

Inglewood Grange:

Infrastructure to catalyze an urban community food system

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A thesis submittal in partial fulfillment of
the requirements for the degree of

Master of Architecture

University of Washington, 2012

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Architecture

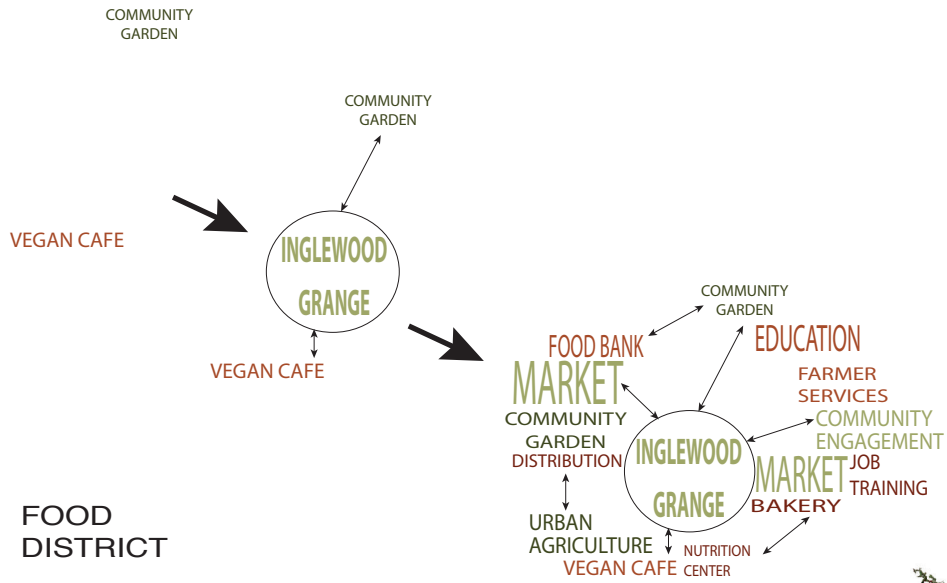
Thank you to my friends and family for their encouragement through it all, to my advisors for their support, and to the Inglewood community for sharing its world with me.

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Figure 1:
Community food display
(Source: <http://camillestyles.com>)



ABSTRACT

Inglewood Grange is a proposal for adapting the concept of the rural agricultural community space of the Grange Hall to the modern city to support the incremental development of a community food system. The Inglewood Grange is space that brings the community together around food, catalyzing the conversion of the Market Street District of Inglewood, California, into an urban “food district” (Figure 2-3). This intervention catalyzes the development of a food district destination along downtown Market Street, improving local health, creating economic opportunities, and enhancing the identity of Inglewood as a city.

Inglewood is part of the urban phenomenon of food deserts—places which represent the larger issue of the increasing distance between urban consumers and healthy food in cities around the world. The Inglewood Grange begins the incremental infill and redevelopment of existing under-utilized spaces through small-scale projects focused around growing, selling, and learning about healthy food. This decentralized approach to food infrastructure engages the local economy in a way that supports future for-profit businesses, as opposed to relying on government or institutional support for the Food District. In this thesis, the process of accessing

healthy food is linked with community identity and becomes a tool for revitalizing a struggling urban downtown.

The complex topic of urban food is presented in this thesis through the intersection of local food infrastructure, community space, and urban agriculture. The project approach is inspired by the movements of public interest design and human-oriented urban design. Inglewood is its own city—an urban island of sorts—left largely to its own devices politically and financially, and the community rarely has access to professional design services. Testing this design in Inglewood enables an analysis of an urban site with clearly defined geography, identity, and resources, as well as provides a tangible vision for the future of a city with limited resources.

Inglewood Grange proposes a vision for more vibrant urban spaces grounded in a community food system that both demands and supports future change. This model is designed to enhance local access to, education about, and connection with a more local and sustainable system of food for urban communities.

Figure 2-3:

Community, agriculture and infrastructure come together starting at the Inglewood Grange to create the Market Street Food District.

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INTRODUCTION

“Food can and should be connected to community vitality, cultural survival, economic development, social justice, environmental quality, ecological integrity, and human health.”

-C. Clare Hinrichs, Remaking the North American Food System, 2007, p1

Once integrated into patterns of daily life and spatially ingrained into human settlement, the fundamental presence of and knowledge about food has almost disappeared from modern urban life. The system through which city dwellers access food has become increasingly complex and unsustainable, stretched over immense distances, and plagued with human health impacts. However, this system is increasingly punctuated by small, localized community food systems, indicating a growing desire for a new model for how urban residents engage with their food.

The need to expand and scale up these community food systems presents a design opportunity. In Remaking the North American Food System, C. Clare Hinrichs places a positive emphasis on the opportunity to creatively address urban food issues by way of “remaking” the food system. “Remaking shifts us from a paralyzing focus on what is worrying, wrong, destructive, and oppressive about our current food system to a wide-angle view that takes in the broader landscape, whose troubling contours, we begin to notice, are punctuated by encouraging signs of change” (Hinrichs, 2007, p5-6).

Creating a community-based food system in an urban context can also be an opportunity to strengthen local engagement and community identity. Cities can be efficient places to live and work, providing diverse economic, educational, and social opportunities; however, the integration of these qualities depends on a strong sense of community. In a city neighborhood where people connect with each other, the “enlarged network of friends and acquaintances can increase well-being and social capital” (Farr, 2008, p43). Food is an aspect of life that can connect diverse people together within a community (Figure 4).

This thesis is a proposal for catalyzing the conversion of the Market Street District of Inglewood, California, into a community-based “food district” through the establishment of the Inglewood Grange. This new model for reincorporating community-based food systems into urban life draws inspiration from the Grange Halls that were once the centerpiece of the rural agricultural community. The Inglewood Grange will be located in the presently underutilized Market Street District, formerly an entertainment and retail destination in downtown Inglewood. As



Figure 4:
The Inglewood community gathered around food in the 1920s (OAC).

the community engages in social, educational, and economic opportunities related to food, this area can be re-established as a vibrant destination.

The Inglewood Grange provides a space for gathering, learning, and socializing, as well as incubating for locally owned and operated business that could be part of a community food system. The engagement and stewardship of the community is essential in developing healthier food culture and inspiring local

enterprise. Low-income urban communities, such as Inglewood, consume high quantities of processed food, experience higher rates of health issues such as obesity and diabetes, and are heavily reliant on non-profit and government assistance. The Inglewood Grange enables community interaction, education, and economic opportunity in a single space, from which a community food system can grow.

Problem Statement

In addition to opportunities, many issues arise as people urbanize, including health issues from sedentary indoor lifestyles, social isolation, and overconsumption of unhealthy foods. These transformations are negatively impacting quality of life for a growing population of urban residents, evidenced by rising rates of obesity, diabetes, and other types of malnutrition-related illnesses.

In 2008, the world's population reached the point of 50 percent urbanization, with projections that this will become 67 percent by 2050 (United Nations, 2011). According to the United Nations, "the urban areas of the world are expected to absorb all the population growth expected over the next four decades while at the same time drawing in some of the rural population" (United Nations, 2011, p 1). As people relocate into cities, seeking space for a house, a car, and other urban amenities, cities will become denser and will take over more land that was once used to grow food. This thesis is based on the premise that more sustainable and localized food systems will be essential to address the needs of the growing urban population.

As the production of food is located to more remote

areas to make way for other uses in growing cities, urban residents are increasingly disconnected from any awareness of the source or history of the food they purchase and consume. Average city dwellers "have no idea where their water or food or energy comes from or where their liquid or solid wastes go" (Farr, 2008, p.48). In selecting meals, cost and ease of preparation are often considered before health benefits, combining with lifestyle changes to result in significant health issues.

Another issue arising from the further dislocation of food sources from urban areas is food security. A study completed in June 2001 at the Leopold Center for Sustainable Agriculture and Iowa State University found that fresh produce in America travels an average of 1,500 miles from where it is grown to where it is consumed (Cockrall-King, 2012). It is worth noting that researchers have been unable to update these numbers because corporate grocery stores have since privatized their supply chains, further obscuring public understanding of the current food system. "You don't see the farmers, the fishermen, the ranchers, or the fruit growers who produce your food" (Cockrall-King, 2012, p26). The U.S. Department of Agriculture (USDA) reports that 50% of crops planted do not even reach

Figure 5: Processed food that has become the staple of the urban food environment.



the consumer due to disease, flood, drought, and spoilage (Despommier, 2010). It has been discovered that, on average, cities have only 3 days of food in an emergency such as a labor strike, natural disaster, or terrorism, which is an unsettling reality of the current food system (Cockrall-King, 2012). The food system upon which the majority of urban residents depend lacks both sustainability and security.

Inspired by the need to address issues with the current urban food system, this thesis explores the design opportunity in initiating a process to create a scaled-down and locally-based food system. Under the global industrial model of food consumption, there has been a shift from full-service specialty shops and local markets—through which consumers were better connected to the people and processes of specific food chains—to one stop do-it-yourself supermarkets full of processed foods (Figure 5). By bringing the community together in a space that celebrates food and supports a community food system, it may be possible to connect urban residents to their food, improve urban health, strengthen the local economy, and restore some level of food security to cities.

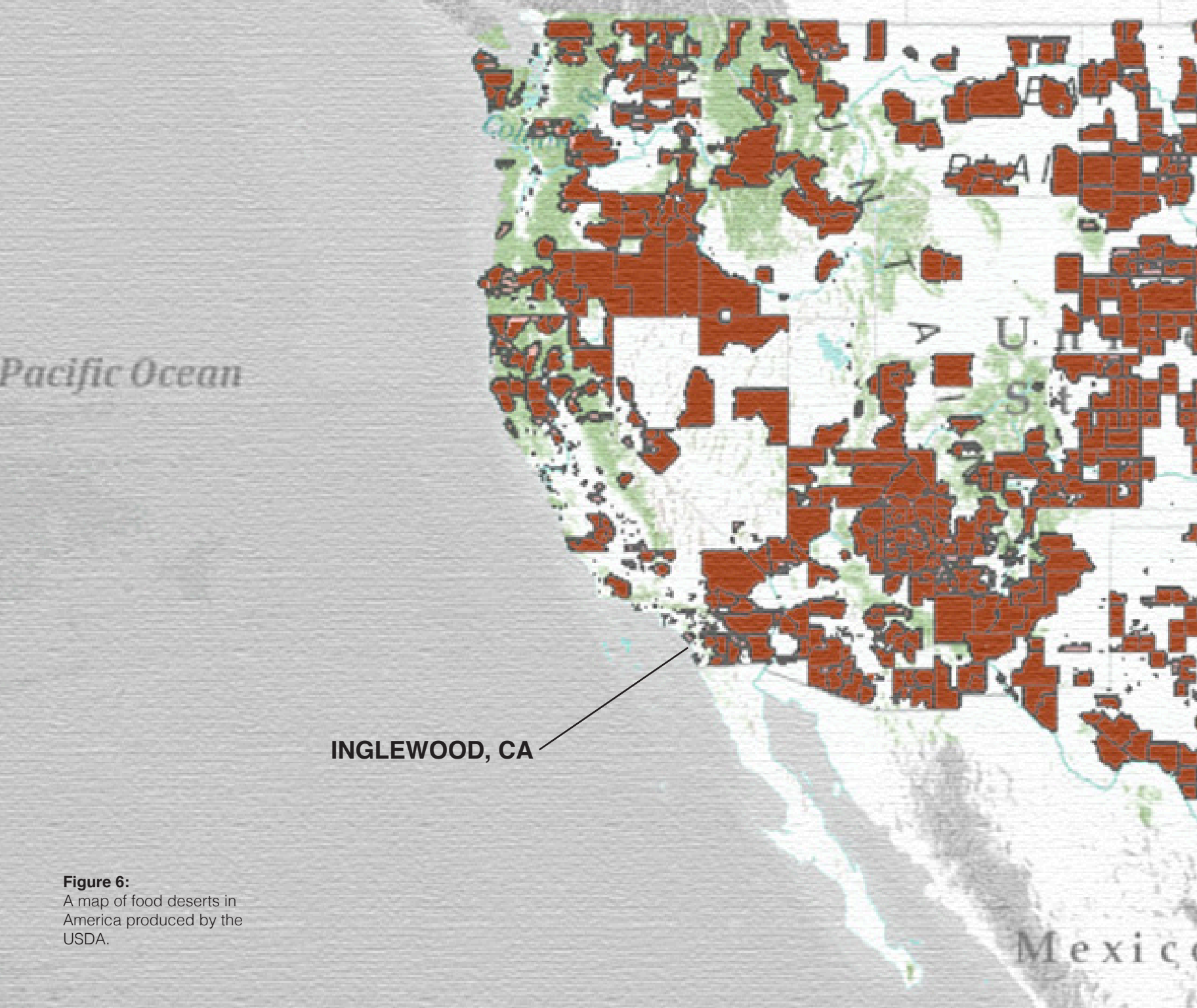
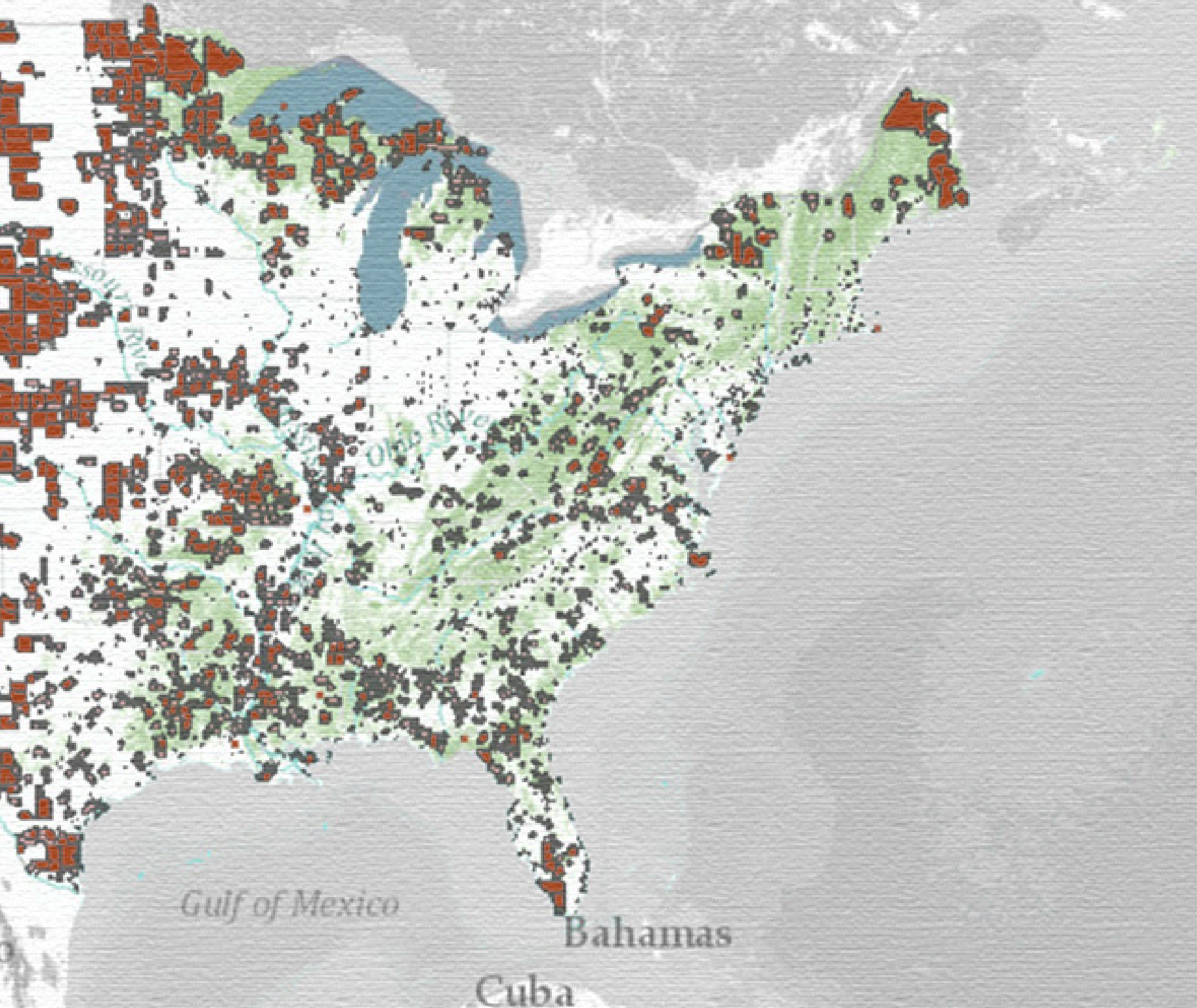


Figure 6:
A map of food deserts in
America produced by the
USDA.



Gulf of Mexico

Bahamas

Cuba

URBAN FOOD

“As a general rule it’s a whole lot easier to slap a health claim on a box of sugary cereal than on a raw potato or a carrot, with the perverse result that the most healthful foods in the supermarket sit there quietly in the produce section, silent as stroke victims, while a few aisles over in Cereal the Cocoa Puffs and Lucky Charms are screaming their newfound ‘whole-grain goodness’ to the rafters.”

-Michael Pollan, In Defense of Food, p. 39-40

Food Deserts

The process of establishing a design approach for this urban food thesis began with an investigation of the concept of a “food desert” and observing its reality. The USDA and other food policy organizations have assigned the designation of “food desert” to certain urban areas (see map, Figure 6)—including parts of Inglewood (Figure 8)—based on residents being predominantly low income and having a low level of access to healthy food. These areas are also typically characterized by higher rates of health issues such as obesity and diabetes.

Through research on and observation of existing “food deserts,” this term was determined to be misleading because it oversimplifies the complex issue of urban food. “Food desert” implies a lack of food entirely, as opposed to the lack of understanding of, access to, and engagement with healthier types of food. When interviewed for *The Salt*, a blog hosted by National Public Radio, the executive director of

The Food Trust, Yael Lehman, indicated that she also does not agree with the term “food desert.” “It gives this idea that there’s no food at all. But the truth is that they’re bombarded with soda and chips and unhealthy products,” she says (Charles, 2012). For consistency with the research presented in this thesis, and for lack of a more appropriate term, these areas will continue to be referred to as food deserts.

In areas designated as food deserts, convenience stores and fast-foot are often the predominant sources of food for residents, yet grocery stores do exist (Figures 7a-d). The South Los Angeles area has the highest per capita number of convenience stores in the County, resulting in unhealthy food being highly visible, affordable, and readily accessible. Grocery stores, which are well documented in the South Los Angeles area as the result of food desert designations, serve twice the average consumers, and high prices and high dependence on food stamps are common barriers to healthy consumption



Figure 7a-d: Images showing some of the range of food sources present in Inglewood.

