Sense of Safety

Charles Haas

Sense of Safety

Charles G. Haas
Masters of Architecture
The University of Detroit Mercy School of Architecture
ARCH 5100, 5110, 5200 & 5210
Professor John Mueller

Table of Contents

Abstract

Abstract

Safety, as it pertains to the built environment, is often achieved through physical security implementation. The implementation of security is often seen as collaboration between the designer and a security professional. It is believed that the architect lacks the necessary training or background to adequately provide the extent of service that a trained security professional would. The client has decided that something or someone must be kept out and for a specific reason. As a result, the design is often compromised or ruined because of this collaboration. Sacrifices must be made on the part of the designer, either in planning or aesthetics, in order to accommodate for these physical means. However, is the collaboration really necessary and is it true that an architect lacks the ability or training to design a safe environment? Through the analysis of existing security measures and methods, this thesis will seek to explore how safety can be achieved through non-traditional means, as well as redefining the role of the designer in this process.

Today, outside of life safety codes, one other standard approach to the creation of a safe environment exists. This approach is known as CPTED, or Crime Prevention Through Environmental Design. CPTED addresses ways to make an environment feel safer or more protected. However, at the same time, it can be said that this system destroys the experience of the environment it wishes to help. The options seen in this approach can almost be seen as "second thoughts" or add-ons. Cameras, fences, and guard posts rarely enhance the aesthetic appeal of an environment. Although CPTED is an architectural method, it has strong ties to modern security, thus not allowing the architecture to become what it can.

In the current post-9/11 world, our desire to feel safe has become a driving force behind our interactions in the social world. Sporting events, airports, and even shopping centers have become cluttered with devices that are meant to make the users feel safe. However, as the general public, we are constantly reminded

Abstract ◯

of how much fear we should have at any given moment by means of a five color system. No corner can be turned without a reminder. It also becomes important to determine what an appropriate response is. Given the current global situation, many people plan for a threat that they have not even defined nor determined how long the threat will exist. As a result, the environment is not considered and the appropriate measures are not implemented. Bruce Schneier mentions one such instance in his article "The Architecture of Security", noting Montreal hotels in the 1970's, whose entrances were elevated in order to protect from Quebecois separatists. Now, these entrances are not only unnecessary but create difficulties for those that wish to enter the building. This example is just one of many that beg the question, given a defined user group, can a designer create a safe environment that addresses their needs without utilizing traditional responses?

Thesis Paper

Sense of Safety

Safety and security are two terms that go hand in hand. In fact, they can be seen as one being the result of the other. The idea of safety comes as a result of the implementation of security. But, in this current day, it is important to ask, "How else can we feel safe?". Safety, to many, is a result of the completion of physical barriers or tools that create a secure environment. Physical barriers such as cameras, gates and bars give the impression an environment is secure. Safety, however, does not actually deal with any physical implementation. Safety deals with the overall idea of creating freedom from danger, risk or anxiety. The traditional measures used create problems of perception for all those who experience an environment. One begins to question not only the need for the equipment, but also the potential risks they could face while occupying this space. Given the information available and the alternatives that exist, it begs the designer to ask how the space itself can be designed in a manner that creates this concept of safety without relying on the traditional means to accomplish it.

Since the beginning of man, people have always aimed for safety. Early man utilized crude means in an effort to feel safe. Nowadays, the idea of protecting what one considers valuable is handed over to complex electronic and biometric systems. These methods people use to achieve safety come in both personal and large scale implementations. Early civilizations best employed these procedures on the large scale. In the early days of city-states, the main method of protection was the wall. In fact, the earliest settlements to be called cities were walled. Cities based pride on the ability to defend themselves and how they responded to the location in which they chose to build this city (Coaffee 15). The two best examples are those of the Greeks and the Romans. Given the power of these two civilizations, it is important to note both had very different approaches, each one responding to different factors presented to them. The Romans built large walled cities to defend against outside threats. These walls began to react to

the social climate. In times of peace, the construction of walls began to decline, thus allowing for more interaction. The Greeks, on the other hand, chose to defend their cities by natural means. By means of utilizing the natural landscape and the elements within, they managed to create, not only a successful infrastructure, but also a safe city. They utilized changes in the topography, access to water, and even animals to aid in their operations. For example, ducks were used to warn of approaching attackers (Coaffee 20). Over time, a switch began from what may have been the most appropriate to new ways of creating a safe environment. This transition happened with the shift from using natural means to the idea of designing and then adding modern security measures.

Safety can be achieved by first analyzing environments on two scales; the micro scale and the macro scale. In the micro scale, buildings are dealt with on an individual basis while, on the macro scale, entire cities are being linked through technological means in order to function. As mentioned, the micro scale deals with buildings on an individual basis, such as malls, airports, offices and other buildings. Based on simple observation, one would be able to see most of the measures in use. It is understood they are protecting something, but the object being protected can be misleading. One might assume these measures are in place to protect them from harm when, in reality, the object of surveillance is an item the store might sell or the equipment in an office. The desire to be protected should be in place for both material objects as well as individuals.

On the macro scale, the best example can be seen in, and is most often associated with, the city of London. Some people look to London as a benchmark for safety similar to the way architects look at buildings as benchmarks for public space, high-rise housing and other use groups. People have begun to sacrifice their own privacy for the implementation of technology (Coaffee 30). The city contains over 500,000 security cameras that monitor the entire city. On any given day, the average citizen can be seen on camera nearly 300 times. This implementation evolved over a number of years and in several stages. As more cameras were installed, this campaign began turning ordinary citizens into spies and also demonstrating there was a growing mistrust of the average citizen.

London also contains what is known as "The Ring of Steel", which is the use of fences and barricades that surround public and government buildings. This implementation is recent

within the last two decades and is now not only seen as a safety measure, but also as a marketing point. London has been a point of interest when sites have been considered for hosting internationally-known events, such as summit conferences and more recently, the 2012 Summer Olympic Games. As the focus has shifted from providing citizens with safety, to using it as a marketing tool, the traditional system begins to show its flaws. In an interview with Dr. Michael Witkowski, a security and intelligence analysis professor, he stated that he "believes that with the growing use of mechanical security, people will begin to find the flaws and the government will see that installing more cameras is the only solution." However, if individuals are finding flaws in this current system, the continued implementation of that system will not eliminate these gaps. As the designers and planners of these spaces, there needs to be a push to create alternatives based on proven natural means.

Cities are made up primarily of three defining characteristics: edges, nodes, and paths. Paths can be thought of as the ways by which one would navigate through a city, either at a pedestrian or vehicular scale. Nodes are commonly known as points of interest or landmarks. Nodes create the possibility for interaction and are typically the intersections of more than one major path. Lastly, edges are the boundaries which form a city and are of particular interest, especially when analyzing cities from a safety standpoint. Due to their inherent nature, edges create problem areas due to the lack of a clear sense of ownership and identity.

Through the analysis of this thesis, many sites were initially analyzed as possibilities for the implementation of alternative safety measures. In order to focus the site analysis, a loose set of criteria was established. The sites did not necessarily have to fulfill all the criteria, leaving the thesis open for different possibilities in both program and scale. Due to the possible scale at which the program may have evolved, sites were first explored on the city level, creating a broader spectrum of information that would eventually lead to a set program.

Two cities were analyzed due to their established nature and their current safety trends. London, England, which has previously been mentioned due to

its current security program, was approached due to its implementation of mechanical security at an extreme measure. If the trend continued on its current path, it would begin to create more problems than it would be solving. For a city that has a well developed infrastructure, it would serve as a catalyst and look to demonstrate the possible alternatives. Chicago, Illinois was also evaluated as a possibility. Similar to London, it has a very developed infrastructure. Also, the city is currently on track to implement a London-like program by means of the CAPS program, which has begun to look at how the widespread installation of mechanical security can help better the city.

The cities of Rochester, New York and Toledo, Ohio were also considered, but would possibly take a different programmatic approach than that of London or Chicago. Both cities have been labeled as "at-risk" cities by the federal government, creating the possibility for funding to explore security implementation. An "at-risk" city, as determined by the federal government, is a city that demonstrates it would be a possible site for a threat to occur against or within it. These threats can range anywhere from large scale terrorist attacks to local crime issues. A scenario would be developed on how this assistance would be used, creating the idea of a benchmark project for other "at-risk" cities.

Lastly, Detroit, Michigan was studied as a possibility for many reasons. Due to its prominent international border, it creates the edge condition where identity issues typically take place. Detroit is a large scale, urban city comprised of individual pockets of high density. The lack of consistent density also creates internal edge conditions, contributing to the problem of ownership.

There exists this mentality that architects tend to only consider safety measures as they pertain to building codes and that gaps will be filled in with commonplace equipment. However, architects currently do have options when evaluating the safety of a building that go beyond standard building codes. The current system is called CPTED, or Crime Prevention through Environmental Design. Concepts for CPTED were developed in conjunction with security professionals and practicing architects. The original idea for CPTED grew out of Oscar Newman's work on creating defensible space. Newman, an architect, believed criminal behavior could be controlled by enhancing architectural design (Purpura 48). The basis for these practices is rooted in natural access controls, natural

surveillance and territorial reinforcement. Natural access controls deal with how a building is approached and how design features can differentiate between public access routes and discouraging access to private elements. Natural surveillance focuses on visibility. If one can see a threat, it is easier to prepare for it. While the concept of CPTED is a step in the right direction for architects, it is, at heart, a concept driven by mechanical security and security professionals. The architect begins to take an active role in designing to accommodate these measures, but, in the end, they are complemented with the more well-known practices of today.

According to Philip Purpura, the concept of "CPTED is enhanced through the 'Broken Windows' theory."(179). The broken windows theory was created by James Q. Wilson and George Kelling in 1982. At the heart of this theory, there exists the idea that neglect and disrepair accelerate rot faster than any other factors. Take for example, a building with one broken window. If that window is repaired immediately, it demonstrates a sense of ownership and care. But, if that window goes unrepaired for an extended period of time, it begins a dialogue with those that engage the environment. The window begins to describe the relationship the owner has with the building and the type of care the owner may have for it. In fact, the building may not even have an owner, which opens up the possibility for additional problems. Architects must begin to consider how this theory can be applied to building design. If there is a way a building can be designed to be safe and yet allow for a demonstration of ownership, it is important that possibility be explored.

Architects and clients are typically involved in a traditional business relationship. The client explains their needs and scope and the architect, in the end, provides them with the space that will suit their needs. In many instances, the client will not be the primary user of the facility. The architect must consider visitors of the space and the needs they present. This thesis seeks to apply this principle and the issues surrounding safety of its occupants. The best example of designing for safety can be seen in prisons and federal buildings. Prison designs were revolutionized by the work of Michael Foucault (Sorkin 45). When designing, Foucault focused on both the workers and the prisoners and the

interaction between them. The concept of the panopticon and self-surveillance grew from this design. These two items, like safety and security, go hand in hand. A prison was designed in a circular plan with a guard tower in the middle. Prisoners lacked the ability to see into the tower, but guards could still monitor the prisoners. Many times, the tower was vacant. However, to the prisoners were still being monitored. The approach of Foucault begins to establish the idea a comprehensive project can be accomplished while acknowledging the drastically different needs of multiple user groups.

Federal buildings also demonstrate the previously mentioned relationship. Given the current global situation, governments are traditionally seen as targets and, as a result, they wish to limit their identity. This notion has grown out of this "architecture of terror" (Coaffee 52). Federal buildings are almost designed to be anonymous to avoid creating an identity. This thesis seeks to not only design for occupants facing a threat, but also to help create an identity that will be known throughout the area and benefit the community.

However, in 2010 one particular federal building began to question how the design can establish a public identity while also camouflaging the inherent safety factors that come with it. KieranTimberlake, a Philadelphia-based design firm, won a design competition for the new United States Embassy in London, England. Despite being met with mixed reviews, the design is seen as a new benchmark in federal building design. This design is meant to replace the present embassy, designed by Eero Saarinen, which many describe as cold and uninviting. The design reflects on the ideas of what an embassy aspires to be and what others dictate it must be. The belief in democracy also became a driving force behind the design. At its core, democracy is about openness, transparency, equality and participation. As a result, the embassy was meant to allow for public interaction in a facility that may otherwise be shut off to those "without appointments." By means of utilizing large public park space, KieranTimberlake created engagement zones for activities to take place. The landscape serves as the mechanism that hides the security implementations.

As in the previous examples, there has always been a threat the architect has had to design for. Whether it was the prisoners from the guards or government officials from acts of terrorism, the architect needed to address the concerns of the occupants. In many situations, those that experience threats are not always able to afford the luxury

of having someone design for their concerns and fears. This thought can be most visible with human service organizations. Human service organizations are better known as non-profits that provide assistance to those who cannot provide for themselves. Those who seek out the assistance of these organizations are typically escaping a threat on the outside. But, typically due to their location and users, once they enter these places of sanctuary, the employees are then subjected to the same threat many of those utilizing their services experience.

Since most human service organizations are located in urban settings, a different approach and level of care must be taken when addressing safety; especially if it is to be an alternative to traditional, well-known measures. A study published in the article "Enclosure and Safety in Urbanscapes" by Arthur Stamps focused on behavior and safety within the urban environment and what factors contributed to one's feeling of safety. By means of producing environments artificially, test subjects were asked what made them feel safe and what made them feel uncomfortable. Five factors were found to contribute to an environments safety level: proportion of the scene covered by walls, proportion of the scene covered by ground, how light or dark the space is, the depth of view, and the number of sides open at the front of the scene. It goes on to further summarize light, movement, and the ability to see surroundings are at the heart of safety. In the process of designing a built environment, an architect has the ability to develop these three features simultaneously with the project. During the design process, architects use these factors as concepts for their design but often they become reduced down to the bare bones of the idea. Elaborate mixes of natural and artificial light become light fixtures with clerestory windows supplementing the lighting. Connecting spaces in a smooth, ribbon-like fashion breaks down with floor-to-ceiling walls and doors. Fixed windows are often implemented to direct an occupant's attention to the "pretty" elements surrounding a facility. Windows offer a great opportunity for users on the interior to observe those on the exterior but, when implemented to focus on static elements, the effect that window is having on the sense of safety is lost.

Movement, in particular, becomes a driving design concept. Spaces tend to

achieve safety by applying mechanical security in a hierarchical fashion, similar to the way a neighborhood would operate. As one moves through a neighborhood, a sense of ownership is established and a clear system exists. Those within are the owners and keepers. You continue to move through the space and notice the character of each street and cul-de-sac. Each one develops an identity beyond that of the neighborhood. From that point, one moves to the individual homes and beyond. Each one of these levels dictates a separate level of ownership and a different approach to creating a safe environment. As a critical component to creating a non-mechanical method of security, how can this example be applied to a single program and help in the dictation of public versus private space?

In a very successful precedent study, a group in California known as Homeboy Industries dealt with these issues and, at the same time, avoided the use of traditional security means. Homeboy Industries focuses on the rehabilitation of former gang members and their reintegration into society. Located in Los Angeles, the original center occupied a storefront business in the heart of gang territory. As a result of their work and location, they were subjected to many threats, break-ins and other problems associated with their assistance. During the re-design, the designers actually chose to confront these issues by placing their rehabilitation at the front and giving the place an identity. This establishment of an identity can be easily accomplished by simply demonstrating a sense of care and ownership of the space. Homeboy Industries established its identity by actively engaging the gang community, instead of passively waiting for those to come to them. As a result, some gangs actually began to notice their work in a positive manner. The threats and violence against the organization began to go on the decline and, in some instances, gang members would actually recommend some of their members seek their assistance. A gang is not so much a violence-driven group as it is a community in itself. Members look out for other members and, consequently, want them to succeed. Senior members can tell who is cut out for the life or who has more to offer. In the end, the overall mission of Homeboy Industries allowed it to create an identity which led to an impact on the community.

The analysis of Homeboy Industries as a precedent study led into the establishment of a program and how a threat can be established for this particular program. As in the case of a gang, if an architect wishes to establish a new program that would aid in transitioning these individuals back into society, it is important to analyze the infrastructure into which

one has dedicated a portion of their life. A gang member cannot be forced to go "cold turkey" and be required to assimilate into the society they separated themselves from years earlier. The program must serve them by harnessing the elements they will be leaving behind and fill the gaps. It must also create a sense they will be safe in the decision that they have made and turning back out of fear should not be an option. The program, though, should not focus on keeping individuals isolated. It should focus on creating a dialogue between the community and the gang members going through the transition process. In order to better understand an environment that one is intending on joining, they must understand how it operates and other elements. Consequently, this thesis seeks to create a gang transition center that will assist gang members on assimilating back into society as well as aid the community in feeling safe.

Detroit was ultimately chosen as the site for the implementation of a gang transition center. In particular, the southwest area known as Mexicantown was selected. This particular area of Detroit is well-known for gang activity. In fact, it contains the highest amount of gang activity in the city. However, despite the amount of negative activity, this area is also one of the few areas of Detroit experiencing a growth of any nature. New home and business construction has been happening continuously. These businesses not only start, but are able to survive. The problems that surrounded this particular area as well as its ability to demonstrate it can accommodate and support growth made it a prime site for this thesis exploration.

Safety will continue to be a problem facing new and existing buildings, especially in our post-9/11 "age of terror". Many architects are skeptical of approaching this issue beyond their comfort level, given the notion security experts are ready to criticize design intentions meant to provide safety. However, it must be made clear perception is the strongest key to a user. Similar to the way one might see a camera or fence and immediately begin to feel safer, even if they do not function properly, design elements that focus on addressing safety can have a similar psychological impact. Providing a sense of safety for users through architectural design can quickly help shed the notion technology must be present in order to feel safe.

Precedent Analysis

Homeboy Industries

Location:
   Los Angeles, CA
Date:
    2000-2001
Designer:
    Detroit Collaborative Design Center

Homeboy Industries is an organization, founded by Father Boyle, which focuses on the rehabilitation of gang members by providing job training and also job placement assistance. While this is not the current facility for the organization, this one proves to be most appropriate for this thesis. While redesigning the space, many former gang members were consulted, all of which had been apart of this organization. This space contains offices as well as other functions such as a bakery and silk screening shop.

The area surrounding the facility was dominated by security bars and boarded up buildings. Drive by shootings and other violent crimes were commonly perceived threats of the neighborhood. The designers looked at this as a way to engage the community with the organization instead of separating it. The security bars were removed and the storefront facade was replaced with large expanses of bulletproof glass. In order to reinforce their mission, the organization began to hold their meetings in front of these windows, in plain sight of the community.
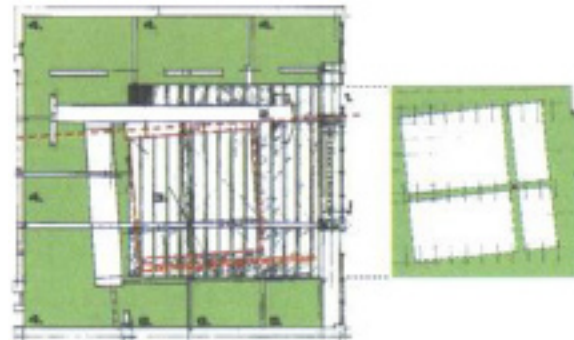
On the interior, a challenge was addressed when determining how one might circulate throughout the space given the fact that the offices were on two different levels and also many of the users were disabled due to gang activity. A circulation spine was added in the main work area in order to clebrate the users of the facility. Also, the interior contains the only religious symbol of the facility. Attached to the ceiling are pieces of theater scrim, which form a cross in the negative space when illuminated. Currently, the organization works out of a large, warehouse-sized facility, complete with more programmed space than this building. Many events, such as art, music and photography shows, are held in order for the gang members to interact with the community.

New Oklahoma City Federal Building

Location:
    Oklahoma City, OK
Date:
    2001-2004
Designer:
    Ross Barney + Jankowski Architects

When the firm of Ross Barney + Jankowski approached this design, it was important to restore the sense of community that had been lost nine years earlier with the bombing. Some of the security measures implemented are very traditional but many are also seen as breaking away from these traditional measures. Items such as bollards and building setbacks are just a few of the traditional measures used. The construction of the building itself is made of blast-resistant materials but does not disturb the sense of invitation the building provides. The large expanses of glass provide the building with a less fortress-like feeling. In plan, the facility provides ample public space and courtyards, allowing for the public to take part in the facility.

United States Embassy

Location:
    London, England
Date:
    2010
Designer:
    KieranTimberlake

The winning design for the new United States Embassy, by KieranTimberlake, is an interesting study in how architecture can be used as a form of camouflage. KieranTimberlake began to resolve the debate of what an embassy aspires to be and how it must actually be given the present reality. Along with confronting security and safety issues, the building sought to address environmental issues as well.

The building was to be looked at as a secure and welcoming environment. The landscape is utilized in a manner that allows it to camouflage security barriers. In lieu of implementing perimeter walls and fences, landscape design became the vehicle by which to accomplish this. The embassy grounds provide a prospect of an open park with grasses rising to the colonnade, with the typical secure boundaries incised into the hillsides and out of view of the general public.

