ABSTRACT

Title of Thesis: HEALTH | CENTER JAMAICA, NEW YORK:
DESIGN IN PROMOTION OF COMMUNITY WELLNESS

Brett R. Swiatocha, M. Arch, 2010

Directed By: Professor Matthew J. Bell, AIA
School of Architecture, Planning, and Preservation

This thesis is a series of conjectures on the potential for architectural and urban form to positively influence the health and wellness of a community in Jamaica, New York. The proposition examines the relationship between site, building, and context at multiple scales, providing a vision for the physical and sociocultural revival of a historically significant urban center whose identity is threatened by visionless development and whose population of residents is suffering from increasing rates of chronic health problems. This thesis contends that urban revitalization can be used as a mechanism for stimulating the advancement of healthy lifestyles within the population surrounding the project site. The site selected as the vehicle for investigation is the Downtown District of Jamaica, Queens in New York City with a focus on the redevelopment of the site and immediate urban context of the former Mary Immaculate Hospital, vacated in early 2009.

HEALTH | CENTER Jamaica, New York:
Design in Promotion of Community Wellness

By

Brett Robert Swiatocha

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Master of Architecture
2010

Advisory Committee:
Matthew J. Bell, Chair, Professor
Steven W. Hurtt, Committee Member, Professor
Brian P. Kelly, Thesis Coordinator, Associate Professor

Preface

Photos, drawings, computer models, and other graphics in this document are by the Author, except where noted. All satellite map images are copyright free screen captures from Google Earth and have been manipulated by the author.

Table of Contents

List of Figures

Background

Architecture and, consequently, Architects have tremendous, though not explicit, power within an increasingly global community. The fundamental role of the architect is the provision of a basic need, required for survival by all living beings: shelter.
Upon registration, an architect takes an oath swearing to protect the health, safety, and welfare of the public. One could argue that the oath as the basis of our profession establishes an approach to design and that is inherently defensive; promoting the *protection* of the status quo. We are quickly learning that a reactive approach to environmental and public health, at best, stalls degradation. There is an undeniable link between the activities we recognize as unhealthy for individuals and those that negatively impact the health of our planet. Those activities that save the expenditure of human energy, inevitably draw replacement energy from the Earth's resources (i.e. coal, petroleum, natural gas). As a profession, we need to become much more proactive in our approach to designing healthy buildings and *places,* striving for the *improvement* of the health, safety, and welfare of the public and the planet, as opposed to simply providing protection.

Introduction

This thesis is a series of conjectures on the potential for architectural and urban form to positively influence the health and wellness of a community in Jamaica, New York. The proposition examines the relationship between site, building, and context at multiple scales, providing a vision for the physical and sociocultural revival of a historically significant urban center whose identity is threatened by visionless development and whose population of residents is threatened by increasing rates of chronic health problems. This thesis contends that urban revitalization can be used as a mechanism for stimulating the advancement of healthy lifestyles within the population surrounding the project site. The site selected as the vehicle for investigation is the Downtown District of Jamaica, Queens in New York City with a focus on the redevelopment of the site and immediate urban context of the former Mary Immaculate Hospital.

Figure 1 - Site location within context of New York City

Figure 2 - Aerial image of site with project scope boundary indicated

Figure 3 - View across Rufus King Park to existing hospital

The former Mary Immaculate Hospital, vacated in early 2009, occupies a prominent site at the center of downtown Jamaica, deeply embedded in the physical fabric and cultural memory of the city. The area surrounding the hospital site has experienced a significant period of ad-hoc and fragmented development, de-rendering the image of a once thriving social, cultural, and economic center in the context of New York City. The primary goal of the thesis is the reinvigoration of the community surrounding the former hospital site by establishing a clear vision for the repair of the significantly fragmented urban field. This thesis encompasses interventions at the urban design scale of downtown Jamaica, Queens focusing on the presently inactive site and surrounding blocks of the former hospital. This thesis also explores more detailed architectural development of a single building from the proposed master plan through the design of *Jamaica H.E.A.R.T.,* a recreation and wellness center located within the boundaries of Rufus King Park.

A secondary focus of this thesis is the relationship between the design of the built environment and the promotion of community health. Prior to the 19th century, the disciplines of urban design and public health were invariably linked by the need to protect city populations from communicable diseases such as cholera and tuberculosis. Over the last century, the fields have become disjointed and new threats to the health of our populations have emerged.

This thesis identifies and addresses a fundamental flaw in our approach to planning the built environment. There is a critical separation between the entities responsible for the design of buildings and communities and those charged with providing for the health and well being of the public. The separation is evident in the large percentage of American communities that are dependent on the automobile to meet basic needs and the growing population of individuals who suffer from physical ailments incurred as a result of sedentary lifestyles.

This thesis will examine the relationship between the design of the built environment and the architect/planner's role in the promotion of public health. As a primary vehicle for exploration of the topic, this thesis proposes a critical investigation of the immediate site of the former Mary Immaculate Hospital in New York City and surrounding community of Jamaica, Queens.

This investigation builds upon a growing body of knowledge in the fields of Architecture, Public Health, and Urban Planning as we begin to think critically and creatively about the impact of the built environment on the health of the individual, the collective, and the planet. Inherent in the goals of the thesis is a study of urban design-scale proposals that will promote healthier lifestyles and discourage sedentary patterns of living for the greater community.

The focus of this theoretical project is a series of built interventions that house programmatic elements related directly to public health promotion and outreach, as well as directly influence physical health through architectonic expression. While the project encompasses the architectural design of a recreation and wellness center within the boundaries of Rufus King Park, the nature of the site inherently lends itself to an investigation of the impacts of the built environment at the urban scale on the health of the community. A prominent location at the heart of the Jamaica, Queens and a unique frontage on an important public urban space, raises the potential for the intervention to have a profound impact on the population.

Essential to an understanding of the site and its potential to positively influence the health of the population, is an analysis of baseline health conditions in Jamaica in relation to the greater population of the Borough of Queens, and the City of New York as a whole. This analysis reveals a series of health conditions affecting the population of Jamaica, and establishes a critical basis for a designed intervention on the chosen site of the former Mary Immaculate Hospital. The analysis also provides the basis for the development of the site program which is established over the course of the design based on the needs of the surrounding community. This thesis builds upon a growing body of knowledge in the fields of urban planning, architecture, and public health, synthesizing current research, site-specific analysis, and theoretical approaches into the design for the site that will act as a mechanism for the promotion of community wellness in Jamaica, New York.

Site/Context/Place

It is worthwhile, at certain hours of the day or night, to look closely at useful objects at rest. Wheels that have crossed long, dusty distances, with their mineral and vegetable burdens, sacks from the coal bins, barrels, and baskets, handles ands hafts for the carpenter's tool chest. From them flow the contacts of man with the earth like a text for all troubled lyricists. The used surfaces of things, the wear that the hands give to things, the air, tragic at time, pathetic at others, of such things – all lend a curious attractiveness to the reality of the world that should not be underprized.

In them one sees the confused purity of the human condition, the massing of things, the use and disuse of substances, footprints and fingerprints, the abiding presence of the human engulfing all artifacts, inside and out.

Let that be the poetry we search for: worn with the hand of obligations, as by acids, steeped in sweat and in smoke, smelling of lilies and urine, spattered diversely by the trades that we live by, inside the law and beyond it.

A poetry impure as the clothing we wear, or our bodies, soup-stained, soiled with our shameful behavior, our wrinkles and vigils and dreams, observations and prophecies, declarations of loathing and love, idylls and beasts, the shocks of encounter, political loyalties, denials and doubts, affirmations and taxes.

……a consummate poetry soiled by the pigeons claw, ice-marked and tooth-marked, bitten delicately with our sweat drops and usage, perhaps. Till the instrument so restlessly played yields us the comfort of its surfaces, and the woods show the knottiest suavities shaped by the pride of the tool. Blossom and water and the wheat kernal share one precious consistency: the sumptuous appeal of the tactile.

Let no one forget them. Melancholy, old mawkishness impure and unflawed, fruits of a fabulous species lost to the memory, cast away in a frenzy's abandonment, moonlight, the swan in the gathering darkness, all hackneyed endearments: surely that is the poet's concern, essential and absolute.

Those who shun the "bad taste" of things will fall flat on the ice.

Toward an Impure Poetry - Pablo Neruda[1]

The preceding poem was selected on the basis of the eloquence with which the poet describes the characteristics sought by the author of this thesis in the selection of a site.

1 Selections from the poem Towards and Impure Poetry by Pablo Neruda. Neruda, Pablo. 2004. "POETRY - Towards an Impure Poetry". Political Affairs. 83, no. 9: 46.

Architecture, like all physical objects, has memory. The memory of a place is not contained within the physical composition of its materials, rather, the vessel for memory is within the collective of individuals who have touched, or been touched by the place. Architecture is a physical manifestation of ideals once held by individuals and is often a representation of the beliefs once, or still, held as truth by a society. Often, when new truths are adopted, physical representations of the old are "cast away in a frenzy's abandonment."

Preliminary site selections for this thesis were made exclusively on the basis of site history and geographic location within a dense urban setting as fundamental components of the study. Initial exploration focused on urban centers familiar to the author including Philadelphia, Pennsylvania; Washington, D.C.; Baltimore, Maryland; New York City; and Paris, France. Sites in Queens, New York were advanced because of their critical ties to current public discourse in the city and the contentious nature of future development for the sites. An important criterion for selection of the final site was the idea of repairing a site that has been "cast away in a frenzy's abandonment" as expressed in Pablo Neruda's Toward and Impure Poetry. The site needed to be one that, at one time in its history, played a critical role in the social, cultural, economic, and physical development of the community within which it resides.

Two sites chosen for further investigation prior to final selection were the site of the former Mary Immaculate Hospital in Jamaica, Queens and the site of the former St. Johns Hospital in Elmhurst, Queens. Both of the selected hospitals were closed in early 2009 resulting from the economic struggles and subsequent declaration of bankruptcy by Caritas, a private healthcare corporation that owned and managed the hospitals. The two sites are located in low-to-moderate income communities and, prior to their decommissioning, played a significant role in the provision of health services.

Mary Immaculate Hospital is located in the geographic and sociocultural center of downtown Jamaica, occupying a parcel of land approximately 3.5 acres in area and of regular geometry within the city grid. Mary Immaculate Hospital is located on a prominent site fronting an important public space embedded within the surrounding urban fabric. St. John's Hospital is located at the edge of a community at the intersection of the primary north-south and east-west arteries in Queens. The highly irregular and narrow site is bounded by high-volume traffic on the eastern and southern edges and abuts the community and existing parkland to the north and west, respectively. The site's prominence on the main arterials was valued by the author because of the powerful outward presence an intervention could have. However, the site is highly constrained by existing development and roads and its geographic location at the corner of the community did not align with the fundamental goals of this thesis.

The site of the former Mary Immaculate Hospital in Jamaica was selected on the basis of its potential to have a profound impact on the surrounding community. The site occupies nearly an entire city block within the fabric of downtown Jamaica and is uniquely sited with frontage on a potentially powerful, but currently under-utilized public space. The location has direct access to New York City's public transportation network, facilitating connections to all parts of Long Island, Queens, Brooklyn and Manhattan. Further investigation into population characteristics provides a critical basis for the secondary focus of this thesis; the connection between the built environment and community health.

Essential to an understanding of the site and its potential to positively influence the health of the population, is an analysis of baseline health conditions in Jamaica in relation to the greater population of the Borough of Queens, and the City of New York as a whole. This analysis reveals a series of health conditions affecting the population

of Jamaica, and establishes a critical basis for a designed intervention on the chosen site of the former Mary Immaculate Hospital. The diagrams on the following pages illustrate the rates for particular health conditions significantly affecting the population of Jamaica. Significant areas of concern include the prevalence and growing numbers of individuals impacted by diabetes, high blood pressure, obesity, and heart disease. It is interesting to correlate these conditions to the low percentage of adults who report engaging in physical activity on a regular basis. The bad news is that the general population of Jamaica has significant health problems. The good news is that most of the health conditions are both interrelated and can either be prevented or mitigated by modifying behavioral patterns.[1]

---

1 All statistics based on publicly available data from NYC Department of Health, *Neighborhood health assessments*, 2007.

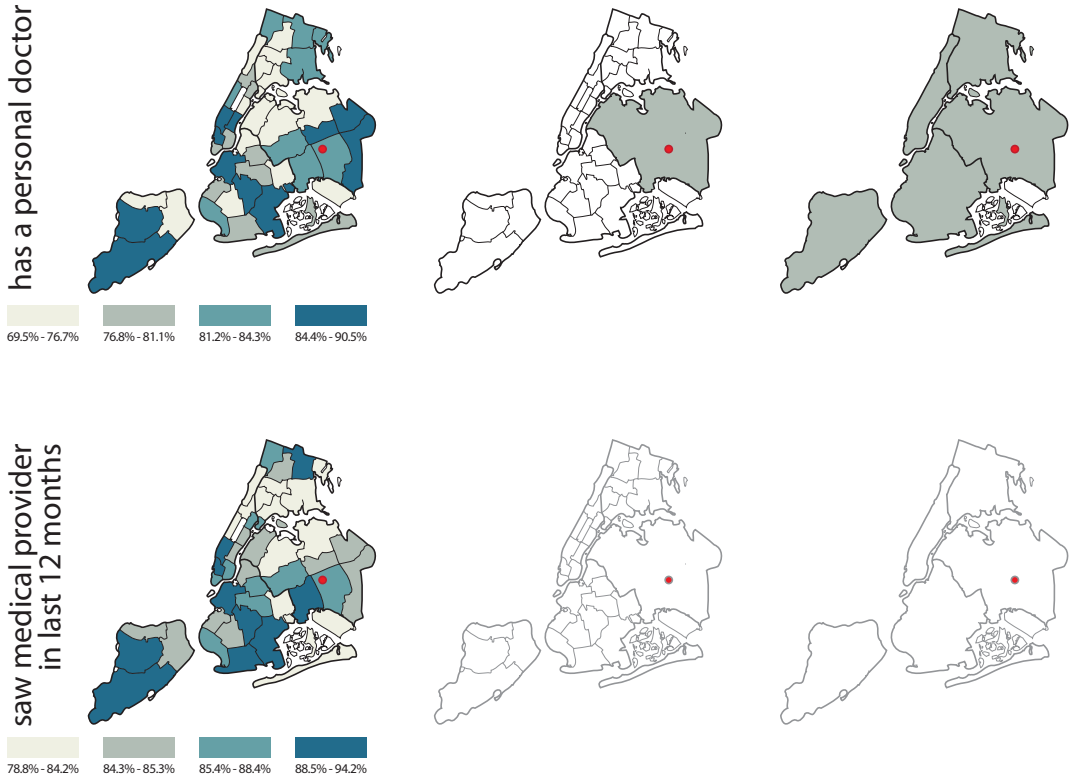


Figure 4 - Site Analysis: Indicators of Community Health

Figure 5 - Site Analysis: Indicators of Community Health revealing high rates of chronic diseases in Jamaica

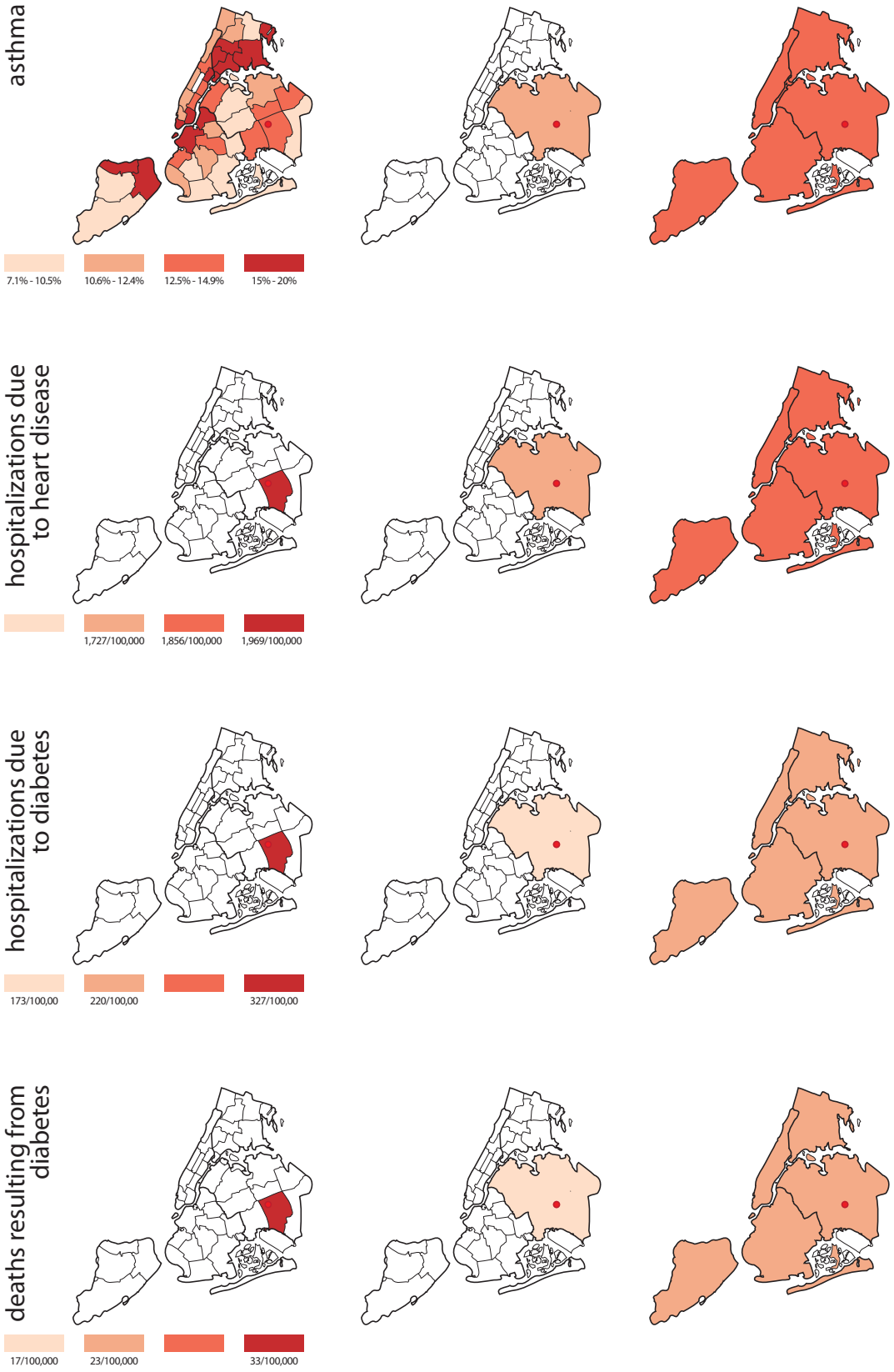


Figure 6- Indicators of Community Health revealing added burden placed on healthcare facilities by increasing rates of chronic disease

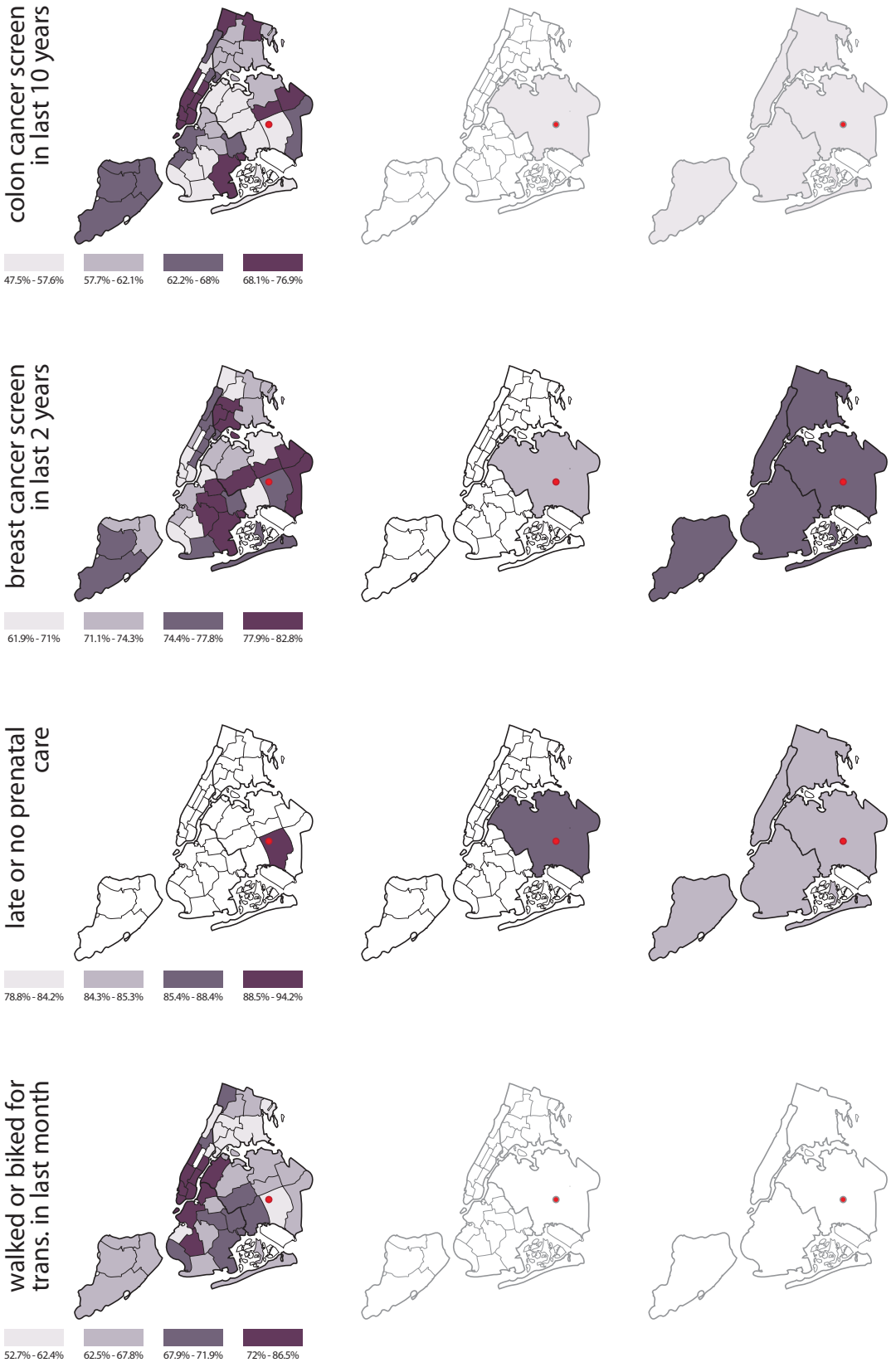


Figure 7 - Site Analysis: Indicators of Community Health

Site History

Queens is the largest of the five boroughs comprising the City of New York (Brooklyn, The Bronx, Manhattan, Queens, Staten Island), covering a geographic area of approximately one hundred and ten square miles on the Western end of Long Island. The population of Queens is nearly 2.3 million persons with a population density exceeding 20,000 persons per square mile (compared to Manhattan at nearly 70,000 ppl/ sq mile). [1] The English founded the area now known as Jamaica in 1650 as a settlement originally called Rustdorp. The current name of Jamaica, mistakenly associated with the Bahaman island of identical nomenclature, is a derivative of the tribe of American Indians who occupied the region prior to English Colonization in the 17th century.

