

**Decreasing the Stigma of Mental Health Facilities: Creating a  
Community Treatment Center in East Liberty, Pittsburgh**

by

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To Emily, now that I have found her.  
This would not exist without your help, and I cannot wait to take on the world with you.

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## **Abstract**

This thesis demonstrates the positive impact that the built environment can have to decrease mental health stigma by creating specific design tools to blend community space and mental health treatment facilities through program integration, threshold layering, spatial options, and innovative therapies. These design tools draw from the work of social psychologist Dr. Patrick Corrigan, Ann Sussman and Dr. Justin Hollander's writings on cognitive design, Professor Stephen Verderber's writings on healthcare design, and architect Herman Hertzberger's theory of polyvalent design to create space that encourages social interaction between disparate socio-demographic groups in the community. Enriched social dynamics in this outpatient treatment and community center hybrid will increase comfort and decrease stigma through the promotion of casual encounters between those seeking treatment and those using the space for community programming. This design proposal is sited in the East Liberty neighborhood of Pittsburgh, which recently lost a mental health center due to gentrification.



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## Chapter 1: Introduction

Our understanding of mental illness has increased dramatically in recent decades, but stigmas and negative stereotypes persist. Social psychologists and sociologists have researched the stigma of mental illness and its impact on learned behaviors and norms in our society. These embedded societal views have a significant impact on how communities interact with people who appear to have a mental disorder or are undergoing mental health treatment. Designers and healthcare architects have noted the detrimental effect of stigma in healthcare, but the complex requirements of building design make it a difficult topic to approach.

Addressing such a complex social problem requires combining contributions from multiple fields for a multifaceted approach. Architecture is particularly suited to incorporate information from many fields since, at its core design, is a multidisciplinary study of humanity. This thesis proposes to integrate community and mental health treatment spaces in order to foster informal contact between the general populace and those with mental disorders. This solution combines research from social psychology, environmental psychology, phenomenology, and architecture. The resultant design framework demonstrates how the built environment can decrease the stigma of mental illness at individual and community levels through contact between the public and people seeking outpatient treatment for anxiety disorders. Techniques and methodologies draw from the work of social psychologist Dr. Patrick Corrigan, Ann Sussman and Dr. Justin Hollander's writings on cognitive design, Professor Stephen Verderber's analysis of healthcare design, and the work of architectural theorist Herman Hertzberger. This framework supports four design strategies: integrated programming, threshold layering, spatial options, and innovative therapies. These design strategies help address anxious behavior through experiential and cognitive design.

Psychological studies have indicated that long-term low-stakes social contact with a variety of people could help decrease stigma between groups (Corrigan 1998, 217-218; Thornicroft et al. 2016, 1123). Stigma is rooted in negative stereotypes, which arise from perceived differences between social groups (Jackson 2011, 109). As these negative associations spread they can lead to people acting on them in a

prejudicial manner, impacting the daily lives of people who belong to the affected group. Preventing stigma is more complex than people choosing to not be prejudicial; stigmas are often absorbed into society and can exist unnoticed by many people. Researchers in social psychology like Dr. Patrick Corrigan have explored different methods to decrease mental health stigma in participants. The general conclusion is that low-stakes meetings and interactions with common goals can start to counteract these underlying stereotypes (Corrigan 1998, 217-218; Thornicroft et al. 2016, 1123).

Mental healthcare spaces can have a significant impact on the mental health recovery process, depending on the emphasis of the design. The recovery process for mental health disorders tends to be long and circuitous, meaning that each patient will likely experience multiple facilities and offices along the way. There is a tendency for these places to emphasize efficiency and orderliness, resulting in spaces that can feel cold and unwelcoming. Newer design from regions with a different cultural view of mental health are starting to emerge, incorporating community and ideas of patient comfort for a more holistic treatment facility. These designs break the dichotomy of using hospitals for emergencies and outpatient centers for less urgent treatment, with more intermediary and specialized treatment spaces creating opportunities for community-based care. Advancements in technology are also allowing people to have more control over their system of care. Healthcare architecture is changing to try to keep up with these trends, and by anticipating what will come next. New projects are likely to continue to add to the stigmatization and isolation of mental illness unless there is more consideration of the impact design has on the recovery process in North America.

This thesis uses architectural and psychological concepts to create a design framework to integrate space for outpatient anxiety treatment with the broader community to decrease generalized stigma towards mental health patients. The design implements this framework through the creation of a “community treatment complex,” a combined community center and outpatient mental health center. The design of the center gives spatial options for ease of navigation, layers thresholds to soften the experience of entering and exiting, and utilizes innovative therapy techniques to promote destigmatizing behavior. The focus on anxiety disorder treatment influences

the design of the community treatment complex to respond to the physicality of anxiety, creating space to meet those specific needs. Anxiety disorders often interact with the physical environment in a distinct manner, so anxiety-specific design elements are woven through the framework.

This thesis focuses on designing for universal experiences because designing specific mental health treatment space can be difficult as each patient has a unique experience of mental illness and the recovery process. Disorders tend to have similar symptoms, but there are a wide range of what those symptoms entail. Unless a facility is designed to cater only to the specific needs and symptoms of a disorder, healthcare architecture tends to implement more general solutions, like Ulrich's work on the healing properties of daylighting and natural views (Ulrich 2006, 287-288). In order to create space that feels welcoming to everyone without becoming completely generic and featureless while simultaneously meeting the specialized needs of mental health recovery, the design tools for the community treatment complex focus on research from architectural theorist Herman Hertzberger and theories from cognitive design.

Herman Hertzberger's theory of polyvalence suggests that design should use underlying human behavior to create space that is adaptable, because the actual use of space cannot be anticipated. Hertzberger believes that architects should look for underlying constants in the way people have created and interacted with the built environment, to create space and interventions that provoke people to act. Design that attempts to serve all uses becomes generic and bland, and design that limits activities is restrictive and destined to be under-utilized. Polyvalence balances the limiting factor of program and the endless number of uses by creating conditions. These conditions rely on human behavior and physiology to create spaces that can and will be used in a variety of ways (for example, people like to congregate at edges, and sit on items of a certain height). Polyvalence is quite similar to the field of cognitive design, though based in architectural history and theory rather than observational research.

The interaction of anxiety and the physical environment can be mediated through design. Anxiety affects the perceptions people have of the world around them, and can therefore result in particular types of behavior. Environmental psychology and

cognitive design look at how the space around us affects our brains and emotions, and how architectural design connects with people at an intuitive level. This framework uses analyses of anxious behavior from Anne Sussman and Dr. Justin Hollander's work in environmental psychology as a basis for designing spaces that are safe and comfortable for anxious people. The main elements of creating spaces that feel "safe" include the ability to exercise full or limited control, social support and positive social interactions, as well as the ability to assess the vicinity (Ulrich 2006, 287; Gallup 1999, 115; Plummer 2016, 15). The use of recognizable patterns is stabilizing, as the predictability of the space around us lets our minds anticipate what will come next and feel more secure (Ricci 2018, 11-12). This type of pattern can include repetitive elements, connected or transitional elements, and elements that change at a fixed rate (Ricci 2018, 11). These behaviors and needs lend themselves to design considerations, and are integrated with the design tools for this thesis.

Program is a driving factor within the framework, as it dictates where people will go within the complex and who they encounter along the way. In order to create conditions of destigmatizing social contact, the layout and juxtaposition of the programming needs to be carefully considered. The first design tool in this framework is therefore program integration. Variegated programming will intermingle the public and treatment user groups instead of separating them through isolation. The intermingling of mental health treatment activities and community activities will prevent people from being identified as "mental health patients" due to their presence in a "treatment" area. The second design tool, innovative therapies, adds a variety of therapeutic activities into the overall programming of the complex, decreasing the chance of stigmatization through association. Innovative therapies can include therapeutic activities from adjacent fields (e.g. occupational or physical therapy) or techniques being developed through the use of technology; these activities could include yoga, cooking, gardening, walking, and virtual reality immersion. The rooms used for these activities can also be used by the public when not needed for therapy. For example, a group kitchen can be used for community potlucks when not booked for a private session. The dual use of these spaces further blurs the boundaries between who is a patient in the complex, and who is public user. The presence of alternative therapies in the complex will also allow it to serve a larger mental health treatment user base, and create enough flexibility for

mental health treatment practices so that they can adapt to changes in best practice.

The final design tools, threshold layering and spatial options, are implemented at a more personal scale. Threshold layering broadens and softens access points throughout the complex, providing space for people to slow down and be present in the space before moving through. Rather than a singular door that leads directly into an area, the entry process begins outside and goes through a series of thresholds in the interior. These thresholds are typically large nonprogrammed hubs with polyvalent furnishings, to let users linger and orient themselves to the area. These spaces are a core part of the design, and support the many thresholds throughout the complex, which highlights the last design tool, spatial options. Spatial options refer to the presence of multiple access points in any large space. Having more than one entry or exit within view in an area can help people with anxiety levels not feel trapped (Sussman & Hollander 2015, 25). The transit spaces in the community health complex therefore tend to eschew doors in favor of clear sightlines, and use dividing walls to create multiple routes through a space. This approach continues out around the complex, with multiple entries on each side and winding paths that tie to several key points in the context.

This thesis is located in the neighborhood of East Liberty in Pittsburgh, Pennsylvania, an area that is currently experiencing gentrification. The recent growth of large tech companies in this low-income, predominantly African-American area has resulted in protests from the community as they are slowly priced out of their neighborhood. Gentrification can be a significant factor when considering social stigma, as the more demographic differences there are between people— class, race, culture, etc.— the more likely stigmatization will occur between them (Parcesepe and Cabassa 2013, 4). Gentrification, combined with the recent loss of an outpatient mental health clinic, makes this area of Pittsburgh an ideal place to address stigma and provide mediation.

The social and physical contexts are major drivers for the design of the complex, to ensure its integration and connection with the community around it. The design tools, theory of polyvalence, and cognitive design theories work together to create

an institution that treats mental illness while addressing public stigma. The design must use these tools in a way that connects it to the community to ensure its ongoing success. The form therefore references elements from the surrounding urban fabric including materiality, height, and orientation to situate the complex without attempting to camouflage it. The landscaping of the complex adds to existing trees and outdoor activity space, as well as incorporating space for outdoor therapeutic activities. In order for this project to work, the community needs to feel that they have stakes in the space and take pride in it. The adaptability of the community-based programming will give the surrounding residents a degree of control over the complex and allow them to change it to their needs.

While the issue of mental health stigma is rife with complexity, examining it through lenses of multiple disciplines can provide a structure to start addressing it. This thesis proposes a framework to start the destigmatization process, but this is only a start. Further research on the stigma of mental health needs to be conducted in all fields, but architecture in particular can take a larger role in addressing the issue. Complex problems often require complex solutions, and for which architectural design is well suited. Design can take on social, emotional, and physical problems on all at once as well as bridge the worlds of theory and reality. If design does not become an active part of the destigmatization process, it is likely to continue to exacerbate the stigma of mental illness.

## Chapter 2: Mental Health Stigma

Stigma comes from social difference, as negative elements are attributed to groups that differ from one's own social identity (Jackson 2011, 109). People tend to form groups in social situations, which can form the basis of one's social identity (e.g. career, hometown, race, etc.). Perceived competition within these groups can spark "othering," a division of "us" and "them" (Jackson 2011, 107). This "othering" can create stereotypes, beliefs associated with a certain group, as people tend to seek out differences and elements that make others easily identifiable (Jackson 2011, 109). Stereotypes can be negative, leading to stigma as the negative beliefs are correlated with the group's identity (Jackson 2011, 109). Stigma can grow into prejudice and discrimination as people accept and agree with the negative stereotypes and act upon those beliefs (Thornicroft et al. 2016, 1123). These negative societal perceptions can have major impacts if they spread enough, sparking discrimination at a potentially global scale. It is therefore vital that we address stigma and negative stereotypes before they result in widespread discrimination. The United States is currently grappling with major social issues born of these negative stereotypes, including the shooting of unarmed black men by police, the confinement of suspected immigrants in border camps, and the increased political divide across the country as people rely more on their own perceptions, stereotypes, and beliefs.

The stigma around mental illness remains prevalent in our society, though public awareness and societal attitudes have improved radically in recent decades. The stereotypes and negative reactions to people with mental disorders are exceptionally hard to change because of recurring social reinforcement (Corrigan ed. 2014, 25). Mental health stigmas are generally "socially given" concepts that are passed through socio-cultural communication and typically refer to ideas regarding intentions and morals, such as "people with schizophrenia are dangerous because they cannot control their actions" (Corrigan 1998, 210). They differ from "cognitively constructed" stereotypes, which are formed at an individual level and are often based on physical aspects of a group such as skin color, clothing, or language (Corrigan 1998, 210). The non-visible nature of assessing someone's intent or morality adds to the difficulty of addressing these perceptions in our society (Corrigan 1998, 211-212; Corrigan &



Shapiro 2010, 912); the same action can be interpreted in multiple ways depending on the frame of reference of the viewer, e.g. someone asking for money on the street can be seen as a person down on their luck, or someone who is lazy and does not want to work. This link between social value judgement and the perception of mental illness means that it is often connected to perceived moral failure, similar to perceptions of prostitution, gambling, etc. (Corrigan 1998, 212; Sayce 2000, 60). This association of mental illness with immoral behavior can result in people treating it like an issue of choice or willpower (Sayce 2000, 60). Being rooted in belief and social norms rather than objective data, these perceptions are subject to the internal bias that every person has. This means that behaviors like “negativity bias,” where negative actions have a stronger impact than positive ones, serve to reinforce these beliefs; any action that is in line with the perceived stereotype “proves” that it is real, while actions contrary to it are either overlooked or dismissed as outliers (Jackson 2011, 160). Ideas that tie into preexisting stereotypes or beliefs tap into these cognitive biases, subtly spreading stigma. The pervasiveness of this socially-perpetuated stigma often has a significant effect on the way people with mental disorders interact with the world and their communities. In other words, someone who has difficulty relating to others can be stigmatized, avoided, ignored, and spoken to in a cold manner. This further exacerbates the already existing difficulty to communicate and reinforces the stereotype of people who seem to have mental disorders not being able to speak well.

Due to its widespread effect, many experimental programs have been created to address mental health stigma and its origins, and determine the most effective method of intervention. These programs are typically education or public awareness initiatives sponsored by organizations like the U.S. Substance Abuse and Mental Health Services Administration (Corrigan & Shapiro 201, 908). Analysis of these programs and further experimentation has shown that there are some effective short-term methods, though little research has been done about long-term impact (Corrigan & Shapiro 2010, 910; NIMH 2017). Dr. Patrick Corrigan is one of the most prolific researchers in the psychology of mental health stigma, and identifies a variety of approaches that can be used to start reducing this stigma: education, protest, and contact (Corrigan 1998, 217). Education refers to programs that attempt to spread information to counteract incorrect assumptions; however, it has been difficult to

gauge the long-term effectiveness of these programs (Corrigan 1998, 217; Thornicroft et al. 2016, 1125). Thornicroft et al. argue that presenting medical-driven facts can actually exacerbate stigma by adding to the perception that mental illness could have been prevented by “healthier living” (Thornicroft et al. 2016, 1128). Corrigan and Shapiro identify protest as a method with viable short-term effect, though there is a risk of exacerbating stigma and prejudice as people feel they must suppress and hide it rather than discuss it (Corrigan & Shapiro 2010, 910). Protest can be the only effective method in situations where groups will not listen to or interact with each other (Corrigan & Shapiro 2010, 911). Contact is the most promising method, with studies showing that prolonged contact with multiple people who have a non-severe variation of a mental illness can decrease stigma (Corrigan 1998, 217; Thornicroft et al. 2016, 1128). This type of interaction is the most effective in a certain set of conditions: both groups must have equal status, there are common goals to work toward, there is inter-group cooperation, there are guidelines on how to communicate respectfully, and the chance to make friends via casual conversation rather than controlled interaction (Thornicroft et al. 2016, 1128; Jackson 2011, 163). These researchers would agree that social encounters in combination with sustained education in a low-stakes long-term program could be quite an effective way to decrease the stigma of mental illness at a public scale (Corrigan & Shapiro 2010, 911; Corrigan 1998, 217; Thornicroft et al. 2016, 1129).

Most of these programs do not effectively address the negative impact of mental health stigma on everyday life. The idea that mental illness is debilitating and changes one’s personality can lead to discrimination from acquaintances, coworkers, and even family and healthcare support members (Corrigan 1998, 208). If someone reveals a history or diagnosis of a mental disorder they could be fired, lose their housing situation, or lose personal freedom as caretakers step in (Corrigan 1998, 208). The dramatic nature of discrimination and the prevalent stereotypes make it hard to avoid the stigma of mental illness. It remains the top issue people with mental disorders face once they are in a stable living situation and a stable treatment plan (Mood Disorder Society of Canada 2007). The fear of being judged by the people around you can decrease the likelihood that patients will reach out to their support system for help, which can result in missed appointments, missed medication, and hiding of symptoms (Meyers 2010,

104). In more extreme cases, patients will reject the diagnosis due to the negative associations, and drop out of the medical system until they have a crisis or other urgent need (Meyers 2010, 104).

