Spring 5-7-2019

Know Good Food: Fighting the Effects of Food Deserts through Community Education

Timothy Huntley

Follow this and additional works at: https://digitalcommons.kennesaw.edu/barch_etd
Part of the Architecture Commons

Recommended Citation
Huntley, Timothy, "Know Good Food: Fighting the Effects of Food Deserts through Community Education" (2019). Bachelor of Architecture Theses - 5th Year. 101.
https://digitalcommons.kennesaw.edu/barch_etd/101

This Thesis is brought to you for free and open access by the Department of Architecture at DigitalCommons@Kennesaw State University. It has been accepted for inclusion in Bachelor of Architecture Theses - 5th Year by an authorized administrator of DigitalCommons@Kennesaw State University. For more information, please contact digitalcommons@kennesaw.edu.
Know Good Food
Fighting the Effects of Food Deserts through Community Education

This Final Project is presented to
The Faculty of the School of Architecture
by

Timothy Huntley
In partial fulfillment of the requirements for the Degree of
Bachelor of Architecture
Kennesaw State University, Marietta, Georgia
Spring Semester 2019
According to a nation-wide study conducted by the United States Department of Agriculture Service nearly 10% of the population “are living in communities that do not provide adequate access to healthy food retailers.” This phenomenon is commonly referred to as a ‘Food Desert’. This problem is predominately articulated in the low income, urban communities of color and many rural communities. The inadequate access to healthy food and the definition of what is considered a ‘Food Desert’ only provides a glimpse of the problem. Many families living in these low income areas have access to and are able to buy healthy food but lack the basic fundamental knowledge necessary to feed themselves and their families in a healthy way. The purpose of this project to highlight the issue of inadequate knowledge, or the complete absence of knowledge, in the field of food production and nutrition in low-income communities and its effects on the individual as well as the community. Along with providing evidence of this phenomenon, I intend to propose a viable model that can be adopted by these marginalized communities to provide a center that may be used to gather and learn about what a healthy diet consists of, to discover how food makes its way from its source to the plate, and to understand and demonstrate how to prepare healthy meals.

Thesis Advisor: Timothy Frank, RA

Thesis Coordinator: Elizabeth Martin-Malikian

Department Chair: Dr. Anthony Rizzuto, PhD
Chapter 1
Design Theorem

Design Hypothesis 1.1
Literary Review 1.2
Thesis Situated 1.3
Underlying Principles 1.4
Precedent Analysis 1.5
Figure 1. The Ron Finley Project. Los Angeles, CA, 2017. (Photo courtesy of Jim Newberry)
1.1 Design Hypothesis
According to a nation-wide study conducted by the United States Department of Agriculture Service nearly 10% of the population “are living in communities that do not provide adequate access to healthy food retailers.” This phenomenon is commonly referred to as a ‘Food Desert’. This problem is predominately articulated in the low income, urban communities of color and many rural communities. The inadequate access to healthy food and the definition of what is considered a ‘Food Desert’ only provides a glimpse of the problem. Many families living in these low income areas have access to and are able to buy healthy food but lack the basic fundamental knowledge necessary to feed themselves and their families in a healthy way. Why is one of the most successful countries in the world struggling with a basic human necessity, feeding themselves a healthy, well-rounded diet? It has moved beyond an issue of access, and cost, and has become an issue of inadequate education on the subject of nutrition, and food production and how it can affect individual as well as community health and well-being.

The purpose of this project to highlight the issue of inadequate knowledge, or the complete absence of knowledge, in the field of food production and nutrition in low-income communities and its effects on the individual as well as the community. Along with providing evidence of this phenomenon, I intend to propose a viable model that can be adopted by these marginalized communities to provide a center that may be used to gather and learn about what a healthy diet consists of, to discover how food makes its way from its source to the plate, and to understand and demonstrate how to prepare healthy meals. I will do this by engaging the local community and designing a space around the process of food production. Along with this I intend to adopt a process of site re-naturalization, exploring the building’s relationship to the ground, inverting front and back of house, and expressing the visual and physical connections one has with food procurement. Accomplishing these design goals will begin to reconnect these neighborhoods to the Earth, nourish the individuals living in these neighborhoods, and work toward realizing the potential in these neighborhoods.
Food Deserts

Food Deserts are defined by the American Nutrition Association as “parts of the country void of fresh fruit, vegetables, and other healthful whole foods, usually found in impoverished areas. This is largely due to a lack of grocery stores, farmers’ markets, and healthy food providers” (ANA 2010). With the lack of healthy food retailers, citizens have no choice but to get their food from convenient stores or fast food establishments.

Defined

The CDC defines a food desert as “areas that lack access to affordable fruits, vegetables, whole grains, low-fat milk, and other foods that make up the full range of a healthy diet.”

Measured

Low Income

A census tract with either a poverty rate of 20% or more, or a median family income < 80% of the State or Metro wide median family income.

Low Access

A census tract with at least 500 people, or 33% of the population, living more than 1 mile (urban areas) from the nearest supermarket.

A census tract with at least 500 people, or 33% of the population, living more than 1/2 mile (urban areas) from the nearest supermarket.
Build and develop backyard and community gardens as well as larger scale urban agriculture.

Implement programs at community gathering places to teach people to cook cheap, simple, and healthy meals.

Teach classes on nutrition including the dangers of preserved and fast food while stressing benefits of freshly prepared meals.

