

## MEMBERS ONLY

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30 April, 2010



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## ABSTRACT

The desire to be self-reliant perpetuates the American way of life. The American dream is to be able to provide personal possessions for one's self. One needs to look no further than the aspiration of most citizens to own elaborate houses and drive nice cars to see this dream exemplified. Unfortunately, the highly-valued independence that most Americans seek perpetuates isolation, whether people realize it or not. In other words, the desire for self reliance and ownership inadvertently contributes to isolation. This idea of not relying on anyone else is absurd, and for most Americans, impossible. Even in our increasingly mobile, technologically-driven society, which tends to focus on quick, factual messages disconnected from physical presence, the recent flurry of activity on systems like MySpace, Facebook and Twitter, suggest that people still desire meaningful interactions with others. In addition, forsaking communication in person is antithetical to our ability to create sustainable communities. These increasing desires to be self-sufficient have created a crisis that, in turn, creates an opportunity to renew face-to-face social interaction and reduce self-imposed isolation.

America's emphasis and value on ownership, a direct result of the deep-rooted American concept of independence, has had a negative impact on the amount of face-to-face social interaction citizens experience. This decrease directly contributes to isolation, which is manifested in the most common aspects of our daily lives - from the cars we drive to the places we live. However, architecture can play a significant role in the necessary shift to stronger face-to-face, real-time social interaction. While ecological and sociological elements must be considered, architecture can democratically design infrastructures that facilitate events that would encourage sustainable interaction and sharing.





## THESIS PAPER

The American ideals of independence, self reliance, and ownership are still deeply engrained in our culture and in our attitudes. The combination of these values, the availability of land, and the automobile further contributed to the isolation of the typical American.

The idea of personal ownership is simply not sustainable. As a society, we cannot go on accumulating mass quantities of personal possessions without having a negative impact on the environment and society as a whole. Shared amenities such as artist's collaboratives, business incubators, and bike or car share programs are a much better alternative to the more common paradigm personal ownership.

A better alternative to ownership would be sharing facilities where social interaction could foster a sense of community. This project will investigate ways that architecture can provide places that are free to everyone by incorporating various activities conducive to the use of multiple demographics. By investigating a community's activities and interests, a place can then be designed around common activities, thus creating community involvement and social interaction. As society evolves, communities develop different needs that the current infrastructure may not provide. This project will develop communal facilities to get people out of their personal setting and into a social community setting.

Independence is firmly rooted in American ideology. One primary reason for American colonization was the opportunity for most white men to own property, rather than only noblemen. Indeed, the United States as a country originated after a hard-fought battle for independence and citizens have taken pride in maintaining it ever since. Independence is a concept that is not only celebrated with a national holiday, but reflected in everyday life - from the major legislative principles that govern our actions to the continual outbursts from rebellious teenagers. Along with this independence, Americans take pride in being able to support themselves. Right from the start, we as Americans carved out pieces of this vast landscape to call our own. Because of the relatively recent settlement of America and the amount of open land this country has to offer, America's development policy has been to exploit

the amount of "unused" land. American cities constantly sprawl out over the vast landscape, carving out individual, isolated plots. The idea of ownership has thus been instilled in us since the birth of America.

The importance of American ownership is exemplified by our suburban houses. Most families, both historically and today, desire to have their own private home. After World War II, government loans and banks made it very easy for typical Americans to acquire private homes. The epitome of this desire of personal ownership and accumulation of wealth is demonstrated in the "McMansion." McMansions are often found with industrial-sized kitchens, elaborate great rooms and home theater systems. On a day-to-day basis, these amenities are not used efficiently and are often times unnecessary.

With home ownership a steady staple, it is no surprise that cars became yet another necessity for every American. On one hand, automobiles offer people an opportunity to connect. In our increasingly mobile society, people can now choose to work in large, international offices with hundreds or thousands of colleagues instead of on small farms or in town shops. In addition, people can easily travel to visit family and friends.

However, the impact this mobile culture has had on our settlement patterns has further separated and isolated people in two ways; both by the nature of vehicles themselves as well as the roads they require. Vehicles are quite literally barriers between the occupant or occupants inside and the rest of society. When people are in their vehicles they do not associate with others; they become lost in their own world. Indeed, a packed highway at rush hour is not a social experience. Driving is a solitary activity.

In addition to the immediate source of isolation that vehicles create, the impact of the vast network of roads also results in separation and isolation. The automobile became widely used relatively soon after its conception and played a major role in the development of America's expanding cities. European cities, and older cities in general, tend to be dense because they were built around the idea that everything is within the city walls. They were also constructed during a time when practical travel

distance was limited. Yet because the United States was a growing country when the automobile became popular, cars and roads had a greater impact on urban planning than in most European cities. Putting distance between family, friends, and jobs became less of an obstacle.

The American side street, which is often the narrowest and slowest public street in a given city, provides a right of way, sidewalk, and often a front yard for the homes in a subdivision. This space typically creates a 100-foot separation from one house to the house across the street. To look at our European counterparts, where the street is much narrower with no yard, the adjacent fronts may only be 20 feet away. Furthermore, in the United States, subdivisions are isolated from each other due to the strict hierarchy of street types. In addition, the uniform grids further separate neighborhoods. The name itself implies that subdivisions are divided. In short, the very roads intended to connect people and places also provide several layers of distance - from neighbors to subdivisions to communities. The American ideals of independence, self reliance, and ownership are still deeply engrained in our culture and in our attitudes. The combination of these values, the availability of land, and the automobile further contributed to the isolation of the typical American.

However, this isolation through personal ownership is not sustainable. By the mid 20th Century, keeping up with the Joneses meant that everyone on the block needed to own their own lawnmower, for example, even though it would only be used a few hours a week. A better alternative to this might be one lawnmower that is shared among many. This would reduce the consumption of resources due to less demand to manufacture lawnmowers, as well as reduce resources used in the maintenance, usage, and storage of this equipment. This small example can be applied to various aspects of daily life.

As well as not being sustainable, the desire to become autonomous inadvertently causes detachment. All these elements of self reliance and ownership contribute to isolation. Whereas, to use the example mentioned above, sharing a lawnmower could potentially increase social interaction between neighbors.

To further explore the nuances of social interaction associated with sharing, consider the simple act of sharing a meal. This is possibly the oldest act of social interaction, but it has recently become more of an isolated activity. First, instead of going to a butcher or baker, mega-grocery stores make it convenient to get everything you need in a single place. Due to our hyper-efficient consumer culture, it is possible to do a weeks worth of grocery shopping in just a couple of hours, diminishing our relationship with the baker or butcher on a local scale. Furthermore, whereas frequent or daily visits for items like dairy would have been necessary in the past, preservatives and refrigeration make it possible to go home and store the food in a freezer or pantry until it is needed. The preparation of the food has also become an isolated activity. Finally, due to hectic work or school schedules, people often eat meals alone. One needs only to wander down the frozen foods aisle to find T.V. dinners, individual pizzas, and other “meals for one” readily available. Technology, like the microwave, has helped further facilitate the ability to prepare single portions to eat alone.

This shift in the mode of social interaction spurred on by digital technology is a trend that extends beyond mealtime. For example, the recent influx of electronic communication devices has made it easy for people to isolate themselves. Cell phones, emails, and video conferencing, while ironically designed to facilitate communication, are becoming an essential part of contemporary life, people become even more isolated on a face-to-face level. The argument could be made that people are able to communicate with others on a global level, but this does not promote real-time local social interaction. Instead of talking with someone face to face, more and more interactions take place without the benefit of interpreting non-verbal communication or real-time dialogue.

These increasing desires to be self-sufficient have created a crisis that, in turn, creates an opportunity to renew face-to-face social interaction and reduce self-imposed isolation. Therefore, the goal of this thesis is to promote face-to-face interaction.

The benefits of social interaction - which include creating a sense of belonging, prompting collaboration, and reducing

stress - impact not only individuals, but entire communities. In addition to these significant benefits, other forms of sharing may also result from interaction because, when people interact, they are likely to share ideas, materials, and spaces.

Sharing is a positive outcome both ecologically and sociologically, contrary to private ownership, which is not sustainable in either account. From an ecological standpoint, sharing has benefits that can have an impact beyond the local community. Sharing infrequently used items reduces the need for the manufacturing of these items, thus reducing the consumption of goods and resources. Sharing is not only sustainable from an ecological standpoint but also from a sociological one. When sharing common items, one is tied more closely to their community. These ties further promote the benefits of social interaction.

As mentioned earlier, the American sense of independence is deeply rooted in our culture. A change in the attitude of Americans across the nation needs to take place in order for de-isolation to occur. It is in this necessary shift that architecture can play an important role. Creative programming opportunities can be created that will encourage social interaction and are conducive to group activities. The cohousing model demonstrates this kind of programming that encourages face-to-face interaction.<sup>1</sup> The architecture itself can also assist in increasing the opportunities for social interaction. Just as automobiles, mega-grocery stores, and advances in technology have made it easier for people to be isolated, architecture can make it more convenient and pleasant for people to interact with each other. However, architecture alone cannot combat the lack of face-to-face interaction; political, economic, and social elements are integral as well.

In order to better understand the social aspects of architectural places, one must first explore what works, what doesn't, and why. Researcher William H. Whyte, found that three main elements - groups, activities and areas - are necessary for social interaction to occur.

The first element, the group, stemmed from Whyte's research of public plazas and was further demonstrated through Whitney North Seymour Jr.'s research. Seymour

investigated small urban parks in Brooklyn, and came to the same conclusion that, among other things, involvement is a key issue for social interaction.<sup>2</sup> Expanding upon this concept, Whyte developed and directed the Street Life Project. The Street Life Project was a group concerned with human behavior in urban settings. They conducted several studies to determine why certain public spaces work and others do not. Various analyses conducted by the Street Life Project revealed several behavioral conditions. Research showed that even though few people would say that they like to be in the middle of a large crowd, they tended to congregate in high traffic areas. This causes congestion; thus, groups grow exponentially. In other words, "What attracts people the most, it would appear, is other people."<sup>3</sup>

In addition to simply having a group of people present, the Street Life Project discovered that, in order for a public space to be a success, an activity for people to talk about or interact with must be available. Activity, as defined here, is a certain stimulus required for a public place to work: "I call it triangulation. By this I mean that process by which some external stimulus provides a linkage between people and prompts strangers to talk to each other as though they were not."<sup>4</sup> Almost anything that draws attention creates the triangulation effect, including bands, street performers, and sculptures.

The third element for social interaction success, as determined by Whyte, is an area. In order for groups to interact, there needs to be an area that is conducive for congregation. Some areas are more advantageous for face-to-face social interaction than others. A well-designed area has to have several elements for it to be a success: location, proximity, and spatial arrangement. In other words, the architecture itself can create better opportunities for social interaction.

While architecture can help provide the means for social interaction, other elements must be considered. On a global scale, customs, beliefs, and regulations can affect the acceptance or use of the architecture. In certain environments, due to cultural and religious beliefs, some programs will be more accepted than in other settings. An extreme scenario would be a pig roast in India, where,

due to Hindu beliefs in the area, eating pork would be viewed as taboo. On a more specific level, the location of the architecture with concern to traffic patterns, visibility, and ease of use are a primary consideration. Clearly areas that are in a highly trafficked location with plentiful parking would be a more desirable place for congregation than a remote location in an area considered to be unsafe.

As opposed to a relationship to geographic locations, proximity deals with the relationship to activities and events. There is a much greater success when an interactive area is in proximity to other places of interaction. A building in a busy downtown packed with shops, restaurants and theaters, for example, would be more likely to thrive than one located on a residential side street because people are more likely to go to the downtown for the variety of entertainment it offers. The venues tend to draw on each other, which results in a synergy that builds upon itself.

In addition to location and proximity, architecture may either promote or hinder social interaction spatially. The arrangement and layout of places can help or hinder interaction. Certain shapes are more conducive to interaction than others. For example, a circle with the seating facing out is less likely to encourage communication than with the seating facing in.