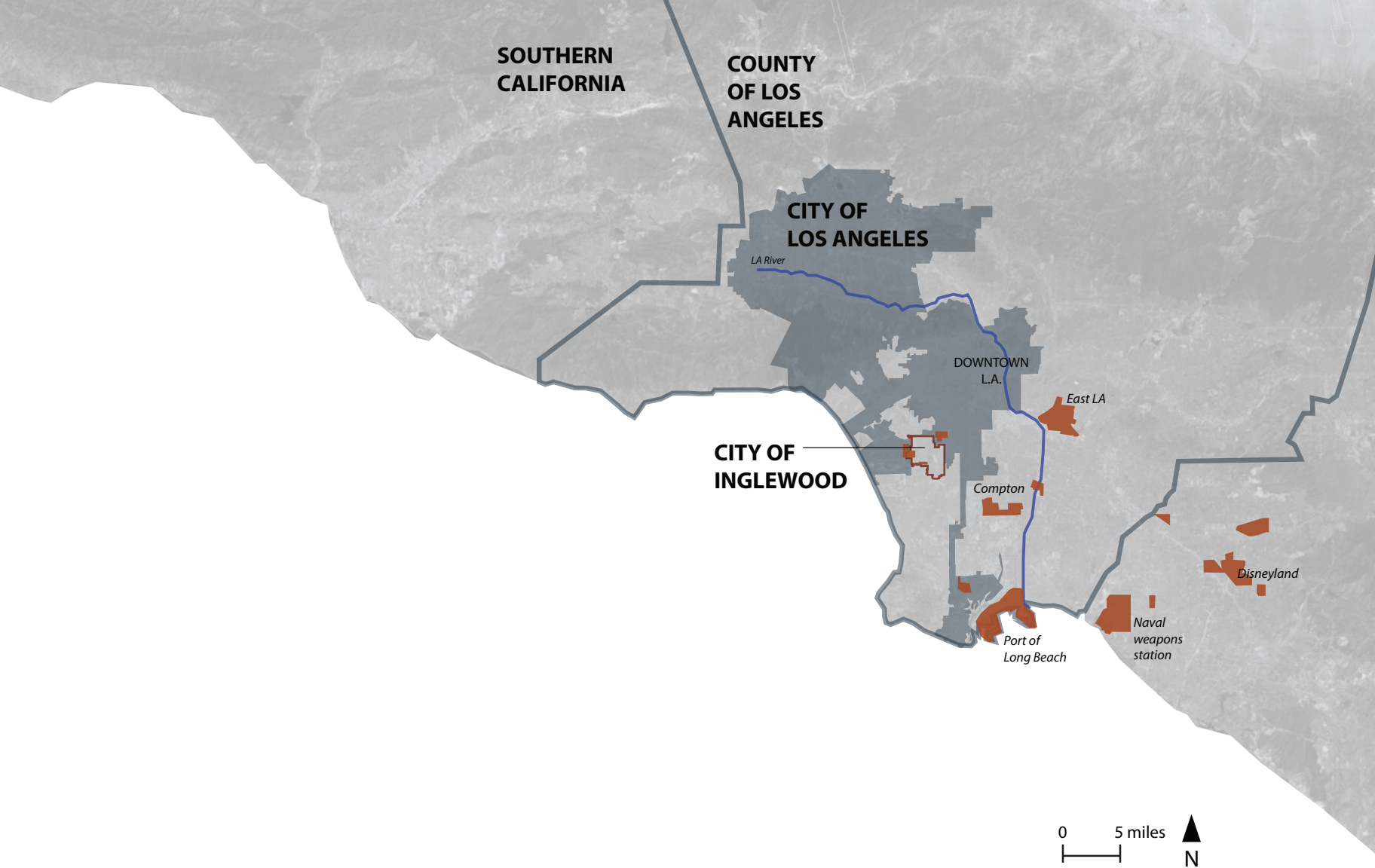
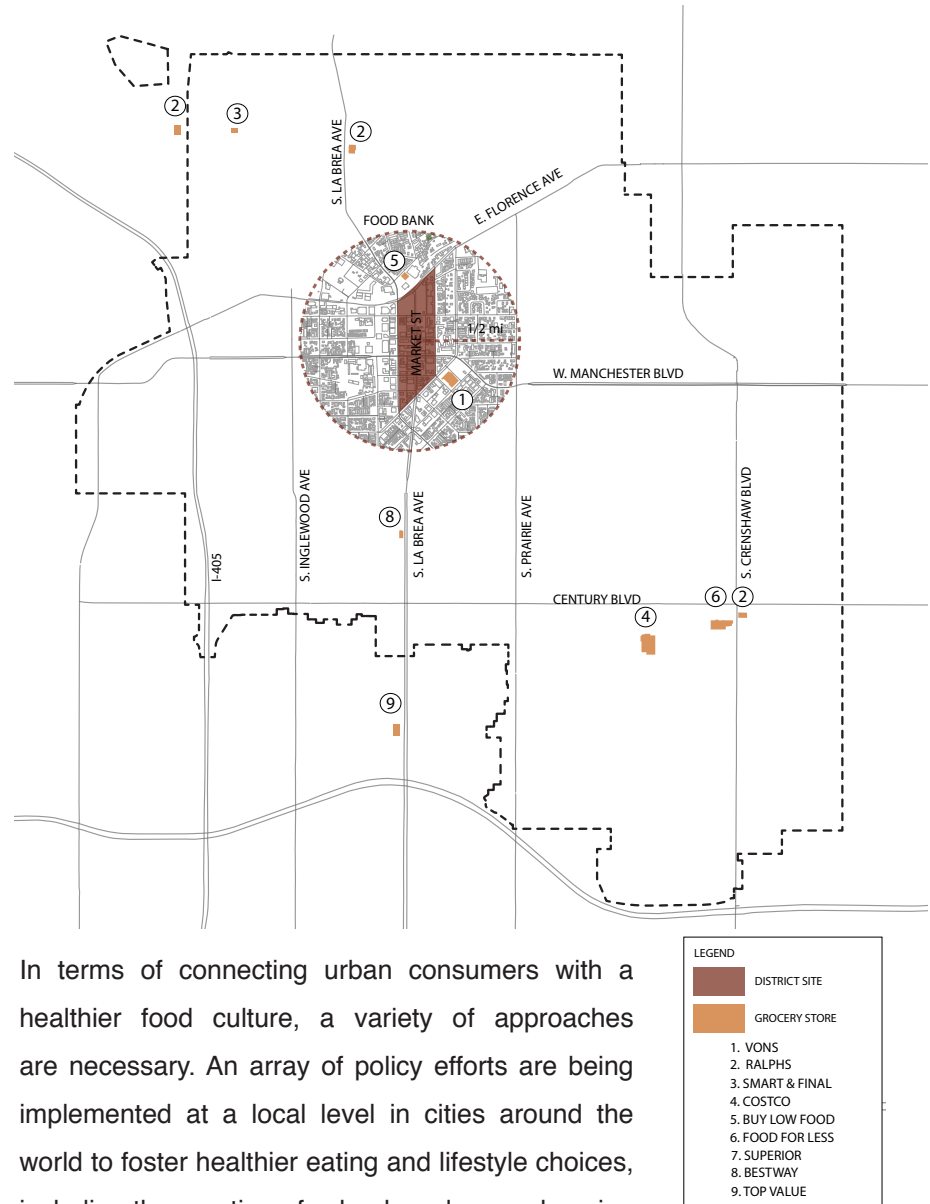


Figure 8: USDA designated food deserts in Los Angeles County (shown in orange). Several of these designations overlap with the City of Inglewood.

patterns (Food Dessert to Food Oasis, 2010). In the City of Inglewood, there are seven major grocery store chains in the area, serving the population of 119,000, in addition to the surrounding neighborhoods (See map, figure 9). Most of these stores were observed to carry some fresh produce (Figures 10a-c), but food desert researchers are finding that access alone may not be enough. “To date, no study has found a causal relationship between improving access to healthy foods and improving health outcomes” (Kliff, 2012). The fact that grocery stores are present and do supply fresh produce within a food desert indicates that healthy food consumption for urban consumers is often more than a question of physical access alone.

Some barriers to accessing healthy food are less immediately apparent and more complex to address than simply the number of stores. Education and engagement with food are essential to fostering healthier purchasing and more sustainable urban food systems. A lack of education around nutrition and knowledge about cooking with fresh ingredients may contribute to poor eating habits food desert areas (Figure 11). There are also physical challenges for some residents to get to grocery stores, with limited public transit in certain neighborhoods.



In terms of connecting urban consumers with a healthier food culture, a variety of approaches are necessary. An array of policy efforts are being implemented at a local level in cities around the world to foster healthier eating and lifestyle choices, including the creation of school gardens, enhancing education in government nutrition centers, and increasing food stamp value for farmer’s market

Figure 9: A map of the grocery stores in Inglewood.



Figures 10a-c:

In spite of being considered part of a “food desert,” there are diverse food types available in the Inglewood community.

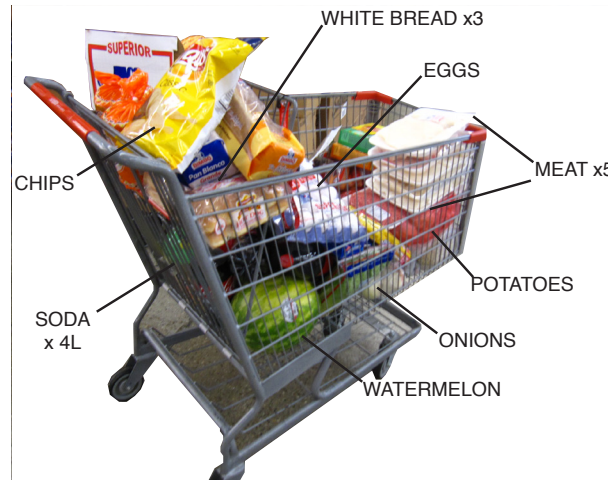


Figure 11:

The contents of this shopping cart in an Inglewood store reflect a deeper issue of poor consumer habits and a lack of engagement with healthy food.

purchases. While South Los Angeles has been targeted to receive resources to become a “Fresh and Healthy Food Enterprise Zone” (CHC, 2012), Inglewood is its own city, and therefore not directly included in most food policy initiatives for the City of Los Angeles.

What is often overlooked in food policy debates and interventions is the opportunity to truly empower residents in low-income, low access areas to help themselves shift their urban lifestyles and become stewards of their communities. Because of corporate

dominance over the current food system resources, there is a need to invest in local infrastructure to support attractive and economical community food systems. As the complexity of issues within food deserts reveal, directly engaging urban consumers with healthy food is essential to the success of any greater policy or investment actions.

This design proposal intentionally engages the community in order to address the complexity of Inglewood’s needs in terms of healthy food availability, economic opportunities, and education around healthy food. While urban food issues are directly linked to our modern system of global industrial food, they can often most successfully be addressed at a local scale. In *Cities and Natural Processes*, Michael Hough explains that, “The problems facing urban and rural regions have their root in the inner cities, and solutions must also be sought there. Thus, the task is one of linking urbanism with nature at both local and regional scales” (Hough, 6). The cycles of growing, purchasing, preparing, and eating food provide a range of opportunities for the Inglewood community to improve its health, economic viability, and identity.

Food Justice

Community food viewed through the lens of social equity means, *“closing the gap between the inner-city poor...and the high prices of supermarket organic and farmers’ market produce...improving the health of the American population...setting aside land so that apartment and condominium dwellers—who have little, if any, land to sow—can have the same opportunity to grow gardens as homeowners providing a sense of self-sufficiency...and recognizing the social relationships and prosperous citizenry that could result if city spaces could help provide food for all.”*

-Darrin Nordahl, Public Produce, 2009, p.4

Creating a development model that engages urban residents with their food system is a form of social equity that empowers people who have become dependent on outside assistance to meet their basic needs. It also does justice to the importance of food in urban life. “In order to eat well we need to invest more time, effort, and resources in providing our sustenance, to dust off a word, than most of us do today. A hallmark of the Western diet is food that is fast, cheap and easy. Americans spend less than 10 percent of their income on food; they also spend less than a half hour a day preparing meals and little more than an hour enjoying them” (Pollan, 2008, p. 145). In this proposal for the Inglewood Grange, food is an integral part of community interaction, entertainment, education, and economic development.

Both healthy food systems and thoughtful design are too often restricted to those who can afford such services. Low-income urban residents—like

many of the residents of Inglewood—often survive off of government issued food stamps and live in and among cheaply constructed, inefficient, and aging infrastructure. “Millions of Americans in low-income communities and communities of color walk out their front doors and see nothing but fast food and convenience stores selling high-fat, high-sugar processed foods” (The Food Trust). Unhealthy eating habits in food deserts seem linked more to the dominant presence of unhealthy food and resulting poor food consumption habits than to a complete lack of healthy options (Kliff, 2012). Changing these trends requires both thoughtful design decisions and intentional local engagement to make healthy food options more accessible, visible, and attractive.

A significant barrier to realizing design solutions to urban food issues in low-income communities is financing. Community-based systems, such as farmer’s markets, often need to be subsidized



and equipped to accept food stamps in order to be affordable for these areas and have a chance at being a viable alternative to corporate grocery stores. Large-scale “food hubs”—which include a range of activities from distribution and processing, to education and fundraising, as well as retail—have been a popular design proposal for creating urban food infrastructure in recent years (Figure 12). Living City designs (Figure 13), such as the one for Inglewood designed by local architects (fer) Studio (Figure 14), provide a comprehensive vision of future ecological, economic, and social integration, yet do not provide a clear path to implement such a vision. These solutions typically require non-profit or government sponsorship or partnership, and proposals can be shelved due to lack of clear funding sources (Barham, 2011). These design solutions can continue to foster dependence on outside resources. Integration of economic opportunities with education at a scale feasible for a local entrepreneur is an

essential component of this thesis proposal.

This proposal is intended to have real world feasibility by designing a model that depends on small-scale, phased interventions to support local empowerment and engagement. In researching food policy, it is evident government incentives are being developed that could support the growth of small local projects over time. The USDA has a Community Food Projects Competitive Grant, intended for small-scale projects of a similar nature to the interventions proposed in this thesis. The Obama Administration’s 2012 budget includes funding for the Healthy Food Financing Initiative, supporting healthy food retailers in communities currently lacking such resources (The Food Trust). The work of the Los Angeles Food Policy Council—an organization designed to coordinate efforts of community food systems with businesses and city policy makers—is also attracting resources related to addressing healthy food issues.

Figures 12-14: Existing design solutions for addressing urban food issues lack the accessibility and phasing of the proposed food district model.

Community Food Systems

“Unlike the charity model, which provides emergency food as a short-term solution, the community food security concept addresses the long-term need of communities to obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice.”

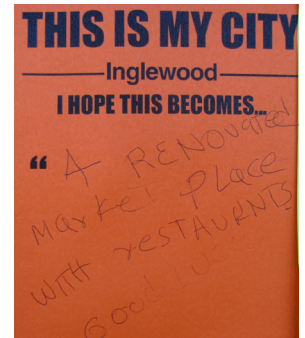
-USDA Economic Research Service (Hamm and Bellows, 2003)

Food is an essential aspect of the daily interactions within any community, even in an area dominated by fast food and convenience stores. The culture of growing, preparing, and eating food creates an opportunity to engage community structures in urban environments. The term ‘community food systems’ is used to reflect “the central role that food plays in the lives of people who want to secure food locally for humanitarian, ecological, and economic reasons as well as for social reasons” (Maretzki and Tuckermanty, 2007, p332). This thesis proposes an Inglewood Grange as the starting point for developing a community food system in Inglewood.

There are a variety of community food systems that run counter to the global industrial corporate model, but few of them have been accessible to low income urban communities, such as Inglewood. In Inglewood, there are a few existing community food and social justice efforts that can inform and support the Inglewood Grange, but these are small-scale and

isolated efforts. These include the education gardens started by the non-profit Social Justice Learning Institute (SJLI), the health education offered at the Stuff I Eat Café, and the grassroots “This Is My City” effort to revitalize Market Street and save the Fox Theater (Figures 15a-c).

According to the USDA, “alternative food systems” (including urban agriculture, CSAs, and farmers markets) contribute to less than one percent of food sales in the United States (Cockrall-King, 2012). Farmer’s markets directly connecting growers with consumers were common prior to the industrial production of food, and have seen a revival since the 1990s. Although the LA Food Policy Council reports there to be 140 farmer’s markets in Los Angeles County, there is not one that operates in the City of Inglewood. Community Supported Agriculture (CSA) also connects farmers to consumers, but through a membership and delivery system, which could be successful if made more affordable to



Figures 15a-c:
The Queen Park learning garden, the Stuff I Eat Café, and a community campaign to save the Fox Theater in Inglewood, CA

low income consumers while ensuring profits for farmers. This movement has grown substantially, from two documented CSAs operating in the U.S. in 1986 to 2,500 today (Martinez, 2010). Slow Food, founded in Europe in 1989, is a reaction against fast-food that attempts to reconnect people with food systems, preparation, and consumption for pleasure (Cockrall-King, 2012). There is currently no official presence of Slow Food in Inglewood, but Stuff I Eat, a family-run vegan café, certainly provides a viable alternative to fast-food by providing fresh, delicious, healthy food and educational opportunities for the community. Other types of community food systems include farm-based retail, you-pick farms, and community-run gardens, such as the gardens started by the Social Justice Learning Institute. Existing infrastructure, such as food banks, can provide healthier food options to those in need by connecting with community food systems.

In Inglewood, little presence of community food systems and a high reliance on government issued food stamps (known in California as Electronic Benefit Transfer, or EBT) results in a widespread dependence on corporate grocery stores and outside assistance. In order for community food systems to grow in Inglewood, it is essential for the demand and

effort to come from the community. The first step in this process is bringing the community together in a place to learn about accessing, growing, and eating healthy food in a way that it seems accessible. The Inglewood Grange is a catalyst for expanding existing local efforts to create a more cohesive and influential community food system.

The Grange

Formally called the National Grange of the Order of the Patrons of Husbandry, the Grange was founded in 1867 as a non-profit, non-partisan fraternal organization dedicated to providing support, services, and supplies to agricultural communities (McCabe, 1874). Although the Grange movement still exists, the Grange Hall as a community model has largely lost significance as modern society has become disconnected from its food supply. However, this concept can be adapted to serve an urban community food system today. The Grange began at a time when almost half of the American population was part of the agricultural community, a number that is currently less than two percent (Figure 16).

Initially a rural organization focused solely on the agricultural community, the Grange evolved to encompass broader community needs as cities and

towns and grown up around agricultural communities. Through grass roots activism the Grange supports local farmers rights, women’s suffrage, and rural economic and infrastructure development. The 2008 documentary Food Inc. states, “there are a mere five corporations behind 90 percent of the US food supply,” demonstrating the power of the monopoly that the Grange was established to prevent, and the need for the Grange to further its influence. Grange halls (like the one in Figure 17) still exist in many towns, providing a simple model for social and event space in local communities (Figure 18), but the model has only recently been explored in an urban context.

In this thesis, the rural Grange concept is adapted to serve an urban community where there are almost no farmers. In this context, the Inglewood Grange becomes a space where people who are disconnected from their food can come to build a new connection, whether as farmers, gardeners, butchers, bakers, or just enlightened consumers.

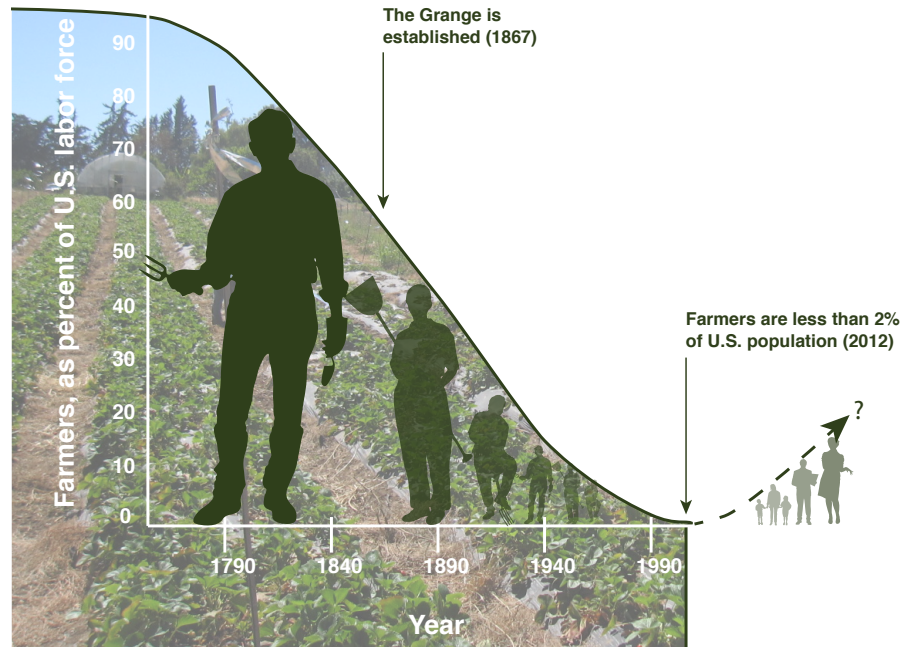
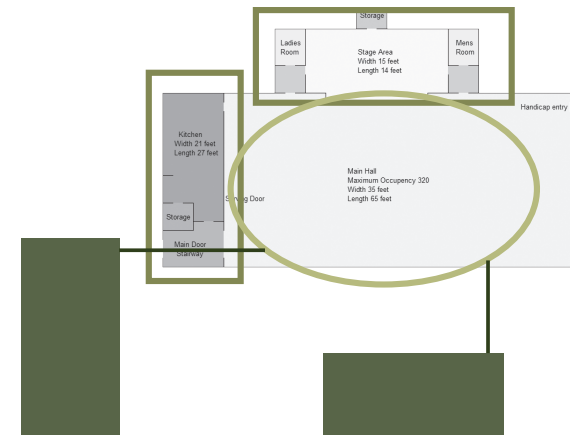


Figure 16: This graph of the number of farmers in the U.S. is indicative of the lack of engagement with the source of food that faces the urban population. The number of people engaged in farming has steadily declined as the production of food has been restructured as a corporate industrial system.



Figures 17-18: The Grange Hall is a simple facility typology that once supported the farming community.

“After generations in which the food industry and agriculture focused their attention on greater efficiency in distribution and marketing, a shift is perceptible towards renewed investment in intensive, efficient, and integrated production systems within the growing urban regions.”

