witnessed victimization. Threats of retaliation in these situations were very real for witnesses. The exposure to crime was now a way of life for people and doing the right thing was lost because of instilled fear. The public housing buildings created an environment prone to internal war among the residents.

**FIGS: Place of Occurrence of Crimes in Buildings of Different Heights. Based on New York City Housing Authority Police, 1969 Data**  
 Oscar Newman, *Defensible Space* (New York, NY: MacMillan Publishing Co., 1973), pg. 33



This modernist approach to building has not always been a failure. The Lakeshore Apartments by Mies Van der Rohe, also in Chicago, Illinois are an example of urban residential housing with modernist ideals which works well. **FIG6** However, people residing in upper middle-class apartments can fully utilize expensive advantages by having servants, doormen, guards, repairmen, baby-sitters and cars to overcome some of the disadvantages of living in elevator buildings. They also alleviated stresses by getting away for vacations, sending kids to camps, recreational outings, getaways to distant city parks and recreational destinations. It is very unusual for the poor to have access to these amenities. The middle class population has the luxury of isolating themselves from the city while this isolation is negative for the low income population. “The people for whom the pattern is best suitable are those on whom we are now foisting it wholesale: families with very low incomes, from slums, mostly with children and

**FIG6:** Lake Shore Apartments, Chicago Illinois. Mies Van der Rohe, 1951

<http://images.google.com/hosted/life/?q=lake+shore+apartments+mies+van+der+rohe&imgurl=284cd3d997cc1c01>



16 Catherine Bauer, *Progressive Architecture*, May 1952 p. 63

whose inevitably minimum-standard dwellings will be under public landlord ship.”<sup>16</sup>

For the past 40 years the drastic solution for the majority of public housing across the nation has been to simply abandon and demolish them. Problems within Pruitt-Igoe became so extreme that it was completely vacated in 1974 and was torn down two years later. **FIG7** Pruitt-Igoe; the architectural innovation, has been the icon of public housing's failure in the United States ever since. In place of these demolished towers a new innovation, that of “new-urbanism” has begun to revive these areas. New urbanism is the creation and restoration of compact walkable, mixed-use streets. Ironically this is similar to what existed before the inception of superblocks.

**FIG7:** The Demolition of Pruitt-Igoe in 1976

Oscar Newman, *Defensible Space*, [www.defensiblespace.com/book/illustrations.htm](http://www.defensiblespace.com/book/illustrations.htm)

## [ A n a l y s i s ]

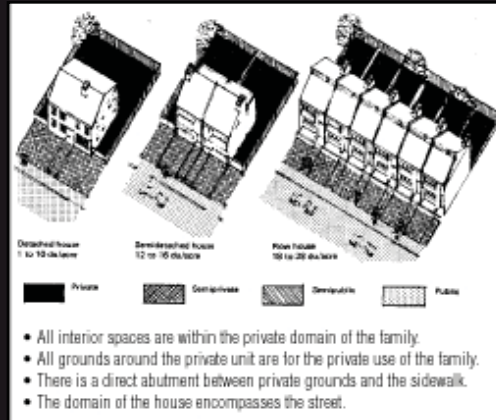
**17 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York, NY: MacMillan Publishing Co., 1973), p. 3**

“Defensible space is a surrogate term for the range of mechanisms -- real and symbolic barriers, strongly defined areas of influence, and improved opportunities for surveillance -- that combine to bring an environment under the control of its residents. A defensible space is a living residential environment which can be employed by inhabitants for the enhancement of their lives, while providing security for their families, neighbors, and friends.”<sup>17</sup>

**Boundaries** The small scale urban environments, which once framed and enforced their own boundaries, have virtually disappeared in the density and arrangements of public housing superblocks. The architectural expression of defensible space within public housing projects is vastly different than the environments directly adjacent to most of these projects. In this section I will focus on how the mechanisms of defensible space are spatially organized in safe, small scale environments outside public housing projects and how these mechanisms can be applied to public housing superblocks to improve residences control.

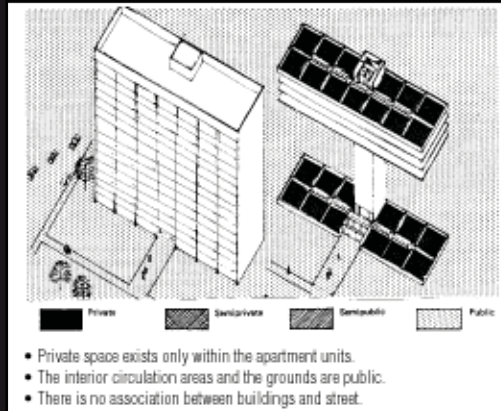
“In a high-rise, double-loaded corridor apartment tower, the only defensible space is the interior of the apartment itself; everything else is a “no-man’s-land”, neither public nor private. The lobby, stairs, elevators and corridors are open and accessible to everyone. But unlike the well-peopled and continually surveyed public streets, these interior

**18 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York, NY : MacMillan Publishing Co., 1973), p. 27**



areas are sparsely used and impossible to survey; they become a nether world of fear and crime.”<sup>18</sup> Larger projects promote feelings of anonymity, isolation, segregation, unaccountability and lack of identity for the majority of residents and intruders within the site, encouraging fear and crime. The framework which critics Jane Jacobs and Oscar Newman have outlined for affecting crime rates in public housing projects consist of three concepts which create a defensible space; territoriality, surveillance and multiplicity.