The spatial arrangement should also consider traffic patterns in order to promote the opportunity for increased interaction as people move through a space. The Kasbah scheme in Hengelo, by Piet Blom, is an example of how spatial relationships effect public interaction. Regarding the Kasbah scheme's spatial arrangement, theorist Herman Hertzberger states, "The dwellings are too isolated from the street below - they are, so to speak, turned away from it, they face upwards, and not much of the street can be seen from the windows, while even the entrances are indirectly positioned vis à vis the street."<sup>5</sup> Clearly, proximity and architectural arrangements have a significant impact on public space.

In addition to looking at the social aspects of architecture, the concept of sharing and how it applies to architecture is relevant. Because sharing promotes social

interaction, it is important to consider communal activities. Cohousing offers one possible model for alternative forms of community involvement and provides a working example of how certain common facilities can be shared. The basic concept of cohousing is that each member of the community owns relatively modest private living facilities that provide enough space in which to live comfortably, but normally do not have a lot of added amenities.

However, the members of the community share a common house, which has much more elaborate facilities as well as additional amenities. These facilities are partially owned by everyone and fully owned by no single person. Thus, everyone in the community can enjoy a wide variety of activities and can also share the burden of cost and maintenance. However, these communities are commonly arranged around the common house or courtyard. Cutting itself off from the neighboring communities.

Clearly, not all aspects of cohousing apply to the idea that architecture can facilitate social interaction. Cohousing communities are typically created by a group of proactive people that share a vision and have committed to a certain lifestyle. This is a far cry from the architectural goal of creating a space that is open to all members of the public. In addition, cohousing communities tend to be self-sufficient, which, while fostering interaction among members, inadvertently leads to further isolation from the surrounding area. The architectural goal of promoting social interaction among a diverse group of people must then take other examples into consideration.

Another form of communal sharing that may serve as a model is bike share programs. Bike share programs are becoming more and more popular in major cities around the world and on college campuses. Until 2006, public bike systems were virtually unknown in North America. However, they have been widely used across Europe for nearly two decades and have been in existence for nearly 50 years. "...[R]ecently there has been a groundswell of interest that has surged across the continent [North America]."<sup>6</sup>

There are many different forms of bike shares. Some offer free use of bicycles, some have nominal rental fees, and

still others have restricted use. The financial aspects are also handled differently. Some systems are provided by the government, while others have corporate sponsorship. However, the central idea is the same with all forms - that a person can use a bike from any location, ride around town, and return it to either the same station or a different one. With access to communal bikes, individuals can have all the benefits of ownership without the negative aspects, like purchase, storage, and upkeep. Much the same as the idea of communally shared bikes, this thesis will explore other amenities that can be shared within the community.

Therefore, as a way to test this concept further, a series of places will be designed as the infrastructure to facilitate face-to-face interaction. These places will be available for anyone in the community at any time. The activities, being the driving factor for social cohesion, will be things that people in the community want to do, but do not have the means to do individually.

To attract people, one of the key aspects of these facilities is to design them so that they are open to everyone. To use the cohousing example as a metaphor, these facilities will turn the courtyard inside out. The individual blocks literally become an external courtyard just as the city as a whole, metaphorically, becomes the courtyard.

Another requirement for success is that the facilities create a healthy congestion, feeding on preexisting interaction. As noted by Whyte, a certain amount of congestion is necessary to spur on interaction.

In order to explore what sources of triangulation are necessary, an investigation of preexisting activities will demonstrate what types of programs will be advantageous. These programs will be inserted into places that have preexisting social interaction. The idea is that each place of interaction can draw on surrounding activity to fuel its own, creating an exponentially growing place for people to interact. Several of these programs will overlap as a way to get people to mix in unexpected ways.

It is also important to consider that these programs are not intended to shelter or replace the events and activities that exist in the community. Those events and activities

are meant to give insight into the interests and participation level of the community.

In addition, this thesis is not meant to be realized. Therefore, investigations into the funding of such projects have not been developed in detail. However, funding could be provided similar to a library - with taxpayer money, with federal funding assistance, or with possible private sponsorship.

In conclusion, America's emphasis and value on ownership, a direct result of the deep-rooted American concept of independence, has had a negative impact on the amount of face-to-face social interaction citizens experience. This decrease directly contributes to isolation, which is manifested in the most common aspects of our daily lives - from the cars we drive to the places we live. However, architecture can play a significant role in the necessary shift to stronger face-to-face, real-time social interaction. While ecological and sociological elements must be considered, democratically designed architecture can facilitate events that would, in turn, encourage sustainable interaction and sharing.







## PRECEDENTS & RESEARCH

Before developing an architectural framework that incorporates these fundamental elements of sharing and face-to-face interaction, it is necessary to first examine historical examples. In analyzing these precedents, an understanding of the existing models that have been tested and proven successful can be obtained. An investigation of democratic architecture, for example, can uncover better ways to make facilities available to all. Furthermore, cohousing can provide examples of shared amenities. Finally, Herman Hertzberger's work can illuminate how to best use and define spatial relationships and design concepts.

## DEMOCRATIC ARCHITECTURE

The idea that architecture is for everyone is a fundamental aspect in understanding that architecture can facilitate social interaction. This concept of democratic architecture is described by Richard Sennett in “Spaces of Democracy”.<sup>7</sup> In his lecture, Sennett proposes that the creation of a diverse, open, and familiar environment is crucial in the design of democratic architecture. These concepts are demonstrated in many different buildings throughout history.

In order to create democracy in architecture, it is important to have diversity. As Sennett says, “A democracy supposes people can consider views other than their own.”<sup>8</sup> A good way to do this is to have multi-use facilities. Having different programs within a facility promotes the opportunity for different types of interaction. A good example of this diverse mix in programming is the Athenian Agora. (Figure 1) Basically the town square, the agora was a place to trade, perform religious rituals, and casually associate with others. Having something for everyone in a central location, the agora drew a diverse population of people who had different purposes.

Aside from allowing for diversity, democratic architecture must also be open. Having a lack of visual barriers encourages the public to engage in the activities within the facility, thereby peaking curiosity. While the programs in the Agora were in separate areas, because of the diminished barriers, citizens were free to meander from one area to another. The low walls and colonnades served to separate the different activities, while also making them easily visible and accessible.

The progression of spaces is also important in creating an open environment. When the line between public and private or inside and outside is blurred, one feels more comfortable and free to enter a space. The Agora has several transition zones using steps, colonnades, and roofed structures.

This idea that the differentiation between spaces is critical in creating an atmosphere of openness is also exemplified in the Half Moon Theater, by Florian Beigel Architects. (Figure 2) Here, “The aim is to bring the city - along with its houses and street fronts - right inside the theater, thus

taking the theater itself out into the city.”<sup>9</sup> The subtle progression of entering the main theater creates an open environment. Initially there is a change in paved surfaces in front of the building. Continuing along, one passes through an opening to find a courtyard, which, in turn, leads to an inviting, oversized door to the theater.

The last element in creating democratic architecture, in addition to diversity and openness, is familiarity. One way to generate familiarity is to encourage people to use a facility even when there is no reason to such as during off hours. The Theater of Dramatic Art, by Louis Kahn, (Figure 3) is a good example of this. Typically theaters are only visited when there are performances held within them. Kahn’s theater, however, encourages “...the public [to visit] at all times, even when there are no events in progress.”<sup>10</sup> He designed the interior to be recognizable, resembling the streets of an Italian village. In this way, Kahn created familiarity by bringing common elements of the outside world, in which citizens were comfortable because of daily experience and interaction, into the theater’s design. Having these elements within the building itself, made it more likely that the public would engage in the theater’s events.

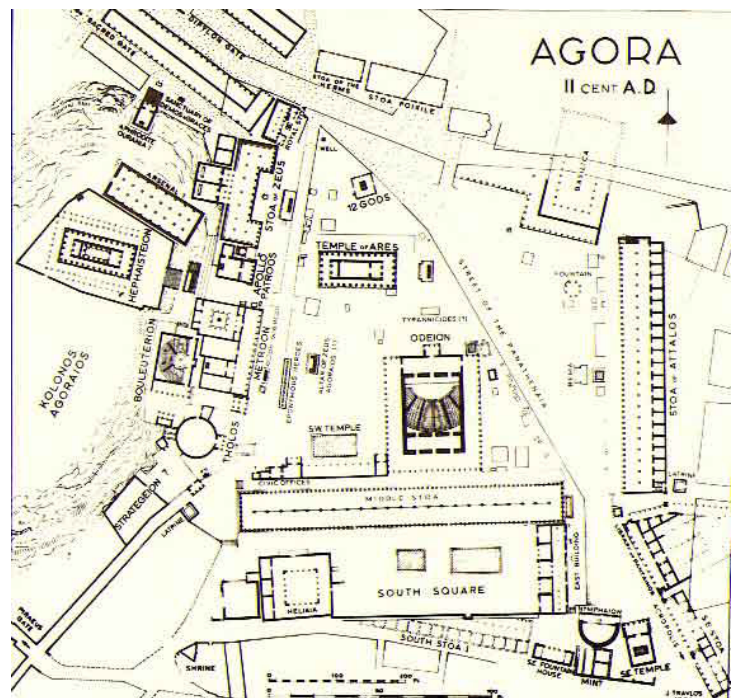


Figure 1

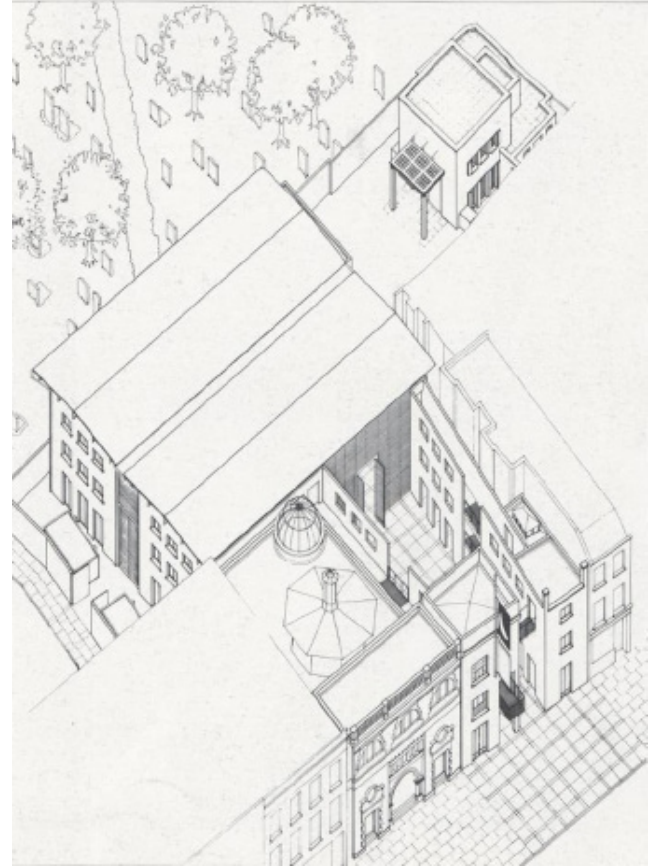


Figure 2



Figure 3

## COHOUSING

While democratic architecture is integral to an understanding of how to best create architectural spaces that are welcoming to all, cohousing offers a possible model for alternative forms of community involvement. While it differs from an entirely democratic arrangement, in developing common facilities cohousing communities offer an example of how to best incorporate sharing into architectural designs.