Unfortunately, without funding and the partnership of community outreach programs, the medical system cannot afford to follow up and keep track of the patients who refuse to return; up to 40% of patients do not receive follow-up care within 30 days after a hospitalization for mental illness in Pittsburgh (“Inpatient Psychiatric Facility Follow-Up...” 2017). Reducing these negative perceptions of mental illness could serve to increase the number of patients who follow through with treatment, thus breaking the cycle of dropping out of the system and only re-entering only through hospitalization. Reducing mental illness stigma can help support patients not just through treatment, but to help them maintain jobs and stable living situations while negotiating the non-linear trajectory to recovery. Breaking connections to community support systems and dealing with housing or employment instability does not help recovery with any illness.

Banks and Banks argue that the prioritization of the individual and medical treatment over holistic recovery minimizes the key role community support systems play in dealing with health crises and recovery (Banks & Banks 2004, 4). As architect Evangelia Chrysikou says, “community care relies on the community caring” (Chrysikou 2014, 38), pointing out that as the patient gradually moves back into their community from full medical treatment they rely more heavily on their social contacts, who often are unprepared for this type of care. Stigma by association, or “courtesy stigma,” can affect family members or support systems when someone becomes stigmatized in the community (Thorncroft et al. 2016, 1124). Depending on the socio-cultural demographic, the type of mental illness, and the age of the patient, communities will respond differently (Parcesepe & Cabassa 2013, 7-8). For example, if the patient is a child and the illness is seen as a result of “bad parenting” or behavior, the community is likely to increase social distance from both the family and the child, whereas if the illness is seen as genetic or “God’s will,” the community is more likely to provide support (Parcesepe & Cabassa 2013, 7). This variation in support levels based on perceived cause is another manifestation of mental health stigma, one that can have a direct impact on the rate of recovery (Ulrich 2006, 285).

Stigma is a complex issue without an obvious answer. Its presence in the collective social conscience and the discomfort that goes with conversations about stigma and prejudice mean that innovative solutions are needed. Multiple studies have shown that low-stakes long-term social contact and education initiatives are the best options to decrease stigma at a public scale (Corrigan & Shapiro 2010, 911; Thornicroft et al. 2016, 1128). This particular type of social contact needs to partner with community-building elements to encourage more conversations about mental health to take place, to ease tensions and correct misconceptions. The challenge of addressing such an intricate problem requires a multidisciplinary approach, looking at how social contact can relieve stigma and create community, as well as how the built environment shapes these interactions.

## Chapter 3: Current Healthcare Design Methods

### The History of Mental Healthcare Spaces

The specific design of mental healthcare centers often harkens back to historical beliefs about mental health which can add to mental health stigmatization. Large psychiatric hospitals tend to be located outside of major urban environments for a variety of reasons like the cost of land and the perceived danger of psychiatric patients. Locating psychiatric facilities out in the “countryside” is a trend that originates from the age of asylums, when the polluted city air was thought to exacerbate illness. This placement of patients in large isolated institutions for long periods of time lasted until post-World War II, when the numbers of men coming back with complicated mental trauma like PTSD changed how psychiatry was practiced (Chrysikou 2014, 19). Instead of staying until they were fully recovered, hospitals in the post-war period started focusing on moving patients through the system quickly (Chrysikou 2014, 19). This postwar idea paired with Modernism, the trending architectural style of the time, to create hospitals that felt stark and authoritarian, adding to the fear of mental illness and the growing distaste for asylums (Verderber 2018, 19). The rise of chemical therapy in the 1950s-70s decreased the number of bed mental hospitals needed by discharging more patients to outpatient treatment (Verderber 2018, 22). Examinations of conduct and forms of therapy used in these hospitals brought them under fire, with the WHO recommending facilities should have 300 beds (up to 1,000 maximally) and the creation of healthcare campuses to include families and other stakeholders (Verderber 2018, 24). The change in social opinion sparked a wave of new design typologies like the Community Mental Health Clinic (CMHC), a center for rehabilitation, diagnosis, education, and other resources intended to serve over 100,000 people (Verderber 2018, 25). Unfortunately, the implementation of the government-backed CMHCs failed as the shuttering of psychiatric institutions that flooded social systems and community mental health facilities with more people than they could deal with (Verderber 2018, 27). There was a resounding negative public reaction as these patients became part of the homeless population, and the Vietnam War raised social backlash against government projects (Verderber 2018, 26). Administrations since the 60s have not managed to mitigate the lack of community mental health centers,

though there have been efforts to fund new experimental programs. The underlying social aversion to mental illness and mental health treatment remain an issue, even in healthcare design.

## **Healthcare Architecture**

The architecture of mental healthcare spaces is diverse, but rarely addresses mental health stigma as a core issue. The techniques and approaches to behavioral medicine are highly dependent on the socio-cultural approach to mental health, and what the current scientific standard is of effective treatments. Healthcare spaces are rarely built to fulfill ideals of community-inclusive treatment due to the sheer complexity of necessary health and safety restrictions. The problems of stigma, community outreach, and community impact are often part of the general design considerations but are very rarely the main focus of the building because of this (Whitley and Siantz 2012, 10). The stigmatization of mental illness is reinforced through the design of clinical and institutional treatment spaces. Treatment spaces like hospitals or inpatient clinics are designed to be safe and easy to clean, which often results in spaces that feel “cold” and sterile, filled with hard and synthetic materials. Even when these spaces are designed and decorated to feel more homelike, the building typologies, lack of privacy, sounds, and even smells of the spaces can still lead to these overly sterile sensations (Ulrich 2006, 288). A larger issue is the way in which we think of treatment and creating space for treatment; the idea that people with mental illness are dangerous can result in small, secluded rooms that can feel like a prison. Unfortunately, this can result in mental healthcare spaces that end up exacerbating or reinforcing stigma rather than decreasing it. Emphasizing the experience and community impact of a design would hopefully lead to facilities that decrease mental health stigma.

The type of treatment a patient receives varies depending on their needs and diagnosis. Generally, in the United States, people are taken to hospitals or specialists to receive an initial diagnosis of mental illness, but where they go next depends on the severity. If they are in a time of immediate crisis, they are held in a psychiatric ward in a hospital for a period of time (dependent on local regulations). If they have not shown signs of improvement, they could then be sent to a long-term facility if they remain in need of round-the-clock observation and care. As a combination of treatment and

medications that works is found, the patient is likely to be discharged to an outpatient treatment facility from either the hospital or long-term care facility. It is rare for patients to remain in inpatient treatment for a long period of time, but they will be held as long as needed to not be a danger to themselves or others. If a patient is not in a state of immediate crisis, they might be referred directly to external or outpatient treatment. While this is a simplified version of the mental healthcare system, it shows how many types of specialized environments are needed for mental healthcare. A user will go through, at minimum, 2-3 offices to receive an initial diagnosis and follow-up care. The number and variety of mental healthcare spaces is necessary, since recovery from mental illness is a nonlinear path that could require years. These spaces each have an impact on the recovery process, and are subject to the collective social stigma of mental illness.

In most healthcare environments, the amount of control the patient/client has is extremely limited due to extensive safety requirements and codes. Moving these non-critical treatment sectors out of hospital and clinical settings allows for more user-controlled elements and social integration (Yanni 2006, 440). These treatment typologies (wellness clinics, community mental health centers, clubhouses) can serve as a social and community gathering space as well as for physical and mental rehabilitation (Yanni 2006, 441; Gallup 1999, 126, 156; Whitley & Siantz 2012, 11). There is a strong need for mental healthcare to expand away from traditional healthcare patterns, since mental health has a significantly different healing process: physical recovery is often a straight line, but mental recovery is an expanding orbit, circling around the issue and occasionally going into retrograde, but expanding outwards into a steady circle. Decreasing the stigma associated with mental health treatment requires a re-examination of how the spaces associated with the recovery process are contextualized both socially and physically. Failure to consider the implications of implicit or inherent social values will have significant impacts on the field of mental healthcare design. Stephen Verderber says it well in his 2018 book *Innovations in Behavioral Health Architecture*: “Cultural norms at the local level are shaped by historical precedent and tradition, and because of this the will to overcome past prejudices, biases, and patterns of discrimination must be of utmost priority. Discrimination by [architectural] design cannot be tolerated and in the absence of strong advocates, things can go awry

quickly” (56-7).

A challenge to the mingling of mental health treatment patients and other social groups in public space is safety and the perception of safety. Mental healthcare architecture by necessity requires strict regulations to ensure the safety of all involved in the treatment process. These policies relax as the illness decreases in severity, so externalized treatment levels like outpatient, talk therapy, and psychiatrist offices have more design leeway. This level of programming is more suited to public mixing, as patients are already partially reintegrated into the community. This design framework therefore generally uses the occasional-outpatient-visit level of treatment as the basis for therapeutic spaces in the community treatment complex.

This thesis focuses on outpatient anxiety disorder treatment in particular, due to anxiety’s high rate of occurrence and its impact on how people react to physical space (Sisemore 2012, 6, 49). Anxiety disorders include post-traumatic stress disorder, obsessive-compulsive disorder, phobias, and generalized anxiety disorder (Sisemore 2012, 5). Almost one in three American adults will experience an anxiety disorder at some point in their life (NIMH 2017). Anxiety is essentially a malfunctioning of the body’s fear system, triggering the fight-or-flight reaction in non-life-threatening situations. The increase in adrenaline leads to a hyperawareness of the environment, increasing vigilance for possible dangers (Sisemore 2012, 22, 30, 49). These reactions can significantly impact how people see and interact with the world around them, making it seem like a harsher and more dangerous place, which can create a feedback loop. However, everyone’s experience differs: being in a corner with one’s back to the wall can make one person feel safe, and another person feel trapped. The mental healthcare system is meant to address this variation through the stepping down of severity; unfortunately this can lead to each space being designed for the worst possible scenario for that severity level. Even if unused, the presence of something like restraint tiedowns can significantly change the feeling of a room, especially for patients with high anxiety levels.

Modern mental health care design in North America is much more open than historic facilities, but is still quite restrictive in comparison with the attitudes and



facilities in Scandinavian and Northern European countries. Northern European ideas of personal responsibility, their non-litigious culture, and concept of mental illness as true illness results in facilities that have a different impact from most North American healthcare buildings.

### **Modern Healthcare Case Studies**

The Friedrichshafen Psychiatric Center built in 2011 by Huber Staudt Architects is designed feel less institutional through materiality and layout, while still having a fairly large footprint of 59,800 square feet (Huber Staudt n.d.). This is an inpatient psychiatric facility in the suburban outskirts of Friedrichshafen, Germany, with an emphasis on social aspects of mental illness, looking at how interpersonal relationships and social interactions affect mental health (Sinova Clinic n.d.). The patients maintain contact with their societal support system throughout, including them as participants in the healing process (Sinova Clinic n.d.). The building keeps a low profile in contrast to the other healthcare buildings around it, following the contours of the hill it sits on. The interior is a combination of polished concrete, glass, and wood, with low ceilings and open views creating a feeling of enclosure without being trapped. The rectangular form wraps around a large courtyard, allowing almost every room to have an outdoor view. The location within the healthcare campus allows it to be separate without feeling isolated, and the reserved design gives it a distinguished air without trying to falsely recreate a “home.” It is removed from the community and the public, but at this level of treatment that can feel appropriate rather than stigmatizing; people dealing with any type of health crisis do not want to be in the public’s view.

The siting and form of this project makes it feel less obtrusive and institutional than the more typical healthcare complex around it. The limited use of materials, views to the outdoors, and lower ceilings keep the space feeling open while retaining a more human scale interior.



Huber Staudt Architects, Friedrichshafen Psychiatric Center external view. (Huber Staudt n.d.).



Huber Staudt Architects, Friedrichshafen Psychiatric Center atrium. (Huber Staudt n.d.).

The Danish Handicap Organization House built in 2012 by Cubo Architects and Force4 Architects uses principles from universal design at an unprecedented scale. It is located on the northeastern edge of Copenhagen, next to a central train station. This office building is designed to meet a wide range of needs through wayfinding and layout consideration. Each wing off the five-pointed central hub houses a different department, so the interior walls are color-coded to make them easily distinguishable (Force4 n.d.). Navigation aids like raised patterns in the flooring and railings below wheelchair height consider the experiences of different user groups. The consideration of so many needs helps create a more accepting norm; using an accessibility aid is not unique in this building, and their ubiquitous presence shows what public space looks like when designed for atypical needs. An interesting aspect of the building is that every publicly used room (including the bathrooms) is different, with varying furniture heights, light and sound amounts, privacy, etc.; the idea is that no matter what your needs are, there is a room in this building that will suit you.

This project uses design-based solutions to create a space that feels welcoming to all. The elements used are simple, but their presence can make a significant difference for people who need them. The elegance of this execution is a good standard for accessible design, and solutions for mental health issues should be examined the same way. Finding similarly simple and effective design solutions for high anxiety levels, sensory overload, or even providing more user-controlled space would go a long way to destigmatizing mental health issues.



Cubo & Force4 Architects, Danish Handicap House atrium. Note the inset elements for cane-based navigation and the color coding of each wing. (Force4 n.d.).



Cubo & Force4 Architects, Danish Handicap House atrium inhabitation. The central space serves as reception and resource center.

The Margaret and Charles Juravinski Center for Integrated Healthcare in Hamilton, Ontario by Cannon Design is a regional psychiatric complex near the border of the U.S. and Canada. It sits in an urban area, bordering a small college and a series of small parks. The programming of the complex creates a public face and a private face, while surrounding the building with accessible green space (Verderber 2018, 239). The grounds include sport courts, a labyrinth, and walking trails for visitors and patients to traverse (Verderber 2018, 241). The form of the complex is broken up to avoid the sensation of a monolithic institution, a direct contrast to the old Hamilton Insane Asylum building that remains on the site (Verderber 2018, 239). The inpatient wings protrude out the back to capture the view of the surrounding area (Verderber 2018, 239). The focus of the architects on the patient experience in the interior is intended to create a less sterile and intimidating presence: “Colors, materials, circulation patterns and amenities—including a hair salon, gymnasium, clothing store, library, and coffee shop—contribute to a warm, destigmatized, patient-centric environment” (CannonDesign 2019). These design elements will certainly help mitigate the “cold” effect that tends to come with modern hospital design, and the inclusion of nonmedical programming could help de-escalate the intensity of inpatient mental health treatment.

The complex uses the inclusion of semi-public programming and the nearby public land to start integrating itself into the surrounding community. Interestingly, the decision to elevate most of the inpatient wings above the ground level removes access to these outdoor spaces, a necessary move to prevent patient escapes but one that subverts the purpose of these outdoor spaces. The form of the complex is intended to break down the imposing institutional feeling of the space, but would perhaps have been more successful if the building was actually divided instead of just varied. The program variation is a welcome change from strictly treatment-based centers, but it seems unlikely that anyone would utilize them except long-term patients or visitors. Further inclusion of the public would help destigmatize this space even more.



## Site Plan



Cannon Design, Margaret and Charles Juravinski Center for Integrated Healthcare site plan. (Verderber 2018, 241).



Cannon Design, Margaret and Charles Juravinski Center for Integrated Healthcare front face and inpatient wings. (CannonDesign 2019).

## Chapter 4: Creating Program

In order to successfully address public mental health stigma, the programming of the community treatment complex needs to germinate long-term casual contact between people working towards a common goal. This indicates, at a basic level, the need for space to mix different social groups while providing areas for social interaction and items of interest to talk about and work together on. This core concept is a key element of community-building programming; the unique difficulties arise from the need to mingle people getting treatment for mental illness and the general public (Banks & Banks 2004, 4-5). These groups have differing perspective on what constitutes a comfortable environment; rather than attempting to design for all potential needs, it is far more efficient to allow the spaces to adapt and change as needed. This presents its own set of issues, as attempting to design for every program possible inevitably creates boring and inactive design. In order to make space that is compelling while still allowing for a wide variety of uses, I use Herman Hertzberger's theory of polyvalence and theories from cognitive design throughout the structuring of this framework.

Hertzberger's theory of polyvalence uses ideas about the nature of flexibility versus activity to reconsider the way we design space for human interaction. Henry Plummer explains it quite succinctly in his 2016 book *The Experience of Architecture*: "paths and room are configured to liberate people by playing a wide range of secondary roles while remaining true to their primary functions, melding spontaneous action with practical need" (142). The focus on the creation of social conditions through polyvalence and programming turns architecture into an active participant, a "generator of solutions" that works with inherent human desires, rather than a backdrop for all possible types of activity (Hertzberger 2015, 138). Flexibility is a necessity for space to bridge varying activities and uses, but Hertzberger's criticism of generic "flexible" space is that it is under-designed to the point of characterlessness (Hertzberger 2015, 127). At the same time, he criticizes excessive program specificity as prescriptivist, stating "the more narrowly you keep to the programme of your brief, the less you will be helping your client and, ultimately, the community as a whole" (Hertzberger 2015, 126). He proposes that designing conditions rather than programmed spaces allows for maximum interpretability and freedom, to "avoid excessively specific solutions

and concentrate on everything that is adaptable and thus has the capacity to accept change” (Hertzberger 2015, 127, 130).