While the project has not been completed, it demonstrates the "slight of hand" that a designer can employ in order to make a safe environment.
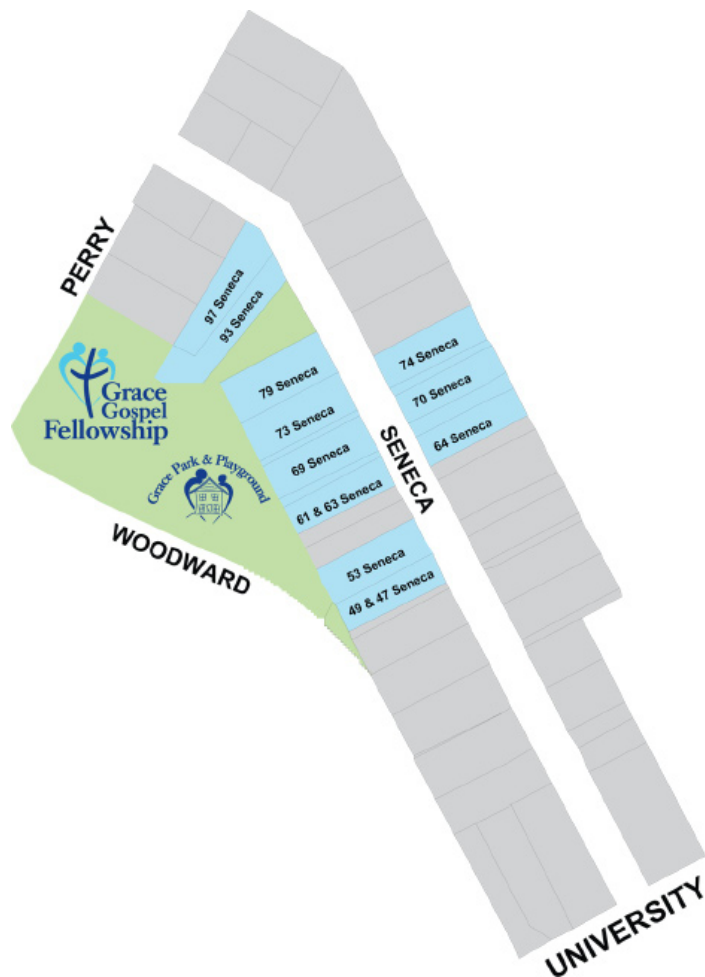
Little Grace Village

Location:
    Pontiac, MI
Date:
    2003
Designer:
    Grace Centers of Hope

Grace Park & Playground

49 Seneca

61 & 63 Seneca

64 Seneca

Little Grace Village, in Pontiac, Michigan, was used as a programmatic precedent in developing the internal community service group of the gang transition center. In many instances, gang members are not able to be employed right away due to a surrounding stigma. This internal group would allow gang members to develop job skills and personal responsibility while demonstrating their improvements to the community.

Little Grace Village is a division of the Grace Centers of Hope organization. The center has taken a new approach to clean up a neighborhood and attempt to eliminate homelessness by the use of safe and affordable housing. The neighborhood, which was once destroyed by blight, drugs and prostitution, consists of nine restored homes and a newly constructed playground. The homes are used in conjunction with graduates of the Grace Center and its graduates, who rent these particular homes.

Pruitt-Igoe

Location:
    St. Louis, MO
Date:
    1950-1955
Designer:
    Minoru Yamasaki

Pruitt Igoe was expected to be a benchmark in architectural design. However, it is well known as a failure within the architectural discipline. Numerous elements intended to encouragea sense of community were implemented. But these elements did not allow an identity to be established. Those that wished to control the spaces did so and those were typically drug dealers, robbers, and vandals. The use of this precedent is to learn how the gang center can be designed in a way to eastablish an identity within the community.

Gated Communities

Location:
    Various Locations
Date:
    1930-Present
Designer:
    Various Architects

Gated communities break down the hierarchy that is established in the typical neighborhood setting. People join these communities with the sole purpose of keeping people out and have no desire to contribute to the common idea of serving their neighbors. Most often, all the functions that one would need or desire to have are built within this community they are shutting out. Also, the idea of interaction is lost with gated communities. It is the hope with this thesis that the facility will have a long reaching effect as opposed to containing the effects within the facility.

Site Selection and Analysis

Preliminary Site Selection

When determining a site, it became important to analyze the context which the site was in and also what type of security or safety threats exist within the city. Five cities were chosen to be analyzed based on established criteria. These cities were Detroit, Chicago, London, Rochester and Toledo. Many of these cities inherently have safety problems. At the outset of the project, the specific program of the thesis was unknown. The result would be to analyze each city and the problems within it and determine how these could be addressed, either by means of a large scale implementation or a specific insertion which would aid in creating a safe environment.

London, England and Chicago, Illinois were investigated due to their similar, city-wide, implementations. Currently, the city of London utilizes over 500,000 security cameras focused on different areas in the city to assist in catching criminals and to deter crime. Chicago has begun to utilize a similar situation with the implementation of its CAPS system, which is very similar to that of London.

Rochester, New York and Toledo, Ohio were analyzed due to their difference in scale as compared to the

other cities, as well as their recent addition to a U.S. government list classifying them as "at-risk" cities. As a result of being an "at-risk" city, the government would be investing money in these cities in order to help them in combating their safety and security problems.   With the creation of a hypothetical situation, these cities would be investigated and a solution would be designed which could serve as a possible prototype for other "at-risk" cities.

Lastly, the city of Detroit was investigated and ultimately chosen as the city to be used as the site. Due to its border to Canada, scale, and population, the city proved to be the best choice. Detroit is a city of tremendous scale but due to its low population, it is not extremely dense. Using these factors, smaller neighborhoods were investigated and, eventually, one of these neighborhoods was chosen as the site.

Potential Site 1 - Rivertown - Detroit, MI

The first neighborhood investigated within the city of Detroit was in Rivertown. Located one-half mile from the Detroit River and adjacent to Jefferson Avenue, the site is also close to King High School, one of the largest high schools in the Detroit Public School system. The area is mostly industrial with sparsely populated neighborhoods located to the north. The area has also demonstrated growth in business development. This growth occurs either in previously occupied buildings or in new construction. The specific site looked at is on the corner of Mt. Elliot and Congress (highlighted in blue) and is currently a vacant lot with a few small businesses adjacent.

New Commercial Development

Civic Use/Presence of Community Functions

Decay/Borders

Potential Site

Final Site - Mexicantown - Detroit, MI

The second neighborhood investigated and that which was eventually chosen for the final site is in the Mexicantown neighborhood of Detroit. The site itself is located on Vernor Highway at the corner of Palms Road. Located in southwest Detroit, the neighborhood is known for its large Hispanic population as well as its history with neighborhood gangs. Surrounded by local freeways, the Mexicantown area fulfills the edge condition noted earlier. The significance of the edge condition is its relationship to areas of low safety and security. Considered to be one of the more populated areas of the city, it is the hope of the project that it will not only help those within the neighborhood but will also assist in the regrowth of Detroit.

Within the area of Mexicantown, in particular along Vernor Highway, the density of the area is quite high. Southwest Detroit has one of the highest concentrations of commercial businesses and this is most evident along Vernor Highway. As mentioned, the site is located on the corner of Vernor Highway and Palms Street. This area presents a large gap in the density along the Vernor corridor. Located on the block of the site is one large, abandoned building (pictured below with boarded up windows). This building appears to be fine along the street side but on the rear of the building, it is evident that the inside has been burned to a high degree. There is also a vacant building, in tact, located behind the burned building and is currently for rent. The remaining portion of the block contains one and two story residential units.

Potential Site

Elevation Along Vernor Highway

Western International High School is the prominent high school in the area. Many students attending the school are from the immediate area and will walk to school. However, there are still some that come from outside the area and are brought in by buses. After school gets out, there is a heavy amount of pedestrian traffic. Following the peak times, a portion of students will be found loitering outside the school. While Western International is the biggest school in the area, its not the only one. Mexican Town has a large range of schools, starting at the young kindergarten ages all the way through to high school.

The photos to the right depict the typical flow and amount of pedestrian traffic that is experienced around Western International High School. Along with the increase in pedestrian traffic, there is an increase in vehicular traffic in the area as well. While this only shows the typical traffic in this particular area, it can be assumed that a similar amount exists near the other schools in the area.

The neighborhood surrounding the site is very well populated. However, there are many instances of decay and neglect, both on the main street fronts and back in the housing areas. Graffiti, such as that shown above, largely dominates many of the building facades and sidewalks. The blue, six-sided star surrounding the number six above, is actually graffiti that can be traced to the Folk Nation Gang, which is a gang based out of the Chicago area. Not all graffiti in the area can be traced to a particular gang, but with repeating symbols, names, and tags, it becomes apparent that this is and will continue to be a recurring problem. Store owners and local officials have been slow to remove it, due to the common belief that it will just go back up the second it is removed. Other problems within the area are abandoned or burned out buildings. The building at the right is located on the same block as the proposed project. On the front and side elevations, boards cover where windows used to be. In the rear of the building, one would find the burned and gutted inside of the building. While not all abandoned facilities are in such a state, their lack of presence create areas for trouble to start.

As stated earlier, the neighborhood is very well populated. On top of the large amount of homes in the area, there are also smaller examples of community activities that help to demonstrate the community presence. Like most areas in Detroit, Mexican Town does have vacant land. However, this area is different due to its ability to successfully occupy the land. Housing is present in both the single-family style or the multi-family style, which may include apartment style buildings, such as the one above, or attached condo-style housing. The new homes also   pictured above have been constructed in the last two years and have experienced high-occupancy. Developments such as the new ones above, have been constructed in many of the large open spaces in the area, even on the same block as the site of the proposed project. Other community projects include urban community gardens. The garden pictured to the left is just one example of a garden, found in the neighborhood, which is utilized by residents. Residents have an individual piece of property they maintain. These examples demonstrate that this area can support a new project.

Conditions of businesses along Vernor Highway, ranging from vacant to secured to new development

Clarke Park serves as the main gathering space for the neighborhood. It has a wide range of sculpture, open space containing playrgrounds or fields, or programmed space such as the outdoor hockey rink

The residents of Mexicantown display their culture in great amounts and varieties. Through expressions of murals painted on the sides buildings or religious art or local food establishments, the cultural identity of Mexicantown is quite strong

Figure Ground - Mexicantown - Detroit, MI

Site Selection and Analysis

	Site		Education
	Public Green Space		Commercial
	Train Station		Industrial/Warehouse

45

Traffic Analysis - Weekday

Traffic patterns in the area tend to vary depending on the time of day. During any given weekday, the area experiences high volumes of both pedestrian and vehicle traffic. The greatest amount of traffic for both can be found during the morning and afternoon time periods. Interstate 75 experiences high volumes of vehicle traffic throughout the morning due to the morning rush hour. This road typically has moderate to high traffic volumes due to the bridge to Canada. The vehicle traffic tapers off throughout the evening as those that visit the area are typically residents or visitors who are visiting the area to dine at a local restaurant. Vernor Highway, the other major roadway in the area, experiences high volumes in both the morning and afternoon. As residents leave the area to go to work in the morning or they are picking up their children from school in the afternoon, the amount of vehicular traffic is quite high.

Pedestrian traffic follows similar patterns to the vehicular traffic. In the morning and afternoon, the highest volume of traffic can be found around the local schools. As children walk to and from school, they walk in large pockets to their respective homes. If they do not go straight home, they can be found near the Clarke Park area. The Vernor Highway corridor experiences high pedestrian traffic due to the high concentration of businesses. An extreme drop can be seen in pedestrian traffic in the evening due to the safety issues of the area, such as neighborhood gangs.

Morning
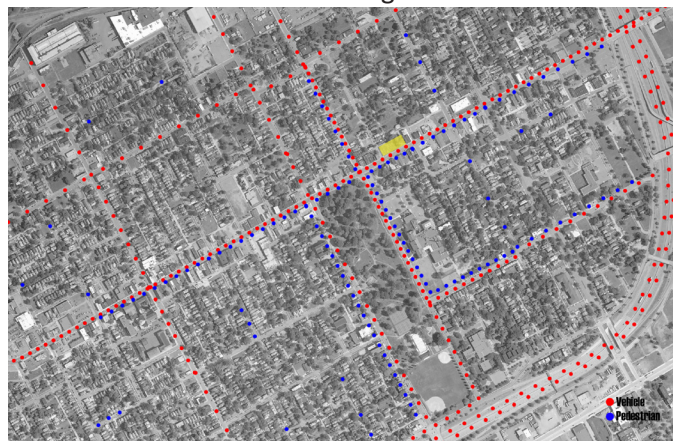
Afternoon
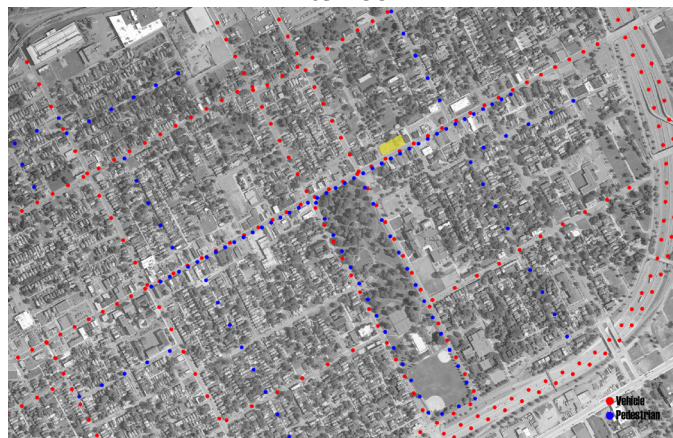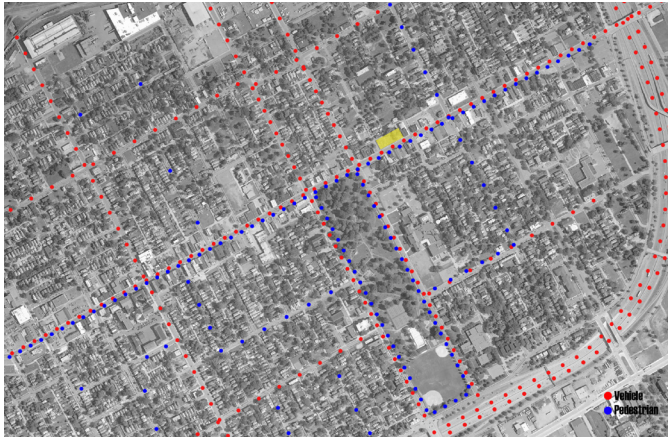
Evening

Morning
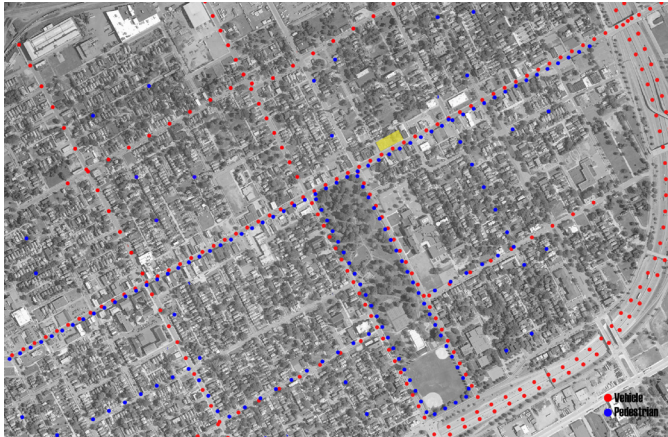
Afternoon
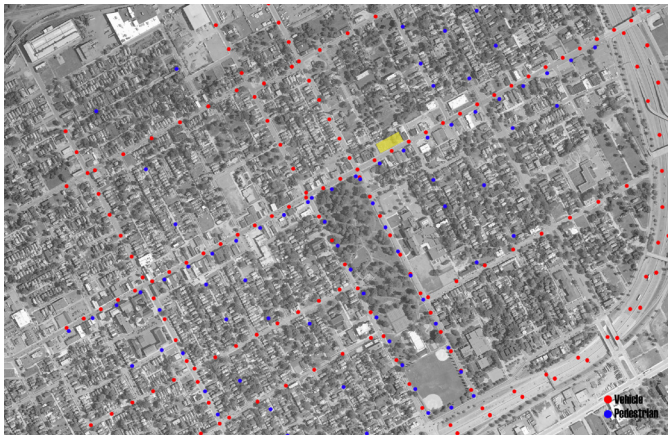
Evening

The traffic patterns for the weekend are share some similarities to that of the weekday but there are many differences. Vehicular traffic along the two major routes, Interstate 75 and Vernor Highway, still remains heavy throughout the morning and afternoon due to activities and businesses. However, traffic is not as heavy throughout the afternoon along Vernor since school is not in session on weekends. Some people still drive in the area with the intention of taking their children to Clarke Park. In the evening, vehicular traffic decreases considerably as many people choose to stay in their homes or have moved further into the downtown area for other events.

Pedestrian traffic shows the biggest change when compared to a weekday. It was mentioned above that there was a drop in vehicular traffic as a result of school not being in session. This is true of the pedestrian traffic as well. Families can still be found wandering the streets, typically heading to the park or Vernor corridor. However, when compared to the weekday, there are larger pockets of pedestrian traffic in the neighborhood areas as people tend to gather on the housing blocks or at the community gardens.

Site Selection and Analysis

Programmatic Research

Achieving Safety

Given today's current cultural climate, individuals have taken it upon themselves to create their own safe environments. This collage study was done to demonstrate modern day applications and the way in which they are applied. The picture above depicts a neighborhood street in Grand Rapids, Michigan. Typically, homeowners secure themselves with an individual home alarm system. However, when further applications are applied, it begins to breakdown the fabric that is created within a given environment.
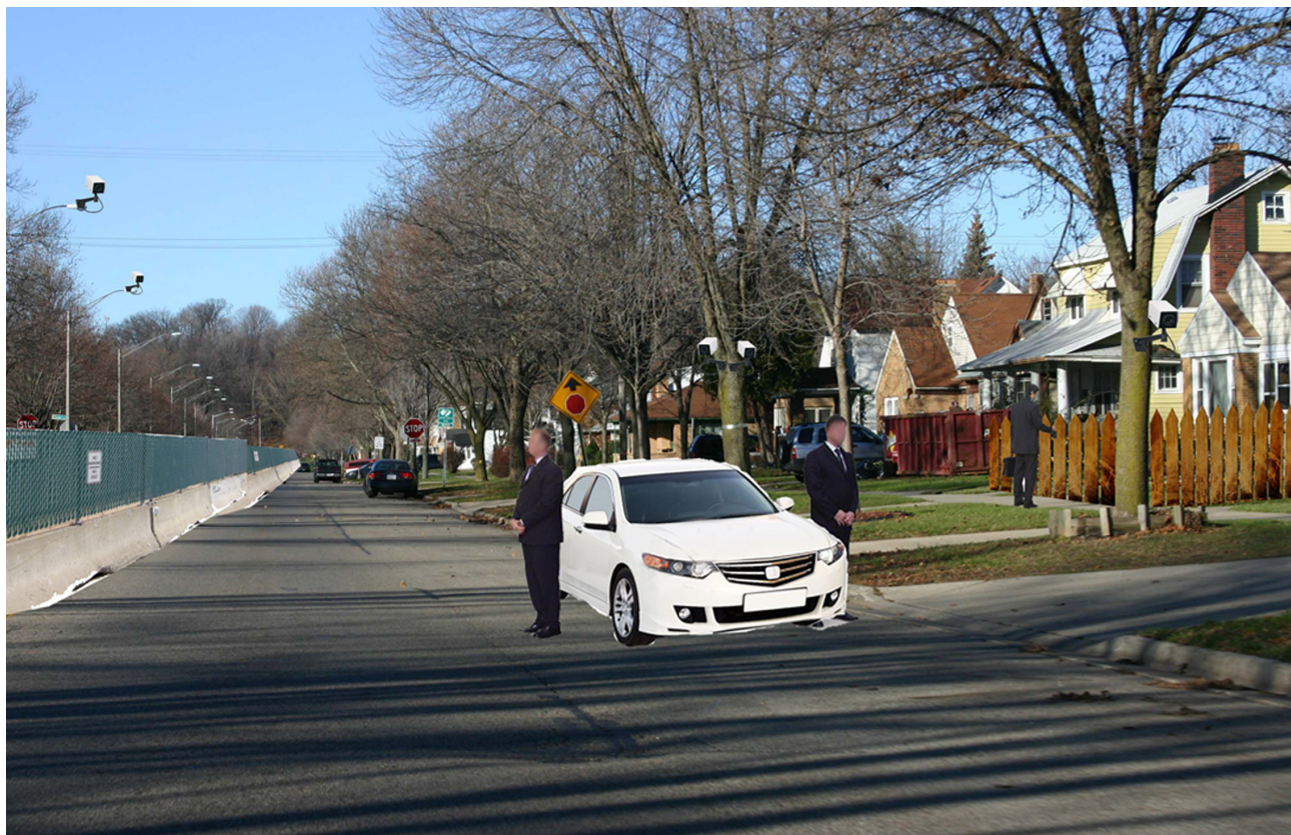
The above picture is the same neighborhood street in Grand Rapids after modern day measures have been applied in an effort to provide a safe environment. While this picture demonstrates the measures to an extreme, it is meant to demonstrate that the environment is not considered when trying to create a safe place. The application of items such as cameras, jersey barriers, and proxy card readers begins to actually create an environment that may have once been perceived as safe but now may be seen as dangerous due to the excessive application of measures.

Correlation of Security/Safety to Surroundings
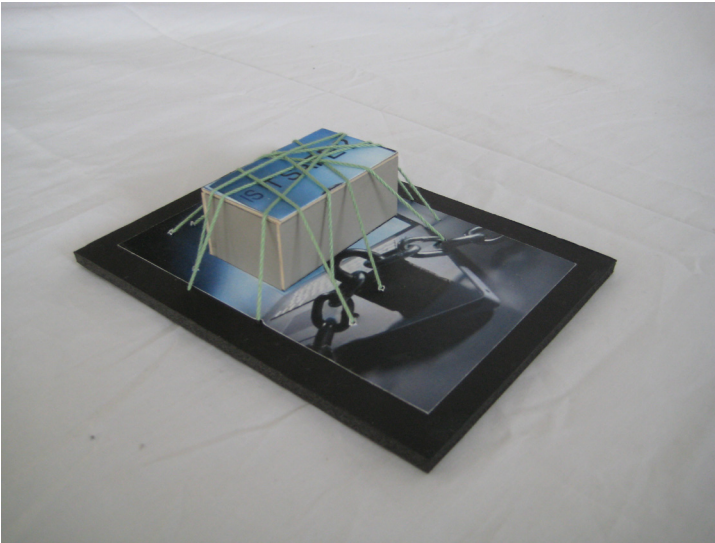
The model to the left demonstrates the way that security surrounds the environment that it is applied to. In this model, the application of traditional security is seen more as a net covering the given structure. Not only does the applied security not have any long reaching effects into other areas, but it is also not a "cover all" solution. Since there are holes in the given system, the opportunity for alternative, non-traditional means to be applied is created.

