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Cincinnati Makers Collaborative

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Abstract

Substandard living conditions for impoverished individuals and families in the United States enhance the already grim circumstances facing a marginalized population trying to survive. These living conditions are defined not only by a lack of upkeep but also by neglect for environmental, social, cultural, and behavioral influences in the initial design. Understanding the realities of dwelling, poverty, environmental behavioralism, and contextual stimuli is paramount to addressing the poverty epidemic. A series of case studies on effective, affordable housing solutions by architects including Michael Pyatok, Kava Massih, David Baker, and Patrick Tighe, combined with research on poverty conditions, utopias, and the urban context will allow for a synthesis of human programmatic needs. In addition to the focus on dwelling, there are four secondary topics that must be examined in depth to gain insight on how to design dwellings for the poor: environmental behavioralism, current social structures, the history of public housing in the United States, and specific contextual stimuli. It is the attention paid to contextualized human needs and to a slightly lesser extent environment and culture that allows the formation of sustainable, vibrant living conditions; places people can call their own. Analyzing these needs has led to an idea about how to live life in community more holistically, addressing many of the challenging realities facing the poor. This utopian community exists amidst the hopelessness that defines poverty and creates a role that the architect can step into and use minimalist design to provide opportunity to build capacity within a marginalized demographic.
Preface

The story behind this thesis is not found in a spectacular event or at a certain time in history. Rather it comes from an evolution of life decisions and a pursuit of something I know to be much greater than myself. Growing up, my family, friends, and church provided me with community where I could see true love and selflessness manifested in everyday life. I had the opportunity to go on mission trips to Appalachia and experience firsthand the conditions people were living in on a daily basis, and do the little bit I could to swing a hammer or drive a nail that would hopefully help to improve those conditions. College came and I decided to study architecture, a discipline I assumed would be a good mixture of the math, science and art that I enjoyed in school growing up. Though studying architecture did not match my preconception, I found it to be interesting and a suitable profession. With that said there was something missing; the passion for community and love I had experienced in my childhood was not showing itself to me in my future profession. During my first scheduled co-op at UC the market was bad and I was not able to find a paying position in the field of architecture. Little did I know, this was a major blessing in disguise. I ended up going out on a limb and signing up to ride my bike from Benton Harbor, MI to Tallahassee, FL. The purpose of this ride was to raise money, spread awareness and build houses for the Fuller Center for Housing. I cannot honestly claim to have known exactly why I decided to do this or where it was going to lead me but it turns out that the mystical orchestration that can occur in our lives is something much greater than anything we can plan on our own. The experience of getting to intimately know a group of strangers who are passionate about serving the poor was only the beginning of this journey. The mission of the Fuller Center spoke to me. God revealed to me through all of the uncertainty the reason I had been guided to architecture was not necessarily that I was going to alleviate poverty housing.
Instead the reason was that there are millions of people living in inadequate circumstances and that I am learning a skill set that if used properly can have a tremendous impact on the quality of life for the masses.

Architecture gained purpose for me on that trip through the country. I am not passionate about the discipline but rather the people it can serve. I have since continued to love the poor in the best ways I know possible and come to the realization that for me, architecture is a tool for change. My experience in past studios has at times been frustrating and seemed superficial, though at the same time invaluable for the skills I have learned. I am excited to now focus on trying to understand social structures and human behaviors, and pair this knowledge with my architectural understanding to develop sustainable urban housing for the poor. The value in any architecture lies in the purposes that people using the architecture give to it. Therefore the architect must understand and be able to relate to the people who will occupy and experience the space that is being designed. Though the architect need not be fluent in every subject and every discipline, as Vitruvius states, there is a social responsibility that is held even by the architect of today to know the voice of the demographic they are serving. There are those of us who are people of choice, those with a heard voice, who have the opportunity to seek and find space that is fitting to our needs. However, there are also others who are not people of choice and have been marginalized by society to a place where they have no voice and must accept whatever is available. I have been blessed to grow up in a great home and I feel called to give others the opportunity to do the same.
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Problem

The epidemic of poverty in American cities now and throughout the twentieth century is a result of many contributing factors. One factor is the existence of substandard living conditions for the poor that have not addressed essential cultural, societal, behavioral and environmental context in design and building performance. It would be nearsighted to assume that architecture is going to resolve the issue of poverty in America as this is a much larger dilemma than any one discipline or movement can attempt to tackle. However the approach to architecture and building in America for the poor is in large part severely flawed. It is undeniable that the built environment can have a profound impact on the livelihood of individuals. Current living conditions for the poor are more often than not far less than desirable and are not environments that are conducive to any sort of sustained, productive, and stable lifestyle.

The poor have been continually marginalized by society and modern assumptions have been made dating back to the housing reform in New York City, resulting in the tenement house law of 1901, and later the housing acts of the 1930s and the creation of the projects. This marks a time when behaviors of the poor were assumed by many modernists to be predictable, controllable, and nonessential. Many people today in design fields including architecture, in conjunction with the movement towards humanitarian design, are asking how the built environment can contribute to quality of life in low-income urban neighborhoods. They are coming to the realization that everyone deserves to experience thoughtfully designed places. Understanding the realities of dwelling, poverty, environmental behavioralism, and contextual
stimuli is paramount to addressing the issue of suitable living conditions within the poverty epidemic.

Background

Poverty is very clearly the overarching element and primary factor that creates the dilemma of substandard living conditions in American society. As defined by the Oxford English Dictionary, poverty is the condition of having little or no wealth or few material possessions; indigence, destitution. Substandard living conditions can be attributed in large part to economic poverty, though there are many other types of poverty that play more minor roles in creating these dilapidated environments. Although this is the overarching cause, it will not be the immediate focus but rather the primary underlying condition. The contemplative matter from an architectural perspective, that has in large part eluded, or rather been ignored by the architectural profession, is how the architect uses and analyzes these societal conditions to develop a formal and physical response within the built environment. These conditions are by no means a simplistic formula of criteria, but instead change in every culture, region and community. A broad scope of critical conditions will contribute to developing tangible design criteria that can be manifested in physical form including the existing physical environment, natural environment, technology, social and cultural norms, and human behaviors. It is the tendency to not recognize or simply disregard one or many of the previously identified conditions that has created a physical landscape that includes so many examples of substandard living conditions.

The architectural profession, and most other professions for that matter, is primarily driven by money and who has the ability to pay. Most often the poor are not a demographic group of society that can pay to have architectural or design services. Much of the building and architecture, if it can even be called such, that is going towards creating places of dwelling for the poor are government funded. There

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is an underlying idea in society expressing that since this money is coming from the government, and only directly benefiting a few, it should be minimized to the greatest possible extent. Fair or not, this leaves little money for architectural firms to invest in design, much less research on the people who are going to be occupying the space. There are also few formulaic strategies to use in approaching these challenges since the conditions are always changing.

Without approaching any sort of concrete hypothesis or solution to this vast problem, this is a situation where partnerships between the architecture profession and academia could prove beneficial. Recent humanitarian effort within the design fields such as The 1% and Architecture for Humanity are examples of people approaching architecture with a mind for service and the betterment of society as a whole. These organizations are undeniably a great thing, but the reality is that the need is much greater than can be handled by these efforts. Firms are being hired to develop affordable housing and they need to have access to the tools that will help them design with attention and multiple levels of consideration so the physical outcomes will be contextually appropriate and form sustainable solutions. More complete and comprehensive analysis need to be done that help to describe and understand the many challenges that living in poverty creates. From this synthesis, design for the poor can be approached from a more broad view than just that of housing and thus step closer to a comprehension of how design can appropriately be used for social justice and the marginalized society.

This issue of designing dwellings for the poor is a complex condition. Multiple disciplines need to be addressed. First is the concept of dwelling and housing on an urban scale. *A Pattern Language*, written by Alexander, Ishikawa, and Silverstein, which reintroduces the formation and design of buildings back to the user, is an important text to start with to gain perspective on the relationship between space and the user. Lie Qu addresses a similar question with specific focus on housing projects in recent times in *Making Room for People: Choice, Voice, and Liveability in Residential Places*. 
Designers that are currently working with affordable housing solutions, in large part in the San Francisco and Oakland areas, include Michael Pyatok, Kava Massih, David Baker, and Patrick Tighe. They each bring a unique design approach to their buildings and are very progressive in the ways they effectively stray from conventional means of affordable housing, emphasizing the occupant as being the most important influence on the design. Looking at the current trends in urban housing in texts such as *New Directions in Urban Public Housing* written by Varady, Preiser, and Russell will help form a framework for existing developments and how they are responding to the contemporary city. The Congress for the New Urbanism provides a methodology for building and planning development that is prevalent in low-income housing including HOPE VI projects. Regardless of the aesthetic associated with New Urbanism it is important to understand these ideas as they contribute to current thinking and contemporary formation of the physical environment. Looking at Jane Jacobs’ *The Death and Life of Great American Cities* and Eisenman and Rossi’s *The Architecture of the City* will help develop an understanding of the formation of cities. Although this is not the primary concern of this research it will assist in creating a context in which social, economic, and political ideas can be understood in relation to the built form of an urban fabric. Another critical text is *How Building Learn* by Stewart Brand, which analyzes how buildings naturally progress after they are built through time. Working under his ideas about designing in a manner which gives the occupant control to adapt the space to their needs over time will help to address the larger demographic of the poor as opposed to an individual residential client. The other primary discipline that needs to be addressed is environmental behavioralism in order to have a better understanding of how people react to spaces. This is a very broad discipline incorporating psychology, sociology, cultural studies and much more. Using Oscar Newman’s theory of defensible space will be a starting point for this analysis. This is an idea revolving around the necessity for dwellings to be places that are safe and secure, a primary concept in designing living conditions for the
poor. Influential texts related to environmental behavioralism that have arisen since the inception of defensible space arose in 1972 include *Environmental Interaction* by David Canter, *Environmental Design and Human Behavior* by Leonard Krasner, and David Kopec’s *Environmental Psychology for Design*. Expansion from these disciplinary ideas will be specific demographic behavioral studies in crucial areas of concern. An analysis of the progression and breadth of thinking since the inception of defensible space will be the initial study to begin to understand people and their environments.

No single piece of work that has been mentioned is going to provide a conclusive answer to designing housing for the poor. However, through a synthesis of these ideas in addition to an exploration of more abstract ways of thinking about society and the condition of poverty can start to shed light on a more comprehensive set of needs for the poor. Exploration of utopias, alternate economies, and ideas about co-housing will help to redefine some of the more traditional notions of affordable housing.