Territoriality is a means of subdividing environments into zones capable of being influenced by residents. The single-family home in the small scale urban environment which exists adjacent to the public housing projects has an active relationship with its adjacent spaces. Residents and outsiders perceive the adjacent spaces as being under control by a particular group of residents thus deterring crime and violence. **FIG2** These adjacent spaces



in public housing buildings are perceived as having no ownership what-so-ever. The only cue that someone lives on the floor is the units door which opens to the hallway. FIG3

One mechanism for creating territoriality is through how one accesses a space. Areas in front of single-family housing are for the use of those residents and are separated with a strict access point, usually a gate. On the other hand, exterior grounds and interior circulation within public housing blocks remain open and accessible from multiple directions. This makes the space dangerous and uncontrollable.

An example of how creating a strict point of access could help reduce crime occurred at Pruitt-Igoe. "An endeavor was made to provide some new play equipment and seating areas adjacent to one building. For the period of construction, the area around one building was

**19 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York, NY : MacMillan Publishing Co., 1973), p. 56**

**20 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York, NY : MacMillan Publishing Co., 1973), p. 56**

fenced off (except for a gate opposite the building entry) to reduce the pilferage of materials and to prevent accidents.”<sup>19</sup> Although this is an extreme example, the gate proved to be an assertion of territoriality for the residents of that building. In time, crime was reduced by 80 percent and when construction was finished residents requested the gate remain.<sup>20</sup>

My thesis will create groupings of buildings and program which will differentiate the grounds and act as points of access. These groupings will create relationships between individual units and create functionally useful and shared space at each level creating smaller communities within the superblock. The superblocks' grounds will become divided into smaller pockets of highly charged space of multiple primary functions instead of remaining in their current ambiguous state.

**21 Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY : Random House Inc, 1961), p. 40**

The second concept, surveillance, Jane Jacobs believes is “kept primarily by an intricate, almost unconscious, network of voluntary controls and standards among people themselves, and enforced by the people themselves.”<sup>21</sup> This can only happen if the physical environment is designed in a way as to allow people to keep “eyes on the street.” Newman concludes surveillance should propagate naturally from a design, allowing residents to continually see and be seen. The idea of surveillance is the capacity of the physical design to provide surveillance opportunities. Residents among this type of spatial organization gain the ability to view public areas, circulation paths and entrance areas. Newman argues that when residents or strangers know that they are, or could be watched, it makes the residents feel more comfortable in that space. Criminals on the other hand fear being identified and caught in surveillance space so the criminal act is repressed. Opportunities for natural surveillance by residents, neighbors and



bystanders are non-existent within public housing. Surveillance from the private units within the building is severely constrained due to the lack of views onto the building's circulation paths, and adjacent residences, as well as onto the superblock's grounds.

In order for a resident to be witness to something they would have to be there in person. They currently cannot do so from the safety of their apartment. My thesis will increase the opportunities for surveillance of the smaller pockets of activities, circulation paths, and neighboring units within the site. The increase in surveillance will secure the environment for peaceful activities.

Finally, Jacobs also speaks about a third concept of multiplicity addressing the importance of having a multiplicity of manageable block sizes, building heights,

**22 Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY : Random House Inc, 1961), p. 279**

building uses, and population characteristics. Jacobs uses Greenwich Village in New, York as an example of a place with great multiplicity. “Greenwich Village manages to house people at densities ranging from 125 to 200 dwelling units per acre, without standardization of buildings.”<sup>22</sup> The current housing densities of my site are 88 dwelling units per acre, this number is well below that of Greenwich Villages. Greenwich’s densities are obtained from a great variety of buildings, uses and populations, unlike the standardized buildings within public housing. According to Jacobs, during the 1960’s the buildings in Greenwich covered approximately 60 to 80 percent of the land, leaving the other 40 to 20 percent for highly concentrated and specific outdoor land uses. The irony is that these diverse blocks, although run down, existed on many sites before they were razed to make way for the concrete towers that became public housing.

Avoiding the mentality of razing another community, salvaging as many of the existing buildings and their structures is desirable socially, economically and environmentally. My thesis proposes that these towers still have value as major existing footprints within the city, new programmatic uses such as middle income residences, commercial spaces and recreational spaces can begin to infill the towers. This will also keep with Jacobs's ideas of having a multiplicity of building types, heights and uses.

**Conclusion** Many problems within the Million Dollar Blocks can be linked to the spatial strategies of the public housing which occupies them. The maps of the Million Dollar Blocks also suggests that crime is associated with the high-rise, low-income apartment superblocks. By questioning the qualities and arrangements of these superblocks the solution has become a spatial study. The defensible space and diversity strategies outlined

are needed for returning control and safety to the residents of public housing. This thesis focuses on the physical environment's ability to transform limitations of private and public space within public housing. This environmental transformation will give residents among the public housing community much needed control of space within society as a whole. I will explore through design ways in which boundaries between private and public space can be made porous, allowing for a sense of territoriality and surveillance to control the site.