This approach of using program and design to generate conditions is utilized by architectural theorist Bernard Tschumi as well as Hertzberger. Tschumi focuses on using program as a driving factor in design, to “[generate] public spaces or spaces of encounters” (Koolhaas et al. 2006, 8) in order to create interesting situations. He describes using program as a material, to realize concepts for new conditions for living (Koolhaas et al. 2006, 15). These conditions are not part of the program itself, but events that occur around or because of the program. For Tschumi, program can be repetitive and prescriptive but events and uses can never be predicted or “designed;” you can only create conditions that might contribute to the occurrence of an event (Koolhaas et al. 2006, 8). Hertzberger’s theory disagrees with Tschumi on one point: he argues that design can create conditions that “‘resonate’ in those basic human qualities that relate to our perception of space” (Hertzberger 2015, 145). Here Hertzberger suggests that human interaction and activities have a common root, resulting in recurring spatial qualities throughout history that can be considered and included to create a kind of “basic condition” for essential spaces (Hertzberger 2015, 143-144). This idea runs in parallel with cognitive design, reaching towards core human behaviors to address the wide range of environmental needs. This framework therefore uses polyvalence and cognitive design as core concepts throughout the design tools.

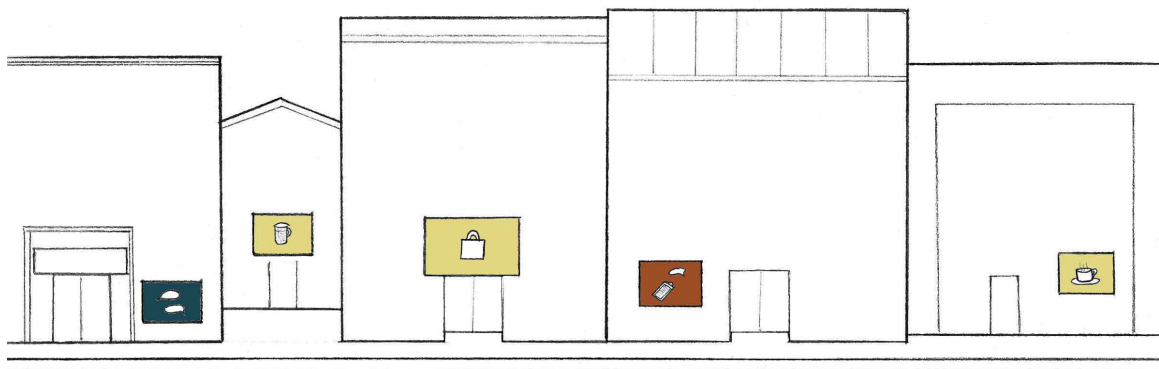
Program integration is the most vital design tool in the framework, mingling user groups and increasing social contact. The hybridization of the programming in the complex is necessary to ensure a lively social space. The inclusion of a community center should create a more active community presence, eliminating the perception of isolation and shame associated with entering a mental health treatment facility. The intended effect of the casual social interaction is to familiarize the general populace with the realities of mental illness, what mental health treatment entails, and engage them in long-term low-stakes activities with people undergoing treatment. For those in the outpatient program, it should decrease the shame of having to visit a treatment location and create opportunities for them to discuss their status and gain support from their community.



The integration of innovative therapies in the programming of the community treatment complex broadens the use of the space. In the same way that the essential and varied community programming draws a variety of public users to the complex, the presence of alternate outpatient therapies expands the user pool for mental health treatment. This inclusion of people who experience mental illness in a variety of ways is important to achieve the type of destigmatizing contact described in chapter 2. Exposure to a broad pool of people and mental health issues can circumvent the problem of exceptionalism (“everyone is like this stereotype- except you!”). Rather than creating mental health treatment space that is a variation of the typical therapist’s office, alternative therapies are scattered throughout the programming of the complex. These therapies range from physical activities like walking or cooking to technology-based techniques like virtual reality-based exposure therapy. The variety of therapies lets the complex adapt to new ideas of treatment, ensuring that it will never become obsolete.

## Program Integration

A space designed to gather disparate social groups together at equal standing requires programming that draws in both groups and lets them intermingle respectfully. The social setting needs to be lively but not overwhelming. The programming must be essential enough to attract significant community use or risk becoming associated entirely with mental health treatment. As the focus of this thesis is mental health stigma, outpatient anxiety treatment is one of the major programming elements, along with community activities and commercial space. The way that these programs are situated is important as well, to avoid isolating mental health treatment within the larger complex. If the mental health treatment space is the main focal point of the building, patients may feel watched and judged by members of the community while approaching it, which can feel shameful and create anxiety about going inside. Dispersing treatment rooms among other programming spaces prevents this sensation, though the treatment spaces still need to be accessible. Locating a variety of programming in one space will benefit the mental health recovery process, as doctors or treatment providers can interact directly with pharmacists, employment aides, etc. The integration of various programming is one of the design tools used in the creation of the community treatment center, as is the inclusion of innovative therapy programs. While they both work towards the main goal of decreasing mental health stigma, program integration is one of the foundational concepts of the framework.

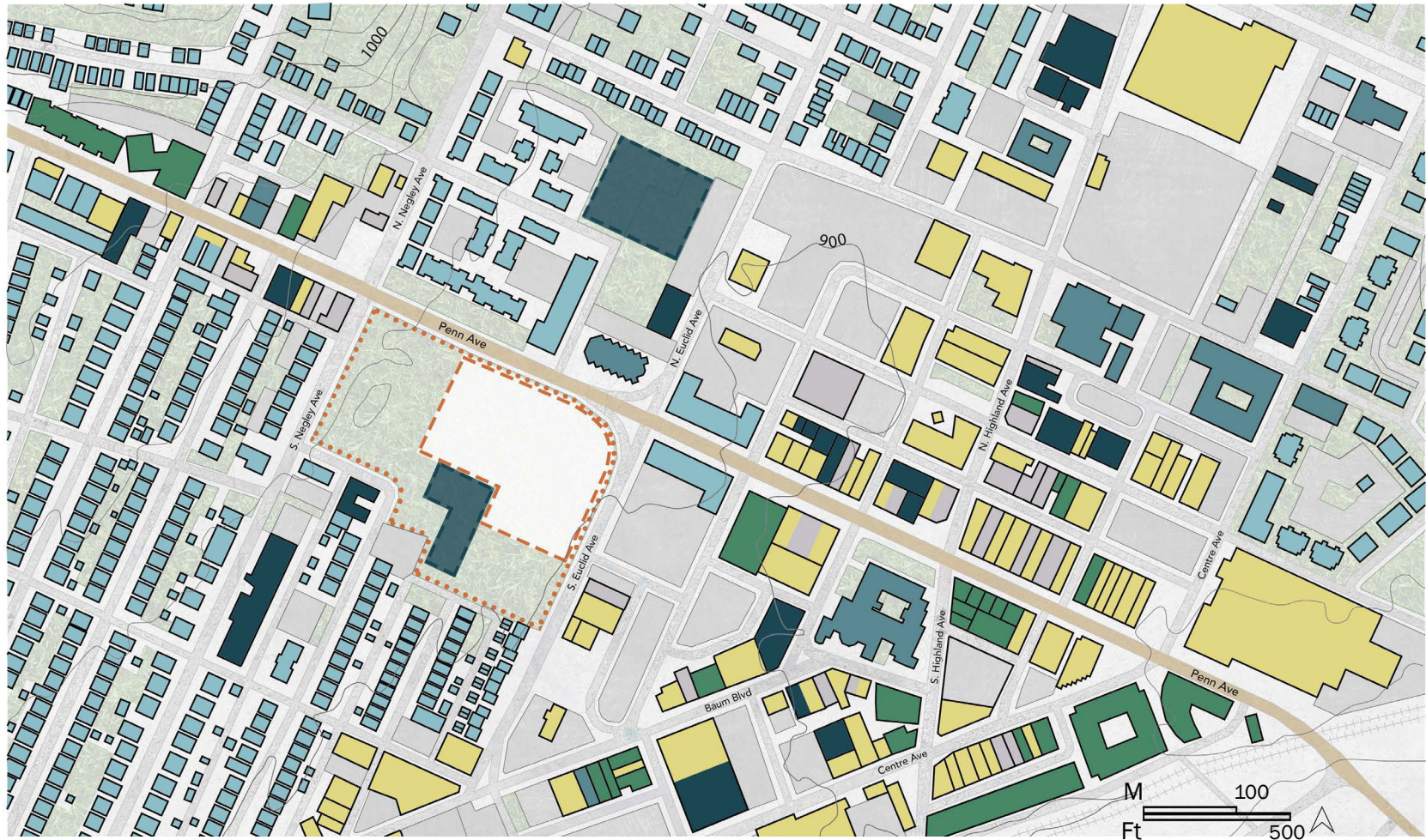


What an integrated streetfront could look like: community centers, bars, shops, mental health treatment, and cafes. Treatment and support programs are dispersed, but remain linked.

The blending of community and mental health treatment programming requires careful design consideration of arrangement and intensity of program. Without lively community participation there is a risk of associating the space entirely with mental health treatment, and therefore with the stigma of mental illness. Essential community elements such as childcare, grocery and meal preparation, physical health clinics, and support networks should then be located in the complex as well. These support systems, which locally include employment resources, education programs, afterschool programming, etc., may contribute to a sense of stigma if they are not carefully integrated into the complex. The contrast of higher-end gentrified activities and these support systems give the impression of a “poor neighborhood” where issues of unemployment, low education rates, etc. will always remain in this area (Banks & Banks 2004, 112). Even the appearance of poverty contrasted with upper-scale programs can exacerbate stigma, as the more perceived demographic differences there are between groups (e.g. race, age, economic income, religion), the more they are likely to stigmatize the other (Parcesepe & Cabassa 2013, 4). The mixing of mental health treatment and community support programming is therefore not enough; more public and commercial spaces are needed to prevent social stigmatization. This project blends these programs together to create an active streetfront with commercial spaces directly along the main road, and community and treatment spaces within the body of the complex.

Program integration requires a balancing of scale and presence, to create a compelling mix of program rather than having them simply exist near each other. Mental health treatment is a particularly delicate program type, requiring privacy while avoiding being relegated to obscurity. In order to facilitate this, there are several programmatic gradients throughout the complex: the edge facing the street is more commercial and public use, with community and treatment use blending into the public “yard” inside the block. Mental health treatment spaces are located on all levels, with the more private rooms located on the upper floors and the reception areas and more active therapies on the lower ones. Commercial and community programming are densest on the ground floor, as well as mixed into upper levels. In order to accommodate the specific needs of the community, the layout of the program is designated by type rather than specific use. For example, the “community” space in East Liberty would include

Key   ● Commercial   ● Gentrified   ● Community Support   ● Outdoor Activities   ● Churches   ● Residential   ● Empty   ● Penn Ave   ● Site



Map showing the programmatic context of the site. (USGS 2018)

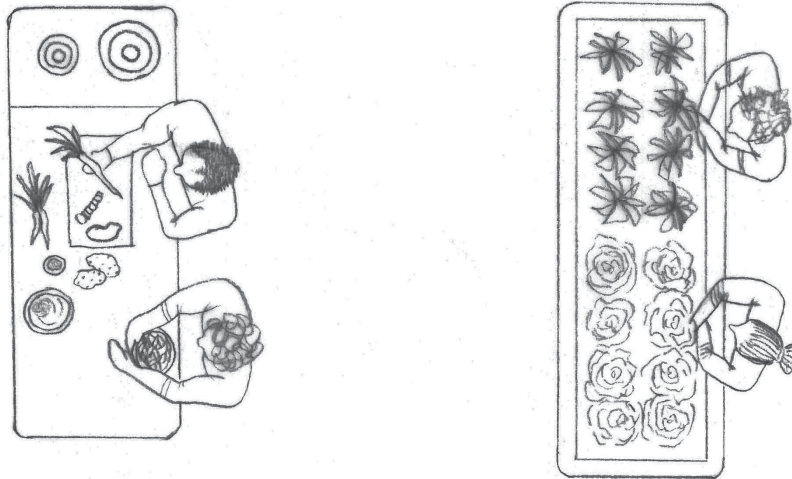
a physical health clinic, as there are only two available in the neighborhood and one recently shut down. Another site might have four or five already, so adding a clinic to the complex would be redundant; that space could then be used for childcare, community events, an employment office, etc. This flexibility lets the framework adapt to its context and allows the community to have some input on the design.

The public space surrounding the core programming serves as the connective tissue for the project, linking the site to the surrounding commercial and residential areas and providing much-needed outdoor activities. The public and commercial space will serve all demographics of the community, creating a range of programming. On sites that already benefit from outdoor public space, extending the program out into the site context anchors it more deeply into the community. Outdoor public space is lacking in East Liberty, so adding small plazas, sheltered areas, and activity space like sport fields draws people to the complex. Mental health treatment space also takes advantage of the outdoor programming, as outdoor activities such as gardening and green spaces with leisure space, benches, and shading trees can help mitigate the intensity of indoor therapies (Verderber 2018, 148).

### **Innovative Therapies**

Outpatient mental health treatment is expanding past talk therapy; alternate therapy techniques are becoming more popular as we understand more about the mental recovery process. Most people associate mental health recovery with talk therapy, where the patient sits and talks with a certified therapist for an hour and then leaves, potentially with some homework. While this type of therapy is effective and includes a range of techniques, broadening the scope of therapeutic activities could be beneficial to help deal with issues of stigma. Combining elements of talk therapy with occupational or physical therapy can target specific areas of interest, and reach people who are not comfortable sitting and talking. This can be particularly helpful for those with comorbid disorders, where patients are suffering from more than one illness simultaneously. Active therapies like walking therapy or occupational therapy (where both therapist and patient engage in an activity, like cooking or gardening) would provide valuable alternatives. Locating these various spaces throughout the complex allows for guided social interaction as the therapist and patient navigate





Cooking and gardening are examples of occupational activities that can be adapted from occupational therapy and everyday use for behavioral therapy purposes.

public space to reach them, though there should always be more private rooms as well. These therapeutic spaces can be used not just for treatment, but also for limited public interaction as part of therapeutic techniques, as well as public information sessions. Combining them removes the secrecy and isolation of mental health treatment and can provide more controlled environments to talk about mental health.

Very short-term residential treatment units could be included in the programming as well, outside of the major structure near a residential zone. As with other treatment spaces, there should be privately-owned residential units integrated into this area to prevent their isolation. The length of stay would have to be short to avoid becoming analogous to a full inpatient ward, and the units would require stricter safety standards and monitoring, but their presence would allow people to stay within their community if they have a minor relapse as they recover. This type of overnight facility exists in England and has proven beneficial to patients, who participate in outpatient therapy during the day (Chrysikou 2014, 30). These units, like the other treatment spaces, should be visible and present without drawing undue attention.

## Case Studies

The Halifax Public Library, built in 2014 by Schmidt Hammer Lassen and Fowler Bauld & Mitchell, offers a variety of programs to create community engagement, from book launches to concerts to public consultations of government projects. This library functions incredibly well as a community hub, with specific rooms for music and audio/visual uses, meetings of various sizes, small group rooms, a theater, and a wide variety of furnishings that create intimate spaces within the large open floorplate. The central atrium is open and serves as the main focal point as well as vertical circulation. The zig-zagging stairs frame the variety of programs on each floor, showcasing the activities and functions of each department. Smaller spaces are created through the use of booth-like furniture, the placement of bookshelves, and large glass-sided rooms that can be reserved by anyone. These pockets of semi-private space break up the openness of the space, diffusing the echoing noise from the central atrium– they are incredibly popular, and it is often hard to find a booth or room that is not in use. The top floor and the ground floor are the two most active areas, designed to draw people into the building and upwards to the views. The top floor has a café and a sunlit reading room, dubbed “Halifax’s living room.” The ground floor has another café and more common seating areas than books, with a partition that folds back to reveal the stepped seating of the theater and the curtain wall behind it. The effect here, and on most of the floors, is that daylight is visible from almost every location, and the entire building spirals around the central atrium.

The success of the Halifax Central Library shows the impact program variety can have within a singular complex. The design was notable enough to win the 2016 Governor General’s Medal in Architecture for “excellent civic building design” (Schmidt Hammer Lassen n.d.). The creation of smaller rooms within the larger space provides comfortable semi-secluded areas that people prefer to the open tables. The mix of programming and the emphasis on openness means that most of the activities are visible, allowing people to choose whether or not to participate or observe further. These elements in particular are useful to program and user group integration.



