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Architectural Agency Through Real Estate Development

Hitali Gondaliya

Architectural Agency through Real Estate Development

A Thesis Presented

by

HITALI GONDALIYA

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Approved as to style and content by:

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Robert Williams, Chair

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Stephen Schreiber, Chair Department of
Architecture

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ABSTRACT

ARCHITECTURAL AGENCY THROUGH REAL ESTATE DEVELOPMENT

MAY 2020

HITALI GONDALIYA

B. ARCH, INSTITUTE OF DESIGN ENVIRONMENT & ARCHITECTURE, AHMEDABAD, INDIA

M.ARCH, UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Robert Williams

In today's world, architects are facing a problem of diminished control over the built environment. Across the industry, architects are forfeiting influence on developers, contractors, and lawyers due to increased concerns about innumerable risks. Architecture, for the most part, is dependent on other professions to create opportunities, and thus is not directly responsible for positive change. For architecture to accrue influence on how our built environment evolves into the future, it must understand and take a larger role within the real estate development process. The problem this thesis presents is that the position of architecture within this economics dominated power structure limits architects' agency to affect a property's use or influence its future use. The research delves into the standard development model, the real estate development process, design and construction, and operations of real estate practices in order to identify opportunities for architecture to engage in and enhance the process.

This thesis proposes to understand a development process in Northampton, Massachusetts. It will illustrate that the opportunities and advantages of architect practicing as a developer to design and execute projects in the real world. Thus, for the research to be implemented through design, the chosen site includes several opportunities for a socially focused mixed-use development which responds well with the site and the surrounding context of Northampton.

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THE STANDARD DEVELOPMENT MODEL

1.1   Introduction:

Throughout history people have described architects in a variety of ways, interchangeably and simultaneously as artist, designer, master builder, tradesman, intellectual, and professional. Furthermore, the role of architects within society has been and always will be influenced by overarching political, economic, and social regimes that place competing values on the built environment.[1] Today, architecture is one of the many services that contribute specialized knowledge to a collaborative process of getting a building constructed. The position of architecture within this economics dominated power structure does not provide any means to direct agency in changing a property's use or influencing its future use.

Architecture, for the most part, is dependent on other professions to create opportunities, and thus is not directly responsible for positive change. In particular, developer-driven projects privilege the developer as the primary decision maker and relegate the architect to a secondary role. This decrease of control has significantly impaired the architect's ability to influence the building process and resultant compensation. This trend negatively affects both the value of the practice and the quality of the built environment. Moreover, in many cases the marginalization of the architect leads to buildings that are less environmentally and social responsive in favor of the desires of the market. This formulaic approach wastes both resources and profitability. Pure developers, by definition, are motivated by profit- seeking to manage risk and reward. By necessity, developers achieve these goals by reproducing common and methodical real estate practices. While time tested, this process can lead to a lack of creativity and wider unresponsiveness to individual sites and demographics.

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1.   Portman and Barnett, Architects as Developers, 7

Because many architects are under-educated in these practices, they are at a disadvantage to validate creative decisions from a business standpoint. However, architects can expand their influence and control by practicing as architect-developers. Architects continue to hold the belief that buildings have a direct and indirect effect on society on many different socio-economic, psychological, and physiological levels. By assuming both roles, architects can more effectively produce well rounded projects which balance financial goals with their specific goals, whether they be environmental, social, or economic. Assuming the responsibilities of both the architect and developer aligns the goals of both professions to produce project synergy. Unifying development and architectural goals can effectively produce well-rounded projects with an eye on long-term, sustainable financial success. When these goals are working in unison, the result is a project more responsive to environmental, societal, and economic factors.

This thesis will investigate the Architect- Developer model and test this model by proposing an alternative mixed-use development in Northampton, MA. This proposed development will be not only financially feasible, but socially beneficial as well.

1.2   The Problem

In the present scenario, real estate developers are legitimately and morally entitled to the project finances, and their interest usually collides with the architects that work with them. Developers are concerned with meeting the financial ends of the project and maximizing profit over all else. John Portman, the author of the book, *The Architect as Developers* further added that economics driven decisions can lead to a poor quality of development.

Bruce Mau discusses his idea about how design affect the built environment, and argues that architects need to think about educating, training, and celebrating

developers. Since developer's contribution to the building industry is huge, it becomes necessary to understand this complex system and embrace it. He states that, "We need a new culture of responsibility and comprehensive engagement with long-term implications that can only come from broadening the base of architecture to include the design of the business models that generate most of the qualities we live within our cities."[2] The environmental and social design aspects can strengthen the project and also bring in profit if done right. The real estate industry has done very little to recognize its responsibilities to understand and implement these aspects of the project. There is a strong division of values and measures of the success among architects and developers. For the project to get build, either of them has to giveaway their interests. In most cases, the architect's interests are at stake due to less control over the project and the dominance of the already existing real estate developer model.

1.3   Real Estate Development Model

To practice as an Architect – Developer, it is important to understand how development works. Developer's responsibilities, control and compensation for the project is way more as compared to architects. Architects that begin working as developers face several problems as the scope of the development process is much wider than the architectural process. Firstly, architects share more responsibilities and work until the development phase of the project. Their role diminishes after the construction phase of the project begins. Architects scope is limited to translating client's idea into drawings. This results in the lack of control over the project as many decisions are taken before the architects even join the project. Secondly, most of the architects lack the financial and investment knowledge that is demanded by the real estate development. Finally, development efforts require architects to overcome all the challenges, be decisive and accept the responsibility for their mistakes or the

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2.   Mau, Manifesto#8, 5

problems that come along in the process.

Architects can overcome these hurdles with the determination to self-educate themselves in order to be a successful architect – developer.[3] The standard model of real estate development illustrates the process of a developer in bringing a project to fruition. This will help architects to situate themselves in the larger context of real estate development. It is important because, architects as a developer will have increased responsibility and control of the project.

1.3.1 Eight-Stage Model of Real Estate Development

The traditional real estate development model consists of eight stages. The following diagram seems to be the most standard model of practice and other different models retain the essence of this.
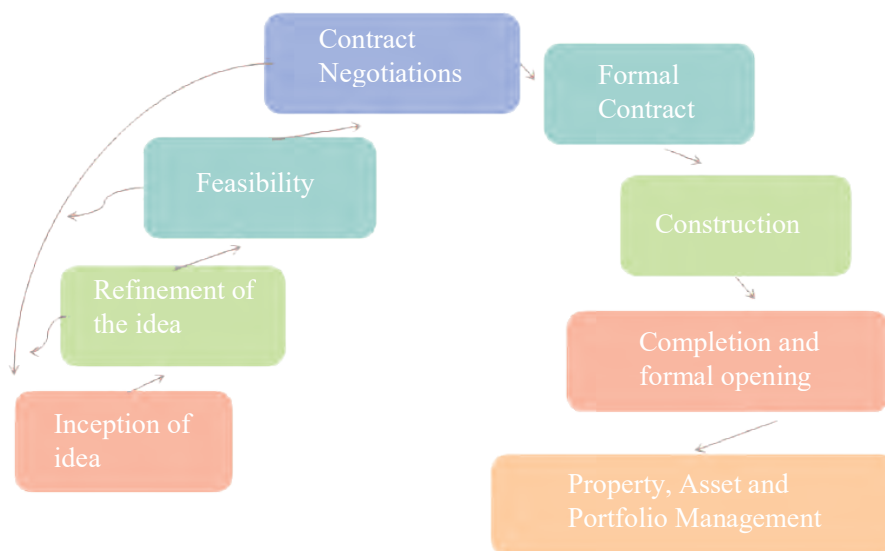
Figure 1: Traditional Real Estate Development Model

The real estate developer model consists of the inception of the idea by the developer where he would be involved in the background research of the market and gather information about the demands and possibilities of the project that are feasible.