[ Site ]

**BROOKLYN, NY USA**  
**BEDFORD-STUYVESANT**  
**TOMPKINS PUBLIC HOUSING**

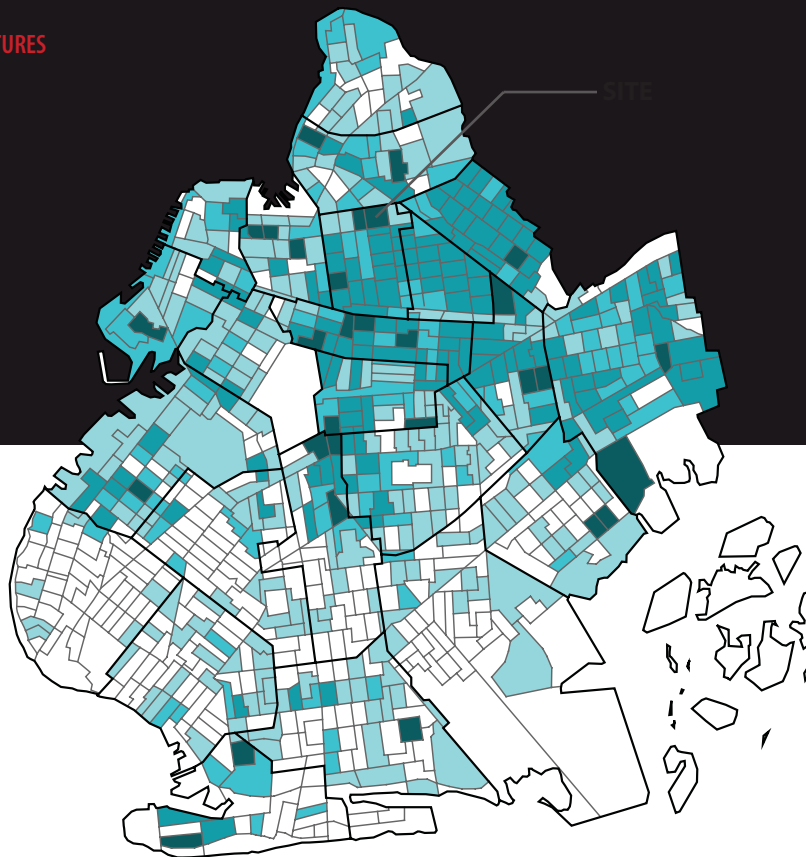
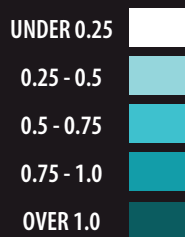
LATITUDE: 40°41'49.8"N  
 LONGITUDE: 73°56'42.4"W

The proposed project is located in central Brooklyn, New York at Tompkins Public Housing in the Bedford-Stuyvesant district. Tompkins was completed in 1964 and consists of four 15 story and four 9 story residential buildings housing a total of 2,899 residents. Finally, one building on the site acts as a community center and a day care for the Tompkins residents. Occupying 12 acres of land the superblock was created by combining three city blocks, disbanding two city streets in the process. The residential concrete buildings consist of 1045 apartments, housing a predominantly African-American population.<sup>FIG2</sup>