Several aspects of cohousing may serve as a model for the thesis. The ideas of shared facilities and an involved community, are how cohousing promotes face-to-face interaction. However, there are also several aspects of the cohousing model that seem to work against the goals of the thesis. First, cohousing projects are usually built for specific clients on a specific site with specific ideas and specific needs. Of course this kind of specificity, in attempting to create an architectural space in which any member of the community could meet to interact with others, would be impossible to incorporate in an existing community. In essence, the cohousing model is based on a predetermined lifestyle concept rather than in an open, democratic community. Cohousing projects are founded by groups of proactive people who have the same vision. These people choose to become part of the concept in which sharing and communal living is the lifestyle. In addition, cohousing projects are typically formed on a clean slate, not in an existing community. They are developed for specific clients on a specific site to meet specific needs. This can lead to the exclusion of others due to the community's specific beliefs. In addition, it could be argued that even though within cohousing communities there is interaction, due to the self sufficiency of the community as a whole, they are ultimately alienated even more from society at large. In these closed communities, most activities are internal. Therefore, the community structure arguably reduces interaction with the rest of society. Indeed, the cohousing community as a whole tends to turn its back on the rest of the community. It cultivates a "for us by us" attitude and, no matter how well it works within the community, it does not necessarily promote interaction outside of its boundaries. Often these projects are located in a rural environment and are physically turned inward, much like the typical cul-de-sac plan of suburban America. There are, however, cohousing

projects that are located in urban areas. Yet these too often turn their backs to the rest of society, frequently incorporating internal courtyards as opposed to courtyards facing the public street.

In the late 1960's, a group of couples in Denmark sought better childcare and a way to share evening meals. They developed what is now known now as cohousing. Since its foundation, cohousing has expanded around the world and evolved to incorporate different ideals. Cohousing communities now vary in site size and in the number of community members; they can range from six to over one hundred dwellings.<sup>11</sup>

Nevertheless, regardless of where, how large, or the style of design, all cohousing projects are based on the same principals. Each member or family in a cohousing community owns their own living unit. These units can be separate houses, townhomes, or apartments. The private units have relatively modest facilities, such as kitchens, dining rooms, and living rooms. The primary function of the living unit is to supply private basic amenities like bedrooms and bathrooms. However, all members of the community share many other facilities in a common house or common area. The facilities in these common areas typically include more elaborate kitchens and dining and living areas. In addition, amenities like craft areas, workshops, and gardens are shared.

Aside from the basic organization of the facilities, many members of cohousing projects share common views and ways of life. Some of these characteristics include participation by all members, intentional neighborhood design, and resident management where each member has equality in decision making. Cohousing projects strive for self sufficiency within the community and give an opportunity for members to share talents and skills such as handiwork, cooking and gardening. Depending on the community's view, these tasks can be rotated among the members or can be designated to members with certain areas of expertise.

Cohousing projects also make an attempt to have more onsite activities as a means of saving time, lowering living costs, and preserving green space. Often these efforts



include limited car usage, an eco-friendly environment, and shared meals. Frequently, members choose to work from home as a way to reduce transportation time and stay connected with their community. These are not necessarily required, but are commonly found within cohousing communities.

Cohousing also has an underlying concept of sustainability. Sustainability, however, is not just about being green or eco-friendly but also being able to sustain human interaction. As David Rudlin and Nicholas Falk write, “If urban areas do not provide civilized places for people to live and for communities to prosper then it will not matter how ‘green’ they are they will not be sustainable.”<sup>12</sup> in this way, cohousing attempts to weave the social and ecological aspects of sustainability together to form a community that will truly stand the test of time.

Although cohousing members share many amenities, it is not a commune. Members still have private ownership in many aspects of their lives. Each individual dwelling unit is privately owned and managed by the owner of the unit. Members share property, resources, and aspirations, but there is no shared income, and employment and business are privately organized. In other words, “...cohousing is a means for people to make a major step toward community without giving up privacy or control over their personal lives.”<sup>13</sup> Cohousing communities are self-governing and thus, can evict members. Similarly, they can show discretion in choosing new members. Each member in the group has an equal say in community decisions; there is no leader.

Thus, many elements of cohousing are relevant to the idea that architecture can facilitate social interaction via shared facilities. Indeed, the cohousing model itself came from the idea of combating social alienation and the breakdown of communities. The value on sharing both facilities and activities, is therefore what applies most. Sharing creates a more involved community, which grows closer together, as opposed to typical suburban or apartment living. There becomes a greater opportunity for people to engage in real-time face-to-face social interaction.





Figure 4



Figure 5

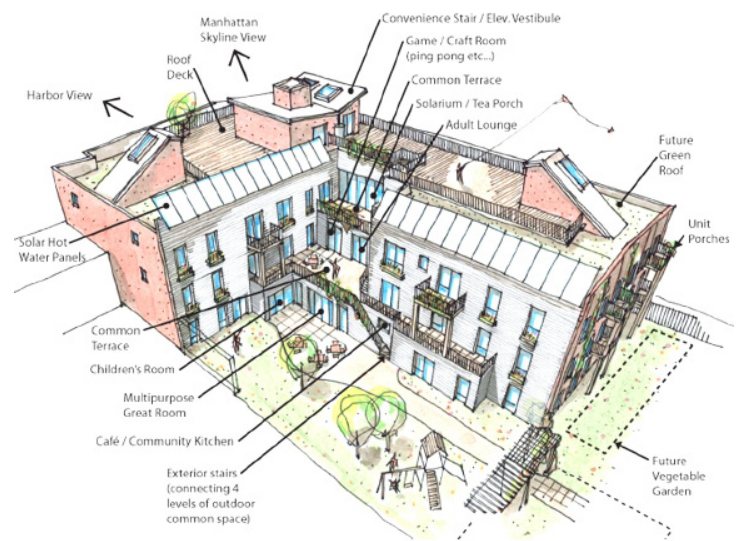


Figure 6

Of course, this model is not perfectly suited to the idea that architecture can promote social interaction. First, it could be argued that, even though within cohousing communities there is interaction, due to the self sufficiency of the community as a whole, they are ultimately alienated even more from surrounding communities. In these closed communities, most activities are internal. Therefore, the community structure arguably reduces interaction with the rest of society. Indeed, the cohousing community as a whole tends to turn its back on the rest of the community. It cultivates a “for us by us” attitude and, no matter how well it works within the community, it does not necessarily promote interaction outside of its boundaries.

This “for us by us” attitude is reflected in the architectural planning of cohousing communities. Often these projects are located in rural environments and are turned inward, much like the typical cul-de-sac plan of suburban America. (Figure 4) Often, there is an entrance drive off of which the private units branch. This main drive implies that the neighborhood is not really open to the public.

There are, cohousing projects located in urban areas as well. Yet these too often turn their backs to the rest of society, frequently incorporating internal courtyards as opposed to courtyards facing the public street. For example, in a cohousing community in Brooklyn, pictured in Figure 5, the façade facing the public street is neglected. There are practically no balconies or porches to provide areas in which to interact with the surrounding neighborhood. In fact, a fence surrounding the front dissuades such an experience. On the other hand, the façades that face the internal courtyard, shown in Figure 6 have a much more interactive feel. Here, balconies and porches are incorporated, as well as entrances to the common facilities. Thus, even in a dense urban area, cohousing communities can become isolated to the outside world.

While architecture can clearly play a role in shaping shared facilities, it can also be designed to be applied anywhere and for a variety of groups and uses instead of merely in a closed community. Typically, members of a neighborhood have diverse views and beliefs. There is not necessarily one common goal that brings them together. Thus, in order for architecture to facilitate social interaction among diverse groups of people, it must attempt to bring people together through common activities as opposed to common beliefs.

Similarly, people who live in a cohousing community accept the responsibility to contribute. Each person is obligated to do their share of maintenance work and attend meetings. In contrast, developing an area for all members of the public will necessarily involve people who may not want to, or may not be able to, participate in all aspects of the community. Therefore, instead of using a predetermined idea on which to found the community, it better suits the concepts of this thesis to build facilities revolving around activities in a preexisting neighborhood.

In considering which elements of cohousing are most significant with regards to developing an architectural space that promotes social interaction, the main aspect is clearly its emphasis on shared facilities. Cohousing communities blur the definition of ownership and encourage and promote shared resources. This idea of community can be seen in the simple design of the courtyards in cohousing communities. Taking this idea of the courtyard, which prompts social interaction, and turning it inside out will allow it to be open to everyone.



## HERMAN HERTZBERGER

In describing inviting public spaces, Hertzberger said, “[t]he fact, moreover, that these courtyards are roofed makes them extra inviting for communal activities such as those which were apparently held there...”<sup>14</sup>

Herman Hertzberger has several theories and design concepts that can be applied to the development of architectural places that encourage face-to-face interaction. He evaluates flexibility in the use of common spaces, the importance of entranceways, and spatial organization. Each of these concepts fosters social interaction.

Hertzberger observed that architecture that was designed for a specific purpose was often used for multiple purposes. Therefore, he developed a theory that celebrates flexibility. Hertzberger designs for a specific use, but when it is not being used for that purpose, it is not out of place. For example, a flower box surrounding the base of a tree is also a seating area.

A prime example of how a feature can be used in a variety of ways is the Montessori School in Delft, Holland, designed by Hertzberger. It features a specifically designed brick platform in the middle of the main hall. (Figure 7) While intended to be used for music or dance performances, it can also be used on a regular basis as a meeting place, a place to do schoolwork, or a place to sit. Because it is a focal point, the platform makes the hall much more active and lively. Whereas the typical design response would have been to leave the hall open so that it is unrestricted, inserting this block encourages interpretation and becomes a focal point.

In addition to his theory on flexibility, Hertzberger also dissects entrances. A mere opening is not an example of a well-designed entrance. To promote interaction, it needs to be welcoming and conducive to lingering and mingling. In talking about these entrances, Hertzberger states that “...this public space, as a meeting ground for people with common interests, serves an important social function.”<sup>15</sup> Ways to promote lingering at an entrance, according to Hertzberger are to providing seating, a sheltered corner, or, even better, a roof.

Spatial organization is another important concept in Hertzberger’s research. As he says, “...spatial organization may serve to stimulate social interaction and cohesion.”<sup>16</sup> The size of a gathering area is one of Hertzberger’s main considerations in the organization of a space. Ideally, the size of an area should reflect the size of the group using that area. He thinks a public area should be broken into smaller spaces so that each person or group can be comfortable in their section. For example, if a large area is used by small groups of people, it would be best for there to be a number of divisions within the space. As demonstrated in his Montessori school, Hertzberger designed numerous small areas for children to play. (Figure 8) This also gives the impression that the area is not stark when there are only a few people using it. On the other hand, if that same area was used by a single large group of people, it would be best designed as one large area. In the Spanish Steps, by Francesco de Sanctis (Figure 9), for example the area was left open to accommodate massive groups of people. In other words, consideration must be given to who will use the space, how many will use it, and how will they use it. As Hertzberger stated, “Space should always be articulated in such a way that places are created, spatial units whose appropriate dimensions and correct measure of enclosedness enable them to accommodate the pattern of relations of those who will use it.”<sup>17</sup>



Figure 7





Figure 8



Figure 9







## SITE

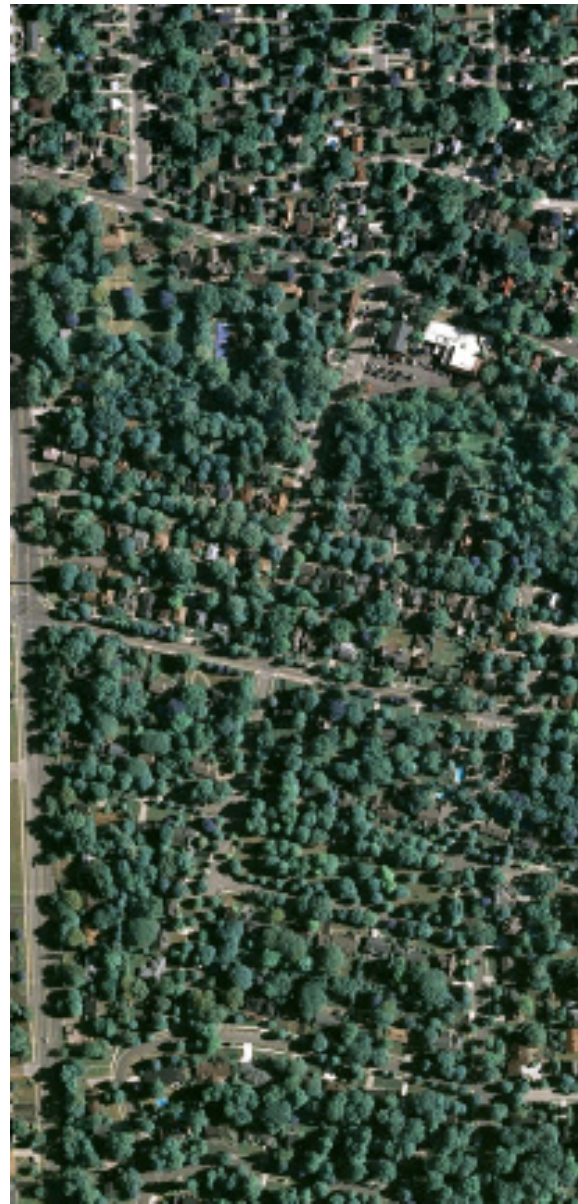
## SITE SELECTION

The concept of communal interaction could be applied almost anywhere. Therefore, the selection of a specific neighborhood in which to apply these concepts is flexible. Certain criteria were established during the selection process for determining a suitable community. These criteria were evaluated on observation and intuition alone. No statistical or tangible facts formed a basis for these criteria. To pick a suitable community, proximity, density, social class and diversity were the deciding factors.