Prior to pollution of the waters surrounding Queens in the 1900's by the city's open sewer system, Queens had by a strong fishing industry supported by the oyster and clams of Little Neck Bay to the north and Jamaica Bay to the south. Jamaica has historically been one of the primary business centers in Queens because of its location at the geographic center of the borough, developing an early history as a trading center for farmers from Long Island. The location was strategically valuable because of the access it provided to surrounding areas of Queens and its connection to Manhattan and Brooklyn. Growth in Jamaica is attributed largely to the electrification of the Long Island Rail Road (LIRR) in 1910 and the extension of the New York City Subway system in the 1920's. Jamaica became a primary node connecting the population of Queens and Long Island to Manhattan and Brooklyn. The Long Island Rail Road Station in Jamaica is the primary transfer point for commuters to all parts of Long Island and also provides a direct connection to John F. Kennedy International Airport.[2]

---

1 Population statistics estimated by the United States Census Bureau based on the 2000 Census.

2 New York City Guide. Octagon Books, 1970.

Mary Immaculate Hospital was founded in 1902 by the Roman Catholic Sisters of St. Dominic of Amityville, New York. The original hospital building, located on the southeast corner of the site, was completed in 1904. Currently the smallest building on the Hospital campus, the four-storey Tudor-Revival style building is rectangular in plan with a cross-gabled roof and two dormers between the three cross-gables. The hospital is clad in brick, with stone detailing. Alternating bands of brick and stone at the base simulate rustication. The original hospital building is the only building in the complex eligible for state and national historic register listing. The first major addition to the hospital occurred in 1926 with the completion of the 7-storey wing to the west of the original hospital. Subsequent additions include the 7-storey brown brick and concrete tower (circa 1956, based on Queens Department of Buildings records) adjoining the 1926 addition, the parking garage occupying the southwest corner of the site, and the three-storey cancer pavilion on the northern edge of the campus. [3]

3 Jamaica Plan Environment Impact Statement, Chapter 7: Historic Resources. New York City Department of City Planning, 2007.

Figure 8 - Photographic Elevation of original hospital building (1901-1903). Building is eligible for state and national historic register listing.

Figure 9 - Photographic Elevation - South Facade of Existing Hospital wing, constructed c. 1926. Facade fronts onto Rufus King Park to the South creating a significant figural presence. The tall-seven storey Hospital wing exceeds the height of all immediate context.

Figure 10 - Photographic Elevation - West facade of Existing Hospital wing, constructed c. 1926

Site Photographs

Figure 11 - Existing apartment building occupying Northwest corner of hospital block to be examined for incorporation within proposition for site design

Figure 12 - Panorama showing existing parking structure on southwest corner of the site creating an un-friendly pedestrian condition along street edge

Figure 13 - View into site revealing various periods of construction

Figure 14 - Exterior view of primary hospital building

Figure 15 - View into Rufus King Park, located directly south of proposed site


Figure 16 - King Manor (1750)

Figure 17 - View along central axis of Rufus King Park to main entrance of the existing hospital establishing a significant formal relationship between the two entities that should be considered when proceeding with design

Figure 18 - Mayflower Apartment Complex North of Mary Immaculate Hospital

Figure 19 - North Hospital Parking lot located East of existing Mayflower Apartment Complex

Figure 20 - Photographic elevation - Existing parking garage occupying Southwest corner of the former hospital site. Parking garage occupies significant corner facing Rufus King Park to the South.

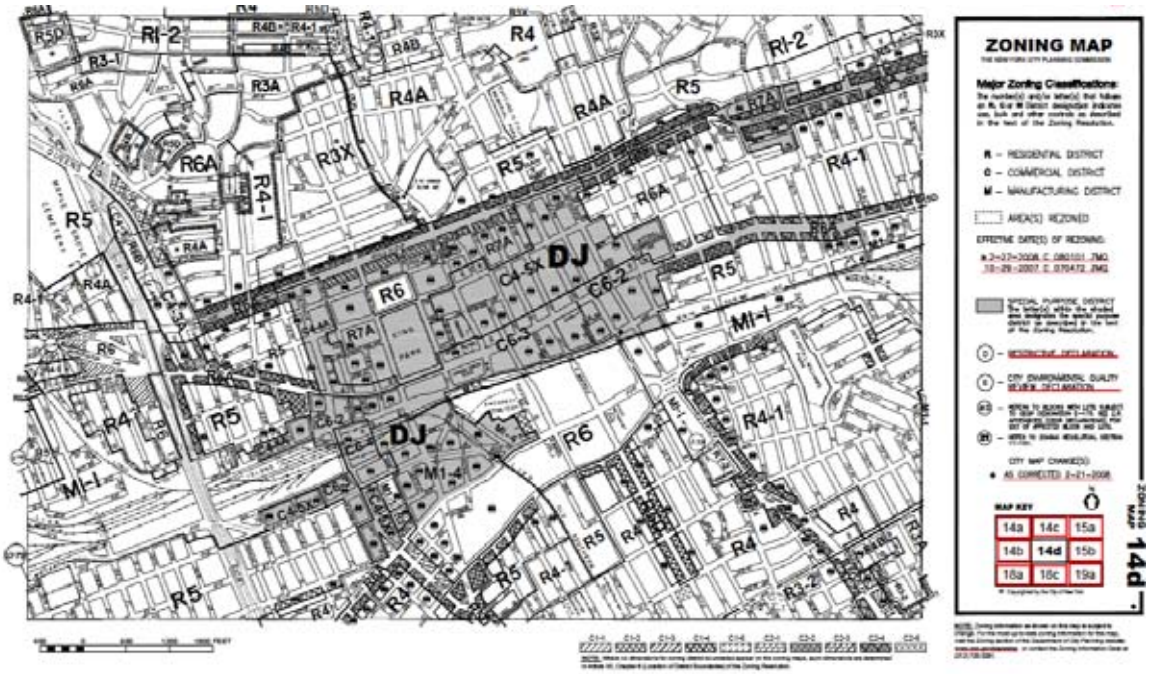


Figure 21 - Special Zoning District - Downtown Jamaica (Source: New York City Planning Commission, Department of City Planning, 2010)

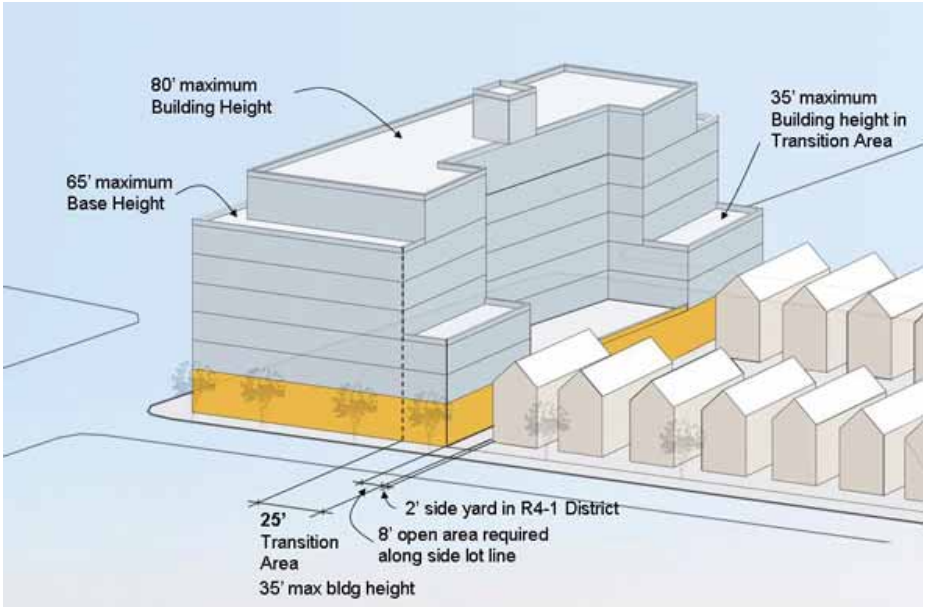


Figure 22 - Diagram illustrating height and setback requirement for new construction in zoning district R7A (Source: New York City Planning Commission, Department of City Planning, 2010)

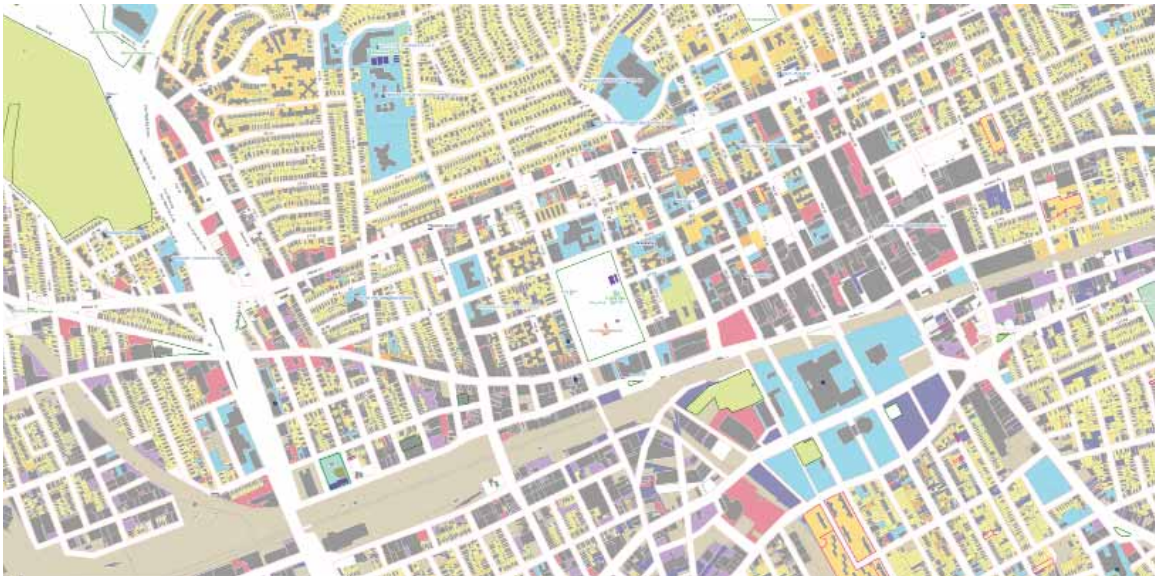


Figure 23 - Land Uses in greater context of Jamaica, Queens indicating a number of significant institutional land uses including York College located southeast of the site. Recreational facilities at the college can be established as an amenity for the community through a partnership.

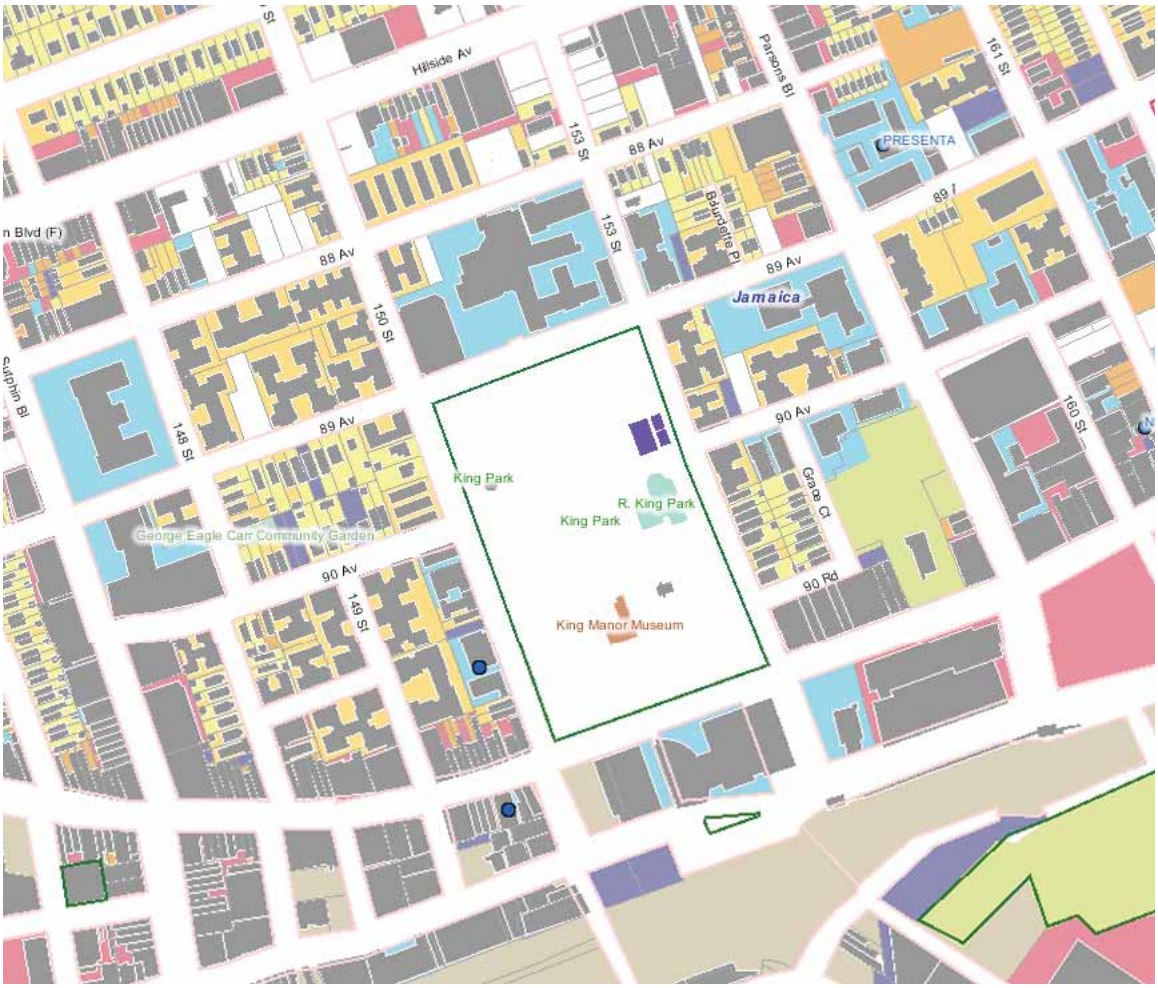


Figure 24 - Land Uses in immediate context of site

Zoning[1]

As indicated on Zoning Map 14d at the end of this section from the Zoning Resolution of the City of New York, the site selected for this thesis falls within the boundaries of the Special Downtown Jamaica District. This special purpose district, along with others throughout the city, is set for forth by the City Planning Commission to:

(a) strengthen the business core of Downtown Jamaica by improving the working and living environments;
(b) foster development in Downtown Jamaica and provide direction and incentives for further growth where appropriate;
(c) encourage the development of affordable housing;
(d) expand the retail, entertainment and commercial character of the area around the transit center and to enhance the area's role as a major transportation hub in the City;
(e) provide transitions between the downtown commercial core, the lower-scale residential communities and the transportation hub;
(f) improve the quality of new development in Downtown Jamaica by requiring the provision of specified public amenities in appropriate locations;
(g) encourage the design of new development that is in character with the area;

1 All zoning information extracted from the Zoning Resolution of the City of New York. City Planning Commission, Department of City Planning. 2010.

(h) enhance the pedestrian environment by relieving sidewalk congestion and providing pedestrian amenities; and

(i) promote the most desirable use of land and thus conserve and enhance the value of land and buildings, and thereby protect the City's tax revenues.

However, the site chosen for focused study in this thesis has been excluded from the Special Downtown Jamaica District. The author assumes this exclusion is due to the non-complying use of the existing hospital relative to the underlying residential zoning district. Due to the recent decommissioning of the hospital on the site and the alignment of the of the intentions of the special purpose district with the underlying goals of this investigation, the author has proceeded with the assumption of the site's inclusion within the Special Downtown Jamaica District, adopting a residential zoning designation of "R7A" consistent with the blocks immediately adjacent. The implications of the zoning district on the subsequent design of this thesis project are as follows:

Allowable uses:

R3 through R10 districts are classified as general residential districts designed to provide for all types of residential buildings, in order to permit a broad range of housing types. The distinctions between each of the residential districts are the standards for density, open-space, and spacing of buildings. Permitted uses in district R7A are:

- All types of residential use including apartment hotels and non-profit residences for the elderly
- Community facilities which:

o (1) may appropriately be located in #residential# areas to serve educational needs or to provide other essential services for the residents; or

o (2) can perform their activities more effectively in a residential environment, unaffected by objectionable influences from adjacent industrial or general service uses; and

o (3) do not create significant objectionable influences in residential areas.

Building Form:

The R7A zoning designation has an allowable base FAR of 3.45 with an affordable housing incentive bonus of 33% permitting a maximum FAR of 4.6. The zoning district also sets a maximum base height of 65'-0" and a maximum overall building height with setback of 80'-0".

Parking:

The R7A zoning designation within the Special Downtown Jamaica District allows accessory off-street group parking facilities for residential developments with a maximum of 300 permitted spaces. The Commissioner of Buildings can grant an allowance of up to an additional 50% of permitted spaces. For community facilities or commercial uses, an allowable maximum of one parking space per 400 square feet of lot area is permitted.

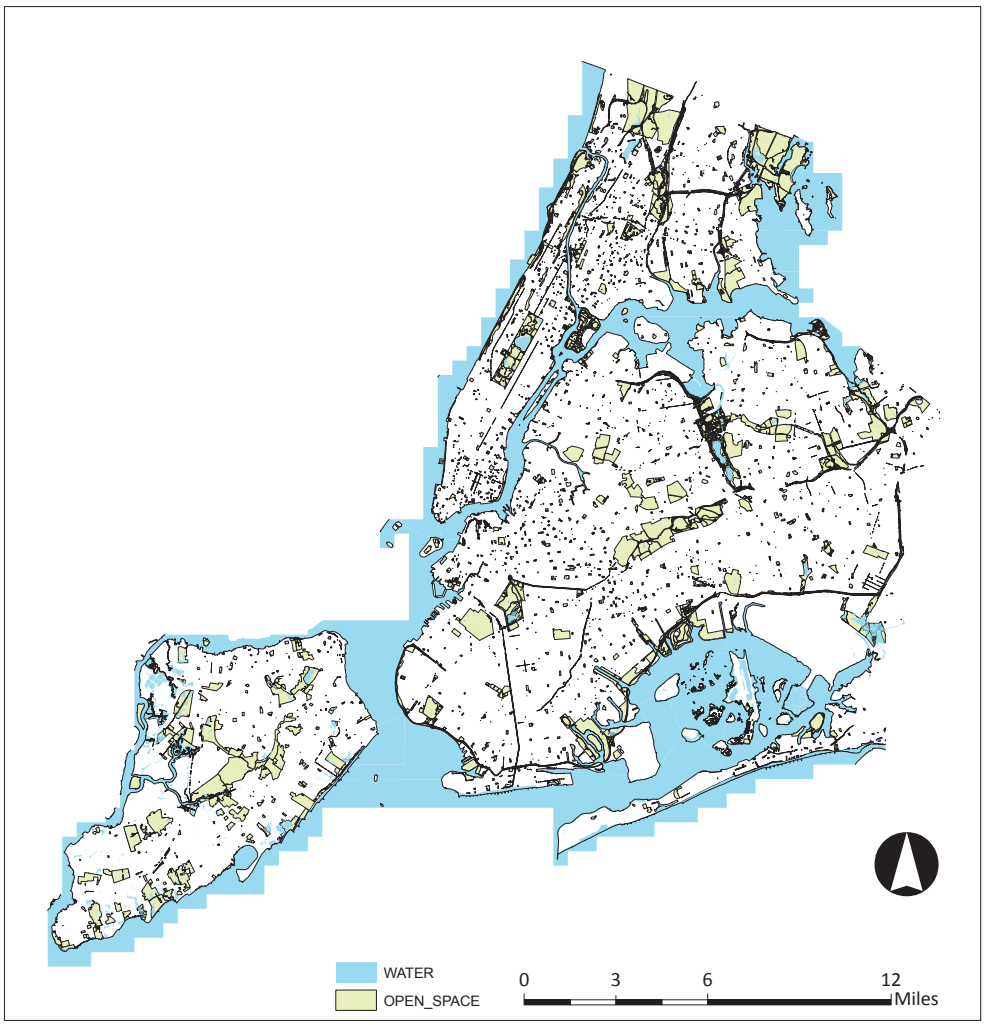


Figure 25 - Diagram indicating significant network of public parks and open-space within the city proper (Source Author)

New York City has a vast network of city, state, and national parks. Downtown Jamaica is within walking and cycling distance of two major parks supporting a wide variety of active and passive recreation. The barrier preventing access to these parks is the incomplete bicycle lane network in the city. As it currently exists, there is no direct connection between the downtown area and Flushing Meadows Park. Establishing priority bike routes for recreation and cycling can help promote active forms of transportation leading to improved physical health and decreased reliance on the automobile within the city.