Farmer’s markets, Public Markets, Cooperatives, Farm Stands, and Community Supported Agriculture Programs.

Attract and/or develop more grocery stores and supermarkets where they are scarce.

Increase stocks of fruits and vegetables at corner stores of small groceries.

Build and develop backyard and community gardens as well as larger scale urban agriculture.

Possible Solutions

“Food Desert Solutions” Dark Rye
www.darkrye.com/content/food-desert
Community Based Design

Before I begin designing this community center I intend to conduct ample research on community based design and all its considerations. Designing for a community requires sufficient knowledge not only in the physical factors that effect the site but also the socio-economic, demographic, and cultural factors that will undoubtedly will influence and effect the planning and design of this project. In Karen Franck’s article, “The City as a Dining Room, Market, and Farm”, she aims to inform architects and planners to pay attention to a community’s many functions when it comes to food as a catalyst for design. The following is an excerpt from Franck describing what public space could be like when food production, preparation, and consumption are thought of as community centered activities and planners designed as such.

“The public culture of food brings vitality and conviviality to urban life. People come together in public spaces to buy and to eat, and even to grow food, and in these ways, also, to be with others. They may join people whom they already know, finding in restaurants and cafés the space to eat and converse with friends and family that is simply not available in their own small apartments. Or they may simply enjoy the presence of strangers. Eating venues offer what Ray Oldenburg in his Great Good Place calls a ‘third place’ - that is, neither home nor work.”

The relationship between food and culture has been present since the dawn of human civilization and interaction. Food, as a basic human necessity, has afforded cultures and peoples to express their history, traditions, and regionalism. This relationship between food and culture can have many effects when it comes to design and needs to be carefully studied and considered before developing a community center design. In Dorothee Imbert’s article entitled “Food and the City: Histories of Culture and Cultivation” she aims to identify themes in physical, political, and poetic relations between food production and urban living throughout history. The following is an expert from Imbert describing two urban food retailers and how they have had a historical impact on their communities.

“Les Halles went from being described as ‘France’s finest garden,’ where gardener, retailer, and shopper met in the center of Paris, to ‘the largest market in the world’ supporting industrial agriculture and mass consumption. After technocratic planning had all but erased the market gardener and small farmer from the automatized flows of the modern market, Rungis (another urban food center) has reinvented itself yet again. It is a cross platform where sellers and buyers from far and near can trade in flowers or find imparted delicacies.”

Key Words: Urban Agriculture, Culture, Food Security
Urban Agriculture

The concept of Urban Agriculture is critical to this project. The techniques and methods of implementation and integration need to be carefully considered when designing and planning a structure or area that is intended to be used for growing and harvesting fresh produce. There are many benefits available for a community that decides to pursue their own food production. These benefits are not without their share of careful planning and work. Many of the considerations and procedures are laid out in Luc J. A. Mougeot’s article “Urban Agriculture in Cities of the Global South”.

The following is an excerpt from Mougeot on the four aspects of the design and planning process that are of great importance and need to be addressed.

“Urban agriculture’s integration into the urban economy and ecology can be understood as involving at least four strategies, or logics, which, over time and space, seek to optimize the following processes:

• The land rent of urban agriculture production;
• The value chains of urban agriculture production;
• The multiple functions of urban agriculture production sites; and
• The physical connectivity of urban agriculture production sites.”


Key Words: Urban Planning, Urban Ecology, Integration
1.3 Thesis Situated

Percentage of the population that does not have a car and live farther than 1 mile from the nearest grocery store:

- > 10 percent
- 5 - 10 percent
- 2.5 - 5 percent
- < 2.5 percent
- No Data

2 Million Georgians living in food deserts.

Figure 11. United States Food Insecurity Map. [Source: Hunger in America 2014 Report, USDA; CDC.]
Figure 12. United States Median Income Map (Source: Hunger in America 2014 Report, USDA; CDC.)

Figure 13. United States Obesity Rate Map (Source: Trust for America’s Health and Robert Wood Johnson Foundation. The State of Obesity 2018.)
The figure above illustrates just how widespread the ‘access’ issue spreads across the Atlanta Metropolitan Area. This absence is due to northern population shift and concurrent northern shift of the supermarket battle. The need for food that supermarkets used to fill is now filled by convenience stores and fast food restaurants.

The amount of people affected by poverty in the Atlanta area is more than most would typically guess. Families that live below or near the poverty line have a substantially higher chance of being food insecure, or not having enough money to feed your family a meal, much less a meal that is nutritious and healthy.

The obesity rate in Georgia and in the Atlanta metropolitan area is staggering; the figures for the ‘overweight’ category has increased meteorically in the last 20 years. This is primarily due the absence of fresh food retailers and the over abundance of fast food chains. The obesity issue in Georgia has led to elevated numbers of diet-related illnesses.
“Why can we build multi million dollar highway systems and multi billion-dollar stadiums, but not more grocery stores? If we can build a museum dedicated to a soft drink and one that celebrates college football and another that trumpets civil rights, can’t we help our neighbors with what seems to be a most essential and basic right: putting an affordable and healthy dinner on the table?”

Source: “Stranded in Atlanta’s Food Deserts” (Burns, 2014)
1.4 Underlying Principles

The project and the program it houses must be a good fit in the community in which it is built. For a food center to properly serve its community, we must know some demographic data about the community in order to establish need. Ideal characteristics of a food center location include in low income, food desert like communities.