# SITE ANALYSIS

## SITE AMONG ANNUAL PRISON EXPIDENTURES

IN MILLIONS OF DOLLARS



## SITE ANALYSIS

POPULATION PROFILE: BROOKLYN

AFRICAN-AMERICAN POPULATION

### PERCENT

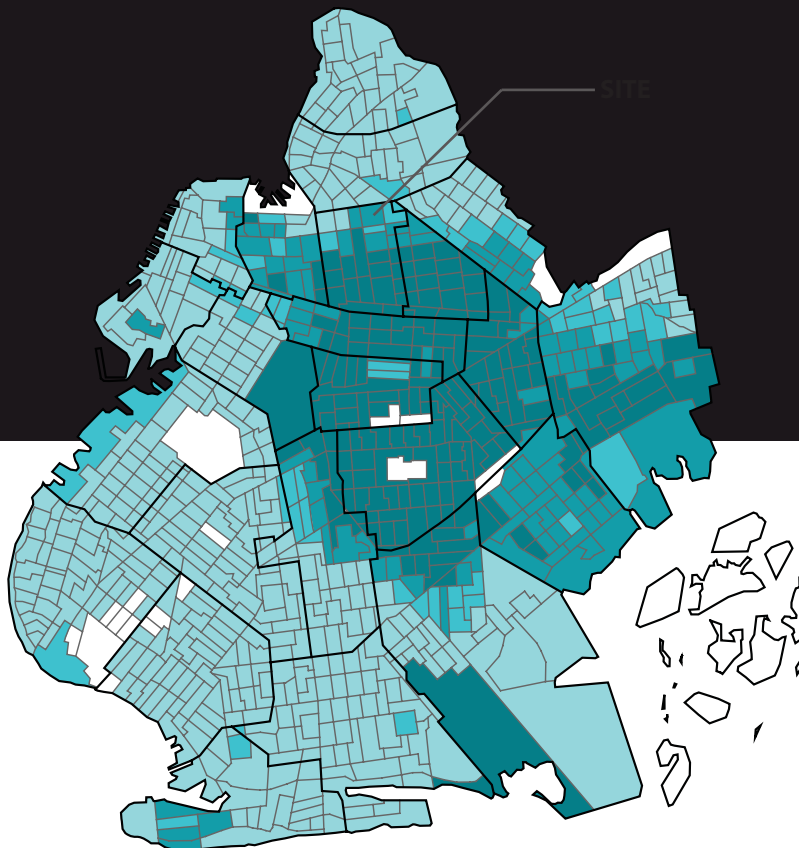
NONE 0

UNDER 25

25-50

51-75

76-100



# SITE ANALYSIS

POPULATION PROFILE: BROOKLYN

CAUCASIAN POPULATION

## PERCENT

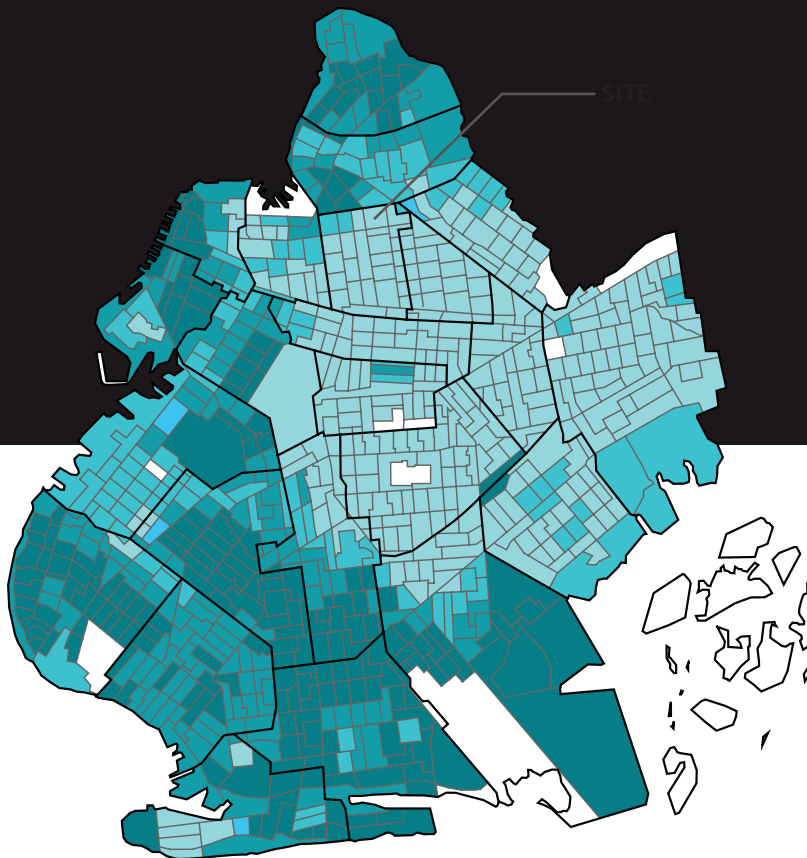
NONE 0

UNDER 25

25-30

30-35

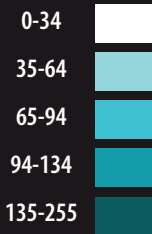
70-100



# SITE ANALYSIS

## POPULATION DENSITY: BROOKLYN

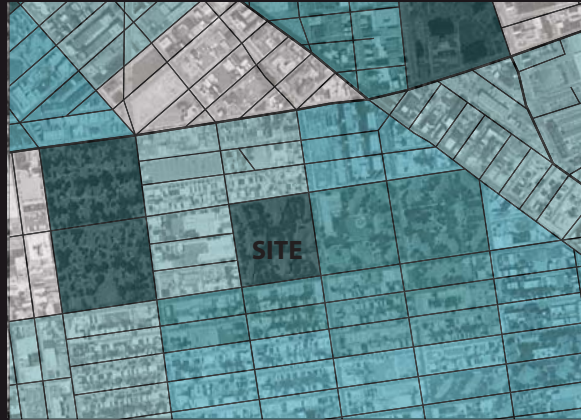
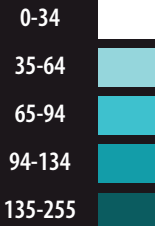
### PERSONS / ACRE



## SITE ANALYSIS

### POPULATION DENSITY: TOMPKINS SITE

#### PERSONS / ACRE



The size and densities of these apartment towers render Tompkins completely out of scale when compared with the two and three story buildings on the adjacent blocks. [FIG4,5](#) Extreme difference in size can be seen in the upcoming panoramas of the site. [FIG6,7](#)

The land adjacent to the site consists of a multiplicity of functions. One can find single family housing, retail, restaurants, schools, parking lots, vacant lots and another public housing project all right across the street. The street life along the Tompkins site consists of none of these. The only reason for a pedestrian to enter into the site is if they live there or participate in illegal activities.

A few blocks away two major transportation lines can be accessed. One a subway and the other an above ground rail, both lead you west into Manhattan or east deeper into Brooklyn. Numerous bus routes encompass the site serving the greater Brooklyn area as well as Manhattan.