**Summary of Chosen Literature**

**Housing + Dwelling**
- *A Pattern Language* by Alexander, Ishikawa, and Silverstein
- *Making Room for People: Choice, Voice, and Liveability in Residential Places* by Lie Qu
- Architecture by Michael Pyatok, Kava Massih, David Baker, and Patrick Tighe

**Current Urban Housing**
- *New Directions in Urban Public Housing* by Varady, Preiser, and Russell
- Congress for the New Urbanism

**City Systems + Structure**
- *The Death and Life of Great American Cities* by Jane Jacobs
- *The Architecture of the City* by Eisenman and Rossi
- This topic was included to provide background and context for the incorporation of housing into the already established built form of the city.

**Methodology**
- *How Building Learn* by Stewart Brand

**Environment Behavior**
- Defensible Space Theory by Oscar Newman
- *Environmental Interaction* by David Canter
Literature Review

Abraham Maslow, developer of the well-known Maslow’s hierarchy of needs, lays out a sequential analysis of human development in his theory. Directly after the basic physiological needs of food, water, sex, sleep, etc., Maslow identifies safety as being the next level of progression in moving towards self-actualization. This level of need includes security of body, property, family, health, and resources. From an architectural perspective it is this level of need that can be most influenced through the manifestation of built form. In regards to individuals and families living in poverty, safety is a need that is not guaranteed to be experienced with any sort of regularity. For this reason it is essential to better understand previous theories and attempts at creating living conditions that are safe and secure.

Newman: Defensible Space

*Design Guidelines for Creating Defensible Space*, written by Oscar Newman in 1976, addresses one of the most essential questions to understanding how to design living conditions for the poor: how do different social, physical, cultural, and economic factors combined with human behavioral needs drive the production of secure, livable, community centered housing? Oscar Newman is the architect and city planner who developed defensive space theory, which strongly influenced residential design from its induction in 1972 until the 1980s. Some of Newman’s basic principles within defensible space theory are still regarded as being applicable today. Newman defines defensible space in his book, *Design Guidelines for Creating Defensible Space*, as “a term used to describe a residential environment whose physical characteristics – building layout and site plan – function to allow inhabitants themselves
to become the key agents in ensuring their own security.”

Newman emphasizes the role of the occupant in the creation of defensible space noting that the occupant has to accept the role in maintaining safe environments that are conducive to life-giving dwelling. The importance of this lies in the idea that spaces are safer when someone has taken ownership in them and cares about what happens in them.

Newman identifies six factors of human behavior as being influential to security design. They are as follows:

“the security needs and concerns of different types of resident groups; the use each group makes of its respective home environments; the capacity each group has to contribute to its own security; the building types available to answer the needs of different groups at different densities, the design options possible in site planning; and finally, how all these interact to maximize residents’ control of their environments.”

From these ideas Newman sets up five design guidelines that he explains throughout the remainder of the text. These guidelines range from the formal juxtaposition of buildings in relation to the surrounding context to the creation of territorial zones that people will want to stake claim to.

Though Newman does briefly address the behavioral aspects that go into creating defensible space he tends to make many assumptions about human behavior that do not remain consistent throughout society. He assumes that when defensible space is created, according to the design guidelines that he lays out, that people are going to be willing to adopt the space as their own and take ownership and responsibility for it. This however is to a certain extent ignoring many of the basic concepts of dwelling and generalizing about the psychological impact that a space can have on people. Undoubtedly, further study needs to be done in order to provide clarity about the people who are occupying the space and their reactions to defensible space as a dwelling. There is also the question about whether the space is going to dictate the behavior and routine activities or vise versa. Defensible space theory has been applied successfully in projects such as the Five Oaks Neighborhoods in Dayton,

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3 Ibid.
OH and at the same time unsuccessfully in the case of Dover Square, a pseudonym used by Sally E Merry for a neighborhood in an East Coast city. It is clear that there is more to designing successful affordable housing solutions than a single theory that targets safety, one of the main issues plaguing developments. In addition, it is known that Newman’s ideas presented the beginning of a new way of thinking about how to encourage safety through design. It brings an importance to understanding that all people desire safe and secure places to live and that this is by no means a given in many low income living situations. The solutions Newman proposed do not fully achieve the goals of defensible space but they are a building block for which architects, planners, and scholars have been adapting and refining to better understand the creation of safe residential environments.

Michelson: Desirable Living Conditions According to the User

Taking a step back from the idea of defensible space, William Michelson, sociologist at the University of Toronto, looks more specifically at the conditions that are desirable for living in the most basic sense in Environmental Choice, Human Behavior, and Residential Satisfaction, written in 1977. This text addresses many of the issues that Newman essentially missed in his writing on defensible space. Michelson notes that writing his book was a product of there being “no systematic or productive means of evaluating the social implications of different forms of housing and location in the city…” He also states that the process of choosing a place to live is both motivated and reactive, thus meaning that people have certain characteristics and criteria in mind when they are searching for a place to live but they are also likely reacting to a set of circumstances that drive their decision making process. The first chapter lays out what Michelson considers to be the three most influential factors in determining

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where someone is going to live: mobility and choice, user needs in housing, and environment and behavior. One key point that arises out of these factors is that architects often look for a checklist of what to include in a house where in reality this is going to prove to be a useless tool that will not come close to satisfying the hierarchy of needs as identified by Maslow. Another point arises in the realization that there are vast differences in the way each culture, class, and society understands and uses space. Michelson expands this idea to say that within each group of people there is also going to be a wide range of ways in which individuals use space and architects therefore cannot use labels to group people or even operate under the assumption that the behaviors of people within a specific environment are going to be as expected. Michelson concludes this section by stating, “Environments, within the context of congruence, are opportunity fields, which, depending on their design, provide the opportunity for a certain (usually wide) range of behaviors to occur, although some behaviors are made difficult and others are precluded.”

Contrary to Newman, Michelson suggests that environments are a variable that will affect behavior rather than a mold. Also, in contrast to Newman, Michelson realizes that the realm of cultural and social variables impacting behavior are too broad to attempt to make a comprehensive mapping of all the situations and likely design solutions. Though at the beginning of the text Michelson states his reason for writing being the lack of means to evaluate the variable affecting housing development he does not at all satisfy this need with any tangible methodology. Rather the text concludes with a series of generalizations about behaviors within certain building types and recommendations for improvement in some specific situations. Where Newman failed to address in his design guidelines many of the criteria needed to understand the development of defensible space, Michelson just averts pursuing the creation of any such guidelines. This may very well speak to the level of complexity of human nature and reaction to built space, specifically residential space. It may also be insight on the approach being

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6 Ibid., 27
taken. Rather than search for specific identification and explanation of human behavior is what is needed a methodology for embarking upon these analysis? Do architects, planners, and the related disciplines understand the process in which to evaluate a specific cultural context and the complexity of factors influencing poverty and come to a conclusion to design by? Subsequently, do design professionals understand how to design in order to create space that is a positive variable in which people can live?

Kopec: Psychology of the Home

In order to observe and analyze a specific people group it is important to understand people as a whole. Environmental Psychology for Design written in 2006 by David Kopec, professor at the University of Arizona, provides cohesive analysis on how people perceive and react to specific environments. Chapter seven focuses on residential environments and the concept of home. Kopec lays out two main psychological components of home, emotional attachment to place and perceived safety and security. As stated by Michelson, both of these factors are going be dependent upon the culture and individual. Kopec states immediately that residential design needs to be specific to the individual either by being part of the initial construction or adaptation over time by the occupant. This speaks to what Stewart Brand talks about in How Building Learn, creating spaces that are sensitive to time and the people who occupy them. Kopec continues by laying out concepts of home: permanent vs. temporary, homogeneous vs. differentiated, communal vs. noncommunal, identity vs. commonality, and openness vs. closedness. This is a series of preferences that individuals will have that are ultimately manifested in the physical construct of a residential dwelling if it were built completely to fit the individual. Cultures can be assessed by these five concepts providing a framework for what traits need to be designed for. Kopec continues with talking about what the home is emotionally. He expresses that home is often a
state of mind in addition to the physical place. It is a place for expression, personalization, stability, security, safety, and association. Designing with the mindset that these are critical elements to why people are willing to call a place home helps create spaces that people want to call their own. Throughout the chapter Kopec give spatial design applications to illustrate the points that he is making and that make the ideas tangible.

Kopec brings to light the idea that as long as a dwelling is designed to be a variable in behavior it is ok to begin to make certain assumptions and generalizations about culture and society of a certain place. While this may sound risky based on the research done by Michelson it must be realized that spaces are not going to ultimately determine behavior. In housing for the poor, where there is going to be a relatively high turnover rate, it is going to be impossible to design for each individual specifically and it would not be desirable as the element of time is going to ultimately change the desires of a space. Communication, accessibility, freedom, occupation, and relaxation are functional aspects that people desire in a home that need to be the basis of design. However, it is not the what, but rather the how that is important in this equation. How does each culture respond to those specific functions of home and what is the best way to allow for these spatially? Environmental psychology as a discipline will provide the basic framework for understanding people but it does not expand upon that to lead to a clear set of ideas about how to design. The design ideas that are presented are relatively simplistic and must be expanded upon to really dig into behaviors and get away from user preferences and thinking about space. Newman does this in how he describes spaces that he thinks will be defensible. He looks at territoriality and trying to get people to take ownership of a space and keep intruders out. A general understanding of environmental psychology is important for initial analysis of people but once a design continues to progress it will likely move beyond the reach of environmental psychology, retaining its basic principles.
Newman’s defensible space theory played part in creating a desire to understand people and how they interact with space, specifically residential space. *The Future of Newman’s Defensible Space Theory* written in 2009 by Danielle Reynald and Henk Elffers, both Dutch Professors, bring to light some of the specific flaws that have been found over time with Newman’s theory. Part of their criticism revolves around the lack of creation of defensible space claiming that Newman does not give specific mechanisms to drive the design aspects of defensible space. He leaves a lot of room for interpretation of what defensible space actually is. As a result, many of the studies done following the introduction of Newman’s theory studied completely different aspects of what defensible space could be and came up with no consensus answers about the effectiveness of defensible space. It also states that Newman had a “neglect of basic social, psychological and behavioral processes as critical underlying mechanisms in the creation of defensibly space.”\(^7\) This argument was based on the idea that social climate can be as or more influential to the safety and security of a residence as the space itself. Social processes also have a huge impact on determining how territorialism works which is a key idea that Newman talks about. This reverts back to the idea that people are not necessarily going to take ownership of a space just because it has been designed in a way that is conducive to doing so. Another aspect of safe and secure space that Newman overlooks is how the people who you do not want in a specific space such as burglars see the space and how they react to it. Are they more inclined to enter if there are fewer people to see them or if there are more people to blend into? It is questions like these that were overlooked and have since been researched to provide refutable evidence of Newman’s mistakes. The final disagreement given towards Newman’s theory looks at how specific routine activities are as much if not more of a formula for likelihood of crime as environmental characteristics are. Then again, do the routine activities form the environment or vise versa?