-United Nations Development Program (Cheema et al, 1996, p. 17)

Although this thesis is not focused on agricultural production, there is a need for awareness about the source of food and potential to grow food in cities to be part of a community food system. The agricultural history of Los Angeles and the ideal southern California climate almost demand a redevelopment of agriculture in the urban area. “Starting around 1913, from the opening of the Los Angeles aqueduct, until the mid-1950s, Los Angeles County was, in fact, the top agricultural producer in the whole United States” (Hubach, 2012). Agriculture is a major part of the history of the Inglewood area as well as an essential component of developing a food system for this community where health and food security are significant issues.

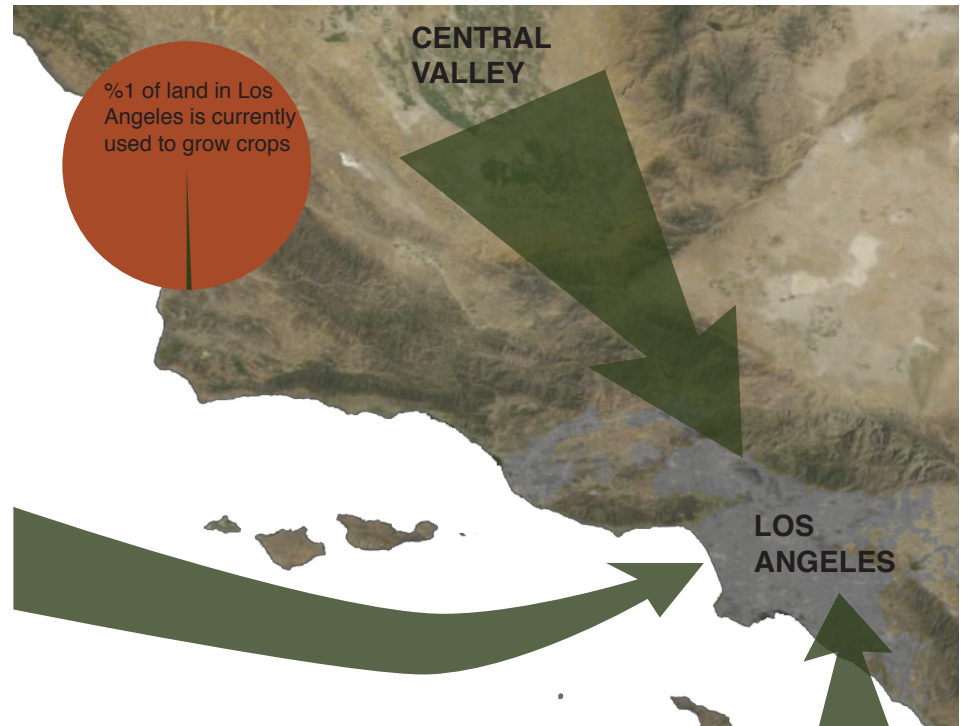
The disappearance of food actually being grown in cities was one of the first steps in the disconnection of urban residents and their food. Now urban residents purchase their food from convenience stores, restaurants, and grocery stores, with almost no idea of the source of the foods they purchase and

consume. According to the Food Marketing Institute, there are an average of 38,718 different items to choose from in a grocery store today (Cockrall-King, 2012), most of which are based on combinations of products derived from corn, soy, preservatives, sugars, and chemical compounds, as opposed to natural ingredients. The current food system has become so inefficient and has taken on such global proportions that full tomato trucks in California pass each other going north and south bound, and an American consumer eats bananas from Chile in the winter. In a sustainable community food system, food production is made legible to local consumers as part of the engagement with healthy eating. The Inglewood Grange proposal includes an exploration of initial urban agriculture strategies that could be a catalyst for further development over time.

Despite its ideal growing climate and its impressive agricultural history, urban Los Angeles is not well known for supporting urban agriculture projects due mainly to issues around land and water, as well as

modern perceptions of agriculture. In Los Angeles, as in many cities in the United States, agriculture was initially replaced by new developing industries, such as aerospace and military, and a growing number of single-family homes. Less than one percent of the land area of Los Angeles, totaling around 38 square miles, is used for growing crops today, much of which includes ornamental plants (Hubach, 2012). As a result, most fresh produce is imported (Figure 19).

Los Angeles has a long history of land use battles and policies opposing urban agriculture efforts. This phenomenon is demonstrated by the battle over the fourteen acres of land that was once home to the South Central Farm (Figure 20), captured in the 2008 documentary *The Farm*. In the City of Los Angeles, residents are currently charged a \$900 fine for using the landscape strips in front of their homes (Figure 21a) for gardening without a conditional use permit, but there have been efforts to change this through the Los Angeles County Health Department's "Healthy Design Ordinance" (Community Health Councils, 2012). In Inglewood there is no land zoned specifically for agricultural use anymore, and residential gardening is restricted to the back yard (Hubach, 2012). However, there is no shortage of underutilized spaces of a variety of scales where



urban agriculture practices could be implemented (Figures 21b-c). Cities like Seattle, which not only allows, but also encourages urban gardens, could provide a model for Los Angeles.

Issues of water are substantial in Southern California, and need to be addressed as part of a strategy to reintroduce agriculture to the area. The specific water resources of Inglewood will be explored further in the analysis of the site, but water efficiency is part of the benefit of using urban agriculture



Figures 19-20: The losing battle to grow food in Los Angeles is reflected in agricultural area and this aerial of the former South Central Community Garden, lost in a land use battle.



Figure 21a-c: Under-used front lawns and planters in Los Angeles, as well as leftover urban spaces, provide diverse opportunities for urban agriculture in Inglewood.

technologies. “Intensive vegetable production in urban situations may use only 5-20% as much irrigation water, and one-sixth to one-twelfth as much land, as rural, tractor-cultivated crops” (Cheema et al, 1996). Soilless growing technologies—including hydroponics, aquaponics, and aeroponics—are particularly efficient with water resources (Cheema et al, 1996). Despite the increased efficiencies possible with urban agriculture technologies, water and land are highly political obstacles to urban agriculture in Los Angeles. As a result, the type of urban agriculture systems introduced and the source of water to support them are considered in the design of this thesis.

In order to reconnect people with what they eat and where it comes from, modern perceptions of agriculture must be redefined. Growing food “has come to be perceived in many cultures as rural, not modern, having low productivity and yielding low returns, and at best temporary in urban areas” (Cheema et al, 1996, p.212). It would be utopian to assume that everyone in a city like Inglewood is interested in growing their own food, but using urban agriculture technologies to show urban residents where food comes from and that growing food in cities is not only possible, but can be profitable, is

an important part of changing perceptions about food. In the design of the Inglewood Grange, urban agriculture is introduced as both productive space and as installation to attract local interest and educate the community.

Strategies for growing food in an urban setting have evolved substantially in recent years, and there are many successful precedents to inform the introduction of urban agriculture into Inglewood. While there is value in the accessibility of traditional soil-based strategies, there are opportunities to integrate more intensive strategies into challenging urban areas through linkages to water and nutrient systems of the built environment. Some considerations for growing in urban settings include: solar orientation and exposure, wind, water source and drainage, nutrients, structure, access, vandalism, pollution, and harvesting (de la Salle, 2010).

Urban agriculture systems are most unique from traditional gardening in their verticality, resulting in the need to use less land, and from their increased incorporation of technology. Various urban agriculture strategies can be incorporated into a community food system to create interest in urban food and to demonstrate what is possible with urban agriculture.

SOIL-BASED TECHNOLOGIES



Figure 22a. Traditional gardening in under-utilized space: Street medians, traffic circles, and landscape strips can provide an accessible growing site. Water comes from adjacent residences or businesses. Soil contamination must be considered. It is a highly successful and visually attractive practice in the City of Seattle (above).



22b. Raised bed rooftop gardening: This involves relatively straightforward and traditional gardening, provided that the roof can handle the load of the planting beds and drainage is handled effectively. Raised beds are a simple urban growing strategy that enables growing without concerns for contaminated soils or surfaces. Roofs tend to have decent solar exposure, some point of access, and relative security. Also, the conversion to planted area decreases both heat reflection and storm water runoff. An example is the new P-Patch community garden on top of the Mercer Street Parking Garage in Seattle (above).



22c. Vertical and stackable growing strategies: These have been developed to maximize growing potential in urban spaces. Hydrostackers (above) use drip irrigation and work well with strawberries, eggplant, and avocados. The stacking VertiCrop system by Valcent Technologies based in Vancouver claims that yields are approximately 20 times higher than the normal production volume of field crops and requires only 8% of the normal water consumption used to irrigate field crops. This system is able to grow over 50 varieties of leafy green vegetables.

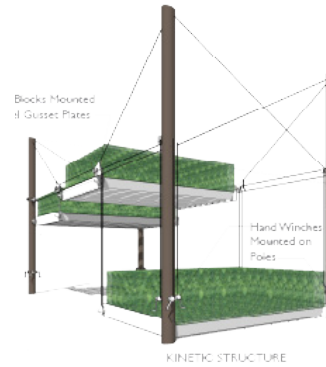
SOIL-LESS TECHNOLOGIES



22d-e. Vertical farming: A relatively new concept that attempts to integrate various types of growing and farming into a high density, closed-loop nutrient and waste system. The Plant, a vertical farm project being developed in a converted industrial building in Chicago (above), is attempting to demonstrate that these ideas are truly feasible to implement.



22f. Hydroponics: Plants are grown in a nutrient-rich water base. This works well for vegetables, particularly tomatoes, lettuce, spinach, green beans, peppers, zucchini and cucumbers (Despommier). An example of innovative and aesthetically interesting hydroponics is the Venice Biennale entry by designers Salgas Cano (above).



22g-h. Aeroponics: Plant roots grow in a misted chamber, sometimes with a growth medium. It uses 70 percent less water than hydroponics (Despommier), making it an interesting strategy in an area facing water issues. This strategy can work well for grains, as demonstrated in the “Flip This Strip” competition entry by the Miller Hull Partnership (top).



22i. Aquaponics: Combines the growth of plants with a fish tank, where nutrients from fish waste becomes a fertilizer for the plants (above). The Plant in Chicago utilizes this type of system as part of its integrated vertical farming strategy.

PROJECT APPROACH

“With a strong framework, the integrity of a site can be maintained, even as voluntary incrementalism completes the overall vision. Small identifiable projects can produce highly visible results that last.”

-Randolph Hester, Design for Ecological Democracy, p385

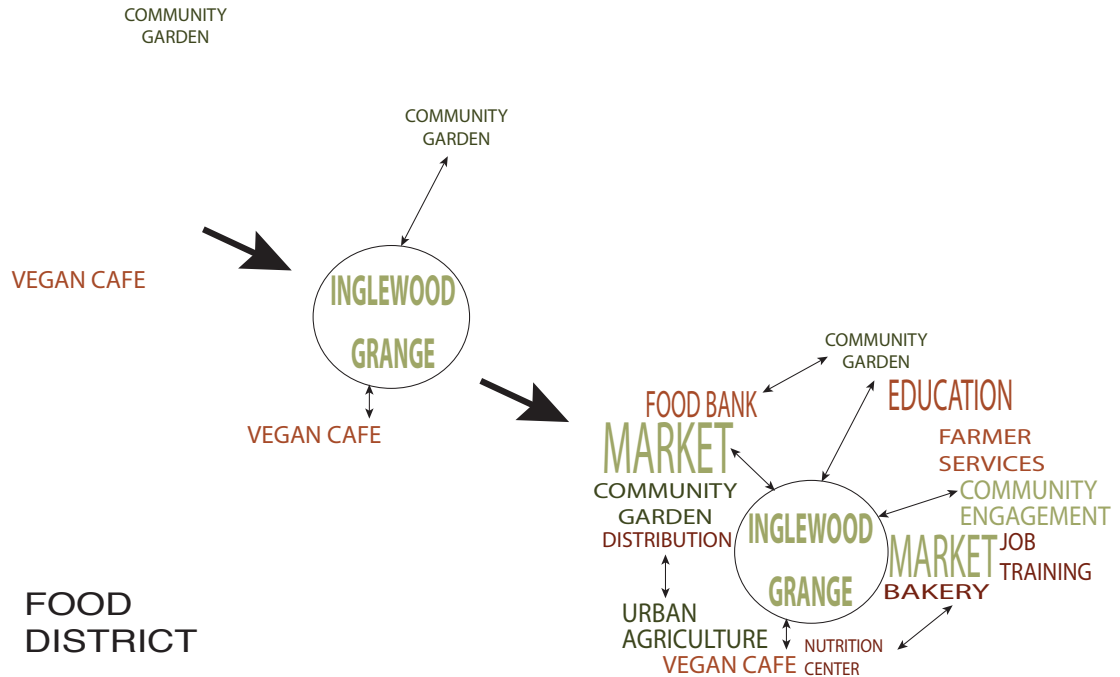
When architecture engages social, environmental, or economic issues directly, the long-term vision becomes accessible to the community and it provides more than just a pretty picture for the future of our cities. Involving people in change makes them stewards. The Inglewood Grange is intended to create a space that catalyzes the evolution of a community food system in the Market Street District. Once the community engages its food system and creates a culture of local, healthy and sustainable food, opportunities for future developments throughout the district can be made as local investment and additional resources are available.

Local Stewardship

The desire to create a healthier food system in Inglewood is not an idea being imposed externally upon the community; it is an attempt to build upon the existing efforts of concerned local residents. Through a series of site visits to Inglewood over the course of six months, two local efforts to create

healthier food opportunities were examined. The first is the vegan restaurant Stuff I Eat, located on Market Street. The owner, Babette, began cooking out of her church in an effort to provide healthy and delicious alternatives. With the support and encouragement of her family, Babette opened Stuff I Eat in 2008. She has recently started offering educational programming to the community. The second is the Social Justice Learning Institute (SJLI), a non-profit based in Inglewood that is working to engage locals through an empowerment garden at Morningside High School and community learning gardens, such as the one at Queen Park.

Communities that are identified as food deserts are often dependent on government aid, and lack educational and financial resources to improve the situation themselves. As opposed to continue this reliance on outside aid, the model of this thesis is intentionally designed to be implemented as a series of small, locally owned, for-profit projects supported by the Inglewood Grange (Figure 23). The local infrastructure necessary to connect these projects together as a district both in terms of aesthetic impact and integrated resources may need political, social, and financial assistance from a larger organization, such as the City of Inglewood. Fortunately, the recent



aesthetic improvements to Market Street District are evidence that the City of Inglewood may be willing to invest in such an effort.

Public Interest Design

This thesis intentionally engages the needs of a community that would be unlikely to have access to professional design services. “Public interest design” is the latest term given to the efforts of designers to provide services to the greater public. In Los Angeles, there are design organizations, such as the City of Los Angeles’ Urban Design Studio, dedicated to promoting transit-oriented development (TOD)

and “green streets” to battle the physical sprawl and cultural dependency on the automobile. However, design efforts focused on more human-oriented development issues, like urban food systems, seem to be few and far between.

In 2006, the City of Inglewood conducted a series of five Community Visioning Workshops in the process of updating its general plan. In lieu of conducting a public workshop as part of this thesis, the workshop documentation served as a guideline for community input. Some notable outcomes pertaining to this thesis include the consensus that there were too many fast

Figure 23:
A diagram of the Inglewood Grange as a catalyst for the Market Street Food District.

food and convenience store establishments, a lack of good markets, and a scarcity of sit down restaurants. Suggestions were made to add entertainment, lighting, and even housing to the Market Street area. Also, there was concern over a lack of jobs and activities for youth and of stores that benefit the community. Interestingly, “Market Street” was a response given both for questions about community assets and community issues. It was lauded for being a pedestrian friendly environment, but criticized for inadequate lighting, deficient diversity in retail, and absence of entertainment (City of Inglewood, 2006).

District Proposal

The concept of the Inglewood Grange serving as catalyst for the growth of the Market Street Food District is illustrated in the map shown in Figure 24a. By outlining a strategy for growth based on the integration of infrastructure, community space, and agriculture—and providing a model project based upon this approach—this thesis creates the potential for a phased redevelopment of the district site focused around a community food system. Although underutilized sites were identified during an analysis of the site and the concept of phased growth throughout the district explored (as shown in Figures 24b-d), specific proposals for additional

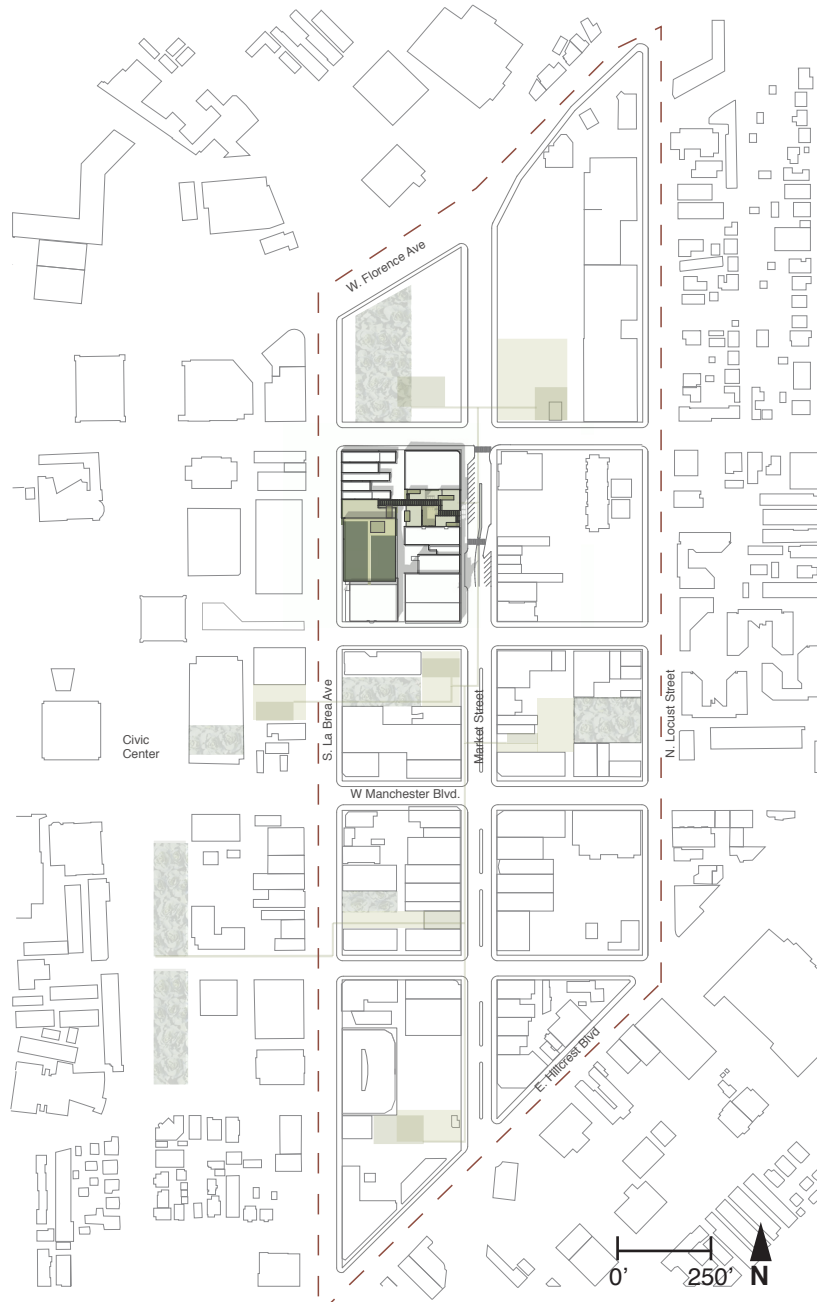
sites throughout the district have not been specifically delineated at this time.

Methodology

The research for this thesis began with gaining a better understanding of both food deserts and community food projects. In addition to substantial analysis of literature on these topics, site visits to three areas of Los Angeles County identified as “food deserts,” as well as to various community food projects in Southern California, were conducted.

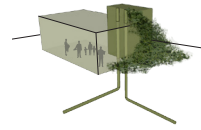
The first research objective in this thesis was to understand the reality of an area characterized as a food desert. Through visiting various food deserts in Los Angeles, the City of Inglewood was selected due to the promising urban character of its underutilized downtown, the high rate of local EBT dependence, and the fact of its relative isolation as an independent city in the heart of Los Angeles. The site character, existing land use patterns, and local food amenities were documented through a series of four visits to Inglewood, focused largely around the Market Street District, at various times of day and days of the week. The history of Inglewood was researched through the Inglewood Library and the Historical Society of Centinela Valley.