# SITE ANALYSIS

PANORAMA

Northeast Intersection

SITE



41

Northwest Intersection

SITE





42



# SITE ANALYSIS

## PANORAMA

Southeast Edge



SITE



43

Southwest Intersection



FIG7: IMAGE SOURCE: GOOGLE EARTH 2008



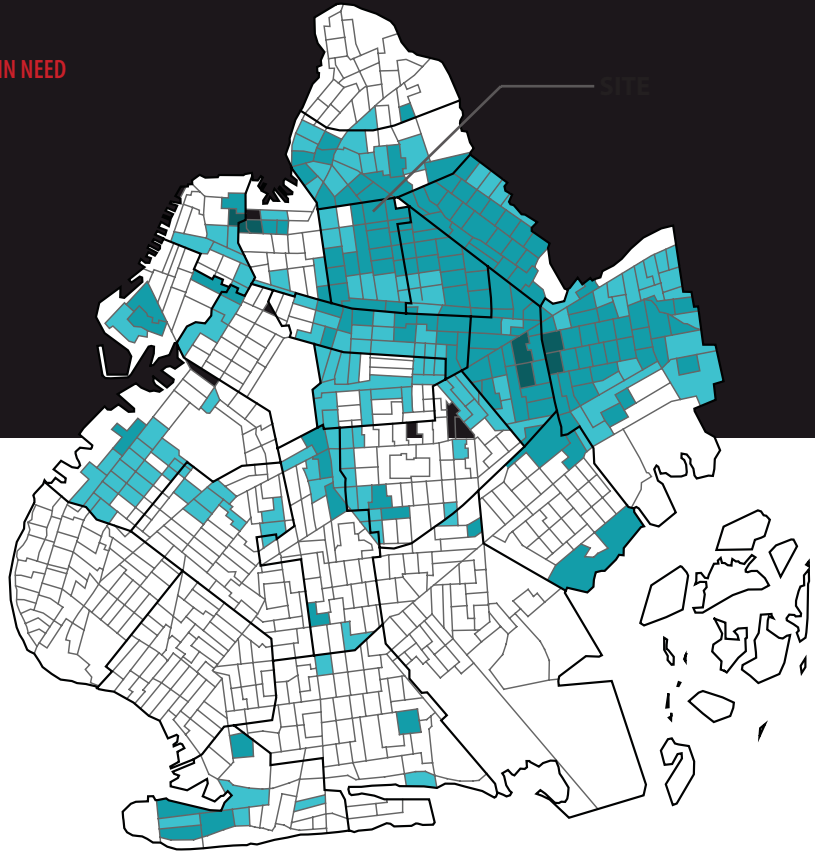
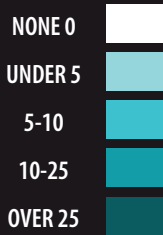
SITE