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3.   Portman and Barnett, Architects as Developers, 15

To implement the ideas, developer then looks for the site in the second stage by understanding the physical viability of the idea and gathers options for the land for the viable idea.[4] The feasibility study includes the analysis of approximate project cost and schematic design development which later is run through the legal authorities.

Once the drawings are finalized, developer decide on the potential sales prices and run it by the local government for necessary permissions of the higher authorities. Furthermore, several contract agreements such as pre-lease agreement, construction load agreement, joint venture agreement, purchase of insurance, the exercise of the land purchase option are all signed at one time as a formal contract earlier in the schematic design phase. Then, the developer brings in the operating staff and runs through the accounts and sets up a budget as suggested by this marketing and development team. The developer either sell the property or rent it.

1.4   Results

The above discussed problem concludes that architects are expelled from the actual building and construction process when it reaches a construction phase of the project. This can lead to the degradation of the quality of the project as developer left alone controlling the project would trade the choices of the design for economics choices. This happens because a they are funding the whole project and may have various loans from different authorities. They expect the maximum profit in order to settle the loan. This can eventually lead to the delivery of substandard products. The developers ought to build mindfully as they are the major contributors to the built environment.[5]

Architects when they enter the field of real estate development face the reality of budget and real-world limitation. This interaction with the real world leads to an ineffectively executed design since they try to match the requirements and the

4.   Miller, The Architects as Developers, Print.
5.   Portman and Barnett, The Architects as Developers, 27-32.

standards of the real estate development instead of trying to make significant buildings that has a great impact on the community.[6] It is clear from the development models that it is greatly driven by the economics of the projects, giving less priority to the social and environmental concerns. Ignorance of the social and environmental concerns are clearly evident in the strip shopping malls and suburban settlements.

Since the architects conventionally are involved in the initial design process, it is presumed that all the buildings are outlined by a developer. That's not the case every time, as now with the spread of awareness among the architects and around the world about the construction industry and its work, a lot of architects have stepped up to understand the development process and take command to contribute to the urban setting.

In order to overcome the potential problem with the practice of the development and its process, it is necessary to take a step out of the traditional model of an architect providing service to control the design and construction process. It could be possible by understanding the development model (as explained in the above section) and independently taking on the development projects. The solution for the dilemma is the model which incorporates both the architect and the developer's model i.e. the architect – developer model.[7]

6.   Funari, Architects as Developers, 8
7.   https://www.curbed.com/2018/12/10/18127314/architect-developer-urbanism

CHAPTER 2

THE ARCHITECT-DEVELOPER MODEL

2.1   The Architect – Developer Model

The real estate industry is playing a major role in forming the built environment surrounding us, whereas architects are a part of that industry designing the build environment with utmost sensitivity while keeping the place and the people in mind. Although both the architects and developers look up to the economic concerns of the project, architects are taught to understand the humanity better so that they can create an environment that is more beneficial to people, more rewarding and more pleasant to experience.[8]

"Architects can afford to enjoy the pleasures that they are capable of producing for others. Architects accept enormous risks without the commensurate rewards. It is time, in this new millennium, to get dirty, to take on more of the scope of urban projects, to contribute more to a sustainable future and to participate in more of the wealth architects create. The world would be a better place if more of what we built in our cities was determined by people educated and trained with culture, civic awareness, aesthetic sensitivity and historical knowledge. I look forward to the first school of architectural development!"[9]

Architects by taking the prerogative on the project's finances can gain such freedom that has not been experienced by the profession yet. Currently, many design decisions are made before an architect has joined the project (Figure 3).

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8.   Portman and Barnett, The Architects as Developers, 27-32.
9.   Mau, Manifesto#8, 5
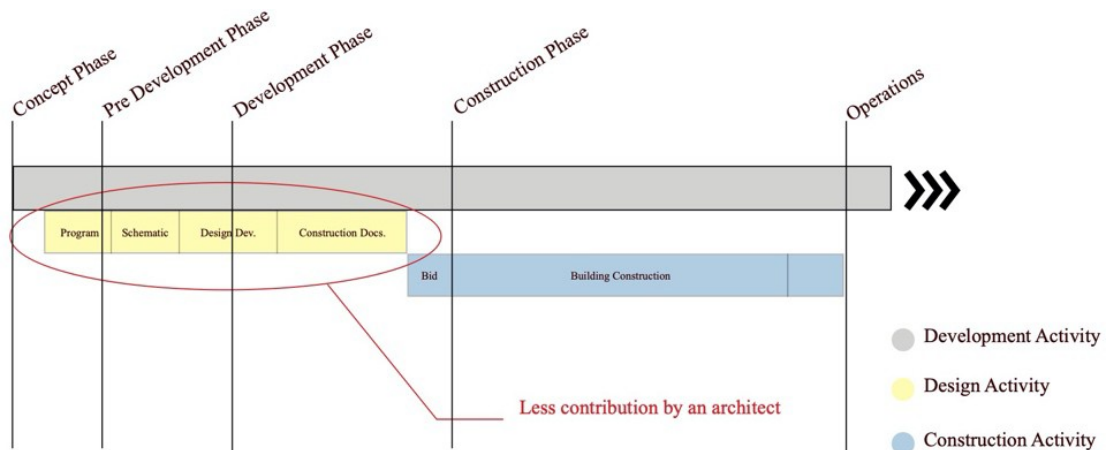
Figure 2: Phases of Construction

Architects are rarely asked about the size, use, location, budget or the materials being used for the building. Due to this, the scope for the job of an architect has narrowed down of converting the decisions already taken into technical drawings. The framework for architect-developer is different because the partnership in terms of capital empowers them to take control over the construction process from the concept phase until the project's operation.