Figures 24a-d: These district graphics illustrate the concept of the Inglewood Grange catalyzing the incremental growth of the Market Street Food District.

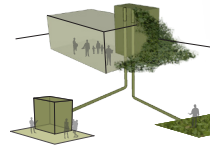


MARKET STREET DISTRICT

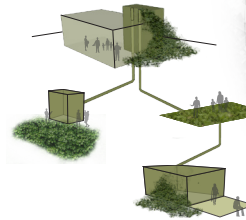
DISTRICT - PHASE 1



DISTRICT - PHASE 2



DISTRICT - PHASE 3



The second research objective was to explore various community food projects to develop a program appropriate to an urban food district. In Seattle, the P-patch garden network and the Rainier Beach Urban Farm were studied and visited as examples of successful community-based urban agriculture projects. An interview with Jasper Johns of Farmer Direct Produce in Santa Barbara, California, was informative in understanding the obstacles faced by farmer's trying to sell in an urban market. A tour of Fairview Gardens was informative regarding education and training programs, sales models, and issues with neighbors and local government that an urban garden faces. In Inglewood, the Social Justice Learning Institute and the Stuff I Eat Cafe were researched, and attendance at meetings with the City of Inglewood Planning Department and the Community Health Councils and LA Food Policy Task force in Los Angeles provided insight into the complexity of the current condition of Inglewood.

Limits and delimits

The approach of developing a local food district has the potential to address interconnected issues of food, health, and community in urban environments that exist in cities around the world. This thesis is based on the acceptance of a future in which the

majority of the global population lives in cities and food issues will continue to escalate. In an increasingly connected world, there is much that cities can learn from each other, so design strategies that can be adapted to local conditions will have increasing value. This proposal has the potential to be a prototype for an urban intervention adaptable to a site in any city, but it is designed within the context of Inglewood, California.

The sustainability of food is a complex issue, with many areas in need of improvement, many in terms of public policy, and not all necessarily needing the direct service of a design professional. In Agricultural Urbanism, the authors define eight dimensions of the food and agriculture system: farming; processing and packaging; distribution, transportation, and storage; retail and wholesale marketing; eating and celebrating food; waste recovery; education, training, and skill building; and integrated infrastructure systems (de la Salle, 2010). An architectural intervention could potentially occur at any of these scales, but the scales directly addressed in this thesis include: retail, eating and celebrating food, education, and integrated infrastructure systems at a local scale. This proposal is designed under the assumption that the expansion of local and regional farming, as well

as production, processing, and distribution, would be necessary to ensure the possibility of a community-based food system.

SITE ANALYSIS

Urban

"We are paving over the land that feeds us. Cities have, for the most part, sprung up on or near the most fertile, productive food-growing land."

-Jennifer Cockrall King, Food and the City, p157

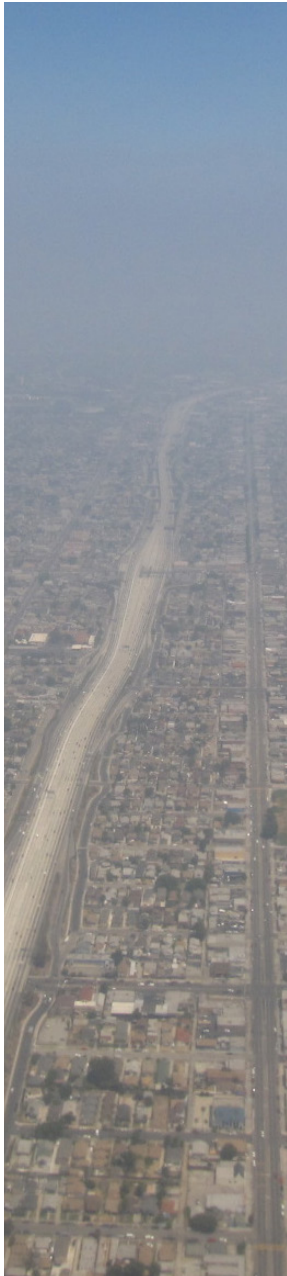
An important component of this thesis proposal is the urban character of the site because of the focus on issues of healthy food access and community engagement in cities. Managing the provision of healthy food in urban areas is a critical issue that is only growing in importance as more of the world urbanizes. In most cities, there is no longer any legibility of the food supply chain that keeps residents fed. The site selection process begins with exploring urban areas where the availability of and equal access to fresh, healthy food is a well documented issue. This broadly defined site context reflects urban conditions common in many growing cities.

An initial analysis of the urban site began with an investigation at a variety of scales, specifically the area of effect, area of influence, and area of control (Burns and Kahn, 2005) The area of effect, or the intended scope for the theoretical impacts of the project, is broadly defined as urban environments. Although this type of project could be replicated to

have a similar effect in other urban environments, it is essential to explore the design within a real context—an area of influence. Adapting the design prototype to influences of climate and culture in terms of both program and building strategies is essential to its acceptance in the local context. For this thesis, the area of influence is Los Angeles County. In order to properly analyze the direct impacts of this intervention and to understand what specific elements of the urban landscape will bear influence, the design must be located on a specific site. This area of control is where the exploration of specific design strategies for an urban food district occurs. For this thesis proposal, the area of control is the downtown Market Street District in Inglewood, part of Los Angeles County, California.

Figure 25:

The urban environment of Los Angeles, where man dominates nature.



Los Angeles

Flying into LA “the city became an enormous monochromatic computer circuit board with an infinite horizon. Its features were distinguished only by varying shades of gray.”

-Jennifer Cockrall-King, Food and the City, p139

Los Angeles County, Californian—an urban environment with a long history of urban food issues—is the site region selected for this thesis proposal. Despite its ideal climate and a historic distinction as one of the top agricultural producers in the nation until the 1950s (Hubach, 2012), Los Angeles has paved over its agricultural roots and is now a city that can no longer sustainably feed itself. As the area has developed over time, there has been more sprawl and more cars, but less access to nature; more food, but poorer nutrition; more people, but fewer social interactions on a daily basis. The city has sprawled to its limits (Figure 25). As politicians and planners seek strategies to accommodate future growth through densification, land use battles will become more frequent and the use of land for growing food will be increasingly challenging. This thesis addresses the need to explore urban agriculture and design strategies that can help to reconnect people with their food and their community in urban Los Angeles.

Los Angeles is a particularly interesting urban landscape to analyze using David Leatherbarrow’s terminology of spatial, material and temporal character (Leatherbarrow, 2004). Los Angeles has developed a distinct urban character resulting from the intersection of very low-density development and massive urban infrastructure designed primarily for the automobile. “The overall geography of the city has permitted great horizontal expansion, which, coupled with the dominance of the automobile and the demise of public transportation, has led to very low population densities compared to most large cities” (Cuff, 2000). This spatial character presents a challenge to many concepts of sustainable urban design, which typically celebrate density, walkability, and alternative transportation. The predominant development pattern in commercial and residential areas places cars in the foreground, and pushes buildings beyond a parking lot with limited dedicated pedestrian access from beyond the parking aisles (Figure 26). It is revealing that, in Los Angeles, the predominant urban sustainable design projects are called “transit-oriented development” (TOD), as opposed to something along the lines of “human-oriented development.”



The materiality of urban Los Angeles is highly man-made and unnatural, with a tendency towards the temporary or ephemeral. Layers of concrete bury nature and destroy ecosystems. Very little open land or natural resources are left for growing food, despite the ideal growing climate.

The movement of the automobile heavily influences the temporal character of urban Los Angeles. Time and space are experienced by many of the city's residents from a passing car and the city is scaled accordingly. Cities and neighborhoods in the Los Angeles County area are often bounded by

the physical edges of one of the many freeways, channelized waterways, or other large-scale urban infrastructure projects in the region. This means that much of the legibility of the space is designed to appeal to the vantage point and pace of motorized transport, including cars, buses, and motorcycles. Large colorful signs and billboards translate space to the speeding motorists and the pedestrians are left to their own devices.

Health reports and obesity rates indicate that people in Los Angeles are certainly not without food, so they must be getting it from somewhere.

Figure 26:

In Los Angeles, the car dominates the scale of the city, resulting in wide roads, large signs, and low density development.

Documentation of urban food issues in Los Angeles reveals those sources are increasingly becoming fast-food franchises and convenience stores for the county's low-income residents (Food Desert to Food Oasis, July 2010). Fast-food establishments and convenience stores typically do not carry much fresh food or produce, resulting in consumption of high-calorie, low-nutrient foods. The Retail Food Environment Index is 4.60 for the South Los Angeles area, which means that the total number of fast-food restaurants and convenience stores is 4.6 times greater than the total number of supermarkets and produce vendors in the area (Food Desert to Food Oasis, July 2010). This thesis proposes a model of development focused on making healthy, sustainable food a convenient and attractive part of the Los Angeles landscape.

Inglewood

“Local uniqueness matters...Spatial differentiation, geographical variety, is not just an outcome; it is integral to the reproduction of society and its dominant social relations.”

-Burns and Kahn, 2005, xxi-xxii

A community food system should be adapted to its local context in terms of social, economic, and environmental influences. The City of Inglewood is selected as the site for this thesis because it is one of the areas in Los Angeles County identified as a “food desert” by the USDA, and because its downtown character provides opportunities to explore urban design strategies within the context of Los Angeles. The City of Inglewood is 9.12 square miles and has a population of 119,000 (City of Inglewood, 2011). The population of Inglewood is 46.4% Black, 46% Latino (primarily Mexican), 1.1% Asian. The median household income is \$46,574 with 16.8% of residents living below the poverty line (L.A. Times). The low income status of a majority of residents, a high local dependency on the CalFresh food stamp program (EBT), and documented food inequities make it a relevant area in which to explore the potential of an urban food design intervention.

The City of Inglewood is in the South Bay area of Los

Angeles County, ten miles southwest of downtown Los Angeles and 2 miles east of the airport (Figure 27). It is bounded roughly by Interstate 405 to the west and Interstate 105 to the south. Inglewood officially extends to 64th Street in the north, yet the arterial of Florence Avenue is a spatial edge to the downtown area. The presence of the Inglewood Park Cemetery to the north and large-scale former entertainment complex to the south—including the Los Angeles Forum and the Hollywood Park Racetrack—creates a physical division within the city itself. The downtown area and civic center are located in the northwest of the city, and commercial zones and transit follow major arterials between large residential areas (Figures 28a-c).

Although geographically connected to the City of Los Angeles, Inglewood has remained its own city and has resisted incorporation into the City of Los Angeles. The first non-native developments in what is now Inglewood were two ranches, Aquaje de la Centinela, founded in 1834, and El Sausal Redondo, founded in 1837. These ranches were combined into the Centinela Ranch, which grew to 25,000 acres at its peak (Rosenberg, 1938). The historic Centinela Adobe still stands in northwest Inglewood today (Figure 29).

Figure 27:

This site section diagram locates the City of Inglewood in Los Angeles and illustrates identifying urban characteristics.



TYPICAL URBAN LA



MARKET STREET

PACIFIC OCEAN

LAX AIRPORT



2 mi

INGLEWOOD

10 mi

DOWNTOWN LA



**RANDY'S
DONUTS**



**CIVIC
CENTER**



THE FORUM



I-405

S. LA BREA AVE

E. FLORENCE AVE

Centinela Adobe

MARKET STREET DISTRICT

Inglewood Cemetery

Civic Center

Randy's Doughnuts

W. MANCHESTER BLVD

LA Forum

LAX AIRPORT

Hollywood Park Racetrack + Casino

S. INGLEWOOD AVE

S. LA BREA AVE

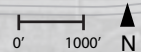
S. PRAIRIE AVE

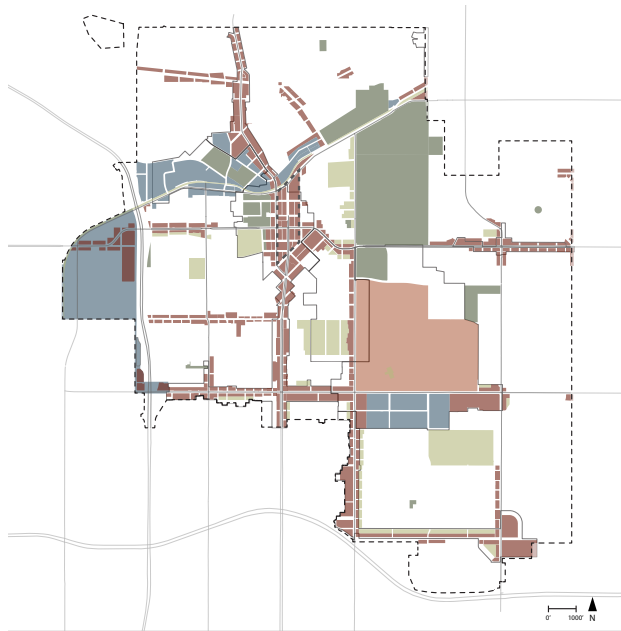
S. CRENSHAW BLVD

CENTURY BLVD

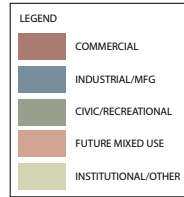
CITY OF INGLEWOOD

105 FREEWAY





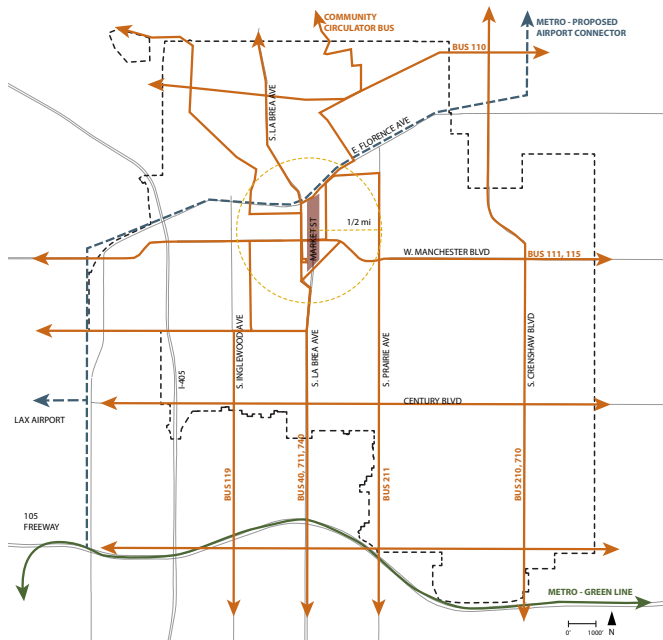
Zoning in Inglewood



The City of Inglewood, with a population of 1,200, was founded on February 8, 1908 and nicknamed “The City of Trees” because of its extensive willow trees (City of Inglewood). Over the past century, diverse industries have provided economic opportunities to Inglewood residents over the years, including a salt works, brick kiln (Figure 30), poultry colony, chinchilla farm, and factories for manufacturing parts for airplanes, furniture, microphones, and automobiles (Rosenberg, 1938).

Ironically, Inglewood has an agricultural past that lasted until World War II (City of Inglewood). From 1874-76 a drought caused many ranchers in the area to abandon livestock and agriculture aside from dry farming, such as barley, beans, and grains (Rosenberg, 1938). In 1905 the Inglewood Water Company established a 300-acre poultry colony in what is now northwest Inglewood to attract settlers into the area. The Inglewood High School even had a farm on its campus that sold to the surrounding community until the 1920s (Figure 31).

Once nicknamed the “City of Champions” because of its prominent sports franchises, the city of Inglewood is now left without an economic and entertainment draw to live up to the nickname or the dreams of



Transit in Inglewood

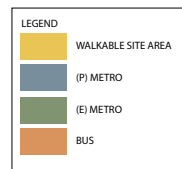


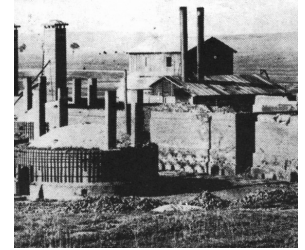
Figure 28a-c: The Market Street District is identified on these maps of Inglewood showing an aerial view, zoning, and transit.

its residents. In 1935 the Hollywood Park racetrack came to town, providing entertainment, jobs, and revenue for the city (visible in the 1953 aerial, Figure 33, opposite). The racetrack is now closed, but the casino on site is still operational. The Fox Theater, built in 1949 on Market Street, is an abandoned landmark in the area that has been sitting closed since 1984 (Figure 32). “The City of Inglewood stands at the threshold of an unparalleled opportunity to re-create an exciting nighttime activity and entertainment center for Market Street. When properly restored and renovated, the Inglewood Fox Theatre will provide an economic catalyst for the revitalization of Market Street and downtown” (Los Angeles Historic Theatre Foundation). The L.A. Forum—home to Los Angeles Lakers basketball team and Los Angeles Kings hockey club from 1967 to 1999—is an iconic local landmark in the area (Figure 34, opposite), although it is also a visual reminder of the economic downturn that has occurred since the Lakers basketball team stopped playing there and it sits largely unused (City of Inglewood).

Unfortunately, operating as its own city today, Inglewood has significantly fewer financial and political resources than its surrounding context. Its low real estate values and decades of economic

disinvestment have been fueled by various factors including ties to gang violence, the 1992 Rodney King Riots, its location in the LAX flight path, and a city government plagued by incidents of corruption. A major redevelopment proposal for the 238-acre Hollywood Park Racetrack site, called Hollywood Park Tomorrow, has been in the works since 2006, although no construction has begun to date. This development funded by Madison Square Gardens in partnership with the City of Inglewood, consists of the rehabilitation of the casino and construction of “a new mixed-use development that contains approximately 2,995 dwelling units, 620,000 square feet of retail space, 75,000 square feet of office/commercial space, a 300-room hotel, 10,000 square feet of community serving uses, and a 25-acre park system with passive and active recreational opportunities” (City of Inglewood).

Attracting investments has been a challenge for Inglewood. The large-scale proposals for Hollywood Park Tomorrow and an extension of the metro line connecting downtown to the airport are promising signs of change, if they ever get built. In the interim, a small-scale revitalization of the downtown Market Street as a Food District could be taking place.



Figures 29-34: Historic images of Inglewood (Waddingham, above and OAC, right).



Market Street District

“There was a time when Inglewood’s Market Street hummed with activity — department stores, bustling movie houses and a steady stream of pedestrians. Now the department stores are largely gone, the movie theaters have closed and vendors fight for business on a street that’s grown tired.”

-Dalina Castellanos, Los Angeles Times

This thesis is a proposal to incorporate community food into the currently underutilized Market Street District in the heart of downtown Inglewood. The Market Street District is one of the more historic parts of the City of Inglewood, and a rare area of Los Angeles that has a recognizably urban character. Downtown Market Street has many features of a sustainable urban node, such as higher density, building orientation towards the sidewalk, reduced automobile presence relative to its context, pedestrian amenities, and clear branding through district signage and landscaping design (Figure 35a-d). However, the existing Market Street District lacks sufficient levels of activity and diversity of use, and has too many vacant properties to be a successful destination.