"The Future of Newman's Defensive Space Theory" does an adequate job analyzing the landscape of thought between 1972 when Newman first released the idea of defensible space and when the critique was written, 2009. It provides good direction for the areas of investigation that are needed for any one project within a certain area and demographic. The writing is however only a critique. No viable solutions are presented and only a slight notion of future direction is given when the authors express in their conclusion, “what remains to be examined is the extent to which area accessibility and attractiveness affect the level of guardianship as it is reflected through territoriality, natural surveillance, image and milieu.”  

They also primarily criticize the text from the developments in ideas that Newman started with, behaviors, territorialism, security methods, etc. They do little to look into other disciplines that may have an impact on the theory, specifically trends in contemporary design that could have a profound impact upon the development of space that is conducive to safe, secure living environments. Also, the word ‘future’ in the title of the text is misleading as no predictions or societal or behavioral trends are presented to stimulate thought on how people today may interact with space differently than they did over 35 years ago. Environment psychology explains some of the principles of time, technology, and changing social landscapes that are crucial to understanding how spaces change with time and new tenants.

Designing for the Resident

It is evident even from an initial study of environmental behavioralism and affordable housing precedents that there are a vast multitude of factors influencing each and every design decision. With no conclusive formulaic summary of specific behaviors that need to be addressed and the means to address them, each situation must be addressed on an individual basis. This is the same as many architectural projects. There cannot be exact replication as there will be changes to site, client, program, etc. This

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8 Ibid., 42
just adds another level of information and influence to the existing process. Though there are not conclusive solutions available, there are without a doubt key ideas that do respond to environmental behavioralism and affordable housing. To list a few:

- People seek space that represents their character, personality, and lifestyle.
  - Dan Kopec established this as the individualistic nature of space.
- People desire to own, both physically and emotionally, the space they live in.
  - Dan Kopec establishes that this ownership leads to ‘place attachment’.
- Safety and security are essential elements of dwelling.
  - This is the premise in which Defensible Space is based upon.
- Home is a state of mind as well as a physical place.
- Applying generalized people groups to form design strategies must be done carefully.
  - The carefree application of generalizations was the philosophy that drove much of the public housing of the modern movement to failure.
- Spaces are variables for behavior, not determining factors.
  - William Michelson examines this idea in describing places as ‘opportunity fields’.
- The essence of space affects behavior and the essence of behavior affects space.
- Individual ownership of space does not necessarily translate to communal ownership.
  - Critiques of Defensible Space Theory highlight the assumption that people will take ownership of adjacent public spaces as a major shortcoming.
- Peoples’ behavior in space is not only dependent upon culture, society, and norms on the macro level but is also varies from one individual to the next.
- Working and partnering alongside the eventual user of a building is more effective than gathering information about their background and assuming they are understood.
- This serves as the premise for Michael Pyatok’s method of participatory design.

  • The relationship between private, semi-private, and public space should be well-defined and intimate, one flowing into the next.
  
  • Shared communal places are important to community building in most cultures.
  
  • Visually breaking down large buildings into smaller parts makes them feel more livable, inviting, and personalized.
  
  • Neighborhoods can be behaviorally transformed with appropriate new developments.

Proposition

The creation of affordable living conditions for the poor is a multi-step process. It is first essential to know the people who are going to be living in the space. In order to do this there must be a combination of textual research both within environmental behavioralism and the surrounding disciplinary fields, and a gathering of perspectives and ideas from the poor themselves. It is crucial to actually know the people and develop relationships in order to avoid assumptions about this people group. For a specific architectural project these relationships must be developed within the context and culture of the project. In addition to knowing the people, it is also important to partner with local institutions and organizations that are already addressing the problem. They have already been immersed in the context and subject area for a significant period of time and are likely addressing the same problems. Though this process recognizes a somewhat idealized methodology for approaching participatory design, it is not always feasible due to lack of resources and time. As a result, other methods such as charettes, interviews, and contextual research can be substituted in place of such an in depth analysis process.

The second part of the process involves knowing the larger context, the city, and the existing
working components in the surrounding area. This provides for a gathering of external stimuli that will be directly affecting the project. Finally, dwelling must be understood and the aspects of dwelling that are essential in every circumstance must be integrated into the project. In order for the dwelling to be effective, these basic ideas must be combined with the more specific criteria and context previously understood. This will provide a mapping of the factors that are going to be driving the design. These factors will have many similarities and overlaps from one situation to another which will allow for the creation of a more formulaic way of thinking about understanding human behaviors and cultural contexts. From this, a comprehensive design strategy can be developed, making sure to integrate private, semi-private, and public space into the equation.

There are many aspects of knowledge and outside information that are essential to maintaining a basic understanding to develop a comprehensive way of thinking about designing living conditions for the poor in an urban setting. Many underlying forces impact the process of understanding context and designing from the discovered stimuli. These forces include:

- Understanding of social forces that directly influence housing.
- Holistic nature of housing in regards to livelihood.
- Comprehension of other elements of life that present challenges to the poor (transportation, work, childcare, etc.).
- History of public housing in the United States.
- Current trends in housing development such as New Urbanism.
- Trends and methods in sustainable design.
- Methods of public housing in other cultures around the world.
- An understanding of American values of self, specifically individualism and family structure.
- Existing governmental housing programs.
• Affordability of the housing market.
• The root of the need for affordable housing.
• Alternatives to public housing for the poor.

Methodology

The realm of human behavior is a topic that requires much studying in order to proceed in this process. Specifically analyzing and getting to know the poor within the Cincinnati region is important to understanding the specific demographic being addressed and designed for in the architectural manifestation of this research. Topically, within the realm of understanding this demographic, the issues of dwelling and routine activities are specifically important to address. Another subject in need of further investigation and mastery is that of people and dwelling. A gathering of information and analysis of physical responses to the necessities and desires of dwelling will provide a foundation for the specificities of the demographic and the manifestation of architecture from this research. Finally, the larger urban context of Cincinnati, including but not limited to existing organizations and institutions, infrastructure, broad social construct, social and cultural norms and expectation, and regional processes is important to understand as a working and changing organism. In summary, there are three areas where exploration is essential to gain understanding and find connections between the areas; circumstantial behaviors of Cincinnati’s poor, people and dwelling, and urban social context of Cincinnati.

In addition to the bibliographic research in both primary and secondary topics as have been previously expressed, there is a necessity for some relational and field research. The pursuit of partnerships with two Cincinnati organizations will be specifically influential on the development of contextual information. Over-the-Rhine Community Housing is a non-profit organization in Cincinnati.
that is working to provide affordable housing and develop a sustainable, diverse, resident centered neighborhood. They are intimately familiar with the context of Cincinnati and the processes that formulate successful and unsuccessful housing situations. Over-the-Rhine Community Housing also has access to many currently operating housing facilities and can provide insight and first hand observation to what works and what does not work from the standpoint of physical environments for the poor. CityLink is the other organization that will prove to be very helpful, specifically in understanding the compilation of challenges facing the poor. CityLink is a comprehensive center focused on providing a multitude of services for the working poor in an attempt to create stability and health. In order to have this wide spanning network of services they have a strategic vision, which involves knowing their clients and their needs very well. In addition to being in partnership with these organizations there is a need to have first hand interaction with the people who will be designed for. A series of interviews, surveys and participatory design charettes will serve this purpose. This process will not just be an initial attempt to know the people but will extend through the design process just as Pyatok Architects did when they were designing Seven Directions, Hismen Hin-Nu Terrace, and other projects.

Outcomes

The resulting building design from the research will be a residential live/work facility for makers and low-income individuals. The Makers/DIY Movements currently occurring in the United States have taken root in Cincinnati. They incorporate skill sets that have been long forgotten and invigorate a culture of collaboration and sharing. The need for physical labor will provide opportunity for low-income families to be integrated into the process. The housing community will be focused around the integration of semi-private and public space in relation to the private residential units. It will consist of around 30 residential units for a mixed clientele from families to singles. This number of dwellings was
established by looking at the population of low-income residents in the area and demand for use of such spaces by makers. The site that has been chosen can only accommodate so many units and the existing buildings on the site will suit a specific number of people for the purpose of making. The residents will be a combination of trained makers (artists, craftspeople, light industrial workers, etc.) and low-income residents. The low-income residents will work as apprentices under the expert makers and through this means earn money to pay for rent and other amenities at the center. There will be a variety of community spaces from a daycare center to community gardens, to a kitchen and dining center.

According to precedents on co-housing and live-work facilities, these spaces are integral to creating a community environment that will be to a large extent self-sufficient and vibrant with human interaction. These programmatic elements are in large part designed to take many of the everyday stresses off of the residents, allowing them to be less distracted from their work. Access to these spaces will be through the strategic placement of dwelling units in relation to the public spaces minimizing the need for underutilized and unfriendly circulation space. The community will be visibly connected to the surrounding neighborhood, utilizing theories of defensible space to promote safety while still implementing controlled integration with the greater surrounding community. The building will be designed to be economically, culturally and environmentally sustainable putting a premium on passive design.

The underlying goal of the creation of a living space is to design it to be a place that people will desire to make their own and take ownership of, allowing for change and adaptation over time. In order to do this a minimalist approach will be taken similar to what Elemental Architects have done in their Half-House

Figure 1: Wikimedia Commons.
project in Iquique, Chile. Providing for only the essential components needed for dwelling will accomplish two goals. First it will keep the cost of the development down, an essential challenge facing affordable housing development. Second, it will be designed in a way that provides room and opportunity for the residents to adapt their own dwellings to their liking. David Kopec talks about creating place attachment in this way in his book, *Environmental Psychology for Design.* Within the context of the makers community there will be the potential for high quality adaptation that can be very personalized.