Schmidt Hammer Lassen & Fowler Bauld & Mitchell, Halifax Central Library core atrium. (Schmidt Hammer Lassen n.d.)



Schmidt Hammer Lassen & Fowler Bauld & Mitchell, Halifax Central Library inhabitation (Halifax Central Library 2019).



The Nicolai Cultural Center, built in 2008 by Dorte Mandrup Architects in Kolding, Denmark, is made up of several cultural and community buildings linked via a central courtyard. The structures are renovated historical buildings that have been transformed into a theater, children's play space, music spaces, art spaces, and a heritage museum (Architonic n.d.). Corten steel accents and patterns across the asphalt courtyard create a feeling of cohesion between the varying structures. The transformation of these buildings into one complex creates the feeling of a neighborhood that has come together around an active outdoor space. Children play in this central space, a restaurant often places tables outside during the summer, and people will stop to chat as they run into each other to and from the surrounding buildings. The variety of programming in the complex is quite successful, as each building can function independently or in conjunction with the others. The children's space is particularly interesting, as the peaked-roof form is subdivided into unique play spaces that cater to children's creativity and independence. It contains a small theater with dress-up clothes, a rocket ship, multi-floor slides, a room of swings and giant pillows, an art studio, indoor treehouses, a "cloud" ball pit, and small empty areas. The variety of activities creates a lively and energetic atmosphere that extends out into the courtyard, visible to the surrounding buildings.

The juxtaposition of the programming in these buildings creates a vibrant and active atmosphere throughout the complex. The central courtyard and paths serve as more informal mixing space, where the programs can bleed into each other. Each building feels unique, but the center works together as a whole due to the continuous architectural elements. Rather than the still-homogenous feeling of a singular complex fabricated to look this way, the effect is of a community center that has grown together. The inclusion of community outdoor space and the connection with the historical buildings of the area make this project a substantial case study for the concept of program integration.



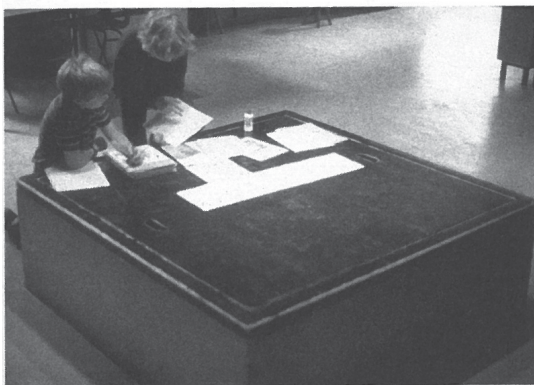
Dorte Mandrup Architects, Nicolai Cultural Center courtyard. (Architonic n.d.)



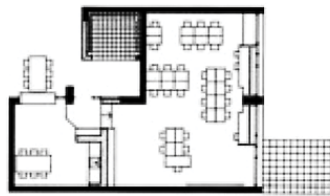
Dorte Mandrup Architects, Nicolai Cultural Center courtyard detail. (Architonic n.d.)

Polyvalent design can be found in the Delft Montessori school, designed by Herman Hertzberger in 1966 (Plummer 2016, 145). The main halls zig-zag through the plan, creating alcoves and pockets for the children to gather in or for small activities to happen (Plummer 2016, 145). The layout of the classrooms and the halls create a variety of spaces, from small nooks that feel more private to tables out in the open hall space (see plan on next page). A key polyvalent element in this school is the five-by-five low platform located at the junctions of the hallways; it sits at the perfect height to be used as a stage, a group table, activity setup, or just for play (Hertzberger 2015, 140). The placement of such a simple piece of furniture “actively induces interpretation” and creates a variety of programming (Hertzberger 2015, 140). This is a particularly clear example of polyvalence, as children tend to use their imagination more frequently than adults, using everyday spaces and objects for elaborate alternate uses. This platform could easily become a pirate ship in the sea, or a safe haven over a lava-filled floor. Adults tend to look at spaces differently, with a more practical view as per the second row of image on the next page. This polyvalent element caters to practical needs as well as inciting imaginative exploration, even though it is an incredibly simple raised block.

The connection between the polyvalent areas in this school means that there is more adaptable space than strictly designated space. The main hall acts as a street, connecting the separate rooms through open social space. The placement of these blocks in this social space invites children to mingle outside of the classrooms. This flow of interaction where people are drawn together outside of programmed areas to participate in an activity together, would benefit many public spaces. However, as mentioned previously, it is much harder to entice adults to do this, particularly people with high levels of social anxiety. In order to create effective polyvalent space for anxiety patients, the next chapter will look further into how cognitive design can be combined with polyvalence.



Herman Hertzberger, Delft Montessori School hallway platform uses. (Hertzberger 2015, 139).



Herman Hertzberger, Delft Montessori School classroom section and plan, hallway plan. (Plummer 2016, 145).



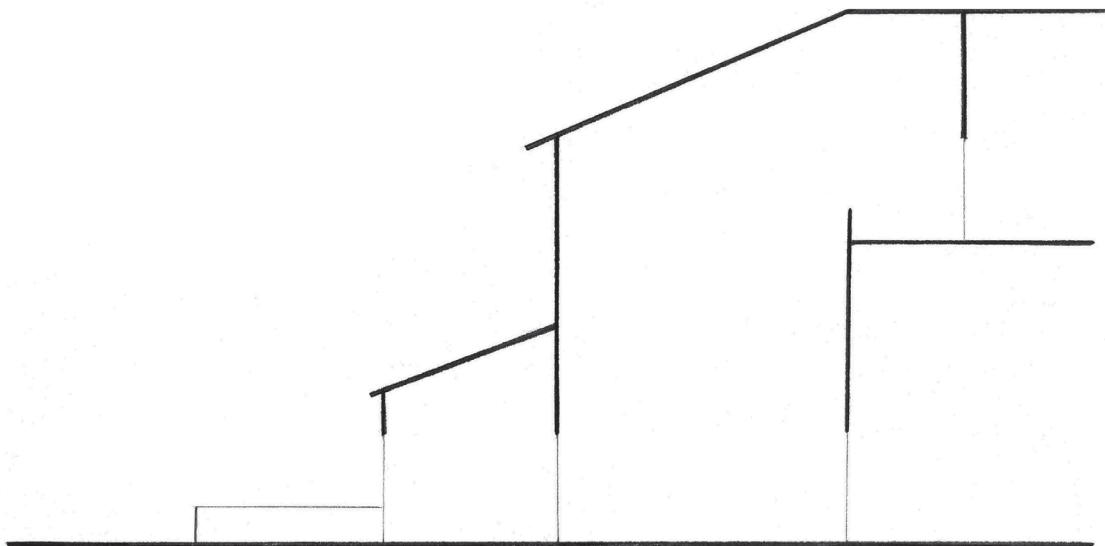
## Chapter 5: Dwelling in Layered Thresholds

Thresholds and entryways hold symbolic and physical power, marking a place of transition. For places of healing and recovery the significance of making that first step, of leaving an old world and stepping into a new one, is particularly strong. Lingering in transitional space lets people feel like they have more control over their environment than stepping directly through; they have the excuse of just stopping on their way out, and an immediate exit route. This is particularly true of people with high levels of anxiety, who tend to linger near doors and edges in new place, seeking protection and visual access (Sussman & Hollander 2015, 25, 36; Gallup 1999, 143). Adding space to dwell at thresholds can let this behavior exist comfortably. Making a threshold space significant can encourage people to use the area more substantially and help this intermediary space generate activity. Layering these thresholds through expanding the entry spaces to include multiple doorways and space to linger will soften the entry experience.

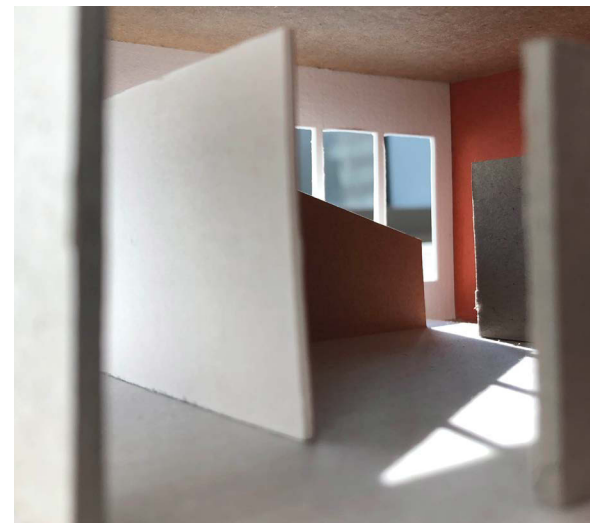


A model showing one way to accommodate edge-dwelling tendencies. This is not an ideal situation, as there needs to be more transparency.

The entry process is not confined to the main door and reception space; it begins out along the street front and continues until the user has reached their destination. Without due consideration, this process of entering can become confusing or abrupt. For example, entering directly into a programmed space or being faced immediately with a receptionist asking “can I help you?” does not allow for time to adjust to the new space and collect one’s thoughts. Imposing forms and signage can add to this sensation, making one feel threatened instead of welcomed (Verderber 2018, 114). Properly layering the “zones of entry” can draw people towards the main entrance while giving them space to linger and observe where they are going before they get there (Verderber 2018, 114). Transparency between the exterior and interior spaces can add further connection and psychological flow (Verderber 2018, 115). Maintaining clarity also ensures that the end goal is not obscured by gatekeepers and opaque doors. The space between the layers becomes as important as the act of passing through the entry; the design of them should communicate what to expect, and staying between layers should not be remarkable. Transitional architectural elements I chose to explore in this project include semiformal gardens, porches with seating, and pergolas with public furniture.



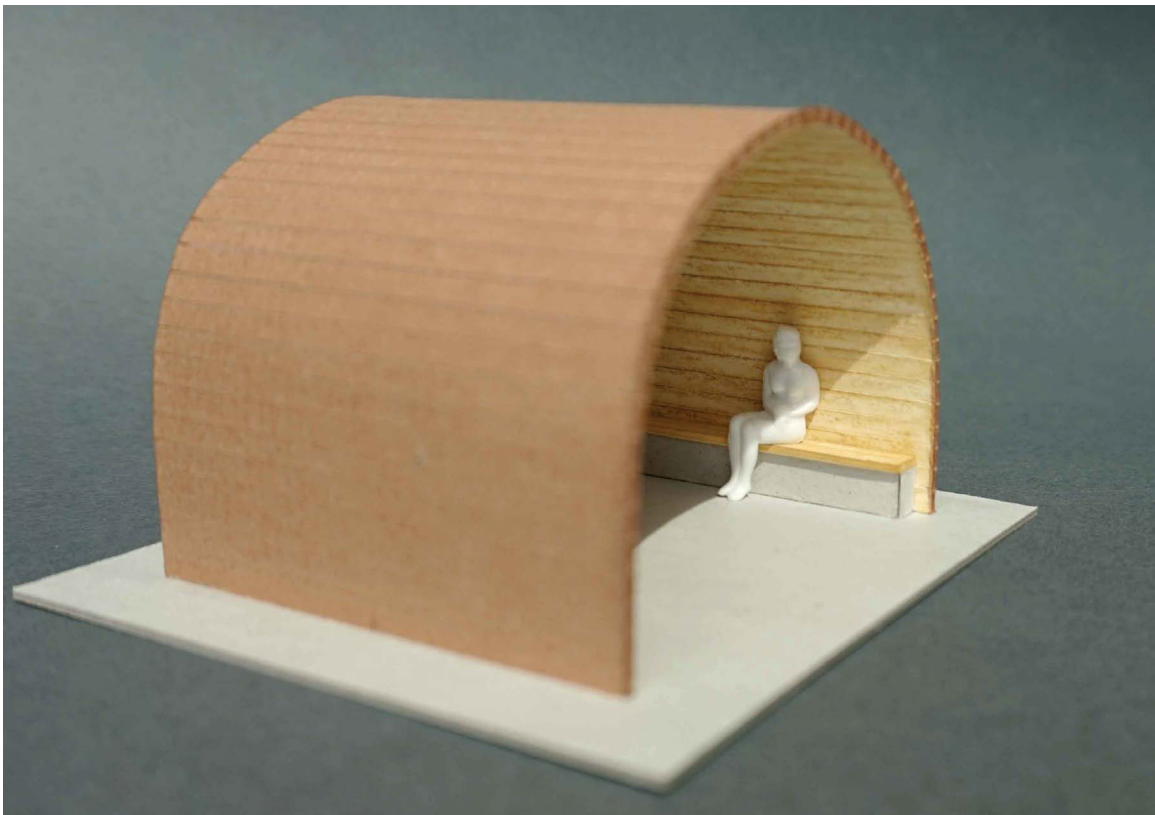
A diagram showing threshold layering from exterior to interior spaces.



Top to Bottom: Porch entry from park into complex, the porch creates an intermediary space between indoors and outdoors; Interior intervention near entry into park; having a smaller space near the door further softens the entryway, allowing for escape and observation.

Designing these transitional spaces to be inhabited elevates them above mere hallways with benches. These areas are significant, providing protection and respite to those with anxiety, and a place to encounter something new. These are meant to create a sense of control and self-collection, enhanced by the ability to manipulate parts of the space. These objects will be furniture installations based on phenomenological design and Herman Hertzberger's theory of polyvalent space. The use of experiential-focused design will tailor these spaces to act like meditation or mindfulness spots, reducing visual distractions to focus on other sensory input. Polyvalence is used to inspire activity around a design intervention by suiting a range of needs.

The feeling of becoming an instigator, of having impact on the world around you rather than watching it go by, is a powerful thing that can sharpen one's sense of the surrounding world and feel empowering (Plummer 2016, 8). Even simple actions, like opening a shutter or pushing a door, can spark a feeling of liberty that an automatic door could not give. (Plummer 2016, 8). Reflecting on a sensation of opening a door could get lost in the fast-paced visually-driven world we live in today, so creating space

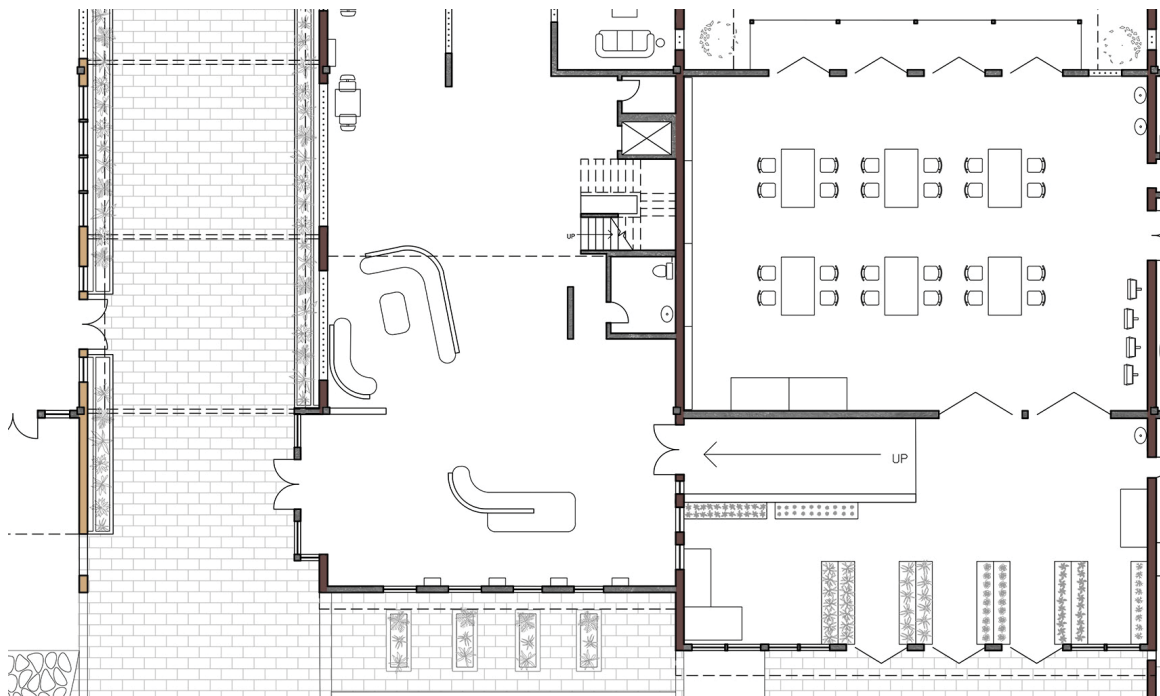


An example of these small design interventions, using materiality, controlled views, and other sensory elements to enhance the experience of inhabitation.



that entices people to slow down and interact, rather than just observe, is important (Plummer 2016, 12; Pallasmaa 2005, 31). This can be helpful for mental health spaces, as technology-heavy programs like healthcare tend to focus primarily on visual elements rather than holistic sensory design (Pallasmaa 2005, 19).