Program

The project and the program it houses must be a good fit in the community in which its built. For a food center to properly serve it community, we must know some demographic data about the community in order to establish need. Ideal characteristics of a food center location include in low income, food desert like communities.

Figure 18. Edible Schoolyard Program Diagram, Brooklyn, NY. (Photo courtesy of Google Maps)
Front of House vs Back of House

Front of House (FOH) and Back of House (BOH) and their relationship to one another can have a profound effect on the users of the space. Precedents will be analyzed by separating FOH and BOH by the people allowed to use the space whether it be from the standpoint of an employee, guest, client, teacher, student, or patron.
Connection To Ground

A food center project with a profound ideological connection with the ground must show a complex and thoughtful physical connection with the ground as well. The projects' relationship to the ground will be considered in section, how the building literally interfaces with the earth, materials used, how it is placed on the site.

Foundation Type:
Concrete Slab
To counteract the negative effects of the over-built environment, the effort of renaturalization is to be considered in the project. Precedents will be analyzed based on the amount of permeable to impermeable surfaces on the site and the sustainability measures that are implemented to reduce the buildings’ impact on the Earth.
Physical Connections

In a learning environment, a physical connection a person has with the material he or she is trying to grasp can make the difference in truly understanding it. Precedents will be analyzed by mapping out indoor/outdoor operability, maintaining a connection between the patron, and the what they are learning about, making food. A direct physical connection is one with nothing interrupting one’s relationship with the exterior. A filtered connection means there is something partially obstructing the user’s connection to the exterior.
Visual Connections

This project hopes to attain a certain level of transparency both on the figurative sense by unveiling the food process, and on the figurative sense by maintaining a visual connection with adjacent spaces. Precedents will be analyzed by looking at view vectors and how spaces are visually connected throughout the project.
1.5 Precedent Analysis
The Edible Schoolyard Project is a satellite classroom building situated amongst a lush educational garden at P.S. 216 in Brooklyn, New York. The project program includes a classroom situated directly adjacent to demonstration kitchens, a greenhouse, tool storage, water retention system and outdoor garden/classroom. This project was establish in and helped revitalize and food desert and has used the process of renaturalization to create a space for children to learn and grow.

Figure 35. PS216 Edible Schoolyard, Brooklyn, NY. Date unknown. (Photo courtesy of Bruce Damonte)
Walk Score: 94
Transit Score: 78
Bike Score: 68

Program

At the time this project was conceived and built, the local community had experienced severe food desert conditions. The Edible Schoolyard project helped to bring healthy, natural foods to an area that desperately needed it while educating its young citizens about healthy food.

Low Income

Low Access within 1 mile
Low Access within 1/2 mile
Low Vehicle Access


Figure 36. Edible Schoolyard Program Diagram. (Photo courtesy of Google Maps)
Front of House vs Back of House

The served and servant spaces are pretty clearly defined in this project and there isn’t a lot of blending between the two. This is due to the fact that this is a classroom meant for small children and the separation of FOH and BOH is necessary for their safety.
Connection To Ground
The connection to ground one feels in this project isn’t much different from any other classroom. There is not a lot the designers did to express and manipulate the ground connection on this project. The connection to ground is highly expressed around the built structure with permeable pavers and bare, open ground.
**ReNaturalization**

The Edible Schoolyard project places an emphasis on renaturalization by limiting how much of the site is actually built on. Less than a quarter of the nearly 19,000 sq. ft. site is built on and the rest of the site is left permeable.
Physical Connections

There are not many opportunities for the patrons of the Edible Schoolyard project to manipulate the exterior facade of the structure to have a more direct, physical connection to the outside and the material that they are learning about.
Visual Connections

The visual connections between spaces in the Edible Schoolyard project are weak. Children in the classroom have limited view to the outside which is where the subject matter that they are learning about is. Out in the greenhouse, views are also limited by translucent glass.

Figure 45. Edible Schoolyard Visual Connections Diagram. Plan retrieved from WorkAC.com

Figure 46. (Top) Edible Schoolyard Greenhouse Space. Brooklyn, NY. Date unknown. (Photo courtesy of Bruce Damonte)

Figure 47. (Bottom) Edible Schoolyard Classroom. Brooklyn, NY. Date unknown. (Photo courtesy of Bruce Damonte)
The Washington Fruit and Produce Company project is an office/headquarters building located at the edge of the plains and rolling hills of Yakima, Washington. The project includes open offices, private offices, conference rooms, a dining/entertaining space, and an interior courtyard. The project utilizes visual connections to unify and centralize views and has utilized its unique geographic location to create an elegant relationship with the ground on which it sits.
Although this project is located in a severe food desert, the Washington Fruit & Produce Co has a very weak connection with the surrounding community and is not meant to be open to the public.

**Program**

- Total Population: 4,521
- Population Density: 2,272 pop./sq. mile
- Poverty Rate: 32.5%
- Median Family Income: $33,092/yr
- Washington State MFI: $84,594

**Walk Score**
- Most Errands Require Car

**Transit Score**
- A Few Nearby Transit Stops

**Bike Score**
- Flat land, good bike lanes.

**Figure 49. Washington Fruit Program Diagram. (Photo courtesy of Google Maps)**
Front of House vs Back of House
There is very little distinction between served spaces and Servant spaces in the Washington Fruit & Produce project. This space is meant to be used as an office space and has very little interaction with non employees in house.
Connection To Ground

The way the connection to ground is expressed in the Washington Fruit & Produce Co. is primarily through the form and materials. The form utilizes large planes and shallow angles to mimic the rolling hills it sits among. The materials have been locally sourced to incorporated the ground throughout the building.