SITE_open_space_network

Figure 26 - Diagram indicating public parks and open spaces accessible from the site using means of active transport. Red concentric circles indicate 1/2 mile walking radii from the center of the selected site in Jamaica. The two major parks indicated on the map are Flushing Meadows Park, NW of the site and Forest Park, due West of the site. Both parks support a wide variety of activities including hiking, mountain biking, horseback riding and boating (Source: Author)

Figure 27 - Site, at center of map, in the greater context of Queens, NYC. The selected site is located within one of densest centers in the borough with access to a number or amenities including York College to the southeast and Flushing Meadows Park to the northwest

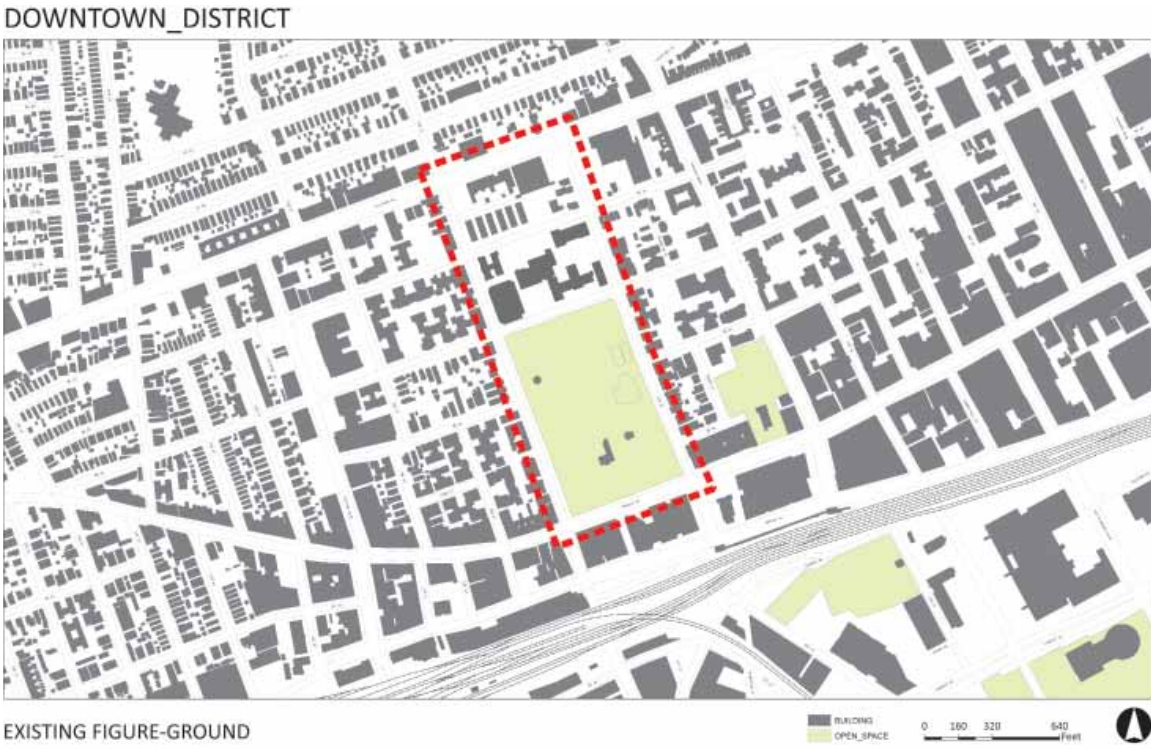


Figure 28 - Existing Figure-Ground of Downtown Jamaica District with project site indicated by overlaid red dashed line

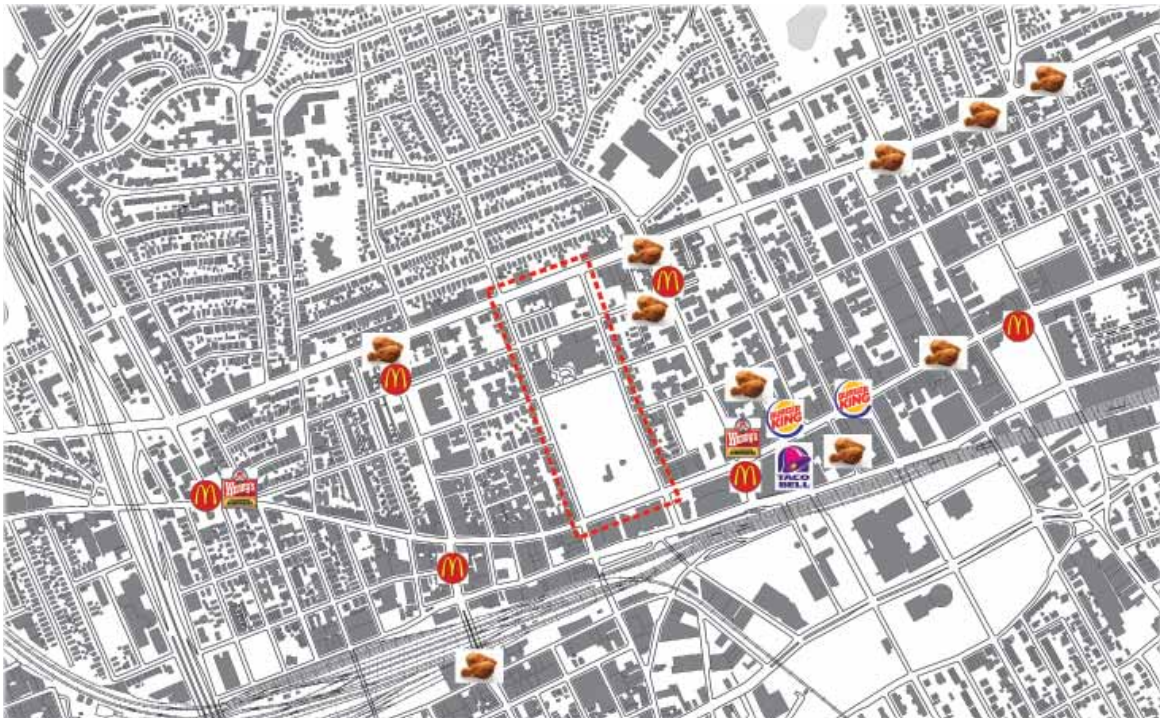


Figure 29 - Context map indicating over-saturation of fast-food vendors within walking distance of project site. This analysis reveals a critical basis for the development of a health - focused program for the site

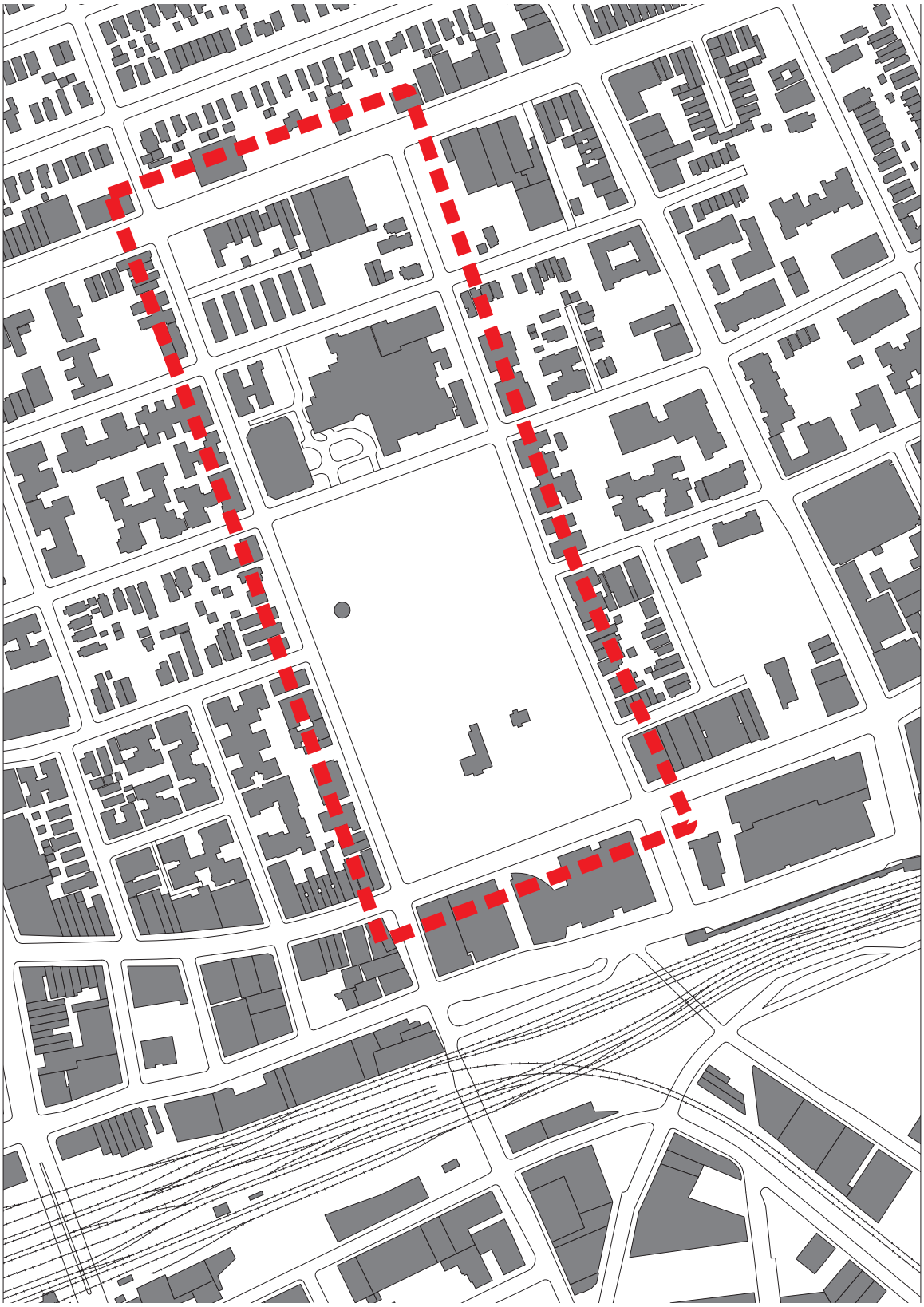


Figure 30 - Site, at center of map, in the greater context of downtown Jamaica.

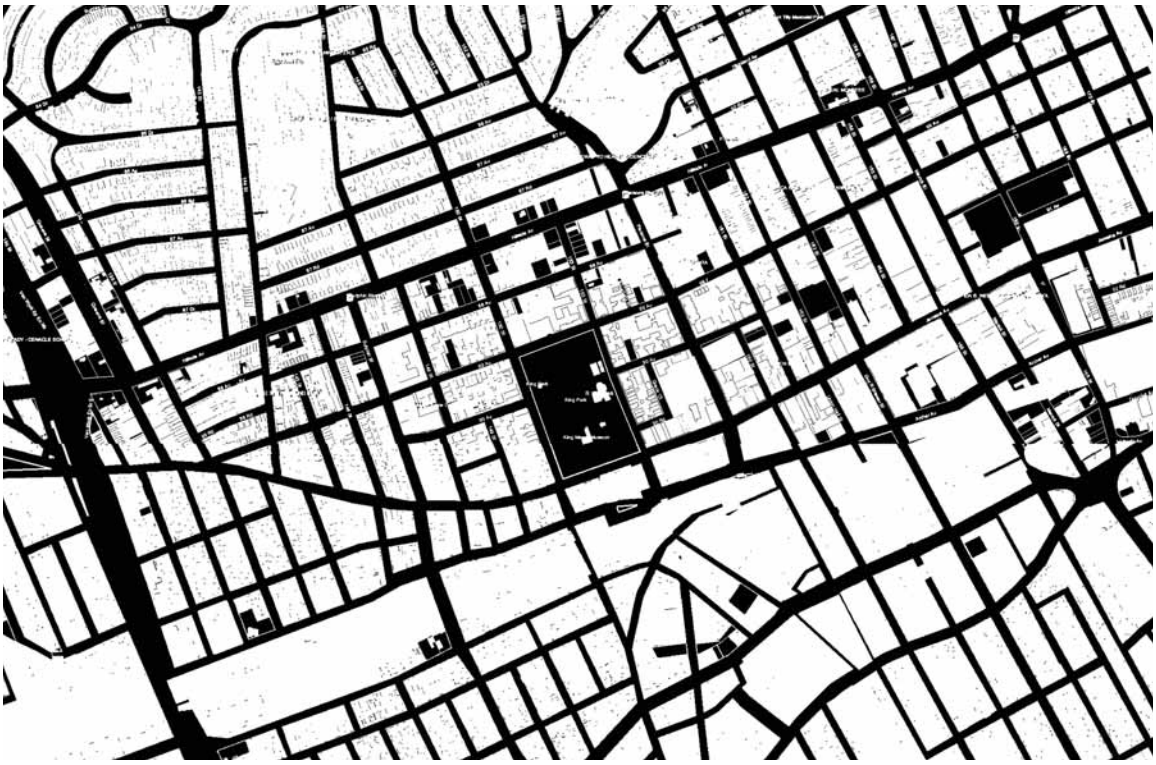


Figure 31 - Street Network Diagram with Rufus King Park evident at center. Diagram illustrates the prominence of the site within the context of Downtown Jamaica, Queens.

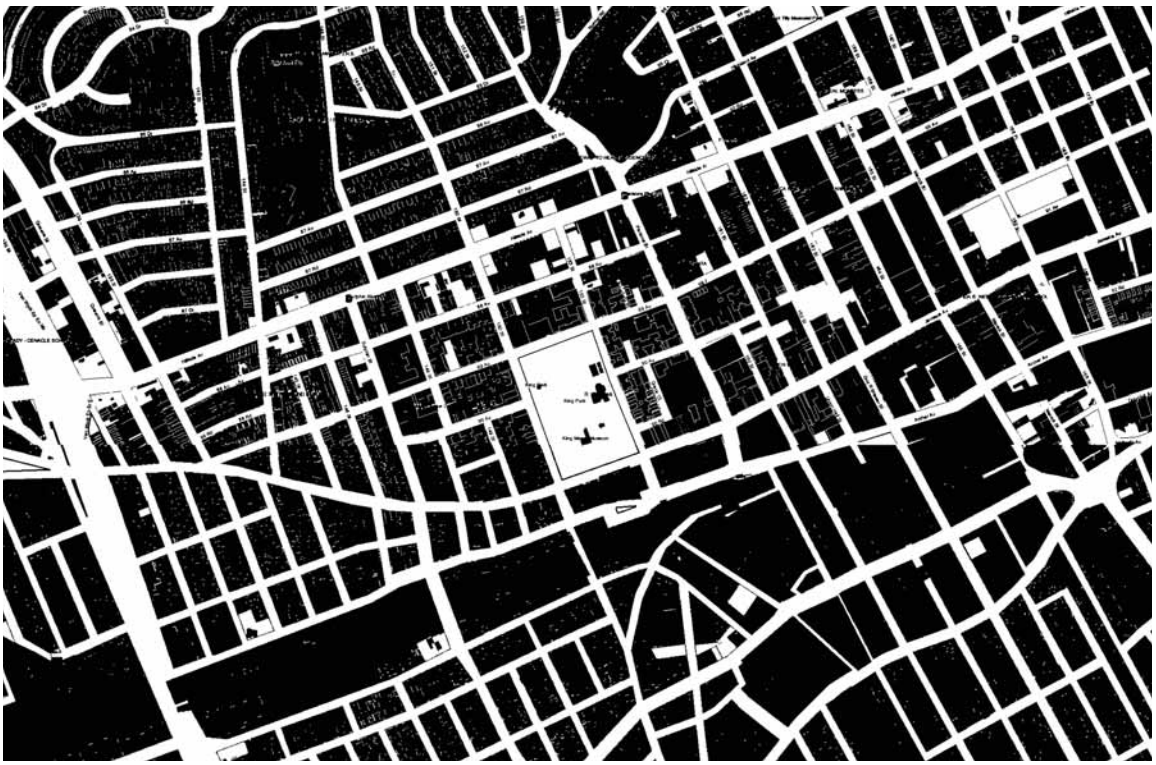


Figure 32- Street Network Diagram reversal with Rufus King Park evident at center

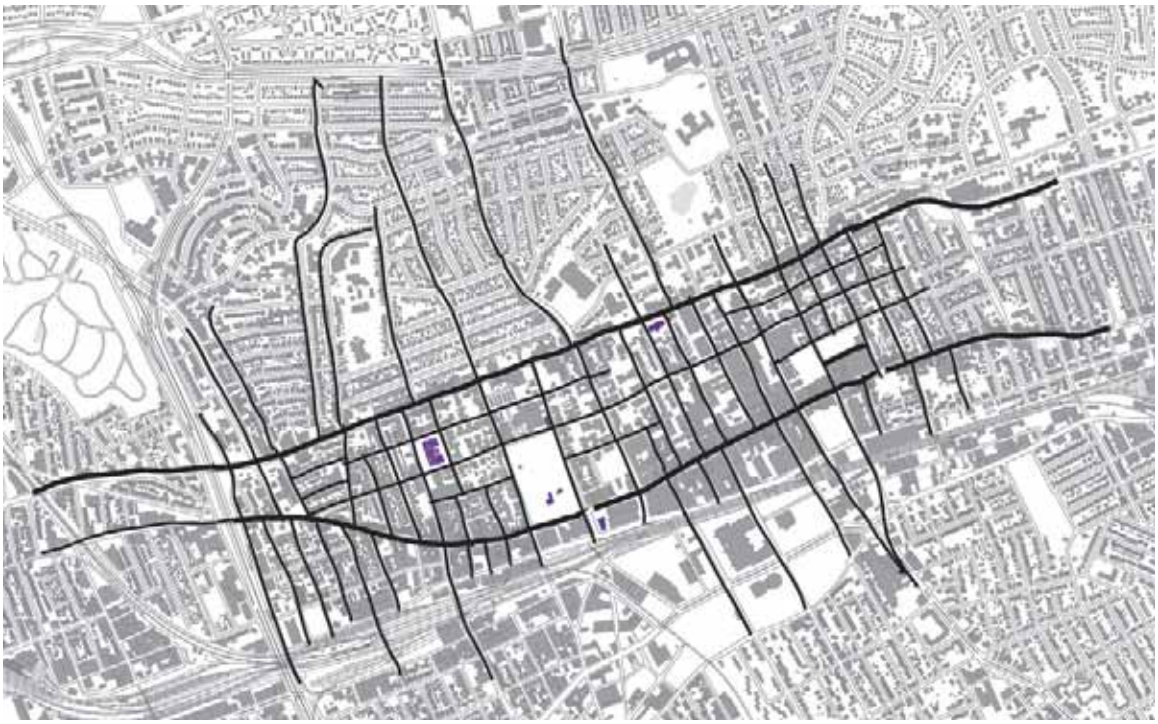


Figure 33 - Street grid continuity/discontinuity. The Downtown Jamaica District is framed by the two primary East-West streets: Hillside Avenue to the North and Jamaica Avenue to the South.

Figure 34 - Figure-Ground and Figure-Ground Reversal studies of Rufus King Park performed following early schematic proposals which were based purely on formal conceptions and failed to take into account the context of exisiting vegetation within the boundaries of the park. Patterns of tree massing provided an additional criterion for selecting build-able sites within the park as the author sought to minimize removal of existing healthy trees. The large void evident in the Northern half of the site is the artificial turf recreation surface which recently replaced a natural surface of dirt and grass which required significant maintenance during seasons of high traffic.