The model to the right demonstrates the intent of the program of this thesis. This thesis seeks to explore how the designer can create an environment that is safe through non-traditional means of security. Given the above model and the holes seen in the system, it is the intent that this program has long-reaching community effects. Not only will the structure and its occupants be safe, but the neighboring community will be able to feel the effects of the program.
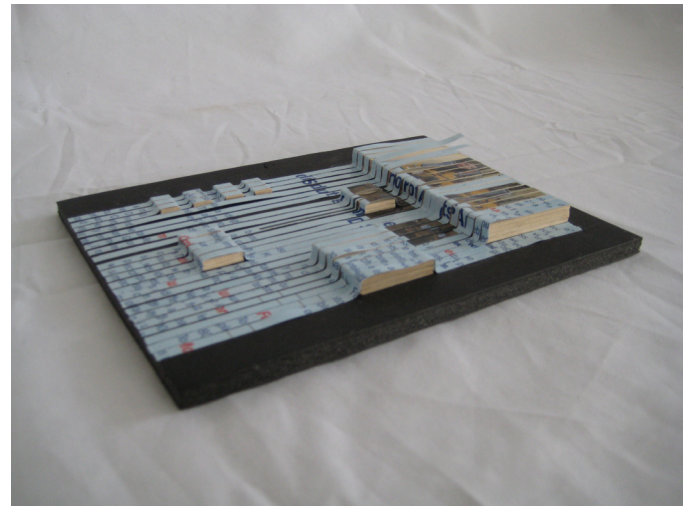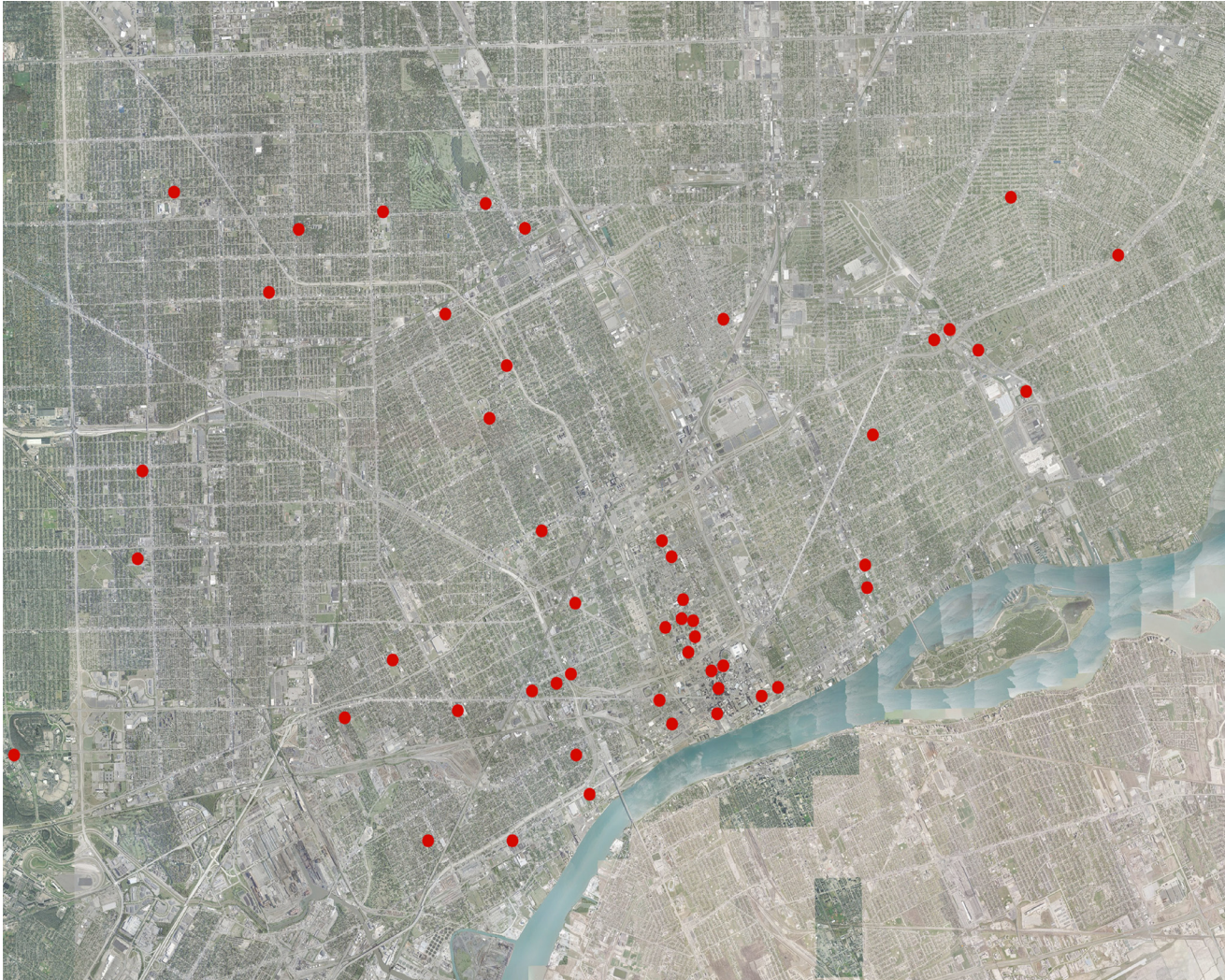
The above map shows all human service organizations within the city limits of Detroit. These centers range from soup kitchens and homeless shelters to those that provide after school assistance to youth or other individuals. A human service organization is one that focuses on preventing as well as providing a remedy for problems, while maintaining a commitment to improving the overall quality of life of the population.

Programmatic Research

Stages of Programming

Commu

Reception
- Offices
- Orientation

Healing
- Group Counseling
- Individual Counseling
- Clinic

Interact
- Outd
- Grou
- Mult

The diagram above shows the preliminary stages of programming. This diagram started out with five key words that would be used to describe the types of functions that would be housed in the facility. From that point, more specific programs were established. The five key points were reception, healing, interaction, shelter, and reintegration. When all these elements come together within an individual, they would become part of the community once again.

unity

ion
- loor Interactive Space
- p Instruction Area
- imedia Center

Shelter
- Temporary Shelter
- Housing Location Assistance

Reintegration
- Job Placement Assistance
- Job Training
- In-House Community Service Group

Path of Gang Life

Pre-Gang Life

Reasons to Join

After research, the program evolved to become a center for the rehabilitation of gang members. Gang members face many threats, especially those that wish to leave gangs at some point in their future. This chart depicts the typical path of gang membership, starting with what happens before they join gangs, why they join, what they do while in a gang and how they can get out.

Many of those that choose to join gangs are exposed to them at an early age, some as early as 10 and 11 years old. They are attracted to the gangs after seeing the respect, money, and power that older gang members receive. Gangs also actively seek out youth to assist in crimes due to the lack of attention police pay them. These crimes involve things such as carrying weapons and drugs.

Peer pressure, boredom, poverty, and despair are some of the primary reasons that someone might join a gang. Young people are very susceptible to peer pressure and if others around them are involved in gang activity, this becomes a driving force for them to join. When others don't have anything to occupy their time, youth often turn to mischief to entertain themselves. If an area lacks available extra activities, kids will turn to gangs for entertainment. Poverty can drive others to join gangs because of the promise that they will make more money doing gang activities than an

Gang Activities

The Way Out
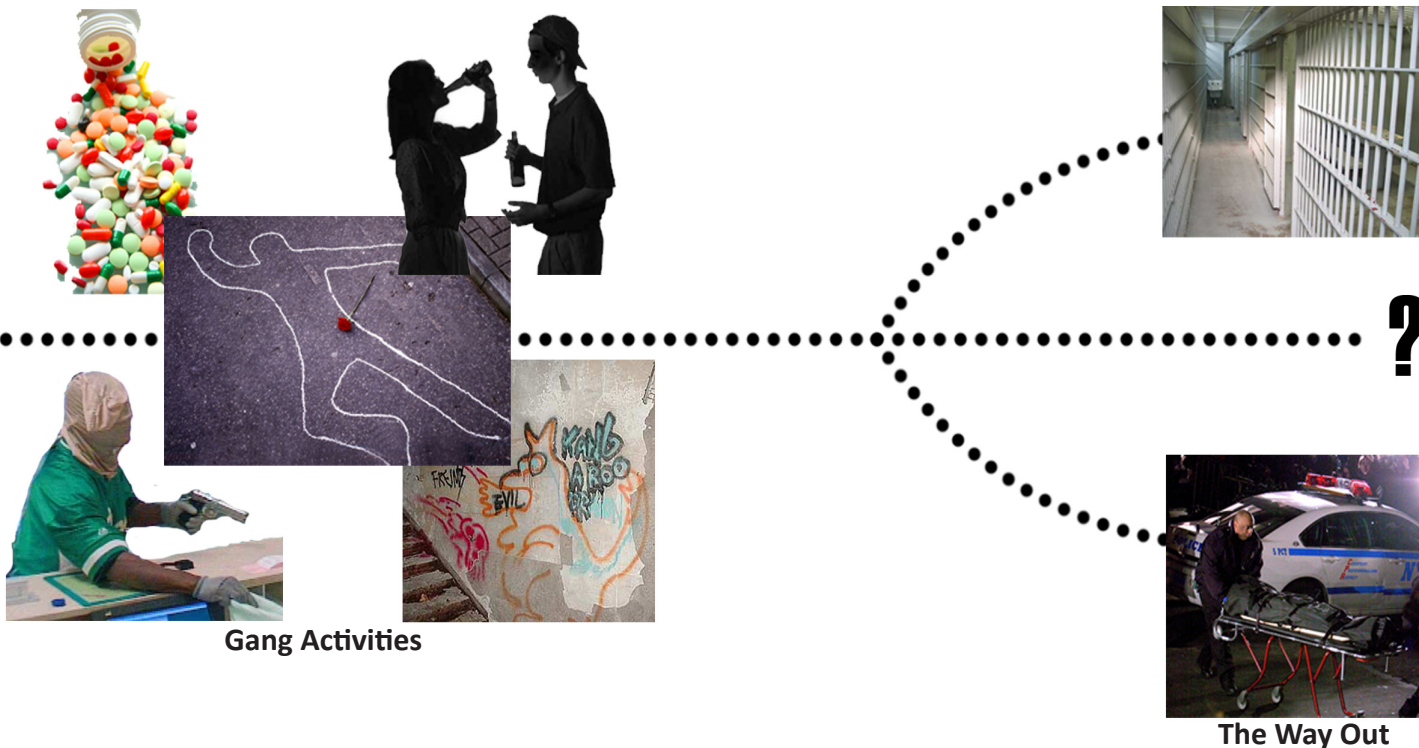
honest job would pay. Lastly, when there seems to be no hope, despair kicks in and some look to gangs as a source of family.

Upon completion of initiation, a gang member would participate in numerous activities, some of which they must do during initiation. These activities include drugs, drinking, vandalism, theft, and murder. The purpose of committing these crimes grows out of the notion of respect a member wishes to gain. While these are the typical activities that occur, there are others that take place but are rarer. These include assault and assassination of members of other gangs for the purpose of turf, money, pride, or revenge.

When it comes to the point where a member might want out, it becomes a very tough situation. The brutal truth of it is that the only way that most leave a gang is in a body bag. Some may also find the way out when they are caught committing a crime and are sent to jail. But what happens when someone wants to leave a live their life? This isn't an easy thing to do. There exists no safe way for a member to exercise this option. They fear backlash from other gang members or incarceration at the hands of the police. Can there exist a third alternative that allows for a safe transition?

Program Statement

Program Statement

Program Identification

In an effort to design the most appropriate program elements, it was necessary to evaluate the needs of this particular user group while at the same time responding to their safety concerns. This program was created in collaboration with a therapist from Homeboy Industries in Los Angeles, California. Unlike other counseling groups, there is a lack of information available on the needs of gang members. Also, Father Mark Torres, who is the therapist consulted for this program, dispelled many of the stereotypes and preconceived notions regarding gang members. The program elements were created and then the method of securing these areas followed.

Major Components (as described in the stages of programming):

Reception: The purpose of the reception area is to house the main offices and orientation that will document the users as they begin their transition process. The users will be introduced to the center as well as have their individual needs evaluated to create an appropriate path of healing. This space will serve to function as the central node for which all other functions will branch from. Also, the area will serve as a discreet "checkpoint", where everyone engaging or intending to use the facility must pass by in order to move further.

Healing: The healing section is the part of the facility where the gang members will take part in counseling sessions and other healing procedures. Counseling takes place on both the individual and group level. In a typical case, a member will start off in individual sessions and then will take part in group sessions, while they will continue to meet with their individual counselor.

The counselor that is assigned to the member will remain that individual's counselor until they complete their counseling. The counseling areas, in particular, will be the area of utmost concern when designing for the member's safety. In addition to counseling to address psychological needs, the transition center also houses a clinic. The clinic will provide basic medical care for gang members who have experienced injuries as a result of their participation in gang activities. The clinic is equipped with exam rooms and also a lab that will be able to process medical work.

Interaction: The interaction area of the facility is the first place in the program where gang members going through the process can interact with the general public or with each other outside of a clinic-like setting. This area contains a multimedia center, group instruction area, and an outdoor interactive space. The multimedia center functions as a small library and tutoring center for gang members. Many gang members drop out of school when they join and therefore fall behind in their education. This particular function will allow gang members to be tutored in basic school subjects as well as expand their knowledge into other specialty subjects, such as art, music, or a technical skill. The purpose of the group instruction area is to serve as a more formal workshop and classroom. The room is set up in a manner that would allow for formal teaching as well as a more casual style workroom for things such as art and photography work. Lastly, the outdoor interactive space is the most public area of the facility. This space is linked directly to the group instruction room to allow for a casual flow when events are taking place. Gang members tend to have an artistic background, either in formal or performing arts, given their gang activities.   After

discussion with Homeboy Industries, it became apparent that the gang members liked to demonstrate their talent. This space will allow for outdoor art shows and musical performances. It can also function independently when there is no scheduled event.

Shelter: Temporary shelter is a function of the facility that will not be utilized by all gang members going through counseling. When an individual is trying to separate themselves from gang activity, it is typically advised that they leave their immediate neighborhood. The purpose of this shelter would be to provide short-term housing, around two months, to those that need to find a new home. Those that have demonstrated personal responsibility, trust, and progress in the program will be allowed to live there. Housing relocation assistance is also provided.

Reintegration: The reintegration program is the last program in the facility. The main focus of this section is the in-house community service group. As gang members finish up the program, they will, inevitably, need jobs. However, there is a stigma surrounding them that hinders their ability to attain a job right away. This community service group will function with the community to clean up graffiti, fix homes and participate in other activities. By having former gang members assist in running the facility, they will learn job skills and responsibility while establishing a rapport with the community that will help them obtain future employment

Reception	**595 Sq. Ft. Total**	**Shelter**	**1070 Sq. Ft. Total**
Offices (5):	85 sq. ft each	Living Area:	430 sq. ft.
Conference Room:	170 sq. ft.	Sleeping Room (4):	130 sq. ft. each
Restrooms (2):	35 sq. ft. each	Bathroom (2):	60 sq. ft. each

Healing   **1290 Sq. Ft. Total**

Counseling

  Group Counseling (2): 185 sq. ft. each

  Individual Counseling (3): 80 sq. ft. each

Clinic

  Exam Room (3): 50 sq. ft. each

  Lab: 260 sq. ft.

  Reception: 95 sq. ft.

  Washroom: 40 sq. ft.

  Waiting Room: 95 sq. ft.

  Storage: 40 sq. ft.

Reintegration   **740 Sq. Ft. Total**

Community Service: 740 sq. ft.

Miscellaneous   **1410 Sq. Ft. Total**

Circulation: 1330 sq. ft.

Rooftop Mechanical: 80 sq. ft.

Total: **8255 Sq. Ft. Total**

Interaction   **3150 Sq. Ft. Total**

Multimedia Center

  Library: 870 sq. ft.

  Tutoring Pod (5): 25 sq. ft. each

  Storage: 60 sq. ft.

Group Instruction Area

  Classroom: 740 sq. ft.

  Storage: 75 sq. ft.

Outdoor Interactive Space 1280 sq. ft.

Program Statement

Schematic Design/Design Development

Schematic Program 1
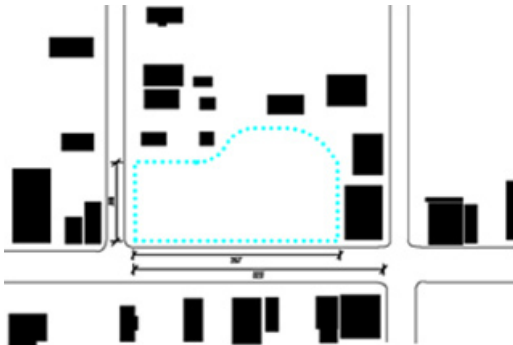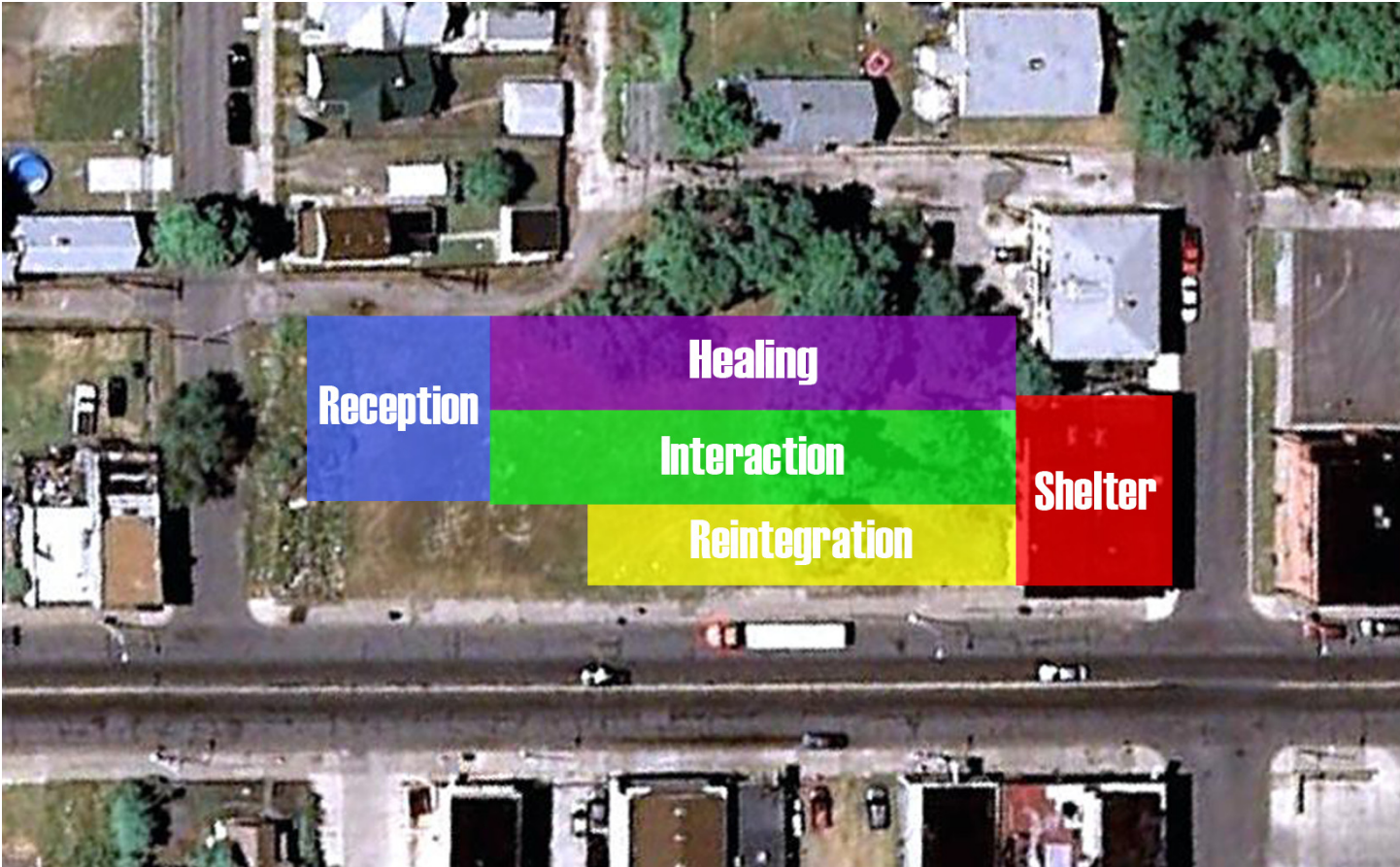
This first schematic program focuses on the utilization of an abandoned home to fulfill part of the programming requirement. The functions are layered in a manner to demonstrate the idea of public vs. private. The reintegration becomes the focal point due to its importance ito the users of the facility.   A small amount of interaction is possible with the reception located towards the back.
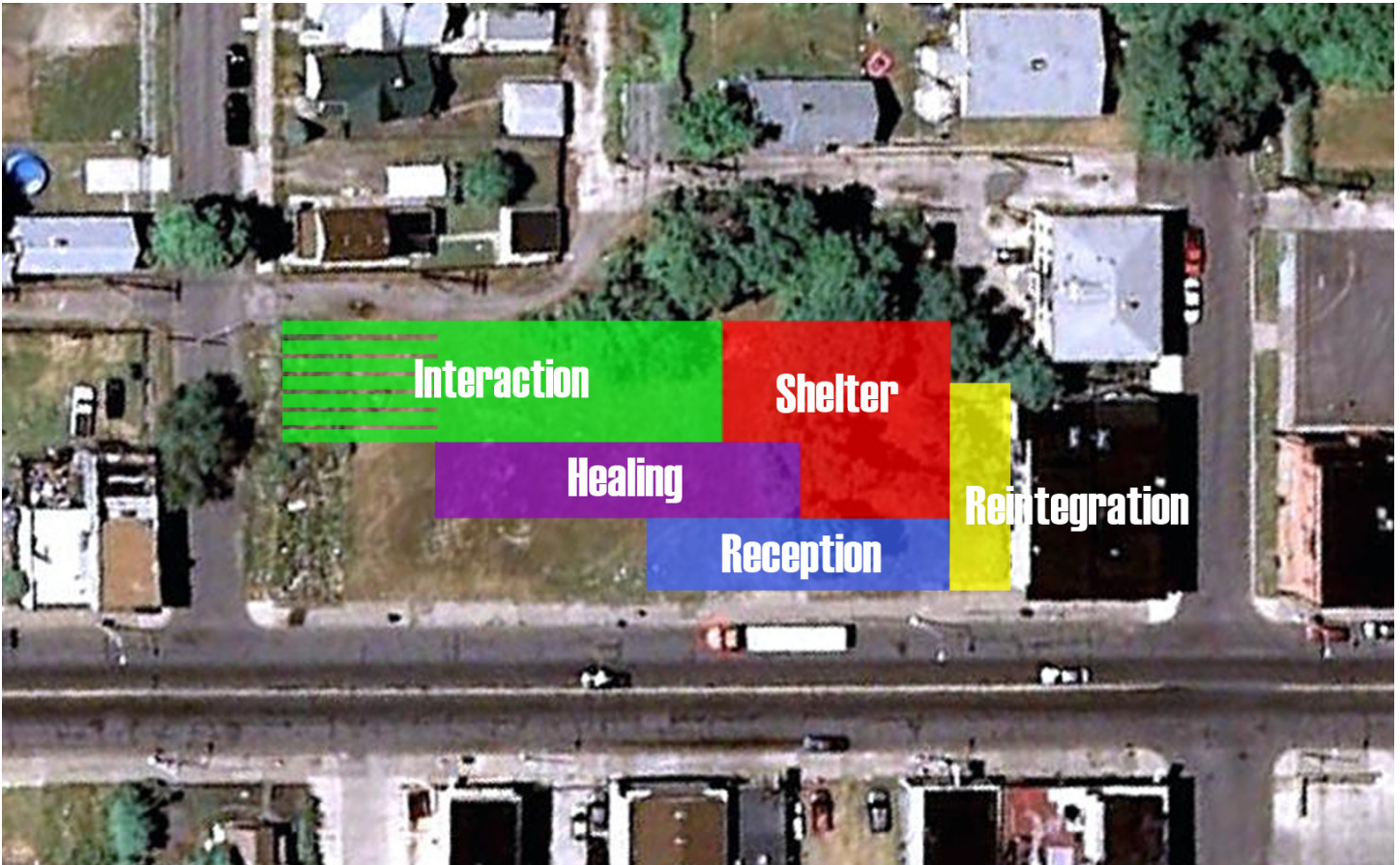
The second schematic program focuses on the circular movement of programs on the site. In the interaction portion of the program, the program will be extended to allow for a large amount of community involvement. Unlike the first proposal, the shelter has become a new entity and is also set back to allow for privacy. The reintegration portion is celebrated via a corridor-like design.
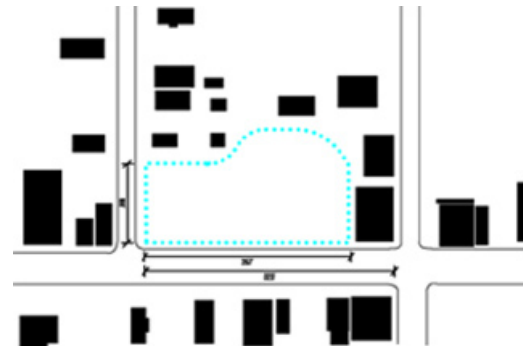
Schematic Program 3
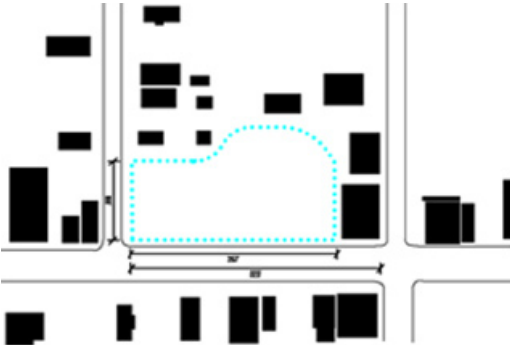
The third program proposal focused on the rehabilitation part of the program as visible to the community. The interaction portion is located in a similar place to the first proposal but allows for more community involvement than the first . The reception has been set back to allow for a sense of safety to those that choose to take advantage of the program.