Since the location of the neighborhood itself is inconsequential, Southeast Michigan was selected for its proximity, and therefore, ability to research more fully. This area mainly includes a 40-mile radius around Detroit, including Wayne, Washtenaw, Oakland, and Macomb counties.

Once an area was selected, its density was evaluated, with an attempt to locate an area neither too dense nor too sparse. With neighborhoods that are too dense, the scale of the project could become too hard to manage and would not allow investigation into nuances of particular details. On the other hand, if the area was not dense enough, the proposed facilities would not be accessible to enough people. There are no cities in the selected Metro Detroit area that are too dense. However, several neighborhoods are too rural. Cities like Waterford, Ortonville, and Romeo were excluded based on this criterion.

In addition to ruling out cities due to density, social class was another determining factor in the selection of a site. Social class was an issue because of the basic assumption, for this project, that there are no significant barriers to the desire for community or sharing. It appeared that there were too many socioeconomic, cultural, and political issues associated with lower class neighborhoods that could prevent free interactions. This thesis project was not intended to solve these complex issues. The primary force that has the power to make changes with socioeconomic, cultural, and political issues is the government. Therefore, cities like Detroit, Hazel Park, Oak Park and the downriver area were ruled out. Conversely, upper class neighborhoods were not desirable locations either. Upper class communities already have an ingrained culture of self-sufficiency and ownership. Too many homes have high-end kitchens, massive great rooms and their own private theaters. These areas would likely benefit less from the concepts of sharing and community involvement. Due to these factors, cities like Birmingham, Bloomfield Hills, Farmington Hills, and Grosse Pointe were excluded.





With the list of possible cities shrinking, diversity was sought out as a desirable attribute in the search for a community. Diversity was not only evaluated in people, but between residential, businesses, commerce, and industries, as well as within each of these areas. Having a mix between these aspects was the main goal. Cities like Southfield, Troy and Novi were rejected due to lack of diversity.

After sorting out many cities, a short list was created and evaluated in more detail. Royal Oak, Plymouth and Rochester were some of the top choices. Due to familiarity, Royal Oak and Rochester were eliminated. In order to have a more subjective insight, the City of Plymouth was selected as the right community for this project.



## SITE ANALYSIS

Plymouth, Michigan will be used to demonstrate the concepts of this thesis; however, these ideas can be applied almost anywhere. Much of the analysis of Plymouth was done through observation; however, a look at city master plans<sup>18</sup> and the City of Plymouth's website<sup>19</sup> were also helpful resources. In order to get a better feel of the existing community culture, time was spent in Plymouth visiting restaurants, shops, and parks. After attending several events and frequenting the area, the tight-knit community culture became more apparent. The large turnouts for community events demonstrates the community's involvement and desire to be connected to one another. The city encourages this involvement by supporting such events.

The downtown area became the primary focus of this investigation. The vibrant downtown has a variety of businesses, shops, and restaurants that surround Kellogg Park. The park is a popular place that acts as the hub of the downtown area and is where most of the community events take place. The downtown has a variety of unique shops. Some of these have been in the community for many years, and others are relatively new and offer trendy products and services. Dozens of places to dine are scattered throughout downtown, serving a wide range of meals - from formal to ethnic to casual. This downtown area is surrounded by neighborhoods and the historic district.

The community of downtown Plymouth consists of members from the City of Plymouth, Plymouth Township, and parts of Canton. Owing partially to the shared high school between Plymouth and Canton, there are close ties between these communities. There is also no defined downtown area in Plymouth Township or Canton. Together, these three cities create a lively atmosphere for Plymouth's downtown district.

By participating in several of the city's festivals and events and observing the use of many of the shops, a feel for the community's wide variety of interests became apparent. There are frequent annual events and festivals, including an ice festival, an art fair, and a chili cook-off, as well as weekly activities including a farmers market and band concerts. It can be assumed that, because of the high attendance at these events, the people have an interest in the activities associated with them. In addition to these events, the fact that individually owned and operated shops are doing well leads to the assumption that the community supports the interests to which these shops cater. The prosperity of these shops is especially significant in the current economy, when such establishments tend to go out of business.

Analyzing the interests that overlap between the events and the shops offers further support for this assumption. One of the interests the community shows is a passion for visual art. They have several festivals and shops based around art. One of the biggest annual events in Plymouth is Art in the Park. It is Michigan's second largest art fair. This outdoor event is usually held in July and takes up the entire downtown area. The three-day event gives an opportunity for local and non-local artists to



display and sell their art. Many different types of media, including photography, jewelry, drawing, and sculpture, are included. Plymouth also has a three-day Fall Festival that incorporates an art and craft show. There is a very popular annual International Ice Sculpture Spectacular as well. This ice festival features over 100 ice sculptures created by dozens of high schools, community colleges, universities, and professional ice carvers. There are also several unique art and hobby shops throughout Plymouth. The Lotus Arts Gallery, for example, offers a display of painting, sculpture and photography for sale. Creatopia Pottery is a place in which people can paint their own pottery, as well as take classes. The Plymouth Train Shop & Hobbies is a retail facility in which art and hobby supplies are sold. The fact that these events and shops are successful implies that the Plymouth community is involved with and interested in the arts.

In addition to visual art, the performing arts are also popular. In the summertime, there are several weekly concerts in Kellogg Park. In this casual environment, residents bring lawn chairs and blankets to enjoy the music and atmosphere. On Wednesday afternoons, children's music and sing-alongs are held in the park. On Thursday evenings, The Plymouth Community Band performs concerts, incorporating marches, show tunes, light classical, and big band music. Every Friday night, various bands perform a variety of musical genres, including rock, country, beach, and Motown. In addition, many of the festivals, events, and bars include live entertainment provided by local bands and dance teams. Aside from these performances, there are also six dance studios, a piano studio, and a violin academy that offer lessons. Both the participation in these events and the high incidence of studios indicate that the community is greatly involved in and invests in the performing arts.

Arts are not the only popular interests in Plymouth. Another common activity is a Farmers Market, usually held every Saturday morning from May to October. The market offers a place for residents to gather and buy and sell their produce. In this way, the market recreates the personal relationships between the baker or butcher common to European communities that were lost when Americans began shopping at the all-inclusive big box stores. In other words, the market creates a more personal and tight-knit community.

The culture of Plymouth culminates in the Taste of Plymouth, which is held in the downtown area as well. This annual event is usually held in October and consists of a Great Lakes Regional Chili Cookoff, a motorcycle show, and live entertainment. The event draws more than 15,000 chili and bike fans, 16 restaurants, and 60 different local cooks to contend for the best chili.<sup>20</sup> The bike show, held on Main Street after the bike run, is where local motorcycle enthusiasts compare their bikes. Trophies are awarded to the top motorcycle show participants. The huge community involvement from the local members is what makes the Taste of Plymouth the epitome of the culture. There is something for everyone to participate in, from the child in the dance show, to the chili cooks, to the motorcycle enthusiast, to the local bands. The whole community becomes actively involved.

Beyond the large scale events and permanent shops, there are also seasonal demonstrations. In these presentations, citizens, businesses, and organizations create a themed element, such as scarecrows or Christmas trees, that showcase their identity. For example, the Metro Dance Company is one of many organizations that dressed a scarecrow to represent their group's interest. As illustrated in Figure 10, the identity of the dance company is portrayed in the creative decoration of their scarecrow. When Kellogg Park is filled with dozens of these scarecrows, it illustrates the community's involvement and willingness to participate in year-round activities.

It becomes apparent after attending several events and visiting many shops that the culture of Plymouth is one that is highly active and participatory. Even in this economically difficult time, there are few vacant buildings and many of the unique shops have been in business for a number of years. The fact that many events exist throughout the year and are well attended is a strong indication that the community enjoys interaction, participation, and socializing.







Figure 10



## MOVEMENT

In addition to learning the interests of the community, spending time in the city and getting to know the culture revealed the habits of the people who live there. Several issues, such as movement patterns, density, occupancy, and existing places of interaction were evaluated. These issues helped to determine the locations of the proposed facilities.

In evaluating movement patterns of the people in Plymouth, several tendencies in pedestrian traffic flow were revealed. After investigating where people were coming from and where they are going, it was determined that pedestrian traffic patterns were significant. There were two main groups of pedestrian traffic: leisure and business. A centrally located parking structure is typically utilized by the leisure group in the evenings and on weekends. Most of the people that park there travel through the city on foot and typically visit multiple places. These people are generally casual shoppers, restaurant goers, or people looking for entertainment. They are not in a hurry. However, during the day, the business group mostly parks on the street or in lots near the establishment with which they have business. These people are destination driven and are less likely to be side tracked.

Several routes were observed. Some had been purposefully designed and others were created by the habits of the pedestrians cutting through lots for a more direct course. There are several alleys between buildings on the main block that serve as short cuts for people going to and from the parking structure. These short cuts, in turn, create patterns of pedestrian cut-throughs in adjacent sites. The funneling effect builds a higher concentration of people around the buildings which create bottlenecks. This buildup of people influenced the pathways accentuated in the proposed buildings.

In the diagram to the left, parking areas are represented as orange and pedestrian paths are indicated with red.





## DENSITY & OCCUPANCY

In addition to evaluating movement patterns, density and occupancy were investigated. There is a build up in the density of the core downtown area, both in building footprint and in height. In order to draw involvement from the existing buildings, the proposed facilities will be best located near high density areas. Applying the inside out cohousing metaphor, the residential neighborhoods become the living units and the business area of the downtown becomes the common house.

In the diagram to the left, green indicates residential, blue represents business and commercial, and yellow shows institutional. The darker the color the greater the density.



## INTERACTION

Perhaps the most important issue evaluated was existing places of interaction. Similar to the desire to be in a dense area, being in proximity to existing places of interaction is advantageous. By being close to these places, the proposed location could take advantage of the synergy of existing “triangulation.” These places of interaction range from shops to eateries to parks. Based on observation, certain establishments create a better environment for triangulation than others. Several bars, taverns, and restaurants offer live entertainment. As Whyte’s theory states, activity, which would be defined here as entertainment, offers a greater possibility of social interaction.<sup>21</sup> In much the same way, the scarecrows in Kellogg Park are a better source of triangulation than the park alone because the scarecrows offer an object for people to admire and discuss in a more immediate way as opposed to the common greenery and landscape of the park.