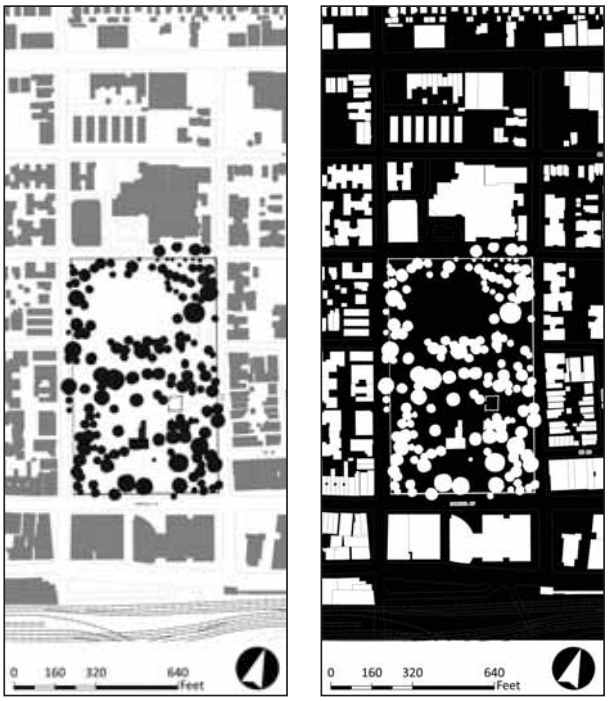


Figure 35 - Jamaica, NY site

Figure 36 - McKeldin Mall, University of Maryland, College Park inserted into site

Figure 37 - Bryant Park, NYC inserted into site

Figure 38 - Rittenhouse Square, Philadelphia, PA inserted into site

Figure 39 - Jamaica, NY site

Figure 40 - Franklin Square, Washington, D.C. inserted into site

Figure 41 - Baseball diamond, pool and tennis courts inserted in site

Figure 42 - Football field and 1/4 mile track inserted into site

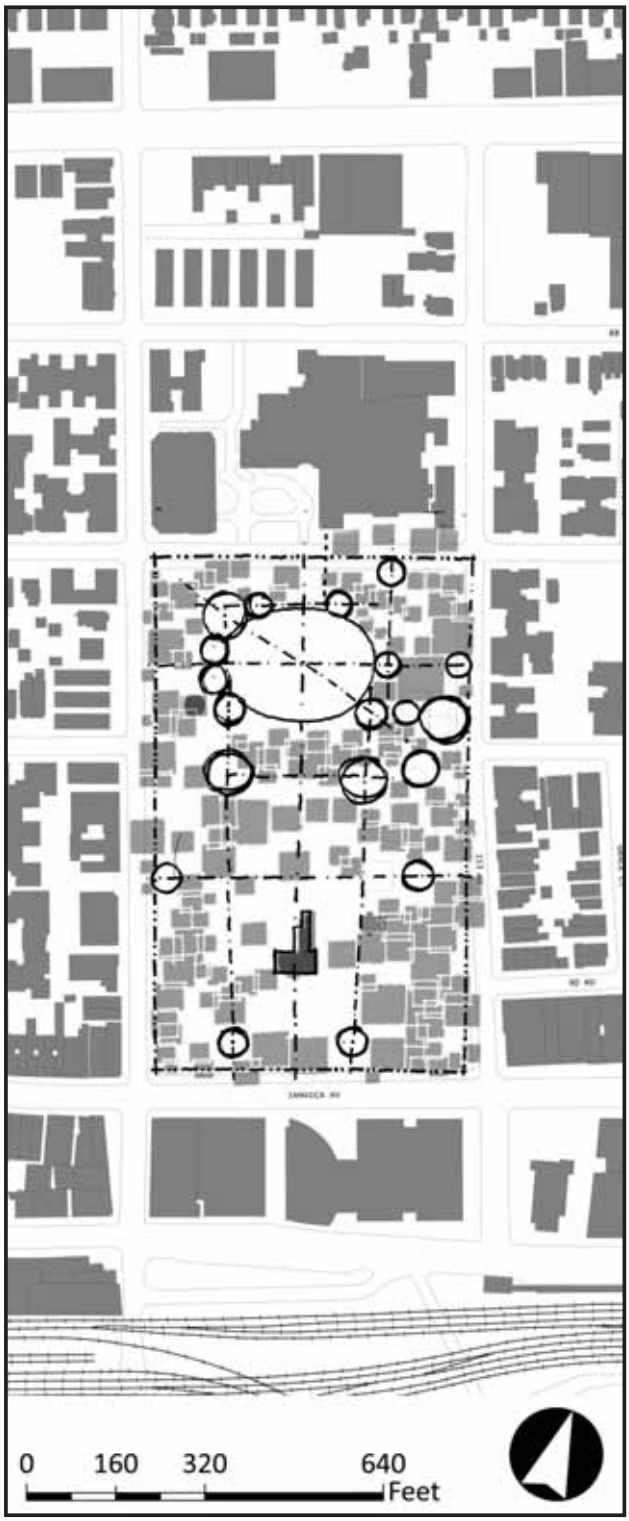


Figure 43 - Build-able sites within Rufus King Park based on limited removal of existing vegetation as well as formal relationships with the perceived central North-South axis of the park which runs through the turf recreation field and Rufus King Mansion Museum.

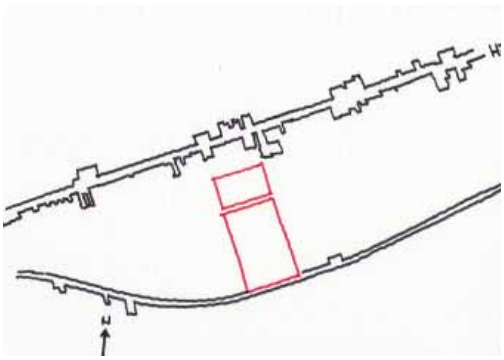


Figure 44 - Fragmented Edge Diagram illustrating the discontinuous fabric along Hillside Ave. North of the site as compared to Jamaica Ave. to the south, also the primary shopping street. The openings in the fabric along Hillside Avenue negatively impact one's sense of place but provide an opportunity for design.

Figure 45 - Primary north-south and east-west connectors through the site. The original street grid was likely established off of the angle of the rail lines. The curvilinear geometry of Jamaica Ave. was established later likely resulting from topographic conditions.

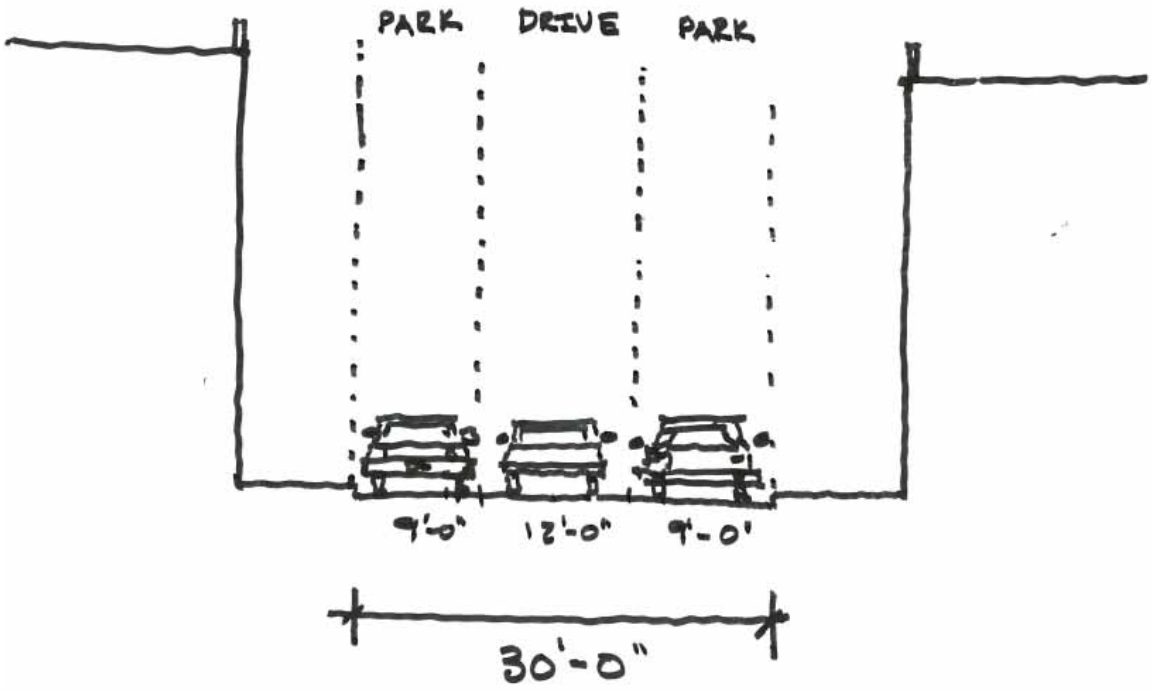


Figure 46 - Typical existing street section for secondary streets in Downtown Jamaica District. Street dimensions and two-sided parallel parking conditions significantly limit opportunities for active forms of transportation. Use of street trees to enhance the pedestrian environment is significantly limited despite adequate sidewalk dimensions to support planting strips.

Urban Theory / Precedents

The key principle behind Rodrigo Perez de Arce's urban transformations is the idea of addition as a means of ensuring continuity of place. By transforming urban space through additive architecture, de Arce allows the city to build upon itself while still revealing the layers of past interventions. Transformation solely through demolition and rebuilding risks loss of continuity with the city's past.

Figure 47 - Rodrigo Perez de Arce - Scheme for the Transformation of Chandigarh (source: Finding Lost Space, Trancik)

Conceptual Design

Design for this thesis proposition commenced with very general approaches to ideas about how the built environment can have an impact on community health. The initial concept sketches on the following pages were conceived of very early in the design process prior to any detailed analysis of the site and it's context. The sketch process was the primary approach maintained by the author throughout the course of this thesis. Computer models were utilized later in the design process to verify or, in some cases, nullify the prior assumptions of the author.

Figure 48 - Pavilion Hospital model. Primary "Head" building linked to a series of secondary pavilions each housing a unique function

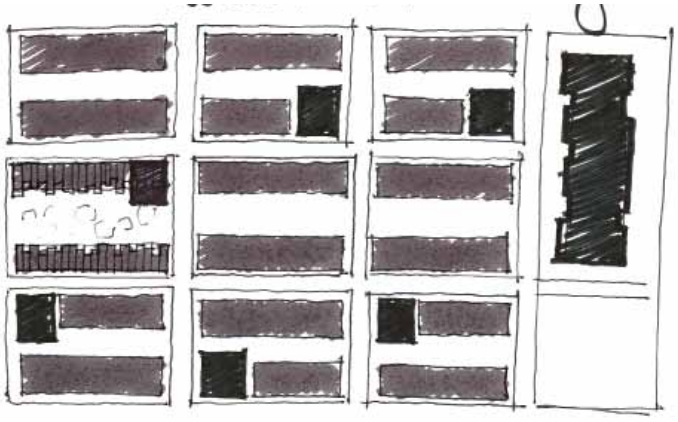


Figure 49 - Author's speculative Pavilion Hospital model adapted to an urban context. Lack of direct connection between head building and pavilions would create functional problems but would address issues of large hospital buildings physically and perceptually dominating a community. Extracting individual functions into separate pavilions embedded within the community fabric helps establish a sense of accessibility and ownership among residents of the community.

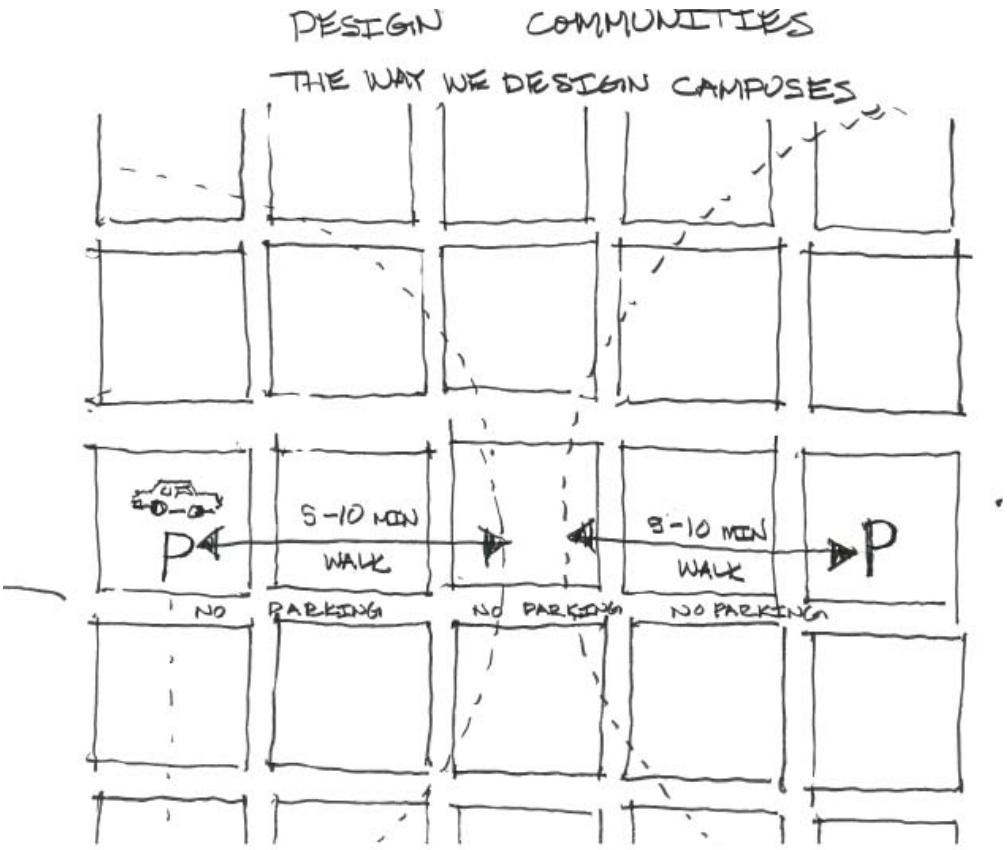
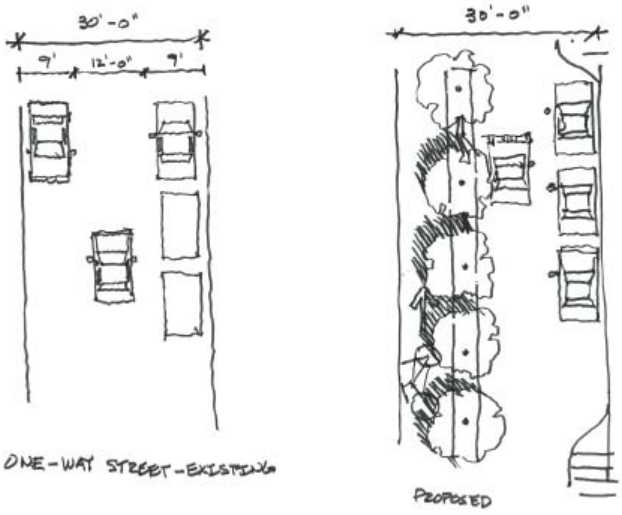


Figure 50 - Campus planning approach to parking within cities. In an effort to encourage exercise as an integrated component of daily life, a city can be planned to accommodate the automobile in a manner similar to a collegiate campus. College campuses are an ideal model for active transportation because residents and visitors do not have the expectation of direct vehicular access to their destinations. Parking is often placed on the periphery of the campus at intervals that promote a walking a reasonable distance to individual buildings. Direct-access parking is reserved for handicapped individuals, service, and drop-off/pick-up. Placing municipal parking garages at approximate 10 minute centers promotes a park-and-walk transportation cycle.

Figure 51 - Street parking removal. In addition to encouraging walking within an individual's daily routine, placement of municipal parking garages at 10-minute walking centers reduces the need for street-side parallel parking on one side of every street. Removal of one parking lane provides space for an integrated bike lane buffered from vehicular traffic by a bioswale planting median.



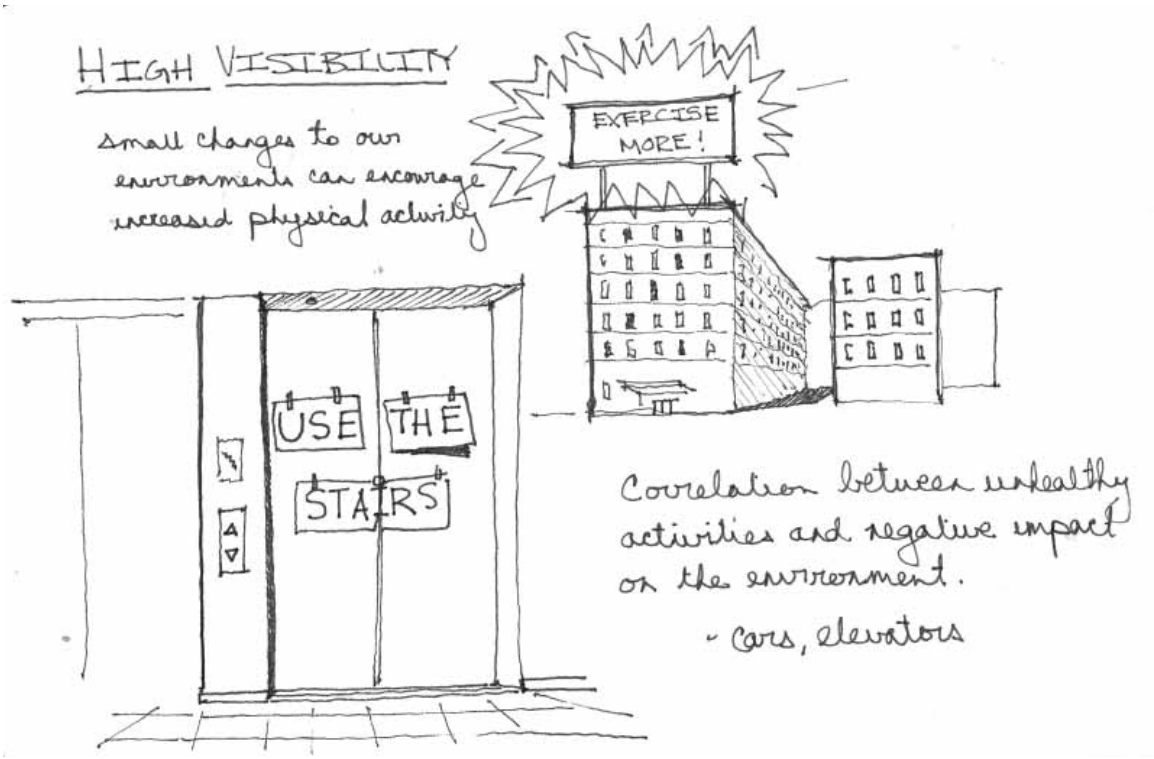


Figure 52 - Initial sketchbook cartoons expressing Author's thoughts on using elements of the built environment to encourage individuals to make healthier lifestyle choices.

Figure 53 - Within the context of individual buildings, stairs are our best opportunity for integrating small amounts of exercise into an occupant's daily routine. Point-of-decision signage such as that caricatured on the elevator doors in the above left sketch, can encourage people to make healthy decisions. The design and visibility of stairs are also critical factors in a person's decision to choose walking over an elevator ride. Stairs should be centrally located and open (where possible) with ample natural light and ventilation.

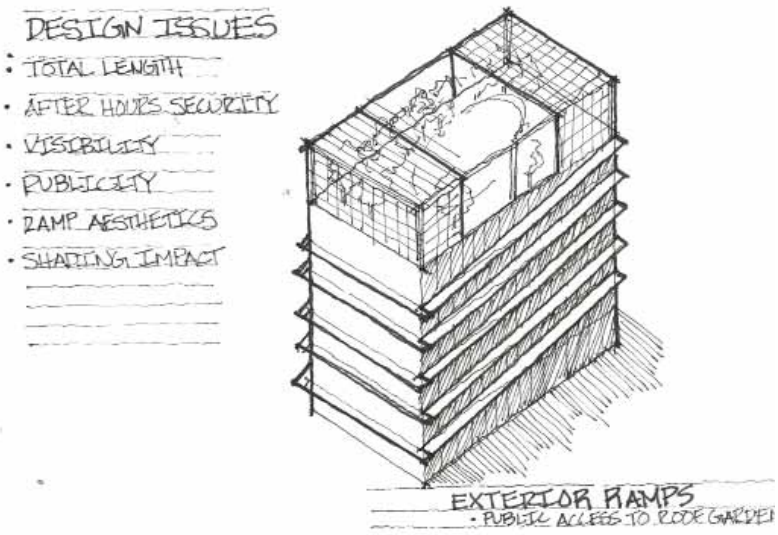


Figure 54 - Conceptual sketch diagram illustrating the idea of integrating an exterior ramp system for providing access to different building levels and encouraging more walking. The ramp system is unrealistic on a mid-level building as illustrated in the image at right, but the concept manifests itself in the entry sequence of the recreation and wellness center component of this thesis proposition

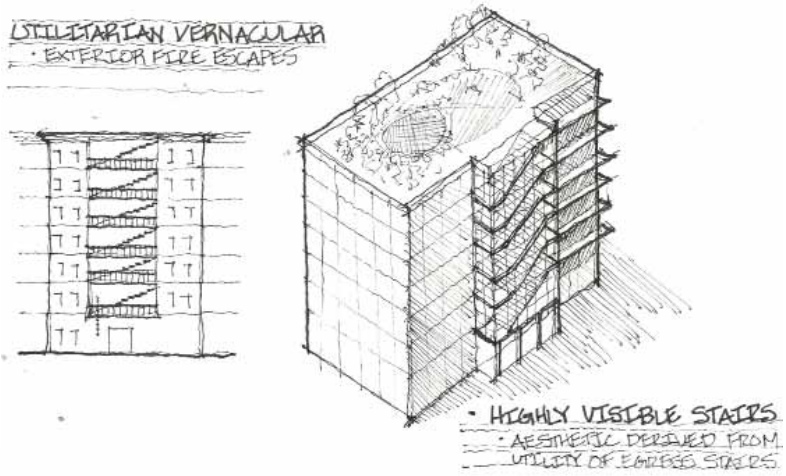


Figure 55 - Conceptual sketch diagram illustrating the idea of adapting the existing language of exterior fire escapes common in New York City with the intent of creating highly visible stairs serving the functional goal of access building floors and providing access to amenities like roof gardens and farms.