These ideas of sensory design and polyvalent space will be used to create furniture interventions for use throughout the complex in nonprogrammed public and semi-public areas. These interventions are smaller arrangements of curved furniture, built with overhanging roof elements to feel nested in the larger spaces. This furniture will include elements like seats that are basic enough to be used multiple ways, walls to hang things from, and forms that can be manipulated and climbed on. They will feature aromatic wood, like cedar, soft seats, and polished concrete. They are located primarily near entrances and along major transit paths through the buildings. They can be paired together to create room-like spaces, though with enough distance between them to maintain two exits. There will be variations throughout the complex to suit a range of needs, so only slight changes should be needed by the users. The stimulation of influence over one's environment and the flexibility of the space will make these spots hubs of activity.

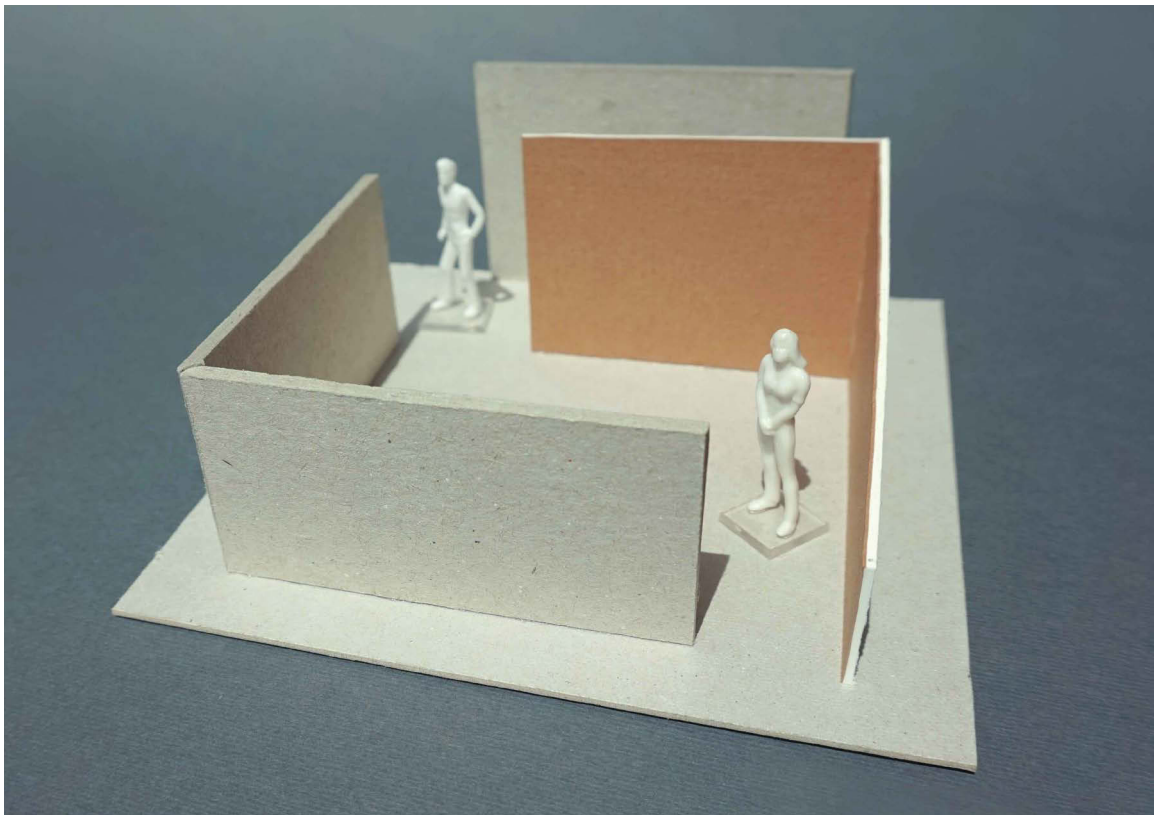


Plan detail showing furniture interventions situated near a door to the park, providing space to sit and observe. The surrounding programs include a vertical circulation core, community activity space, a plant nursery, an art therapy room, and a private therapy office.

## Chapter 6: Spatial Options

The last design tool used in this framework is the creation of spatial options to allow for freedom of movement and visual access throughout the space. Choice and control over one's movement provides a greater sense of safety and self-assurance than any static architectural element (Plummer 2016, 15-17; Verderber 2018, 108, 189; Gallup 2006, 115, 129). Having multiple paths through a space can let people choose how much social interaction, light, noise, etc. they want to experience. This basic sense of freedom extends out to wayfinding; knowing where you are and where you can go reduces stress and helps create a connection to the rest of the building (Sussman & Hollander 2015, 26; Gallup 2006, 153; Verderber 2018; 117).

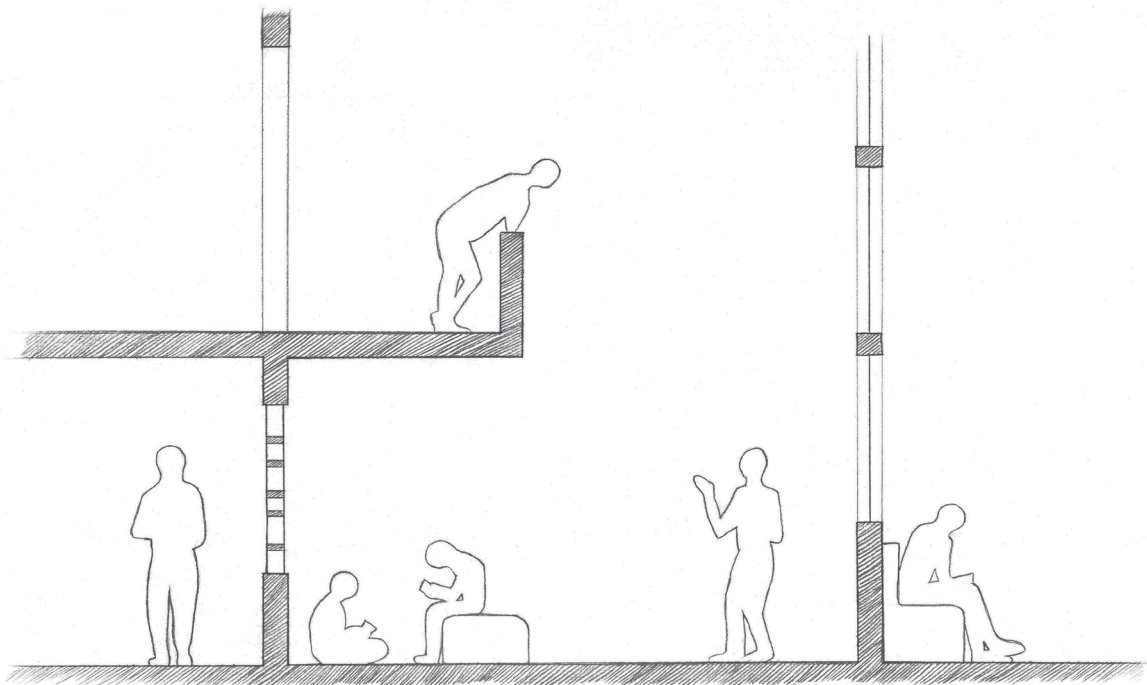
As with most concept implementation in design, there is a level of balance that needs to be achieved; space with too many paths defeats the purpose of having choice and cause further anxiety. There needs to be several paths in each space made clearly accessible through wayfinding and design techniques. Setting up a consistent rhythm



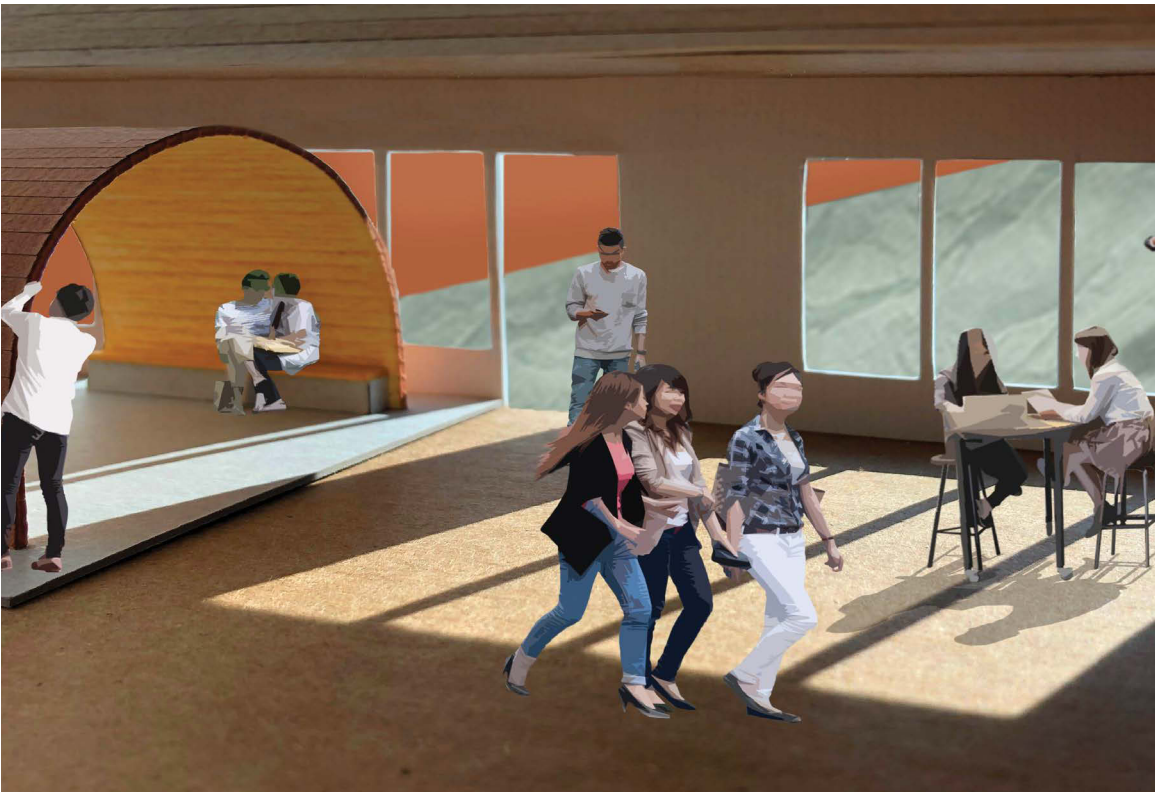
A model showing how multiple spatial options can be incorporated into the layout of a room. This space avoids doors, which present a psychological barrier in addition to a physical one.

with slight variation, as seen in arcades and colonnades, can create an instinctual understanding of the space (Sussman & Hollander 2015, 141). Points where that rhythm is broken or altered can create visual highlights (Sussman & Hollander 2015, 141). People with anxiety disorders tend to not like enclosed areas a single exit or blind corners. Instead they prefer to stay in spaces with multiple escape routes in view (Sussman & Hollander 2015, 25). This suggests that transit space present throughout the design should create a predictable pattern of paths and break up blocks of programming. Upper floors will have at least two access/exit points, and lower floors should have multiple entries. These halls and open pathways are a key part of creating casual social interaction between user groups, and are paired with the polyvalent furniture pieces to further encourage conversations.

The presence of unprogrammed social space and the polyvalent furniture creates a variety of semi-private areas to talk. In combination with the explicit programming and blending spaces, these areas allow for more casual social encounters or a moment alone. These key social interaction spaces in the community treatment complex are almost all



A diagram showing how multiple spatial options with varying social elements can be incorporated into the layout of a transit space.



Top to Bottom: Smaller hallway, used in parallel to larger hallways to create a more private walkway. A larger hall, used for public programming as well as transit.

along major transit paths. The polyvalent furniture configurations in semi-transitional spaces creates moments of respite and refuge while ensuring that participants retain the option to leave at will. These furniture elements, and most of the furniture in the public areas, will allow for a limited amount of manipulation to let people exert further control over the space. There will be furniture variations throughout the complex to suit a range of needs, so only slight adaptations should be needed. These social spaces and furnished areas are a core element of the design, and they are present on every floor in every building.

While hallways and corridors are standard elements of the built environment, their presence and uses can be elevated beyond mere transit. The hallways themselves should be generous and well-lit, and occur at predictable intervals. Creating comfort through rhythm and visibility lets people orient themselves quickly and relieve the stress of navigating new territory. Standard and polyvalent furnishings will break up the space, softening the lines of the open corridors. Including multiple path options through the space will give a sense of agency while places to sit and observe cater to the behaviors of anxiety. Using design to encourage social interaction in pathways aims to decrease stigma by creating eddies of conversation in the spaces between programmed spaces.

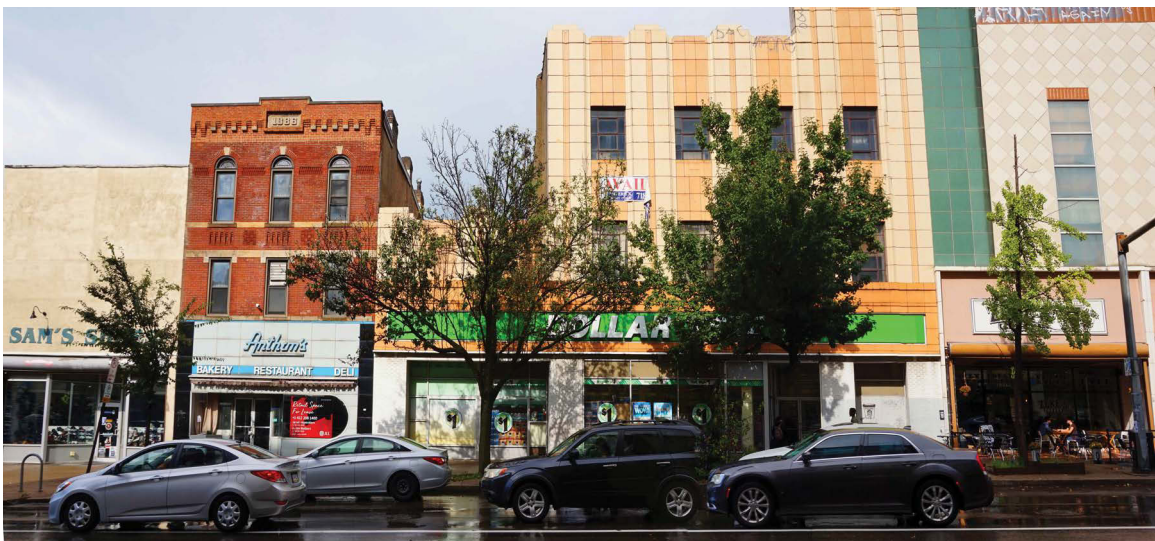


## Chapter 7: Site Analysis

### History and Context

The site I am using to demonstrate this framework is located in the neighborhood of East Liberty in Pittsburgh, Pennsylvania, an area that is in the midst of major social and physical change, making it a good test case for this framework. The neighborhood is located northeast of downtown Pittsburgh, and is mostly residential with a small commercial core along Penn Ave. Penn Ave is a key street in the city, extending from downtown, through East Liberty, and into the southeastern suburbs. Notably, Google's headquarters in Pittsburgh is located a half-mile from the site. The presence of the technology giant is significant because of the history and process of gentrification in the area. The rising property prices are impacting the community as low-income housing and support services are driven out in favor of higher-end programming.