"Developers conceive the projects, select their locations, acquire the land, determine the target market, obtain the financing, oversee the design and construction, and lease-up or sale of the completed building."[10] Whereas practicing as an architect-developer gives one the freedom of working with diverse groups of professionals, liberty of decision making and managing the funds. As discussed by Gregg Pasquarelli, the principle of SHoP architects in one of his interviews "The good architect is when you can balance all of these different ideas and influences and invent the world that no one can yet see."[11]

The conventional development model falters to show an integrated process on numerous fronts, but the main problem is coordinating with diverse number of professionals involved in the beginning of the project which not only can be time

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10.   Gil and Peiser, "The Architects as Developers"

consuming but also cost a lot. In contrary, architects practicing as developers can be resistant to this issue. They can adapt various roles like designer, client or a contractor; answerable to no one but themselves and the user market for which they are designing. With the increased ownership, they can also align themselves to other concerns of the design such as social and environmental aspects. Figure 4 illustrates the change in the quality curve when architects practice as a developer.
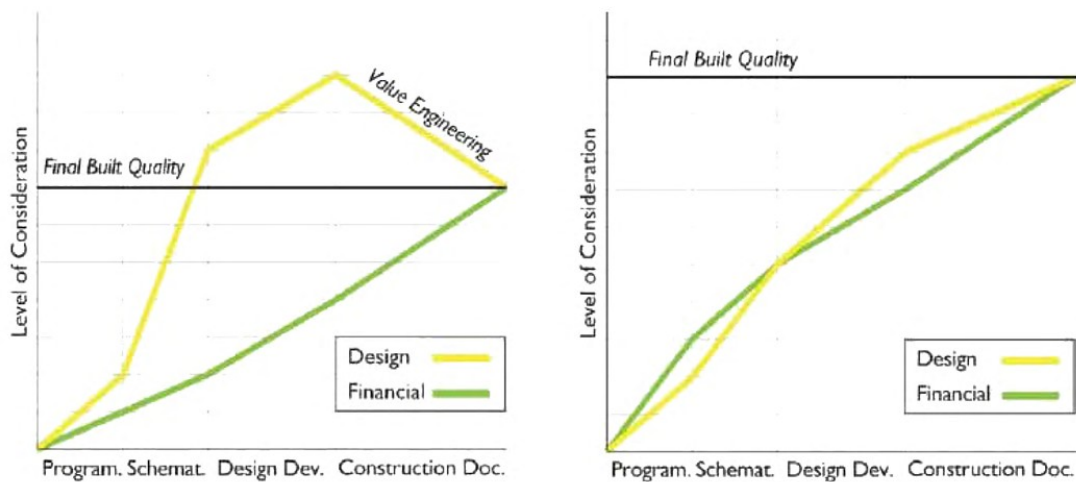
Figure 3: Conventional vs Architect – Developer Process Diagram

In contrast to the conventional development model, the architect-developer model, demonstrates a consolidated process. In the architect-developer process the architect starts working on the project right from the start when the objective is first set up and can incorporate social, economic and environmental considerations at the beginning of the project.

CONTRACTOR

CLIENT ——— ARCHITECT
CONVENTIONAL
ROLE

POLITICS   FINANCE
DRAWINGS
INNOVATION   CONSTRUCTION
STRUCTURE
ENGINEERING ——— ARCHITECT-
DEVELOPER ——— MARKETING
SOFTWARE   PRODUCTION
TRANSPORTAION   CONTEXT
PROCESS   TECHNOLOGY
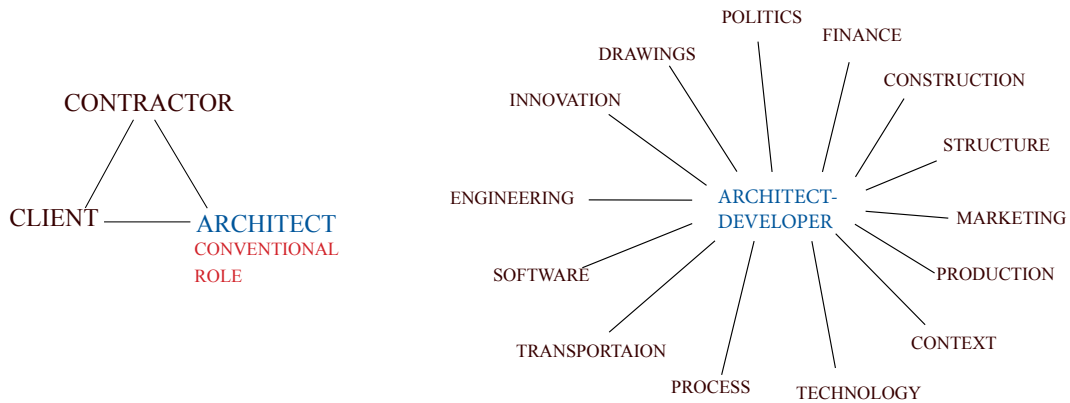
Figure 4: Architect and Architect – Developer Role Diagram

This approach allows architect-developers to concentrate all their energy with activities concerning the design and improvement of building the project and not waste their time in creating design proposals over and over again for owner approvals and legalities. This command gives them an advantage to flexibly align their designs with economic, social and ecological criteria, which takes out the need for value engineering. "The architect-developer model provides a structural framework for the consistent delivery of such developments, with the specific quality and character of individual projects varying based on context, and the values and goals of the architect- developer and his team."[12]

2.2   Benefits of the Architect-Developer Model for Architects

The architect developer model presents several benefits over the traditional developer model:

1.   Better control over the design: As Architect – developer, architects would have a say on different scale of projects at various phase of the building

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12.   Benkert, A Model for Top line Development, 17

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construction.

2.   Creative freedom: Without the client's biased or preconceived notions are the design requirements, architect-developer would have his own freedom of design.

3.   Financial freedom: Now when the project control is in the hands of the architects, they have the liberty of evaluating the project in terms of the usage of new technology or other concerns that the conventional development fails to meet.

4.   Potential of increased compensation: Architect's new role will allow them to enjoy increased compensation for their work.

CHAPTER 3

CASE STUDIES

Several projects were looked into to understand the current development including the projects by the architect -developers too. The key notion was to understand the projects in terms of its economy and sociability. Categorizing the projects into these two groups helped me formulate my design and come up clear ideas for the project designed as result of this research. In the process, work of several architect – developer firms that I followed throughout my research were Jonathan Segal architects, and Onion Flats.

3.1   Economy Driven Development

Economically driven projects are mostly operated and evaluated by developers. The traditional developments are attracted by the people when they were in a need to own a property and less options were available as architects were working for the developers and could not build their own buildings.

The Q situated in San Diego is one of the examples of the economically driven project by architect – developer Jonathan Segal. It is a 7-story mixed-use residential building with office spaces and restaurants on the ground floor. To attract the community around and bring in more people he raised the residential units on the above and cleared the ground floor for commercial usage.

The key features of the projects were:

1.   Creating a bond with the existing fabric of the neighborhood: The Q is situated

Figure 5: The Q: Economically Driven Development

Figure 6: Commercial space coded in red

besides the 1889 Gothic Victorian structure, historically designated as Pray houses. Segal proposed an adaptive reuse of the Victorian structure and utilized it with the proposed new building, The Q.

2.   Promotes live–work environment: Segal provides an opportunity for the residences to also become their offices.

3.   Incorporates passive strategies to reduce energy consumption: Segal uses several strategies to reduce the overall building consumption. It includes photovoltaic panels for 100% power, vertical fins for natural light, horizontal fins to reduce heat gain, operable windows for cross ventilation.