This site was selected because of the opportunity to enhance the existing urban qualities and to

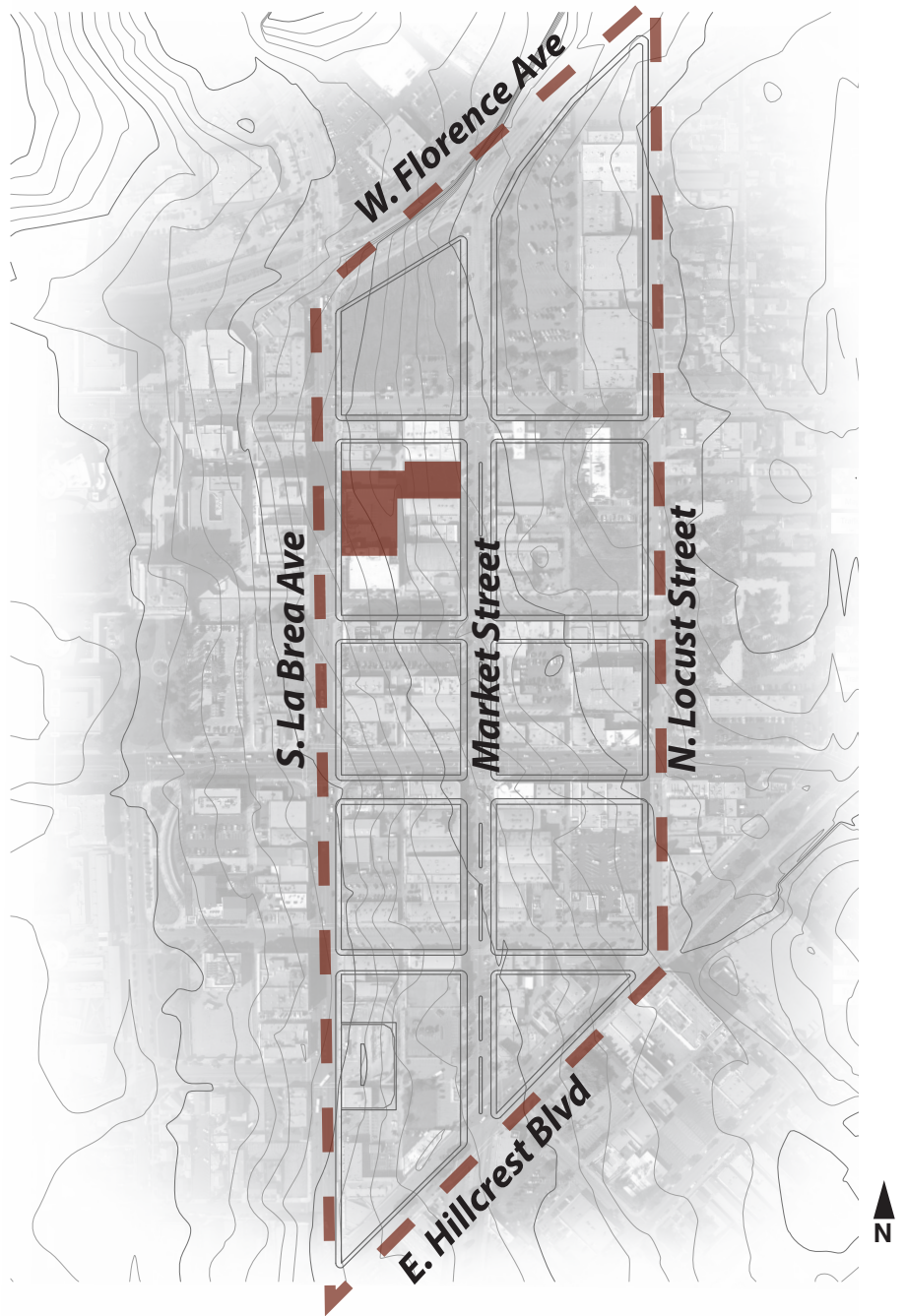
demonstrate that this type of development should be revitalized as a model of more sustainable pattern of development than the typical sprawling, car-oriented development which dominates the Los Angeles urban area. The thresholds to this five block district on Market Street are formed where the grid of streets shift at an angle at Florence Avenue to the north and Hillcrest to the south (Figure 36). In this district, the width of the street narrows and the car takes a back seat to the pedestrian. Stores open to the edge of the sidewalk (not a parking lot), and much of the parking is angle-in, as is typical of many historic downtown areas.

The zoning designation for the Market Street district is C-1, Limited Commercial. There is no restriction on retail pertaining to food or restaurants. The portion of Market Street studied in this thesis is within the zone designated for Special Downtown Development Standards. These standards address aesthetic issues such as building signage and security measures, require pedestrian considerations, and require that all parking is provided for at the rear of buildings. (City of Inglewood, 2012). The Market Street district has one vehicle lane per direction and left turn pockets at intersecting streets. No bicycle amenities are provided.



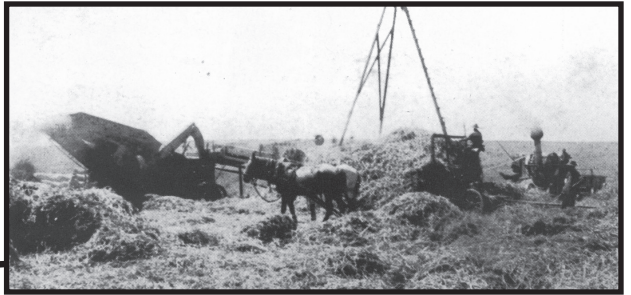
Figures 35a-d: Photos showing the urban character of downtown Market Street (lower image from OAC).

Figures 36: Map of Market Street

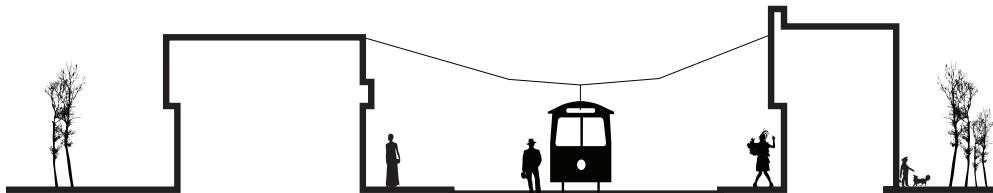




1843



1909



1934

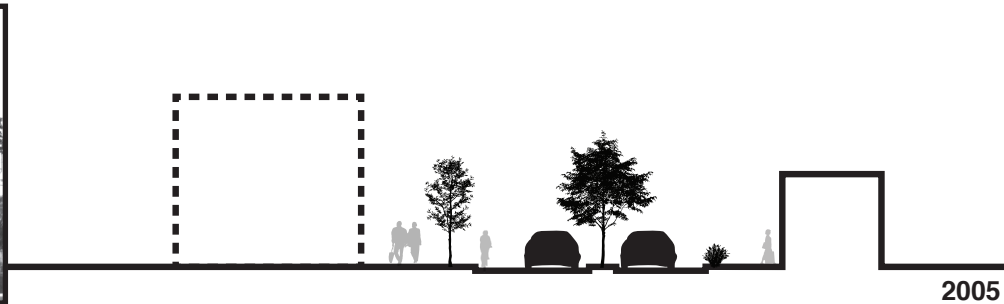


1949





1970



2005



2025

Figure 37: This series of sections and historic photos illustrates the evolution of downtown Inglewood (Images from OAC and Waddingham).

The early ranches of this area gave way to residential development in the late 19th century. Market Street evolved from a primarily residential area when the city was established in 1908. Over the years, it evolved to have more commercial uses, although residential use is still allowed on upper floors along Market Street today. A streetcar ran down the center of Market

Street in the 1930s, leaving room for the generous median planters present today. In the 1940s and 1950s, Market Street was a theater district known as a location for pre-screening films (Los Angeles Historic Theatre Foundation). In January 1999, the City Council approved a long range concept plan for improving downtown Inglewood titled “Market Street

Renaissance and Downtown Revitalization Plan” (City of Inglewood, 2012). This plan led to some of the aesthetic enhancements such as the narrowed streets, district signage, and landscaping, yet failed to inspire economic growth. In 2007, a developer was approved to create a commercial center—that included responsibility for right of way improvements at the north end of the Market Street District—on the large vacant site north of Regent Street, but neither the plan nor right of way improvements ever materialized. Today there are a substantial number of underutilized spaces in the Market Street District, including empty buildings, vacant lots, and excess parking areas (Figure 38).

The intermediate space, or public realm, in this district is limited mostly to the streets. The sidewalk along Market Street is well maintained and landscaped, yet it lacks some other public amenities—such as seating, restrooms, or fountains—and there is almost no activity after the stores close in the evening. There are currently no bicycle lanes or amenities along Market Street. A project in this district has the obligation to appeal not only to the passerby in a car or transit, but also to the pedestrian or cyclist, and to needs of both visitors and local residents.

Although the Civic Center and Market Street District are considered downtown Inglewood, the City lacks a strong community center. The previous era of entertainment through cinemas and sports has ended, and a new economic and entertainment draw to downtown must be developed. In Design for Ecological Democracy, Randolph Hester defines criteria for a good center as having concentrations of different uses, being easily accessible, encouraging frequent use, providing places for formal and informal gathering, fostering the development of local knowledge and shared interests, creating a sense of self-orientation, reflecting the ecological context, having a consistency of building form inspired by locality, and inviting stewardship (Hester, 2006). The existing Market Street District is easily accessible, exemplifies consistency of urban building form, and indicates some diversity of use, despite its many vacated properties. However, this district currently lacks sufficient economic opportunities, gathering spaces, or incentives for frequent use or stewardship. This thesis proposes a strategy to activate these spaces throughout the District.

Figure 38:
A map of existing underutilized spaces in the Market Street District.



Vacant sites



Excess parking



Vacant buildings

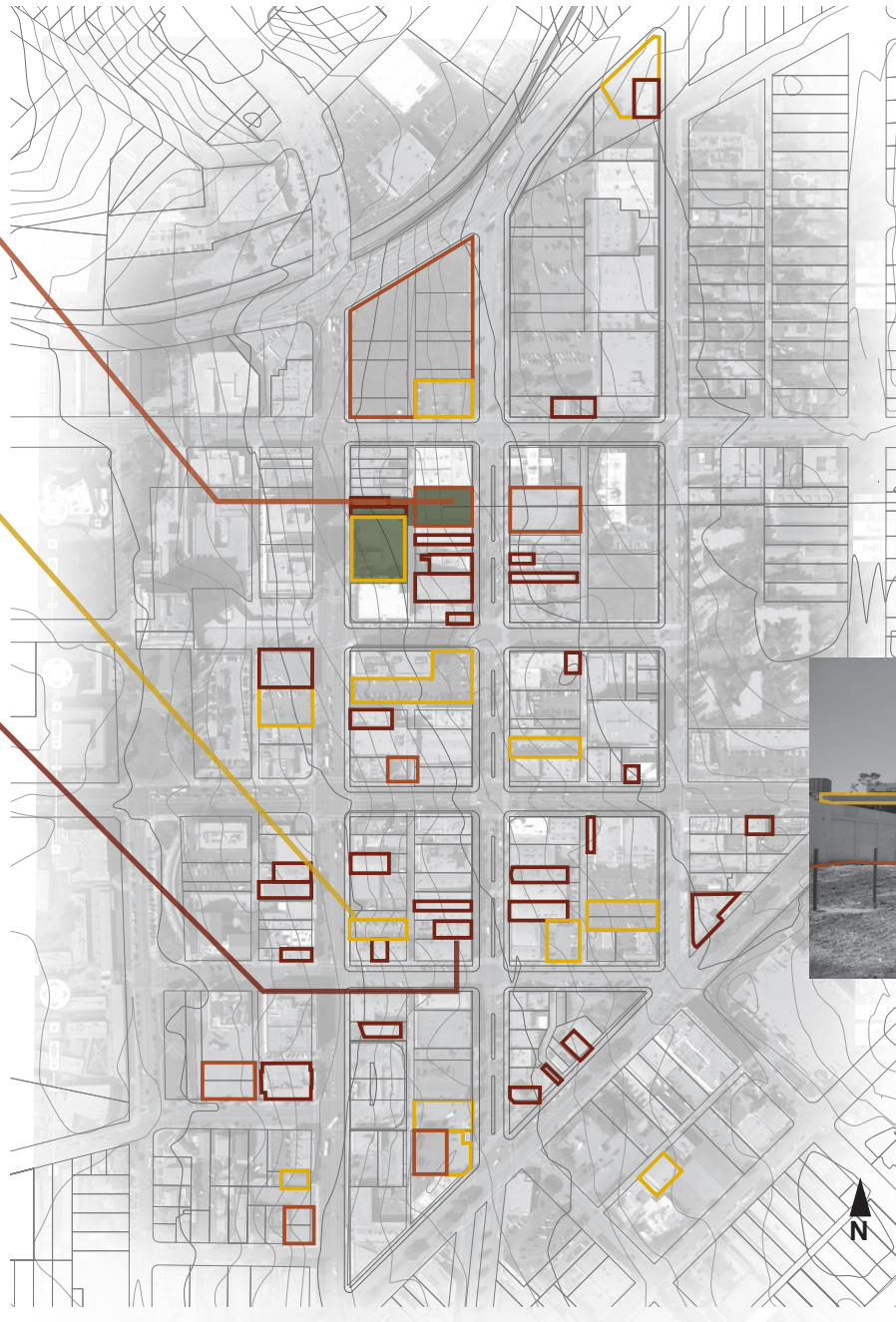


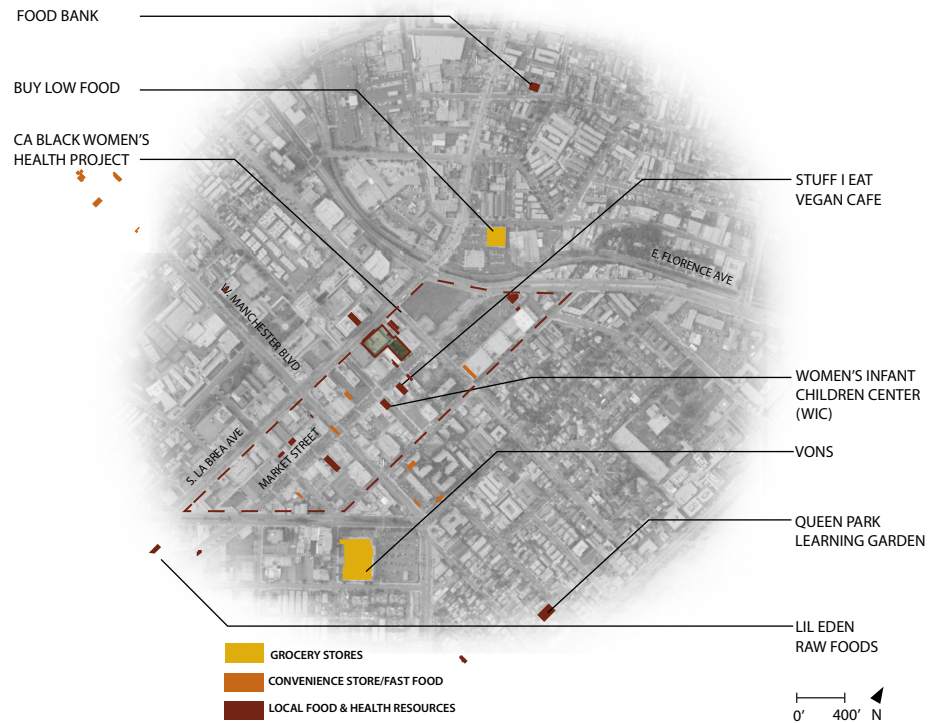
Figure 39: How can this under-utilized site (above) evolve in the future in a way that restores it as an attractive and viable destination? Can this community engage around food as it did in the past?

Inglewood Grange

The site selected for this catalyst project is located near the center of the district, filling in a gap in the existing urban context. The site for the Inglewood Grange was also selected because of its potential to activate three different types of underutilized spaces in the district: a vacant site, a vacant building, and an excessive parking area (Figure 39).

One of the challenges to constructing a community food system in a city like Inglewood is ensuring access to resources that have become scarce or depleted over time. Despite an ideal climate, access to water, seeds or plant starts, and soil with sufficient nutrients and lack of pollutants are all current resource obstacles in the Inglewood area. An assessment of existing site resources was an integral part in developing the design proposal.

On Market Street there is already evidence that the community is ready to engage healthy food. Many of the Inglewood community's existing social and food system resources are located within a half mile of the proposed site (Figure 40). The Stuff I Eat Café and Queen Park Learning Garden, previously mentioned, are within the area, in addition to the local Women, Infant & Children (WIC) nutrition center, the local



food bank, and the California Black Women's Health Project. Locating the Inglewood Grange in a site near these community efforts builds on existing assets.

The City of Inglewood does not have a plant nursery within its limits, so an effort to grow food in the city would need to be supplemented from the outside initially. With its industrial history, there are likely many areas where soil contamination is an issue. A composting program would be essential to produce nutrient-rich soils for growing.

Figure 40: This map of local food resources reveals that the Market Street District has opportunities to build on existing community resources.

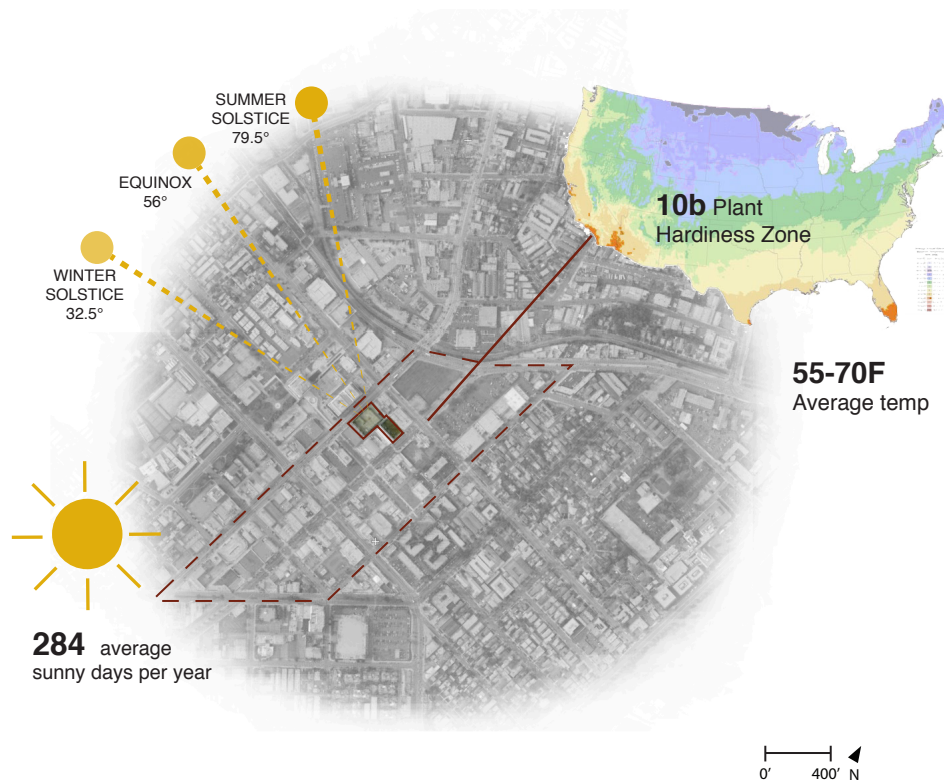
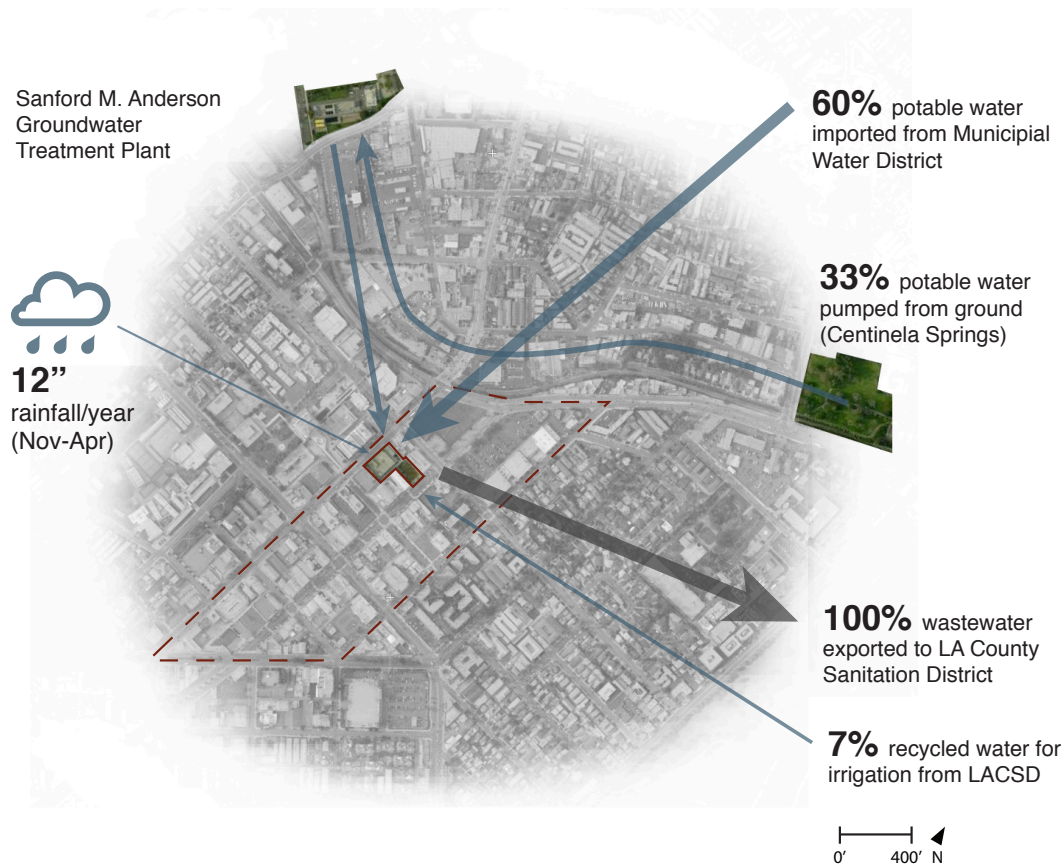


Figure 41: This diagram of climate resources reflects the ideal growing climate that favors the reintroduction of agriculture to the city.