The building will be located in the northwest corner of the Over-the-Rhine neighborhood of Cincinnati. One of the primary reasons for this is the proximity to existing infrastructure that can serve this type of development. Downtown and Over-the-Rhine are filled with social services, access to public transportation, and existing cultural nodes that can feed the makers community. The direct proximity to CityLink and the Brighton Arts District, both located in the northern portion of the West End can also be advantageous connections to provide services and an existing artist community to fuel the Maker Center. In addition the need for an existing industrial building can be found on the site. This will provide a space for the working component of the Center. Land is relatively cheap at the location of the chosen site and the chosen existing building provides substantial infrastructure that would otherwise be extremely expensive. There is also a trend of displacement of low-income residents from the city center and the southern portion of Over-the-Rhine. The chosen site is close to both of these neighborhoods and there is no grand physical barrier such as the rail yard, Interstate 75 or the Mill Creek. One of the biggest challenges for residents when they have to relocate is the proximity to what they were previously familiar with. Downtown and OTR both provide a large scope of amenities, services and infrastructure. Although the specific site does not quite provide a comparable resume of such necessities it is well established and is close enough to these nodes of activity that if needed the
residents could often get to their previous means. Proximity to bus routes, social services, schools, and public parks is good as it is adjacent to these amenities in the West End.

This area of Over-the-Rhine is currently composed of a lot of sub-standard housing and a few artist studios. The goal of the integration of this new community is to not only provide an immediate place for the poor to live and work but to encourage involvement throughout the neighborhood with makers who are already living there but might need some additional space or equipment capital to work with. In addition, the creation of a mixed-income community will in theory provide many benefits to the poor who are involved in the community. Their frequent contact with the makers through the working component of the community will expose them to productive lifestyle habits and ideally improve their overall standard of living. The goal is not to completely change the neighborhood as there is already an existing culture in the area but rather to enhance the vibrancy of the neighborhood, encouraging skill building and eventually movement to future endeavors.

The underlying mission of this thesis is to introduce a new type of community to the Cincinnati region that comprehensively provides economic, social, and cultural structures that create viable live/work environments for low-income residents. The research will be done on a broader scale and more generalized scale, examining existing utopias and communities that provide alternative structures to living within the context of the 21st century American society. We are living in a time, specifically in the architectural field, of movements; the sustainable movement, the humanitarian movement, the digital movement, etc. Momentum towards an idea and an architecture that is good for the lifestyles and opportunities of a marginalized society is important. There are currently trends moving in exactly that direction, but it is important that something as essential to life as the home and occupation is not left out and not overlooked. Just because a person has a place to live does not mean that it is an adequate place to live. In many cases the places to live completely discount the other parts of ones life that are
necessary to survive, much less prosper. An architecture that is not a parasite for the city, sucking in all its resources but giving nothing back is not what needs to be designed. Rather, an architecture that is responsive to existing conditions and the people who are using it, providing spaces for community building and stimulating activity, is exactly what is needed. This architecture needs to engage and reach out, not just be an object in the landscape or a walled fortress to the outside world. It needs to embrace the elements of work, play, and life, and be receptive and adaptable to the people who will call it home.
Housing Landscape

History of Public Housing

The history of public housing is fairly diverse across cultures internationally. Within the United States, there has traditionally been a negative connotation to the word housing, partially as a result of the many perceived insufficient ‘solutions’ for public and social housing ventures. Whether it was slum clearing or subsidized middle class housing, the results have not met expectations, even when they are at times lofty. Public housing specifically refers to housing that is owned by either a central or local government. Social housing on the other hand is a term that refers to properties that can be owned and managed by either the government or non-profits. Both public and social housing ventures are typically pursuits to provide affordable housing and decrease housing inequality. Formally, makeshift tent communities, project towers inspired by Le Corbusier, and contemporary modular units can all be considered public housing. The origins of the public housing sector in the United States stems back to the late 19th century when attention was first brought to the poor living conditions in the slums, specifically in New York City. A series of organizations spouted up to work towards alleviating these run-down conditions. In 1934 the National Housing Act was passed, creating the Federal Housing Administration. This helped people obtain loans and mortgages to spur on the construction of new homes but did nothing to help the people living on low incomes. The United States Housing Act of 1937 was the government-initiated assistance to construct places of dwelling for low-income individuals and families to rent. Since that time there have been many legislative iterations on this funding process, which in contemporary times has moved towards a voucher system. Notable changes include the Housing Act of 1949, which was geared towards slum

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10 Ibid.
clearance and new construction, and the Housing Act of 1954, which was a revision to include renovations and the development of communities.\textsuperscript{11}

The physical manifestation of what we now think of historically as public housing comes from Le Corbusier’s ideas about Ebenezer Howard’s Garden City. Le Corbusier conceived this city within a city that would function on a communal scale in a vertical orientation. A great example of these ideas is Le Corbusier’s Unite d’ Habitation, built in 1952. This mixed-use, 18-story housing development was a model based on efficiency and being able to house many people without using much land, which was reserved for community space.\textsuperscript{12} Many of the ideas behind Unite d’ Habitation work very well for public housing, however the implementation and only partial replication of these ideas provided environments that were not successful for public housing. The end results of these incomplete replications of Le Corbusier’s ideas are what are now known derogatorily as ‘the projects’. This cannot be solely taken as a criticism of the ideas of the Garden City, or the modern approach that Le Corbusier took to seek solutions to problems he saw in the industrial city. Rather, it is a combination of issues including application, financing, and forceful relocation. Alison Ravetz in her article, “Malaise, design and history: scholarship and experience on trial” as found in \textit{Rehumanizing Housing}, talks about some of the tangible issues found in the projects when she states,

“The practical disadvantages of living in council flats were something that could only be experienced by the tenants and their families, which did not include those who were responsible for commissioning or designing them. Practical problems invariably centered upon children’s play, the use and maintenance of shared open spaces; inadequate cleaning, landscape and maintenance, including maintenance of lifts; rubbish disposal; and external traffic parking in the estate or driving dangerously through it.”\textsuperscript{13}

\textsuperscript{11} Ibid.
This building model that Le Corbusier had developed was being taken out of context (public housing in France means something completely different than it does in the United States) and manipulated to be something that it was not designed for. As a result, the negative outcomes are still being seen 60 years later.

Some recent efforts have proved more successful in the simple fact that the developments are allowing the tenants to live in a more humane manner. Many of these examples have been individually designed residential complexes, not relying on a predetermined model to be located anywhere. One of the large, government funded, housing project ventures of recent time is HOPE IV. This plan, instituted by HUD in 1992 in cities across the United States, was enacted in order to “eradicate severely distressed public housing.”\(^\text{14}\) The goal was to replace the worst slums in the country with mixed-use, mixed-income developments, designed with the ideas of New Urbanism and Defensible Space. It is undetermined as to whether or not this has been an effective investment or not. However, it can be said that developments that have taken into consideration the preexisting stimuli, context, and culture have been noticeably more effective than large-scale government initiatives.

Political Landscape Surrounding Public Housing

Public housing has been a controversial topic for a very long time. Politically it deals with many different realms of life, from economics, to issues of justice, to physical boundaries. As an issue, housing is often associated with a range of other societal challenges including, according to Tomas A. Markus, Professor of Building Science at the University of Strathclyde, “homelessness, poverty, crime, vandalism, unrest and riots, unemployment, educational

deprivation and ill-health.” This creates a somewhat ill conceived perception in two ways. It relegates the problem to urban areas and takes the suburbs and wealthy estates completely out of the equation, eliminating the holistic perspective on housing that is needed. It also focuses only on the lowest income bracket of people and neglects a large portion of people who are unable to afford even modest places to live.

Public housing is often conceived by the public as being a very homogenous entity. This is normally fronted by imagery of poorly developed, unkempt, socialistically driven, inwardly focused blocks of housing. Availability of public funding is often relegated based on perceptions similar to this and the idea that housing only needs to be developed, forgetting about maintenance and management. Public housing comes in many forms and serves a diverse population, much more widespread than is often understood.

The most common and often prolific debate arises in discussions about where the funding for public housing comes from. Often, public housing, though not always the case with social housing, is funded through taxes. Most people will never directly benefit from public housing. This differs from government programs such as Medicare that are likely to be utilized by the vast majority of the population at some point or another during a lifetime. Many public and social housing models of the past have been very closed to the surrounding community and served only as their own entity, bound and separated from society as a whole. This is the result of a combination of factors, one of which is the desire to separate the people living in these places from the rest of society. This occurred starting in the United States in the 1930s with slum clearing. The negative perception carried by public housing makes it something that people do

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15 Teymur, Rehumanizing Housing
not even want to live around, marginalizing the people who live there to an even further extent. In the contemporary landscape this can be seen by neighborhoods petitioning against the development of Section 8 housing within their jurisdiction. Section 8 is the major voucher system used by the government today that allows participants to choose where they live among residential units in the private market that accept the vouchers. Therefore this housing can in theory be located anywhere, which in turn brings upon the petitioning and disputes. It is this isolationism that will continue to plague the effectiveness of social housing. Until new models of social housing are developed and proven it is unlikely that perception will change.

Forgotten within these debates of justice, taxes, and proximity is the near necessity to have some sort of social housing. In the capitalistic society of the United States there is an increasing level of economic inequality. This renders the housing landscape inaccessible to many people if they are limited to their own means of income and wealth. However, the overall functioning of society is undoubtedly reliant upon the participation of the entire population. In order for people to become contributing members of society it is very important for them to have a secure and stable place to live. The slum-clearing, low quality housing model that has been previously exercised in the United States has proven to be ineffective and leave many people in complete reliance upon public housing. As a result, those who are not directly benefiting from public housing inevitably see no return on investment in their taxes and are increasingly unwilling to fund these poor quality, ineffective housing solutions.

Cincinnati Metropolitan Housing Authority

The need for decent, affordable housing is seemingly endless in Cincinnati. Much of the housing stock that is designated for low-income residents is in no way decent, and often even not
healthy to live in. Cincinnati Metropolitan Housing Authority (CMHA) is an institution operating with a mission to “provide quality affordable housing solutions by building partnerships with Hamilton County communities while strengthening and expanding housing opportunities for families to achieve self-sufficiency.” As a regional organization, their specific focus is on the dwelling units themselves. They rely on local organizations to facilitate community building and development that is larger in scope, such as planning and working on streetscapes. However, this does not mean that they are not interested in this aspect of community building; rather it is beyond their scope. CMHA owns and manages 4,800 housing units throughout Hamilton County and rents them out to low to moderate-income families. They are focused on quality of dwelling, affordability, and serving their clients with respect and integrity. Their expertise on standards of dwelling can be a very important measuring stick to determine what amenities and conditions are appropriate in the new Maker Community. The last part of the CMHA mission is ‘for families to achieve self-sufficiency’. An integral part of reaching this goal is not only to have a safe, decent, affordable home to live in, but also to be located in a community that is fostering growth and provides opportunity outside of the realm of housing. For this reason CMHA is interested in residential environments that have an aspect of community to them. Though they do not currently own many programatically diverse buildings, that compliment traditional residential units with shared communal elements, they would likely be in favor of at least partnering to create this type of development to spur growth within a specific neighborhood.