In the diagram to the left, the darkest areas promote the most interaction.

## BLOCK N

After evaluating this data, two blocks were determined to be ideal for the implementation of communal facilities. Both of these blocks offer enough desirable amenities yet still have available space to build new facilities.

Block N has all of the necessary items to spur on social interaction. It has two main pathways that are undefined but well used by pedestrians cutting through from the parking structure to surrounding businesses. It is in a dense area with several existing places of interaction near by. There is a hair salon, a bar, the post office, a coffee house, a boutique, and a candy store on the block. Because of this diverse group of establishments, there will be a diverse group of people in and around the proposed facilities, creating better opportunities for interaction.

In addition to establishments on the block, there are also many places of interaction on adjacent blocks. Sean O'Callaghan's, a popular Irish restaurant, for example, is located across Penniman Street. Core Sport, a fitness and pilates studio, is located across Penniman as well. Doyle's Tavern, to the north on Fralick, is a typical neighborhood bar and is truly a local gathering place. The Plymouth Play Café, also across the street, is a coffee shop that encourages family patronage by providing indoor play equipment. These establishments create a prime location for many opportunities to develop facilities to promote face to face social interaction.









View of Block N from across East end of Penniman



View of Block N from across West end of Penniman





View from Block N to South



View of Block N from across Main Street

## BLOCK S

Block S is a prime location for social interaction. This block tends to be more business-orientated rather than social. Its longest side faces Main Street which gets a lot of vehicular traffic. It is not quite as dense as the rest of the downtown area, but appears to be a prime location for new development, in that it is in proximity to the dense downtown area, yet still offers vacant land. Virtually all of the open space on this block is surface parking. The existing places of interaction include a bar, a banquet hall, a convenience store, and offices on the block. The Box Bar, a very popular restaurant, is located on Ann Arbor Trail. The city has proposed that a small motel on the block, which rents by the month, be demolished. Aside from the several places of triangulation on this block, there are also several on adjacent blocks. It is diagonally across from the central block that has the parking structure and the highest density of businesses. In addition, there is a multi-use building adjacent to the northwest corner of the block that features living spaces, several offices, and eateries. Also, Kellogg Park, where most of the city's outdoor events take place, is across the street to the north. There are frequently people walking or children playing in the park. Consequently, there is quite a bit of pedestrian traffic on and around this block.

During preliminary design phases, it was assumed that two blocks would be necessary to fulfill the program requirements. However, after further investigation, it was determined that due to spatial requirements, it was unnecessary to develop both blocks. It was determined that Block N will not be developed as part of this project. Block S is better suited to make a connection with the residential neighborhoods.









View of Kellogg Park from Block S



View of Block S from across the South end of Main Street





View of Block S from Kellogg Park



View of Block S from across the North end of Main Street





## PROGRAM

As demonstrated earlier, the city of Plymouth has an array of activities that encourage social interaction and citizen participation. In order to further enhance this experience, certain programs that encourage interaction can be developed. Architecture can then play a role in designing the buildings that would facilitate these programs or events and apply the advantageous elements of shared facilities and resources.

These facilities are really for the individual community members. The programs around which these facilities are designed are therefore quite diverse and include a do-it-yourself brewery, a cooking area, a place to eat, a theater, an art gallery, an auto maintenance area, a woodshop, and a tool lending area. Each of these programs overlaps and combines with other programs to form three distinct buildings. The first, Eat, is a place where people can brew their own beer and can prepare and eat meals. Play, is a place that accommodates live performances and displays artwork. Lastly, Fix, is a place where people can work on automotive and woodworking projects as well as borrow tools.

While these facilities are for individual community members, the city will play an important role in the operation. When considering the role of the city as a whole in these facilities, operation must be considered. The general operation of these facilities will mirror the operation of a library. First, the facilities will be provided for by the city. In other words, it will be the city's responsibility to hire employees to oversee and maintain each facility. In addition, much like the library fines for overdue books or movies and occasional cancellation of library membership for severe misconduct, misuse of these facilities will also result in penalties. Fines can be imposed for damage, vandalism, or theft. Finally, some of the facilities, particularly those involving auto maintenance or woodworking, may require a training course before individuals will be permitted to operate particular equipment. However, the goal here is for the overall experience to align with the freedom of visiting a city park, not a city hall. The facilities will be free to the public. People can come and go as they please.

The primary purpose of each of these places is to encourage social interaction by providing people with similar interests a common location where they can gather to do an activity or participate in an event. As stated in the City of Plymouth's Recreation Master Plan, one of the goals for facility development is to "design and develop a 'Recreation Hub' where multiple indoor and outdoor facilities and activities are in a central location to serve people of all ages and abilities."<sup>22</sup>

In order to create a "hub," all three facilities - Eat, Play, and Fix - are located on a single block, Block S. The programs within these facilities overlap one another, allowing people with different interests who may not ordinarily have opportunities to interact to be drawn together, creating a source of triangulation and encouraging face-to-face social interaction. In other words, creating several programs in the same facility exposes people to programs they did not initially intend to use. This creates a level of comfort with the other programs, which can lead to a higher probability of attendance. Although each building will be democratically designed, they will take advantage of the overlap of other programs and surrounding places of interaction.

In addition, drawing different groups of people together by offering a variety of programs generates a high level of activity. Just as visibility increases the opportunities for interaction, so does activity. Therefore, the overlap of programs will be a main driving design concept.

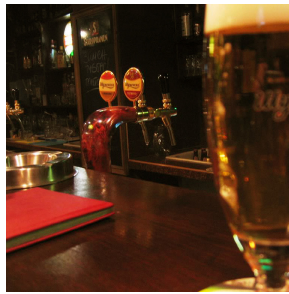
Together, all of these facilities encourage the community to share, thus generating social interaction. Each building, in its own way and for its own reasons, incorporates specific design considerations in order to promote this interaction.

## EAT

As discussed earlier, one of the most popular activities that people have traditionally taken pleasure in is sharing meals. As a place for people to gather and share in meal preparation and enjoyment, Eat is an important part of the recreation hub. Eat consists of a do-it-yourself brewery, a cooking area, and a place to eat. The brewery is a place where people can come to brew their own beer. While the facility and brewing equipment are provided, the brewer will have to supply his or her own ingredients. Having a common area for multiple different people of a similar interest - brewing beer - to gather naturally encourages social interaction. As people brew, they can share recipes or techniques with others. They also are able to trade with one another to sample many different types of beer. As the popularity of the brewery grows, it could easily host taste tests and other festivals. In this way, Eat becomes a place to hang out and enjoy the brewing process with others.

In addition to a do-it-yourself brewery, Eat also features a place to prepare and consume meals. The idea of sharing a meal is one of the oldest shared activities known to man. It is a simple act and includes amenities that are used by everyone, no matter what demographic. Therefore, it has a great possibility to gather masses of different people. A communal space in which to prepare meals draws on the cohousing concept of sharing meals and is a good source of triangulation. It would be a place where people could prepare meals, consume meals, or simply congregate and relax.

The cooking area could incorporate a diverse group, ranging from a dinner club to just a few couples. There are often instances where a group would like to get together to have a meal, but they don't have adequate space in their own homes. This facility provides the space as well as the equipment needed, such as appliances, cookware, and dishes. However, the individuals using the area would have to supply their own ingredients and clean up afterwards.



The abundance of commercial dining establishments has set a precedent that separates food preparation from consumption. Since the cooking area and place to eat will necessarily contain elements similar to those presented in these establishments, the facility easily could be confused with an average restaurant or banquet hall if not designed properly. This facility is meant to be used by community members. Therefore, it is important to demonstrate the communal aspect. The typical restaurant layout conceals the kitchen from the public. In this design, however, the cooking area is celebrated and visible to the community. It is necessary for the public to understand that it is for them and that they are free to use it.

Much like the cooking area, the place to eat could incorporate a diverse group as well. Although the cooking area and the dining area could be used simultaneously by the same group of people, it would also be possible to use one without the other. For example, if a group wanted to have a pot-luck dinner, each person could prepare his or her dish elsewhere and bring them here. Or vice-versa, if one wanted to take advantage of the appliances in the food preparation area to prepare a meal and then take it home to consume in the privacy of his or her home, they would be able to do that as well.

Eat is an interactive facility for all. Therefore, it should be seen as a communally shared place, rather than a privately owned tavern or banquet hall. In order to accomplish such a perception, visibility and openness are vital. A transparent, unrestricted building design conveys the message that it is available to everyone.

## PLAY

Due to the community's involvement in the performing and visual arts, Play, the second facility, is focused mainly on entertainment. Play consists of a performing arts theater and an art gallery. The gallery section is intended for community members to present their artwork. This will include the various types of media - such as painting, photography, and sculpture - for which the community has already shown support. It will also consist of various types of artists, including anyone from school children through local accomplished artists. The gallery would not be intended for retail purposes. It is instead an area for the community to showcase their work in a casual environment for the rest of the community to observe and enjoy. For example, a fourth grade art class might present their best work, prompting friends and family to view the work on display. This would in turn give the opportunity for them to see other artwork, thus encouraging interaction. As evidenced by overwhelming participation in the Art in the Park event in Plymouth, this gallery would be a welcome addition.

There are a number of people in the Plymouth community involved in the performing arts. Hence, a performing arts theater would be well supported in this community. Much like the art gallery, the theater will incorporate a wide range of users. Thespians could perform plays, dance teams could put on performances, and local bands could play concerts. The audience would typically be composed of residents drawn together for a common interest. Recalling Whyte's idea of triangulation, nearly all performances generate a crowd: "It is not the excellence of the act that is important. It is the fact that it is there that bonds people..."<sup>23</sup> This performance space could also be utilized as a casual place where people could go for a social environment, which would incorporate Hertzberger's idea of designing a space for multiple purposes. There could be designated movie or television nights. For example, if the Simpsons aired every Sunday at 8:00, all the high school students could meet in the theater if they wanted to watch it with a large group. By creating a casual atmosphere, people would feel comfortable wandering in and out, enjoying the performances.





Play supports many different demographics and time usages. For example, incorporating surfaces that lend themselves to skateboarding into the design of the outdoor seating for the theater gives the opportunity for there to be activity throughout the day and night. Although being open to everyone, the area conducive to skating will predominantly be used by a younger crowd in the daytime, whereas the theater will typically be used in the evenings and the gallery will most likely be used by everyone and at a variety of times.

Combining these three areas not only ensures that they will be active more frequently, but also creates a familiarity with the programs and the facility itself. A middle school student, for instance, who skates around Play every day after school will be more likely to view exhibits in the gallery or performances in the theater because of his familiarity and comfort level with the facility. In this way, programs that may ordinarily not be utilized become more comfortable and familiar to those who use adjacent areas.

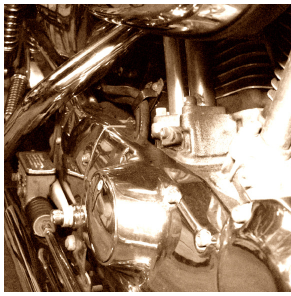
## FIX

Because of the community's interests in automobiles and crafts, the third facility, Fix, features an auto maintenance area, a woodshop, and a tool lending area. Each of these areas provides the necessary space and equipment for certain hobbies or activities that people often like to engage in, but do not usually have the resources to do themselves. It is also a good place to go to interact with others with similar knowledge and interests to get tips, tricks, and advice on projects.

For example, for those that enjoy working on cars, a communal auto maintenance area will be useful. While supplying parts and accessories will be the responsibility of the user, the auto area will provide the space and equipment for people to work on their vehicles. For example, while a lift is unnecessary for one person to privately own, it can make a job much easier. Therefore, providing an area with a lift will be advantageous to an entire community. This auto maintenance area will typically draw groups of specific, auto-minded people. However, because a person who has little auto experience can talk with someone more experienced, this area will also encourage a wider range of people to interact.