The fourth program proposal was the last explored during the schematic design phase. Further developments and models would be derived from this plan. In this scheme, the public functions were positioned to confront the street. The interaction function involves both an indoor and outdoor area so it was positioned at the corner of the site. The reintegration function was positioned to appear as its own entity. Finally, due to its private nature, the shelter was positioned so as not to confront Vernor Highway.
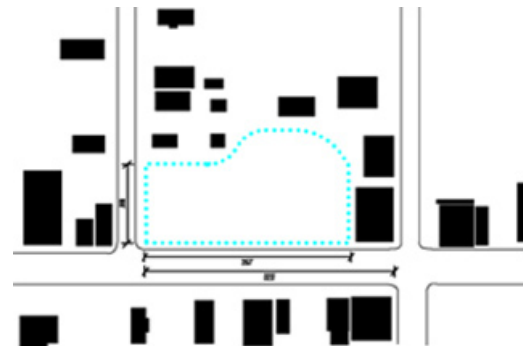
Movement Studies
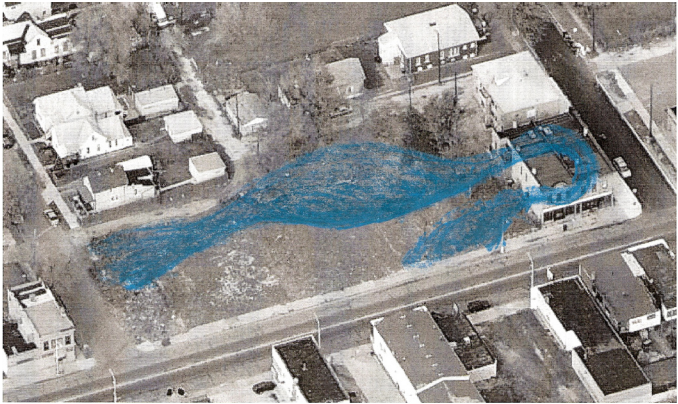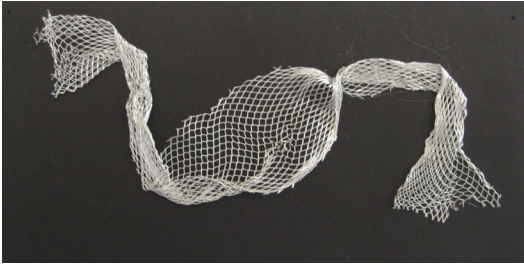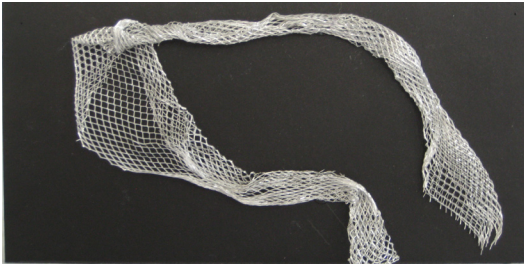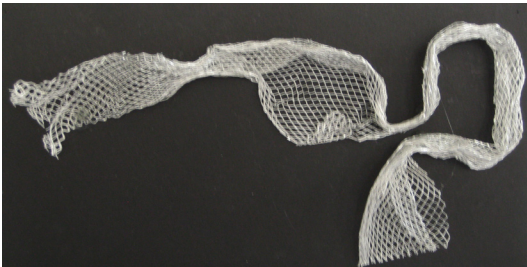
The idea of movement is closely related to safety due to its relevance in the prospect and refuge theory. In the prospect and refuge theory, the belief is that an individual will evaluate the safety of their surroundings based on their ability to perceive the threat (prospect) and their ability to move away from the threat (refuge).

The studies on the opposite page were done in an effort to tie the prospect and refuge theory to the hierarchy that most security systems operate with. These studies are closely related to the three proposed schematics previously mentioned. In these studies, one will be able to evaluate the nature of the space given the expansion and contraction of the space.

As the flow shifts from a large area to a tighter area, it demonstrates the movement of an individual from a public area to an area of a more private nature. This study was also used to evaluate how the different functions within the space would be connected. Instead of utilizing standard boundaries (doors, walls, windows), it is intended that the same goal can be accomplished through the simple expansion and contraction of openings.

Light Penetration Studies
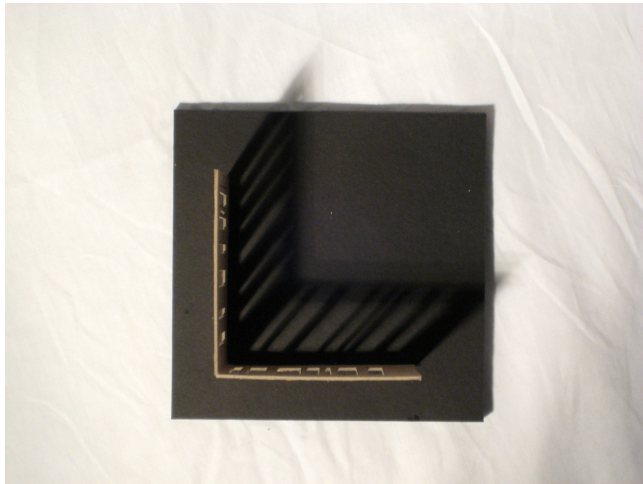
When determining whether or not an environment is safe, the three factors that individuals use are light, movement and the ability to see. These light studies were done to determine how light can best penetrate an interior space. Each study was conducted using the same height of material but different methods of exposure. Methods explored were those of physically altering the plane of the wall, completely transparent and transluscent, a series of varying vertical cuts and, lastly, a random assortment of penetrations.
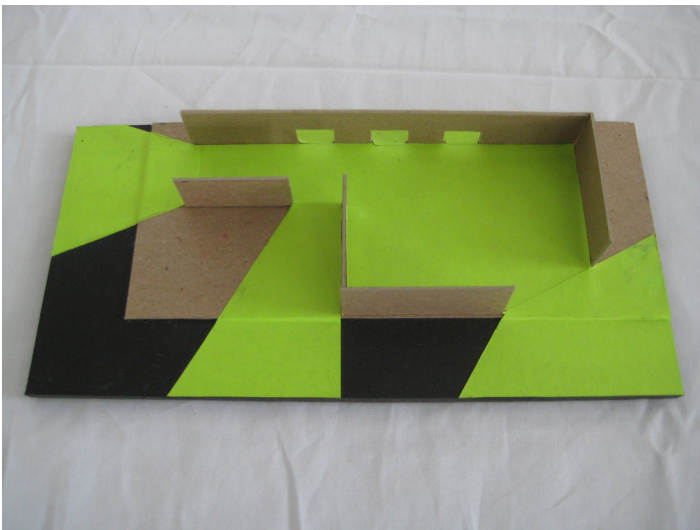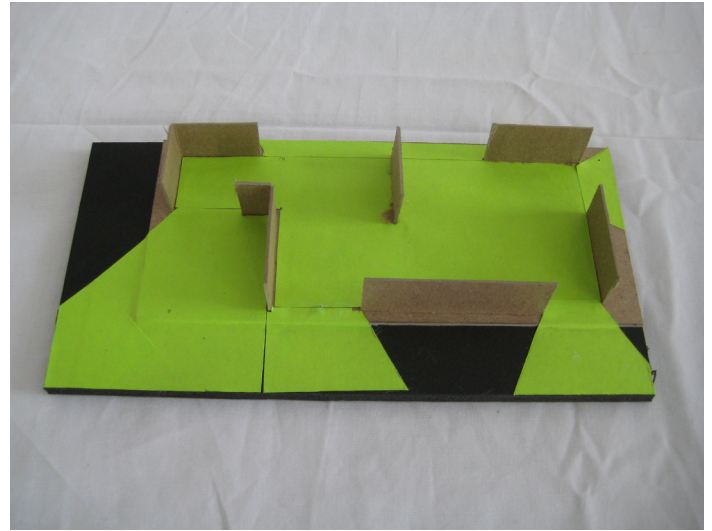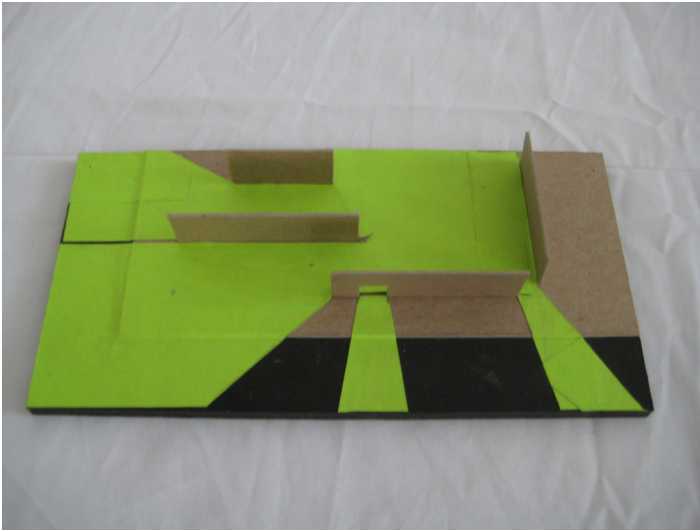
Lines of sight are closely related to the safety of an environment. Vision and movement are linked in their application of the prospect and refuge theory. These studies done also utilized the proposed programs to sudy how an individual using the space would be able to see their surroundings. The green areas represent areas of sight and how they are affected by walls of the program.

Schematic Design/Design Development

Security Design Analysis

1. Site Perimeter
2. Building Envelope
3. Building Interior
4. Abandoned Home (possible for integration)

In the traditional design for security, the designers typically take the "concentric circle" design approach. In that scenario, each element is addressed individually and is brought together in the final stages. These "circles" are the site perimeter, the building envelope, and, lastly, the building interior. In this thesis program, this method will be utilized but the solutions will not be those that are usually results of these studies. The site perimeter security typically deals with landscaping and the access points to the site, either for vehicular or pedestrian traffic. Traditionally, the building envelope is approached with building hardening (materials, cameras, etc.). The building interior is addressed with technology. Access cards and surveillance cameras are typically scattered throughout the interior. This thesis will seek to avoid using these measures.

The studies previously mentioned and displayed were all conducted in a manner that provided a better understanding of programmatic principles along with design concepts. Upon analysis of the four possible schematic layouts, the fourth layout was chosen and further model studies were conducted to produce an architectural response appropriate for the site. While many of the studies conducted were rooted in the first three schematics, the concepts of light, vision, and movement were still carried forth in the architectural response. The built design that grew out of this research was analyzed at many levels, including detailed programming, mass modeling, skeletal modeling and, lastly, a comprehensive building design. Further research was also conducted at this stage in an effort to make the built design more site appropriate through the use of building details in combination with site analysis.

The building design produced at this stage was not set out to be the final design. However, it was viewed as an intermediate step to a final building design. The concept for this initial design grew from creating a very designated path through the facility, similar to the one an individual might take while going through a counseling program. Manipulations of the physical form also followed to allow for the creation of different spatial qualities as well as allow for natural lighting. The development of this initial built design assisted in establishing questions with regards to building and site design that could be further answered in the final design.

Schematic Design/Design Development

Prospect and Refuge Analysis
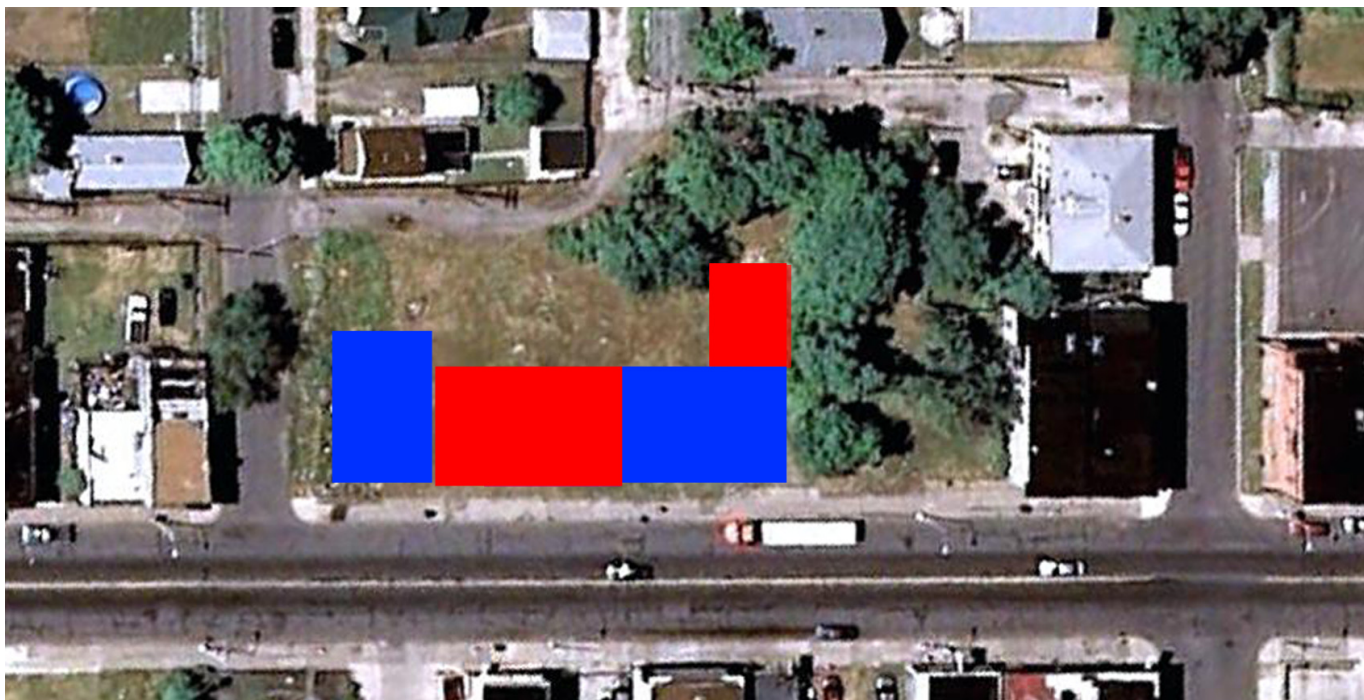
As stated earlier, the prospect and refuge theory was one of the main concepts drawn from during design. The prospect and refuge theory has two key concepts that correspond to the level of safety one feels while in an environment. The theory is based off of an individual's ability to see and move through a space. If an individual is able to perceive threats in areas of prospect, they will determine a space to be safe based on how fast they can move to an area of refuge. The blue areas above designate spaces that can be seen as areas of prospect and the red areas are spaces of refuge. The areas of refuge are the counseling, clinic, and shelter functions while the prospect areas would be associated with the public functions, such as the reception, interaction and reintegration. In this space, the areas of prospect and refuge were layered throughout the space.

1

2

3
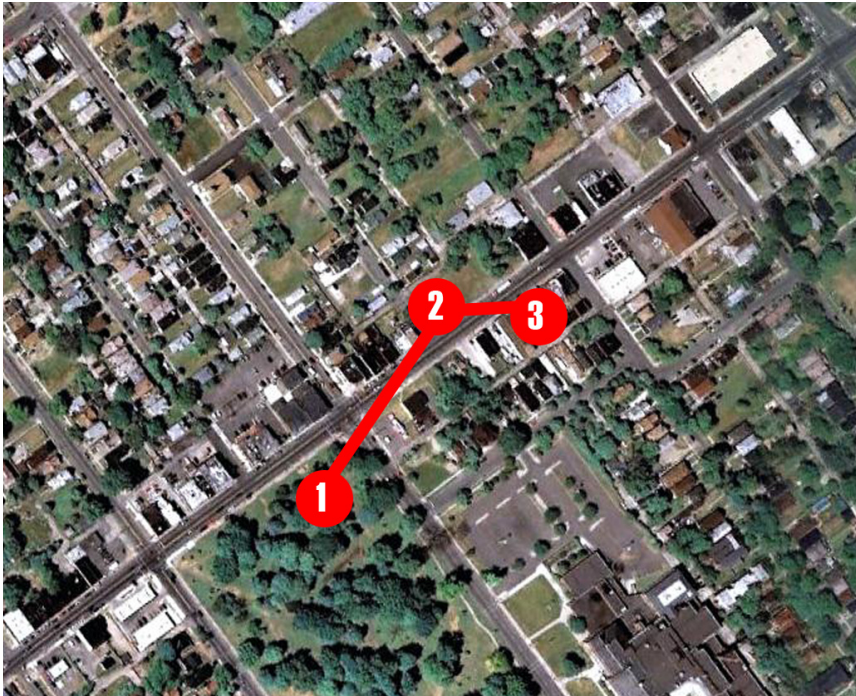
Unlike other areas in Detroit neighborhoods, open space is well utilized in the Mexicantown neighborhood. The diagram to the left depicts the link that the outdoor interactive space attempts to make to a series of existing open spaces. The first image shows Clarke Park. The park is utilized on a daily basis and is also a showcase for sculpture and other events. Serving the public as one of the largest parks in the area, the outdoor space strives to act as an extension of the park. The second image is the corner on the site where the outdoor courtyard will be placed. This courtyard will allow for outdoor events for the gang members to interact with the public. The last image shows how one particular gentleman utilizes open space. This gentleman sets up a grill everyday and sells food. He has created a rapport within the neighborhood and many residents gather there as a social spot, even if they have no intention of purchasing food.