Over-the-Rhine Community Housing

Over-the-Rhine Community Housing is “a non-profit organization that works to build and sustain a diverse neighborhood that values and benefits low-income residents.” More specifically, OTRCH works in pursuit of four primary goals. First, they seek to manage properties throughout Over-the-Rhine using “best practices” in order to provide stable living environments for their tenants. Second, they seek to develop a variety of residential building types, through both renovated and new construction, for a range of low-income residents. Third, they work to develop a community in which the tenants have an influence on their environment, creating a feeling of ownership, through the development of residential organizations and client-centered business operation models. Finally, they seek to educate the Over-the-Rhine community and the surrounding communities in order to enlighten the people they are serving in pursuit of a more aware neighborhood. It is this comprehensive mindset that makes OTRCH a great model to look at when logistically approaching any sort of low-income community redevelopment efforts.

OTRCH is integrally involved in the functioning community of Over-the-Rhine and not only physically provide for many of the people that call the neighborhood home, but also have relations with them and know their stories. This allows OTRCH to serve the needs of the community in a way that takes into consideration both statistical or known generalized information and more personal, specific information. The grassroots approach, as opposed to operating using a top-down perspective, is crucial to understanding the social, cultural, and economic conditions present within the existing neighborhood and its residents. OTRCH says about their efforts on their website, “We can't do this alone and we do not want to do this alone.

19 Ibid.
We hope you will join us in our efforts. This attitude towards community building needs to be shared by anyone, including the architect, who is going to be working within a cultural context that they are not from. They are all about understanding people and allowing their work to reflect their expertise and the needs they find within the context.

Over-the-Rhine Community Housing was established in June 2006 from a merger of two previously established housing organizations in Over-the-Rhine: Over-the-Rhine Housing Network and ReSTOC founded in 1988 and 1978 respectively. Over-the-Rhine Housing Network focused mainly on developing and managing the affordable housing stock in Over-the-Rhine. ReSTOC was a strong advocate for the homeless population, dealing both with housing and other key issues. The merger came as a result of both organizations having struggles with funding, polarization with the surrounding community, and being at odds with key individuals and businesses around Cincinnati for their advocacy for the homeless population. OTRCH provided an opportunity for a fresh start with a common goal in mind, and more resources to draw from. The merger has given the previous organizations an opportunity to restructure their member boards and diversifying them to relate better to the demographic they are serving. It has also allowed for a broadening of the scope of work they do. Rather than focus only on homelessness or providing rental housing, there are now opportunities such as home ownership and a stronger focus on the quality of the units being rented. A new focus was implemented towards entrepreneurial interests in order to compete with the surrounding housing market. This meant serving a wider range of clients needing affordable housing, instead of just the lowest income bracket. This was a decision made upon realizing that healthy neighborhoods must be mixed-income. Higher quality, more frequent service for the units was another part of this

broadened scope. Finally, OTRCH does not focus on land banking as the previously developed organizations did. Land banking was done by holding onto unprofitable property just to prevent gentrification. Instead, OTRCH works to operate within the existing environment, allowing full-fledged redevelopment for all income levels. This furthers the idea of a cohesive community and is better suited for the overall mission of OTRCH, even when some specific development decisions are not favorable to affordable housing clients.\(^{21}\)

Over-the-Rhine Community Housing has developed over 300 affordable housing units and manages around 200 units. They serve a diverse clientele, consisting of all levels of low-income. OTRCH also has permanent housing units for the homeless and recovery housing for people struggling to get over drug and alcohol addiction.\(^{22}\) This diversity and wide scope of services differentiates them from many similar organizations. OTRCH also emphasizes strong community and relationships with their clients. Other organizations will often serve only as a landlord or provider of housing and be very detached from the overall community surrounding the residential units. CMHA for example is very business oriented and seemingly uninvolved with the continual development of their clients after they are housed. Groups such as 3CDC who also provide affordable housing to a certain extent do not have the same scope of operation as OTRCH has. They cater to the higher end of low-income residents and their ‘affordable units’ are often barely that for most low-income residents living in the area.\(^{23}\) The motives for providing affordable housing are also vastly different between these organizations.

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\(^{22}\) "Over-the-Rhine Community Housing - Cincinnati, Ohio."

\(^{23}\) Interview, March 27, 2013, Source desired to remain anonymous.
Challenges for Affordable Housing

The redevelopment that has occurred in downtown Cincinnati and Over-the-Rhine over the past 10 years has created a need for additional infrastructure in the surrounding neighborhoods. Upscale developers, lead by 3CDC, have created an environment in downtown and Over-the-Rhine that is very difficult for people living in poverty to live a sustainable lifestyle. Although some ‘affordable’ housing is being developed, it is still debatable what demographic this actually caters to. As can be seen with the relocation of many prominent homeless shelters, such as City Gospel Mission and the Drop Inn Center, the reality for the poor to live in these recently redeveloped neighborhoods is challenging and in some cases not realistic. This is not solely due to a lack of housing, as the existing housing stock is abundant in many areas, but also an increase in cost of living from higher taxes and a lack of affordable necessities. As a result there is a demand for multi-purpose residential developments outside of downtown and the area of Over-the-Rhine south of Liberty Street.

Over-the-Rhine Community Housing has been experiencing many of these challenges for the impoverished community with their patrons. Some of their existing properties have been acquired by 3CDC as part of the redevelopment effort. As a result they are open to expanding their mission to provide affordable housing to the very northern portion of Over-the-Rhine. The issue however does not solely lie in the realm of housing. As can be seen by the ongoing struggles of the poor who live in affordable housing, it is evident that the challenges of living in poverty are more extensive than not having a safe, decent place to live. These challenges include, but are not limited to, surviving on minimum wage, childcare, transportation issues, and holding a steady job.
To demonstrate one of these challenges, the issue of transportation can be studied. In Cincinnati’s ten most impoverished neighborhoods the average person spends a total of 56 minutes commuting to work each day. If taking the bus, as many low-income individuals do, this individual would spend $3.50 a day on bus fares and spend 56 minutes of unpaid time traveling. If this time were paid it would equate to a total of about $11.00 a day for a minimum wage worker, or 18% of their total income before taxes. This is not to say that people should be paid for commuting to work but rather illustrates that this is one of many contributors to increasing amounts of income inequality. Statistically there has been an increase of residential income segregation in Cincinnati and nationally. This is creating a lack of employment opportunities in low-income neighborhoods, further contributing to the disadvantage held by low-income residents. This is one of many daily struggles faced by low-income residents. As a result the question should be asked whether there is a better holistic solution that does not solely rely upon the mainstream society and economy to survive? This is not to suggest that architecture and the development of this new type of community can or will solve the issue of poverty or even promote upward mobility. These problems are simply much larger than any one proposition. Rather, is there some sort of utopian community that allows for a redistribution of values and human interactions that begins to bridge the gap previously left by attempts at designing affordable housing?

Response

My response to the challenges facing affordable housing will be the creation of a new type of communal subculture that will find roots in the ideas of co-housing and live/work facilities. It will be called the Cincinnati Makers Collaborative and it will bring together people who find commonality in places that are uncommon in today’s day and age. Rather than forming a community based on income level, religion, political stance, or even occupation, the community will form based on the realization that the social, political, and economic systems of this world are broken and do not fully support all people within our society. As a result the Collaborative will form their own social and economic structures while maintaining involvement as a whole in the greater social and economic structures that are already operating.

More specifically, these people will live and work at the collaborative. There will be expert makers, craftspeople, artists, and trades people who will apprentice low-income residents. The experts will have the opportunity to be paid for their work while having the freedom to design and use the equipment capital as they please. The low-income residents will receive high-level training while they are at the collaborative and have many of their extraneous needs taken care of. Though most residents will be apprenticed, some will work in the operations department of the community handling tasks such as daycare and meal preparation. Having full time jobs in association with their living situation will provide an immediate channel for rent and other ‘amenities’ to be paid. Economically speaking the goods that are produced will be sold both locally and through specialty online dealers. The internal economy will revolve around a system of trading as much of the community will be self-sufficient to a certain extent when it comes to physical needs due to the capital inherent in the work that is occurring.
The ultimate goal of the community is for the dissemination of knowledge and skills to be occurring abundantly. This spreading should be seen in the individuals who become involved in the community, the surrounding neighborhood, and the utopian idea. The low-income individuals have two options once their regulatory training period is completed. They can either enter the free market using the skills that they have developed or they can relocate to another Collaborative and work as an expert there. This will ultimately facilitate the cross pollination of ideas and skills.
Site and Context

Site Selection

A series of criteria were developed early in the research and design process to determine the most appropriate site for the Cincinnati Makers Collaborative. Once research began it became imperative that the Collaborative be sited in a place that will be able to respond to the specific needs of this type of community. It was also necessary for the community to serve a purpose for a specific demographic and work within an existing geographic economy. In response to these needs specific criteria were developed:

- Proximity to people who are unemployed and living in poverty.
  - This is the main client base for the Collaborative and therefore it is essential to locate where these people already exist rather than expecting them to relocate.

- Relatively low land value.
  - Although various forms of funding are available, land values can vary greatly. Starting with relatively inexpensive land will allow for more investment in infrastructure.

- Access to social services and existing infrastructure.
  - The targeted client base is expected to rely on these existing services.

- Availability of public transportation.
  - It cannot be assumed that residents will have personal modes of transportation. Located close to an urban center will promote public transportation availability.

- Existing light industrial or warehouse building.
  - The construction of a new building that is structurally and spatially sufficient for the types of making that will be occurring in the collaborative would be much more costly than obtaining an existing, equally sufficient building.
• Vacant lots adjacent to existing building.
  - The development of a community atmosphere and financially responsible residential construction can be executed most efficiently on an empty lot.

• Presence of existing neighborhood community to work within.
  - The Collaborative will not thrive without the people and culture of a neighborhood already existing to some extent to feed the transformation.

A series of geographical and social studies were done to analyze these criteria. These studies looked at poverty rates, income levels, public transportation use, unemployment rates, and identified existing neighborhood business districts and industrial sites. This analysis led to the selection of ten lots around 607 W. McMicken Ave. including two with two existing buildings.