The community could also benefit from a woodshop, where members of the community will be free to work on various hobbies or crafts. The woodshop will provide the space and equipment for people to work on woodworking projects. This area will house basic woodworking tools, such as a table saw, drill press, and lathe and will provide adequate space in which to work. However, materials, fasteners, and other disposable products like glue, stain, or paint will be the responsibility of the woodworker.

Within Fix, a tool lending area will also be provided. This will be convenient and valuable for both the auto maintenance area and the woodshop and will also provide lending for offsite use. These tools will include everything from common items, like chainsaws, to very specific items, like ball-joint extractors. The tools for these more specific projects are things that people would not necessarily use often, much like the lawnmower example discussed earlier, and therefore, sharing would be advantageous. Again paralleling the library operation concept, the tool lending area would allow an individual to check out a tool using a swipe card, for use



either in the facility or offsite. These tools would then be returned free of charge unless they were late, damaged, or missing.

All three of the areas within Fix generate triangulation, causing passersby to become interested and interact with people using the facility. It is likely that if someone were working on their old Mustang, for example, a car enthusiast might engage in a discussion about the car. Also, because of the connection of the tool lending area to the auto maintenance area and the woodworking area, people could easily encounter others working in different areas of the facility. In addition, those checking out a tool to be used outside the facility have increased opportunities for interaction. Someone returning a jigsaw that he used at home, for example, might encounter a person checking out an air ratchet to work on a project within the facility.

It is important to note that, because of the types of projects to which this facility caters overall, there is an inherent risk of injury. Therefore, safety and training classes might be required to operate or rent the equipment.

## OUTDOOR SPACES

Just as each of the facilities includes distinct areas that are nonetheless tied together, the facilities are also connected to one another. All three facilities are joined together through a system of paths, green spaces, and outdoor gathering areas. These spaces are the least restrictive places on the block and have a variety of uses. They emphasize the connection to Kellogg Park, the preexisting places of interaction, and the surrounding residential neighborhood, which have been discovered in the site analysis outlined earlier. In other words, the facilities are not only linked to one another, but also to the high-activity areas that already exist in the surrounding areas by the outdoor spaces. These areas are places where people can relax and congregate outdoors. Additionally, they could hold festivals spurred on by the facilities.

These outdoor areas also provide a place for people to skateboard. From 1998 to 2004, there was a 78.8% increase in skateboarding nationally, according to the Sporting Goods Research Network.<sup>24</sup> Currently, there is only one skatepark within a ten-mile radius of the City of Plymouth. Many of the places where kids presently skate within Plymouth ban skating. Therefore, a designed and designated area for skateboarders would be embraced. This area is an open and loose element. It is available for skateboarding as well as other forms of riding, like BMX, inline skating, and razor skating. Often skaters are seen as outsiders to the community, but they are very much a part of the culture. Providing areas conducive to skating not only gets skaters out of prohibited areas, but also gives them the opportunity to showcase their talents and become accepted as a part of the community.





These areas are intended to accommodate multiple uses. For example, one area designed to accommodate skating also doubles as outdoor seating for events associated with Play. This creates a more lively atmosphere around Play when there are no performances, as well as generating a more familiar feeling to the residents. This offers an unusual mix of people due to the overlap of the performers and skaters.



## BIKE SYSTEM

This connection between the facilities themselves and, moreover, between the facilities and the surrounding areas is further perpetuated by a bike share station that connects to the rest of the city at large. The bike share system overlays the entire community. As stated in the City of Plymouth's Recreation Master Plan, programs designed to encourage non-motorized transportation are very important. The city wants to "[s]upport and encourage non-motorized links within the community as well as to adjacent communities and regional trail systems."<sup>25</sup> However, as of 2010, the city has no designated bike route and there are few bicycle parking facilities.

Therefore, a bike route has been developed which incorporates a series of bike share stations. This route will be approximately 4.25 miles and connects into the popular Hines Drive Park. Hines Drive Park stretches 18 miles across Metro Detroit and offers dozens of picnic areas and athletic fields. The proposed route also connects to nine of the city's parks and incorporates 13 bike stations. These stations are located at several parks, schools, and dense places of interaction. The stations are in close proximity to one another, typically within a quarter mile of the next station and even closer in denser areas. This provides just a short walk for people to get to a station from their home or parked car.

To further tie together the proposed facilities to the rest of the community, a bike station is provided near Main Street as a part of Eat. This will not only allow for an alternative mode of transportation for those wishing to use the facilities, but will also increase the exposure for those that may not ordinarily utilize them. Not only will they be familiar with the location because of the bike station, but the station itself will also allow for opportunities for passersby to be exposed to and influenced by advertisements for upcoming performances. This would get people who are merely interested in getting a bike to have more interaction with the people who are involved with the rest of Eat and the other facilities.

Regarding operation, these stations will be run similar to systems like BIXI,<sup>26</sup> the Yellow Bike Project,<sup>27</sup> or the Bike Vending Machine.<sup>28</sup> This proposed system will allow one to swipe a card to release a bike, ride throughout the neighborhood, and return the bike to any bike station. The bike stations are an integral part of this system of sharing. It offers a way for people to move freely throughout the city and promote community members' pathways to cross, encouraging interaction and combating isolation.

## EAT

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SPACE	QUANTITY	OCCUPANTS	SQUARE FEET
<b>Brewery</b>		<b>39</b>	<b>1,400 SF</b>
Lounge	1	33	500 SF
Brew Area	1	6	600 SF
Ferment Room	1	0	150 SF
Storage Room	1	0	150 SF
<b>Kitchen</b>		<b>18</b>	<b>950 SF</b>
Food Prep	2	5	250 SF
Food Prepare	2	3	150 SF
Dish Wash	1	2	150 SF
<b>Dining</b>	<b>1</b>	<b>130</b>	<b>2,000 SF</b>
<b>Bike Station</b>	<b>1</b>	<b>0</b>	<b>Outdoor</b>
<b>Toilet Rooms</b>		<b>10</b>	<b>500 SF</b>
Male	1	5	250 SF
Female	1	5	250 SF
<b>Support</b>			<b>500 SF</b>
Mechanical	1	0	400 SF
Electrical	1	0	100 SF
<b>Circulation</b>			<b>1,070 SF</b>
<b>Total</b>		<b>424</b>	<b>6,420 SF</b>



## PLAY

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SPACE	QUANTITY	OCCUPANTS	SQUARE FEET
<b>Theater</b>			<b>3,000 SF</b>
Stage	1	0	1,000 SF
Seating Area	1	130	2,000 SF
<b>Gallery</b>	<b>1</b>	<b>80</b>	<b>1,200 SF</b>
<b>Office</b>	<b>2</b>	<b>1</b>	<b>100 SF</b>
<b>Storage</b>	<b>1</b>	<b>0</b>	<b>300 SF</b>
<b>Dressing Room</b>		<b>10</b>	<b>600 SF</b>
Male	1	5	300 SF
Female	1	5	300 SF
<b>Toilet Rooms</b>		<b>5</b>	<b>300 SF</b>
Male	1	2	150 SF
Female	1	3	150 SF
<b>Support</b>			<b>250 SF</b>
Mechanical	1	0	150 SF
Electrical	1	0	100 SF
<b>Circulation</b>			<b>1,000 SF</b>
<b>Total</b>		<b>227</b>	<b>6,750 SF</b>

## FIX

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<b>SPACE</b>	<b>QUANTITY</b>	<b>OCCUPANTS</b>	<b>SQUARE FEET</b>
<b>Auto Maintenance</b>		<b>15</b>	<b>1,500 SF</b>
Repair Bay	3	5	500 SF
<b>Tool Lend</b>		<b>2</b>	<b>300 SF</b>
Checkout	1	2	100 SF
Storage	1	0	200 SF
<b>Woodshop</b>	<b>1</b>	<b>15</b>	<b>1,500 SF</b>
<b>Toilet Rooms</b>			<b>100 SF</b>
Male	1	1	50 SF
Female	1	1	50 SF
<b>Support</b>		<b>0</b>	<b>250 SF</b>
Mechanical	1	0	150 SF
Electrical	1	0	100 SF
Garbage Compressor	1	0	250 SF
<b>Circulation</b>			<b>880 SF</b>
<b>Total</b>		<b>34</b>	<b>5,030 SF</b>









## DESIGN

While the goal of this project is to create facilities that encourage real-time, face-to-face social interaction, this intention does not need to be obvious to the public. In other words, as long the facilities do, in fact, generate interaction, it is not necessary for people to realize that they are a part of a network intended to do so.

Nor is the intent of this project to create an architectural relationship between these facilities. The only identity these facilities share is that they will evolve from public involvement.

While the facilities will be designed as single entities, they will share some common architectural design concepts. The concepts that will be applicable to each building are those that will support the common goal of social interaction via shared resources. Each facility will therefore be designed to be democratic and interactive or conceptually “inside out.”

The components most important to the idea of democratic architecture are openness and freedom. To achieve these goals, visibility is important. Having a source of triangulation is ineffective if no one has the opportunity to view or participate in the activity. For example, if a fudge-maker is in a block building, passersby will not have any reason to interact with the building, the fudge-maker, or other passersby. If the same fudge-maker is in a glass building, according to Whyte, those observers will have a greater tendency to interact. “Boy, doesn’t that fudge looks good?” “Yes, it reminds me of Mackinac.” Therefore, it is necessary for the activities within the facilities to be visible. In this case, visible means that it can be noticed with any or all five of the senses. Visibility encourages onlookers to participate or at least have a point of reference to use to begin conversations with others.

In analyzing the cohousing model, it was determined that the design of the courtyard created opportunities for social interaction. However, because the courtyard faced the interior, interaction with the surrounding neighborhood was limited. Architecture could therefore more effectively encourage social interaction by turning the courtyard inside out. Figuratively, the entire proposal becomes an inside out courtyard. This model makes the communal facilities available to everyone, instead of being segregated from the rest of the community. In other words, unlike the cohousing courtyard, which discourages outside involvement, this design promotes an all-inclusive environment.

While each building will strive for the common goals of democracy and an inside-out ideology, they will be very different in their design. Indeed, all three facilities serve entirely different purposes. Fix, the facility housing the auto maintenance area, woodshop, and tool lending area, will cater to those with specific hobbies or interests. This will be a place where people can obtain communal resources that they may not have been able to provide for themselves. While Play also promotes hobbies, it does so in a way that encourages an audience. The theater, gallery, and skateable seating are all areas in which there are “performers,” so to speak, that thrive on attention from crowds. Whereas Fix is more private, Play is a place to celebrate hobbies and interests publicly. Eat shares this idea of community involvement, but does so in a way that does not require a central focus, like Play. Instead, Eat creates a casual gathering place for members of the community to meet at any time. Finally, the bike stations continue the theme of usage at any time, but instead of being in one specific area, extend throughout the city and act as a conduit. In other words, each of these buildings facilitates social interaction in a different way, and therefore, requires a unique design.

## FIX

In order for the entire block to incorporate an inside-out courtyard design concept, pedestrian pathways must be emphasized. As shown in Figure 11, highlighting the pathways is essential when attempting to enhance social interaction. These pathways increase the opportunities for social interaction because the people using them as short cuts between the preexisting sources of social interaction will be encouraged to cross paths with people at the proposed facilities.

There are three main paths into the site: one from Main Street on the west, another from Kellogg Park to the north, and a third from the residential neighborhood to the southeast. These paths determine the main thresholds at the scale of the site. As a reaction to Hertzberger's concepts, properly designed thresholds became a very important design element. Thresholds, both at the scale of the site as well as at the scale of the building, need to promote lingering and provide a gradual transition from the exterior to the interior. By creating gradual transitions between spaces, an individual is more likely to enter into a space, not knowing exactly where the inside/outside or public/private border is.