As an architect developer, Jonathan Segal tries to maximize on the potential financial returns by understanding that inhabitants will pay great cash for great plan. A great plan need not be at a cost of its construction quality and the degradation of the environment for profit. Segal has managed to understand the development process in his 19 years of practice as an architect-developer.

3.2   Socially Focused Development

Socially focused development emphasis more on the communal concerns and address people more as compared to the economic focused development.

Jackhammer is a residential building located in Fishtown, Philadelphia, built by the firm Onion Flats. It is a redevelopment of a convenience store and significant drug dealing corner property. Onion Flats took on the project of reviving the neighborhood and making it community friendly and cut down the crime rates. It is a 3-story mixed-use residential building with a commercial space on the ground floor and basement.

Figure 7: Jackhammer, socially focused development

The key features of the projects were:

1. Maximizing space: With barely 700 square feet of footprint, Onion Flats have managed to incorporate light filled basement and ground floor commercial space dedicated to the residents to encourage live-work environment and a sense of community.

2. Encourage community interaction: In contrary to the surrounding buildings in the neighborhood, Onion Flats have managed to create a vibrant, interactive

communal space on the rooftop.

Figure 8: Jackhammer, communal space

3.   Incorporating sustainable measures: It includes a rainwater collecting system
      and a light well that pierce through the building bringing in natural light on all
      the floors.
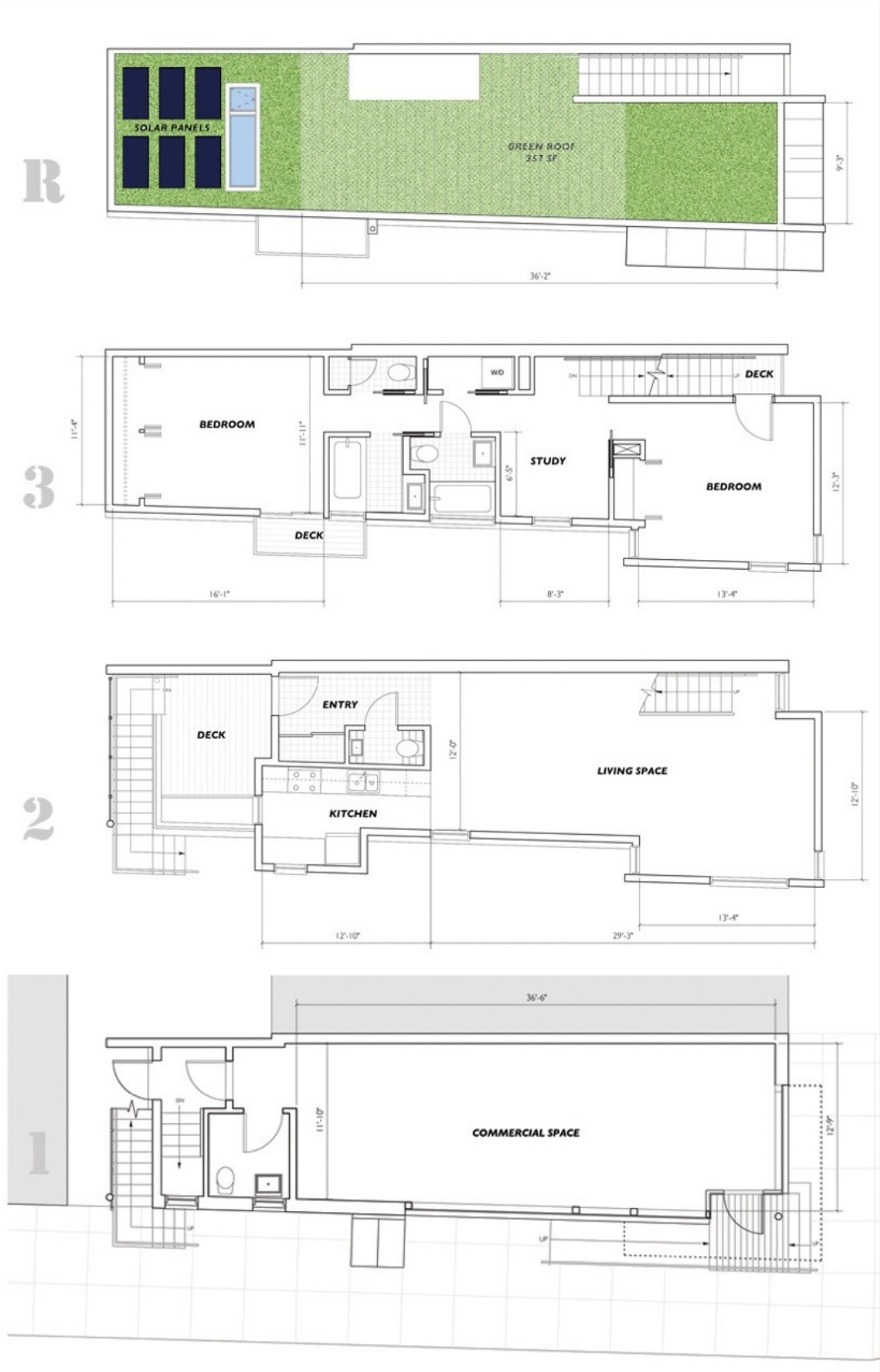
Figure 9: Project plans illustrating the concept

3.3 Conclusion

The critical look on the work of the architect-developers who are practicing in the real world successfully helped me understand how good design affects the neighborhood socially and economically. In the light of this study, I proposed a mixed-use residential building addressing the economic and social issue and implementing some of the concepts of the above discussed case studies in the proposed design project on 256 Pleasant Street in Northampton, MA

CHAPTER 4

GOALS

The chosen site, 256 Pleasant Street for the proposed project is a result of a need to analyze a built project by a developer, critique it and redesign it is using the learnings of the architect – developer model. In order to explore the potential of the architect – developer model, I proposed an alternative mixed-use development to contrast with the existing project - the Lumber Yard project - at 256 Pleasant Street.

4.1   Public Interest Design

"Public interest design is a human-centered and participatory design practice that places emphasis on the "triple bottom line" of sustainable design that includes ecological, economic, and social issues and on designing products, structures, and systems that address issues such as economic development and the preservation of the environment." [13]

Unlike traditional practice by a developer, the idea of the project was to develop a project that is focused on building a community while keeping social, environmental and economic considerations in mind. The key objective is to understand its use in the professional practice and maximize its impact on the project.