Figure 2: Personal Analysis
Physical and Experiential Features

The chosen site is in the northwestern most part of the Over-the-Rhine neighborhood of Cincinnati, OH, located between W. McMicken Ave. and Central Parkway. The site includes ten lots from 607 to 633 W. McMicken Ave. Topographically, the site has a steep slope as it is at the base of Fairview Hill, one of the many hills that emerge around the basin of the city. There is a change of over 40 feet from north side of the site sloping towards the south side. There is also a change of 8 feet on the north side of the side sloping from west to east along W. McMicken. The east side of the site contains two existing buildings that will be repurposed. On the west side of these two buildings is a public access stair connecting the two streets. This stair currently separates the existing buildings from the empty lots to the west. Also, running parallel to W. McMicken is a retaining wall on the west side of the site slightly over half way down the hill to Central Parkway. The site is irregular in shape, following the lines of W. McMicken and Central Parkway as they nearly converge. Dimensionally, the site is 375 feet at its widest point and 175 feet at its deepest point. Generally the site has a south-southwest orientation, though defining a singular orientation will not completely represent the site due to the irregular shape.

Figure 3: Image modified from Google Map. – Aerial view of site location and surrounding geography.
Figure 4: Cincinnati Area GIS – Ten properties compose the south facing 375’ by 175’ site. The topography slopes an average of 44 feet from the rear(north) to the front(south) of the site.

Figure 5: Image modified from Google Map. – Aerial view of site from south, along Central Parkway.
Access to the site can occur either from the north or south side. On the north side W. McMicken provides a more intimate access point, as it is mostly residential in scale and very walkable. There are sidewalks on either side of W. McMicken as well as bus stops adjacent to the site on Central Parkway and W. McMicken. The street itself caters to a moderate amount of traffic, both local and people passing through. Central Parkway is a much more heavily traveled street. Most of the traffic here is passing through and moving at higher speeds. However it is important to note that foot traffic on the south side of the site is still moderate. This is due to the stair connecting the two streets and the intersection connecting the West End to Central Parkway in this location. Located in the West End, directly across from the site is what is known as the Brighton Arts District. Though this is maybe not as prominent a development as the art district around Main Street in downtown and Over-the-Rhine it is still a stable entity. It provides an existing culture and infrastructure in which the new Makers Collaborative will be able to associate with.

Climatic and Natural Conditions

One of the primary conditions of the site that influences environmental conditions and design is the primarily south facing orientation. This will drastically impact the design decisions from the beginning. Solar exposure will be readily available during most of the year and a good portion of each day as a result of openness created by Central Parkway south of the site. This will provide the opportunity for sunlight and passive solar gain for a large part of the site. Morning sun will be blocked for the majority of the site because of the existing building on the far eastern side of the site that stand nine stories and some 125 feet above Central Parkway. On the contrary, afternoon and evening solar exposure will be largely uninhibited, creating
challenges for shading and passive solar strategies. The lack of existing buildings and trees to the southwest of the site will allow prevailing winds coming from the southwest to readily enter the site, blowing on average at seven mph.

Figure 6: Cincinnati Area GIS - Wind Rose showing prevailing winds coming from southwest. Currently there is very little to shelter the site from the wind.

Figure 7: Cincinnati Area GIS – Sun Chart showing location of sun based on time of year and time of day. The site receives much sun throughout the year, specifically in the afternoon.
Cincinnati is located on the edge of Lechner’s climate zone 3. This means on a generalized, rudimentary level 20% of the year will be too hot, 14% will be comfortable, and 66% of the year will be too cold. On average Cincinnati has many more heating degree days (5248) in a year than it does cooling degree days (996). This will largely impact the use of passive and active design strategies to retain heat and try to absorb heat when it is available. Passive cooling systems will be strategically implemented to only filter solar gain at specific times of the year. Existing vegetation on the site is limited to a scattering of trees and overgrown bushes and trees on the empty portion of the site. The trees line the north and south edges of the site in clusters.

Figure 8: Climate Consultant - This chart, specific to the Cincinnati region, shows appropriate passive and active design strategies for each day of the year.

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Existing Infrastructure

The site is located next to what is known as the Brighton Arts District. This proximity allows for an existing culture for the Makers Collaborative to operate within. The District was coined by Patricia Renick, artist of the 30 Module Sphere No.1 - the spherical sculpture that can be seen from Central Parkway. Current gallery and studio spaces in the district include Semantics, U-Turn Art Space, and Synthetica Gallery. Galleries are open to the public one Saturday every month to gain exposure for what is going on in the area. In addition to galleries the area has retail spaces, factories, community centers, meeting spaces, and a few bars. The area is already known for being a feasible alternative for artists in contrast to the higher rent areas of Hyde Park and thriving Over-the-Rhine. The district prides itself on being humble, industrial, and most of all diverse.28

Figure 9: Cincinnati Area GIS – Brighton Arts District is highlighted with the site along the northwest edge of the district. Locations of cultural outputs in yellow.

The site, composed of ten lots, currently contains two buildings. The building on the far east side of the site, located at 607 W. McMicken, is a commercial warehouse built in 1920. The building is 9 stories with entries from Central Parkway on the first floor and from W. McMicken on the fourth floor. According to a local neighborhood historian it was built by Tucker Bank and served as a banking center when it was first constructed. Remnants of this function still remain in the form of an ornate lobby and high security vault. Since, the building has been used for many purposes including storage for local breweries, warehouse space, and art studios. The other building, located just west of the 607 W. McMicken was constructed after 1920. No specific purpose for this building can be determined although it seems as if it was built as an automotive garage. This building currently only has an entrance from W. McMicken on the top level of the two floors.

The surrounding built form has in large part remained the same since 1904 according to Sanborn maps of the area. The Mockbee building and The Reliance Art Metal Co. building to the east of the site remain. Many houses on W. McMicken remain, though some have been torn down. Many of these homes are historic and hold a character and urban fabric that is undeniable.
identifiable for the city and the street. Though the street is largely residential in scale it is not immune to larger structures because of the longstanding presence of the Mockbee building and the two buildings on the site. Even with the strong presence of a defined urban fabric there are multiple vacant lots both directly adjacent to the site and along the entirety of W. McMicken. The area is currently far from appearing prosperous but the character remains rich.

Figure 11: Personal Photograph Composition – Large-scale buildings on W. McMicken.

Proximity to social services and shared infrastructure is above average, although not completely ideal. The West End provides many, but not all, of these amenities within walking distance. The rest can be accessed via public transportation. Across Central Parkway and to the east sits CityLink, a center for the working poor. This institution, established in the fall of 2012, is housed in the renovated Kahn’s meat packing plant. Adjacent to CityLink towards the site is Dyer Park. Being located in the basin of the city makes biking a viable form of transportation.

Integration into the surrounding community becomes a reality with the selection of this site. The intersection on Central Parkway is already well developed and landscaped creating a walkable node that can allow people to cross from the Brighton Arts District studios to the Collaborative. Being perched on the hill automatically creates a visual presence within the community and the availability of equipment and intellectual capital will help make the site a destination for makers. Central Parkway allows for the Collaborative to be prominent within the
context of people moving in and out of the city. On the north side of the site the smaller residential scale encourages pedestrian interaction and walk up interest. This will serve as a key entrance when the community is invited in to experience what the Collaborative does.

Figure 12: Personal Photograph - Panorama of the site taken from the south side of Central Parkway.

Figure 13: Personal Photograph – View from top of existing building at 607 W. McMicken towards the Brighton Arts District and downtown.
Figure 14: Base Map: Cincinnati Area GIS - Figure ground plan and sections showing relations between existing buildings and chosen site.
Precedent Analysis: Composing Secure, Functional Communities

The history of affordable housing has been plagued by unsuccessful attempts to create desirable communities to live in that are both safe and functional. Various social theories as well as economic and political agendas have driven these past developments to failure. Though there are some instances where affordable housing has been successful, it is usually little more than a place to live, not promoting an improved standard of living for people living in poverty. The following precedents by no means provide answers to poverty as a whole or even ensure upward mobility. However through a study of various principles applied across a range of precedents a better understanding of such a community can be gained. These precedents are architecturally composed in ways that provide safety, functionality, and opportunities beyond those of traditional affordable housing options. Each precedent is unique and illustrates different techniques to achieve the previously mentioned principles.

Tassafaronga Village: David Baker and Partners

Built on a brownfield site, David Baker + Partners has transformed the previously blighted, segregated area. The development was built in 2010 and is a federally assisted HOPE VI project being driven by the Oakland Housing Authority. The site used to contain 87 dilapidated housing units and be “the scariest place around” says Kelly Carlisle, a director of a local community garden program. Tassafaronga Village has replaced the distressed housing units with 60 affordable apartments, 77 townhouse units, and a former pasta factory repurposed to house 20 units and a medical clinic. The site also has a hidden parking structure and a large public space that serves all residents in the community. The development achieves LEED for Homes

Platinum and LEED Neighborhood Development (ND) Gold putting it on the leading edge in both designations. Part of the LEED ND scoring is based on context. It takes into consideration previous site status, location of site, automobile dependence, cost of living, diversity within dwelling units, environmental efficiencies, and local proximity to schools and jobs. Baker + Partners took all of these factors into consideration and integrated the application of each of these elements into the newly revitalized urban village. Repurposing the pasta factory is also a great use of resources and retaining embodied energy. Baker + Partners also put an emphasis on natural light, making sure each unit has abundant natural light, a feature not often enjoyed by low income residents.

The true successes of this project come not in the accumulation of points on a LEED survey but rather the layout of the Village to create a vibrant community. The variety that is found within dwelling units in Tassafaronga Village creates diversity and interest, eliminating monotony and dimensionless design that is commonly found in traditional public housing. There is a wide variety of unit types, from studios to four bedroom units which allows for a more diverse demographic to live in the community and “makes the site feel urban” according to The New York Times’ Michael Kimmelman. The units cover a large range of affordability from very low to moderate income. Often diversification is pursued by other means or ignored completely to meet a specific need, creating a void elsewhere. The 2011 AIA Housing Awards jury describes the success of the community by saying, “This project works on every level, creating a haven for its occupants without forgetting to engage its communities… Variety and

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30 Ibid.
articulation of different building and unit types are expressed both on the exterior facing the street, as well as the interiors facing the public gathering areas. It admirably achieves every one of the goals the team set out to meet.\textsuperscript{31} The integration of the residences with public and semi-private spaces helps to integrate the residents spatially and enhance the feeling of community at Tassafaronga Village. The compositional layout of these spaces creates pockets and nodes that allow people to identify with the development. This spatial integration within the community also creates defensible space where people feel safe through sight lines and naturally monitored nodes encouraging people to engage the sidewalks and paths that run through the development. The development also has a consistent uplifting color scheme, canary yellow, white, and gray, that is articulated through a series of materials throughout the entirety of the Village.