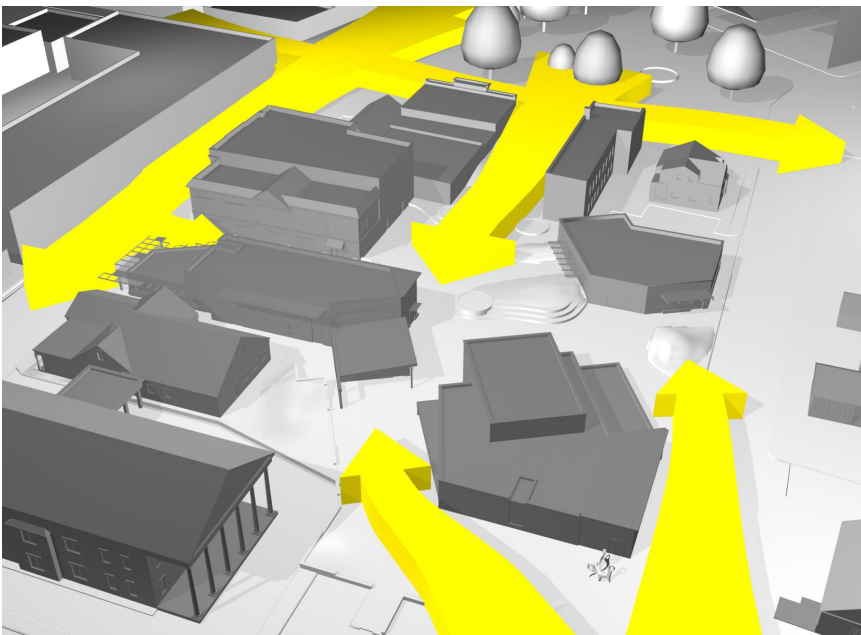


Figure 11









The threshold into the site from Main Street is an important one. This is intertwined with the threshold into Eat. Eat creates a presence on Main Street. This is gradually blended with the entrance into the west end of Eat. It is commonly understood that the street and sidewalk are public places and anyone is free to use them as they please. By creating a gradual transition from the public street into Eat, people will understand that the facility is open to the public. For the threshold of Eat, a canopy and outdoor café-style seating creates a casual atmosphere and becomes a part of the sidewalk. This overhang also becomes part of the shelter of the bike station, further drawing individuals into the site. These elements are specifically designed to blur the distinction between boundaries, thereby enhancing accessibility and encouraging usage and interaction.

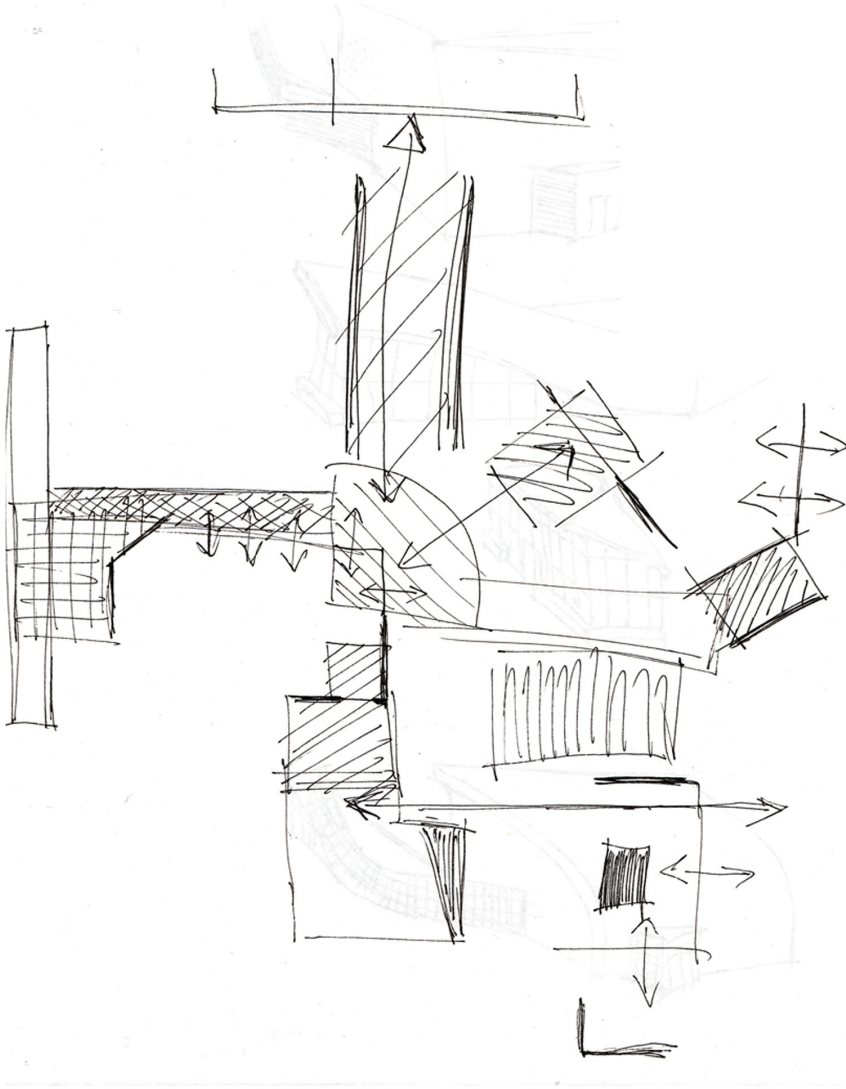






Another way to break down perceived barriers is to increase transparency between the inside activities and the people with the potential for interaction outside. Indeed, Whyte advocated events as a way to bring people together. In order to create this triangulation, large windows offer a view from the street into the brewery. This can create interest for a passersby, possibly causing them to pause and become part of the experience. There are also translucent rotating panels that can offer both a view into the building, as well as a passage into it. These rotating panels create a more interactive and dynamic environment surrounding the building, altering the physical environment. Combined, all of these aspects create a smooth transition from exterior to interior, further demonstrating the fact that it is open to the public, thus creating a space for lingering and promoting interaction.

In addition to blurring boundaries, the entrance from Main Street into Eat borrows concepts from Hertzberger. Hertzberger believed that a space designed for a specific use should also be easily converted for a secondary use.<sup>29</sup> Utilizing this idea, the area surrounding the brewery is designed for festivals held by the brewers, yet is still conducive to daily use. For example, landscape, hardscape, and seating is arranged in a manner that is ideal for festival booths, yet also serves as general seating and backdrop for day-to-day usage. In addition, the large windows between Eat and Main Street also feature seating beneath them as a way to activate the space both on the interior and exterior. This seating also doubles as a ledge for skateboarding, allowing the window to be activated in another way and by another demographic.



Much like the threshold on the west, the threshold on the east end of Eat is also very important. However, a different approach was taken in designing this entrance. Being that it is in the center of the site, visibility became the driving force in its design. This entrance primarily focuses on the concept from the Street Life Project, that people attract more people. Therefore, this entrance offers views to the inside and outside. It is visible from Kellogg Park and from the neighborhood to the east, therefore making the pathways leading to it a priority.

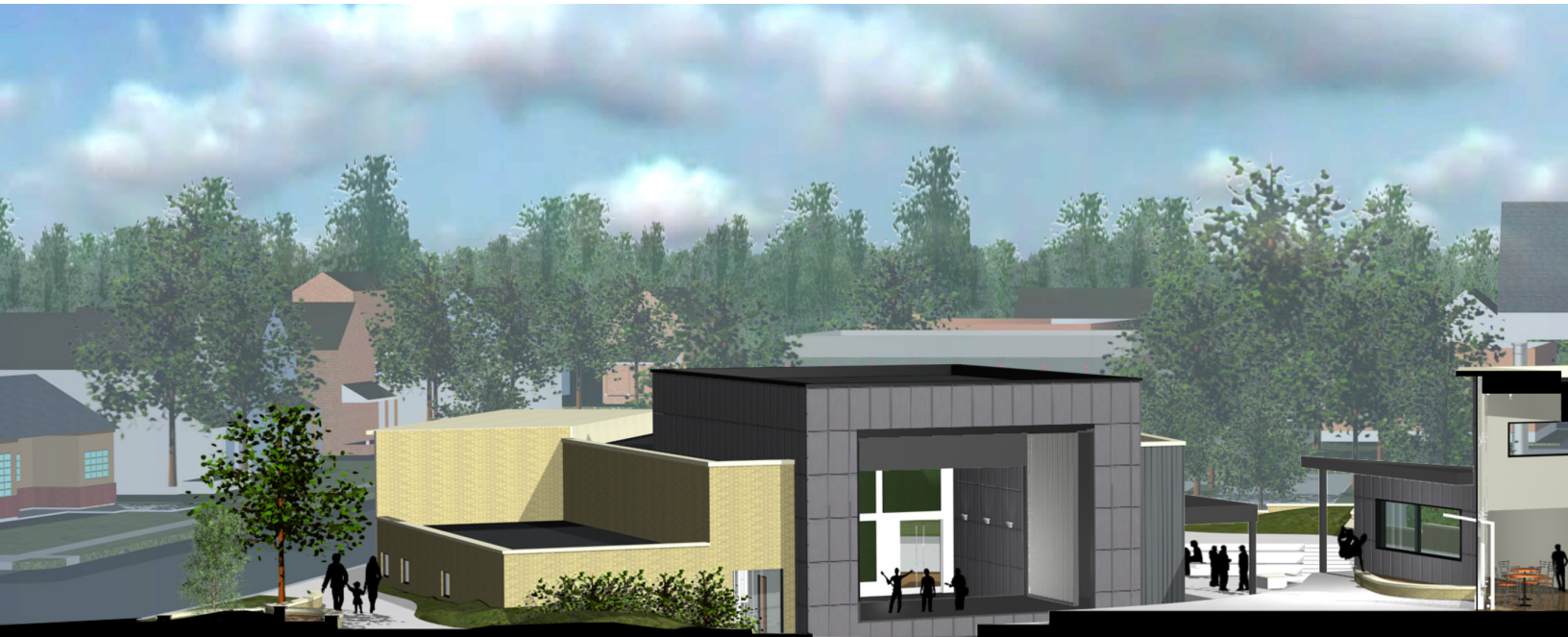




The path from Kellogg is a threshold of its own. It is shared by the other buildings and is more of a threshold to the site itself than to any building. This path uses landscaping and greenery to frame a view and draw interest from the park to the north, creating a smooth transition from one side of the street to the other. This path also features areas to casually hang out, offering ledges and retaining walls that can be used as seating or surfaces for skateboarders. As one progresses through the space, more elements are revealed and further draw one into the experience. This path becomes a part of the east entrance to Eat. It not only leads to the entrance of Eat, but, being mostly glass, also offers a view into the building, particularly, the dining area and kitchen. This allows individuals inside to view the activities happening throughout the site or even in Kellogg Park, which creates an open, free flowing environment.











As well as thresholds into the site and building, thresholds between programs are also important. Within Eat, the kitchen opens to a large corridor with a view to the outside. This corridor, however, becomes part of both the brewery and dining area. Allowing these programs to overlap creates an opportunity for people with different intentions to interact with one another. The corridor also uses the idea that seeing activities, in this case preparing food, will generate conversations. Instead of the typical concealment of the kitchen, being able to see and pass through the kitchen emphasizes its availability and allows it to become a point of interest or triangulation.





The threshold on the south end of Eat offers yet another approach to creating lingering thresholds. This entrance deals with the progression of entering into the building. Starting at the scale of the site, individuals coming from the south would first be met with a change in the landscape and topography. The landscape progresses into the utilization of steps, to a low wall, to columns, and, finally, to an overhang. This overhang also brings the wood material on the underside of the exterior into the ceiling of the dining area. These elements create a “porch” to the building, thus creating a smooth transition from the outside to the inside. This transition further demonstrates that the building is for the public.