4.1.1   Public Interest Design parameters

The key parameters of the study are sociability, uses and activities, access/linkages and comfort/image. The first parameter, sociability focuses on the quality of the social life in the design and user's experience. It involves social interaction spaces and openness of the design project that can lead to lively

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13.   https://en.wikipedia.org/wiki/Public_interest_design

neighborhood with diverse people. Uses and Activities focuses on the creative

abilities a practical use to improve communities (Figure 11).
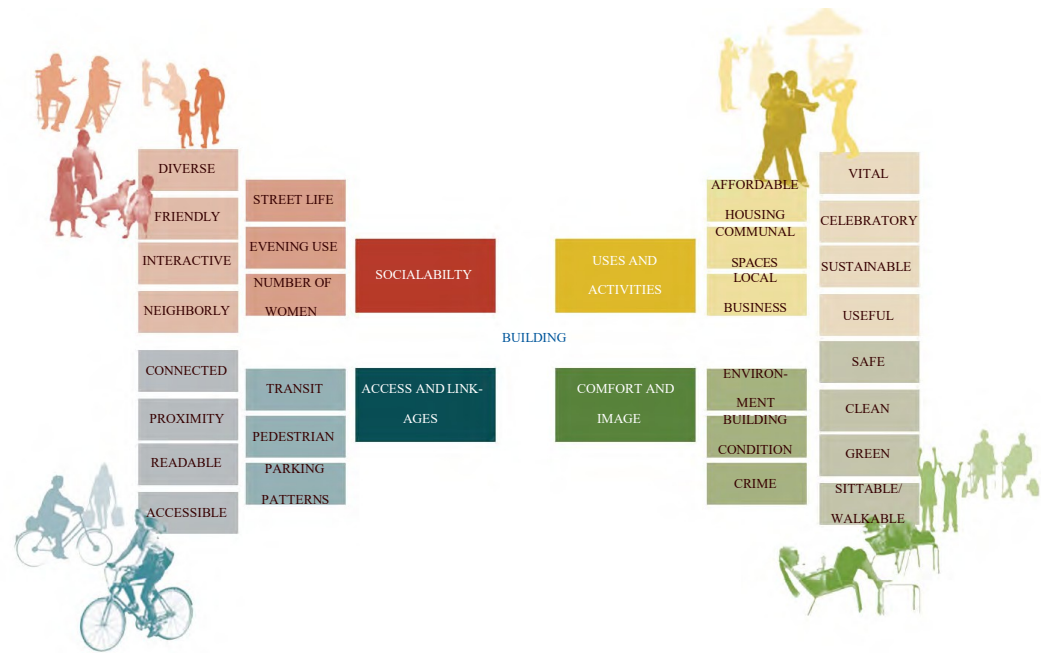
Figure 10: Public Interest Design Parameters
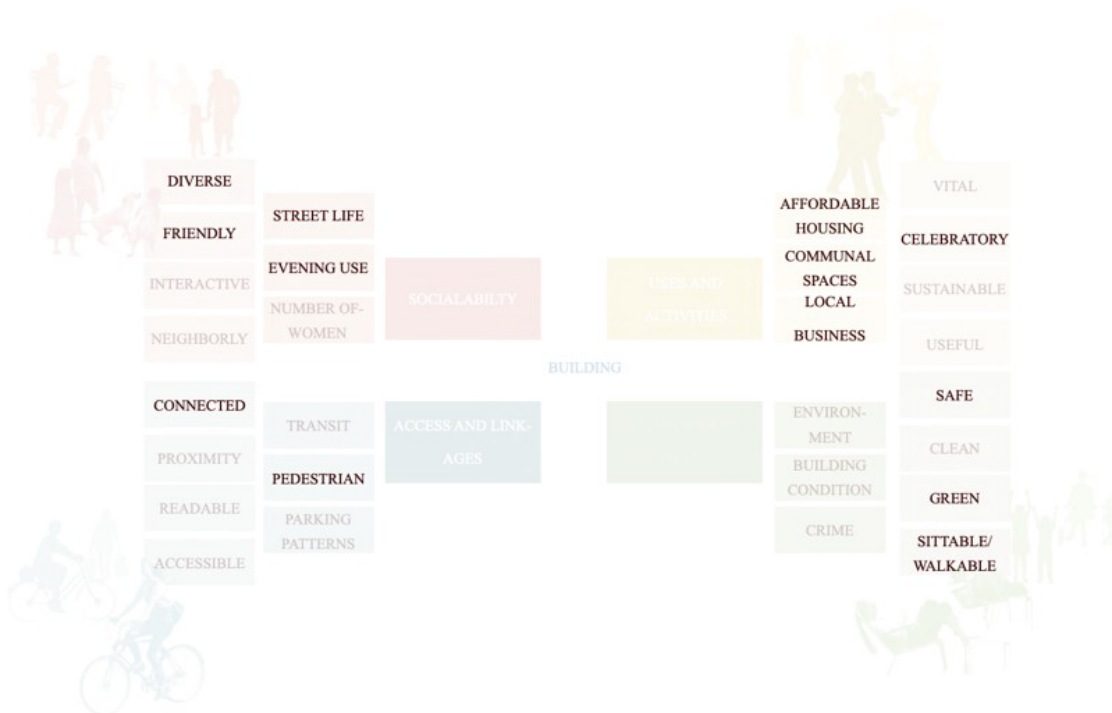
Figure 11: Design Parameters

4.2   Site

To make the project as realistic as possible, a site with the existing building on it was chosen. The site at 256 Pleasant Street could be a possible solution for a mixed-use housing development for similar urban areas. It is situated 1 mile from downtown mixed-use district of Northampton, surrounded by the commercial and the residential zones and has a train track adjacent to the longest face of the site. The site has a 6-story building built on it by a developer completed in 2018 with a commercial street front and 55 residential units.

Figure 12: The City of Northampton   Site

4.3   Design

To begin with the design, some of the building considerations such as program, zoning codes, site boundaries, etc. for the proposed project were taken from the existing building.

The culturally rich and socially diverse setting of Northampton, MA supports a socially driven development.

The design is thus driven by the economics and sociability aspects of the development process with idea of the high – density, low-rise development on the site of Northampton, complementing the surrounding buildings and developing a community within the urban setting.
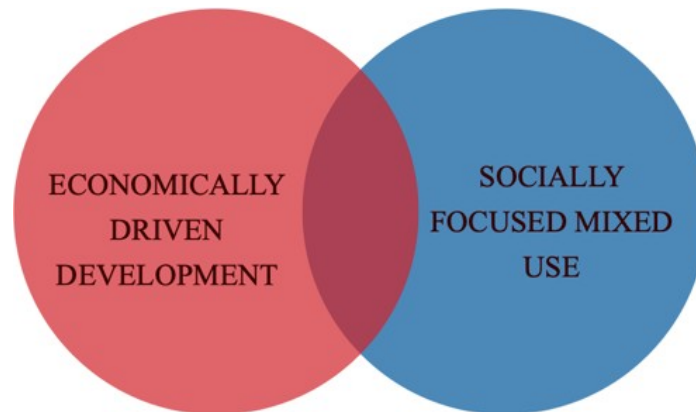
Figure 13: Development focus

The architect – developer strategies for the proposed project are:

i.   Maintain site transparency: Make it more accessible and pedestrian friendly in an urban setting by provide multiple entries and open spaces on the ground floor.

ii.   Maximize profit: Situate the commercial spaces facing the street and introduce live – work environment.

iii.   Affordable: Give the owner an advantage of owning their own home and expand it with time as their needs and family grows.

iv.   Interactive Environment: Incorporate different scale communal spaces for public gatherings, movie screenings, picnics and other outdoor actives.

v.   Passive energy savings: Orienting the units in a such a way to maximize the use of light and wind to reduce energy consumption.