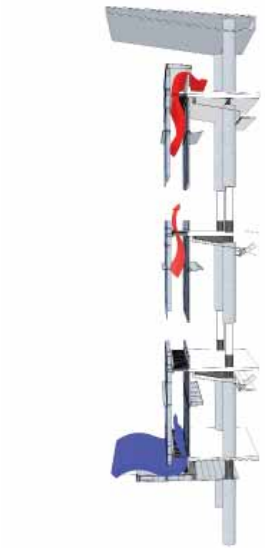


Figure 56 - Thermal buffer concept based on Author's analysis of double-glass facade on the Seattle Justice Center by NBBJ Architects

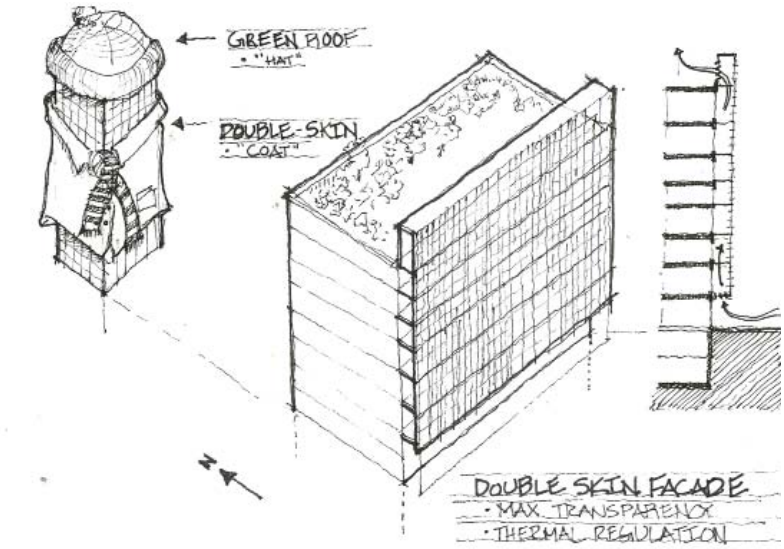
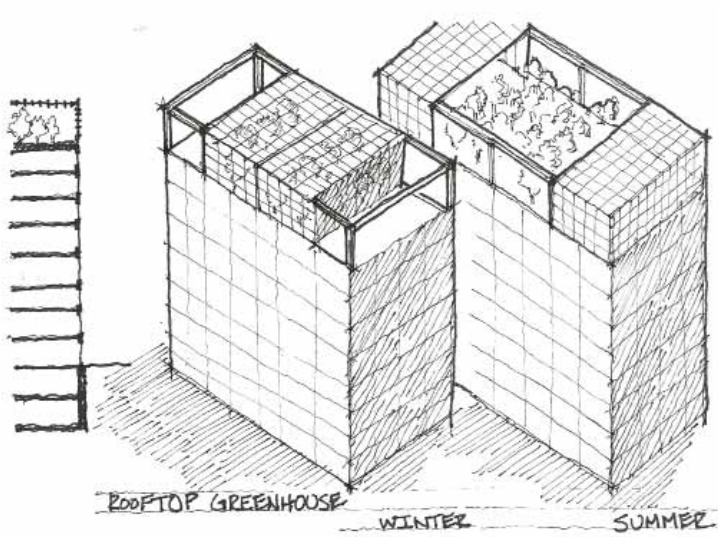


Figure 57 - Conceptual sketch diagram illustrating double-skin facade used on elevations with highly glazed Southern exposures

Figure 58 - Conceptual sketch diagram illustrating the idea of integrating a rooftop farm and greenhouse system allowing members of the community to take access to healthy food into their own hands by farming within the dense urban community.



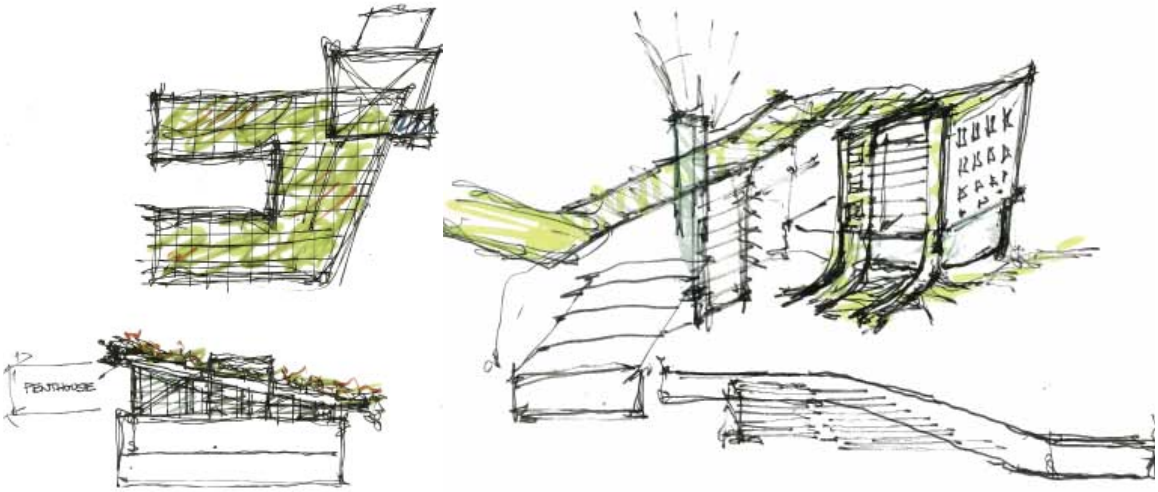


Figure 59 - Roof farm conceptual sketch

Figure 60 - Brooklyn, NY Roof farm precedent image

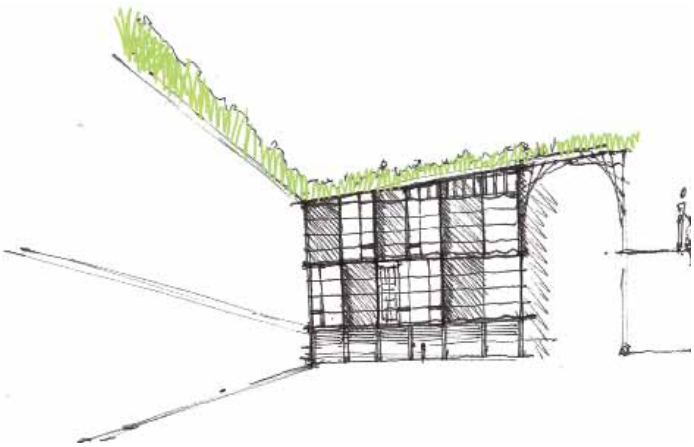


Figure 61 - Roof farm conceptual sketch

Schematic Design

The site of the former Mary Immaculate Hospital contains a number of buildings dating back to as early as 1901 for the original hospital building located on the Southeast corner of the block. Engaged with the historic hospital block, is a wing that was added in 1926. Both of the early developments on the site are of a significant character and represent historic value in the community. These elements engaged in a dialogue with King Manor (1750) sited in the southern half of Rufus King Park, directly south of proposed site. The remaining existing buildings are not of significant architectural or historic value and will be evaluated for demolition during the early stages of schematic design.

Figure 62 - Satellite image of site and immediate context

Figure 63 - Aerial view of project site showing existing buildings

Figure 64 - Existing site layout showing historic development of Mary Immaculate Hospital between 1903 and 1983

Design Approach

The author approached the design of this thesis proposition by looking initially at just the block of the former Mary Immaculate Hospital. The original intention of the thesis focused on the singular block with ambitions to provide a detailed vision for the rehabilitation of the existing historic hospital wings. During the initial phases of the design process it quickly became evident that the scope of the project needed to grow beyond the boundaries of the original site selection and recognize the potential for the entire core of urban space, including the historic Rufus King Park complex, to impact the health of the surrounding community. The initial studies of the existing hospital sought to maintain those pieces that could readily be adapted to meet new program requirements and incorporated into a new developed based around the footprints of the historic hospital buildings. The early decision to salvage only the two original buildings of the hospital complex were based on their

Figure 65 - Schematic Site Demolition proposing demoliton of all existing hospital buildings on the site

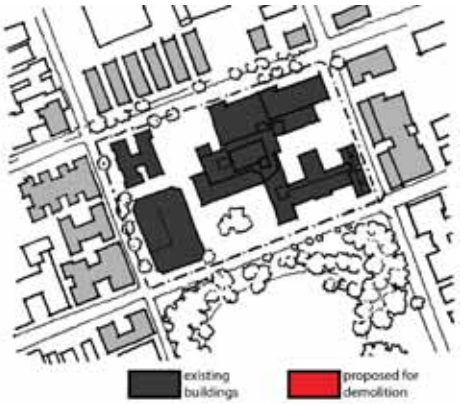


Figure 66 - Schematic Site Demolition proposing maintaining and restoring all existing buildings on the site

Figure 67 - Schematic Site Demolition proposing demolition of all buildings except original hospital building

visual character as well as their dimensional qualities which made them suitable for conversion into residential buildings.

The 1928 wing of the hospital has support facilities and amenities such as a dining hall and chapel that prompted the proposal to convert the building into housing for the elderly. Proximity to Rufus King Park and the health and wellness amenities to be added during the design process would support a continued healthy and active lifestyle for aging members of the community without isolating them in a facility outside of their neighborhood. This thesis proposes the conversion of the original 1903 hospital wing into a facility for homeless and poor members of the surrounding community. The idea of converting the original hospital into a homeless shelter and skills training facility draws upon the historic role of the hospital which often served as an almshouse for the poor and a place rest for the night for travelers or those who did not have shelter.

Figure 68 - Schematic Site Demolition proposing demolition of all buildings on the site with the exception of the two earliest hospital buildings

Figure 69 - Schematic Site Demolition proposing demolition of all buildings with the exception of the earliest two hospital buildings and existing housing

Figure 70 - Schematic Site Demolition proposing the salvage of most of the existing hospital buildings with the exception of the parking garage and emergency department buildings

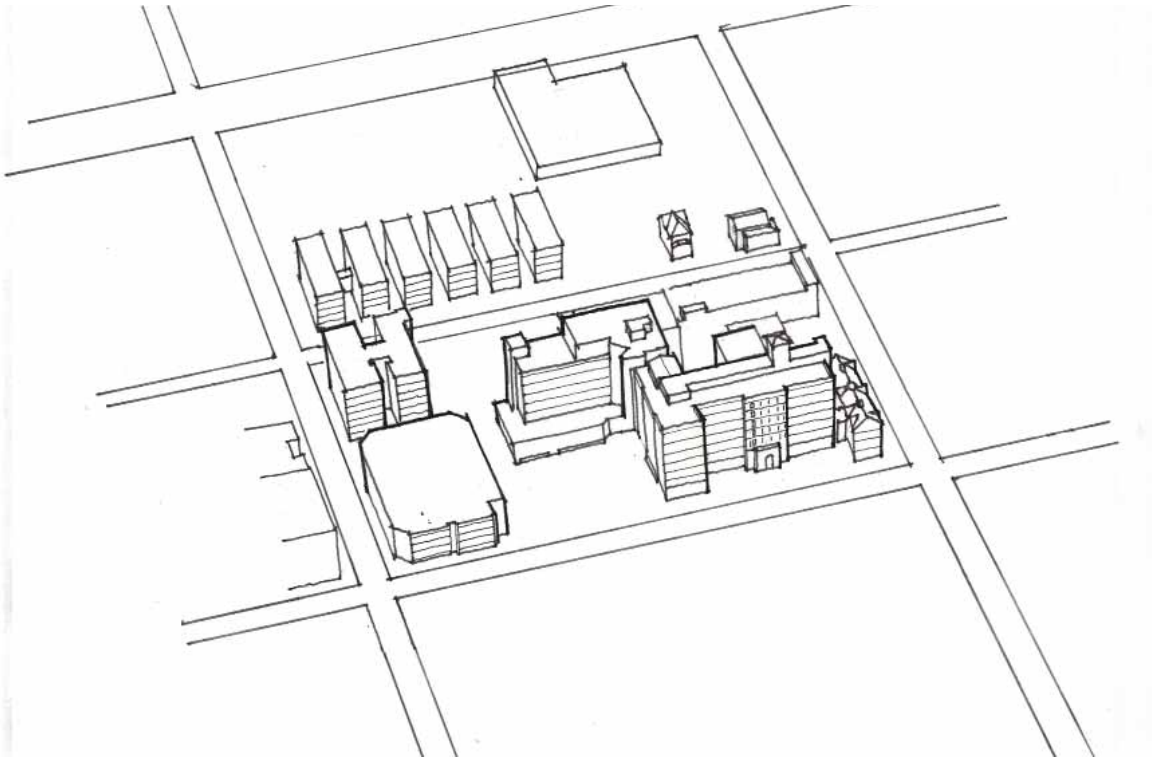


Figure 71 - Axonometric drawing of existing buildings on the site of the former Mary Immaculate Hospital the block immediately North containing the Mayflower Apartment Complex. Both blocks are being evaluated for development within the scope of this thesis

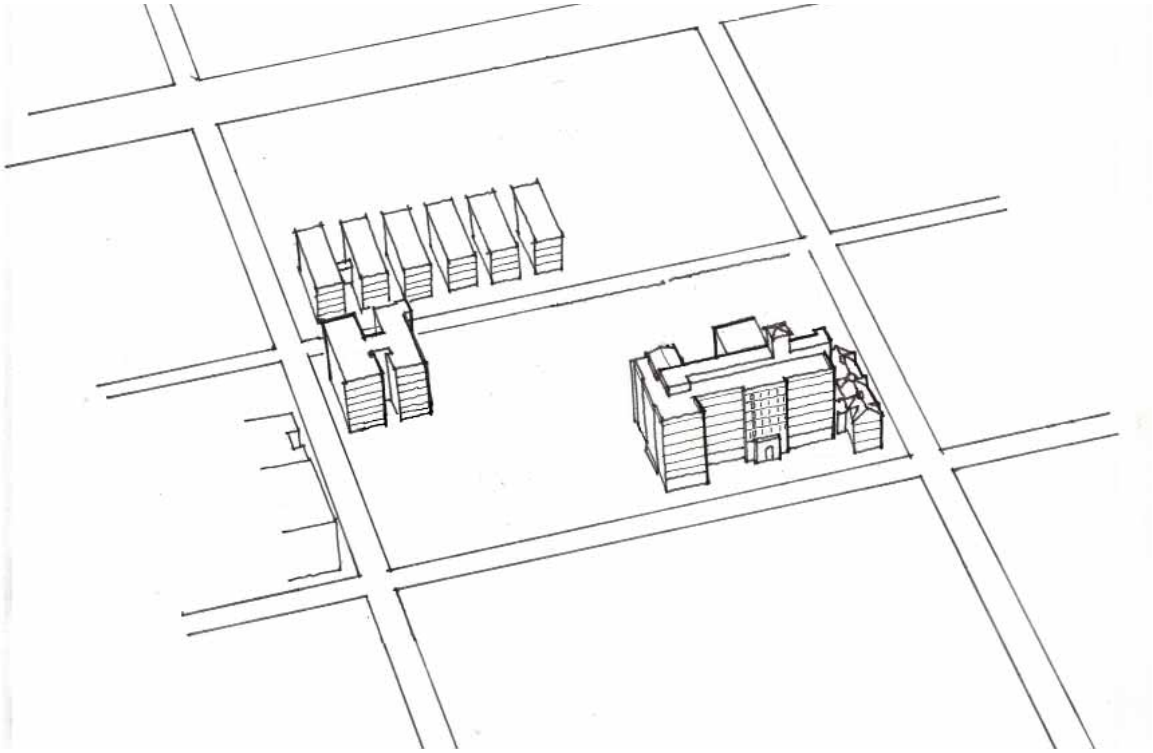


Figure 72 - Axonometric drawing of existing buildings to be incorporated into design of this thesis proposition. The exisiting buildings and their relationship to Rufus King Park help establish initial design directions for this proposition

Schematic Urban Design

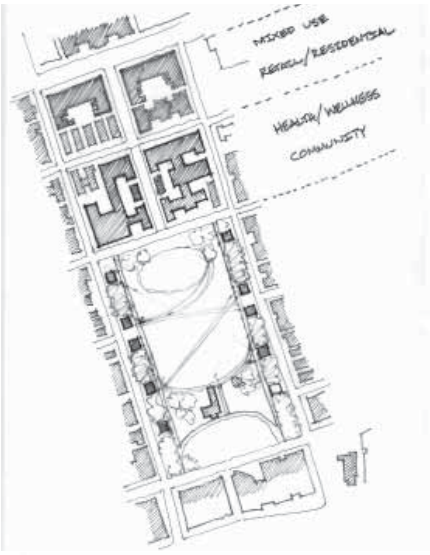


Figure 73 - Schematic urban design of site establishing a through-street along the primary axis of the site and inserting a series of small pavilion buildings along the periphery of Rufus King Park

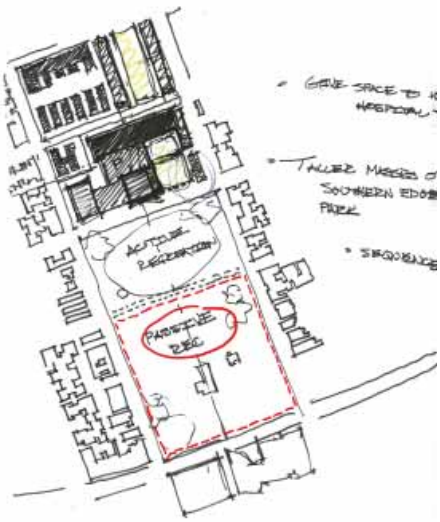


Figure 74 - Schematic urban design of site which removes all of the exisiting hospital facilities with the exception of the original 1903 building. The new development pulls back from the original hospital, allowing to exist as a figure along the edge of a newly created public space

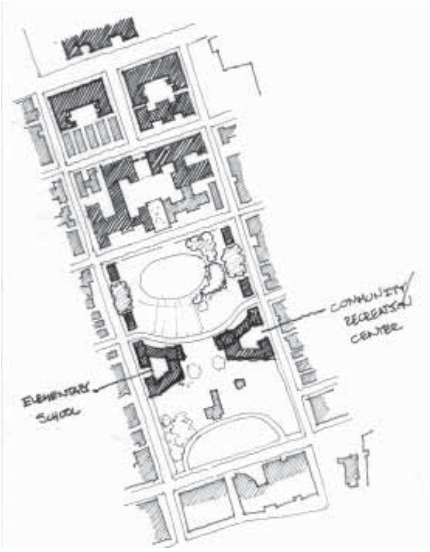


Figure 75 - Schematic urban design of site which places an object at the center of the primary axis by grafting on to the West facade of the existing 1928 wing of the hospital. Scheme also examines placing significant building program in park along East-West axis dividing the zone of active recreation from the passive recreation zone associated with the historic mansion

Figure 76 - Schematic urban design of site which utilizes a spatial form similar to that of St. Peter's in Rome, rotated slightly to re-direct the perceived symmetry of the site toward a new figural center of the hospital site development. The development of the park cradles the existing historic mansion while maintaining a through connection to the active recreation zone of Rufus King Park

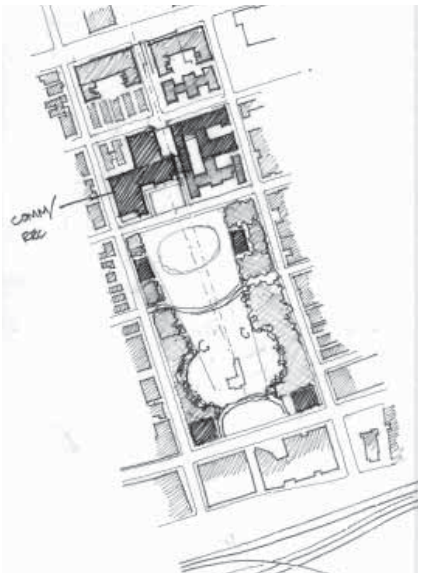


Figure 77 - Schematic urban design of site grafts an architectural addition to the West Facade of the 1928 wing of the existing hospital creating an object at the center of the axis from the park through the hospital block and block to the North

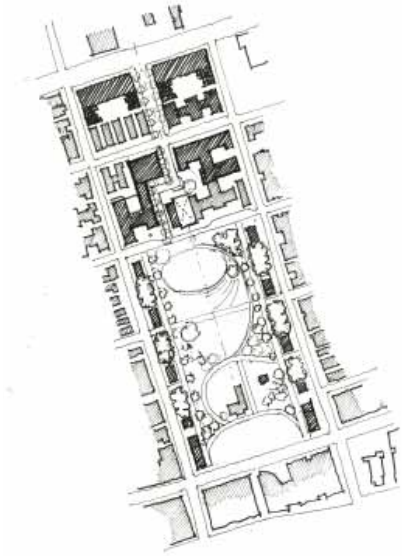


Figure 78 - Schematic urban design of site which significantly reduces the area of the park, eliminating the recreation fields while preserving only the open space surrounding the historic mansion.