# SITE ANALYSIS

NEEDS BASED PROGRAMS: BROOKLYN  
TEMPORARY ASSISTANCE FOR FAMILIES IN NEED

## PERCENT



# SITE ANALYSIS

NEEDS BASED PROGRAMS: BROOKLYN  
CHILDREN UNDER 18 ON PUBLIC ASSISTANCE

## PERCENT

NONE 0



UNDER 5



5-10



10-25



OVER 25



FIG9: BASED ON INFORMATION BY ERIC CADORA

## SITE ANALYSIS

NEEDS BASED PROGRAMS: BROOKLYN  
RESIDENTS ON FOOD STAMPS

### PERCENT

NONE 0



UNDER 5



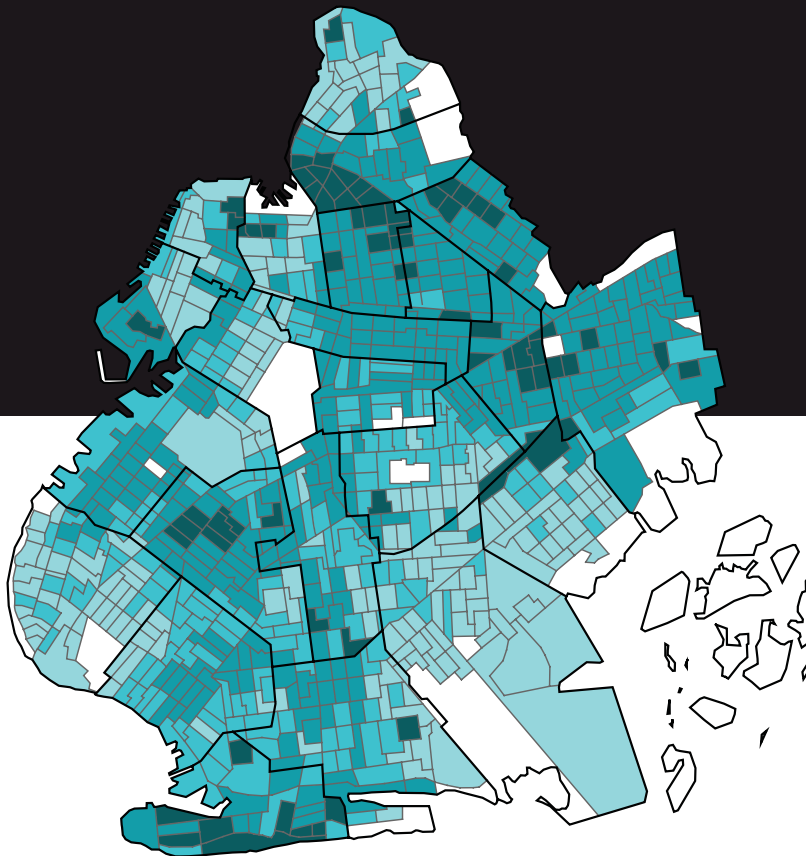
5-10



10-25



OVER 25



# SITE ANALYSIS

## TRANSPORTATION SYSTEMS: TOMPKINS NEIGHBORHOOD

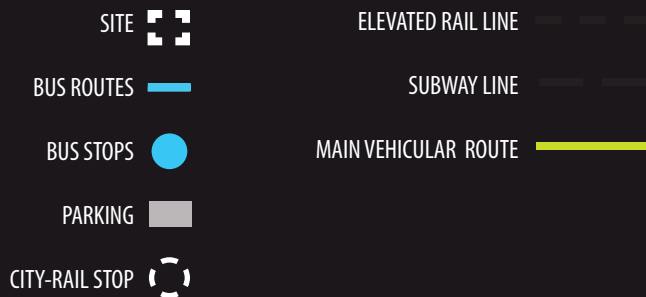




FIG11: IMAGE SOURCE: GOOGLE EARTH 2008

## SITE ANALYSIS

HOUSING TYPOLOGIES:

TOMPKINS NEIGHBORHOOD

SINGLE FAMILY HOUSING 

MULTI-FAMILY HOUSING 

PUBLIC HOUSING 

RECREATION 

SITE 

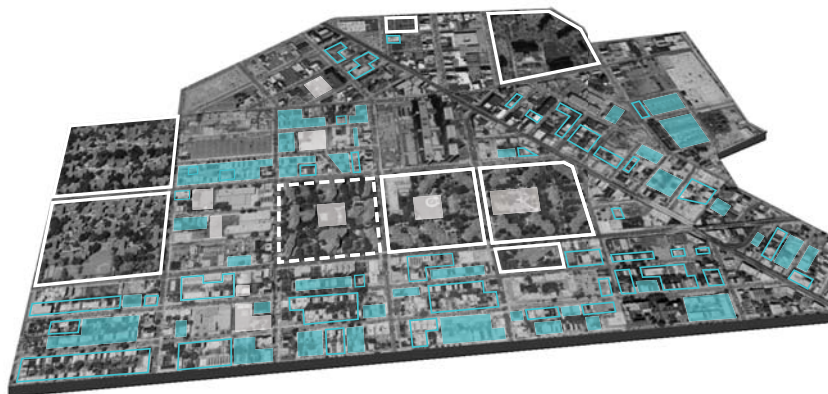


FIG12: IMAGE SOURCE: GOOGLE EARTH 2008

## SITE ANALYSIS

CITYSCAPE USES:


TOMPKINS NEIGHBORHOOD

COMMERCIAL 

MIXED USE 

COMMUNITY 

INDUSTRIAL 

SCHOOLS (K-12) 

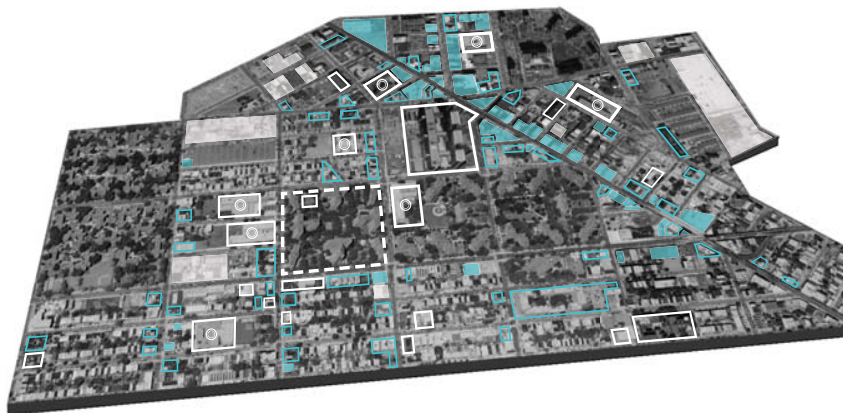


FIG13: IMAGE SOURCE: GOOGLE EARTH 2008

The current edge condition is a space which lacks safety, contact and any type of programmatic definition. The lack of physical contact with the street edge is the main cause of these problems. By physically approaching this edge with a concentration of diverse uses my project will begin to return a sense of territoriality and activity to the streetscape. Access points will also occur along this street edge. By placing entrances and lobbies in specific locations along the edges of the infill a resident or outsider has to cross through a space which is becoming increasingly private through program and surveillance. Residents in turn become more aware of an intruders presence, deterring acts of violence and crime.

The current interior grounds of Tompkins are filled with vast amounts of ambiguous space. The proposed infill space will be a generator for diversity, giving the anonymous edge conditions a mix of primary uses. This will also serve as a buffer zone between the public and private aspects of my program. Retail, commercial and community features will be located towards the edge condition. As one moves towards the interior of the site new programs will begin to shift from public activities into more private. Residential units will tighten in on the once meandering commercial entrances becoming conspicuous, recreational activities will become specific to clusters of residences, and commercial activities will fade away.