One uncertainty raised about Tassafaronga Village is how it addresses the surrounding community. Many HOPE VI New Urbanism developments including this one are like self-reliant organisms. They are large enough to encompass their own public spaces, creating a community within the confines of the development but do little for the surrounding context. Though in this case, the surrounding context in regards to amenities and location of the development were certainly taken into consideration, but the response may not be ideal. Built form in one way or another bounds the majority of the site and while this may be good for defensible space it is not the most welcoming environment to people coming from outside

Tassafaronga Village. It is uncommon for the feeling of safety and connection with the surrounding community to coexist in affordable housing developments because of the very nature of physical boundaries. It is unlikely that I will do a project of this scale due to the initial demand for the first makers community in Cincinnati. I will therefore need to more directly address the surrounding built form and social norms. This will create a physical connection that can contribute to the social and programmatic connections that will be needed for a successful Maker’s Collaborative. However the integration of public, semi-private and private space still retains incredibly valuable clues to how these spaces should be formed. The other very valuable observation to be made is the achievement of such high LEED standards. Again, this measure does not define the success of a project, however there is a conscious effort made to design in an environmentally and culturally sustainable manner. The scale will once again be different when applied to my project, however, many of the principles will be the same both in addressing the community and building sustainable environments. Finally, as is being seen more and more in contemporary affordable housing projects such as Seven Directions in Oakland, CA, the scale of some buildings is broken down to feel like more of a human scale instead of an institutional scale. This contributes to the intimate creation of place for each individual who lives in Tassafaronga Village. A shortcoming in this can be seen when Baker + Partners does not carry this principle across the entire development. The apartment units especially feel like they are in a large, institutional building, partially because of the monolithic stucco façade and narrow vertical windows. Space that is conducive to people taking ownership in their dwelling must be of human scale.
Via Verde: Dattner Architecture + Grimshaw Architecture

Via Verde, a large-scale affordable housing development in the Bronx, New York, is proving to be a multi-faceted design. It contains residential units, retail, a community health center, and live-work units. The element of interest in Via Verde is not the mixture of programs, or the LEED NC Gold certification, but rather the use of rooftops to create vibrant spaces of activity. The building as a whole steps down from 20 stories on one end to 2 stories, creating a series of terraces, totaling 40,000 sf, which can be occupied. The different terraces, naturally broken apart by building level, are used to provide a landscape of environments for people to enjoy. The Bronx lacks safe, open naturalized areas that people can occupy. In recognizing this deficiency within the community the architect was able to provide a viable solution to connect nature to the city. Though the rooftops are only available for use by residents of Via Verde, the development houses so many residents that it is a community in and of itself. Rooftop areas include a children’s play area, amphitheater, conifer garden, orchard, community garden, community terrace, and an accessible green roof. These are not only spaces that residents can occupy but they are conducive to specific activities that people naturally participate in and through that form relationships and in turn, community.

Architecturally Via Verde performs well spatially for a variety of reasons. First, the roofs connect directly to ground level in the triangular courtyard created within the complex. Each accessible roof area is connected to the next with a single set of stairs, creating a progression and
an understanding of how the terraces can be accessed and occupied. Physical connection to
ground level is an important tie to create higher levels of occupation in both spaces and easy
transitioning from one space to the next. Many of the roofs are overlooked by residential
balconies, creating a dialogue between the residents and the community space. In addition to the
physical connection between the outdoor spaces this also creates visual connection between
inside and outside, a constant reminder of the availability of both private and semi-private
spaces. The community space created within the courtyard and on the roofs is both engaging and
easily accessible, promoting use.32

The site layout is also critical to the success of the project. The two street facades are
directly adjacent to the sidewalks and have a very strong presence because of their height. This
creates a continuation of the urban streetscape that the Bronx possesses. This physical boundary
creates a safe, privatized interior for the residents to use. As opposed to many developments that
use either fences or no physical boundaries at all, Via Verde creates complete separation from
the exterior on the perimeter. The surrounding community does however have access to the
commercial space located on street level. In addition, the building façade is unique to the area
and aesthetically appealing, not lacking design consideration. This creates a sense of pride for

Figure 18: Personal Model and Analysis

http://archrecord.construction.com/projects/Building_types_study/Multi-Family-Housing/2012/via-verde-dattner-
architects-grimshaw-architects.asp.
the residents and even for community members as can be seen by the over 800 applicants for only 31 co-op units. In time this will pay dividends, as residents will be more likely to take ownership in the building and take care of it.

Hismen Hin-Nu Terrace: Pyatok Architects Inc.

Hismen Hin-Nu Terrace is a project in Oakland, CA designed for low-income individuals and families. The aesthetic is based around the local cultural context and influenced by regional arts. This aesthetic, though it may not be considered high design was established through participatory design. This process and the resulting appearance of the building create a place attachment before the residents even move in. According to Dan Kopec, author of *Environmental Psychology and Design*, place attachment is an essential factor for a place of residence to become a home. This is exceptionally important when residents are coming from a low-income background where housing is often unstable and they often lack a place that they are willing to accept as a home.

The complex also has a relatively high density for the area in which it is located, 61 units per acre. The social density however is not too high. By stacking the units vertically space is available for people to dwell. Contrary to many housing developments, there are a series of exterior spaces in the courtyard set at different elevations. These terraces help to provide a
connection between the units and the exterior that is not too far removed from what is perceived to be the ground plain. This undulation of the interior courtyard also allows for a variety of spaces and helps avoid monotony, creating identifiable places.

In addition to housing, Hismen Hin-Nu has spaces for job training, a market, childcare, and vendor alcoves. These programmatic elements help create a more convenient lifestyle for those living there. The vendor alcoves give the residents a place where they can sell goods and products that they make. Michael Pyatok, principle of Pyatok Architects, talks about the importance of live/work developments. He states that the rent of affordable housing is not too high, but rather the income of the residents is too low. There is a minimum cost at which quality housing can be built. The alcoves provide an opportunity to help raise the income of the residents. Spatially the alcoves are very simple. They are five-foot deep spaces at street level with a coiling door. The residents can store their goods in the space at night with the door closed.
and open it during the day to sell out of, flowing onto the sidewalk. This street-level connection creates an association between the residents and the surrounding community as a whole and relieves them of the need to rent space elsewhere.

Figure 21: Pyatok Architects

Ashby Lofts: Kava Massih Architects

Ashby Lofts in Berkeley, CA was completed in 2007. When designing this building, Kava Massih Architects clearly had a focus on user comfort and experience. The four parallel running buildings are organized around three courtyards, providing abundant daylight and connection to the outdoors to every unit. In addition, the building has been designed using sustainable design features and construction techniques. These design decisions are reflected in the cost of living that the tenants pay, an essential component to designing affordable dwellings. The spaces between the four buildings have been developed into shared spaces where people living in the buildings can congregate. These spaces promote feelings of safety because they are visible from multiple residences and often from the street; design strategies as suggested by Oscar Newman’s Defensible Space Theory. Additional shared spaces within the buildings include laundry, a playground, a computer room, and a community room. These are all spaces that are often relegated to the individual dwellings, but are instead used to promote shared interaction.33

One of the critical elements of designing effective affordable living conditions is having a cohesive understanding of the culture in which the architecture is being designed for. Even though the client is often not officially the people who will be living in the building they are the people who the architect should aim to understand and design for. An example of an architecture that does a good job of understanding the people whom it is serving is the Seven Directions Affordable Housing and Health Clinic designed by Pyatok Architects Inc. Located in Oakland, CA and built in 2008 the urban infill, multi-use building consists of 36 affordable units, a health care clinic, a community room, parking, laundry, and a ceremonial outdoor gathering space. Seven Directions serves as part of a community that is home to about 12,000 Native Americans who call themselves “urban Indians” and call East Bay-Oakland home. Pyatok Architects exhibit their expertise in culturally sensitive architecture in their implementation of the kiva, a place of ceremony within the Native American culture. Principal of Pyatok Architects, Michael Pyatok explains the significance of the kiva when he says, “The kiva should be connected to nature and the Earth. It’s a gathering place where people from the community come together to discuss their problems and how they can solve them collectively. A strong community is the
foundation for a healthy individual.”

The other six directions are represented in various ways throughout the building. Pyatok Architects does not only implement features and ornament that is reflective of Native American culture, they make sure the entire design is reflective of Native American aesthetics even using stucco cladding and warm colors reminiscent of the southwest as seen in the adjacent image. The process to create such an aesthetic in the building was somewhat unique. Pyatok Architects reached out not only to Native Americans within the existing East Bay area culture for understanding of their people but they also partnered with the developers to raise several hundred thousand dollars to hire Native American artists to personalize the space. This exhibits a great collaboration with the served community resulting in a successful space that has been embraced by the user as their own. Also, the mixed-use element of the project, combining the health center with housing, starts to really make it into a community center where people can relate and grow. This is very important because it is not uncommon for marginalized and poor communities to not have this safe common gathering place. Though much of the community is Native American there are other groups who feel welcome at Seven Directions. Out of respect for the surrounding context Pyatok Architects used a stepped design to break up the massing of the five-story building. The project is also designed with sustainability in mind,

Figure 23: Klettke, Russ

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exceeding sustainable construction standards set by California’s Title 24 by 20%.

The recognition of a distinct culture by Pyatok Architects is a very important method to be aware of as I seek to understand the poor. The methodology they have used in designing Seven Directions of getting to know and directly implementing the ideas of the Native Americans is indeed a very effective method. They also went deeper in their research than simply asking how the building should be designed but rather they understood the culture and combined that with design expertise to come up with solutions. Pyatok Architects also goes past cultural competency to contextual competency to address the surrounding physical environment, which is important in an urban infill project. Though the method used in this precedent is very applicable, the results may not be. The poor is a demographic that contains a variety of cultures and people groups. There will not be consistency to the same extent as exhibited in Native American culture, so the resulting architecture will likely need to be more non-descript in reference to culture. However there are still commonalities and behavioral tendencies that need to be intimately understood to design for the poor. Likewise, the context in which I will eventually design will be more culturally diverse than is found in East Bay with 12,000 migrant urban Indians. One shortcoming of Seven Directions is the connection of residents to the street. This is partially a result of the primary programming for the first floor being the health center and may even be done strategically to discourage loitering or fit an inward nature found in Native

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36 Klettke, "Taking Cues From Native Culture | Green Building and Design."
American culture. The residents as a whole are inwardly focused with the community rooms and kiva being contained from the outside. This disconnect discourages the development of vibrant urban streets. Specifically within the culture of the poor, the street and community spaces adjacent to the street are where much of the vibrant interactions and relationships develop. This is not to suggest that every dwelling unit should spill onto the street in the form of a stoop but a more open building layout could certainly be beneficial.
Spatial Experience

Transitioning from research to design within the topic of affordable housing can be challenging. It is a process of taking ideas and theories and transforming them into something that will be built and in which people will actually live. A series of exercises and explorations will help to conceive schematically what the design will begin to embody. This is about more than the program or the built form but also the experience of living and working in the Cincinnati Makers Collaborative. The multitude of ideas that have been previously discussed, including both literature and precedents, will be taken into consideration in order to formulate more tangible qualities and characteristics that the Collaborative will reflect. These ideas will be specific to the goals of the Collaborative with thought being given to relevant cultural, social, economic, and political landscapes.