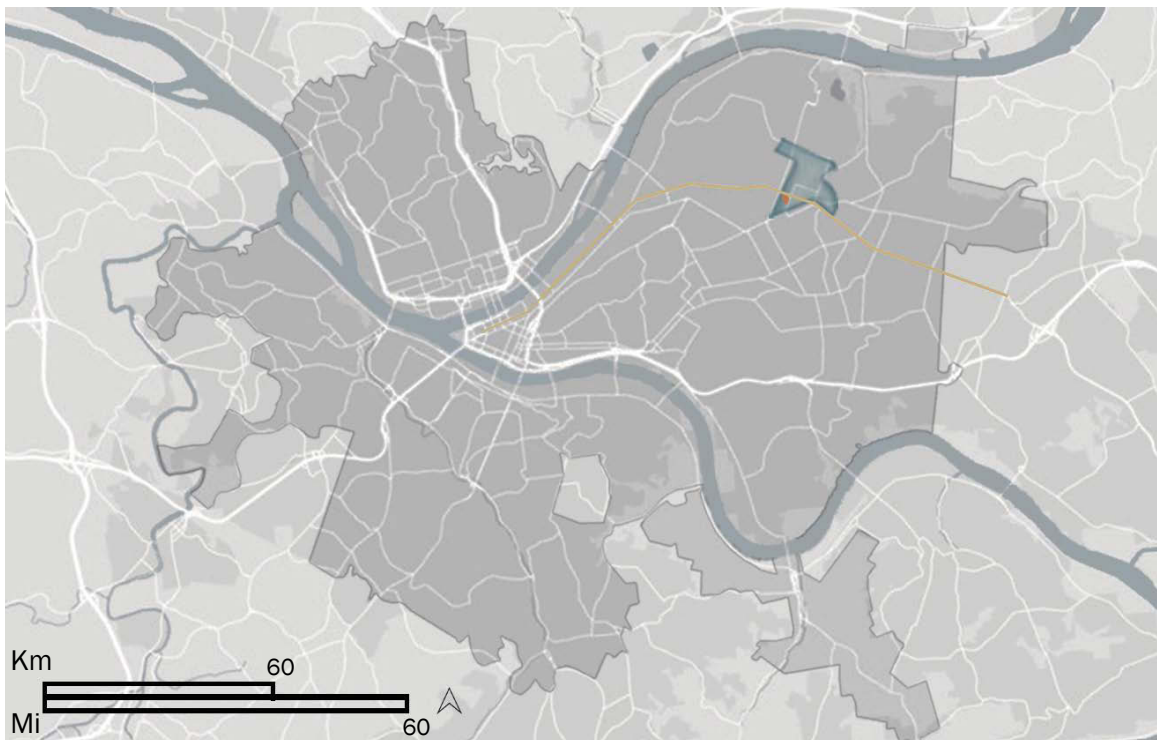
East Liberty has gone through a cycle of prosperity and decline spanning decades, reflecting the changes of Pittsburgh as a whole. The neighborhood is close enough to downtown to host businesses and families who wanted to avoid the city's congestion while remaining in an urban environment. Like most of Pittsburgh, the prosperity of the area began to emerge in the early 1900s with mass-production of automotive vehicles (East Liberty Development Inc. n.d.). As is typical with manufacturing and urban centers, Pittsburgh attracted significant numbers of ethnic



Historic storefronts along Penn Ave in East Liberty.



Map showing the location of Pittsburgh in relation to context. (USGS 2018)



Map showing the boundaries of the city, and the location of East Liberty in teal and the site in orange. Penn Ave is the golden street running through the city. (USGS 2018)

minorities seeking work that required little formal training (Fullilove and Wallace 2011, 385). By the late 1930s, East Liberty was the “second downtown” of Pittsburgh, hosting a variety of theaters, events (in 1936 the largest Christmas Parade in the US marched down Penn Ave), and large retail (East Liberty Development Inc. n.d.). This era of prosperity continued until the late 1950s, when the rise of suburbia and the decline of industrialization lead people to leave the area (Fullilove and Wallace 2011, 386; (East Liberty Development Inc. n.d.). The 1960s arrived with an idea of urban renewal, to boost the city’s liveliness again; this was accomplished primarily through redlining African-American and immigrant-filled districts, causing the quality of life there to steadily degrade (Fullilove and Wallace 2011, 385-387). In East Liberty, many of the single-story shops and homes were demolished, massive highways and interchanges were created, and high-rises started to emerge (East Liberty Development Inc. n.d.). Unfortunately, this had the effect of cutting off Penn Ave from the now-busy highways, effectively throttling the once-vibrant area. The recession of the 1980s saw East Liberty become notorious for drug dens and poverty in its high-rises, earning it the title of “Drive By Shooting Capitol of Western Pennsylvania” (Banks and Banks 2004, 73). Around this time, community leaders began to advocate for change, trying to revive the area or at least mitigate the harm of redlining (East Liberty Development Inc. n.d.). In the early 2000s, big box stores like Home Depot and Whole Foods were enticed by the low real estate prices, the problematic high-rises were demolished (displacing over 400 residents), and Penn Ave was reconnected as a major artery (East Liberty Development Inc. n.d.). While some lower-income apartments were built to rehouse those formerly living in the towers, a significant number of people remain displaced. With Google and other revitalization efforts locating major stores and tech companies in the area, East Liberty is emerging as a trendy neighborhood to live in.

The amount of gentrification in the area has resulted in pushback from the community, who do not want to see the neighborhood get razed and replaced with expensive towers. Local leaders have even proposed their own variation of a development plan, which includes local commerce, community resources, and affordable housing (East Liberty Development Inc. 2011). Their efforts have been successful to a degree, getting the city agree to build more low-income residences even as rent prices rise and force out long-time residents (Taylor 2018). The area remains predominately African-





A view of East Liberty, April 21, 1970, with the Penn Place apartments highlighted (East Liberty Development Inc. 2015).



A view of East Liberty, 2019, post demolition of the Penn Place apartments. The thesis site is highlighted (Google Maps 2019).

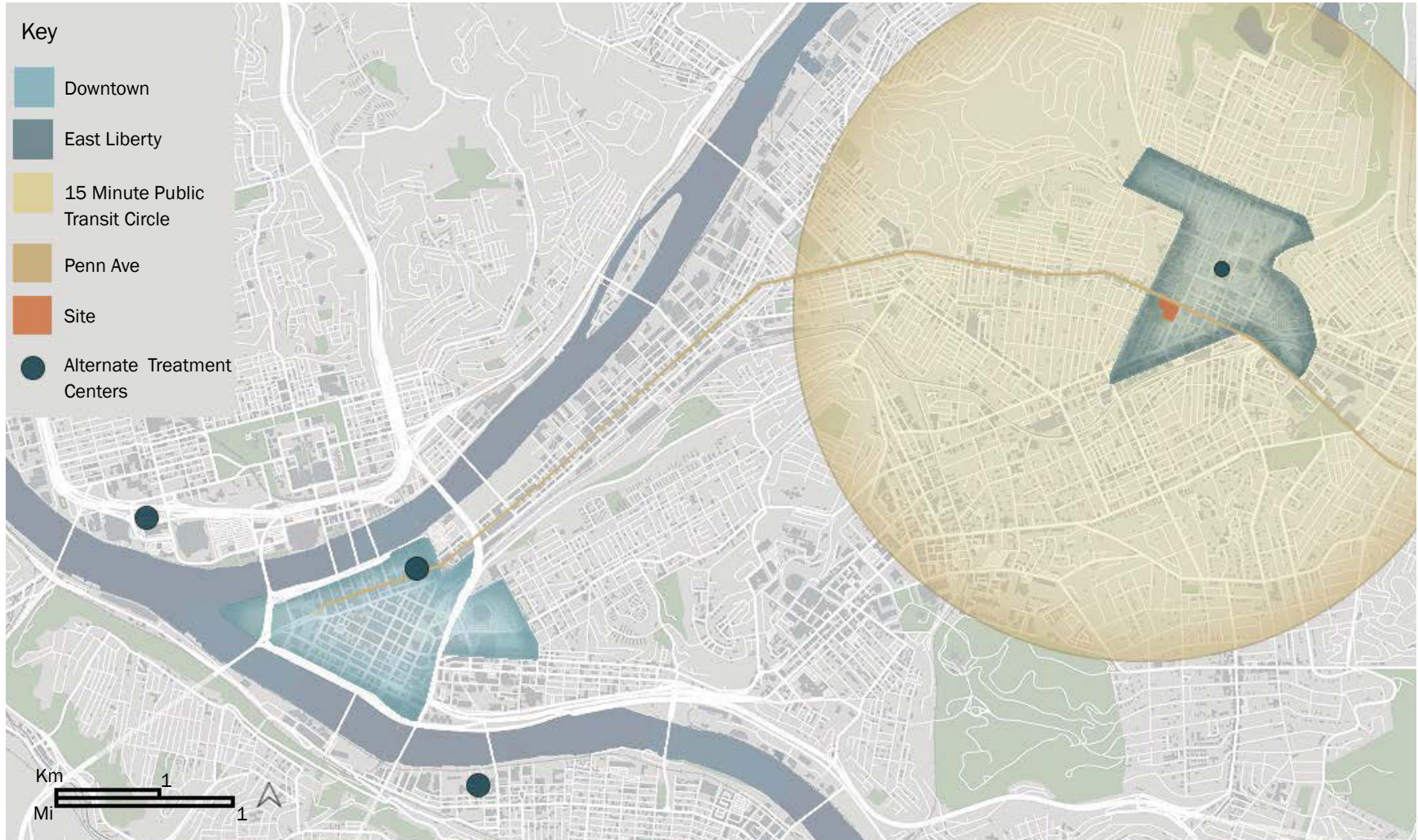


Map showing East Liberty, the site, and major gentrification sites in the area. Google is housed in the cluster to the southeast of East Liberty's border, with a major shopping strip running along Center Ave. (USGS 2018)



American, with an average poverty rate of 33% (Zuberi et al 2015). The presence of gentrifiers in the area is significant, as they are typically young, white, white-collar workers and the socio-economic differences between the new inhabitants and the old can exacerbate tensions and stigmas (Parcesepe and Cabassa 2013, 4, 14). This demographic difference can have an impact on who uses a new mental health center: while African-American families tend to have strong social support systems for mental health issues, they are less likely to visit a mental health clinic, and more likely to have a negative experience there (Parcesepe and Cabassa 2013, 8). In combination with the trend of increased stigma from this population as the area becomes more gentrified, this is likely to exacerbate stigma against mental health and unwillingness to seek treatment.

There are several health service locations in the neighborhood and an extensive network of behavioral health centers in the city, but the Mercy Behavioral Outpatient Center in East Liberty has not been replaced. The main hospitals and behavioral health center are accessible by public transit, but can be a 30-to-60-minute trip each way, presenting a barrier to seeking treatment. Several health networks provide inpatient and outpatient psychiatric treatment, with three psychiatric hospitals throughout the city and suburbs, but Mercy Behavioral Health Service is the most extensive. The largest behavioral treatment center is the Mercy Behavioral Health Center, a Certified Community Behavioral Health Clinic partially funded by federal grant to increase its community outreach programming (Pittsburgh Mercy 2018). Most of the clinics and treatment offices associated with Pittsburgh Mercy Behavioral Health are located near the downtown core, with affiliated partners and offices throughout the city (Pittsburgh Mercy n.d.). Before the destruction of the Penn Plaza apartments on this site, Mercy Behavioral Health had operated an office in the buildings for “about 20 years” (Smydo 2015). This office had apparently run outpatient and psychiatric rehabilitation programs, and serviced about 200 patients (Smydo 2015). The main factor in their departure was increased rent prices; they were able to relocate the patients to nearby health centers, or to their other offices downtown and across the rivers (Smydo 2015). This choice indicates that there is a significant need for outpatient mental health services in this area, as does the fairly high rate of involuntary commitment/examination calls to the police/social services from this area (DHS 2015). The mental health offices located



Map showing East Liberty, the site, and alternate mental health centers in Pittsburgh. Only one is accessible within walking distance, and the transit time to the other centers can vary up to 300% depending on the traffic. (USGS 2018)

in the central area of East Liberty are Familylinks (which operates under fairly strict circumstances), East Liberty Family Health Care Center (a small clinic), and Adaptive Behavioral Services. Familylinks is operating with East Liberty Development Inc. to provide counselling and case management services to people who are in subsidized housing in East Liberty (Familylinks 2016). These three clinics provide needed care in the area, but as with most smaller health clinics they need to increase the amount and quality of services they offer to meet the demand of the area. To this end, I propose to create an outpatient mental health clinic nearby to replace the one lost in 2015 to supplement the existing mental health resources.

### **Site Specifics**

The site within East Liberty was chosen based on its status as an empty lot along Penn Avenue. As mentioned, the former Mercy outpatient center was located in the Penn Plaza apartments, which were torn down in 2015. The site of this apartment has remained empty, with plans to build a 9-story office and retail complex in the future (Belko 2019). This area could be better utilized to provide community and mental health support in addition to new commercial opportunities. This site is on the edge of downtown East Liberty, at the joint of commercial and residential urban fabric, bordered by Penn Ave and South Euclid Street. It backs onto Enright Park in the center of the block, a neighborhood gathering space with basketball courts and a small playground. Rather than developing the entire double-width block, half of the site is left as open green space, as there are no significant unprogrammed green areas nearby. By drawing community activities out of the residential blocks to the main street, they become more visible and more inviting to those walking along Penn Ave.

The community treatment complex is intended to draw people down the street from the more pedestrian-friendly area near the center of East Liberty, expanding the activity of the downtown. Recent projects on the avenue have quite blank façades, and the lack of significant programming at street level has created a dead zone for pedestrians. The lack of destinations and the busyness of Penn Ave tends to deter pedestrians from walking to the site unless they are heading to the residential neighborhood behind it, or the two major bus stops nearby. Rather than walk towards this site, people tend to walk down past the Cathedral of Hope or the new East Liberty





MV+A Architects, Proposed development for Penn Ave and South Euclid (Belko 2019).



View looking southeast along Penn Ave. The streetfront spaces of the new apartment complex adjacent to the site remain empty, with views to the parking lot behind.



View looking northeast towards the site from the East Liberty Carnegie Library and the Ace Hotel. The Cathedral of Hope is directly behind the view.

Carnegie Library. An empty alley between the popular Ace Hotel and Carnegie Library connects the Cathedral and library to the site, offering a secondary route that avoids the busyness of the main street (as long as one does not mind walking through parking lots). Expanding this path into a safe secondary route will link these existing cultural and community resources to the new community treatment complex.

Rather than imposing an architectural style based on cold reflective surfaces, it is important to look at the materiality and form of the context to help reinforce current and historic community identity rather than imposing upon it. The new projects in the area are tall glass-and-steel buildings, which attempt to connect to their context through details such as colors from the historic brick homes of the area. This type of design can easily be associated with the incoming gentrification of the neighborhood, as the smaller brick-and-tile stores are torn down. Taking elements from both these newer structures and the historic ones will be necessary to ensure that the community treatment complex feels like it fits in.

East Liberty is a neighborhood with a vibrant past and slightly uncertain future, which is evident in the juxtaposition of its historic buildings and new high-rises. As a





The view looking southeast down Penn Ave across the site. Left to right, a new apartment building, the Cathedral of Hope, Duolingo headquarters, and East Carnegie Library are visible.



Historic storefronts with new additions on the south side of Penn Ave, downtown East Liberty.



neighborhood that is recovering from recent urban decline, there is the potential to redefine and strengthen what the community stands for. East Liberty's location and history means that a significant amount of this redevelopment has been gentrification, but the local community has made headway vocalizing their desire to not be driven out. There is a need for health centers and mental health centers in the area to replace those that have left due to rising property prices, and this along with the presence of gentrification makes East Liberty an ideal testing site for this thesis. To promote connection with the urban context, the design will increase activity along Penn Ave and add a secondary route linking the library to the site. Since this community treatment complex is intended to strengthen the community and place everyone on an even field, it will use elements from both historic East Liberty and the new developments.

## Chapter 8: Design

### Siting and Form

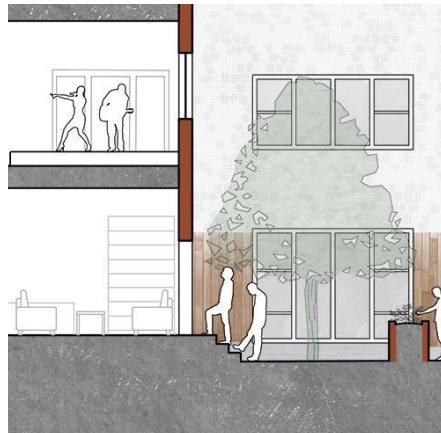
This site sits at the transition point for many elements: East Liberty turns into Friendship along its northeast edge, commercial blocks fade into residences, and historic buildings abut new builds. This pivotal point should be inhabited by something that ties these elements together in a graceful manner. The site is a double-wide block along a major road, with a small public park in the center along the quieter residential edge. There is a decent elevation change over the length of the block, dropping over 20 feet from the northwest to southeast corners. In order to break up the proportions of the site, the community treatment complex takes up just over half the block rather than the full length, avoiding the steepest area to the northwest and leaving it as open public green space.

The complex is divided up into smaller separate buildings to compliment the historic commercial fronts in East Liberty and create an urban scale rather than an institutional one. This division means that the buildings can address the elevation change gradually, rather than bury one side eight feet into a hill. Each block drops about two feet inside, with the northernmost section ramped and stepped down to mitigate the change. This elevation change was made within the buildings rather than in the intermediary pedestrian walkways due to accessibility concerns; the walkways are not wide enough to accommodate a ramp gracefully, and the vertical circulation hubs in the buildings ensure that there is always an elevator accessible at both entry heights. There are three levels in each building, with the street face rising to three and a half stories to match the older storefronts and house heights, rather than matching the height of the surrounding new builds at five stories. As it stretches out towards the interior residential end of the block, the form steps down in height to feel more approachable and residential. The center of each building is removed to create a large courtyard to allow daylighting and to create space for semiprivate outdoor activities. Shed roofs open up to the north along Penn Avenue to let daylight in without overheating the space, a techniques taken from factory typologies, which are a common sight throughout the city.



Top: Street face of project, showing form division and height variation.