## SITE ANALYSIS

### EXISTING ECOSYSTEMS:

SOLAR 

EXISTING FOOTPRINT 

WIND 

### ARCHITECTURAL RESPONSE:

INFILL SPACE 

EDGE CONDITION 

STREET INSERTION 

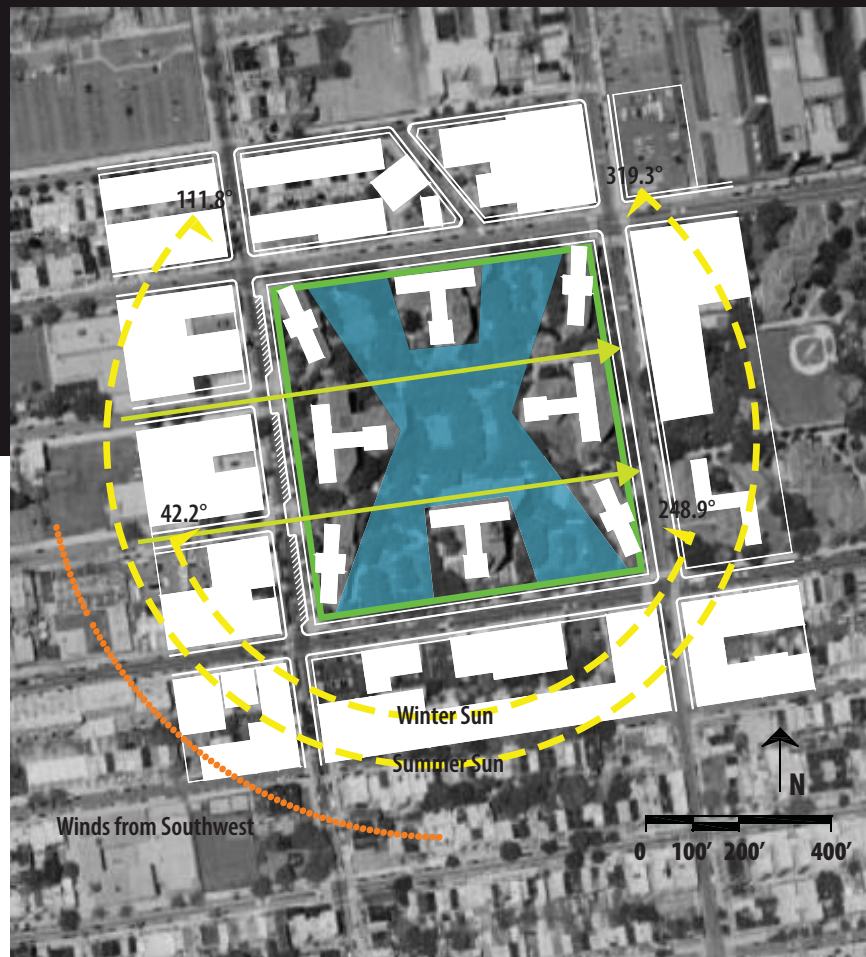


FIG14: IMAGE SOURCE: GOOGLE EARTH 2008

# QUANTITATIVE PROGRAM

## EXISTING

### Ground Level Conditions

Apartment Footprints	77,600 sq. ft.
Community Center	11,500 sq. ft.
Open Ground	488,500 sq. ft.
Site Total	577,600 sq. ft.
Parking spaces	164
Basketball Court	1

53

### Above Ground Level Conditions

(4) 15 Floor Apartment Buildings @ 11,800 ft <sup>2</sup> /floor	708,000 sq. ft.
(4) 9 Floor Apartment Buildings @ 7,600 ft <sup>2</sup> /floor	273,600 sq. ft.
Total Housing	981,600 sq. ft.
10% of Total Housing for Circulation	98,160 sq. ft.
Total Units	1,045
Average Unit Size	854 sq. ft.
Population	3281 residents

## PROPOSED

### Infill Spaces

Restaurants	50,000 sq. ft.
Community Center	11,500 sq.ft.
Open Ground (to remain)	122, 125 sq. ft.
Offices	58,185 sq. ft.
Retail	75,000 sq ft.

Total Apartments (middle income)	522,000 sq.ft.
Total Units	522

Total Infill Space	838,810 sq. ft
Available Ground Space	488,500 sq.ft
Above Ground Space	350,310 sq.ft.

## 1. Occupancy Group Classifications (302)

A-2 \_\_\_\_\_ Restaurant

A-3 \_\_\_\_\_ Exhibition Hall/Community Space/ Public Meeting Rooms

B \_\_\_\_\_ Business

M \_\_\_\_\_ Retail

R-2 \_\_\_\_\_ Apartments

## 2. Change of Occupancy (3406.1)

**Conformance.** No change shall be made in the use or occupancy of any building that would place the building in a different division of the same group of occupancy or in a different group of occupancies, unless such a building is made to comply with the requirements of this code for such division or group of occupancy. Subject to the approval of the building official, the use or occupancy of existing buildings shall be permitted

# CODE ANALYSIS

BASED ON 2008 IBC

to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all the requirements of this code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

### 3. Required Occupancy Separations (508.3.3)

A-2 and A-3	2 hour*	A-3 and M	2 hour*
A-2 and B	2 hour*	A-3 and R-2	2 hour*
A-2 and M	2 hour*	B and R-2	2 hour*
A-2 and R-2	2 hour*	B and M	None
A-3 and B	2 hour*	R-2 and M	2 hour*

\* **NOTE:** Reduce the required separation by one hour, but not less than one if the building is equipped throughout with an automatic sprinkler system.