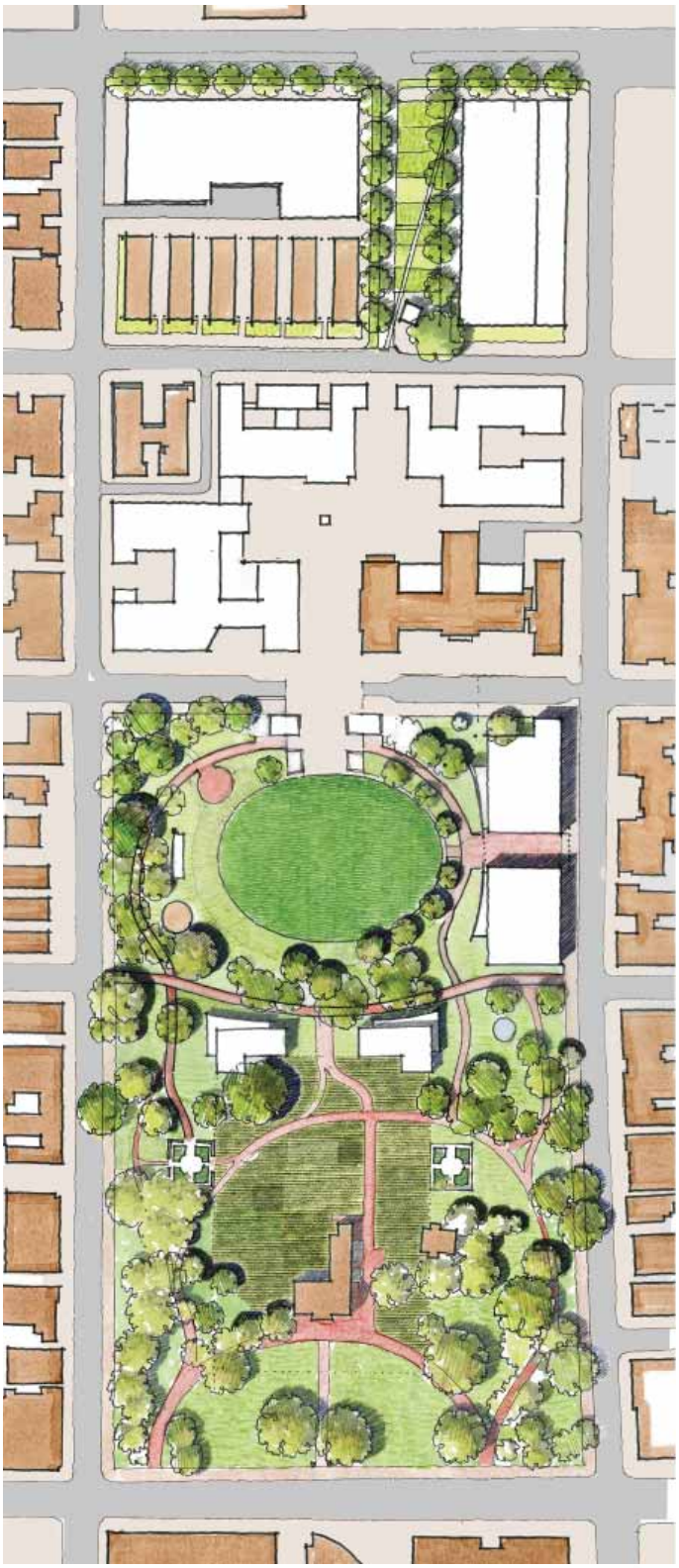


Figure 79 - Advanced urban design scheme which places significant building program in park along Eastern edge

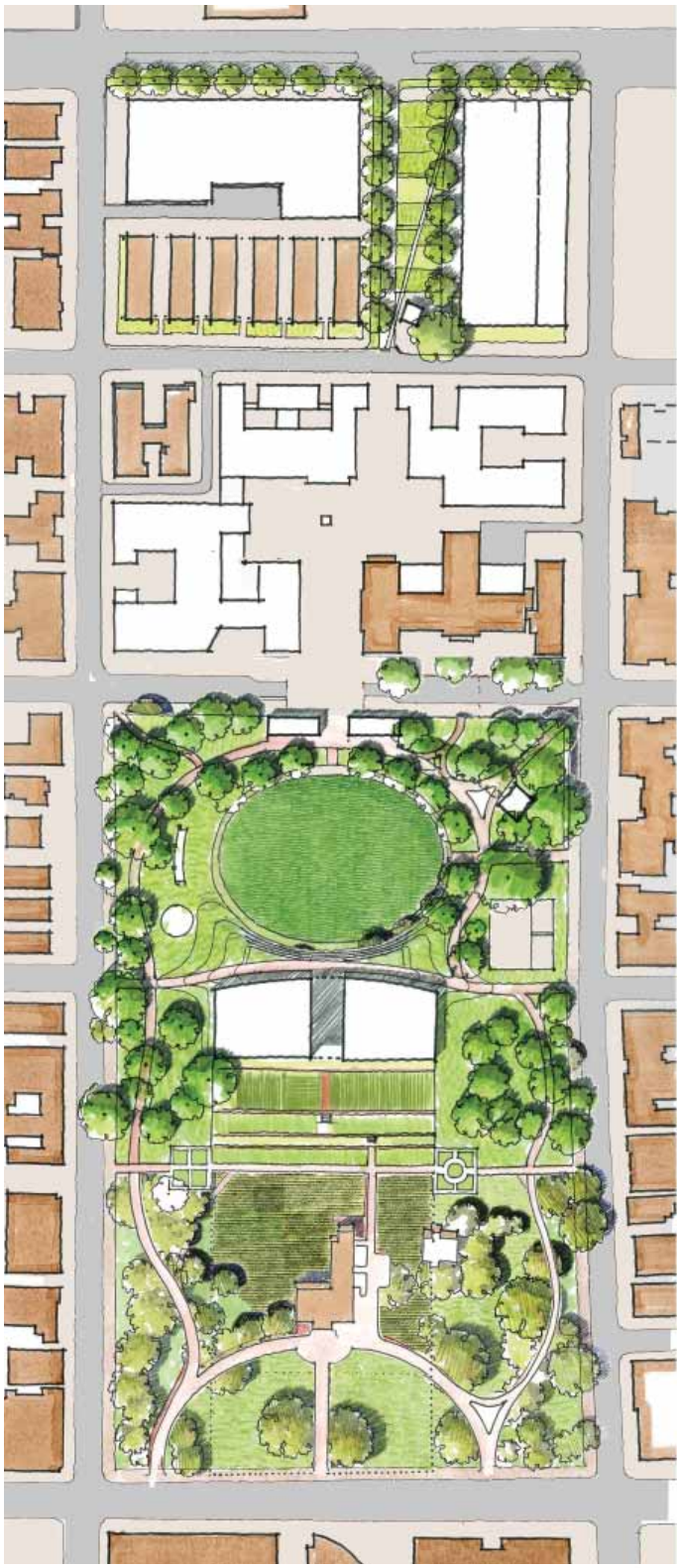


Figure 80 - Advanced urban design scheme placing significant building program in center of park along primary axis of the site

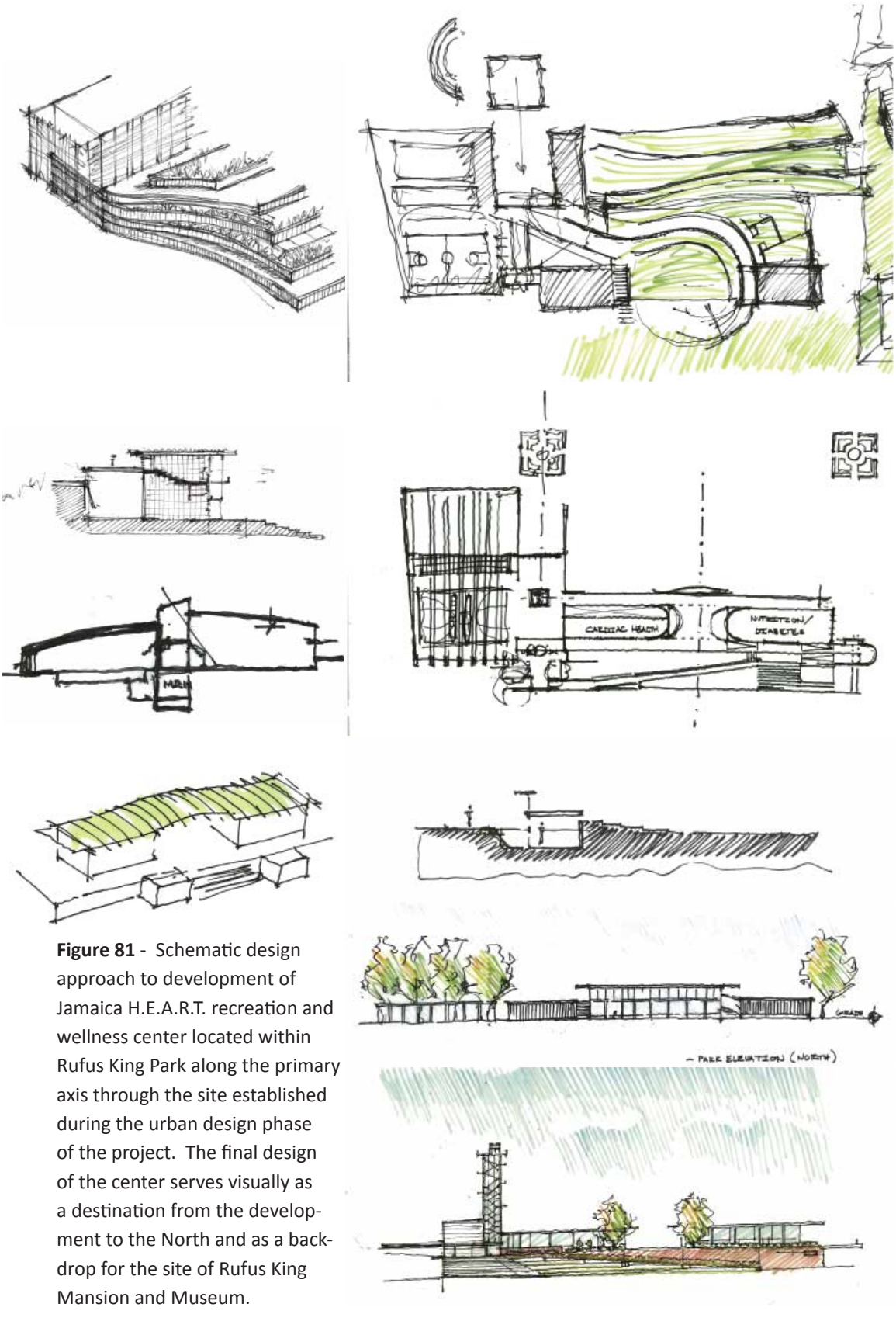


Figure 81 - Schematic design approach to development of Jamaica H.E.A.R.T. recreation and wellness center located within Rufus King Park along the primary axis through the site established during the urban design phase of the project. The final design of the center serves visually as a destination from the development to the North and as a backdrop for the site of Rufus King Mansion and Museum.

Final Proposition

The final proposition for the site evolved directly out of the Author's determination of the needs of the population surrounding Downtown Jamaica, New York. The conjectures on the proceeding pages are a synthesis of the conceptual design and schematic design phases that comprised the bulk of the time spent engaged with this thesis. The program established for the site is the result of the physical needs of both the urban fabric and the members of the surrounding communities.

The development of the City University of New York College of Health Sciences grew out of the author's design intent of creating a series of pedestrian oriented public spaces linking Hillside Avenue to the North and Jamaica Avenue to the South. Establishing a residential college model within the boundaries of the site, and surrounding the primary public plaza, serves to maintain activity within the space during off-peak hours for the health and wellness amenities occupying the lower floors of the college. These amenities are placed directly within the public realm and made highly visible from within the site as well as from vistas within Rufus King Park and the newly established market street north of the original hospital site. The final program for the site is evident graphically on the proceeding pages.

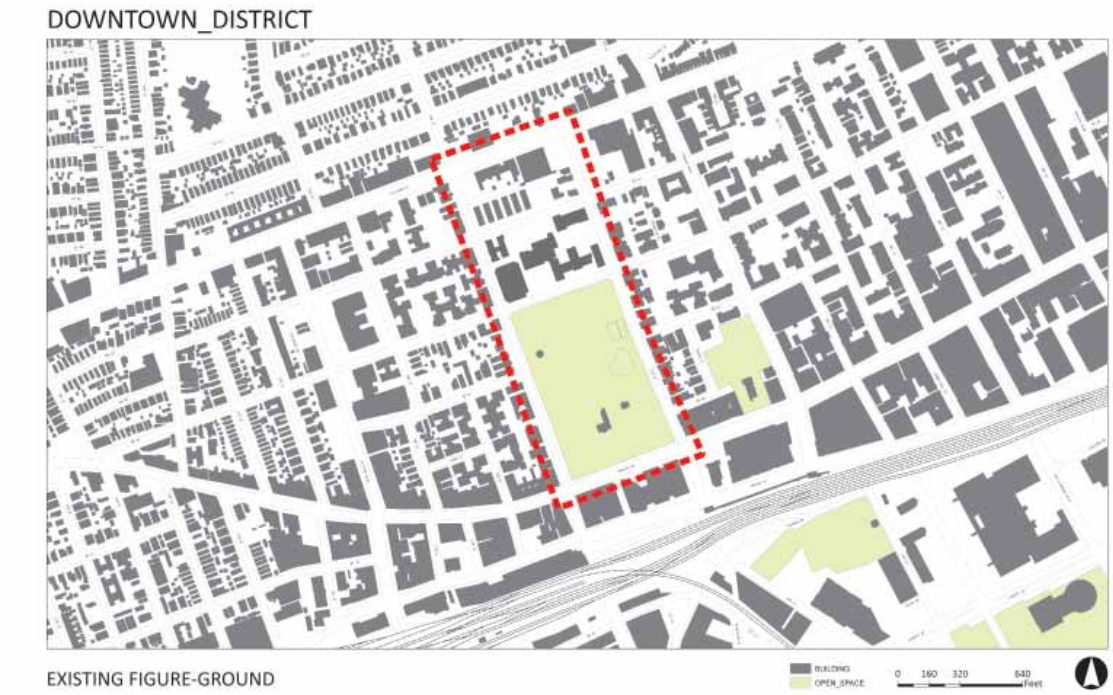


Figure 82 - Figure-ground drawing of existing site conditions

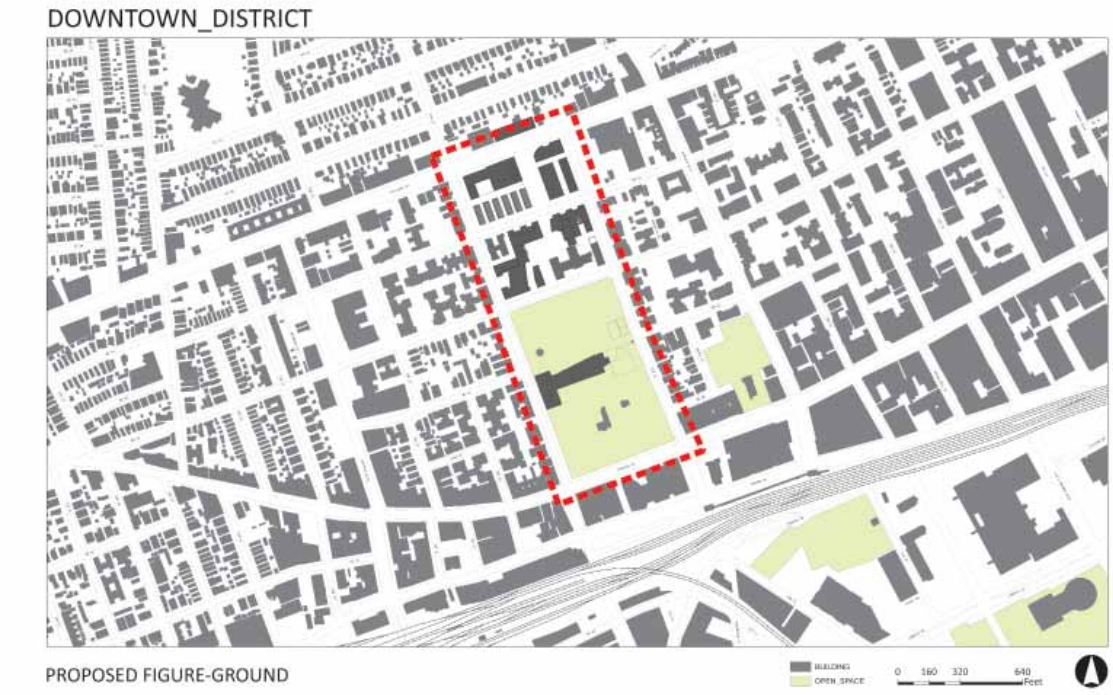


Figure 83 - Figure-ground drawing of thesis proposition

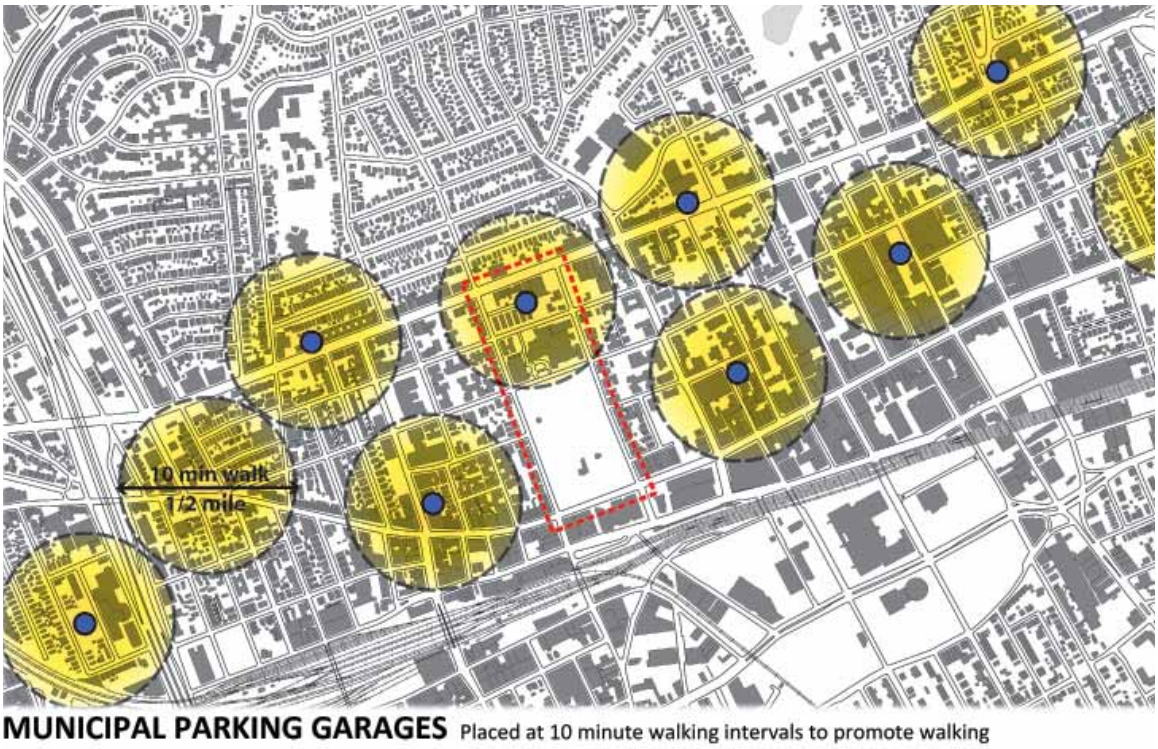


Figure 84 - Municipal parking garages located at approximate 10-minute walking centers allowing for the removal of street parking and the establishment of dedicated bicycle transportation lanes to promote active forms of transportation within the daily routine of the residents of Jamaica