Schematic Design/Design Development

Form Exploration 1

Based on the fourth schematic plan established in preliminary planning, the next step was to begin to develop the building form. The initial process started with creating a more detailed floor plan, which would be based off the schematic plan previously established.

The floor plan was extruded to a uniform height. This step in the process allowed the mass to be seen in relationship to the surroundings. After analyzing the building in context, the mass was reading without any identity or character.

Also, in an effort to better understand the construction of the facility, the building was explored at the skeletal level. By analyzing it at the skeletal level, it gave a better understanding of how spaces could potentially be broken down further. The specific structural members were not established at this point, but no further studies needed to be conducted on this form due to the buildings lack in character and identity.
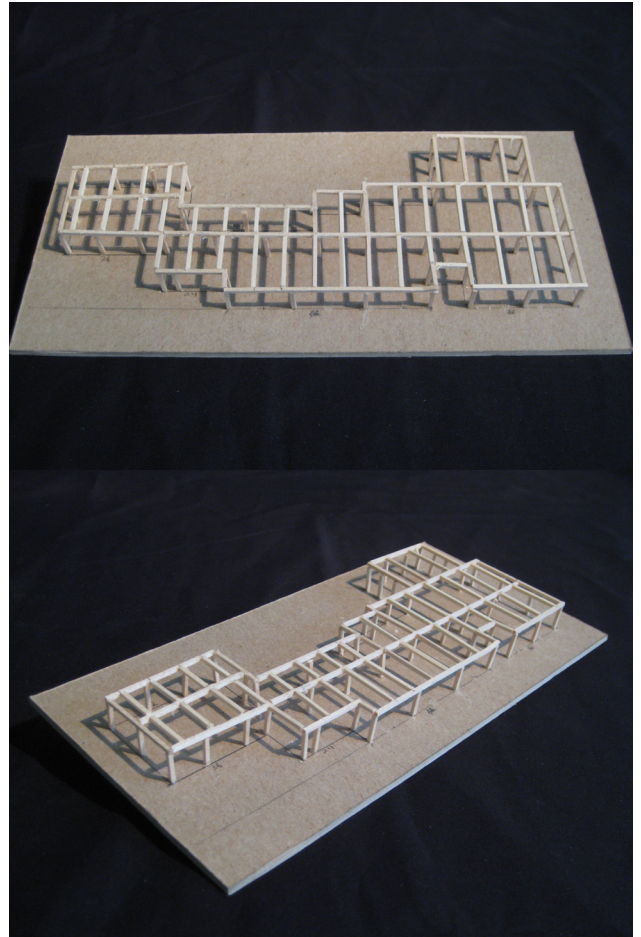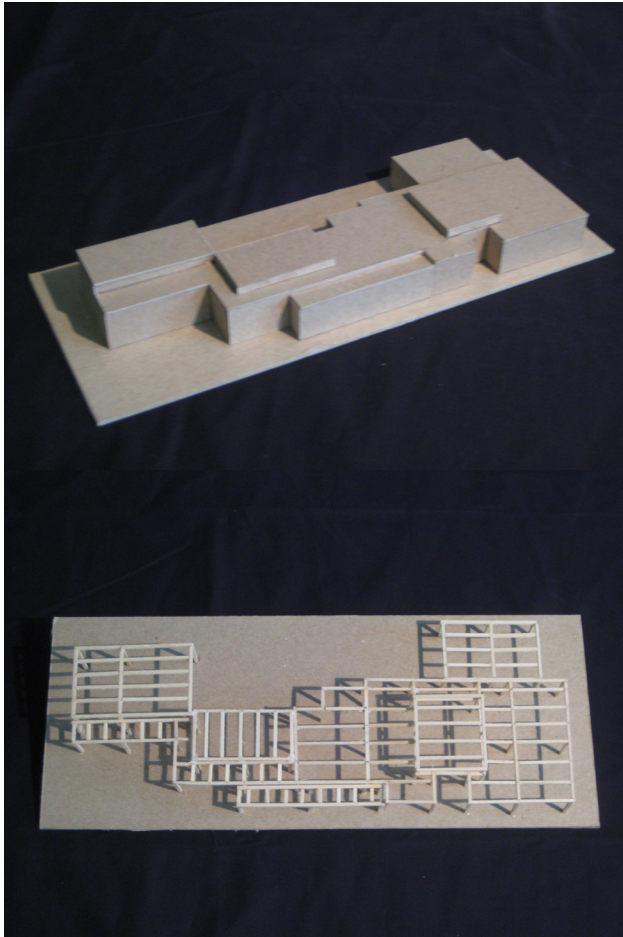
The second form exploration depicted at the left was a study in furthering the concept established in the first form exploration. The form was explored in a similar fashion, both at the mass and skeletal level.

Based on research from the book, "A Patter Language", a variation in room heights allows the user to create and establish different levels of comfort. In comparison to the first form, which read as one height, this form has been manipulated by increasing or decreasing the height of particular programs. The change in height was based on the specific program. For example, an intimate space such as the individual counseling rooms would have a lower ceiling height compared to a more public space such as the lobby and reception areas.

The skeletal model conducted on this manipulated form allowed further design decisions to be made. When compared to the first form, the form began to demonstrate more character than the first, both in mass and structure. As a result of the skeletal study, the concept of concealed versus exposed structure became a possible design solution. This possibility would be explored in future explorations leading up to the final design.

Schematic Design/Design Development

Daylighting Analysis
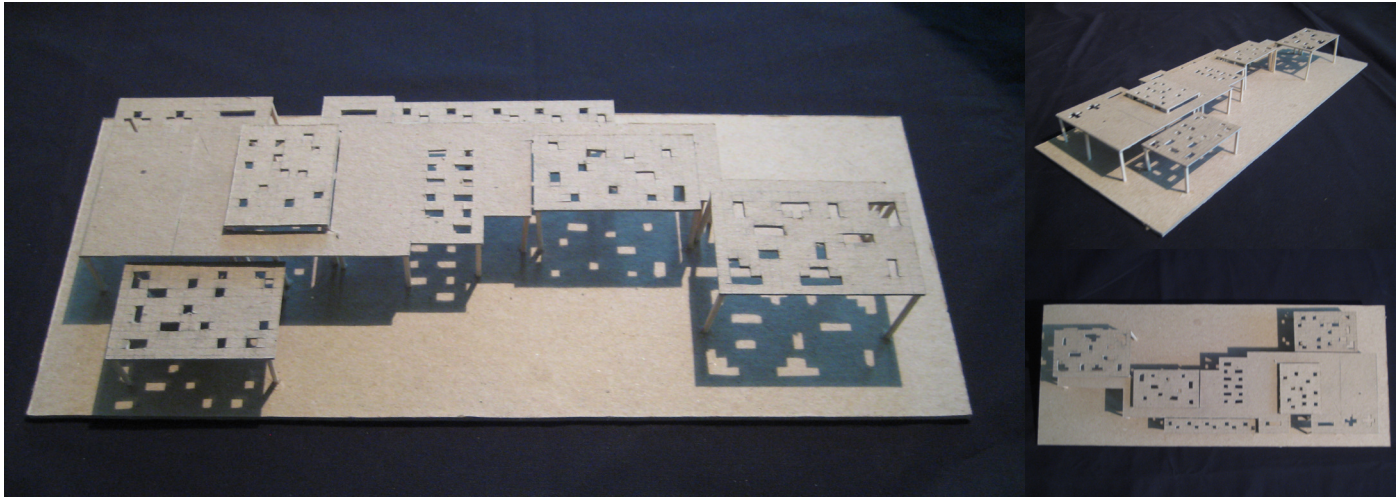
The form that was the result of the second exploration became the basis for furthering the schematic design phase. Analysis of the mass and skeletal models opened up the possibility for natural lighting. The model shown demonstrates the use of skylighting in the facility. The pattern for lighting was based off of an evaluation of the gang transition process. As a former gang member enters the facility, they are an individual seeking to become a part of a larger community. In the reception area, the individual light openings represent the individuals as they come in and begin their rehabilitation process. As the program elements allude to the individual rebuilding their image and reputation, the clusters of natural lighting become larger. Due to the position of the building, there is a large amount of sun exposure. The lighting would create patterns on the floor and walls and the sun moved throughout the day.

Translucent Wall

Adaptable Wall

Curtain Wall

Metal Paneling

Schematic Design/Design Development
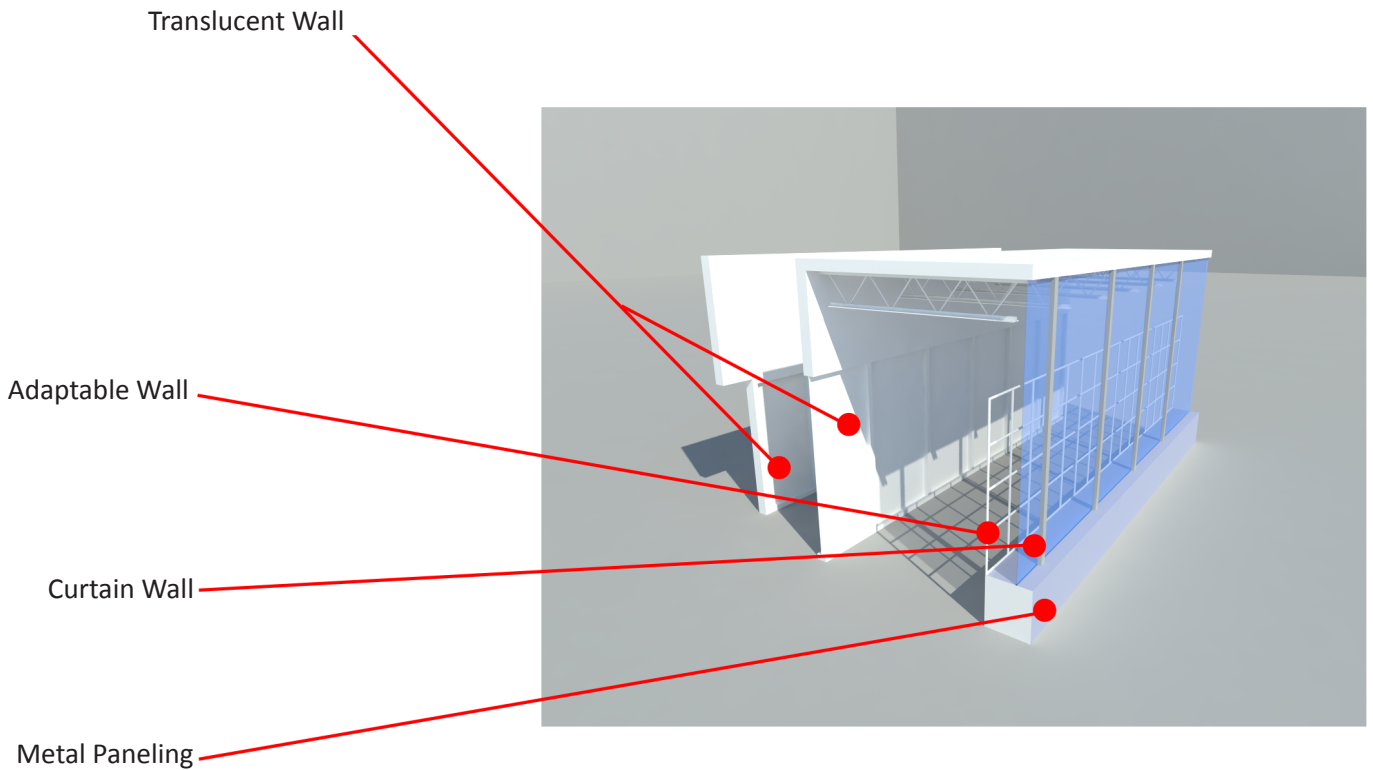
To further the design development process, a portion of the building was analyzed in detail with regards to materiality and the way it interacts with the users. This particular diagram is of the counseling area wall. Along with the traditional curtain wall, an adaptable wall that can be manipulated by the users would be implemented. Lining the corridor between the offices and clinic would be a translucent glass, allowing for the transmission of light through the facility as well as affecting the ability of an individual to see. The particular system at the left allows for optimal light penetration while still allowing privacy.

Adaptable Wall

One of the major design features within the gang transition center is the adaptable wall located within the individual counseling offices. The purpose of this wall is to allow the counseling function to confront the street as well as address the key principles addressed in the prospect and refuge theory (light and visibility).   The three prototypes that follow address these two principles in different ways but keep the idea of safety for the users in mind. These walls would allow the user to manipulate them in a manner that would create a customized environment for each user while, at the same time, not creating an element that would have a short utilization term.   Many traditional safety measures can become antiquated and outdated. This wall will be able to not only function for each user, but also create a constantly changing interactive element. During this phase of the project, not one of these particular design ideas was chosen to implement, however the design principles behind each one would hopefully be carried through future phases.
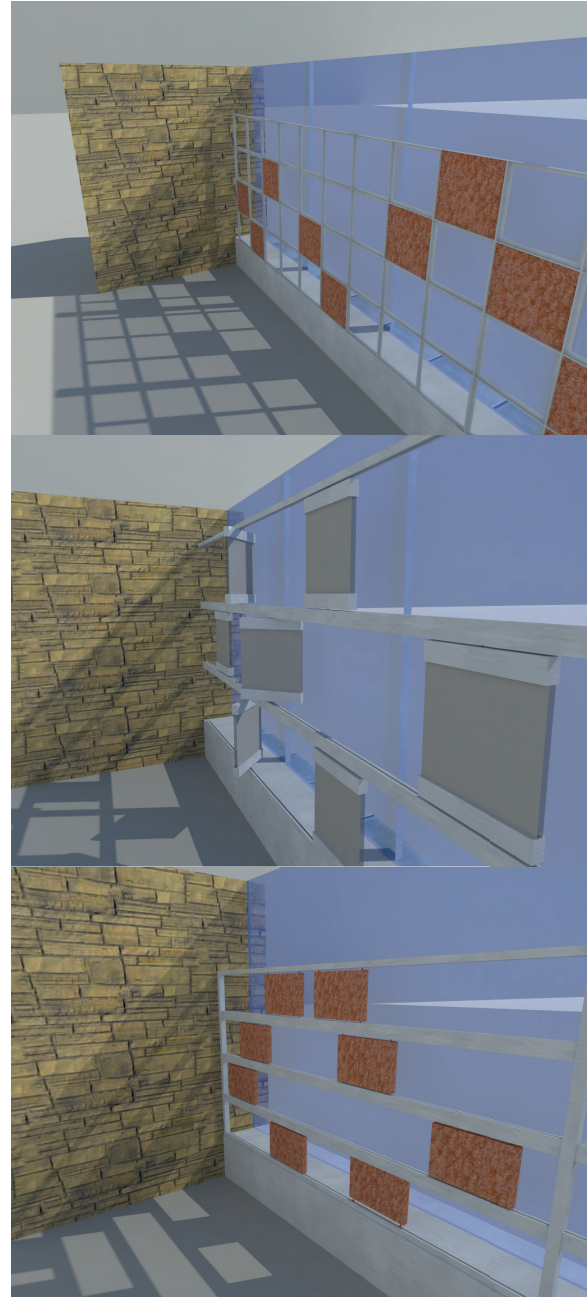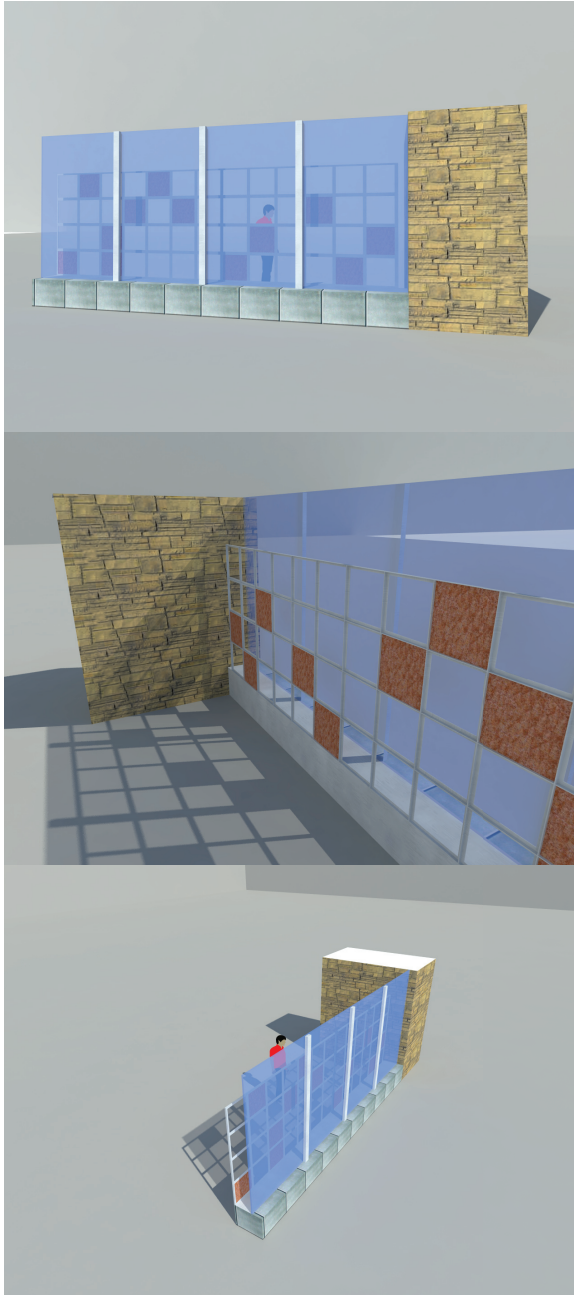
The concept for this wall prototype was to take a static approach to how the users can interact with the wall. In this system, a grid would be established that would allow for users on the inside to move any of the panels to another location and snap them into place. The panels would be made of a lightweight, rust colored metal. As a user moves a panel into a location, it affects the ability for pedestrians on the sidewalk outside to see into the office. Also, the amount of light that would enter the space would be affected.

Schematic Design/Design Development

Prototype 2

The second wall prototype chose to utilize the greatest amount of client interaction of the three possible implementations. When developing this system, the existing concept of adjustable shading devices was studied. This example consists of a series of panels in a fixed location that swivel about on a pin system. As a result, the user would not only be able to control the amount of light that penetrates the space and the ability of pedestrians to see, but it can also be adjusted to varying degrees. The material for the panels would be a very dark translucent glass panel attached to a mullion track.
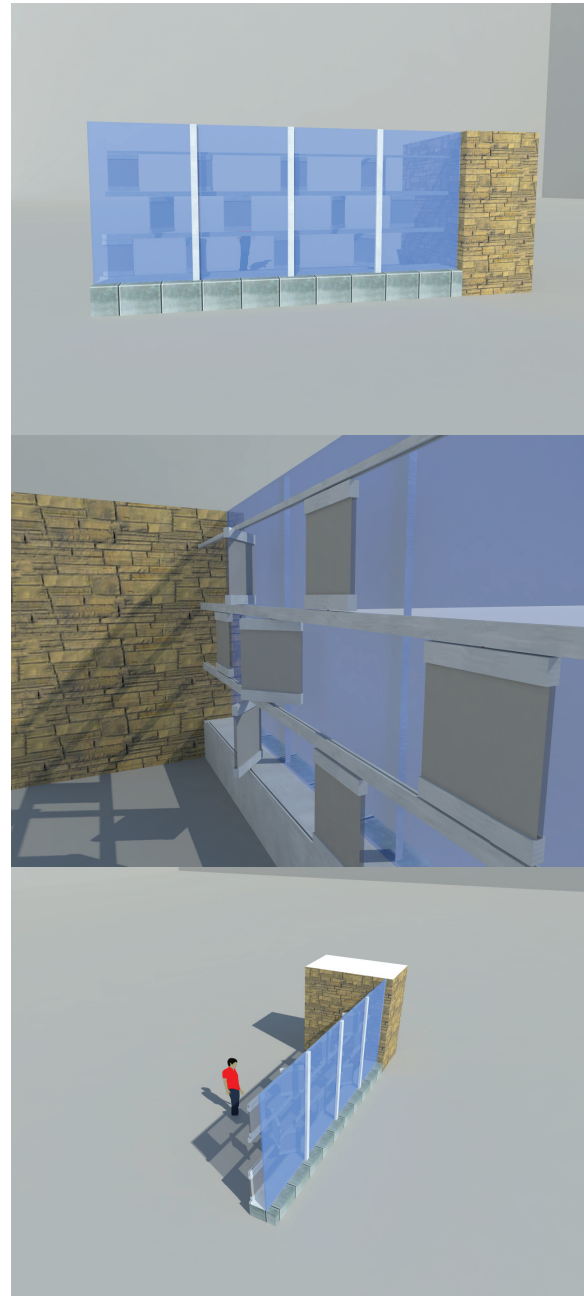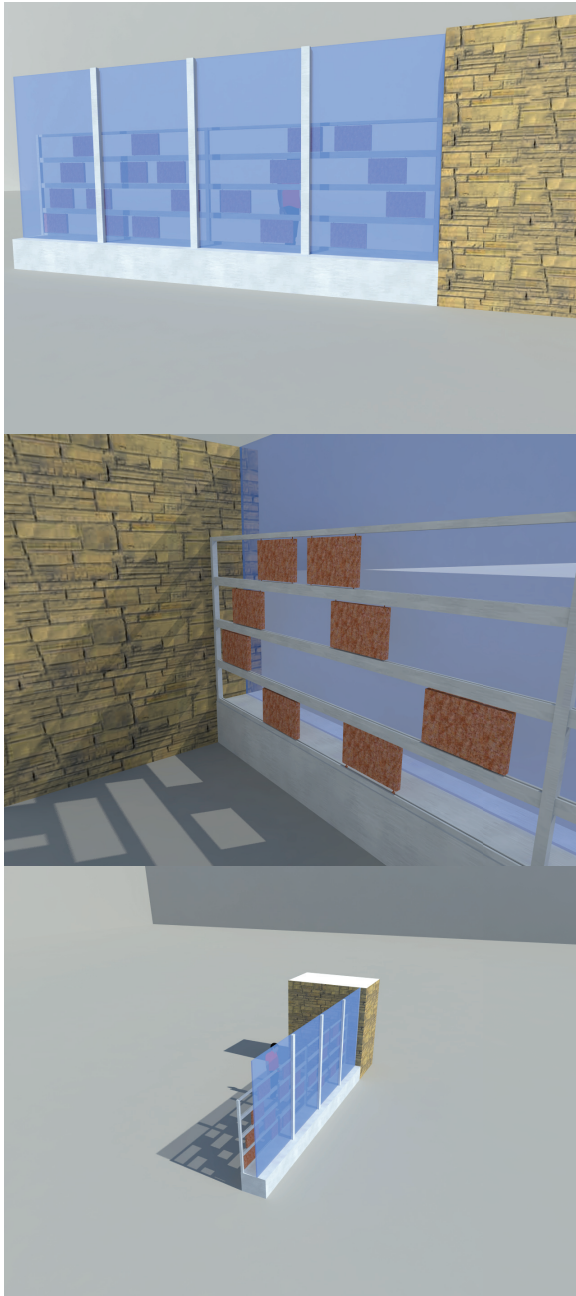
The last prototype can be looked at as being a hybrid of the first two based on the way which the panels are manipulated. As seen in the first prototype, the panels had the greatest impact on vision and light but could not be adjusted. In the second prototype, the panels could be rotated freely and assume any spot on the track system. The concept for this particular prototype was based off the concept of movable wall partitions. These panels function on a track similar to the way that movable wall partitions would. The material would be the same rust colored, metal panels that were in the first prototype. Due to the hybrid nature of this system, this system provides the greatest potential for furthering the design.