Foundation Type:
Concrete Slab

Direct Connection to Ground

Locally sourced materials populate the project

Building mimics ground plane to blend in with landscape
ReNaturalization

The principle of Renaturalization has been emphasized the Washington Fruit & Produce Co. project in many different ways. The ground plant is manipulated to create a green roof. The berm surrounding the project has been created with the soil excavated during construction and storm water is collected on site.

Figure 55. Washington Fruit Renaturalization Diagram. (Photo courtesy of Google Maps)
Physical Connections

Although the Washington Fruit & Produce Co project creates a sense of openness when inside the structure, there is very little way of manipulating the exterior facade in a way that creates a strong physical connection with the outside.
Visual Connections

Visual Connections in the Washington Fruit & Produce Co. project are highly emphasized throughout the project. All views are directed toward the interior courtyard and the other structures on site. Views are allowed by the floor to ceiling windows that make up the interior courtyard facades.
The Old Dominick Distillery is an adaptive reuse project situated in an old factory building located in downtown Memphis. The project program includes all facilities necessary to distill, package, and distribute spirits as well as a bar, event spaces, a restaurant, and a gift shop. The project is an excellent example of blurring the line between front-of-house and back-of-house as well as creating visual connections.
The Old Dominick Distillery is predominantly used as a place of manufacturing and of leisure. There was no consideration for the surrounding food desert conditions.

Program

Total Population: 2,348
Poverty Rate: 15.5%
Median Family Income: $89,821 yr
Tennessee State MFI: $54,340

Walk Score: 77
Most errands can be accomplished on foot
Transit Score: n/a
Bike Score: 50
Some Bike Infrastructure

Low Income
Low Access within 1 mile
Low Access within 1/2 mile
Low Vehicle Access

The consideration of the relationship between FOH and BOH in the Old Dominick Distillery has been elegantly expressed. Patrons are taken on a journey through what are typically restricted areas in order to gain a more thorough understanding of how whiskey, gin, and other spirits are distilled.
Connection To Ground

The Old Dominick Distillery is a refit project of an old factory in downtown Memphis. At the time the original building was constructed, little attention was paid to the building’s connection to ground. The refit project utilizes locally sourced materials.

Figure 68. Old Dominick Connection to Ground Diagram. (Photo courtesy of Google Maps)

Figure 69. (Top) Old Dominick Distillery Barrel Storage. Memphis, TN, 2018. (Photo courtesy of McGinn Photography)

Figure 70. (Bottom) Old Dominick Distillery Lobby. Memphis, TN, 2018. (Photo courtesy of McGinn Photography)

Plan

- Direct Connection to Ground

Foundation Type:

Concrete Slab
ReNaturalization

At the time the original building was built there was little attention paid to site permeability. The site is 0% permeable, and water on the site is evacuated via storm sewer system.
Physical Connections

The Old Dominick Distillery uses the original factory windows and mechanisms in order to establish a physical connection to the exterior. The space also include a rooftop patio that connects patrons with the outside.
Visual Connections

The use of the visual connection in the Old Dominick Distillery project lends itself to an interesting and informative experience. Patrons are guided on a tour through many distinct spaces and are provided with glimpses of upcoming destinations.
The Dominus Winery is a farm/processing/wine production facility that gracefully addresses the vineyard fields of northern California. The project program includes all the facilities needed to grow and harvest grapes, winery, offices, a bar, and event space. This project's relationship with the ground is firm yet passive and utilizes its site orientation and materials to further that connection.
The Dominus Winery project was designed for an affluent client to be located in Napa Valley, a wealthy area of upstate California. This project was never intended to serve the public directly and is not located within any food desert like conditions.

Total Population: 2,933
Poverty Rate: 6.3%
Median Family Income: $90,931 yr
California State MFI: $71,805

Walk Score: 26
Most errands require a car
Transit Score: n/a
Bike Score: 49
Some Bike Infrastructure

Program

Although the Dominus Winery is rarely open to the public, the designers still made attempts to blur the line between FOH and BOH. Guests are taken on a tour through typically restricted areas and are finally through the office space and into a entertaining space used by both guests and staff alike.
Connection To Ground

The Dominus Winery’s relationship with the ground something to be admired. Its form, constructed from the ground it protrudes from mimics the flat planes of the field it is adjacent to but gives way to the predominant paths that divide the site. The Gabian walls that compose the shell serve an aesthetic purpose and lend themselves to regulating temperatures in the structure.