The hot, dry summers and mild, rainy winters of Los Angeles create an ideal climate for growing food (Figure 41). The average minimum temperature of 55.3 degrees Fahrenheit around January and an average high temperature of 70.2 degrees Fahrenheit typically in August or September. With a 73 percent chance of sunshine in Los Angeles, according to the National Climate Data Center, there is a year-round growing season without any additional climate control technologies. The Griffith Observatory in Los Angeles reports the altitude

of the sun peaks at 79.5° on the summer solstice and falls to 32.5° on the winter solstice, indicating fairly good solar exposure year round. According to the USDA, the hardiness zone for Los Angeles is 10b, which means plants will only need to tolerate an average extreme minimum temperature of 35-40 degrees Fahrenheit. In conclusion, this is a favorable climate for establishing urban agriculture as part of a community food system,



Water resources (Figure 42) are the most significant constraint on the success of urban agriculture within a community food system. Southern California was an arid region even before it was overdeveloped and required water to be pumped in from other areas in order to sustain its growing population and thirsty green suburban lawns. Los Angeles County is located in an area that naturally has a lack of sufficient freshwater resources to support its population, and relies heavily on the importation of

water from other parts of California and neighboring states. The Central Valley, which begins just north of Los Angeles, and provides much of its fresh food, is a rich agricultural area, but agricultural practices in the state consume about 80% of California's water supply (Food Desert to Food Oasis, July 2010).

It is worth noting that Inglewood's water system was started in 1888 by the Centinela-Inglewood Land Company and until the early 1950s, 100 percent

Figure 42: This diagram of the existing water resource network reveals opportunities for greater efficiency and treatment.



of the city's water came from local groundwater resources linked to the Centinela Springs located in what is now northeast Inglewood (Figure 43a). As is the case for many of the natural waterways in the Los Angeles area, the Centinela Springs in Inglewood has been channelized and actually moved completely underground. A plaque in Centinela Park marks the historic site of the springs (Figure 43b). In 2010, 64 percent of the city's water was imported through the Los Angeles Metropolitan Water District (MWD) and 36 percent came from local groundwater pumped and treated in Inglewood. All of the city's wastewater is treated outside of the city at the LA County Sanitation District (LACSD). The Inglewood Cemetery, local parks and schools, and transit

property use recycled water for irrigation, which is pumped back from the LACSD (Psomas, 2011).

Inglewood gets an average of 12 inches of rainfall annually, most of this occurring in between November and April (Psomas, 2011). These rainfall extremes can result in cycles of flooding contrasted with periods of drought. Since rainfall is not a significant source of water for Inglewood and a history of over pumping groundwater has decreased capacity, urban water efficiency and reclamation technologies have the most potential to support the development of a sustainable food system. Runoff collection and on-site treatment of some wastewater could immediately divert water to support urban agriculture.

Figure 43a,b:

This photograph shows Centinela Park where the Centinela Springs once flowed. The plaque marks the now buried spring near a group of trees.

DESIGN

The Inglewood Grange is a public place that is welcoming to all members of the community. Socially engaging and educational to its users, it actively demonstrates the potential of growing food in an urban environment. This open and inclusive character is illustrated in the perspective from the Market Street entry looking into the central courtyard (Figure 45). Visual connections into the various program spaces as well as through the site reveal diverse activities and opportunities to engage with cultivating and consuming healthy food.

As a catalyst project, the Inglewood Grange responds to the identified need to reengage urban residents with their food and create a culture to support the future development of a community food system. The design for the Inglewood Grange is developed through the creation of linked, open spaces that address potential program needs served by a site-integrated infrastructure, community space, and urban agriculture opportunities.

Adapting the Grange

The Grange, with its historic network of community halls that brought together the farmers of rural areas to address needs and concerns around local food systems of the past, is a model that can be adapted to

inspire engagement of food issues in contemporary urban areas. In order to adapt this model to the modern city, it is necessary to understand the community it is intended to serve, which differs from the farmers of the Grange era, and how the facility must evolve in response. As the diagram in Figure 44 shows, the inward focus of the Grange Hall of the past must be adapted as the project serves a broader community. No longer based on membership from a specific demographic of society, the Grange now connects with the greater public and reach out to the community. By breaking down the simple massing of the Grange Hall and holding the urban edge of a vacant site, a more civic, public space is created within the frame of the resultant buildings. This new massing is a particularly appropriate response to the southern California climate, creating a stronger connection between interior and exterior space.

Both the form and program of the Grange Hall must evolve to meet the needs of a community that has become disengaged from its food system. Although gathering for diverse events is still an important function, a greater educational role is needed as this community learns about growing, harvesting, preparing and consuming healthier foods. It is also essential for a modern Grange Hall to address the

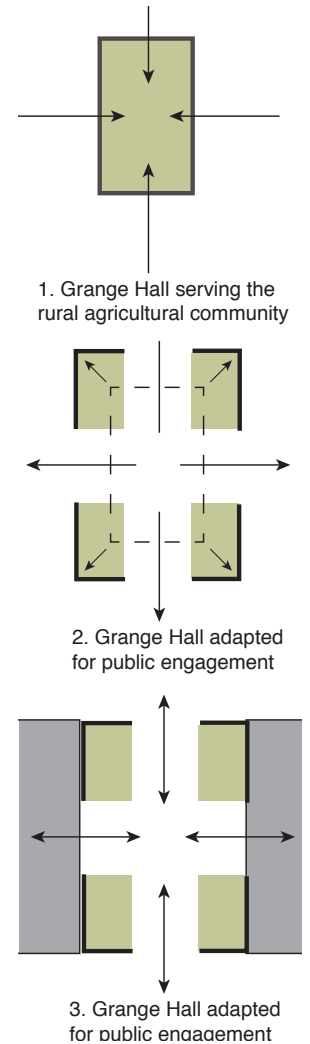


Figure 44: A diagram of the process of adapting the Grange Hall to the modern city.

Figure 45: A perspective from the Market Street entry





"3 SISTERS"

CORN

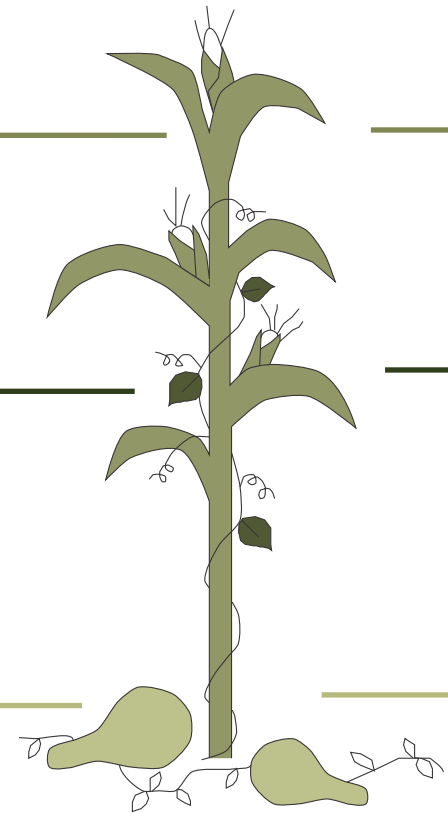
provides structure
for beans to grow

BEANS

produce nitrogen
for the soil below

SQUASH

prevents weeds
from growing



resource needs of the urban environment through the creation of site-specific infrastructure. Finally, as agriculture has largely disappeared from the modern city, the Grange reintroduces agriculture by demonstrating methods for growing within a city.

Concept

The agricultural model of companion planting inspires the organizing concept behind the development of this design proposal (Figure 45). Companion planting is a method of farming that dates back to

Figure 46:

The evolution of the design concept based on the "3 Sisters."

INFRASTRUCTURE

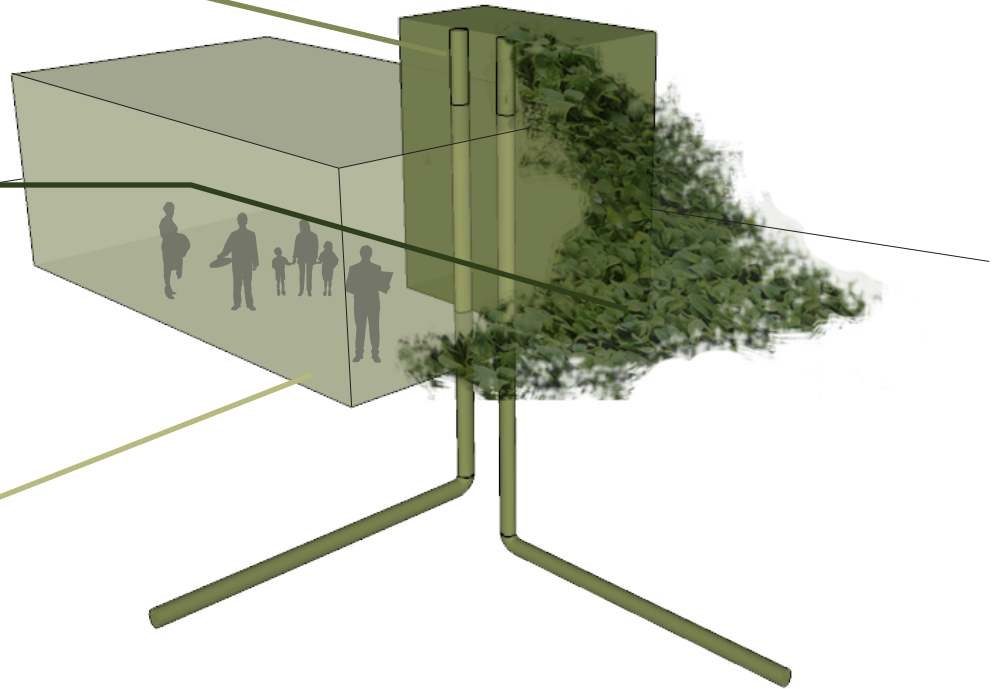
Building for community needs

URBAN AGRICULTURE

Local food and education

COMMUNITY SPACE

Places for people



Native Americans, in which various crops are planted together to foster a symbiotic relationship. The “3 Sisters” of the companion planting method are corn, beans and squash. In this system, the corn provides the critical infrastructure upon which the beans can grow. The beans, in turn provide nitrogen to the soil. The squash provides a suitable ground plane for the others to grow by suppressing weeds.

For this thesis proposal, the concept of the “3 Sisters” companion planting has been reinterpreted

architecturally to provide a foundation for the design. The corn translates to the physical infrastructure necessary to support the development of the project. The beans represent the urban agriculture that thrives on this infrastructure and provides nutrients to the system. The squash is the community space that provides opportunities for the public to engage the project. These three components operate symbiotically to serve the community more effectively than they would as individual interventions.



E. REGENT STREET

ALLEY



S. LA BREA AVE.

MARKET STREET

W. QUEEN STREET

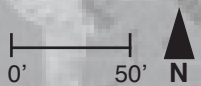


Figure 47:
Existing site

Figure 48:
Proposed site
(opposite)

E. REGENT STREET

INGLEWOOD
GRANGE

ALLEY

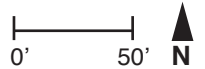
AGRICULTURE
INSTALLATION
WORKSHOP

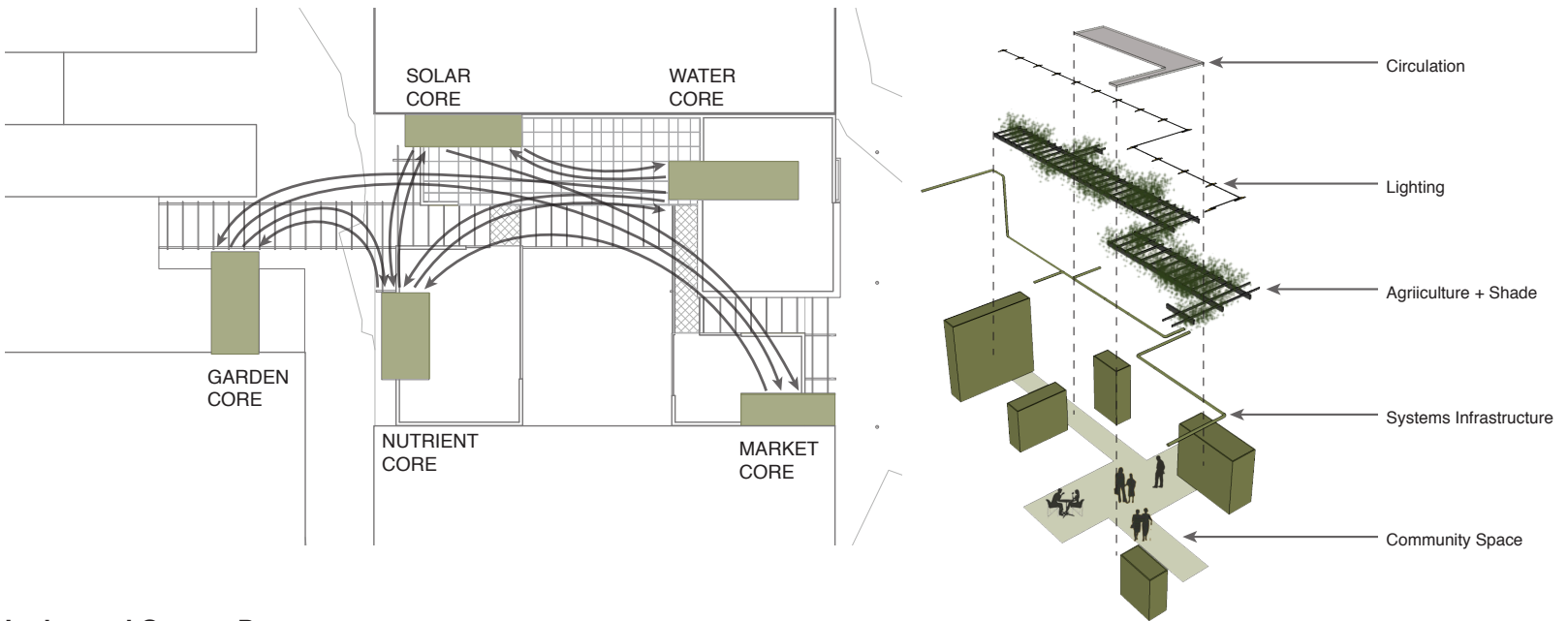
ROOFTOP
COMMUNITY
GARDEN

S. LA BREA AVE.

W. QUEEN STREET

MARKET STREET



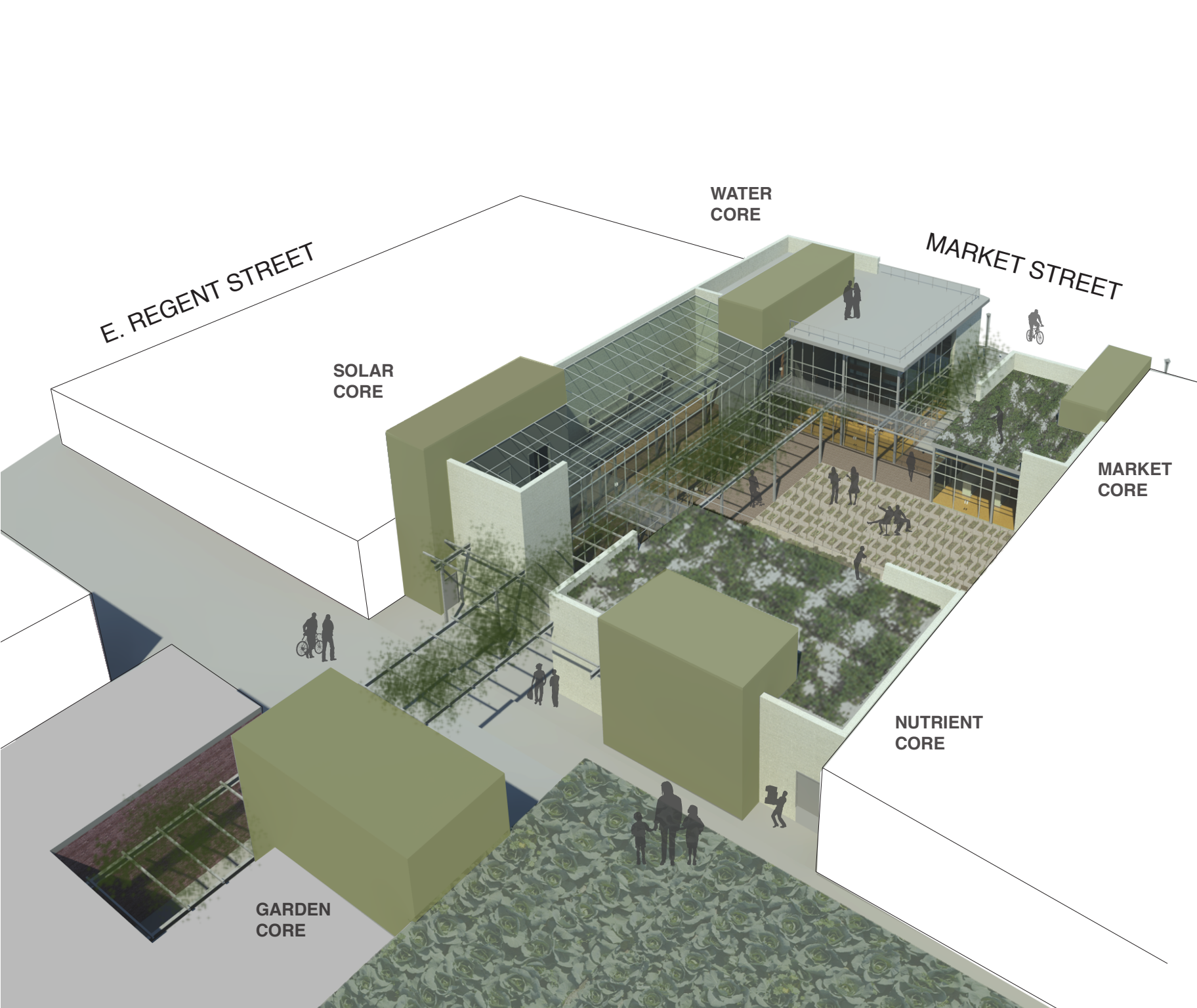


Ingleswood Grange Program

The three underutilized spaces of the site are activated in different ways, as shown in the existing and proposed site diagrams (Figures 47 and 48). The vacant lot is where the core of the Ingleswood Grange, with its educational and community spaces, is located. The vacated building across the alley to the west is converted into an Agriculture Installation Workshop, which is a space for experimentation with growing strategies and a driver for outreach projects within the Market Street District. The rooftop of the adjacent four story parking garage, currently used only by one office building to the south, is reclaimed as the site of a community garden.

To address resource needs for the site, a series of infrastructure cores are dedicated to specific site systems, including water, solar, nutrient, the garden, and a market (Figure 49). As opposed to being collected within a single service core, the distinction of the cores provides an educational opportunity around each system and displays the connections between them that weave across the site. These linked systems are supported by a trellis, which is designed to connect between the cores (Figure 50). The trellis provides a variety of functions in addition to conveying infrastructure, including shading, agricultural support, site lighting, and circulation.

Figures 49-51: Diagrams of the five cores and trellis, with an aerial perspective showing how these engage within the site.