CHAPTER 5

SITE ANALYSIS

The design work began with an in-depth site analysis that tool into consideration the physical conditions of the site (including sun paths), the surrounding architecture, and the broader context of Northampton.

The City of Northampton provides a compelling case study because it's a growing city rich in cultural, artistic, academic, and business interests. Traditionally, it has not had significant investment in mixed-use multifamily developments, and the recent examples are typical of the bland developer-driven approach to housing.

5.1   Physical Conditions

5.1.1   Context

"Northampton features one of the most vibrant downtown centers in New England. It is home to Smith College and is strongly influenced by Amherst College, Hampshire College, Mount Holyoke College and the University of Massachusetts as part of the five-college system in the region."[14] It is a home to students, teachers, young professionals as well the retired population.

"The city has a growing manufacturing, technology and service sectors. The local labor force is diverse, well-educated and highly skilled."[15]

The site is located on the Pleasant street, just west of the historic Smith College, and is a 53,500-sf piece of land owned by the City of Northampton. The location of the site is also well positioned to host a mix of uses to cater to the City's demographic and local real estate needs. This mix includes commercial space on the main road, and a combination of multifamily housing options on the rest of the site.

14.   http://www.northamptonma.gov
15.   http://www.northamptonma.gov

5.1.2   Connections and Access

The site is located on Pleasant Street (vertical road in black) which is connected to the Main street (marked in the first image) passing from the Northampton downtown. There are a variety of transportation options available nearby including the Amtrak rail line, the bike path, bus routes, the highway, and, of course, pedestrian networks.

Main Street: NH downtown

NH bicycle path

Site

Amtrak Rail Track

Figure 14: Site Connections and Access

5.1.3   Zoning

The site falls under central business district (CBD) implying good connectivity and infrastructure. It is surrounded by residential and commercial zones and a few industrial zones. Development of a mixed-use project will increase the permanent residential population within downtown and cater to the full range of local incomes.

Figure 15: Northampton Zoning

5.1.4 Architecture

The Architecture surrounding the site reflects the style of late 1860's with brick blocks. The historians of Northampton talks about the details of the historic buildings as follows: "small pediments top the windows of the upper story and a brickwork cornice decorated the roofline. Iron columns define the retail space on the ground floor. Details such as the fine brick "lace" at the cornice line are present in each. Over the period of time, many commercial blocks were renovated in 1870s with an addition to the original brick structure in "Victorian Commercial" style."[16]

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16. http://www.historic-northampton.org

Figure 16: Northampton Architecture

5.1.5 Solar Shading

The large part of the site is exposed to southern sun due to its orientation. This can be alluring in the winter months but tricky in the hot summers that Massachusetts encounters. The study of sun path and solar shading assist in taking the design decisions such as orientation, placement of open spaces and roof design.

Figure 17: Sun Path Diagram

5.1.6 Site Context

The site coded in red is situated on the Pleasant street. The secondary street i.e. Holyoke street runs perpendicular to the Pleasant street sharing the southern edge of the site. The site boundary on the Pleasant Street is shared by a 2-story office building on one side and single-story L shapes commercial store on the other side. The L-shaped building evident on the site is the existing development. There is a 33' wide narrow street to the North of the site leading to the north parking of the site. Another parking lot is on the south of the street connected to the primary street i.e. Pleasant street and the Holyoke that street passes under the train track. The eastern side of the site shares its edge with the train track through a 24' wide abutment.

Figure 18: Site Context

5.2   Existing Building Analysis

The existing building is 6-story mixed use building with a commercial and residential spaces on the ground floor followed by residences on the rest of the floors.

The building clearly neglects the public interest design strategies as the key

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intention behind the design is to maximize profit. It is designed in a conventional way where the apartment units (in red) are on either side of the hallway (in yellow) and the commercial units face the street (in blue) (Figure 22). The building has 1, 2 and 3 bed units adding to 55 in total stacked on top of each other for 6 floors.

Figure 19: Existing Building Plan

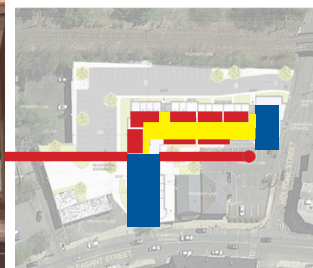Figure 20: Existing Building Analysis

CHAPTER 6

PROJECT PROGRAM

6.1   Building Program

The program is driven by the existing mixed-use development recently completed on the site, 256 Pleasant street. The proposed building consists of two main programs i.e. residential and commercial. While residential area is located on the rear end of the site, commercial block is facing the street in order to be visually accessible by the people. Among the goals of my project is to provide a similar amount of commercial and residential space in order to demonstrate that alternative approaches could be feasible.

6.1.1   Area

Residential: Residential program of the design occupies significant area of the site. In contrast to the existing development on the site, the proposed development is the high density, low-rise development that occupies nearly 20,000 square footage of the site. The apartment units range from a studio apartment to 2-bedroom apartments. There is a construction flexibility within the individual apartment units as the owners of the apartment are given the liberty to convert their apartment into a townhouse by increasing the number of bedrooms or add another apartment on the top for bringing in extra money by renting it. There are 45 proposed units on the ground floor and 29 units on the first floor. This may increase with time as per the owner's need.
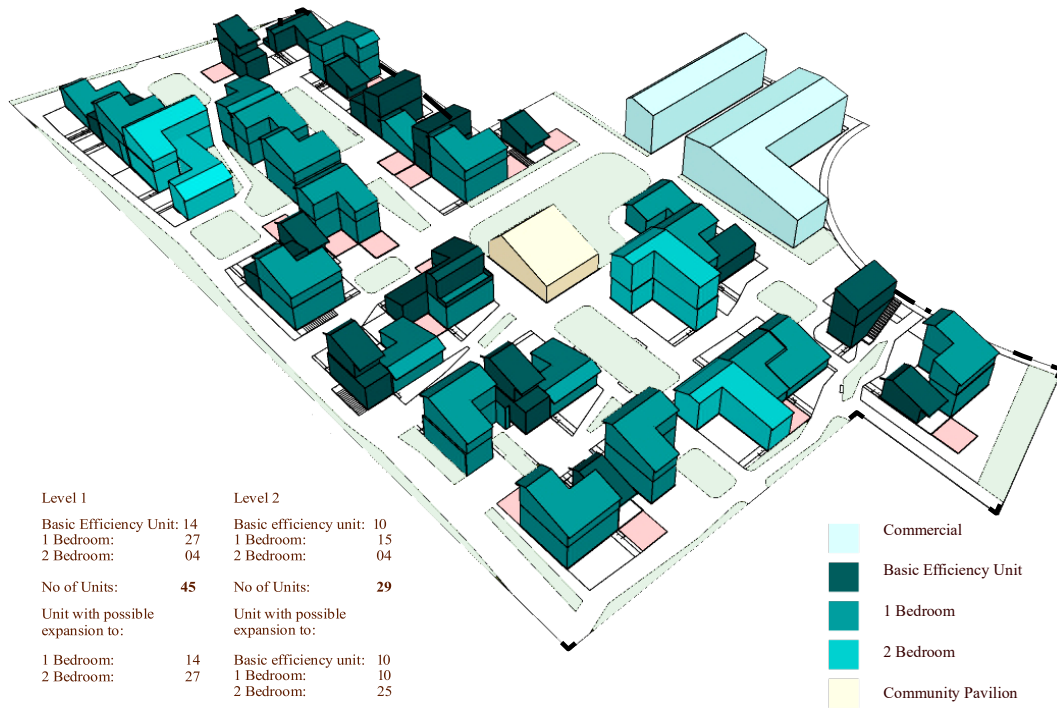
Level 1