Activities and Functions

• Bus stop - arrival and departure; inviting landscape/approach
• Approach building on sidewalk
• Inquire about community; welcoming, comfortable
• Tour of building; non-intrusive
• Parking on site; accessible, non-intrusive
• Living/dwelling inside residences; connection to semi-private and public spaces
• Sleeping at night; quiet, private, feeling of safety
• Dining; interactive, convenient, clean
• Cooking for community; accessible, functional
• Relaxing alone; quiet
• Inter-complex gathering; inviting, somewhat exclusive

• Community showcase; completely inclusive, open, visible from street, controlled

• Grilling out/BBQ; engaging, connected to other community activities

• Presence on Central Parkway; prominent and clear, views

• Teaching and learning; interactive, community activity

• Babysitting/daycare; accountable, free, fun, communal

• Connection to Brighton Arts District; destination, accessible

• Roof dwelling; oasis, solitude

• Playing – sports, games, childlike; organic, not forced, interspersed

• Meetings; designated location

• Doing Laundry; inviting, not cramped

• Approaching/entering residential unit; safe, bridge between communal and private space

• Managing site/facility operations; efficient, overseeing but not dictating

• Getting/giving medical care; easy access, open

• Taking a walk; easy, flow to and from site

• Working out; small, niche area

• Selling; specific retail space, storefront

• Viewing work; gallery space, open, monitored, accessible

• Creating; flexible space, equipment

• Designing; industrial, eclectic

• Making; safe, clean, well lit, open

• Showcasing; isolated

• Touring; circulation, fluid, level to level transitioning
Figure 25: Spatial adjacencies and the transition from public to private.

Figure 16: Vertical hierarchy and relationships between prominent programmatic activity zones. Colors relate to intimacy of activity: purple = private, green = communal, orange = controlled public.
Qualitative Spatial Experiences

Looking at a series of spaces that promote connectivity and cover a wide range of activities will help to better understand the relationships between public, private, communal, and semi-private. Each of the chosen activity zones plays a unique and crucial role to the development of the Makers Collaborative. Each of the chosen zones realistically include multiple programmed spaces, but it is important to define experiential characteristics of each zone in order to form the specific programmed spaces to contribute to the overall experience. These zones are not necessarily solidified formally by boundaries within the community but are rather defined by the activities and qualities that can be had within them.

Community Access from the street: From this vantage point many different programmatic elements of the building should be highly visible on different vertically oriented tiers. Primary visual connections should be made between the street and public and residential community spaces. Formal entry should be clearly marked to access residences and residential shared spaces. In addition there should be welcoming entry to the public community spaces. This entry should be as if there was a continuation of the sidewalk into the site. With the street being in between two streets it is important to develop clarity in where different access point are located. Openness, warmth and an accessible building scale are desirable. The openness and development of public community spaces should be relatable to the myriad of parks that scatter the Cincinnati landscape, incorporating naturalized elements and strategic organizational elements. While the site becomes selectively accessible to people on the street, there still needs to be clear delineation of the boundaries defining public access in order to preserve a safe living environment.
Controlled Community Space: This space should be a combination of multiple micro-programmed entities combined into a unified design. It is important not to over-design this space but to use basic formal elements to provide a landscape in which people can interact. Specifically programmed areas can be integrated in the design, but they should be accompanied by more generalized spaces of congregation. Interactive connections should be made between this space and the residential shared spaces, the street, and central stairway on the site. The space should provide variety and allow for high levels of sunlight. Where this space is sheltered there should be high ceiling heights, except where specific intimate settings are designed. One of the primary purposes of these spaces is to showcase the Collaborative and the work that is done there. It is essential that access to these spaces be actively controlled for safety.

Residential Shared Space: This experiential zone includes areas for teaching, meetings, laundry, daycare, and more informal communal areas such as rooftop terraces and courtyards. Aside from being highly functional, this zone is meant to provide separation between the private residential units in addition to creating protection for these units from the more public influence of the surrounding community. This zone needs to be highly supportive of the people who are living in the development, providing spaces that encourage positive interactions and services. They need to be developed in a way that fits the lifestyle habits of the tenants. For example, the daycare needs to be engaging for children, and an environment that seems like it is away from home. This is a convenient opportunity for single moms to have child support while knowing that they are being engaged in a stimulating environment, catered towards teaching and growing up with positive influences. The spaces should also be flexible and not designed with a strictly defined
program. This will cater to the creative, organic tones within the community. One of the primary functions of these spaces is to provide a buffer for the private spaces since a large part of the program is so communal in nature. This buffer should provide protection from sound and sight and provide distancing.

Inhabitable Rooftops: It is important for these areas to be broken up to avoid monotony and create hierarchy. With this said, if connection is to be made between different rooftops, there needs to be care taken in designing how that transition is manifested. These rooftops will primarily be places for relaxation and pleasure and it is important to not program and define all areas of the roof. People enjoy being on rooftops, having views, and being away from the high-activity levels of the street in urban settings. Spaces need to encourage organic interaction and user-defined activity; similar to the way a piazza works. Occupied rooftops should provide seasonal shading and be designed to maximize the time that can be spent on the roof throughout the year. It is also important to make sure these spaces are shared spaces and are easily accessed by people who are supposed to access them in order to prevent territorial communal dwelling. In addition, these rooftops provide a prime opportunity to showcase the work done at the Collaborative in an outdoor gallery.

Dwelling Unit: This is the most private zone of the development. However, there still needs to be interaction between this zone and the others, specifically the residential shared space. Each dwelling should work be organized as a gradient of experience; form very private to semi-private. Activities of sleeping and personal relaxation are the most private parts of this program. Activities such as cooking and interaction with other people are more semi-private experiences,
even at times expanding outside the dwelling units themselves. Balconies that overlook shared and community spaces and the use of transparency provide an opportunity to bridge the gap between private and semi-private. These types of connections and interaction retain the ability for the user to have control over the experience while at the same time promoting people interacting and the development of community. One crucial element of the dwelling is the feeling of safety. In a very open and community based design there needs to be a place of refuge for the people living there. The residents should not be on display for everyone to see and their privacy should be respected through the design.

The final design of the Cincinnati Makers Collaborative will reflect these spatial experience zones. This analysis is by no means a conclusive study nor does it account for all factors that will influence the design. Culture, environment, demographics, and functionality will all have extensive influence on how the community is designed.
Conclusion

Affordable housing as an issue is complex, unique, and dependent upon many external factors. To assume that architecture is going to fix the problems that affordable housing ventures of the past have encountered is naive. Architecture must be one of many components to contribute to sustainably providing housing for those living in poverty. Within this complex equation, consideration must also be given to employment opportunities, access to public infrastructure and services, and the potential for community support.

More specifically, architecture must respond to situational variables in order to be an effective component in providing affordable housing. Through a study of the history of public housing it has been determined that each situation or affordable housing project is unique and must be treated as such. This uniqueness stems from social norms, cultural standards, and economic conditions that are specific to the exact location and people group that the housing is being designed for. In turn it is important for the architect to be informed and intimately understand these conditions in order to provide the most effective design. Most importantly the architect needs to understand the people in which they are designing for and how they use space. Looking at environmental behavioralism will begin to provide clarity on the realities of spatial use. Understanding user group perceptions of space and lifestyle habits are also crucial to gaining a real understanding of how space will be used.

Even after actively pursuing an understanding of potential residents it is essential that the architect not assume that they fully understand client. In turn, design should be approached as if the resulting architecture is going to serve as a positive variable in how the residents will behave. The architecture will not fully determine or drive behavior and should be able to be adapted by
the user. This will likely result in the individualization of some elements of the housing and create place attachment for the residents.

This specific study has resulted in the creation of the Cincinnati Maker’s Collaborative. Identifying the high levels of unemployment in the Cincinnati area led to the realization that the potential residents living in affordable housing would benefit from a steady source of income. The Maker Movement and DIY Movement have reached the Cincinnati area in abundance because of the relatively low cost of living, creating a perfect environment for small businesses and start-ups. Not only do these entities need people to labor for an honest wage, they also have the potential to provide high quality training in a specific trade. Creating this connection between makers and low-income residents by looking at the current social and cultural conditions has provided an opportunity for architecture to enter the equation. Architecture will provide the more efficient communal style of living and an environment where collaboration and the sharing of knowledge can occur in abundance and with relative ease.

There is no guarantee that this specific model will be successful in the broad spectrum of affordable housing. However, it does look at the specifics of a culture and a people group to start to connect the dots between mainstream society and the all too often forgotten affordable housing dilemma. In order to further pursue this endeavor of creating location and people specific affordable housing there needs to be more clarity on the specifics of how this collaboration will work. Communication with more makers would help to define their needs and the ways in which unskilled individuals could contribute to their goals. It would also be very beneficial to study more cities in which similar endeavors could occur in order to identify the strengths and needs of the cities. This would potentially allow for the creation of a formula or model to extend the influence of the collaborative housing idea nationally. When thinking about
other cities or regions it is also important to consider other types of skills or knowledge that could potentially provide a platform for collaboration. Making is only one of many options that can take willing individuals and provide them with a livable skill set. Architecturally it is important to further decipher what elements of the live/work environment needs to be designed by the architect and what elements will be individualized by the resident makers. There is a lot of potential to provide minimalist design and infrastructure and allow much of the construction and adaptation to occur organically. However, in order to do this a better understanding of local codes and possible variances needs to be obtained. This is an idea that is much more common in developing nations and would need special consideration if it were to be proposed in the United States.

Continuing to neglect and isolate the existence of affordable housing is not going to improve upon current condition. The issue needs to be integrated within the larger social, economic, political, and cultural systems of the world in order to have a chance at success. From this train of though there is the potential to develop a mutually beneficial system that can change the landscape of affordable housing.
Bibliography


Images:


The Regents of the University of California, 2012, Climate Consultant (Version 5.3) [Computer Software], accessed April 23, 2013.