Figure 81. Dominus Winery Connection to Ground Diagram. [Plan & Section retrieved from DominusEstate.com]

Figure 82. Gabion Wall. Yountville, CA. Date unknown. [Photo courtesy of DominusEstate.com]

Figure 83. Front View of the Winery. Yountville, CA. Date unknown. [Photo courtesy of DominusEstate.com]

Foundation Type:
Concrete Slab
ReNaturalization

Because the primary purpose of the Dominus Winery Project was to be a support facility to house the operations, tools, and post processing equipment necessary to keep a farm running, nearly all of the 64 acre site is dedicated to farm land.
Physical Connections

Exterior Facade system of the Dominus Winery project is made up of layers that at times are home to the circulatory spaces of the building. The gabian wall structure that is ubiquitous throughout the project and the limited use of glass enclose proved patrons with a constant physical connection to the exterior.
Visual Connections

The designers of the Dominus Winery, Herzog & de Meuron, took careful consideration on how adjacent spaces, sometimes of completely different program, are visually connected as one moves through the space. At almost any given location in the project, there is some sort of visual connection to the exterior.
Chapter 2
Design Practicum

Site & Program Parameters 2.1
Site Analysis 2.2
Program Analysis 2.3
Figure 91. Project Site and Immediate surroundings, 2019 (Source: Google Maps)
Site Selection Criteria

In order to decide on a site on which to place an urban food center dedicated to teaching marginalized and hungry communities about food, I studied the areas of Atlanta that exhibit food desert like conditions. Another consideration was choosing an overbuilt site that was in need of renaturalization.

Low Food Access

The United States Department of Agriculture defines “Low Food Access” in 2 distinct severities; Tracts in which at least 500 people or 33% of the population lives farther than 1 mile & Tracts in which at least 500 people or 33% of the population lives farther than 1/2 mile (USDA 2017).
“Low Income” is defined by the USDA as census tracts with a poverty rate of 20% or higher, or tracts with a median family income less than 80% of median family income for the state or metropolitan area (USDA 2017).

Overbuilt

The graphic to the right illustrates the amount of land that has not been built upon. My project site falls within an area that has been overbuilt for generations.
2.2 Site Analysis
Figure 96. Public Transportation Diagram. (Source: Google Maps)

Figure 97. Vacancy Diagram. (Source: Google Maps)

Figure 98. Food Desert Diagram. (Source: Google Maps)

Figure 99. Public Parks Diagram. (Source: Google Maps)
The site is located in an area that was formerly used for industry and manufacturing. Many of the adjacent lots feature hollowed out factory buildings or concrete slabs where buildings once stood. The Atlanta Beltline interacts with the site at the northeast corner. There is a functioning farm to the site’s southeast. Many of the abandoned lots and buildings to the north, northwest, west of the site have bought and are to be developed in accordance with The Beltline Masterplan.
Overbuilt

The site in its current state is a perfect candidate for renat-uralization. Overgrown lots, trash, debris, fenced in, unused and under-used lots populate the site. Dumping and littering are a common occurrence and the site has been in a state of neglect for many years.

Figure 102. Site Green Ground Cover Diagram. (Source: Trees Atlanta)
2.3 Program Analysis

The area in which the project site is located is home to many residents that are earning well below the Median Family Income for the city as well as the state. A disproportionate number of residents are below the poverty line as well.

Low Income

Figure 103. Regional Income/Poverty Map. (Source: USDA Economic Research Center)
Low Food Access

This area does not feature many healthy food retailers and many residents without proper means of transportation are faced with the choice of walking or taking the bus long distances, or attaining food from their local convenience store. Many choose the latter.

Vegetation & Tree Cover

Tree cover and other vegetation is scarce on the site and on adjacent sites. There is a small urban farm in the lot directly east of the site that may contribute to the design of the food center.
The program of this project is to be primarily based around the growing of healthy fruits and vegetables and to exhibit this process to the public to increase understanding.

The primary and secondary programmatic space include space for planting, planter boxes, work tables, tool & material storage, & other misc space.

In order for this project to bring strength to the surrounding community, the program will promote community gathering and will provide space to do so. The project will include a centrally located dining space to serve as the primary gathering space. Other programmatic elements include market stalls, auxiliary gathering spaces, & storage.

This project aims to have a lasting impact on the community it serves. In addition to growing food on site, the program will provide spaces to educate to public. Found amongst the growing and gathering programmatic space will be space dedicated to spreading information about healthy food and providing growing/prep/cooking demonstrations.

Figure 106. Children Potting Plants. Brooklyn, NY. Date unknown. (Photo courtesy of Bruce Damonte)

Figure 107. Washington Fruit Dining Space. Yakima, WA. Date unknown. (Photo courtesy of Kevin Scott)

Figure 108. Old Dominick Distillery Tour. Memphis, TN. 2018. (Photo courtesy of McGinn Photography)
### Program Inventory

<table>
<thead>
<tr>
<th>Grow</th>
<th>Gather</th>
<th>Learn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planter Boxes</td>
<td>Tool &amp; Material Storage</td>
<td>Classrooms</td>
</tr>
<tr>
<td>Greenhouse</td>
<td>Greenhouse</td>
<td>800-1200 sq. ft.</td>
</tr>
<tr>
<td>Tool &amp; Material Storage</td>
<td>Demonstration Kitchen</td>
<td>800-1200 sq. ft.</td>
</tr>
<tr>
<td>Outdoor Picnic Area</td>
<td>Demonstration/Prep Tables</td>
<td>600-700 sq. ft.</td>
</tr>
<tr>
<td>Outdoor Classroom</td>
<td>Exhibition Space</td>
<td>600-800 sq. ft.</td>
</tr>
<tr>
<td>Community Dining Space</td>
<td>Flexible Community Spaces</td>
<td>1600-2000 sq. ft.</td>
</tr>
<tr>
<td>Flexible Community Spaces</td>
<td>Market Stalls</td>
<td>250-300 sq. ft.</td>
</tr>
<tr>
<td>Demonstration Kitchen</td>
<td>Community Dining Space</td>
<td>2500-3000 sq. ft.</td>
</tr>
<tr>
<td>Outdoor Classroom</td>
<td>Demonstration/Processing Space</td>
<td>1200-1600 sq. ft.</td>
</tr>
<tr>
<td>Exhibit Area</td>
<td>Outdoor Picnic Area</td>
<td>100-1200 sq. ft.</td>
</tr>
</tbody>
</table>
Chapter 3
Urban Food Hub