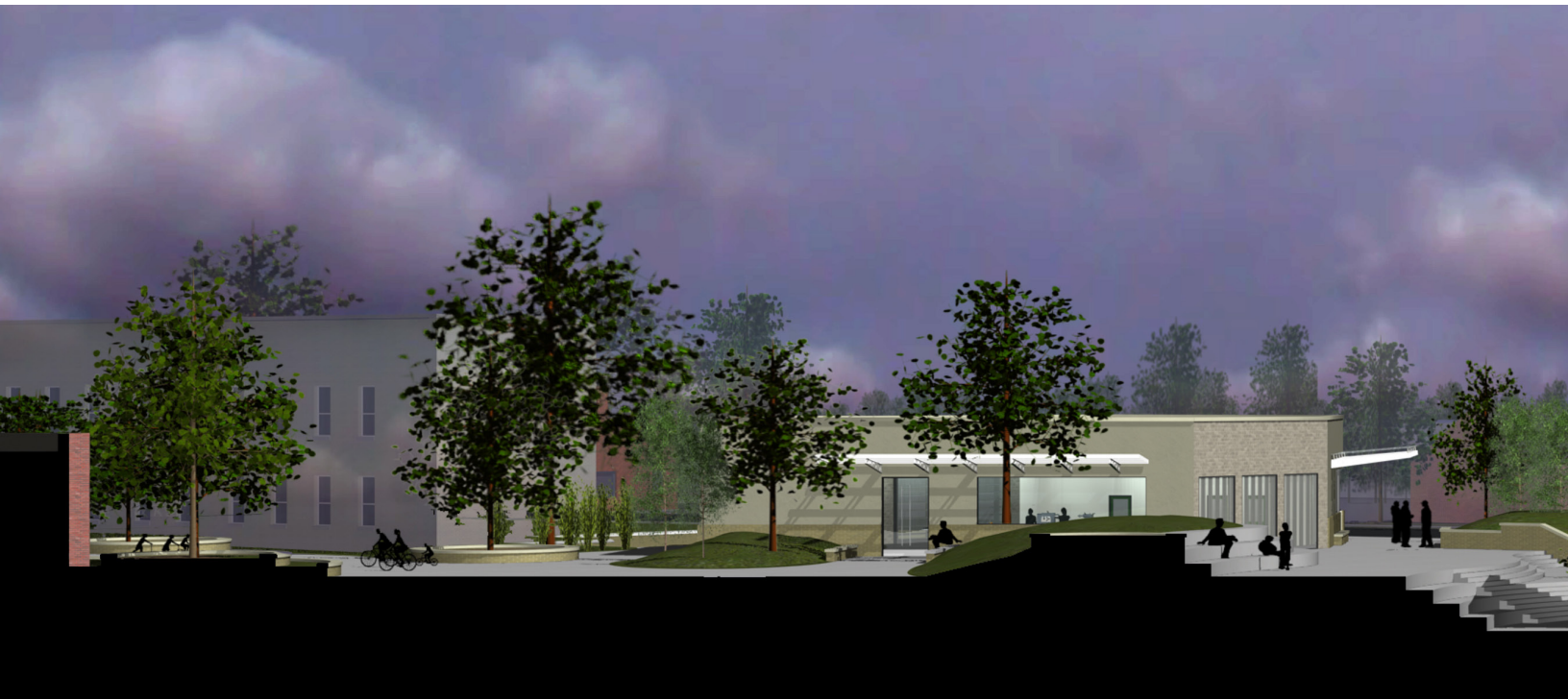
This transition space also creates an exterior “room” shared with Play. In this space, hardscape features, such as the fountains, provide not only a source of triangulation, but also can be used as seating. This multi-purpose design promotes a lingering atmosphere, whether for conversing around the fountain or skateboarding.

Play is also designed to promote activity and interaction. The façade that faces this exterior room features three rotating panels that offer an interactive view into the gallery of Play. There is also an overhang that relates to the overhang of the south entrance of Eat.



Due to the nature of the programs in Play, which includes the theater and art gallery, the building as a whole lends itself to being tall. As not to impose on the site or the surrounding neighborhood, the building was sunken six feet below grade. This also creates an opportunity for the exterior spaces to utilize topography and change in elevation. Having the freedom to alter the topography allows for a less obtrusive area for exterior seating for the theater, as well as making a more dynamic space for skateboarders. This is further demonstrated in the sunken exterior room created between Eat and Play.

The main entrance to Play is located on the southeast corner of the building. It too creates an exterior room to be a source of triangulation and encourage lingering and interaction. This features a low wall that can be used for seating or skating as well as implying that the borders of the building reach farther than the walls themselves. This wall creates a place to display sculptures or other artwork. Similar to the northeast entrance of Eat, this entrance incorporates floor-to-ceiling glass curtain walls that allow people to see inside and get a preview of the art displayed in the gallery. The offices and information desk are set in the midst of the main lobby as a separate entity. This adds to the free flowing atmosphere and is less obstructive for passers by.









Contrary to the other two buildings, the programs in Play are divided. This is largely due to the necessity for control of lighting and acoustics. However, even though these programs do not overlap as extensively as programs in the other facilities, the gallery essentially becomes the lobby for the theater and encourages individuals who intended to use the facility for one purpose to investigate the other.

The exterior space surrounding the southeast threshold of Play is designed in a way that will encourage a passerby to enter the site. It also offers places to pause and become part of the atmosphere. This area subtly pulls the sidewalk from the street into the site. This change creates an exterior space where plants, a low wall, and a change in elevation create a different atmosphere.



Since Fix caters to very specific types of projects, all of which need a large space, the area could be perceived as empty when not in use by a great number of people. It is therefore orientated in a way that will magnify the activity in the building. Aligning the work areas perpendicular to the neighborhood to the east emphasizes the activity within, as opposed to aligning them parallel to the street, which would make them appear to be less active. To illustrate, Figure 12 demonstrates an arrangement of boxes viewed from a perpendicular angle. Figure 13 demonstrates the same arrangement, but viewed from a parallel angle. Clearly, the first arrangement appears to be busier than the second, idle arrangement. This facility also incorporates a tool lending area, which will be designed with a casual atmosphere and adequate room to research a project. An area to accommodate owners' manuals and how-to catalogs is provided. In addition, different types of media are needed to inform users how to properly use the tools and equipment and how to locate part suppliers.

Although it does feature several elements that encourage lingering, the southeast threshold into Fix is not as focused on creating a lingering exterior room as it is on promoting interest for the activities on the interior. The bays in the automotive area are arranged linearly as a way to give a more active and full environment even when it is not at full capacity. There is minimal separation between the programs within Fix, which allow for people both inside and outside to view the activities happening within.

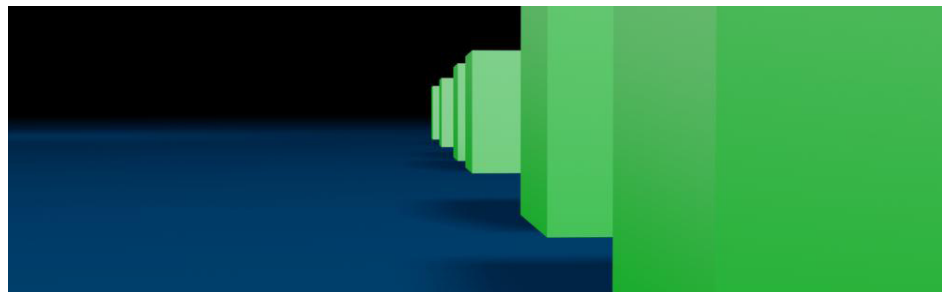


Figure 12



Figure 13

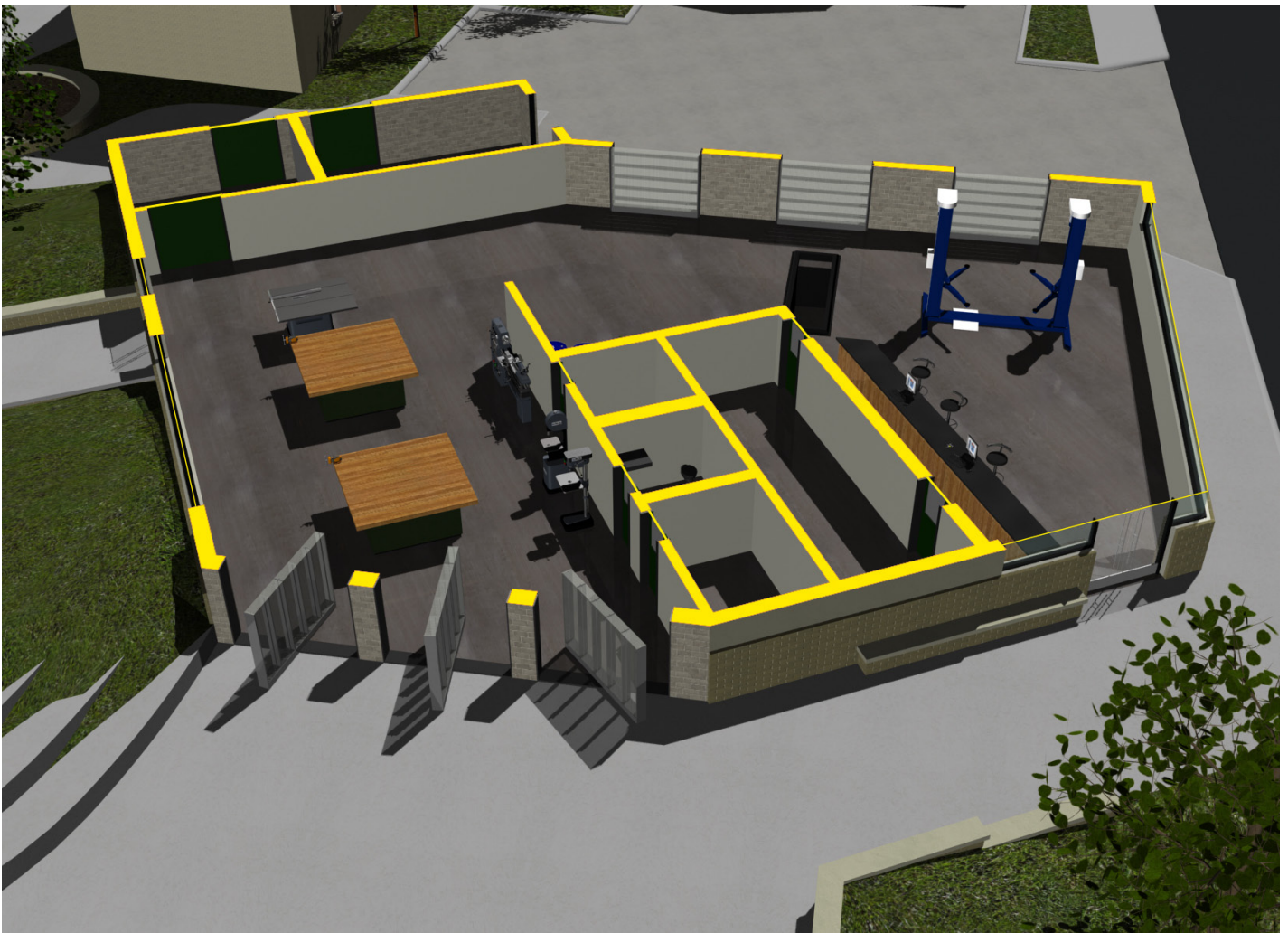






The west entrance of Fix is similar to the southeast. It too has features that promote lingering, however, the main objective is to display the hobbyists and create a nonobstructive environment.

Both of the thresholds into Fix are focused on visibility into the facility, however, it is not in the same vein as promoting visibility into Eat or Play. Due to the machines and equipment, Fix is a slightly more dangerous environment. Therefore, a view to see the activity is necessary, however the transition into the building is not as gradual as with Eat and Play.







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## END NOTES

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### Design:

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## PHOTO CREDITS

All images are courtesy of the author unless otherwise noted

### Precedents/Research:

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pg 15 Breton  
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