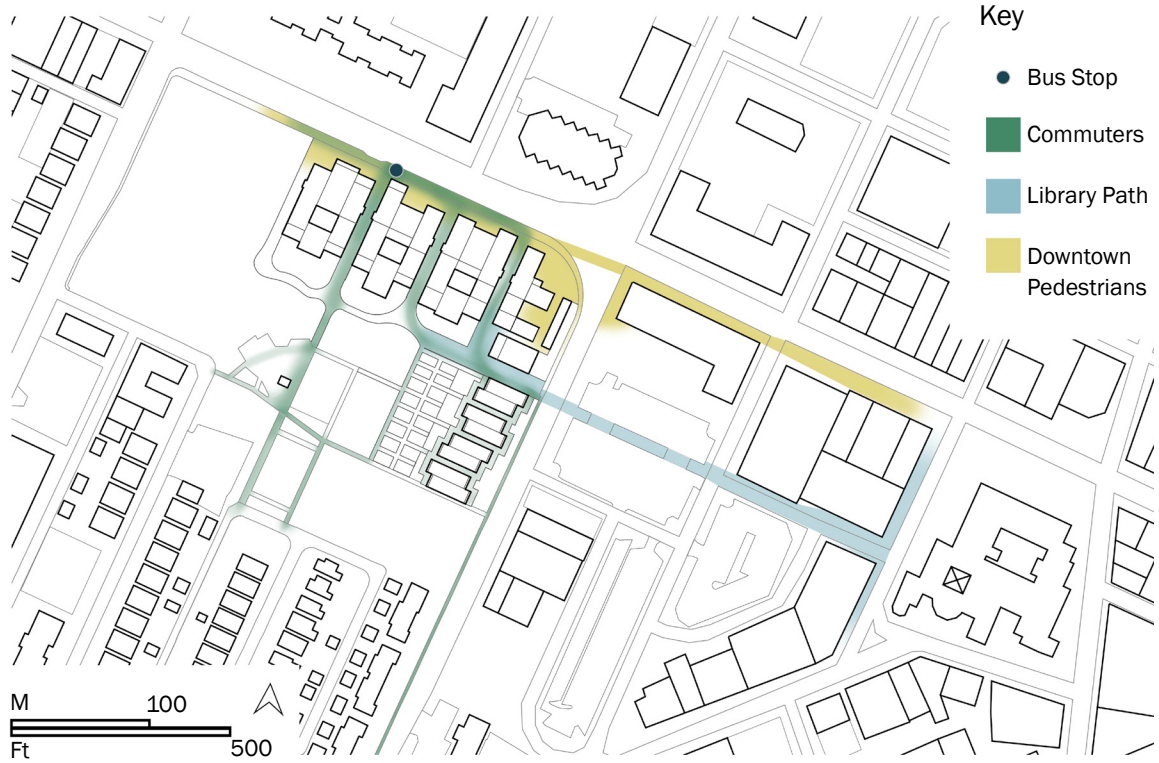
Bottom: Digital model showing massing and materiality, including brick coloration, covered plazas, and the community gardens.



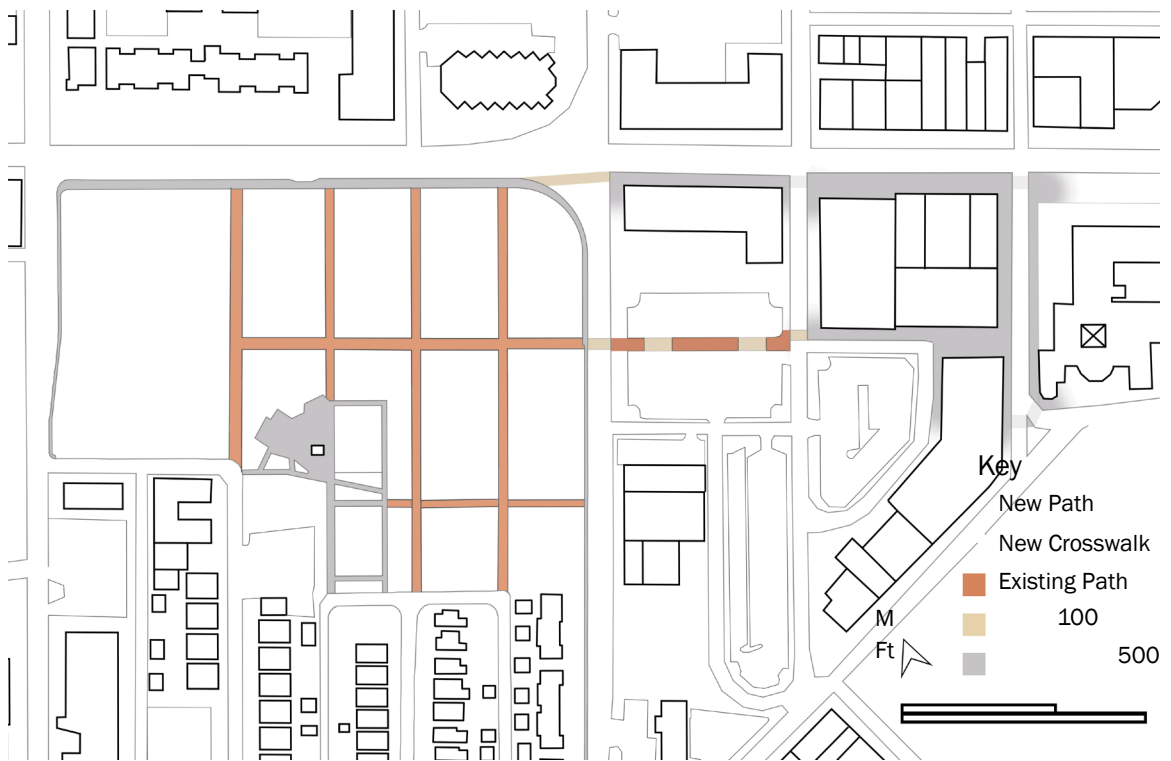
Section through two courtyards, showing elevation change, with keymap, stair detail, and walkway detail.

The rhythm of the volumes is broken in several areas to create particular spaces. On the main corner of Penn Avenue and South Euclid, the block is carved away to create an open entry space. Along South Euclid, the form breaks again to create a covered plaza connecting to a pedestrian path to the East Liberty Carnegie Library two blocks away. This can extend the current community programming in the library out into the public space and community treatment complex. Connecting the covered entry to the residential grid are a series of smaller semiprivate blocks that contain both private residence and short-term residential treatment space. This unique element takes its dimensions from the community treatment complex grid, but hybridizes the form with that of the historic 1930s-era houses further along the block. This visual blending should communicate exactly what their program is without signage: community and treatment residential space.

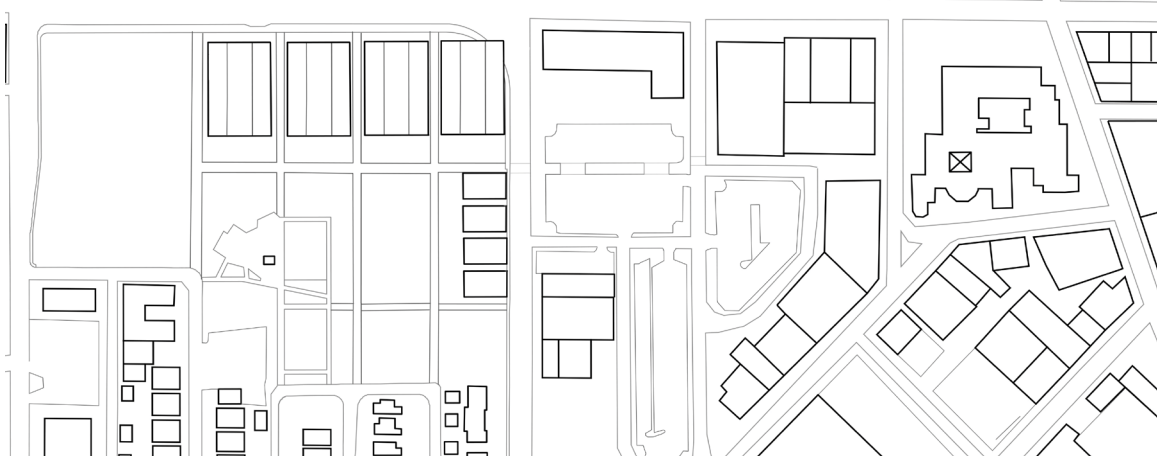




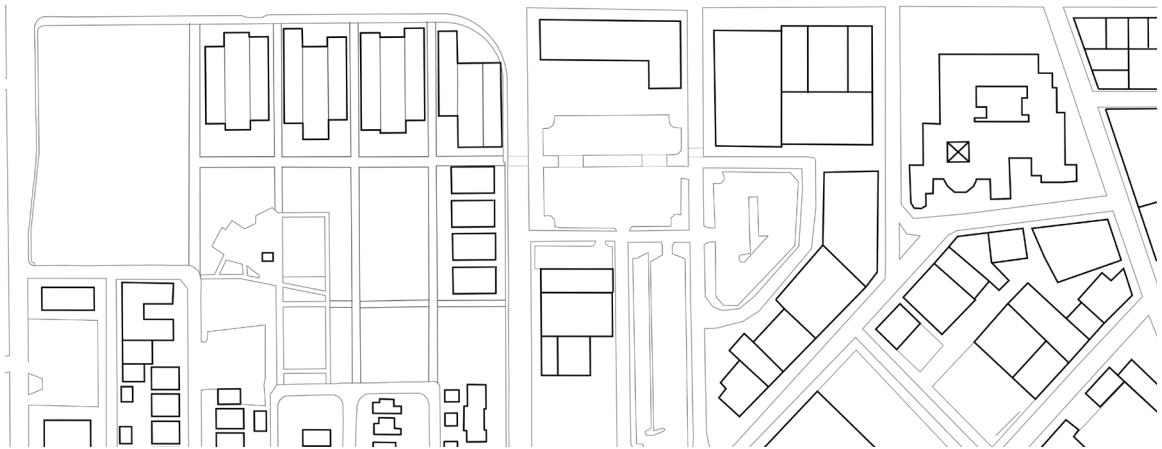
Connections to context, showing how pedestrians can walk through the design.



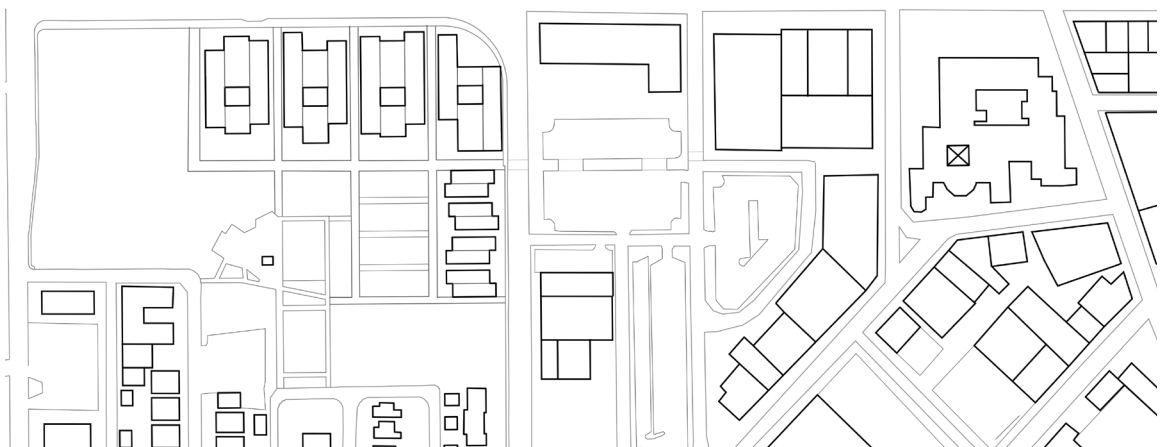
Connections to urban context, showing initial formal ties to surrounding blocks.



Initial formmaking, with divisions and size to relate to surrounding blocks.



Adding variation, sliding the forms to create smaller outdoor areas.



Form refinement, adding courtyard to break up the blocks and altering paths.



## Materials and Façades

The materiality is unique to Pittsburgh, a city where siding and colorful paint are scarce, the houses settling into their landscape in earth tones with the occasional stained glass window or rainbow trim. Pittsburgh was, and continues to be, a center of ceramic and glasswork, with a variety of colorations coming from the clay deposits along its three rivers. Only new developments are not clad in brick or tile, but even they tend to have some accent pieces painted in earth tones to complement their surroundings.

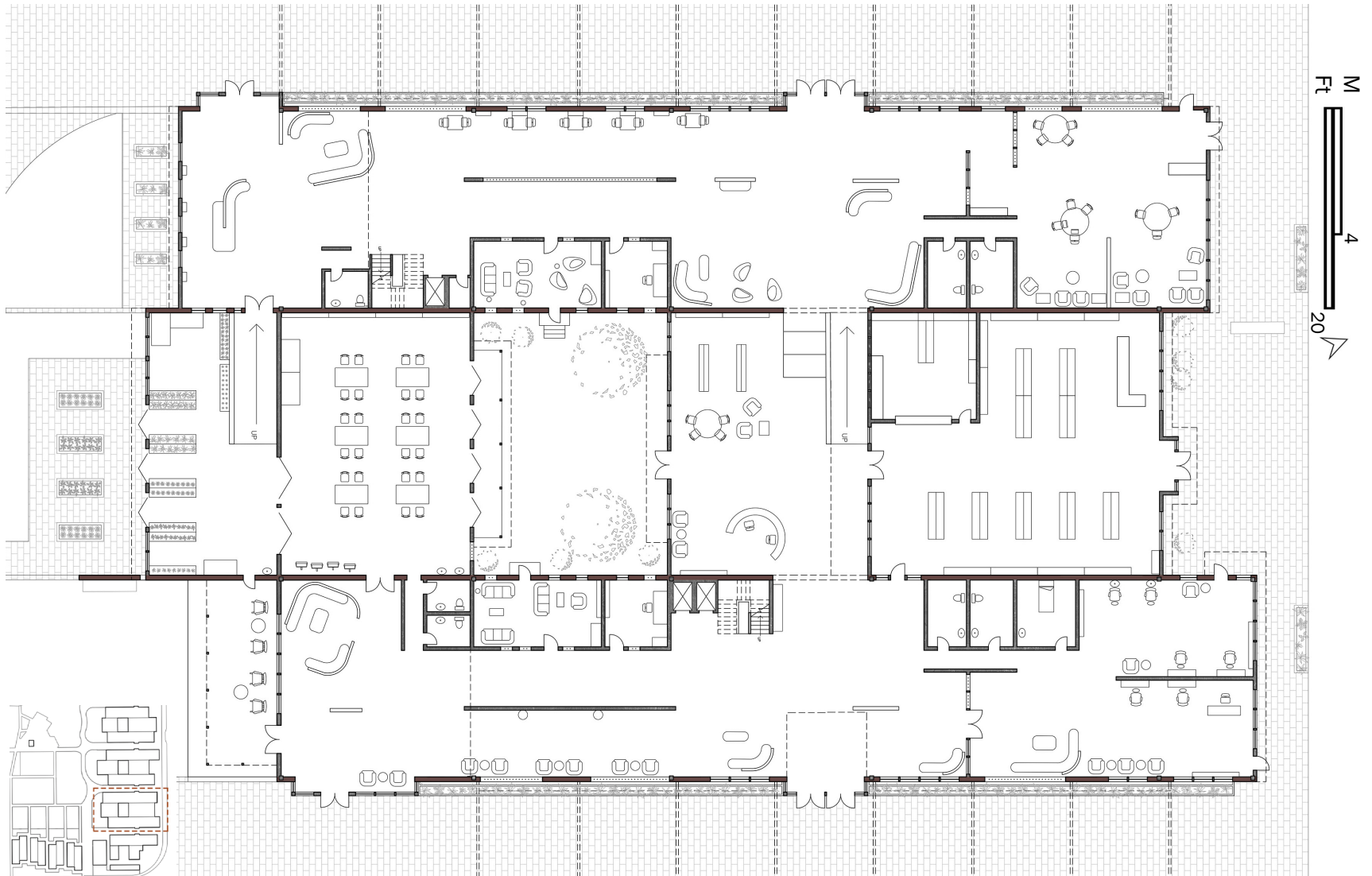
The design of the complex incorporates the materiality of the traditional buildings through an anatomy of brick ribs, steel bones, and glass skin. Long brick walls are the guiding elements throughout the building and outdoor spaces, running perpendicular to Penn Avenue. The repeated brick walls act as a backbone for the layout of the interior spaces. The exposed brick walls outside fall flush with the ground, with some sections built up again into small walls to create shelters and points of interest. Each building has its own unique brick coloration, taken from the historic colors present in the houses



Historic houses on Amber St, East Liberty, adjacent to the site.

next to the site. This further facilitates wayfinding by making each repeated block immediately unique and easy to describe (e.g. “turn left after the yellow building”). The direction of these walls means that this brick is visible when looking up or down Penn Avenue, but becomes an orthogonal detail while walking next to the complex and an experiential detail while inside. The forms within the brick walls slide towards the park to varying degrees, creating a livelier street face that compliments other pushed-and-pulled forms in the context and further promotes the brick walls from Penn Avenue. The façades running perpendicular to these walls are more transparent and made with other materials, to contrast the brick elements and connect to the neighboring new developments in the neighborhood.