Basic Efficiency Unit: 14	
1 Bedroom:	27
2 Bedroom:	04
No of Units:	**45**

Unit with possible
expansion to:

1 Bedroom:	14
2 Bedroom:	27

Level 2

Basic efficiency unit:	10
1 Bedroom:	15
2 Bedroom:	04
No of Units:	**29**

Unit with possible
expansion to:

Basic efficiency unit:	10
1 Bedroom:	10
2 Bedroom:	25

Commercial

Basic Efficiency Unit

1 Bedroom

2 Bedroom

Community Pavilion

Figure 21: Proposed program area

Commercial: The site, 256 Pleasant street falls under the central business district. Thus, majority of the development facing the pleasant street is primarily commercial in nature. In order to increase the foot traffic, the proposed commercial block is also facing the Pleasant street. Existing commercial space of Lumber Yard project is approximately 2900 Square footage in area, whereas the proposed development consists of nearly 5500 square footage of the commercial space. The commercial block for the proposed development can be occupied by not only the local tenants of Northampton, but also by the residing community on site.

Common areas: The common areas include the communal gathering spaces, a community services pavilion and the apartment clusters' circulation. The common areas could be used for various purposes such as movie screenings, picnics, outdoor community functions. This will help keep the neighborhood safe and encourage interaction among diverse groups of people.

6.1.2　Connectivity

The site is near diverse modes of transportation including train, cars, and buses. The proposed development on the ground maintains transparency by providing various accessible entries to the site and open spaces. The parking is pushed to the edges while the residences and the commercial blocks are pedestrian friendly. As a result, each mode of transportation is treated equally, and people have access to the site in ways feasible to them.

6.1.3　Spatial Organization

Spatial organization of spaces both on the site level and individual unit level follows the same concept of open, flexible, green, public – private considerations. On a site level, the arrangement of apartment clusters allows for open and spacious communal spaces with the arrangement of expansion of each apartment unit. On an individual unit level, the aim is to design an open flexible layout which can be transformed by the owners. This in return maximizes the efficiency of the units.

Residential: Since the residential units are horizontally deployed on the major part of the site, the idea was to maximize the number of units, yet provide sufficient green spaces that cater to small cluster of three to four apartment units. The orientation of the units depends on the sun path to reduce the consumption of energy.

Each apartment consists of a basic unit which repeats itself to form the studio, 1 bedroom and 2-bedroom apartment units. This series of repetition of 10 feet x 10 feet block is further deployed and interconnected on the site in various ways to form a small cluster with small open communal space. These clusters come together to form larger communal space creating a hierarchy that caters to diverse group of people of all ages, families and income. Figure 22 illustrates the formation of apartment units by the 10 feet x 10 feet blocks.
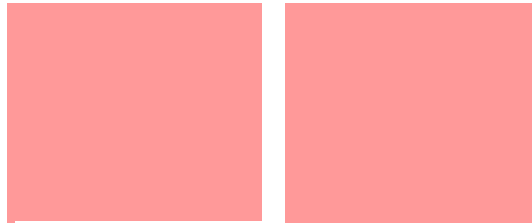
Studio Apartment
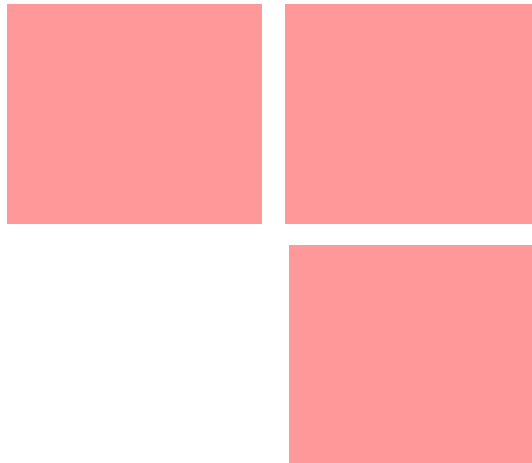
2 - Bed Apartment
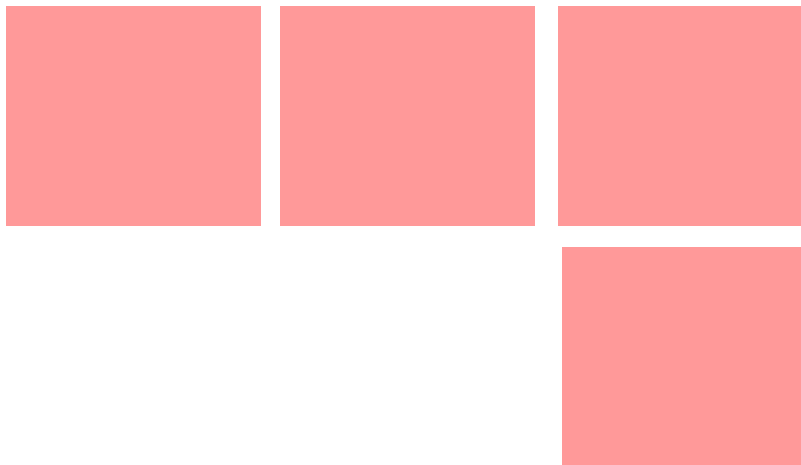
3 - Bed Apartment

Figure 22: Formation of units

Commercial: The commercial block follows the same language as that of residential units. It is placed facing Pleasant Street with a wide pedestrian street piercing through the block connecting to the largest communal space of the site. This pedestrian street is the most public street of the project and gives access to majority of pedestrians entering the project. It acts as a threshold between the busy street with a lot of traffic and quieter residential area.

6.2   Financial Program

The aim of the proposed development is to cut down on the cost of the project and integrate public interest design as well. The site's proximity to the downtown and various important buildings around brings in people of diverse age groups, income and families. In order to cater this diversity including students and young professionals, the houses needed to be affordable. Thus, the concept of incrementality was adopted. Space for the expansion of the house is considered in the design. The apartment units can be owned or rented. Moreover, passive design strategies are incorporated in the design which cuts down the energy consumption.

CHAPTER 7

PROJECT DESIGN

7.1   Approach and Objective

The key objective of the design was to create a development that takes social, economic and environmental considerations into account and that benefits both the architect as a developer and the community residing in it.

The aim of the development is to create affordable housing that is incremental in nature and caters to diverse groups of people and places high importance on creation of a community. The unique point of the development that will attract people will be its proximity to the surrounding amenities. The proposed project is a human scale development deployed all over the site and provides a possible solution for similar urban centers.