Site Oblique 3.1
Floor Plan 3.2
Section 3.3
Renderings 3.4
Isometrics 3.5
Final Boards 3.6
3.1 Site Oblique
In order to attract as many patrons into the space, the Know Good Food Hub is situated toward the Northeast corner of the site in order to create a stronger visual connection with the Atlanta Beltline. The primary barn-shaped structure emerging from the densely planted rows of crops provides an interesting view from the Beltline and may aid in attracting and educating more of the general populace.
The plan of the Know Good Food Hub very basically comprised mostly of vertically arranged and subdivided parcels of land to be used for planting edible crops and a building designed to be to house all processes and equipment necessary to not only farm the land, but to teach people how to farm as well. The scheme of the built structure is long, open-air corridor or hall oriented on the East/West axis and is flanked by spaces flexible enough to house different needs based on the changing of the seasons or events.

3.2 Floor Plan
The section drawing of the Know Good Food Hub illustrates all the different spaces and systems and how they all relate to one another. Primary wooden barn structure interacts with a secondary movable partition system that allows free flow and movement between spaces if needed.

3.3 Section
Storm water is managed on site via a catchment and cistern storage system. Rain falling on the South side of the site is distributed by an irrigation system integrated within the planter borders. Rain falling on the North side of the site is funneled into cisterns to be treated and reused in dryer conditions.
3.4 Renderings
Upon approach, guests are greeted by a long central hall inviting them into the space. Passing between thriving plant beds at the edge of the site, guests enter a spaces filled with many activities integral to the process of creating and procuring healthy food.

Once inside the project, patrons motivated by their hunger for knowledge are visually and physically connected to all of the different programmatic spaces. The space operates as a full time farm so many of the areas are occupied by workers, teachers, students, and whomever else may have an interest in healthy food production.
The garden is a place of growth both for the healthy, organic crops and the guests who make their way into the Know Good Food Hun. The garden is supplied by recently sprouted seedlings transported from the primary structure on a system of platforms on tracks and planted by volunteers and students hoping to get an hands-on, interactive learning experience about one of man’s most basic needs, good food.
The flexibility of the space allows for different arrangements and orientations based on the needs of the space for that particular event or season.

Pictured left is an example of a Spring time arrangement. Planter tables are covered in all the supplies and tools necessary to plant seeds in trays to be stored on shelves awaiting the time another round of guests transports them out to the field to be planted.

Plants Mature enough to be replanted are transported out to the fields via carts on tracks.

Guest are taught how to begin the growing process by planting seedlings.

Recently planted seedlings stored until they are ready to be replanted.
Pictured right is an example of a possible Summer/Fall arrangement. This scheme shows a classroom adjacent to processing tables for the guests to learn about how to harvest and gather fruits and vegetables that are ripe and ready to be turned into food.
The program of this project is to be designed as an Edible Schoolyard. This type of project is a model for the reclamation of food deserts and former food deserts. Along with providing evidence of this phenomenon, I intend to design and construct an Edible Schoolyard that will serve as a prototype for future projects. The purpose of the KNOW GOOD FOOD project is to highlight the issue of inadequate knowledge in the fields of nutrition and health. In order for this project to bring strength to the surrounding community, the program will promote community education and outreach. The project will include a centrally located gathering programmatic space, as well as auxiliary gathering spaces and storage. Classrooms, tool and material storage, and other auxiliary spaces will be included. The Edible Schoolyard Project addresses the issue of renaturalization in a remarkable way. Leaving the path undisturbed, walls constructed from the earth beneath the truck. Herein lies the root of the problem that I intend to confront.

Where do carrots come from? You may not see it as a privilege to know the origin of food, but for those living in food deserts, it is a necessity. The need for food that supermarkets used to supply has gravitated toward the suburbs. The data shows that the higher cost of healthy foods often puts them entirely beyond the reach of many struggling families. According to the 2014 USDA Report on Hunger in America, 38.7% of Georgians living in communities of color and low-income districts had no car and no supermarket within a mile. In a learning environment, a physical connection a person has with the food they eat is essential to understanding.

Some studies have shown that children who grow their own food are more likely to eat healthy foods. The Edible Schoolyard Project is designed to foster this connection. It is hoped that the students will be able to understand the importance of healthy eating and become advocates for their own health. The project will also include a demonstration/gathering space. This space is intended to be a place where the public can learn about healthy eating and ways to improve their own diet.

The programmatic framework for the Edible Schoolyard Project is based on the following principles:

1. **Visual Connections**
   - The floor plan of the project assists with visual connections.
   - Precedents will be analyzed by separating FOH and BOH by the people to one another can have a profound effect on the users of the space.
   - The Edible Schoolyard Project addresses the issue of renaturalization in a remarkable way. Leaving the path undisturbed, walls constructed from the earth beneath the truck.