Each block has multiple entrances to serve the various program needs, as well as to provide spatial options and threshold layering. The entry to the complex as a whole is located on the corner of Penn Avenue and South Euclid Street. It is demarcated by a projected glass box at the joint of the complex, and opens into the main reception and waiting area. The main doors to each separate building are set behind the streetfront commercial programming, and are accessed by walking down the dividing pedestrian alley. Each of these entries, like the main door, is indicated by a protruding glass box rising above all three levels to make their presence visible to those walking out on the street or in the park. The walkways between buildings are sheltered to provide protection from the summer sun and sudden onslaughts of rain that pelt the city. The roof over these spaces is built out of curved translucent polycarbonate, extending the atria out between the buildings. Secondary entries are located further down these walkways as it steps down to one story. Any streetfront programming has at least one door on the avenue and one opening to the transitional space inside the complex. These doors allow these programs to keep their own hours, and make them secondary entrances to the complex. The smaller public doors near the park open into a variety of spaces, so that community events can also be held in this complex after closing hours. The threshold spaces are critical points to encourage social contact and comfort, and so are expanded in the plan.

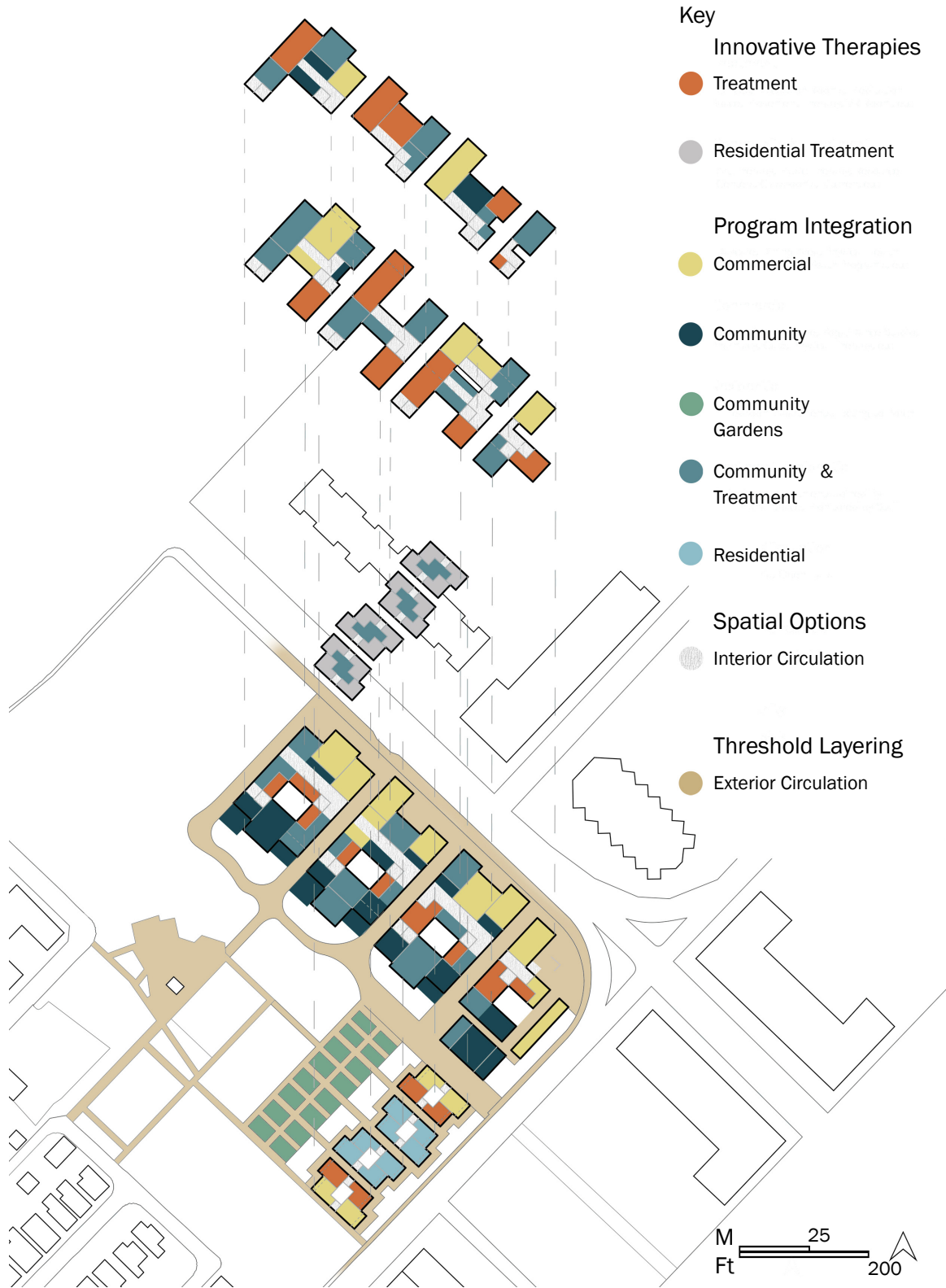


First floor plan showing layout & furnishings, including polyvalent interventions. Program information is on the next page.

## Design Tools

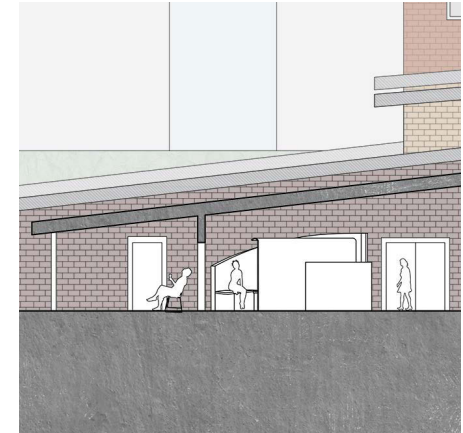
The nature of the design tools means that their effects are most apparent in the plan of the community treatment complex. Program integration blends commercial, innovative treatments, and community spaces from street to park, thresholds are layered through exterior walkways into atria and transit space where there are multiple spatial options. The program layout is detailed more completely in chapter 5, but can be described as creating programming that responds to the urban context while weaving together all public, private, and mental health treatment variations. This complex has six main program types: treatment, community and treatment blended, community, commercial, residential, and circulation.

The detailed floorplan of the third building in the complex shows these programs. Going clockwise from the top left of the plan: employment resource center, atrium, pharmacy, health resource library, hair salon, atrium, therapists' office and therapy room, hallway, art gallery, atrium, art workshop, greenhouse/nursery, community gardening information and display, atrium, hallway with activity tables, and therapist's office and therapy room with a focus on family therapy. Commercial programming is focused on the street face of the complex, treatment spaces are clustered around the courtyard in each building, and residential spaces are separated from the main body of the complex. Treatment space is not confined to the offices and workshop provided, but extends out into the grounds and more public space around the complex. The other programs are scattered throughout the complex, to vary the user groups within the buildings and promote low-stake social contact between them. This is boosted by the tartan grid of transit space that exists within each building and the complex as a whole, softening the entry experience and letting users choose where to navigate and what spaces to walk through. The four major entrances to the buildings become prime spots to encourage low-key interaction while providing alternate paths for people who do not want to socialize. The atria adjacent to these doors hold the polyvalent interventions described in chapter 6, encouraging people to linger, chat, and people-watch in these



An exploded axonometric drawing showing the different program types and locations in the complex.





Section showing the form and programming of a building, with section location, atrium detail, and porch/polyvalent intervention detail.

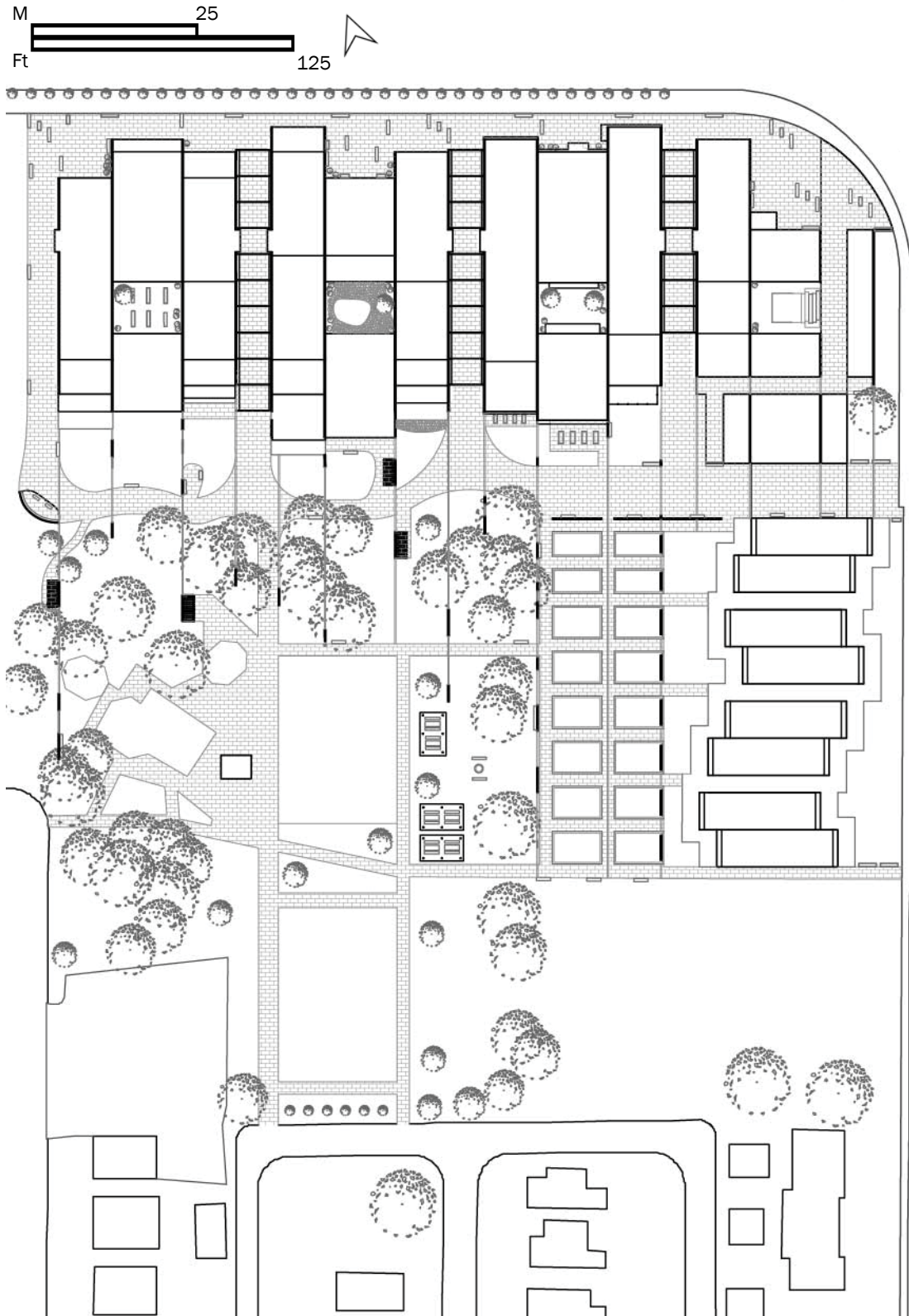
bustling areas. These design elements are intended to affect the social interactions and flow of people at both building and personal scales.

## **Exterior Space**

The experience of the community treatment complex begins outdoors, either in the expanded Enright Park or walking along Penn Avenue. The front of the complex is sited back about ten feet to create a hardscaped patio space. This open area varies in size, responding to the pushed and pulled massing. This variation means that all the programs on this side of the complex have their own distinct street front, set off from their neighbor. This open space can be used as an open-air patio for seating or extending activities outdoors. Permanent benches and planters dot the space, providing shaded places to sit even if the interior programs have not extended outside that day. Due to Pittsburgh's location along the 40th parallel, even the north side of the complex gets direct sun for a few hours a day during the summer, making shade a valuable resource. The presence of planters extends down through the pedestrian walkways that divide up the complex, taking advantage of the curved roofs to create a natural watering system. Placing plants throughout the walkways enriches the experience of entering the space, adding vibrancy and places to stop along the path. These plants are part of the therapy system of the complex, working alongside the gardens in the park and courtyards.

The courtyards and the additions to the park provide a range of semiprivate to public outdoors space for both treatment and public use. The design of the courtyards varies, from a rock garden with a reflection pool to a small amphitheater. These spaces are accessible from all sides, with doors typically opening into treatment and community/treatment hybrid rooms. The purpose of these courtyards is to provide a different kind of outdoor space, one that is more formal and controlled instead of open. This can be beneficial to people who are just starting treatment and so have high anxiety levels but still prefer to walk outdoors. The variety of arrangements will create a palette of experiences for people to choose from, though it does mean that they might have to walk through several building to reach one type of space. The extension of the gardens into the park also offers a range of spaces, but they tend to be more





Landscaping plan showing external programming and walkways. Enright Park is in the center of the block, with the community treatment complex wrapping around it.



Top to Bottom: Street face along Penn Ave; Pedestrian walkways between buildings, with translucent paneling blending indoor and outdoor space; Entry through the park, where small shelters and walls divide the open areas, creating a calmer and more intimate effect.

public and visible than the courtyards. Formal programming extends out onto porches and covered patios, then starts to meld into the park. The gardens continue in the form of scattered planters and a large community food garden tucked against the residential and treatment residential block. This garden system is large to encourage active participation from the community, and to be able to grow enough produce to supplement people's diets. The beds are raised for ease of access and to prevent soil contamination from the trace heavy metals that are almost certainly present in the ground here. The first four garden beds and the garden beds near the plant nursery in the first building are elevated enough to be accessible to people in wheelchairs. This food garden is slightly separated from the park by the continuation of one of the brick walls, to give some privacy and safety to the residential block. Aside from the community and therapy gardens, the programming in the park is far more flexible with existing basketball courts and playground supplemented by soccer fields, a picnic area, and semiprivate alcoves. These alcoves consist of a brick backing and a trellised roof over a bench with a paved pathway, to create a feeling of protection while remaining open and accessible. The paths through the complex wind around existing trees and new programming to connect with the preexisting pathways through the park. As little was removed from the park as possible since the goal of the space is to supplement community resources, not supplant them.



Section detail showing inhabitation of exterior space.

## Chapter 9: Conclusion

This thesis uses multidisciplinary theories to suggest an architectural solution to complex social issues. Using the results of research from different fields as a starting point for the design framework, four design tools work together to shape an inclusive community treatment complex. The tools combine social psychology, cognitive design, and architectural theories to create a building complex specifically to destigmatize anxiety outpatient treatment in a gentrifying urban community. This situation is not unique to Pittsburgh; mental health stigma is a problem across North America, as is gentrification. The framework is flexible enough to adapt to a variety of needs and sites, which is necessary to accommodate new discoveries about stigma as research continues. With more research and community involvement, this framework could be used to address intersectional problems like how race or class differences relate to mental health and gentrification.

While design alone cannot solve the problem of mental health stigma, it can be used to examine the problem from a new perspective. Addressing stigma and community interactions are not new design considerations, but healthcare is a difficult field to test concepts due to concerns about safety and cost. There is a tendency for design fields to focus on practicality rather than possibility, to the detriment of the experiences of the community and users. Unfortunately, there is a need for new design ideas in healthcare to be researched and tested to show definitive benefits over current methods. Healthcare companies are striving to create efficient and profitable space, making them hard clients to sell on experiential and socially beneficial concepts. Things are slowly changing as hospitals age out of use and are replaced, but the current models are mostly based on updating older concepts rather than entirely new ones. Mental health research is a sorely underfunded area, in both academic and design fields. Stigma is an issue experienced almost universally around mental health treatment, but many of the psychology sources cited here contain caveats about the quality and validity of the theories; there simply aren't enough studies on the impacts of mental health stigma and anti-stigma interventions. There needs to be more funding given to this kind of research to satisfy the upper echelons of the healthcare sector, and more studies showing the positive impact of good design. The alternative is for clients to

accept more innovative concepts and let architects experiment with alternative ideas, but this seems less possible due to the amount of funding it takes to build a healthcare complex and past history with radical design.

In addition to mental health stigma, the framework laid out in this thesis could be modified to address other social issues. The creation of spaces to start conversations about difficult topics between social groups could help community building efforts, the integration of refugee or minority groups into new areas, and even the complex political divide that currently exists in America. Any ideas to mitigate or stop the spread of harmful conceptions is worth investing in. Many of these ideas come from incorrect or prejudicial information, one of the main roots of stigma. While the type of social contact promoted by this thesis cannot fully prevent or stop the spread of stigma, it is a good starting point for the conversations and considerations that need to take place in our society.



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