E. REGENT STREET

WATER CORE

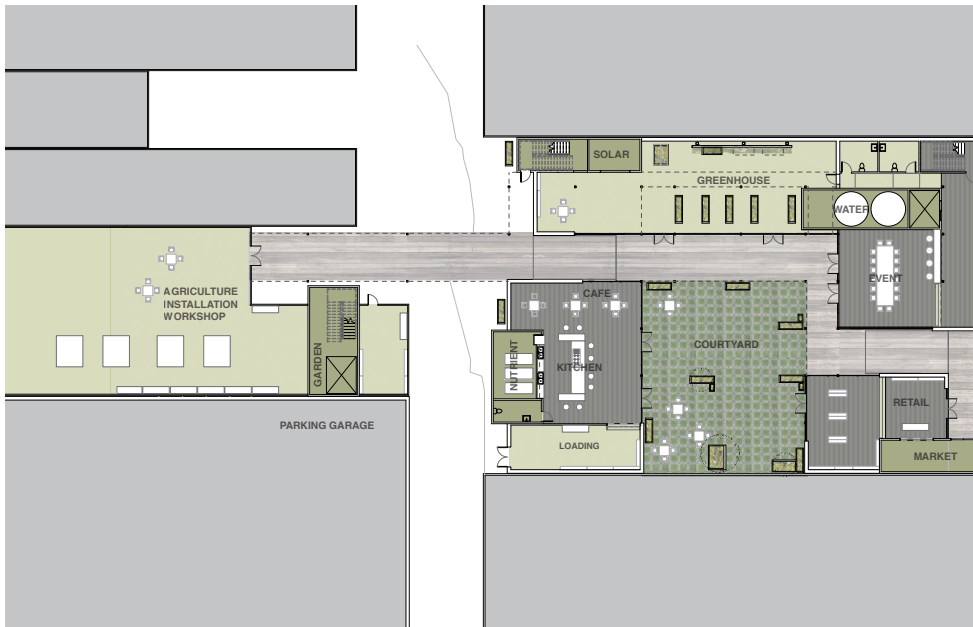
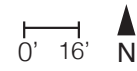
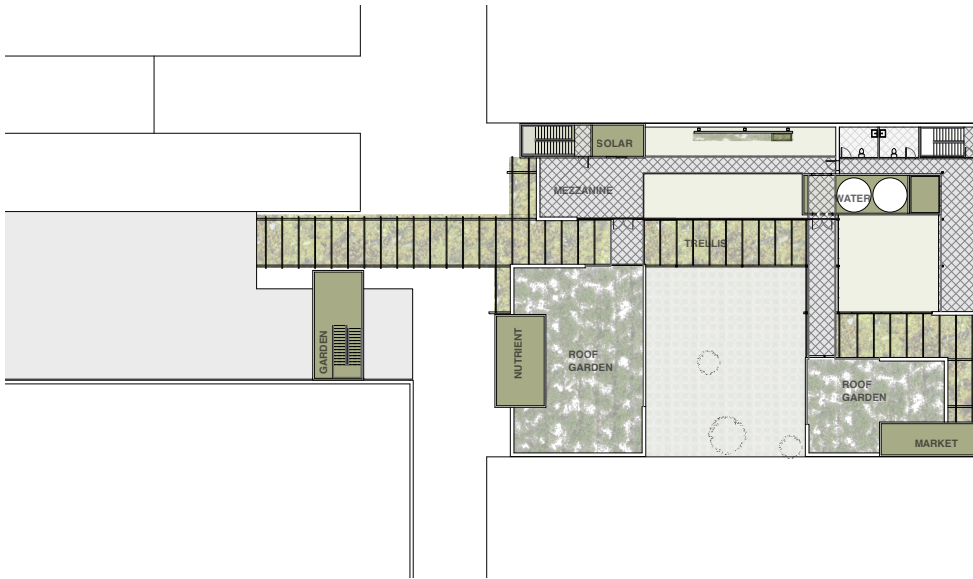
MARKET STREET

SOLAR CORE

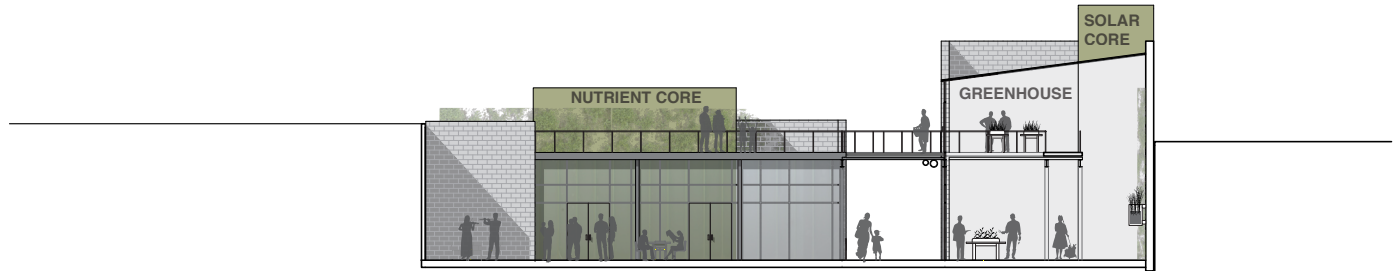
MARKET CORE

NUTRIENT CORE

GARDEN CORE

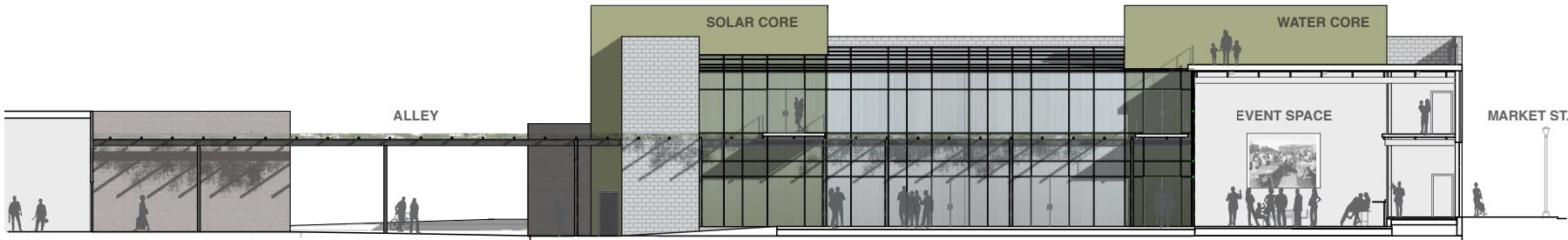


Figures 52a,b:
Floor plans of the
Inglewood Grange



GREENHOUSE SECTION

0' 16'



EVENT SPACE SECTION

0' 16'

The trellis delineates the main circulation pathway through the site, from Market Street, through the Inglewood Grange, and across the alley to the Agriculture Installation Workshop and rooftop Community Garden.

located at the north of the site, including the south-facing greenhouse. Two masses, containing the Water and Market Cores, frame an outdoor entry from Market Street that leads directly to the central courtyard. The rear entry is framed by the masses containing the Solar and Nutrient Cores. Connected across the alley by the trellis path is the Garden Core, anchoring the Agriculture Installation Workshop and provides public access to the Community Garden.

Figures 53a,b:

Sections through the site show the orientation to the sun, as well as to the adjacent streets.

The massing is kept low to the southern edge of the site to protect solar access and provide accessible growing spaces on the roof level. Taller portions are





Materials

The Inglewood Grange is intentionally modest in its scale and scope in order to perform as a potentially realistic proposal for the community. A simple palette of materials was selected in response to the site and its context (Figure 54). A masonry tradition in Inglewood dates back to the brick kiln of the 1880s, and many of the older buildings in the area are constructed of brick. In response to modern building methods and durability needs, concrete masonry units (CMU) were selected for the exterior walls. These walls frame the edges of the site, but are replaced with glazing as the project opens up into the courtyard to promote visibility and a continuous community space. A light



Figure 54:

A perspective and material key to the project (left).

Figures 55a,b:

Inspirational images from the Case Study Houses.



gauge steel structure was selected to reference the industrial and manufacturing history of the area. This structure supports the roof and catwalk upper floor structures, and the trellis is an extension of this system. The cores are constructed from structurally insulated panels (SIPs), which have the metal panel exterior finish common place in commercial food production. The mass of the five cores is articulated within each structure, extending beyond the walls and roof of the simple CMU and glass buildings. The character of the community spaces is softened with the addition of wooden floors and ceilings. The paving on the site is permeable, enabling rainwater to be absorbed on the site.

The structure and materials of the project were also inspired by the architectural traditions of Southern California. These traditions might be best exemplified in the Case Study houses, completed from the mid-1940s through the 1960s, including the houses by Charles and Ray Eames (Figure 55b) and R.M. Schindler (Figure 55a). These houses are well known for a simple and efficient, yet elegant approach to materials and structure.



Figures 56a,b:

The street presence of the Inglewood Grange is an important addition to the Market Street District. The existing photograph (above) shows how the street life is not supported by the buildings and how people leave as soon as the stores close. The proposed Market Street facade (opposite) remains active through the Market display and reveals the activity within the event space that can extend into the evenings.



INGLEWOOD GRANGE



WATER CORE

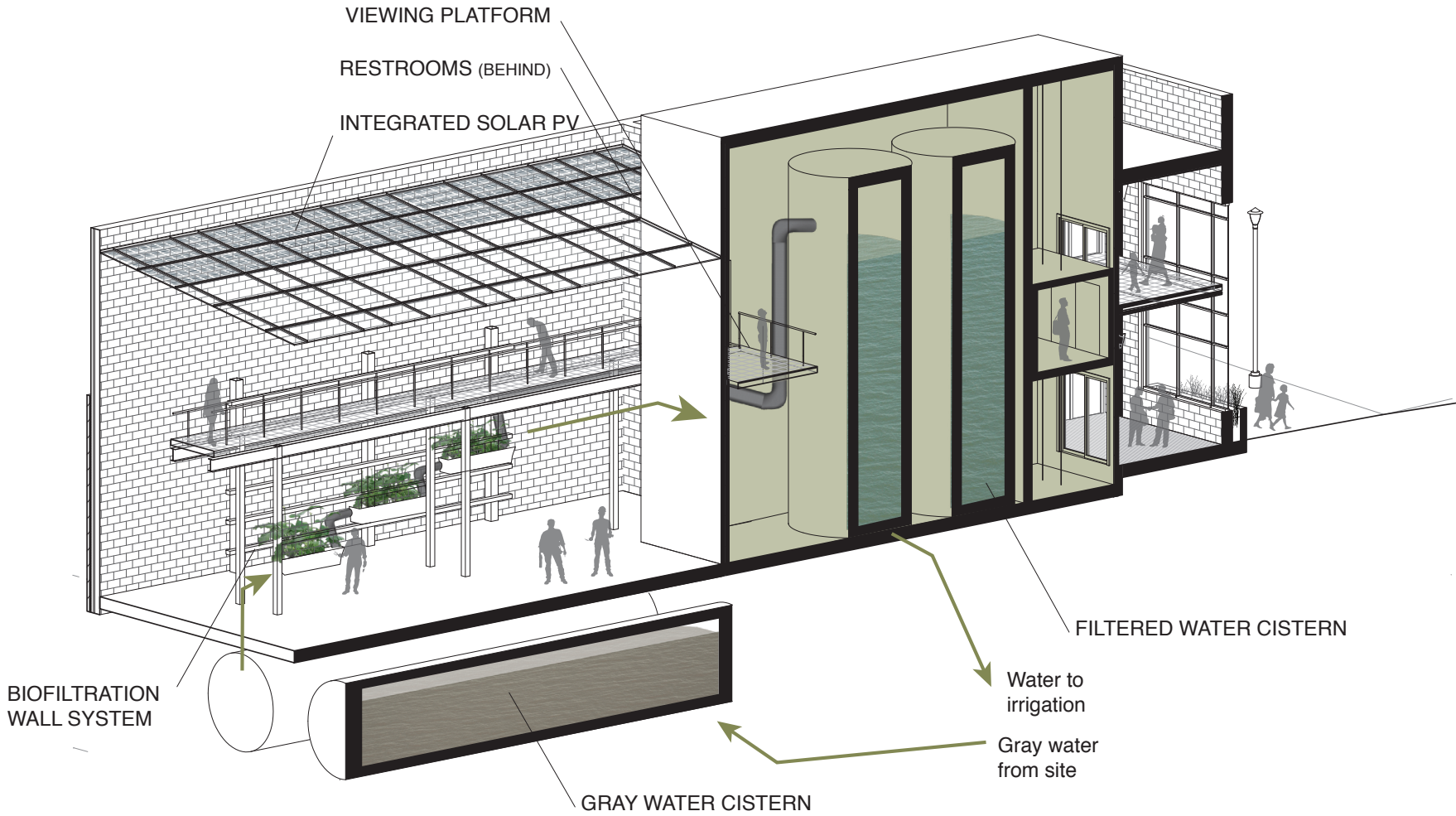


Figure 57:
A section through the
Water Core

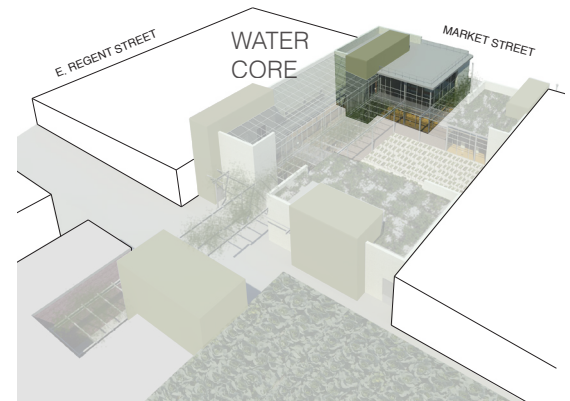
The Water Core anchors the Inglewood Grange physically, as one of the larger spaces within the small site, and conceptually because addressing water needs is essential to the success of the Grange project and the entire Food District. This double height core is located on Market Street at the north edge of the site.

The infrastructure core divides the space between an entry and event space and a service bar containing the stairs and restrooms to the north. This core is visible from Market Street through glazed openings, attracting the interest of people passing by, and framing the activity of the event space. A mezzanine level overlooks the event space and enables circulation through the core, into the greenhouse, and out to the roof of the Market Core. The roof of the Water Core is occupiable, adding another event space overlooking Market Street.

The infrastructure components featured in this core address water cycles on the site. The core physically contains the cisterns for storing the treated water that irrigates the urban agriculture on the site, as well as the elevator. The mezzanine enables visitors to walk into the core and see the scale of the cisterns necessary to grow food in a city. Graywater

is collected from the site's agriculture irrigation overflow, sinks in the kitchen and restrooms, and is stored in graywater cisterns located below the greenhouse floor., and any rainwater runoff that might occur in winter. The water is treated by being pumped up through a biofiltration system located on the north wall of the greenhouse. The pumps are run by power for the integrated photovoltaics on the greenhouse roof.

This system is large enough to accommodate some additional graywater from surrounding sites, which would have to be arranged on a case-by-case basis, and with the approval of the City of Inglewood. There is an opportunity for Inglewood to manage its water resources more locally, and the Water Core provides the infrastructure and education about some initial ways to start to recycle some of its own waste water.



MARKET CORE

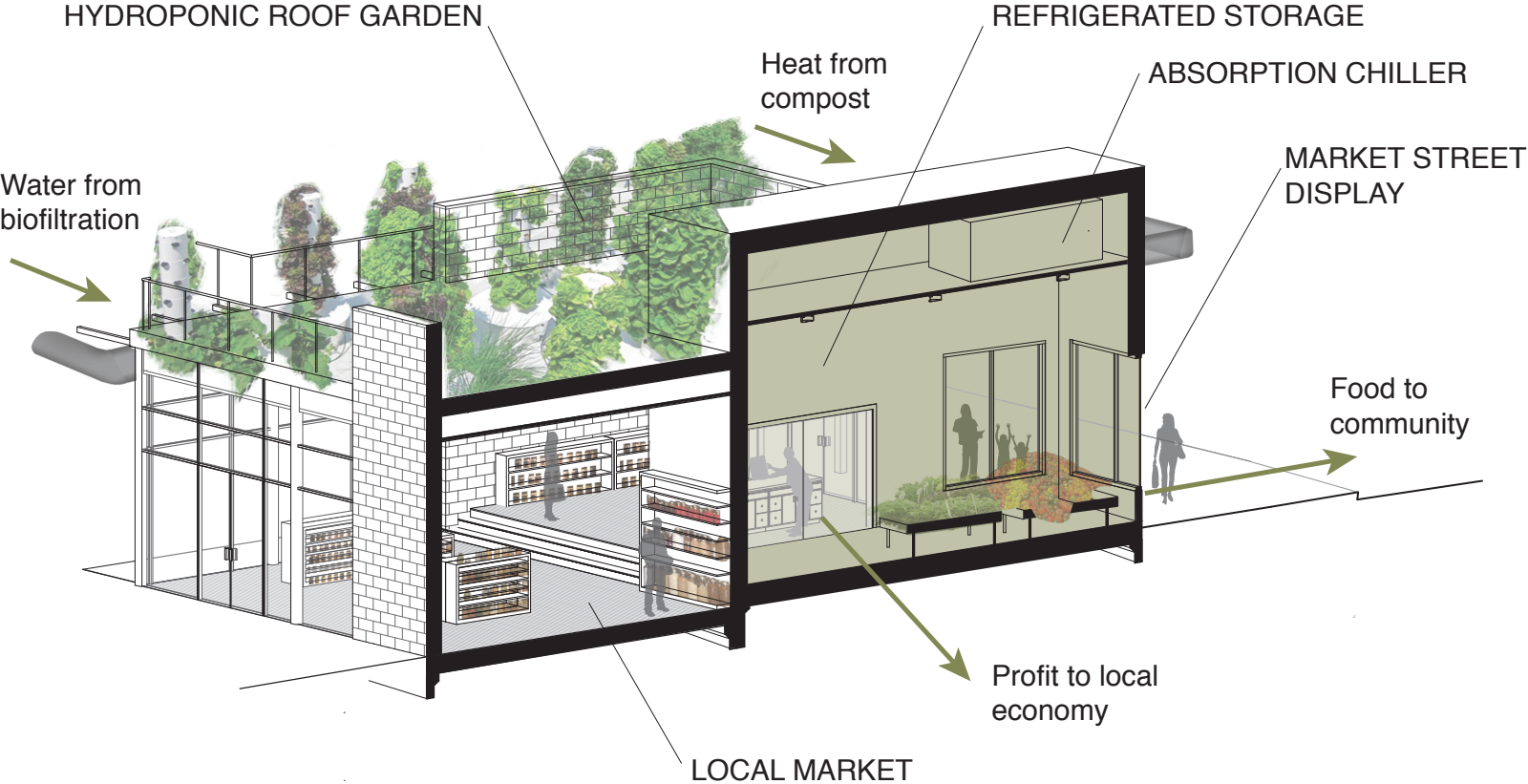


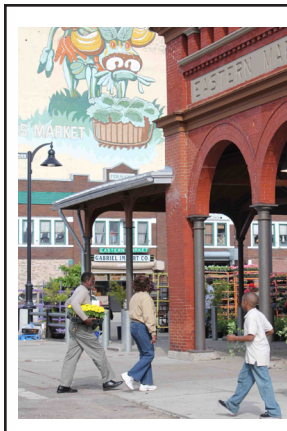
Figure 59:
A section through the Market Core

The Market Core is the other portion of the Inglewood Grange that fronts directly onto Market Street. The intention in locating the market component of the proposal here is to directly engage the commercial identity of Market Street and provide a space for economic opportunity within the site. This small market provides an initial opportunity for community members who use the community garden space or commercial kitchen to sell their products to the outside community. Being able to use commercial grade food spaces and test products in the real market are important stage of development for new local businesses.

The infrastructure core for this building is visible directly on Market Street, with the building entry set back from the existing urban edge. The core itself

is a refrigerated space that enables the sale and display of fresh produce or processed goods that require refrigeration. The refrigeration is powered by an absorption chiller that converts the waster heat energy from the compost system in the Nutrient Core into cool air.

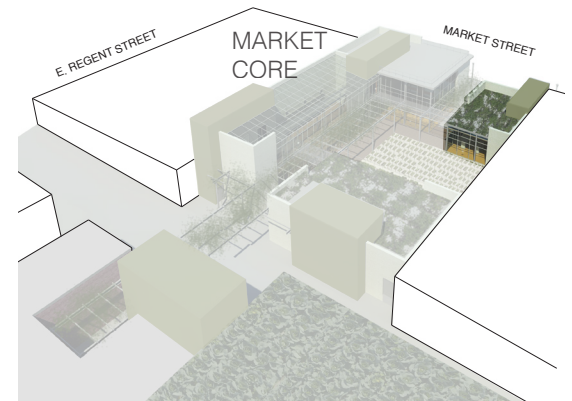
The market space adjacent to the core connects from the storefront on Market Street to the central courtyard, exposing people who might not be familiar with the extent of the Inglewood Grange into the space. The roof of the Market is accessible and used for full sun hydroponic growing towers, the products of which might be sold in the Market as well.



Case Study: Eastern Market, Detroit

Detroit's Eastern Market demonstrates how food might function as an organizing tool for society; urban farming and markets serving as employment and wealth creators for cities. The market serves as the hub of a developing local food system, as the Inglewood Grange is intended to do. It hosts a model garden and urban garden training classes. The market also provides education about food-related public health issues.

The Eastern Market is in the process of "developing cutting-edge systems to convert waste streams generated in the district to provide energy to heat, cool and power facilities, and compost to increase food production yields." (Alter, 2011).