Figure 85 - Aerial Perspective of thesis proposition

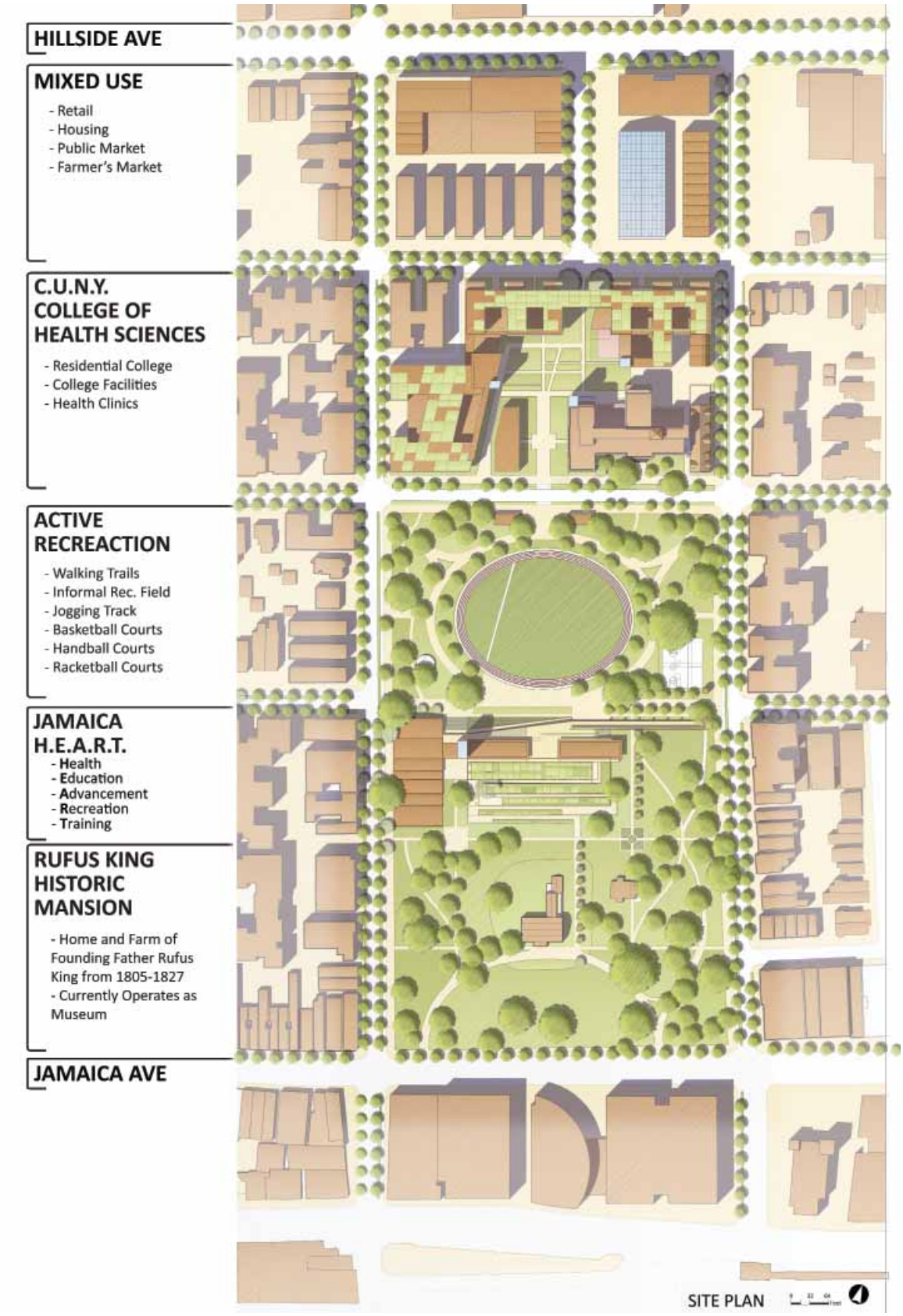


Figure 86 - Overall site plan of thesis proposition

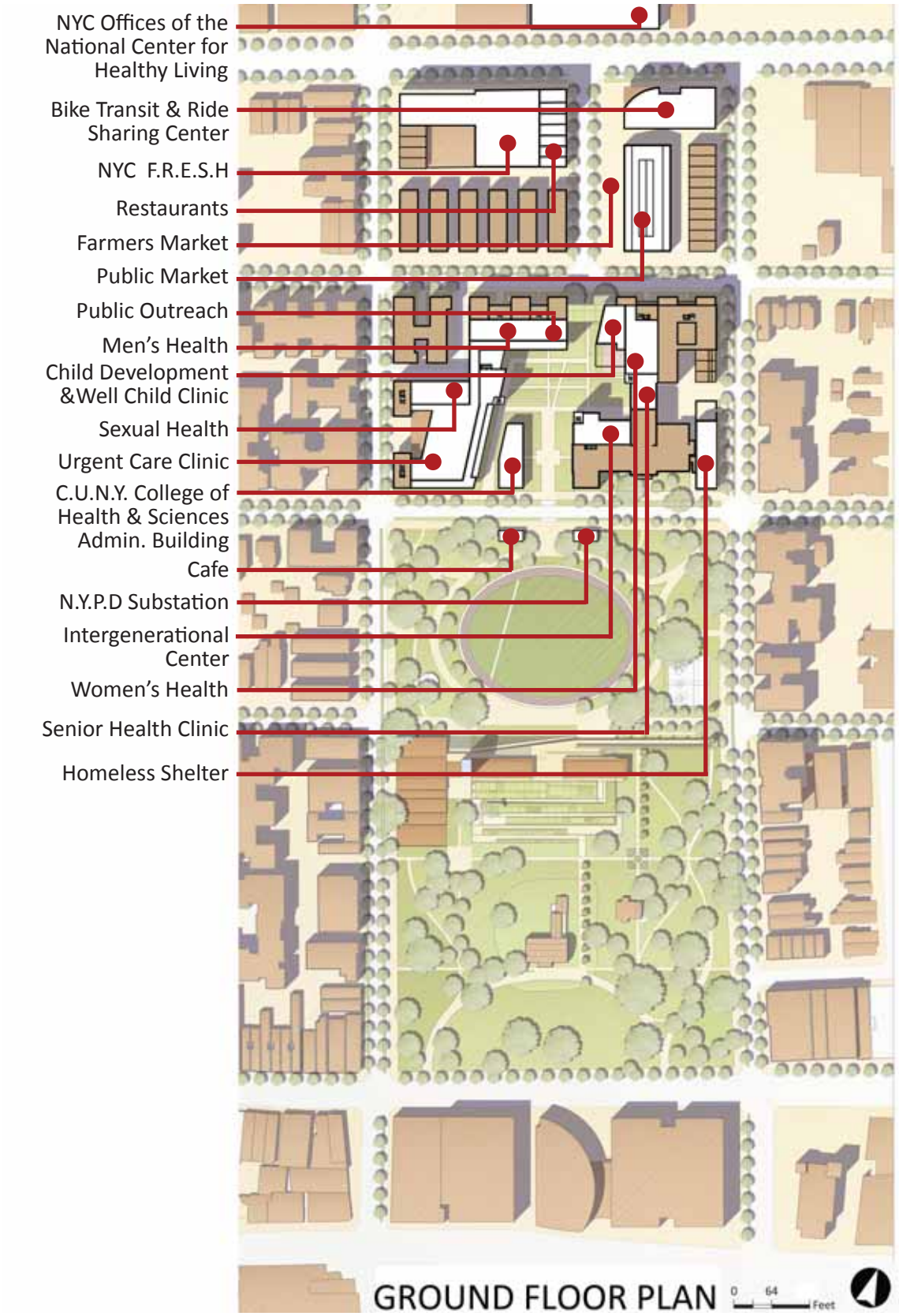


Figure 87 - Ground floor plan of urban design development showing location of publicly accessible health amenities

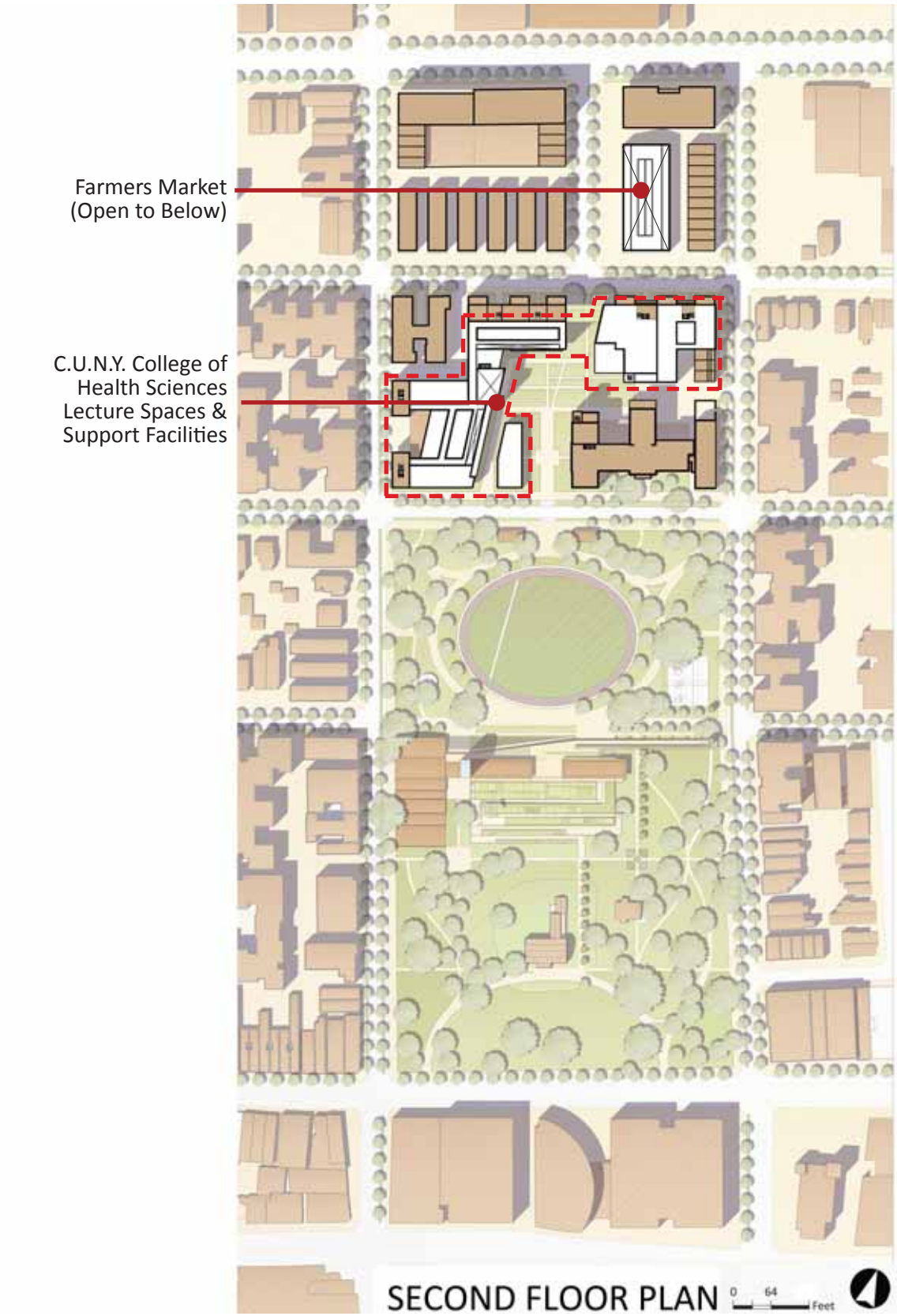


Figure 88 - Second floor plan of urban design development showing location of City of New York College of Health Sciences' facilities located above the publicly accessible health clinics and amenities

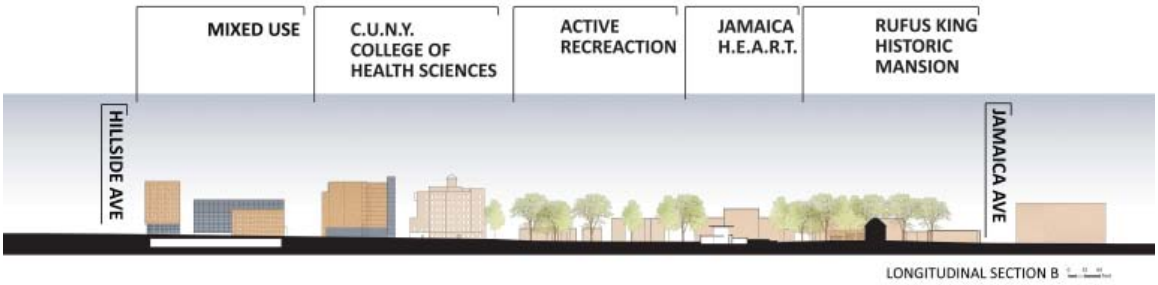


Figure 89 - Longitudinal section through site looking East

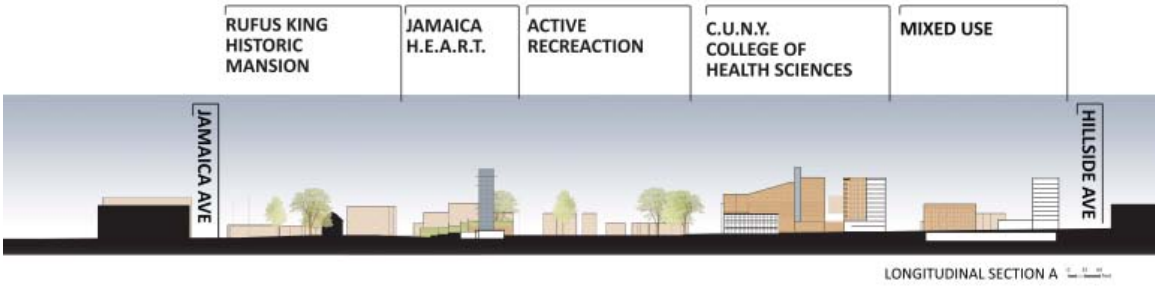


Figure 90 - Longitudinal section through site looking West

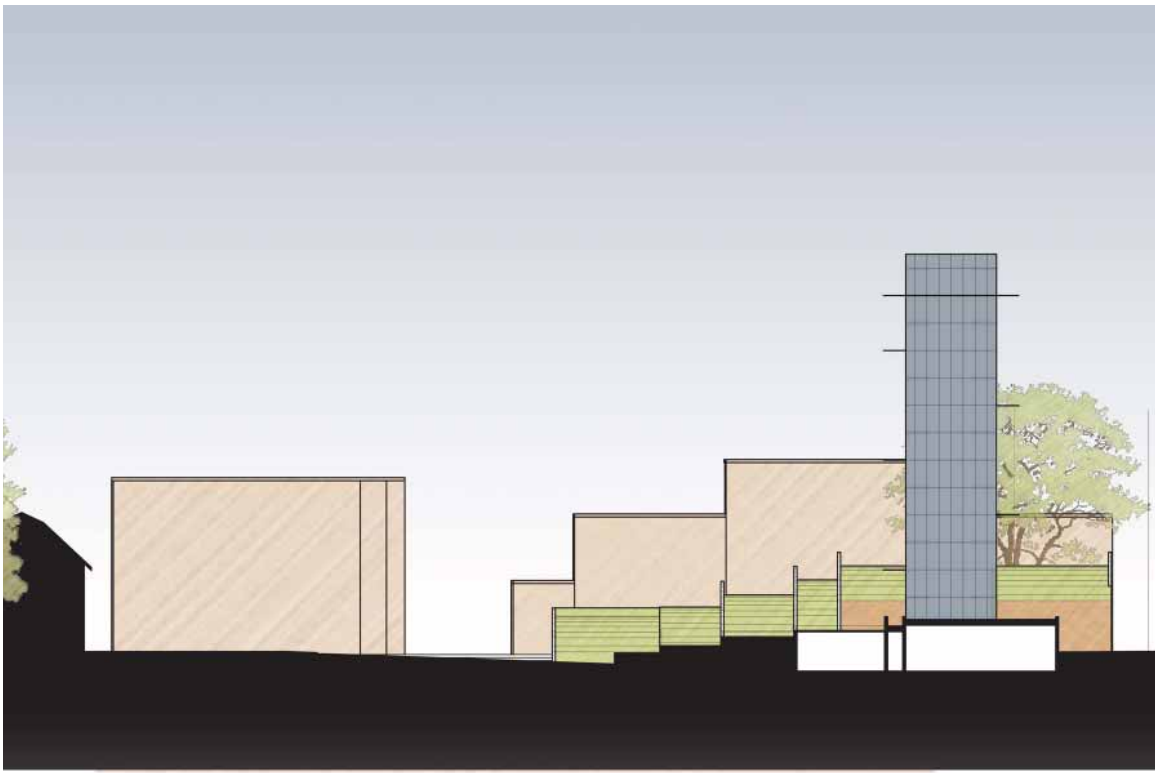


Figure 91 - Section cut through Jamaica H.E.A.R.T. recreation and wellness center, illustrating relationship to Rufus King Mansion Museum located on the left side of the drawing

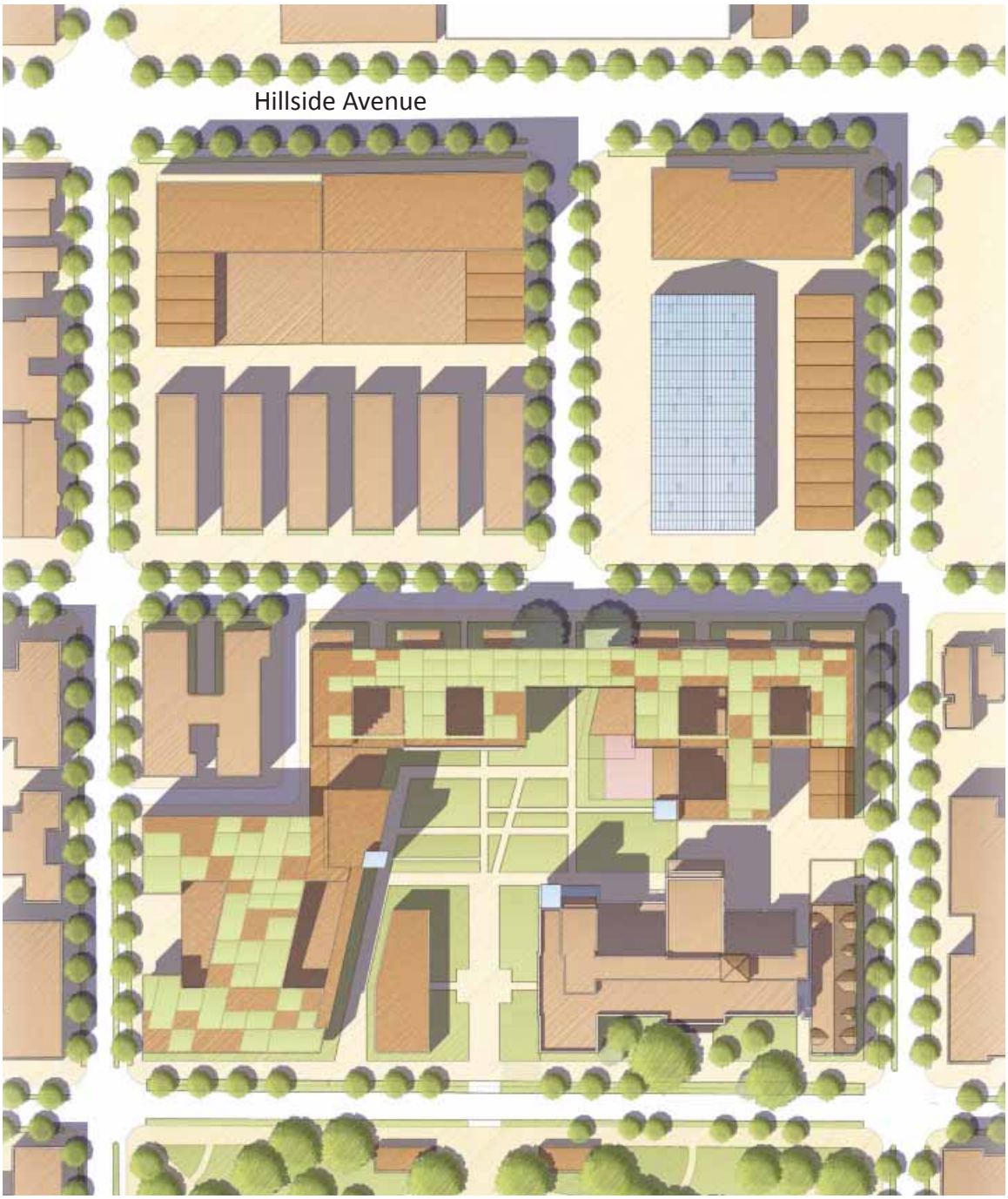


Figure 92 - Site detail of former Mary Immaculate Hospital block development and mixed-use market square development on North block. Blocks are designed with the idea of creating a sequence of varied spaces and environments to draw people through the site to Rufus King Park and Jamaica H.E.A.R.T. from the residential neighborhoods to the North. Drawing people through the site increases visibility of publicly accessible health and wellness amenities designed as part of the City of New York College of Health Sciences' campus.

Figure 93 - Site detail of redesigned Rufus King Park with newly inserted Jamaica H.E.A.R.T. recreation and wellness center

Figure 94 - Site detail of redesigned Rufus King Park with newly inserted Jamaica H.E.A.R.T. recreation and wellness center

Figure 95 - Entry Level Plan - Jamaica H.E.A.R.T. recreation and wellness center

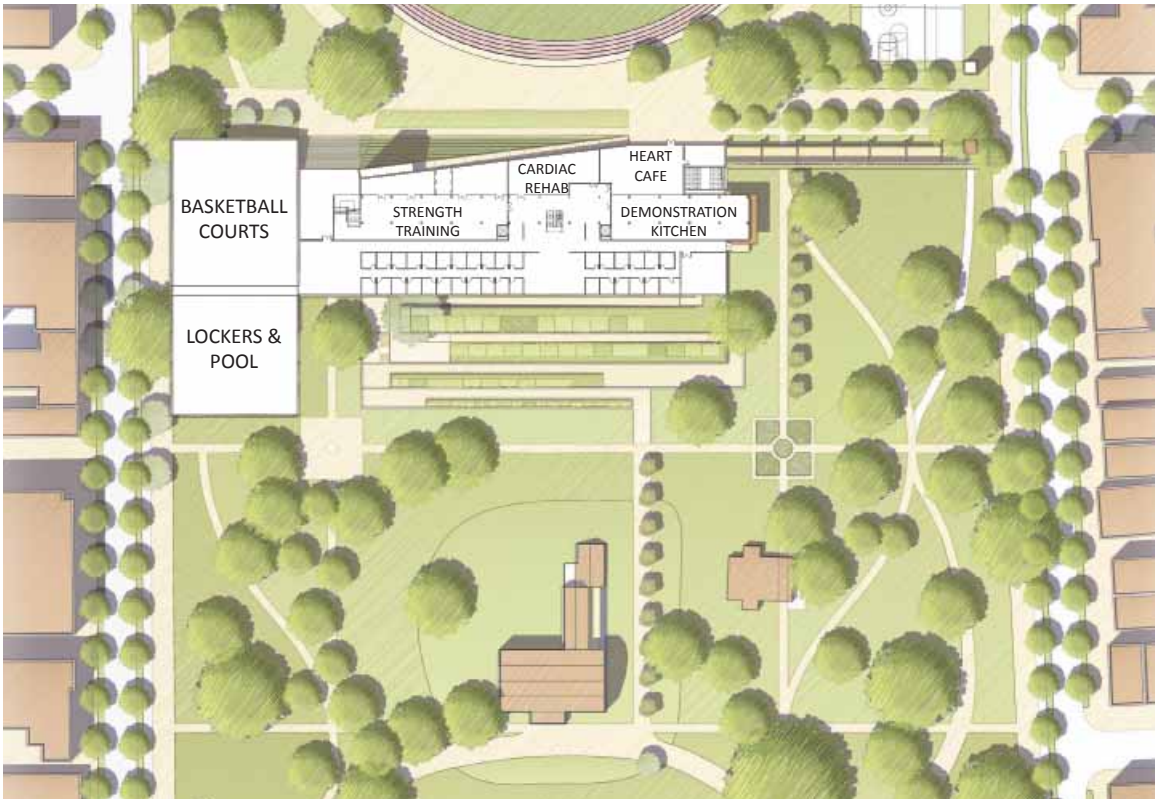


Figure 96 - Ground Floor Plan - Jamaica H.E.A.R.T. recreation and wellness center

Reflections on Public Defense

The public defense of this thesis suffered significantly due to the author's failure to document and adequately present the extensive process that led to the final proposition that was presented publicly before a panel of guest reviewers and is presented within the contents of this thesis document. Failure to show process resulted in the jury's inability to grasp the Author's thought process and therefore led to a line of speculative questions about alternatives that, in reality, had already been explored in detail prior to arriving at the final design.