7.2   Design

The most prominent part of the site plan is the arrangement of the units and the changing scales of the open spaces. The 2-story apartment units are intended to change their façade and the skyline over time as people start to adapt and modify their apartments according to their usage and requirements.

Public open spaces: It includes the open green spaces of the site which act as a communal space. The L shape apartment units deploy and interconnect with each other on site in such a way that every 3 to 4 units form a cluster with a small open space. This open spaces' design is based on the public – private parameter and varies in size and usage. The smaller the size, the more private the space. This arrangement of open spaces offers residents a level of control in how they interact in the neighborhoods.

Figure 23: Hierarchy of Community Greens

Semi-public open spaces: It includes the front-yard and backyards of the apartment units which act as a private outdoor space for each apartment unit. This private outdoor space supports various activities ranging from outdoor gardens to expansion of the unit (in brown). It also acts as a threshold between the private apartment unit and the public quality of the streets.

Figure 24: Site Plan

Community pavilion: It is placed at the heart of the site supporting residents of all ages. It offers recreational spaces and services like laundry, leasing, etc. with the threshold space for the gathering. Its location is based on the proximity to the apartment clusters.

Figure 25: Community Pavilion

Unit Design: There are multiple options designed for each apartment unit as illustrated in figure 29 to 32. These unit plan illustrations are derived from the orientation of the unit, location of the unit and its expansion. The porch and balcony units are a result of an effort to incorporate passive strategies. Units facing the south are most probable to convert their front yard into a balcony or a porch in order to have protection from the sun and still have sun in the apartment.

Each unit ranges from 300 square feet to 700 square feet with a potential of expanding into a larger residence. Each of them is designed with an open flexible layout as shown in figures 26 to 28. Open layout allows for the cross ventilation and enough light in the apartment all day. Apartments grow from the basic efficiency unit that consist of a necessary service area like kitchen, bathroom and a living room.
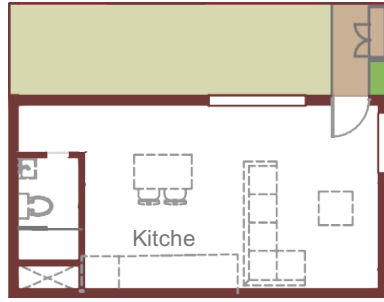
Figure 26: The "core"
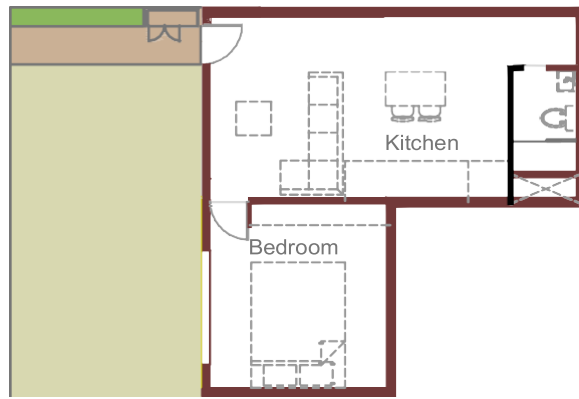

Figure 27: 1 Bedroom Unit

Figure 28: 2 Bedroom Unit

EXPANSION TO 1 BEDROOM   EXPANSION TO 2 BEDROOM   EXPANSION TO 2 BEDROOM

ALTERNATIVE UNIT CONFIGURATIONS

GROUND FLOOR PLAN

FIRST FLOOR PLAN

Figure 29: Option 1 for expansion of the units

GROUND FLOOR PLAN

FIRST FLOOR PLAN

Figure 30: Option 2 for expansion of the units

THE PORCH

EXPANSION TO 1 BEDROOM   EXPANSION TO 2 BEDROOM   EXPANSION TO 2 BEDROOM

Figure 31: Option 3 for expansion of the units

THE BALCONY

EXPANSION TO 1 BEDROOM   EXPANSION TO 2 BEDROOM   EXPANSION TO 2 BEDROOM

POSSIBLE EXPANSION

WALKWAY

Figure 32: Option 4 for expansion of the units

Roof Design: This is another crucial part of the design which is designed according to the orientation on the sun. Units oriented in the north – south direction has the roof inclined at 15 degrees to for sufficient sunlight to enter into the apartment as shown in figure 35.
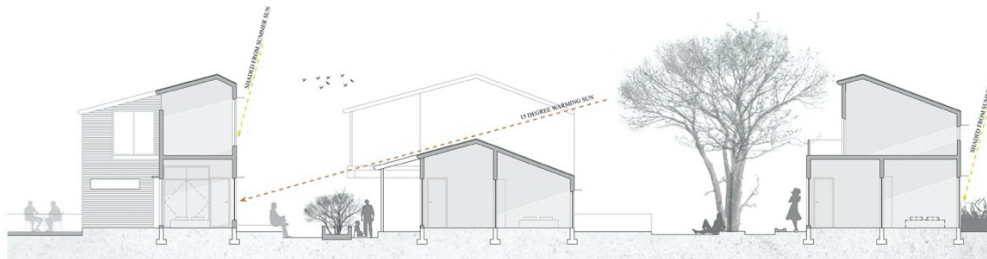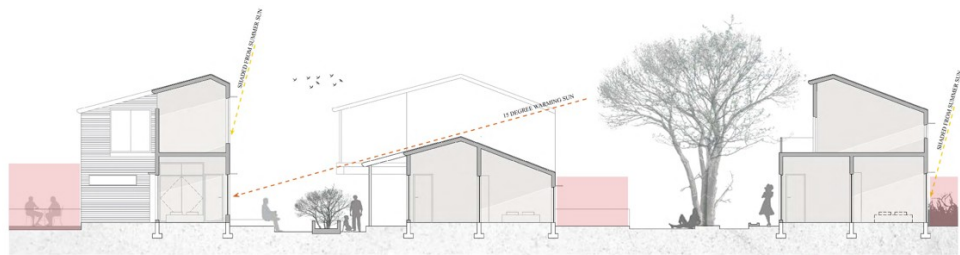

Figure 33: Section

Figure 34: Section with the possible expansion illustration

Figure 35: Internal Street

Figure 36: Site Overview

CHAPTER 8

CONCLUSION & REFLECTION

The goal of this thesis is the integration of the architect's practice to that of a developers' and design a project that integrates social, environment and economics aspects of the building construction and benefits both the architects who intend to practice as a developers and users of the building they build. The strategies and the model used in the proposed project as an architect developer, to create a mixed-use development on 256 Pleasant street Northampton, MA, might not be the ideal development but it significantly achieves the goals discussed. In terms of economic aspects, the project is affordable and supports the residents and the commercial property through live work environment. Socially, it incorporates different scale communal spaces encouraging lively interactive environment. Environmentally, the project involves the passive strategies and pedestrian friendly environment within the site. The architect – developer model turns out to be good strategy of practice as it benefits not just the developer but also the architect, the occupants, the city and the environment.

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