Schematic Design/Design Development

Floor Plan

The idea of movement was mentioned as a contributor to the feeling of safety. The way an individual would move through the space is best demonstrated in the floor plan and they way one would move between spaces. For example, the reception area is quite large, signifying its open and public nature. As you move through the facility, the openings are adjusted based on the functions. As another example, the hallway leading to the clinic and counseling is about six feet wide but as you move into the clinic, it shifts from five feet open to three feet. Also, the amount of physical boundaries is limited. Items such as doors are only implemented in areas of highest intimacy.
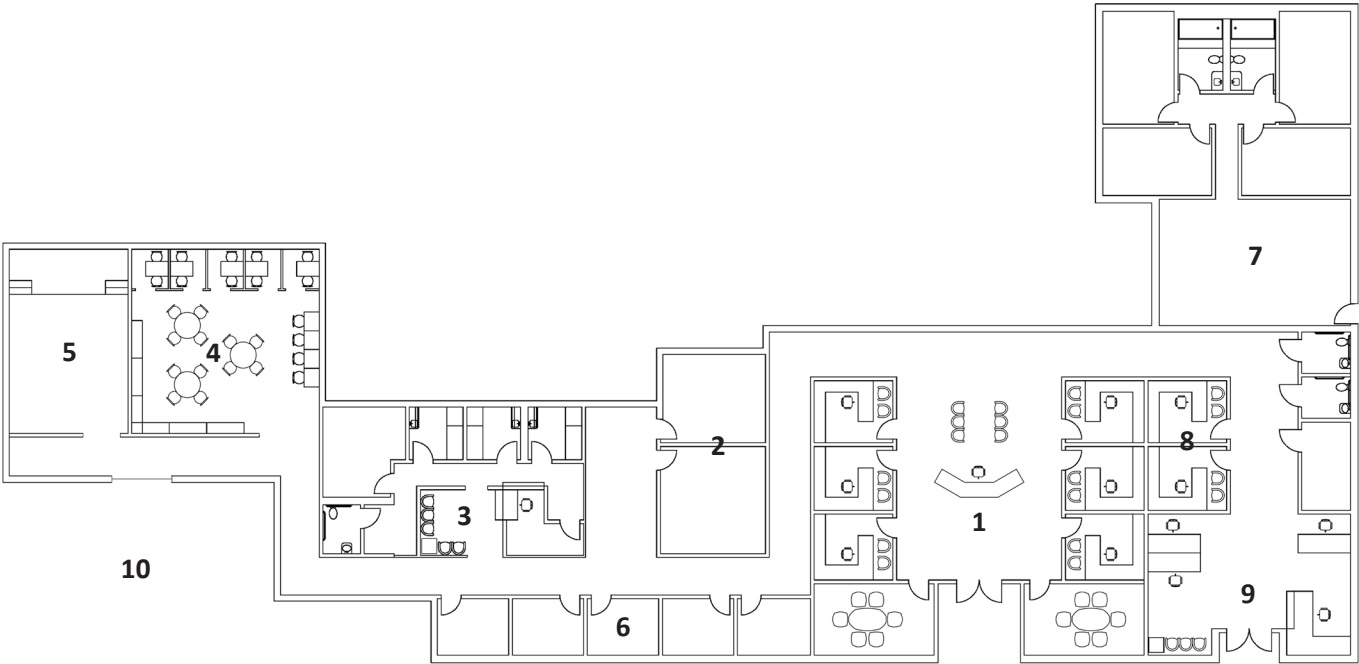
1 Lobby
2 Group Counseling
3 Clinic
4 Multimedia Learning Center
5 Group Instruction Room

6 Individual Counseling
7 Temporary Shelter
8 Job/Housing Placement
9 Community Service Group
10 Outdoor Interactive Area

Palms Street

Hubbard Street

Vernor Highway

Schematic Design/Design Development
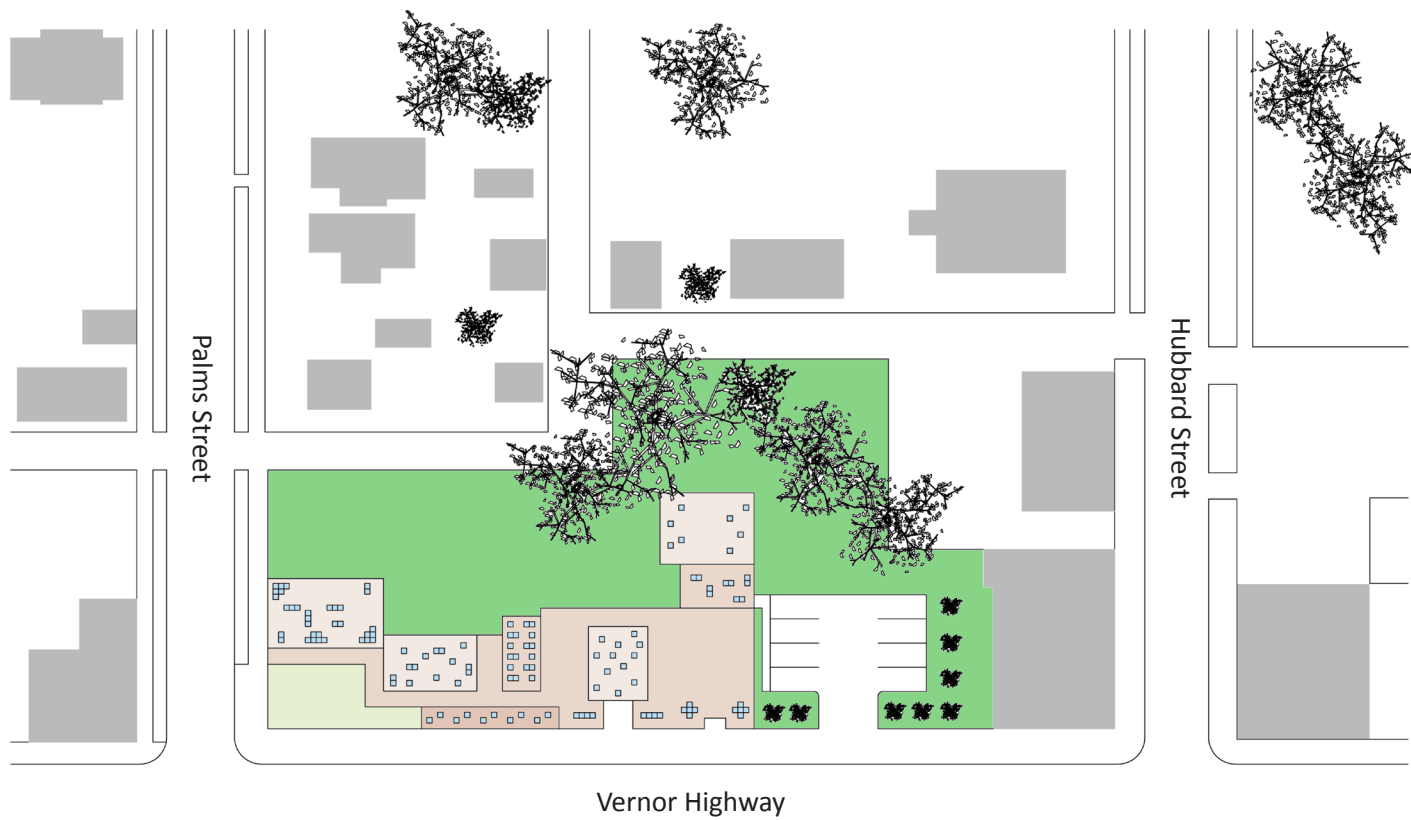
Schematic Design Final Model

The final model below was a combination of all the design work and explorations conducted during the schematic design phase. This model allowed the designer to see how the form worked with natural lighting. Also, the model was also an exploration into possible materials for the facility. Due to the monolithic nature of surrounding buildings, the gang center chose to utilize two complementing materials, metal paneling and ashlar sandstone. While this exploration led to significant design changes in the final design process, this study created a benchmark to further the design.
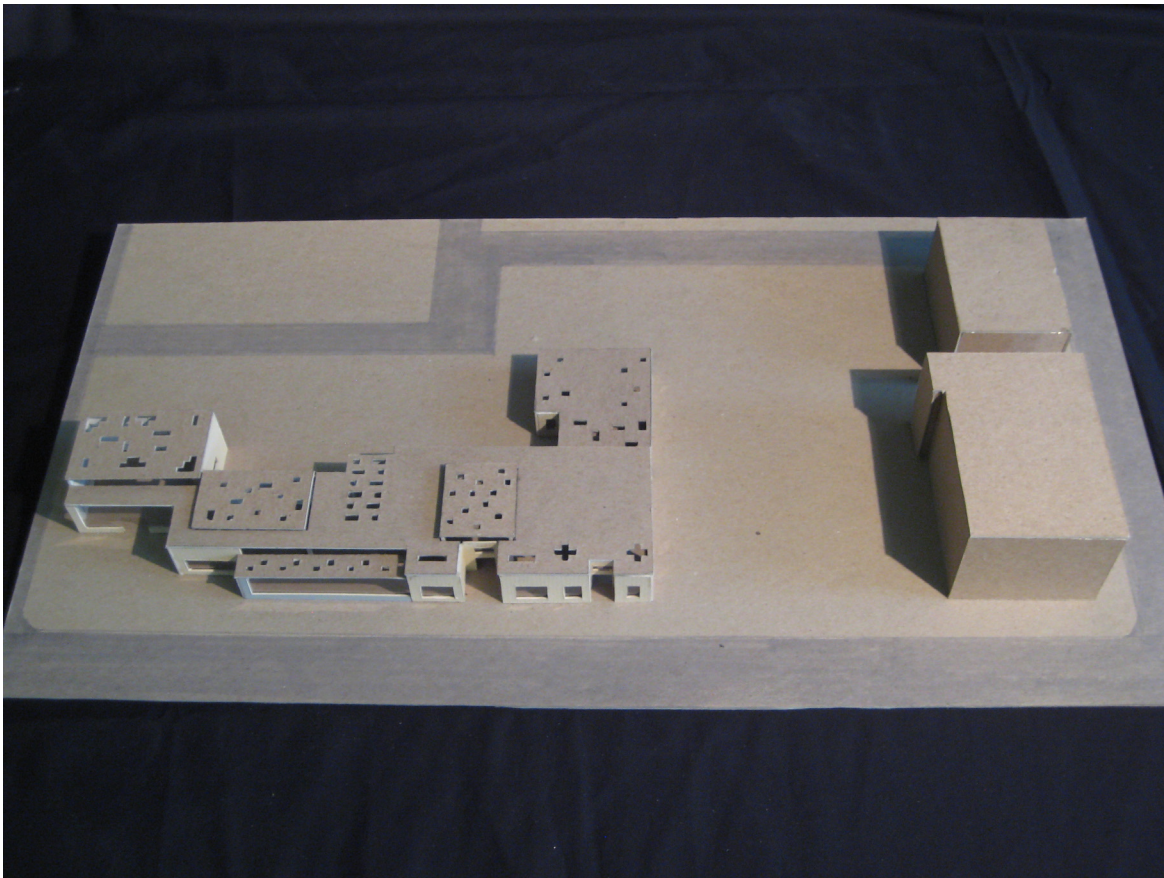
Final Design

The final design process began with a reanalysis of the schematic design phase in order to determine shortcomings with the design concept. In the previous design, there was a lack in overall site planning as well as an excessive amount of circulation given the overall square footage of the plan. The building form did not create an identity desired with this building.

Given these factors, the design began with an assessment of the floor plan and the way the programmatic functions worked in the space. The lobby and reception area was now seen as a central node of the facility. All other functions would work from this main space. This process also allowed for a decrease in circulation which led to an unexpected correlation in increased movement throughout the building. In the final design, the amount of circulation was decreased by a significant margin, but the sense of movement one would experience in the space was reinforced.

The facility was also addressed in a manner that created more interaction opportunities between the users and the general public. From the schematic design, the facility was explored from the pedestrian scale and opportunities were created to allow a stronger sense of community. The overall purpose of this facility was not only to create a safe environment for the users but also to allow for the community to benefit from this facility by creating a radiating sense of safety.

The final design change came in the materiality and form of the building. Due to the current design of other buildings in the area, the building form required further exploration. Many buildings in the Mexicantown neighborhood are single material buildings with little or no pitch to the roof. The concept of utilizing more than one dominant material was also desired in the final design. The overall structure of the building was designed to be exposed and as a result, the building should read as a light facility. The amount of stone used in the original design did not create the light feeling desired. As a result, corrugated metal, modular metal panels, glazing and stone were implemented.
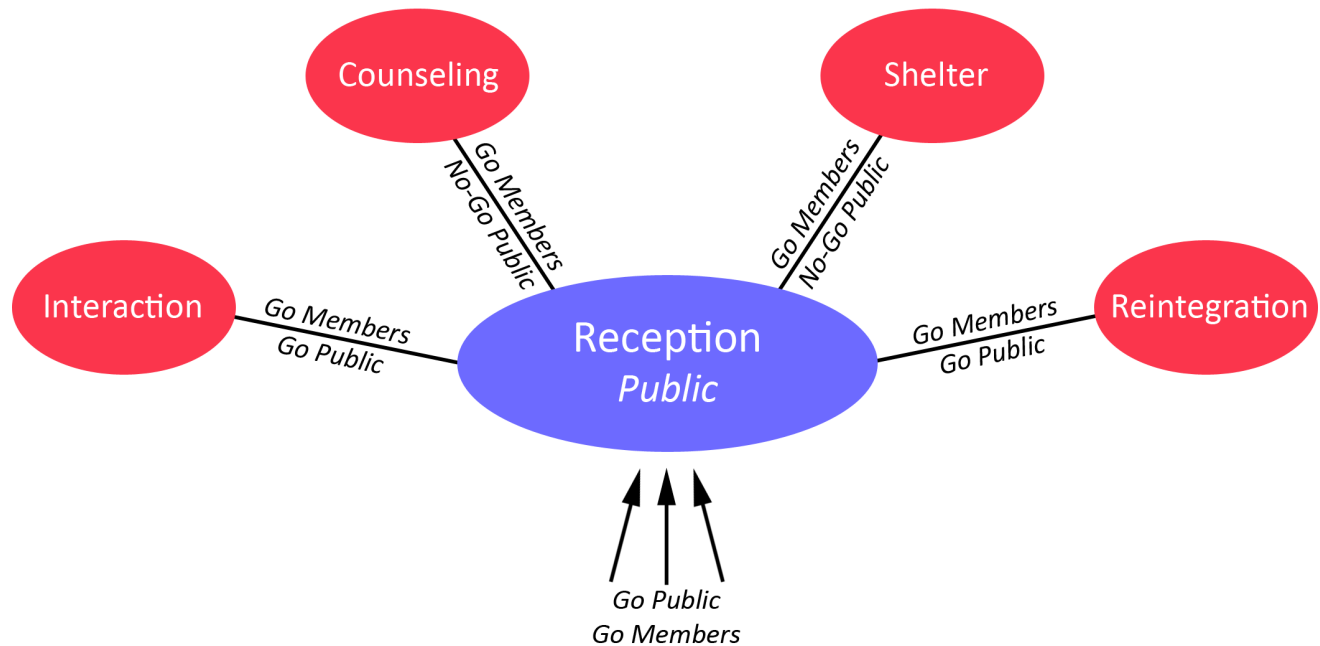
In an effort to better understand how the spaces function with both the general public and the gang members, an exploration was conducted in order to understand the relationship between the public, the gang members, and how the space was to be used. In this diagram, it can be seen that the public is encouraged to participate in the facility. As stated earlier, the reception was designed in a manner that allowed it to serve as a central node. The reception is the only space designated as strictly public, meaning that no analysis needed to be done to understand how a gang members interaction would differ from that of the public. However, in contrast to the reception, other areas needed to be further broken down. Due to the nature of the facility, gang members would be allowed in all functions. In contrast, in certain functions, such as the shelter and counseling, the public would not be allowed to participate.

Form Studies
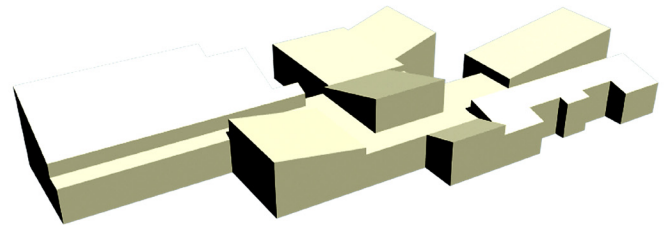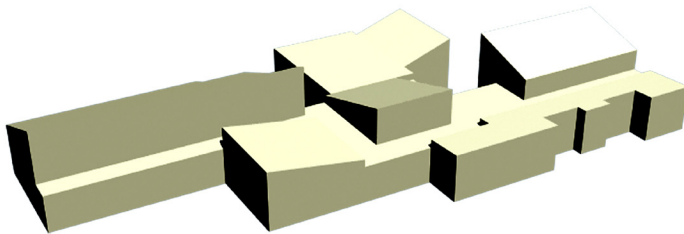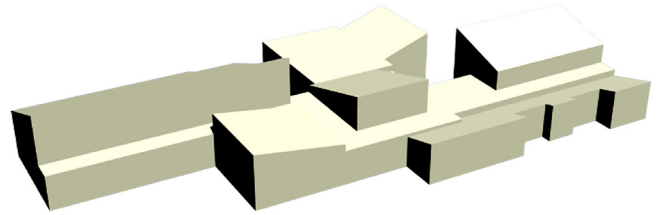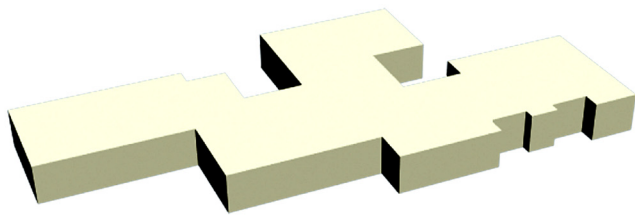
These studies demonstrate some of the concepts explored in the process of establishing a final building form. The form originated from the concept of individually expressing each program within the building, leaving the circulation element unarticulated in height. The slopes were made to be dramatic elements of the building, increasing its presence on the street. A key element used in establishing the form was the amount of light and how it would penetrate the space. The models to the right demonstrate the final form chosen for the building. In particular, the second model designates the areas of prospect and refuge in the building, with blue indicating prospect and red indicating refuge.
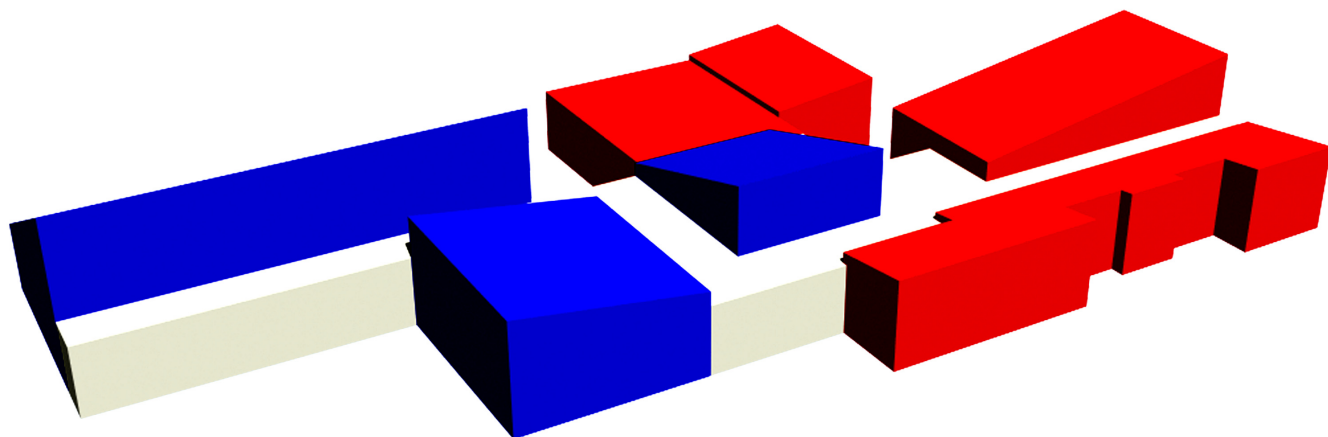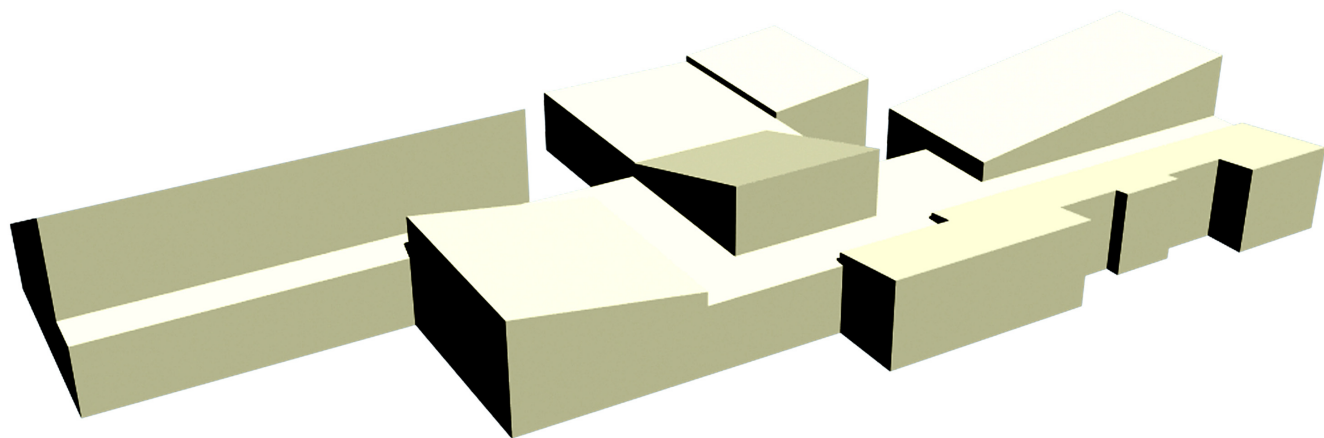
Structural Model