There was general consensus among the reviewers regarding the validity of the author's proposition for the Northern zone of the site, consisting of the City University of New York College of Health Sciences and the proposed mixed-use core highlighted by a new public market building and market street. However, there was significant disagreement and criticism in regards to the placement, composition, and expression of Jamaica H.E.A.R.T. recreation and wellness center located in the center of Rufus King Park. The HEART Center, bisected the park, creating distinct zones of active recreation associated with the artificial turf oval field in the North half of the site, and passive recreation associated with the historic Rufus King Mansion. The criticism largely focused on the Author's fundamental decision to design the project around a perceived central axis, attempting to draw people through the site from North to South, as opposed to utilizing the exisiting perimeter streets to weave people into the site transversely.

Multiple members of the jury expressed concern that the author failed to define a scope for the project resulting in a proposition that was akin to three theses projects in one, though none of the three was able to be developed to a level of sufficient detail to stand alone.

Conclusions

As expressed by the jury at the public defense, this thesis proposition suffered from a lack of identity for a significant period of my engagement with the selected site. A late decision to change sites, set the project behind significantly at the onset of the final semester, though the decision undoubtedly had a positive impact on the ultimate proposition. The thesis proposition proceeded for a significant period of time with a level of ambiguity that allowed flexibility in the definition of the project's scope, facilitating significant changes in the project at a very late stage. Admittedly, however, the ambiguity and inability on my part to establish firm decisions about the direction the project would take until the late stages of the project, inhibited my ability to get to the level of design that I had anticipated. The final site selection of Mary Immaculate Hospital and it's surrounding context aligned more precisely with my goals to explore the relationship between urban renewal/reinvention and the promotion of community health.

While the project did not reach the architectural level of development that I had intended at the onset of the thesis, I do not consider the project a failure. My success with this project lies in the adaptation and evolution of the scope of work, as a direct result of the process of working through, and discovering the "problem" and allowing my discoveries related to site, place, people and context to define the direction of the proposition. The thesis began with a limited vision of addressing a single block of buildings, and evolved into a vision for the reinvention of the Downtown District of Jamaica, using ideas of public health and community wellness as the lens through which I criticized my own assumptions and decisions.

Bibliography

Abercrombie, Lauren C., James F. Sallis, Terry L. Conway, Lawrence D. Frank, Brian E. Saelens, and James E. Chapman. 2008. Income and racial disparities in access to public parks and private recreation facilities. *American Journal of Preventive Medicine* 34, no. 1: 9-15.

Angela Glover, Blackwell. 2009. Active living research and the movement for healthy communities. *American journal of preventive medicine* 36, no. 2: S50-S52.

Barnett, Elizabeth, Tracey Anderson, John Blosnich, Joel Halverson, and Janelle Novak. 2005. Promoting cardiovascular health: From individual goals to social environmental change. *American Journal of Preventive Medicine* 29, no. 5, Supplement 1: 107-112.

Bedimo-Rung, Ariane L., Andrew J. Mowen, and Deborah A. Cohen. 2005. The significance of parks to physical activity and public health: A conceptual model. *American Journal of Preventive Medicine* 28, no. 2, Supplement 2: 159-168.

Berrigan, David and Richard P. Troiano. 2002. The association between urban form and physical activity in u.S. Adults. *American Journal of Preventive Medicine* 23, no. 2, Supplement 1: 74-79.

Besser, Lilah M. and Andrew L. Dannenberg. 2005. Walking to public transit: Steps to help meet physical activity recommendations. *American Journal of Preventive Medicine* 29, no. 4: 273-280.

Blackwell, Angela Glover. 2009. Active living research and the movement for healthy communities. *American Journal of Preventive Medicine* 36, no. 2, Supplement 1: S50-S52.

Boarnet, Marlon G., Craig L. Anderson, Kristen Day, Tracy McMillan, and Mariela Alfonzo. 2005. Evaluation of the california safe routes to school legislation: Urban form changes and children's active transportation to school. *American Journal of Preventive Medicine* 28, no. 2, Supplement 2: 134-140.

Boone-Heinonen, Janne, David R. Jacobs Jr, Stephen Sidney, Barbara Sternfeld, Cora E. Lewis, and Penny Gordon-Larsen. 2009. A walk (or cycle) to the park: Active transit to neighborhood amenities, the cardia study. *American Journal of Preventive Medicine* 37, no. 4: 285-292.

Brennan Ramirez, Laura K., Christine M. Hoehner, Ross C. Brownson, Rebeka Cook, C. Tracy Orleans, Marla Hollander, Dianne C. Barker, Philip Bors, Reid Ewing, Richard Killingsworth, Karen Petersmarck, Thomas Schmid, and William Wilkinson. 2006. Indicators of activity-friendly communities: An evidence-based consensus process. *American Journal of Preventive Medicine* 31, no. 6: 515-524.

Brownson, Ross C., Christine M. Hoehner, Kristen Day, Ann Forsyth, and James F. Sallis. 2009. Measuring the built environment for physical activity: State of the science. *American Journal of Preventive Medicine* 36, no. 4, Supplement 1: S99-S123.e12.

Community public healthcare. 1992. *Progressive architecture* 73: 94-95.

Craig, Cora L., Ross C. Brownson, Sue E. Cragg, and Andrea L. Dunn. 2002. Exploring the effect of the environment on physical activity: A study examining walking to work. *American Journal of Preventive Medicine* 23, no. 2, Supplement 1: 36-43.

Delva, Jorge, Lloyd D. Johnston, and Patrick M. O'Malley. 2007. The epidemiology of overweight and related lifestyle behaviors: Racial/ethnic and socioeconomic status differences among american youth. *American Journal of Preventive Medicine* 33, no. 4, Supplement 1: S178-S186.

Ewing, Reid, Ross C. Brownson, and David Berrigan. 2006. Relationship between urban sprawl and weight of united states youth. *American Journal of Preventive Medicine* 31, no. 6: 464-474.

Falb, Matthew D., Dafna Kanny, Kenneth E. Powell, and Anthony J. Giarrusso. 2007. Estimating the proportion of children who can walk to school. *American Journal of Preventive Medicine* 33, no. 4: 269-275.

Fielding, Jonathan E., Carol E. Sutherland, and Neal Halfon. 1999. Community health report cards: Results of a national survey. *American Journal of Preventive Medicine* 17, no. 1: 79-86.

Floyd, Myron F., John O. Spengler, Jason E. Maddock, Paul H. Gobster, and Luis J. Suau. 2008. Park-based physical activity in diverse communities of two u.S. Cities: An observational study. *American Journal of Preventive Medicine* 34, no. 4: 299-305.

Floyd, Myron F., Wendell C. Taylor, and Melicia Whitt-Glover. 2009. Measurement of park and recreation environments that support physical activity in low-income communities of color: Highlights of challenges and recommendations. *American Journal of Preventive Medicine* 36, no. 4, Supplement 1: S156-S160.

Frank, Lawrence D. 2004. Economic determinants of urban form: Resulting trade-offs between active and sedentary forms of travel. *American Journal of Preventive Medicine* 27, no. 3, Supplement 1: 146-153.

Frank, Lawrence D., Martin A. Andresen, and Thomas L. Schmid. 2004. Obesity relationships with community design, physical activity, and time spent in cars. *American Journal of Preventive Medicine* 27, no. 2: 87-96.

Frank, Lawrence D., Thomas L. Schmid, James F. Sallis, James Chapman, and Brian E. Saelens. 2005. Linking objectively measured physical activity with objectively measured urban form: Findings from smartraq. *American Journal of Preventive Medicine* 28, no. 2, Supplement 2: 117-125.

Frumkin, Howard. 2006. The measure of place. *American Journal of Preventive Medicine* 31, no. 6: 530-532.

Frumkin, Howard and Anthony J. McMichael. 2008. Climate change and public health: Thinking, communicating, acting. *American Journal of Preventive Medicine* 35, no. 5: 403-410.

Frumkin, Howard, Anthony J. McMichael, and Jeremy J. Hess. 2008. Climate change and the health of the public. *American Journal of Preventive Medicine* 35, no. 5: 401-402.

Gauvin, Lise, Lucie Richard, Cora Lynn Craig, Michaël Spivock, Mylène Riva, Mathieu Forster, Sophie Laforest, Suzanne Laberge, Marie-Chantal Fournel, Hélène Gagnon, Suzie Gagné, and Louise Potvin. 2005. From walkability to active living potential: An "Ecometric" Validation study. *American Journal of Preventive Medicine* 28, no. 2, Supplement 2: 126-133.

Gebel, Klaus, Adrian E. Bauman, and Mark Petticrew. 2007. The physical environment and physical activity: A critical appraisal of review articles. *American Journal of Preventive Medicine* 32, no. 5: 361-369.e3.

Glass, Thomas A., Meghan D. Rasmussen, and Brian S. Schwartz. 2006. Neighborhoods and obesity in older adults: The baltimore memory study. *American Journal of Preventive Medicine* 31, no. 6: 455-463.

Halliday, S. P. and K. Kendall. 1997. Architecture of habitat: Design for life and discussion. *Philosophical Transactions: Mathematical, Physical and Engineering Sciences* 355, no. 1728: 1389-1403.

Handy, Susan L., Marlon G. Boarnet, Reid Ewing, and Richard E. Killingsworth. 2002. How the built environment affects physical activity: Views from urban planning. *American Journal of Preventive Medicine* 23, no. 2, Supplement 1: 64-73.

Herrero Delicado, Gonzalo and Maria José Marcos. 2009. Community health centre, cartagena [spain]: Amann canovas maruri. Review of Herrero Delicado, Gonzalo. Marcos, Maria José. *A10: new European architecture* 28: 49-50.

Hess, Jeremy J., Josephine N. Malilay, and Alan J. Parkinson. 2008. Climate change: The importance of place. *American Journal of Preventive Medicine* 35, no. 5: 468-478.

Hillsdon, Melvyn, Jenna Panter, Charlie Foster, and Andy Jones. 2007. Equitable access to exercise facilities. *American Journal of Preventive Medicine* 32, no. 6: 506-508.

Jekot, Barbara P. 2003. Feel good communities. Review of Jekot, Barbara P. *Leading architecture and design*: 32-35.

Jenkins, Tiffany. 2006. Buildings for life [maggie's centres]. Review of Jenkins, Tiffany. *Blueprint* 239: 44-49.

Keniger, Michael. 2002. Rebuilding queensland health. Review of Keniger, Michael. *Architecture Australia* 91: 80-89.

King, Abby C., Dan Stokols, Emily Talen, Glenn S. Brassington, and Richard Killingsworth. 2002. Theoretical approaches to the promotion of physical activity: Forging a transdisciplinary paradigm. *American Journal of Preventive Medicine* 23, no. 2, Supplement 1: 15-25.

Kingsley, G. Thomas. 2003. Housing, health, and the neighborhood context. *American Journal of Preventive Medicine* 24, no. 3, Supplement 1: 6-7.

Kirchner, Corinne E., Elaine G. Gerber, and Brooke C. Smith. 2008. Designed to deter: Community barriers to physical activity for people with visual or motor impairments. *American Journal of Preventive Medicine* 34, no. 4: 349-352.

Kruger, Judy, Susan A. Carlson, and Harold W. Kohl Iii. 2007. Fitness facilities for adults: Differences in perceived access and usage. *American Journal of Preventive Medicine* 32, no. 6: 500-505.

Larson, Nicole I., Mary T. Story, and Melissa C. Nelson. 2009. Neighborhood environments: Disparities in access to healthy foods in the u.S. *American Journal of Preventive Medicine* 36, no. 1: 74-81.e10.

McCray, Talia and Frederick R. Steiner. 2009. Why our kids shoud be able to walk to school ... And other places in their communities - it's all about health, say pediatricians. Review of McCray, Talia. Steiner, Frederick R. *Landscape architecture* 99: 187.

McGinnis, J. Michael. 2009. Challenging our comfort levels: Lifestyles, research, and the ongoing legacy of the robert wood johnson foundation. *American Journal of Preventive Medicine* 36, no. 2, Supplement 1: S47-S49.

Moore, Latetia V., Ana V. Diez Roux, Kelly R. Evenson, Aileen P. McGinn, and Shannon J. Brines. 2008. Availability of recreational resources in minority and low socioeconomic status areas. *American Journal of Preventive Medicine* 34, no. 1: 16-22.

Moudon, Anne Vernez. 2009. Real noise from the urban environment: How ambient community noise affects health and what can be done about it. *American Journal of Preventive Medicine* 37, no. 2: 167-171.

Nasar, Jack L. 2008. Assessing perceptions of environments for active living. *American Journal of Preventive Medicine* 34, no. 4: 357-363.

Nelson, Melissa C., Penny Gordon-Larsen, Yan Song, and Barry M. Popkin. 2006. Built and social environments: Associations with adolescent overweight and activity. *American Journal of Preventive Medicine* 31, no. 2: 109-117.

Neruda, Pablo. 2004. "POETRY - Towards an Impure Poetry". Political Affairs. 83, no. 9: 46.

Nyren, Ron. 2008. Health care reaches out: Ten health care facilities employ creative land use strategies to integrate medical care and wellness services into their communities. Review of Nyren, Ron. *Urban land* 67: 50-54.

Ockene, Judith K., Elizabeth A. Edgerton, Steven M. Teutsch, Lucy N. Marion, Therese Miller, Janice L. Genevro, Carol J. Loveland-Cherry, Jonathan E. Fielding, and Peter A. Briss. 2007. Integrating evidence-based clinical and community strategies to improve health. *American Journal of Preventive Medicine* 32, no. 3: 244-252.

Odoms-Young, Angela M., Shannon Zenk, and Maryann Mason. 2009. Measuring food availability and access in african-american communities: Implications for intervention and policy. *American Journal of Preventive Medicine* 36, no. 4, Supplement 1: S145-S150.

Owen, Neville, Nancy Humpel, Eva Leslie, Adrian Bauman, and James F. Sallis. 2004. Understanding environmental influences on walking: Review and research agenda. *American Journal of Preventive Medicine* 27, no. 1: 67-76.

Patrick, Kevin, William G. Griswold, Fred Raab, and Stephen S. Intille. 2008. Health and the mobile phone. *American Journal of Preventive Medicine* 35, no. 2: 177-181.

Powell, Kenneth E. 2005. Land use, the built environment, and physical activity: A public health mixture; a public health solution. *American Journal of Preventive Medicine* 28, no. 2, Supplement 2: 216-217.

Pratt, Michael, Caroline A. Macera, James F. Sallis, Michael O'Donnell, and Lawrence D. Frank. 2004. Economic interventions to promote physical activity: Application of the sloth model. *American Journal of Preventive Medicine* 27, no. 3, Supplement 1: 136-145.

Radley, Sue. 1997. Healthcare guidance [book review]. Review of Radley, Sue. Care by design: the community hospitals of Wales. *Landscape design* 257: 19-21.

Recommendations to increase physical activity in communities. 2002. *American Journal of Preventive Medicine* 22, no. 4, Supplement 1: 67-72.

Sallis, James F. 2009. Measuring physical activity environments: A brief history. *American Journal of Preventive Medicine* 36, no. 4, Supplement 1: S86-S92.

Sallis, James F., Heather R. Bowles, Adrian Bauman, Barbara E. Ainsworth, Fiona C. Bull, Cora L. Craig, Michael Sjöström, Ilse De Bourdeaudhuij, Johan Lefevre, Victor Matsudo, Sandra Matsudo, Duncan J. Macfarlane, Luis Fernando Gomez, Shigeru Inoue, Norio Murase, Vida Volbekiene, Grant McLean, Harriette Carr, Lena Klasson Heggebo, Heidi Tomten, and Patrick Bergman. 2009. Neighborhood environments and physical activity among adults in 11 countries. *American Journal of Preventive Medicine* 36, no. 6: 484-490.

Sallis, James F., Katherine Kraft, and Leslie S. Linton. 2002. How the environment shapes physical activity: A transdisciplinary research agenda. *American Journal of Preventive Medicine* 22, no. 3: 208-208.

Sallis, James F., Leslie S. Linton, M. Katherine Kraft, Carmen L. Cutter, Jacqueline Kerr, Julie Weitzel, Amanda Wilson, Chad Spoon, Irvin D. Harrison, Robert Cervero, Kevin Patrick, Thomas L. Schmid, and Michael Pratt. 2009. The active living research program: Six years of grantmaking. *American Journal of Preventive Medicine* 36, no. 2, Supplement 1: S10-S21.

Satariano, William A. and Edward McAuley. 2003. Promoting physical activity among older adults: From ecology to the individual. *American Journal of Preventive Medicine* 25, no. 3, Supplement 2: 184-192.

Saunders, Nina. 2006. Umkhumbane community health centre, kwazulu-natal. *Architecture South Africa: journal of the South African Institute of Architects* 19: [16]-19.

Schilling, Joseph and Leslie S. Linton. 2005. The public health roots of zoning: In search of active living's legal genealogy. *American Journal of Preventive Medicine* 28, no. 2, Supplement 2: 96-104.

Scutchfield, F. Douglas. 2004. A third public health revolution: An editorial. *American Journal of Preventive Medicine* 27, no. 1: 83-84.

Solomon, Nancy B. 2004. Environmentally-friendly building strategies slowly make their way into medical facilities. Review of Solomon, Nancy B. *Architectural record* 192: 179-182.

Song, Bi-xi. 2008. An awakening dream: Jiaosi life learning center-household registration office, public health center and foreign spouse learning center by sheng-yuan huang. Review of Song, Bi-xi. *Shi dai jian zhu = Time + architecture* 5, no. 103: 72-77.

Spangler, Kathy J. 2008. Keeping our promise to america's youth. *American Journal of Preventive Medicine* 34, no. 4: 371-372.

Sturm, Roland. 2004. The economics of physical activity: Societal trends and rationales for interventions. *American Journal of Preventive Medicine* 27, no. 3, Supplement 1: 126-135.

Tawa, Michael. 2002. Wilcannia health service. *Architecture Australia* 91: 70-76.

Trowbridge, Matthew J., Matthew J. Gurka, and Robert E. O'Connor. 2009. Urban sprawl and delayed ambulance arrival in the u.S. *American Journal of Preventive Medicine* 37, no. 5: 428-432.

Tucker-Seeley, Reginald D., S. V. Subramanian, Yi Li, and Glorian Sorensen. 2009. Neighborhood safety, socioeconomic status, and physical activity in older adults. *American Journal of Preventive Medicine* 37, no. 3: 207-213.

Verberder, Stephen and Ben J. Refuerzo. 2003. Research-based architecture and the community healthcare consumer: A statewide initiative [louisiana]. Review of Verberder, Stephen. Refuerzo, Ben J. *Journal of architectural and planning research* 20: 57-67.

Verderber, Stephen and Ben J. Refuerzo. 1999. On the construction of research-based design: A community health center. *Journal of architectural and planning research* 16: 225-241.

Yancey, Antronette K., Jonathan E. Fielding, George R. Flores, James F. Sallis, William J. McCarthy, and Lester Breslow. 2007. Creating a robust public health infrastructure for physical activity promotion. *American Journal of Preventive Medicine* 32, no. 1: 68-78.

Younger, Margalit, Heather R. Morrow-Almeida, Stephen M. Vindigni, and Andrew L. Dannenberg. 2008. The built environment, climate change, and health: Opportunities for co-benefits. *American Journal of Preventive Medicine* 35, no. 5: 517-526.

Zeidler, Cordula. 2006. Children's centre, london: Dsdha. Review of Zeidler, Cordula. *A10: new European architecture* 12: 47-48.

Zimring, Craig, Anjali Joseph, Gayle L. Nicoll, and Sharon Tsepas. 2005. Influences of building design and site design on physical activity: Research and intervention opportunities. *American Journal of Preventive Medicine* 28, no. 2, Supplement 2: 186-193.