2. **UNDERLYING DESIGN PRINCIPLES**
   - **Program**
     - Outdoor Dining Space
     - Demonstration/Prep Tables
     - Classroom Tool & Material Storage
     - Vegetable Storage
     - Other Misc Space
   - **Material**
     - Concrete Slab
     - Foundation Type: New York State MFI: $58,005
     - Poverty Rate: 14.2%
     - Total Population: 4,301
   - **Performance**
     - Suggested Path of Travel
     - Nearest Grocery Store:
     - Percent of Georgians that
       - 30.2% - 31.8%
       - 27.8% - 29.0%
     - Obesity Rate
       - 19.9% - 21.3%
     - Low Access within 1 mile
       - Low Income
         - 94
   - **Context**
     - Adair Park
     - 1/2 Mile
     - View Frames
     - Dominus Winery
     - Yakima, WA
     - Floor 2
     - Floor 1
     - Low Rate Children in Georgia Living in
       - Low Death Rate / Low Income
     - High Death Rate / High Income
     - No Data
   - **Site Oblique**
     - Visual Connections / Cafe
     - Entryador Court
     - Food Center
     - K-12 Ponds
   - **Approach**
     - Nearest Grocery Store:
     - Percent of Georgians that
       - 30.2% - 31.8%
       - 27.8% - 29.0%

3. **Final Boards**

4. **Visual Conversions**
   - Washington Fruit & Produce Co.
   - Graham Baba Architects
   - Herzog & de Meuron
   - FYI: Yakima, WA
Chapter 4
Reflection/ReEvaluation

Reflection 4.1
Underlying Principles Revisited 4.2
Figure List 4.3
Designing a Food Hub in a food desert in Atlanta, with a focus on transparency and physical and visual connection presented quite a few challenges and opportunities. Of the 6 design principles, the one that was the most difficult to navigate was the relationship between front-of-house and back-of-house and how to plan and arrange different programmatic space and where those spaces overlap and occupy the same space. Establishing visual connections between space was made possible with the use of transparent/translucent panels and also due to the fact that nearly all partitions in the space could have at least some degree of transparency. I think the connection to ground in this project was most emphasized through the building’s form, rising and occupying the same grid on which it stands. I believe a project like this one has the power to transform malnourished communities and begin to educate its populace about healthy food sources.
One of the challenges that have not been addressed in this project that would make realization more of a possibility, is a focus on the policies that have created the problem and what should be done to reverse it. A closer look into the specific events, legislation, and social movements that have lent themselves to the creation of the food desert problem could illuminated different ways to address the issue of food deserts. Another aspect of the project that could have been developed is the community’s role in helping plan, design, build, and maintain this project.
Underlying Principles Revisited

Program

This area is currently plagued with many food desert symptoms and many of its citizens are in poor health because of it. The Know Good Food project will help to raise its patrons’ awareness of what constitutes healthy food and where it comes from and hopefully the food deficiency issues in the area.

Walk Score: 38
Transit Score: 54
Bike Score: 74

Total Population: 3,678
Poverty Rate: 24.3%
Median Family Income: $40,238/yr

Low Income
Low Access within 1 mile
Low Access within 1/2 mile
Low Vehicle Access

Nearest Grocery Store:
Big Bear Foods
1.2 miles
Front of House vs. Back of House

There is little to no distinction between the front of house in this project and the back of house. This is done purposefully to give guests an honest and authentic experience when in the space. Spaces normally off limits to guests are open for display and guests are encouraged to interact with these spaces.
Connection to Ground
The presence of the ground is highly emphasized through the interior and exterior of this project. A rectangular slab shape is chipped away to bring rows of crops right up against and sometimes into the project. The building emerges from the grid on which it stands by long low-angled wood members that seem to sprout out of the ground amongst the crops. The connection to ground is also reinforced, quite literally, by the use of a movable platform system that has the capability to literally transport the ground into and out of the space.

Foundation Type:
Concrete Slab
ReNaturalization

Preservation of the ground condition and returning the under utilized and over built expanses of concrete to a more organic condition was a priority in this project. Wherever possible, a poured concrete slab was replaced by either some sort of permeable paver or omitted all together. What resulted was a building that used less than 20% of the site and left the majority of the site to the most important aspect of the project, the food.
Physical Connections

The way that the Know Good Food Hub physically connects its patrons to the outside is with the ubiquitous presence of large sliding doors and partitions that can be manipulated to give the once subdivide space and completely open feel. Sliding walls and doors make up most of the demising walls in the project and enable people using the space to dictate how connected they want to be with the outside.
Visual Connections