# CODE ANALYSIS

BASED ON 2008 IBC

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## 4. Allowable Height and Building Areas (Table 503)

<u>occupancy</u>	<u>construction</u>	<u>per story</u>	<u>sq. feet</u>
A-2	Type IIB	2	9,500
A-3	Type IIA	3	15,500
B	Type IIB	4	23,000
M	Type IIB	4	12,500
R-2	Type IA	UL	UL

**\*NOTE:** If the building is equipped throughout with an automatic sprinkler system then these modifications are allowed. The height of a building can increase by 20' from the height value specified. The area of a building can increase by 200% for a multi-story building and 300% for a single-story building.

# CODE ANALYSIS

BASED ON 2008 IBC

## 5. Types of Construction (Table 601)

Fire Resistive Requirements (hours):

	Type IA	Type IIA	Type IIB
<u>Structural Frame</u>	3 <sup>a</sup>	1	0
<u>Bearing Walls</u>			
exterior	3	1	0
interior	3 <sup>a</sup>	1	0
<u>Non-Bearing</u>			
exterior	1	1	2
interior	0	0	0
<u>Floor Construction</u>	2	1	0
<u>Roof Construction</u>	1.5 <sup>b</sup>	1 <sup>b</sup>	0

**5. Occupant Load Factors (Table 1004.1.1)**

Occupancy	Program Space*	Sq. Ftg.	OLF	TOL
A-2	Restaurant	4,000	200	20
A-3	Community	11,500	15	767
B	Office space	2,000	100	20
M	Retail	2,500	60	41
R-2	Residential	53,240	200	267

\*The following program spaces are examples of some possible individual spaces that will be found on site. A mixture of these types of buildings will be dispersed throughout the site. The size of the spaces will remain small in scale to relate to the program spaces of the surrounding community.

**6. Exit Access Arrangement (1014.2)**

Where two exits are required (occupant load of a given space is greater than or equal to 50) they shall be placed a minimum of one-half the maximum diagonal dimension of the room/building measured in a straight line.

**7. Exit Access Travel Distance (1016.1)**

<u>Occupancy</u>	<u>w/o Sprinkler</u>	<u>w/ Sprinkler</u>
A	200 feet	250 feet
B	200 feet	300 feet
M	200 feet	250 feet
R	200 feet	250 feet

## BIBLIOGRAPHY

- 1 Pew Center on the States, Research and State Policy Initiatives. The Pew Center On The States. 05 Sept. 2008 <<http://www.pewcenteronthestates.org/uploadedFiles/One%20in%20100.pdf>>.
- 2 Prisoners of the Census. 24 Jan. 2005. Prison Policy Initiative. 05 Sept. 2008 <<http://www.prisonersofthecensus.org/news/2005/01/24/cadora/>>.
- 3 Leon Krier, *Architecture: Choice or Fate* (Windsor, UK :Andreas Papadakis, 1998)
- 4 Gwendolyn Wright, *Building the Dream* (Cambridge, Mass. : MIT Press, 1983), p. 227
- 5 Architecture Forum, *The Magazine of Building*, January 1952, p. 101
- 6 Michel Foucault, *Discipline & Punish* (Paris : Editions Gillimard, 1975), p. 170
- 7 Gwendolyn Wright, *Building the Dream* (Cambridge, Mass. : MIT Press, 1983), p. 234
- 8 Gwendolyn Wright, *Building the Dream* (Cambridge, Mass. : MIT Press,

1983), p. 238

9 Gwendolyn Wright, *Building the Dream* (Cambridge, Mass. : MIT Press, 1983), p. 227

10 Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY : Random House Inc, 1961), p. 105

11 Mike Davis, *City of Quatz* (London, UK : Verso, 1990), p. 226

12 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York, NY : MacMillan Publishing Co., 1973), p. 27

13 Susan J Popkin, Victoria E Gwiasda, Lynn M Olson, *The Hidden War* (Piscataway, NJ : Rutgers University Press, 2000), p. 52

14 Susan J Popkin, Victoria E Gwiasda, Lynn M Olson, *The Hidden War* (Piscataway, NJ : Rutgers University Press, 2000), p. 52

15 Susan J Popkin, Victoria E Gwiasda, Lynn M Olson, *The Hidden War* (Piscataway, NJ : Rutgers University Press, 2000), p. 78

16 Catherine Bauer, *Progressive Architecture*, May 1952 p. 63

17 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design*

(New York, NY : MacMillan Publishing Co., 1973), p. 3

18 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York, NY : MacMillan Publishing Co., 1973), p. 27

19 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York, NY : MacMillan Publishing Co., 1973), p. 56

20 Oscar Newman, *Defensible Space: Crime Prevention through Urban Design* (New York, NY : MacMillan Publishing Co., 1973), p. 56

21 Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY : Random House Inc, 1961), p. 40

22 Jane Jacobs, *The Death and Life of Great American Cities* (New York, NY : Random House Inc, 1961), p. 279