NUTRIENT CORE

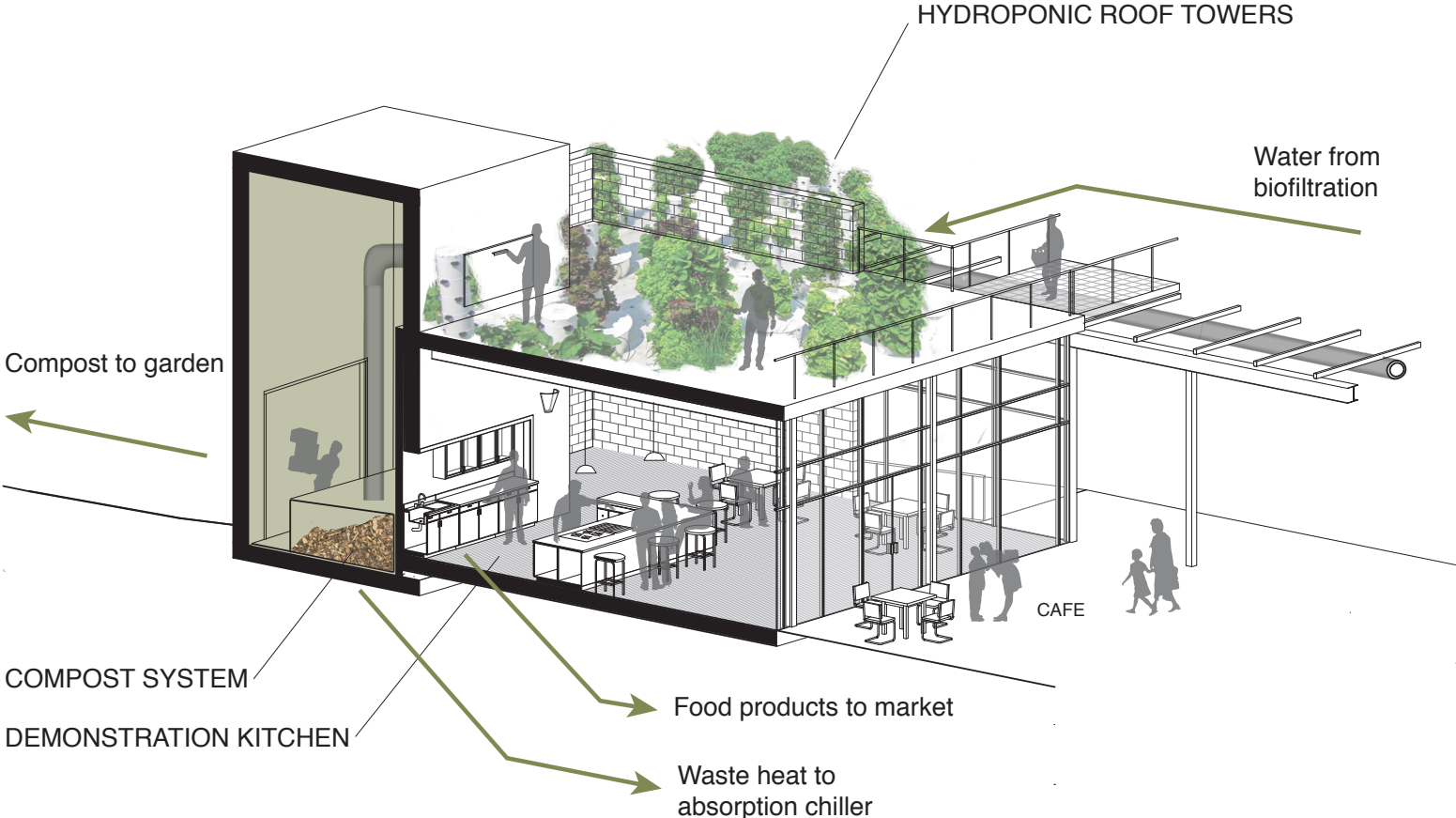


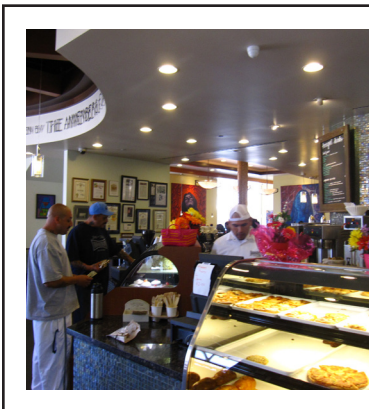
Figure 60:
A section through the
Nutrient Core

Upon entering the courtyard of the Inglewood Grange from Market Street, the Nutrient Core frames the far side of the space. With the ideal climate in Inglewood, the courtyard space can serve as an extension of the cafe space inside. The cafe is supported by the activity of the kitchen, which serves as a commercial-grade kitchen for small businesses as well as a demonstration for cooking classes and other educational programs. Although this space could be located along Market Street, the food serves an important role in drawing people into the Inglewood Grange.

The infrastructure of this core is focused on turning the food waste from the kitchen and gardens into nutrient rich soil through a process of composting. The series of compost bins can be accessed off the

alley, where the core is exposed. This also simplifies transportation to and from the roof garden. The process of creating compost generates heat, which can be redirected to the absorption chiller to cool the Market Core refrigerator. The roof of this single height space is also used for full sun growing using water-efficient hydroponic strategies.

The tradition of cooking and sharing meals is a part of society that has been compromised in modern cities. Community food systems like social enterprise cafes and cultural teaching kitchens provide opportunities for diverse people to connect and share knowledge and traditions with each other. In the Market Core, people gather around preparing and consuming the local healthy food that is generated through the Inglewood Grange.



Case study: Homeboy Industries, Los Angeles

Sustainable job incubators and social enterprise models are becoming more common, including this local example in Los Angeles. Homeboy Industries is a non-profit founded by a Catholic priest known as Father Greg in 1988. Homeboy provides social services and food industry job training and opportunities for former gang members in order to help them reintegrate into society. The program has expanded over the years to include a variety of social enterprises, including Homeboy Bakery, Silkscreen & Embroidery, Grocery, Farmers Markets, Diner, Homegirl Café & Catering, and Homeboy/girl Merchandise.

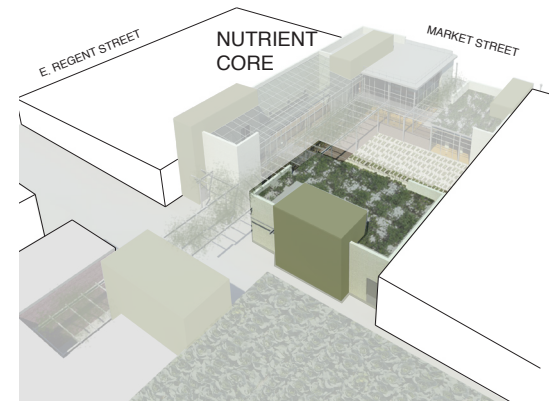






Figure 61:
A perspective of the
community kitchen and
cafe in the Nutrient Core.

SOLAR CORE

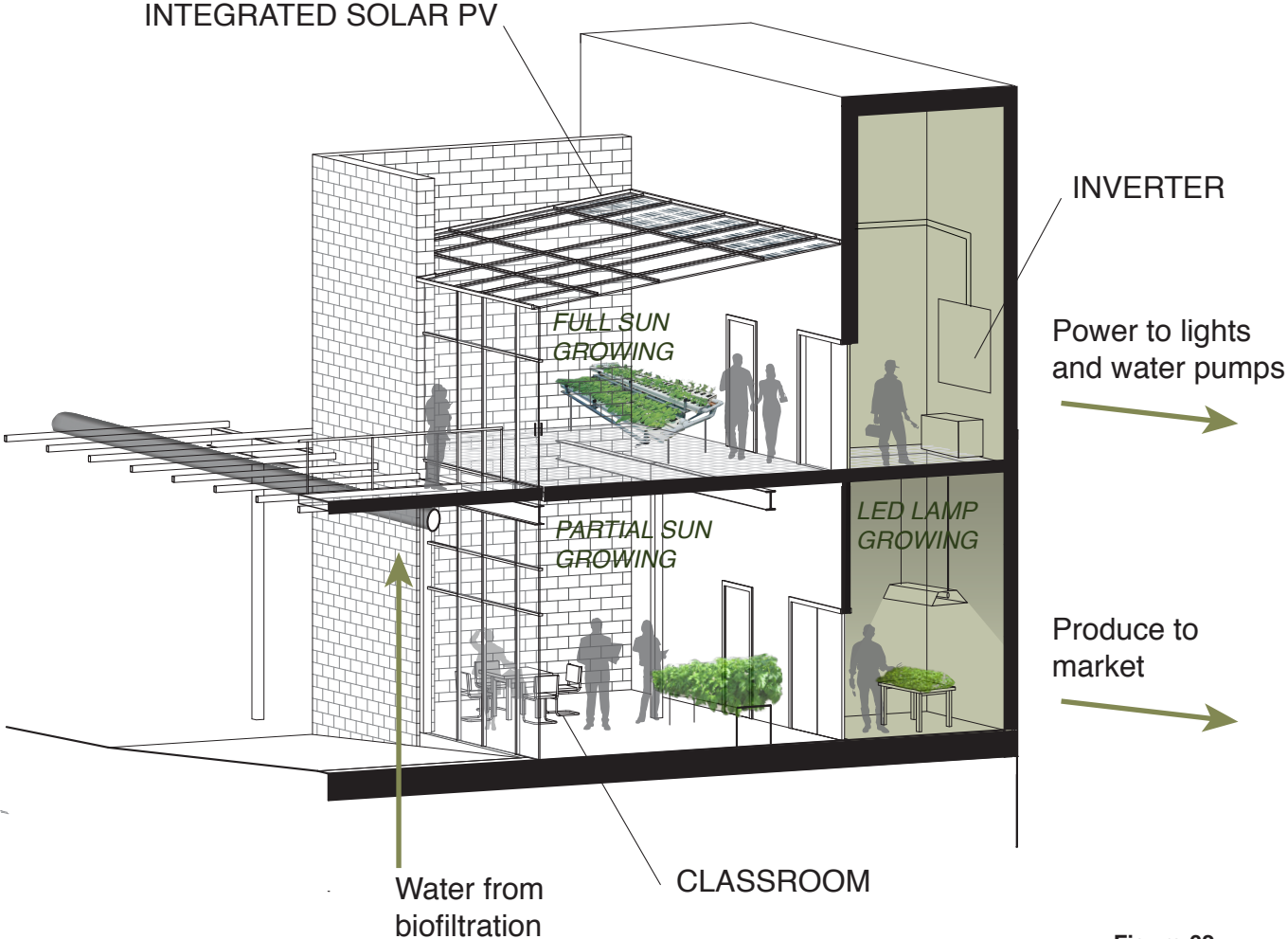


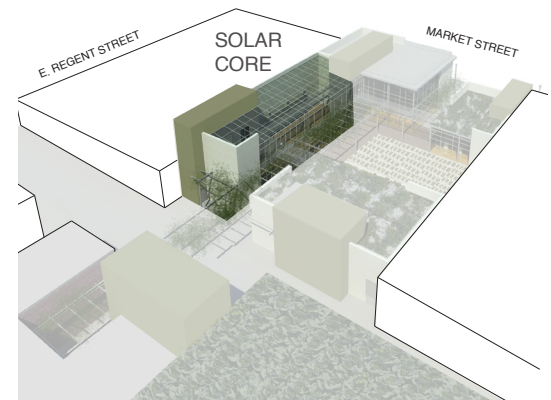
Figure 62:
A section through the Solar Core

The Solar Core responds to the climate and orientation of the site by maximizing south-facing solar exposure in order to showcase the potential of urban agriculture. The urban agriculture strategies highlighted in the Inglewood Grange focus on ways to grow with minimal water inputs—such as hydroponic and aeroponic technologies—in response to scarcity of local water resources in the area. At present, some of these growing approaches rely on particular nutrient solutions, but water that is needed for other growing can be supplied by the Water Core.

This building diverges from the simple enclosed massing consistent within the rest of buildings on the Grange site, as the glazed structure of the greenhouse extends east to connect to the Water Core. The edge that is enclosed with CMU blocks along the alley, receives less daylight exposure, so it

contains a classroom space and the stair core.

The infrastructure core for this building is visible from the alley and contains the equipment for the integrated solar photovoltaic panels that run along the upper portion of the greenhouse roof. The core also provides a space for more controlled growing under LED lights powered by the on-site solar energy production. This energy can also be used to power lights and equipment throughout the small project.



GARDEN CORE

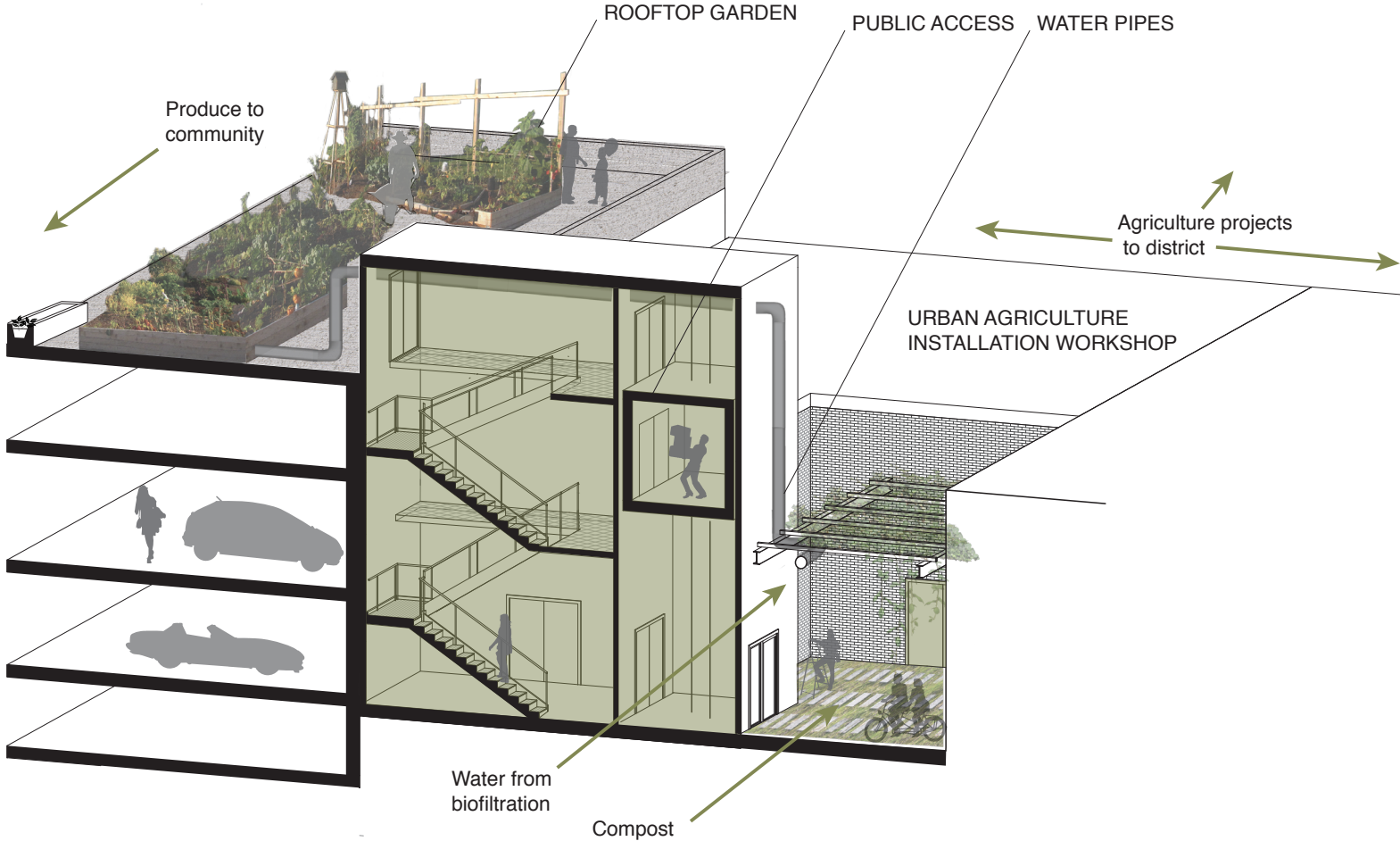


Figure 63:
A section through the
Garden Core

The inclusion of the Garden Core in this proposal provides several benefits. Programmatically, this extends the hands-on opportunities to engage with urban agriculture to a community garden, where local residents can maintain their own garden plot. It also serves an important function for catalyzing the Food District by creating a workshop space for developing outreach agriculture installations in other parts of the area. Additionally, this extension across the alley way demonstrates potential methods to activate two additional types of underutilized space common to the Market Street District: vacant buildings and excess parking areas.

The five-story office building to the south of the garage does not need the entire parking capacity of this structure, leaving the upper level vacant on a regular basis. This space can easily be converted

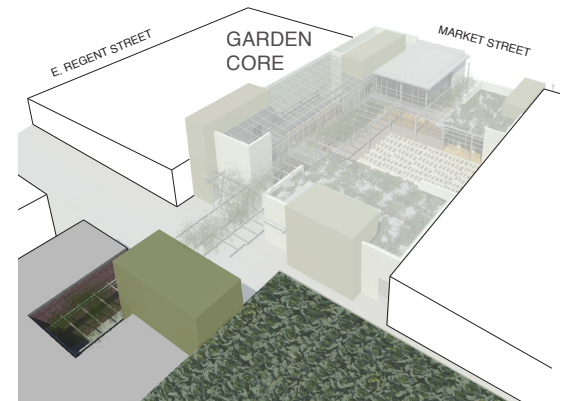
to a rooftop garden with minimal input. Without the physical addition of the Garden Core, it would be possible to implement planter beds on the existing deck of the parking garage, which was already designed to support high loads, specifically of automobiles.

The Garden Core infrastructure is focused largely around conveyance of people, water, soil, tools, and other supplies to the rooftop garden. It also creates a visual presence on the blank wall of the parking garage that provides the public with indication that something is taking place above the street. This core punctuates the shell of the existing vacant building, which is otherwise preserved to house the workshop space.



Case study: Mercer Street Garage P-Patch, Seattle

The P-Patch community garden program in Seattle was established in and has been growing ever since. The latest addition to this system is a temporary P-Patch the Mercer Street Parking Garage that showcases a particularly urban solution. Although a temporary installation, this P-Patch is a model of how to activate underutilized urban space and how to adapt agriculture to the heart of cities.



CONCLUSION

“The challenge for the designer is to uncover and give form to common patterns that are especially enabling, resilient, or impelling. Then she must create future-seeking plans based on those precedents”

-Randolph T. Hester, Design for Ecological Democracy, 2006, p289

This thesis proposal is a response to the dominant patterns of urban food and the needs of the local context in the Inglewood community. The Inglewood Grange adapts a building typology designed to support a community of the rural past to the modern city. and builds upon the precedent efforts of existing community food systems to create a more empowering and resilient local food system. The resulting project demonstrates strategies for the future infill development of underutilized space that could incrementally develop Market Street as a food district destination for the community.

The Inglewood community lacks many of the resources available to communities in the surrounding Los Angeles area, but it is not alone in being an urban area that has become disconnected from a healthy food system. The “food desert” label that it has been given fails to fully reflect the complex reality of the situation in places like Inglewood, but it

has succeeded in drawing attention and resources towards the larger issue of the unsustainable and unhealthy ways that cities are feeding themselves.

Inglewood may not be directly benefitting from larger research and policy efforts currently, but local efforts to change the urban food culture indicate positive signs of engagement around transforming the situation. This thesis proposal is a reflection of a larger effort to use design to constructively address urban issues and an attempt to inspire a tangible vision for community-based change.

Balancing the need for providing new infrastructure, introducing urban agriculture, and creating desirable community space guided the development of the architecture. The opportunity to engage the local community directly, as well as the potential feasibility for realizing this proposal, were constantly taken into consideration throughout the research and design of this project.

Further development of this proposal would focus on defining the scale and integration of the proposed infrastructure systems in a greater level of detail. Exposing the infrastructure to a greater degree by breaking down the level of enclosure within the

cores was identified as an opportunity in the final presentation of this thesis, and could add to the spatial experience of this project.

Another potential way to expand this proposal and make it a stronger tool for the Inglewood community would be to further the analysis of additional expansion sites throughout Market Street District. Underutilized sites have been identified and the phasing would realistically be determined by the community needs and priorities, but other possible ideas for the community for future Food District programs include a cooking school, job training bakery, or plant nursery.

This proposal will be offered as an inspiration and a resource to the Inglewood community that shared its story and supported this effort as they develop in the future. It is not an intention that this proposal is fully realized as developed in this thesis, but that the idea of catalyzing a Food District might take hold with the local community and provide a sense of direction for improving the health, economy, and identity of the City of Inglewood.



Figure 64:
At the Inglewood Grange,
the community comes
together to engage a
healthier food system.



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