Nearly all of the partitions and doors of this project are constructed of transparent and translucent panels that allow light and views to penetrate through all of the spaces in the project. This has been done purposefully to express literal and figurative transparency of the space.
Figure 1. Know Good Food Poster. 2019 (Image courtesy of Tim Huntley)
Figure 2. The Ron Finley Project. Los Angeles, CA. 2017. (Photo courtesy of Jim New- 
berry)
Figure 3. Citizens Carry Groceries. Atlanta, GA. Date unknown. (Photo courtesy of 
Audra Melton)
Figure 4. Teaching Children About Food. 2016 (Photo courtesy of USDA.gov)
Figure 5. Community Cooking Class. Date Unknown. (Photo courtesy of Sustainable- 
FoodCenter.org)
Figure 6. Community Garden. 2016 (Photo courtesy of Jim Rabiolo)
Figure 7. Grant Park Farmers Market. Atlanta, GA. Date Unknown. (Photo courtesy of CPWATL.org)
Figure 8. Covered Market. Cardiff, Wales. Date unknown. (Photo courtesy of Archi- 
tectural Review)
Figure 9. Ron Finley & Rosario Dawson Planting. Los Angeles, CA. Date unknown. 
(Photo courtesy of GreenAmerica.org)
Figure 10. Urban Agriculture. Atlanta, GA. Date unknown. (Photo courtesy of CivilEats. 
com)
Figure 11. United States Food Insecurity Map. (Source: Hunger in America 2014 Report. 
USDA; CDC.)
Figure 12. United States Median Income Map. (Source: Hunger in America 2014 Report. 
USDA; CDC.)
Figure 13. United States Obesity Rate Map (Source: Trust for America’s Health and Rob- 
ert Wood Johnson Foundation. The State of Obesity 2018.)
Figure 14. Atlanta Food Desert Conditions Map. (Source: USDA Economic Research 
Service)
Figure 15. Atlanta Poverty Conditions Map. (Source: USDA Economic Research Ser- 
vice)
Figure 16. Atlanta Obesity Rate Map. (Source: Center for Disease Control)
Figure 17. Convenience Store Shopper. Atlanta, GA. Date unknown. (Photo courte- 
sy of Occupy.com)
Figure 18. Edible Schoolyard Program Diagram. Brooklyn, NY. (Photo courtesy of 
Google Maps)
Figure 19. Old Dominick Distillery Plan. Memphis, TN. 2018. (Plan courtesy of Archdaily.com)
Figure 20. Old Dominick Distillery Bar. Memphis, TN. 2018. (Photo courtesy of Archdaily.com)
Figure 21. Old Dominick Distillery Tour. Memphis, TN. 2018. (Photo courtesy of Archdaily.com)
Figure 22. Dominus Winery Connection to Ground Diagram. (Plan & Section retrieved 
from Dominusestate.com)
Figure 23. Gabion Wall. Yountville, CA. Date unknown. (Photo courtesy of Dominus- 
estate.com)
Figure 24. Front View of the Winery. Yountville, CA. Date unknown. (Photo courtesy 
of Dominusestate.com)
Figure 25. Edible Schoolyard Returalization Diagram. (Photo courtesy of Bruce Da- 
monte)
Figure 26. PS216 Edible Schoolyard. Brooklyn, NY. Date unknown. (Photo courtesy of 
Bruce Damonte)
Figure 27. PS216 Edible Schoolyard. Brooklyn, NY. Date unknown. (Photo courtesy of 
Bruce Damonte)
Figure 28. Dominus Winery Connection to Ground Diagram. (Plans retrieved from Da- 
minusestate.com)
Figure 29. Corridor. Yountville, CA. Date unknown. (Photo courtesy of Dominusestate. 
com)
Figure 30. View From Breezeway. Yountville, CA. Date unknown. (Photo courtesy of 
Dominusestate.com)
Figure 31. Washington Fruit Visual Connection Diagram. Plan retrieved from Graham- 
typeArchitects.com)
Figure 32. View from Dining Room. Yakima, WA. Date unknown. (Photo courtesy of 
Kevin Scott)
Figure 33. View from Courtyard Entry. Yakima, WA. Date unknown. (Photo courtesy of 
Kevin Scott)
Figure 34. View from Offices. Yakima, WA. Date unknown. (Photo courtesy of Kevin 
Scott)
Figure 35. PS216 Edible Schoolyard. Brooklyn, NY. Date unknown. (Photo courtesy of 
Bruce Damonte)
Figure 36. Edible Schoolyard Program Diagram. (Photo courtesy of Google Maps)
Figure 37. Edible Schoolyard FOH/BOH Diagram. (Plan courtesy of WorkAC)
Figure 38. Edible Schoolyard Connection to Ground Diagram. Plan & Section retrieved 
from WorkAC.com
Figure 39. (Left) Chickens in the Schoolyard. Brooklyn, NY. Date unknown. (Photo cour- 
tesy of Bruce Damonte)
Figure 40. (Right) Students in the Greenhouse. Brooklyn, NY. Date unknown. (Photo 
courtesy of Bruce Damonte)
Figure 41. (Bottom) Edible Schoolyard Exterior. Brooklyn, NY. Date unknown. (Photo 
courtesy of Bruce Damonte)
Figure 42. Edible Schoolyard Returalization Diagram. Brooklyn, NY. Date unknown. 
(Photo courtesy of Bruce Damonte)
Figure 43. Edible Schoolyard Physical Connections Diagram. Plan retrieved from Work- 
AC.com)
Figure 44. Edible Schoolyard Operable Windows. Brooklyn, NY. Date unknown. (Photo 
courtesy of Bruce Damonte)
Figure 45. Edible Schoolyard Visual Connections Diagram. Plan retrieved from Work- 
AC.com
Figure 46. (Top) Edible Schoolyard Greenhouse Space. Brooklyn, NY. Date unknown. 
(Photocourtesy of Bruce Damonte)
Figure 47. (Bottom) Edible Schoolyard Classroom. Brooklyn, NY. Date unknown. (Photo 
courtesy of Bruce Damonte)
Figure 48. Washington Fruit & Produce Co Approach. Yakima, WA. Date unknown.
( Photo courtesy of Kevin Scott)
4.3 References


Walk Score. Walk Score®: Drive less. Live more. 2019 www.walkscore.com/