The models shown depict the overall structural system of the gang transition center. The system consists primarily or open-web steel joists and a pitched warren truss. Steel joists are utilized as main structural members in the circulation. The circulation area would consist of a finished ceiling. However, in the other areas, the structural system would be exposed. The purpose of the exposed structural system would be to create an artificial ceiling. In high spaces such as the multimedia center and group instruction room, the bottom of the truss would help in psychologically decreasing the overall scale of the room. The area above the bottom chord of the truss would allow for large amounts of daylighting.
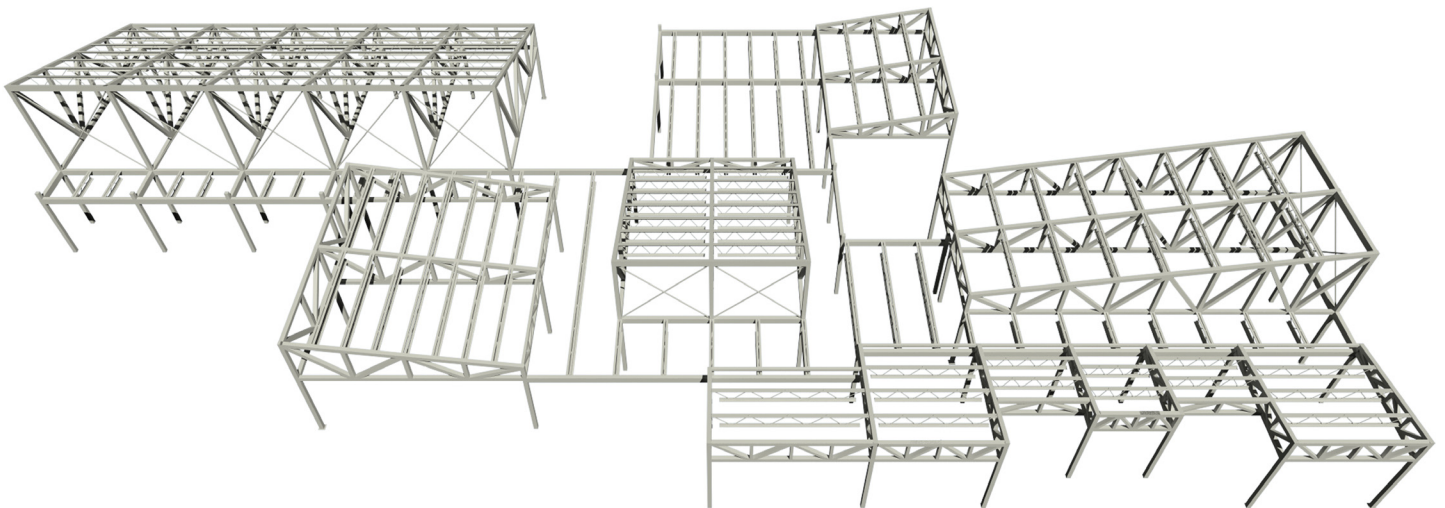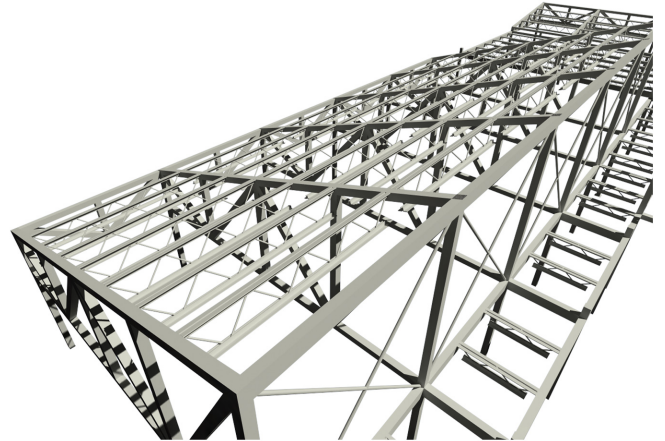
Final Design
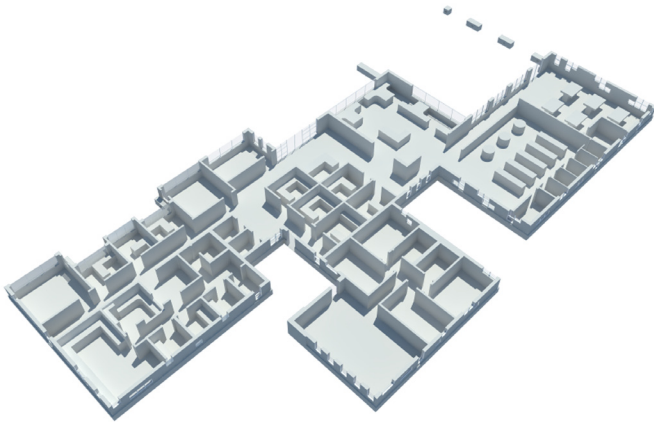
The three dimensional floor plan cut was done as a visual aid to demonstrate the volume of the space and its correlation to movement within the space. If one were to look at a two dimensional drawing of the plan, they would be to see proximity relationships but not volumetric relationships. This study contains all fixtures that one would encounter within any given space. As a result, one would be able to better understand how objects and functions relate to one another.
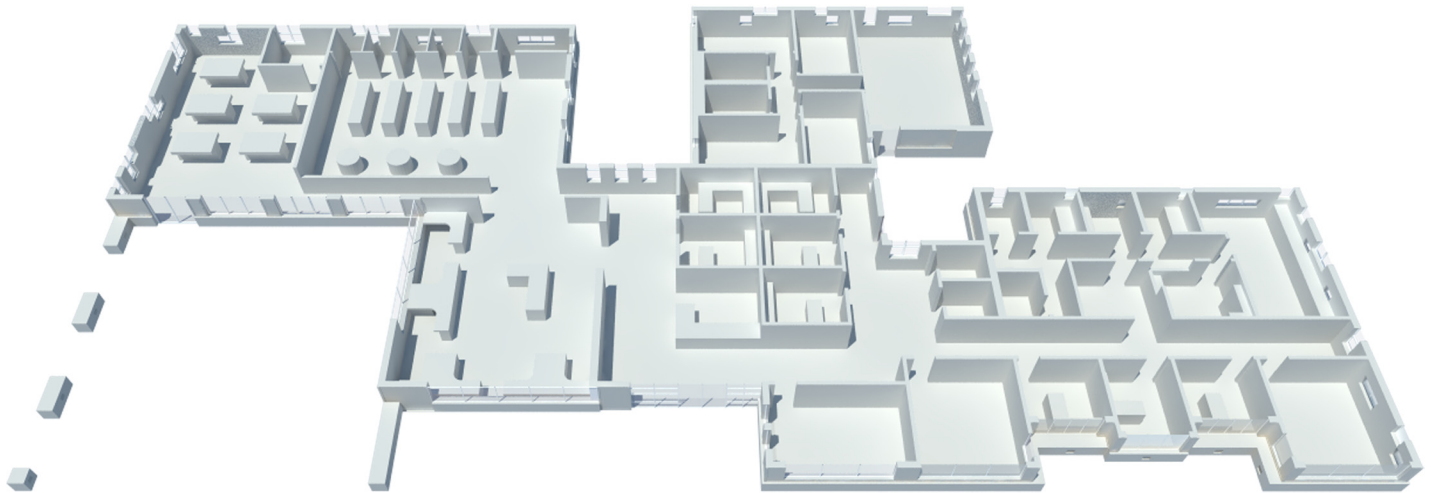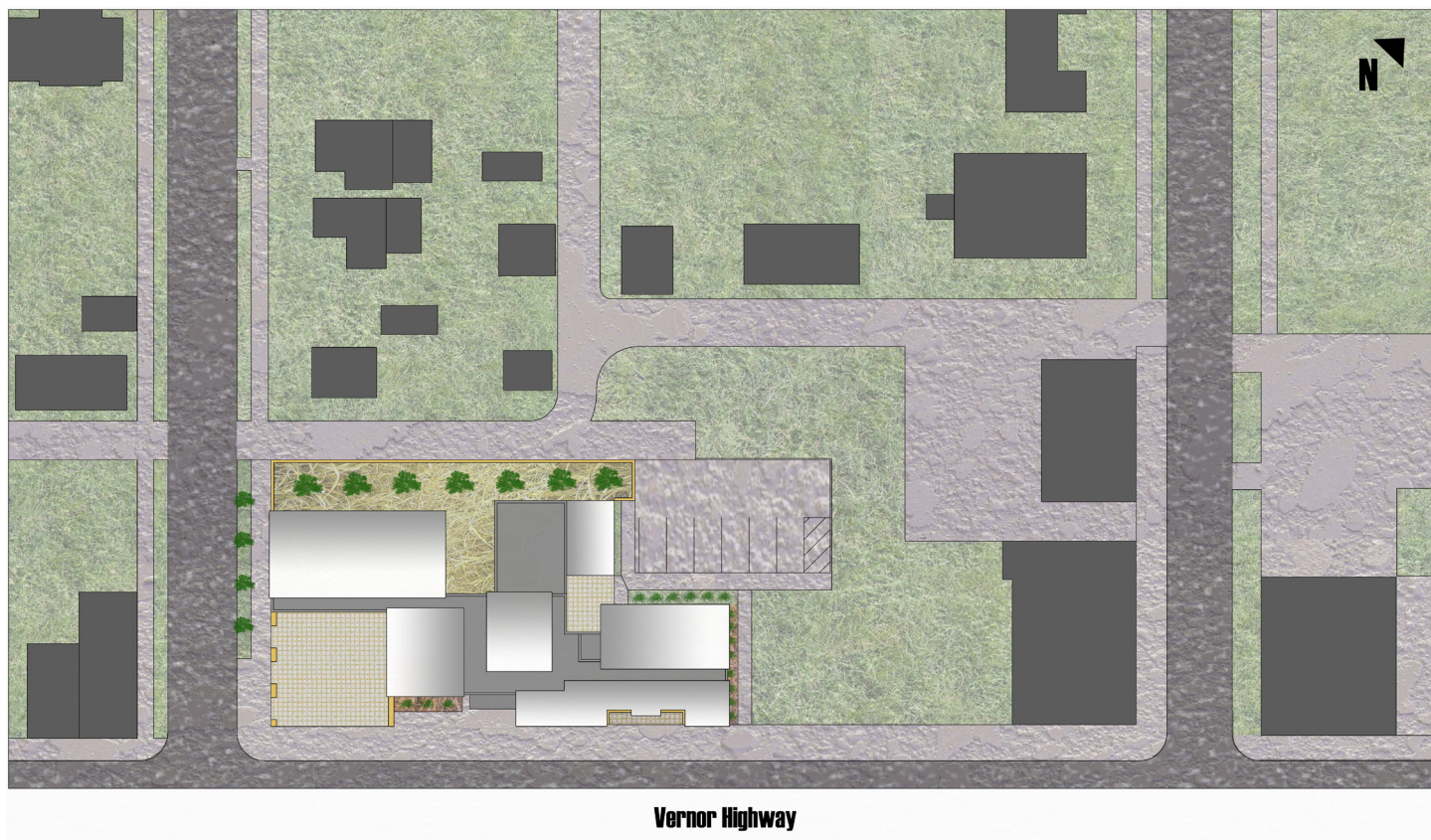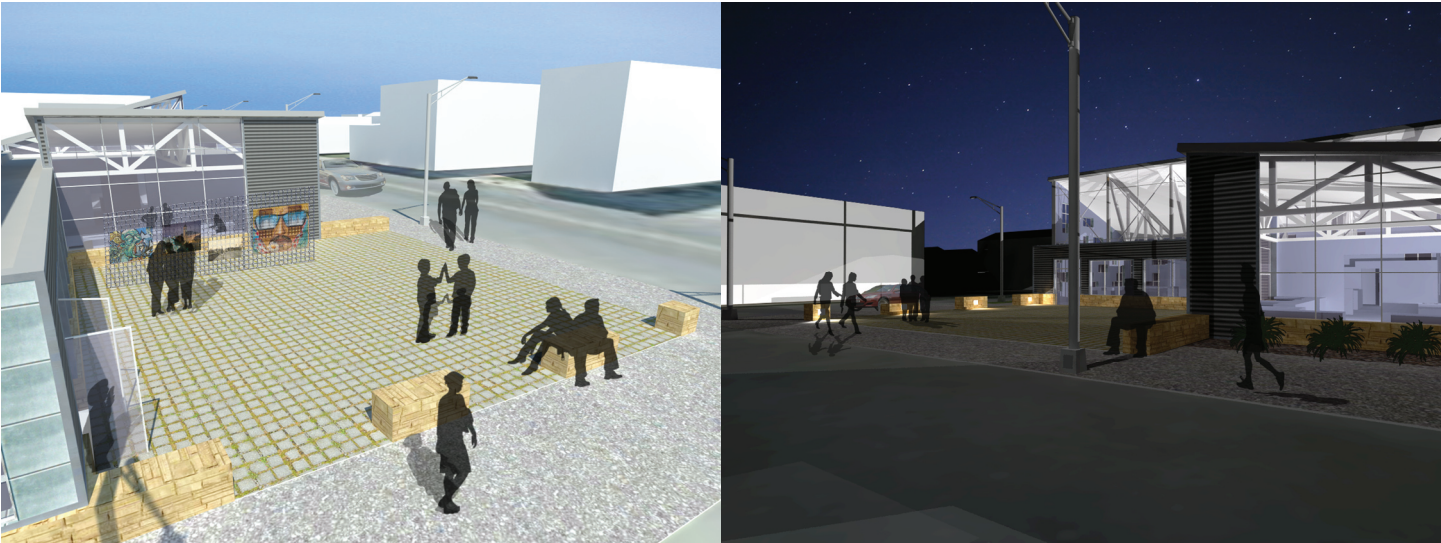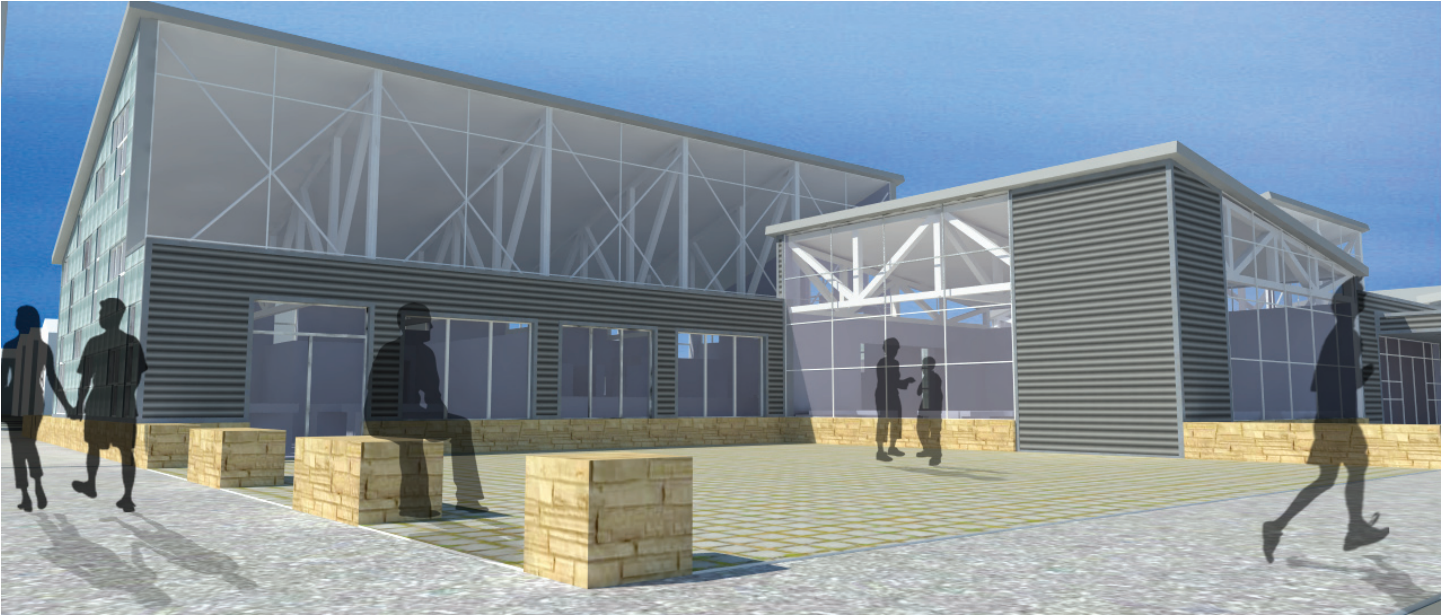

Final Design

Floor Plan

1 Lobby	6 Individual Counseling
2 Group Counseling	7 Temporary Shelter
3 Clinic	8 Conference Room
4 Multimedia Learning Center	9 Community Service Group
5 Group Instruction Room	10 Outdoor Interactive Area

N

Vernor Highway

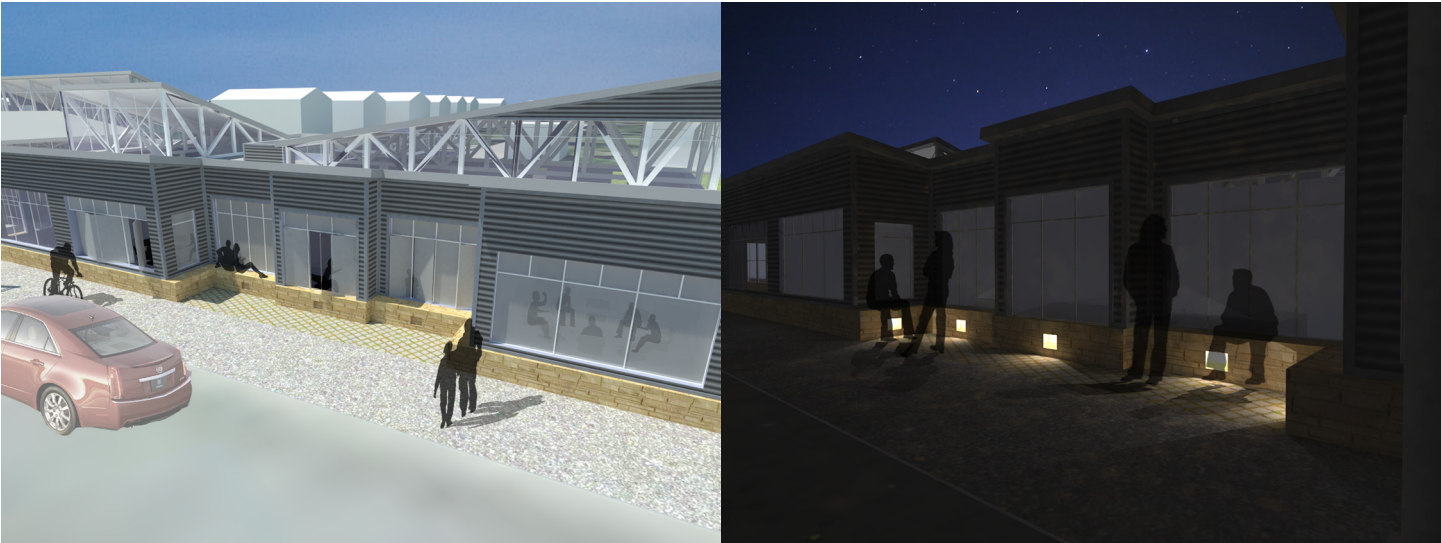Final Design

Outdoor Interactive Space

The outdoor interactive space is one of the key programs within the gang transition center. This portion of the program is the first step of the program where the gang members going through counseling are able to interact with the public freely. In order to assist gang members try to assimilate themselves back into the community, it is important that they have an opportunity to interact with the public while they are "healing". Events such as graffiti art shows or music performances are just a few examples of events that can take place.

The group instruction room has a direct connection with the outdoor courtyard. Large doors serve as the control mechanism, dictating when the public should engage the members. This space not only functions for an art show or exhibit hosted by the center but can serve as an extension of Clarke Park, which is the reason why this space is located on the corner of the site.

Material selection is an integral part of this facility. As seen in the renderings to the left, the building is primarily composed of corrugated steel, modular metal panels, glazing, and ashlar sandstone. The corrugated steel was applied in a horizontal manner in an effort to reduce the scale of the streetfront elevation. Sandstone was applied at the base of the building in an effort to ground it on the site. Also, the stone allowed for the extension of material into the outdoor space. In an effort to establish that this space was part of the facility, stone benches were implemented. Ground covering was also modified in this portion of the facility in order to reinforce the uniqueness of the space. Grass pavers were used as ground covering in order to allow for a wide variety of uses in the space. These pavers can be found in other portions of the facility. The continuation of this material in other locations is meant to dictate areas of gathering and interaction.
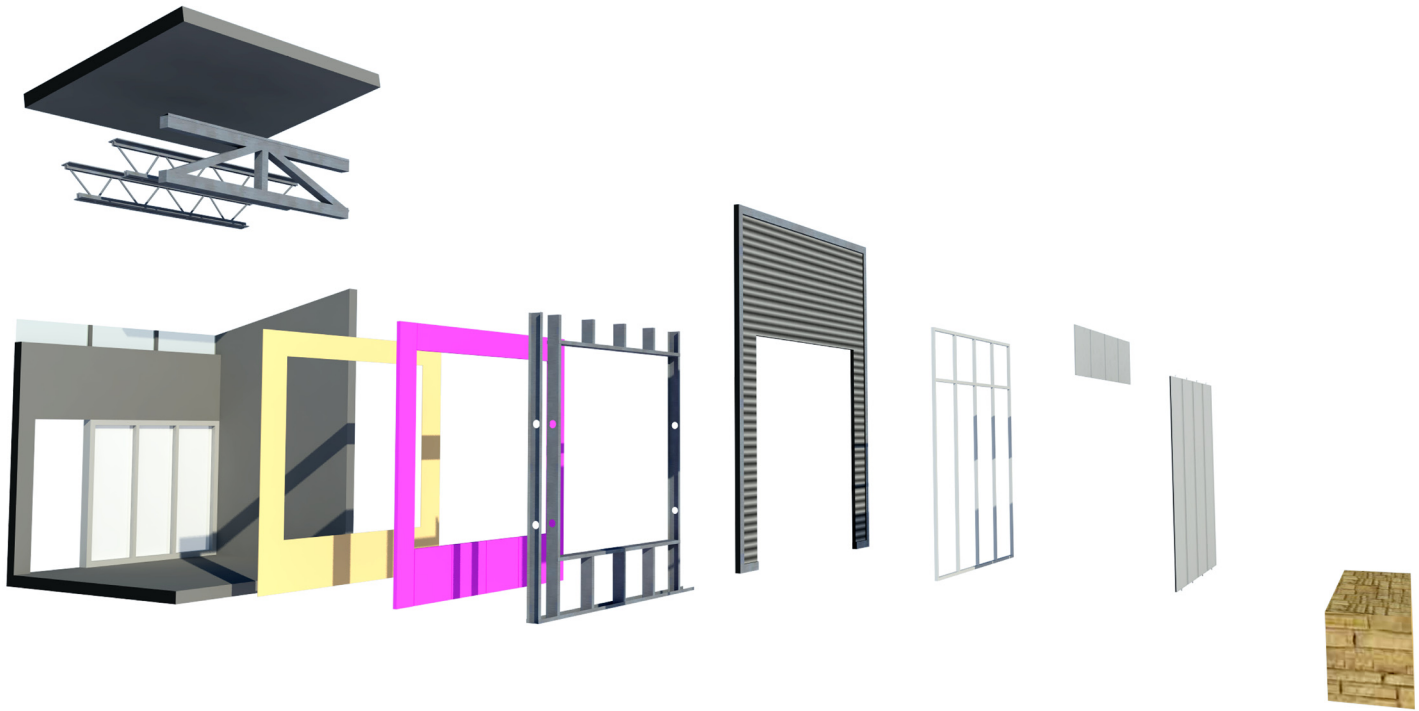
Counseling Offices
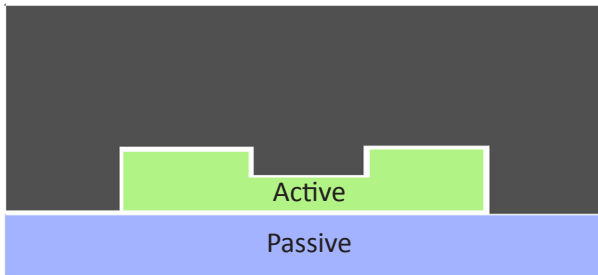
Counseling is the most important program of the transition center and, due to its location, requires the most attention in terms of design. At this stage in the program, gang members have already undergone a tremendous undertaking by deciding to turn their life around. As a result, in many instances they have turned their backs on the "family" relationship known a gang life that had helped practically raise them. Backlash from other gang members is typically a constant fear.

The simple design answer for placing the counseling on the streetfront would have been to place bulletproof glass all over. However, similar to the way a sign indicating risks can alter ones perception of an environment, a material such as that would send the wrong image. Gang members need to feel empowered as they proceed through this transition process. As a result, the ability for gang members to alter their environment became the source of inspiration for this area.

The materiality in this portion of the building has undergone minor transitions from other portions. Traditional glazing has been replaced with a highly translucent style. This begins to address the concept of vision and its correlation to safety. However, in order for gang members to manipulate the environment, the traditional idea of the operable window was revisited. Members are able to rotate the window panels on a pin system that begins to open up the counseling experience to the street. The arrangement of the panels also begins to create a dialogue with the sidewalk.

From the previous design, actively and passively engaging the public became a point of conflict. In the previous design, the counseling offices read as one monolithic wall along the sidewalk, creating no opportunity for public engagement. The offices were manipulated in a manner that creates a small gathering space. Similar to the outdoor interactive space, grass pavers were used in an effort to carry through the idea that these indicate areas on intended public interaction.

Wall Components

In an effort to understand the construction of the center, a three-dimensional exploration was conducted in the form of an exploded wall section. This particular section was taken through the counseling office area in order to understand the most detailed level of design.

The office interior is comprised of a gypsum board skin with translucent glazing lining the interior corridor. The glazing is designed to optimize light transmittance while at the same time providing privacy. This translucent material is found within all counseling offices and group rooms.

Light-gauge steel framing acts as the substructure to which the interior and exterior skins are applied. The interior skin is standard gypsum board and the exterior skin is comprised of corrugated steel. Foam insulation is installed in the cavities between the steel studs.

Exterior glazing in the counseling area is comprised of translucent glazing attached to standard aluminum mullions. The top window panels remain stationary while the tall panels are able to be manipulated by the user. The windows operate on a pin and rubber jamb system. The windows rotate on a central pin while a rubber jamb allows for a tight seal when the panel is returned to the closed position. Movement of these panels is limited and only available to the user on the interior of the facility.

Ashlar sandstone is assembled to create the grounding element of the exterior walls. The sections located outside the counseling areas are manipulated to create makeshift benches, allowing the public to engage the space.
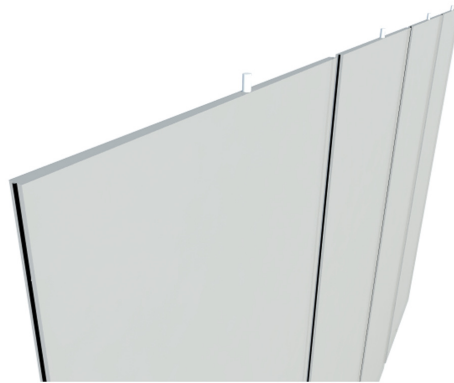

Detail of pin and jamb system
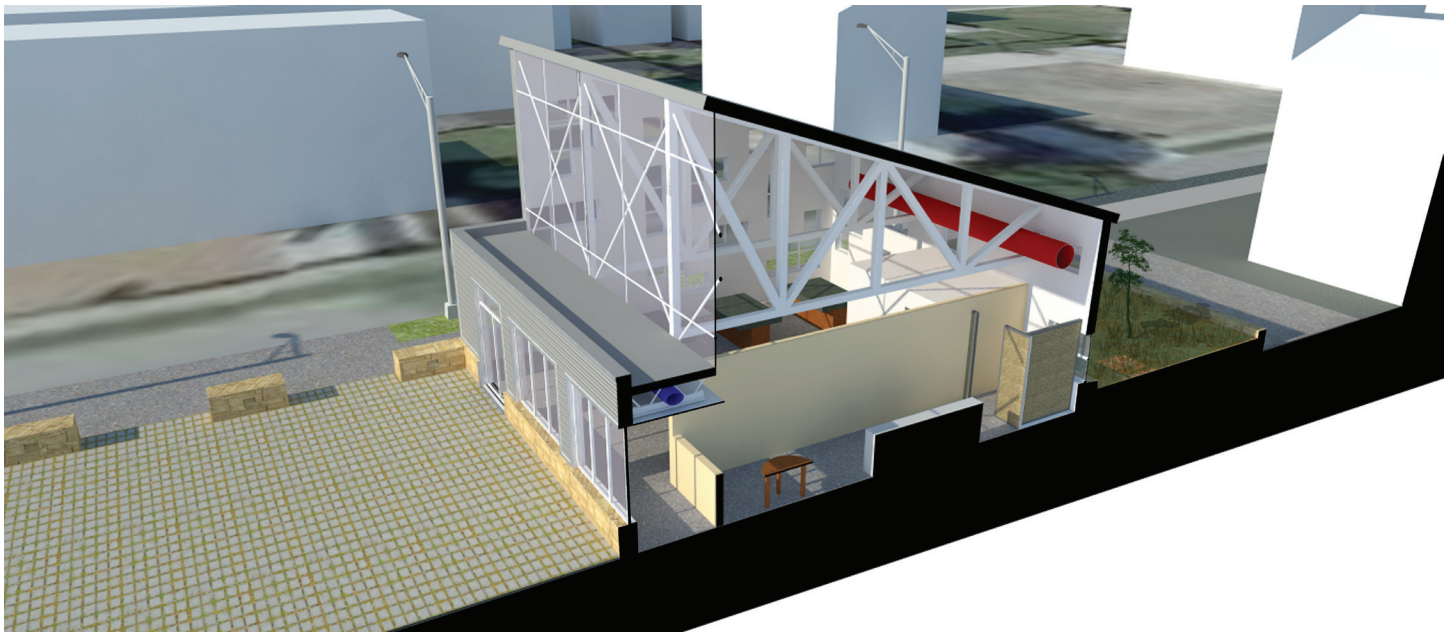
The gang transition center is meant to create a positive identity within the neighborhood by means of creating a safe haven. Along with the large expanses of glazing that allow for light to filter throughout the day and night, other features contribute to making the center successful. In the schematic design, skylighting was utilized in a pattern that was meant to mimic and represent the pattern of transition that a gang member experiences as they move through the facility. The ability to carry this concept through to the final design was lost as a result of the slope in the roof. As a result, this pattern was reflected onto the side and rear walls and follows the same ideas presented in the schematic design phase, using the modular panels as the template for glazing. As a result, the same desired light patterns on the interior of the space from the schematic design phase were achieved. Also, due to the new location on the elevations of the facility, the pattern is now reflected out into the community during the evening hours.

In an effort to address site conditions as well, the proposed United States

Embassy by KieranTimberlake was revisited. In that design, visible public zones were created that could not actually be experienced by the public. The design response in the gang center design was to create an elevated landscape that would attempt to establish a public versus private barrier.

The entrance to the temporary shelter can be seen as one of the most private areas. A member that is utilizing this temporary facility is the only one that has access to this facility. The shelter is connected to the rest of the facility in form only. In an effort to maintain the idea of the receptions serving as a "checkpoint", gang members are only able to access the main facility through the front entrance.
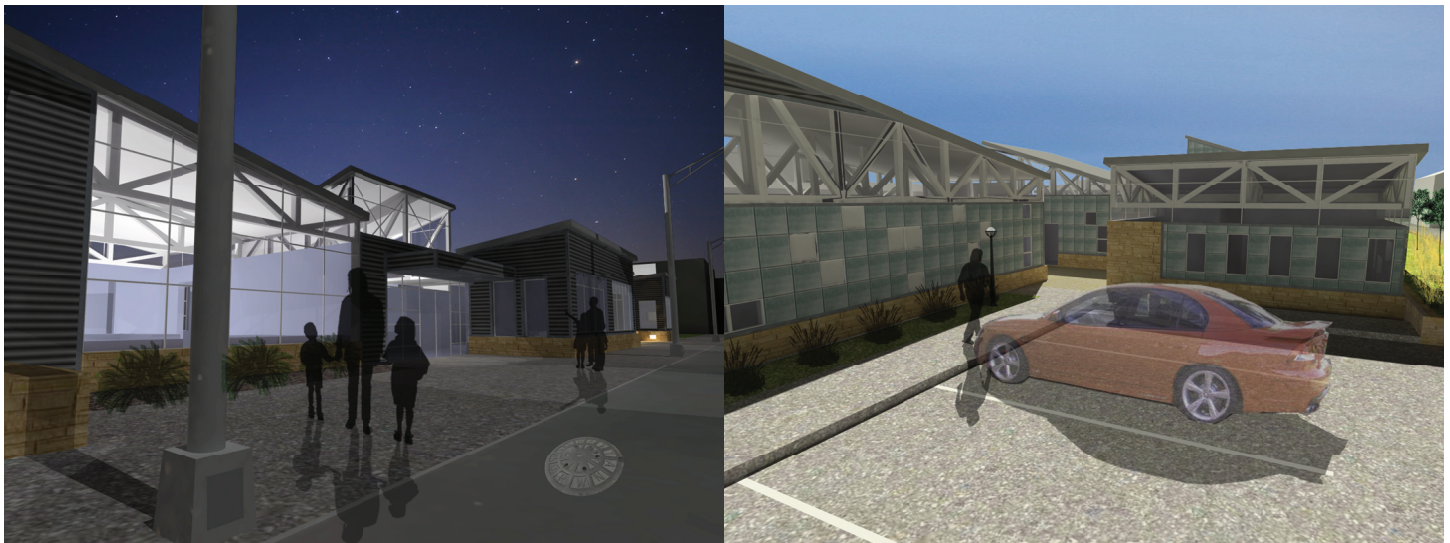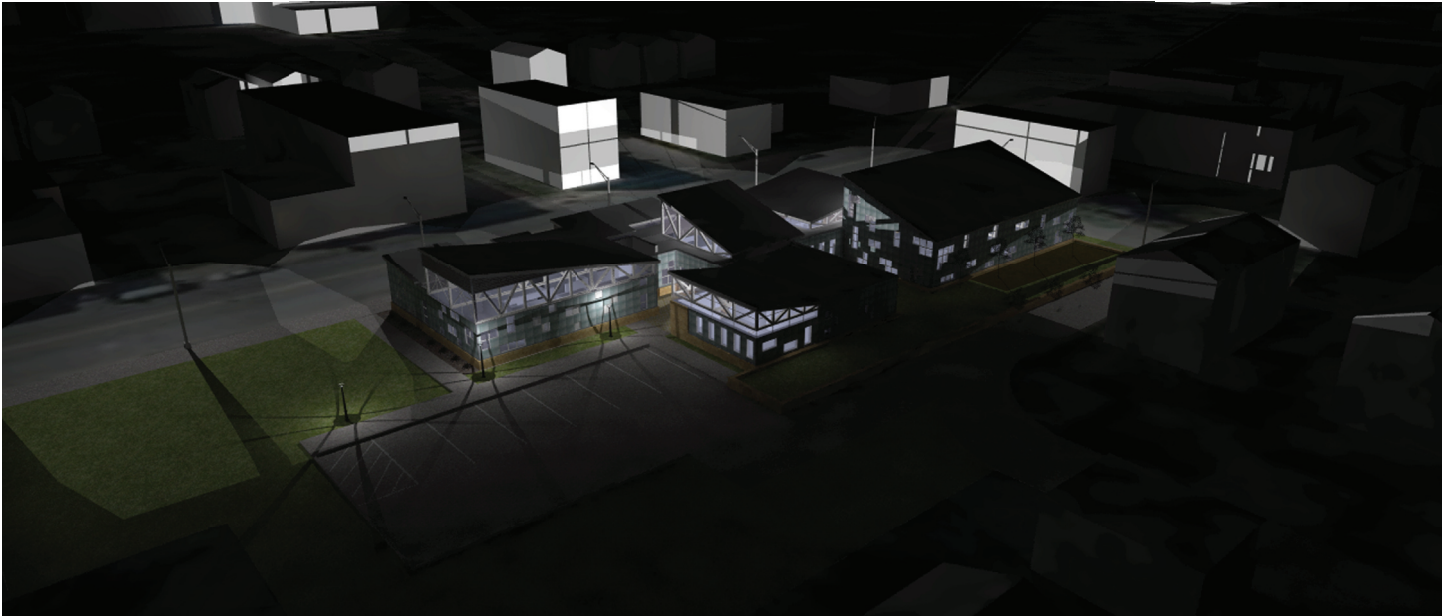
Conclusion

The main theme of this thesis was to understand the approach that a designer might take towards a building in an effort to make the building and its occupants safe. Safety is often rooted in a strong relationship with mechanical security measures. As a result, the goal of the thesis was to attempt to establish how a designer might create an environment if they were not able to use traditional measures such as cameras, fences, window bars, etc.

This project struggled in the beginning with the absence of a program. It was undecided for a long time as to whether or not this would be a large scale exercise or one specific building project. Through research and other explorations, it was determined that the best way to understand how a designer could create a safe environment would be to focus on one specific building project for a user group.

It became necessary to also establish a user group and theory to apply to the project. As a result, it was determined that dealing with individuals, particularly youth, who are at-risk within the urban context would be best as these individuals have specific needs and goals. Originally the project started with multiple possible user groups but then, in an effort to create the strongest possible project, gangs were chosen as the specific user. It became a challenge to find theories surrounding feelings of comfort and safety but the one found based on light, movement and vision created benchmarks for the project to carry forward in the design process.

At this point, it is difficult to conclude whether or not the project was successful until it was implemented. On paper and in theory, the design decisions should have created a safe environment for the user group, but until they are tested at full scale, the effectiveness is not fully known. The goal of the thesis was to understand how the designer would create this safe environment. The program of a gang transition center was simply used as a vehicle to explore this theory. This process was a solid beginning in understanding how a designer might create a safe environment. Further collaboration and implementation would assist in determining the overall effectiveness of these measures.

Bibliography

Bibliography

Alexander, Christopher. A Pattern Language. New York, NY: Oxford University Press, 1977.

American Institute of Architects. Security Planning and Design: A Guide for Architects and Building Design Professionals. Hoboken, NJ: John Wiley & Sons, Inc., 2004.

Atwood, Jeff. "Coding Horror: The Broken Window Theory." Coding Horror Programming and Human Factors. 23 Jun. 2005. Web. 15 Sep. 2009. <http://www.codinghorror.com/blog/archives/000326.html>.

Buckley, Cara. "Security Barriers of New York Are Removed." Hew York Times 07 Oct. 2006: n. pag. Web. 1 Oct 2009. <http://www.nytimes.com/2006/10/07/nyregion/nyregionspecial3/07bollard.html?_r=2>.

Clarke, Ronald V. Situational Crime Prevention: Successful Case Studies. New York, NY: Harrow and Heston Publishers, 1992.

Coaffee, Jon, David Wood, and Peter Rogers. The Everyday Resilience of the City: How Cities Respond to Terrorism and Disaster. New York, NY: Palgrave Macmillan, 2009.

Felson, Marcus, and Richard B. Peiser. Reducing Crime Through Real Estate Development and Management. Washington, D.C.: Urban Land Institute, 1998.

Murphy, Diana. Design Like You Give a Damn: Architectural Responses to Humanitarian Crises. 4th ed. New York, NY: Metropolis Books, 2006. 208-209.

"New U.S. Embassy in London." KieranTimberlake ISO. KieranTimberlake, 23 Feb 2010. Web. 14 Apr 2010. <http://blog.kierantimberlake.com/new-us-embassy-in-london-488>.

Bibliography

Newman, Oscar. Creating Defensible Space. Washington, D.C.: U.S. Dept. of Housing and Urban Development, Office of Policy Development and Research, 1996.

Ouroussoff, Nicolai. "A New Fort, er, Embassy, for London." New York Times 23
Feb 2010: n. pag. Web. 23 Feb 2010.
<http://www.nytimes.com/2010/02/24/arts/design/24embassy.html>.

Purpura, Philip P. Security and Loss Prevention: An Introduction. 5th. Burlington. MA: Elseiver Butterworth-Heinemann, 2008.

Schneier, Bruce. "The Architecture of Security." Wired 19 Oct. 2006: n. pag. Web. 22 Aug. 2009. <http://www.wired.com/politics/security/commentary/securitymatters/2006/10/71968>.

Sorkin, Michael. Indefensible Space | The Architecture of the National Insecurity State. New York, NY: Routledge, 2008.

Sorkin, Michael. Starting From Zero, Reconstructing Downtown New York. New York, NY: Routledge, 2003.

Stamps III, Arthur E. "Enclosure and Safety in Urbanscapes." Environment and Behavior 37.102 (2005): 102-33.

Torres, Fr. Mark. Personal Interview. 22 January 2010.

Witkowski, Dr. Michael. Personal Interview. 13 October 2009.

Bibliography

For my friends and family...

thanks for putting up with me these past five years