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The Hartford Food System: A Review of Assets, Challenges, and Opportunities

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THE HARTFORD FOOD SYSTEM: A REVIEW OF ASSETS, CHALLENGES,
AND OPPORTUNITIES

ZACHARY A. FROMSON

MAY, 2016

A MASTER'S PRACTITIONER REPORT

To be submitted to the faculty of Clark University, Worcester,
Massachusetts, in partial fulfillment of the requirements for
the degree of Master of Arts in the department of Community Development & Planning.

And accepted on the recommendation of

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ABSTRACT

Healthy food systems hold potential to improve a city's social, health, and economic well-being. Currently, there is a worldwide trend in refocusing food systems to invest in the local community rather than relying on hyper-industrial food value chains that erect barriers for local residents in a city's food sector. It is the purpose of this report to assess how Hartford's food sector currently is working so that the city may move in a more innovative direction with its food sector, improving the social, health, and economic conditions for the city and its residents. Thus, this report examines Hartford's food assets and challenges as well as its opportunities for growth and improvement. In doing so, it investigates if investing in the food economy as an industry cluster is right for Hartford in terms of its cultural, health, and economic progress and identifies which recommendations may make these improvements viable. Through a combination of a food system literature review and 22 interviews with a representative sample of Hartford food stakeholders, this report analyzes the current functionality of Hartford's food system. Through this analysis, Hartford is found to be a quasi food desert, where food is available but is not consumed to a high degree because of lower healthy food quality, a possible consequence of the higher costs associated with offering healthy options, as well as overall store quality. Likewise, the Hartford food system lacks systems for aggregation and is losing quality young talent. While City leadership and the food community are burgeoning in terms of their influence in the food system, there is work to be done in terms of explicitly supporting the local food economy, collaborating and aggregating resources, and incentivizing local food business. Recommendations for addressing these findings include improving urban grocery stores, advocating for food aggregation, engaging the private sector, increasing food education, streamlining the food business startup process, amending the city's zoning ordinance, and developing a food investment syndicate.

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I. Introduction

This report comes at a critical time in Hartford's path toward revitalization—with the hope of a new mayor and growing interest in Hartford's growing food system, the time is now to create a representative assessment of food in the city. This report examines the existing challenges within Hartford's food system and identifies the opportunities for growth as the city works toward improving its food sector. By doing such, it aims to provide a framework from which existing food efforts in the city may benefit from and burgeoning food action may build. In a city that has historically struggled with a variety of social and economic issues, food may be an answer. This report investigates the viability of food in solving some of Hartford's issues and improving the city's vitality.

Food is not just a random vertical for revitalization in Hartford; rather, it is a measured method for revitalization tailored to Hartford's particular resources. First and foremost, food is a multi-layered aspect of our lives that “touches many elements of people's individual and family lives, including entertainment, personal wellness and nutrition, and household economics” (Econsult Solutions, Inc. and Urbane Development, LLC, 10). In fact, it affects individual well-being, neighborhood security, and overall city vitality. The conceptual framework of this report highlights the cultural, health, and economic benefits that food has on these multiple levels.

By defining a food system overall, then addressing both the functional and broken versions of how the system produces, processes, distributes and aggregates, accesses, consumes, and handles waste, this report provides a national framework of food system trends. In deindustrializing cities nationwide, broken food systems have become the norm,

negatively affecting the social, health, and economic well-being of many cities, Hartford included. It is the response to these broken food systems that has spurred the modern development and growing trend toward sustainable, local food systems. These systems emphasize self-reliance at a regional level, providing cities with alternatives to the mainstream industrialized food systems that create barriers to realizing the potential of local food economies. The disparity between broken and functional food systems provides a lens with which to view Hartford's historical food issues as well as its potential for becoming a viably sustainable food ecosystem.

In order to assess Hartford's food challenges and its potential opportunities for growth, this report's methodology focused on a combination of interviewing and a comprehensive literature review. A representative sample of the food sector was identified, and 22 interviews were conducted. In all, this report aims to find answers to the following research questions:

1. What are the city's food assets and challenges?
2. Where are its opportunities for growth and improvement?
3. Is food right for Hartford in its cultural, health, and economic progress?
4. What concrete recommendations might make this food-related innovation become a reality?

By doing so, this report may demystify the complicated nature and bureaucratic functioning of the Hartford food system so that others may optimize their food-related efforts in the future.

In order to descriptively assess the Hartford food system, the analysis examines each of the components of a food system as they function in the city. Food production in the state is robust for New England, but does not compare to the major food producing states in terms of scale or efficiency. Consumers were identified as disproportionately poor, diverse, young, and unhealthy compared to the more affluent suburbs in the area. Food access points in the city were assessed in terms of quality, size, and distance to the consumer population. Distribution channels in the city are lacking, and the available food sector workforce is robust but is not well utilized. Transportation represents a large-scale asset to the food sector, as Hartford has been the beneficiary of increased public transit investment at the state and federal levels, as evidenced by the CT Fastrak, Hartford's new Bus Rapid Transit (BRT) system. Lastly, food non-profit organizations and food policy is a strength of the city, where there is growing influence among actors enacting change in the food system.

Through the extensive analysis, this report distinguishes six food system findings for the city. First, Hartford is a quasi food desert, where there is available, albeit unknown and underutilized, healthy food that is not being accessed due to food and grocery store quality. Healthy food within Hartford is predominantly lower quality because of increased costs associated with sourcing healthy foods such as local produce. Second, there is a lack of food aggregation infrastructure, a food hub for example, as well as an aggregation of food business startup information within the city. Third, Hartford's political leadership is not supporting local food business as well as it might. Fourth, the food community, while strong individually, lacks the collaboration necessary for large-scale systematic change

within the food system. Fifth, the City is not incentivizing local food businesses within Hartford at an appropriate level. Finally, there is a talent issue within the city in which the young, ‘creative class’ is moving out of the area in search of more vibrant cities. But, the ones staying in the city are universally dedicated to Hartford’s food revival.

Lastly, recommendations are made in this report to suggest potential avenues for addressing the issues discussed in the findings. These recommendations are:

- Invest in Urban Food Access Points that Offer Healthy Food Options
- Advocate for Increased Food Aggregation
- Engage the Private Sector in Food Economy
- Increase Food-Based Education
- Streamline the Food Business Startup Process
- Amend Zoning Ordinance to Aggressively Incentivize Urban Agriculture
- Develop a Food System Investment Syndicate of Private-Sector, Public-Sector, and Philanthropic Capital Sources

These recommendations are identified based on relevant case studies from cities that have implemented systematic food system innovation plans, this report’s interviews, and the researcher’s own experience working in the Hartford food system.

In sum, this report is a structural framework of the challenges and opportunities within Hartford’s food system. It is not simply a food policy report; rather, it serves as a summation of the Hartford food system that assists city residents and food stakeholders alike in understanding the particular functioning of food in the city as it relates to our political, social, community, and economic lives.

II. Conceptual Framework

A. Why Food?

Food has long been a foundation of civilization, laying the backbone for healthy communities and robust economies—it is a necessity for human life. In fact, the need for a strong food system is so basic that it is often overlooked despite its inherent status as a prerequisite to a vibrant city and region overall. “Food at its most basic level is an essential resource similar to air and water” (Economic Analysis of Detroit’s Food System, 15). It is at once a personal aspect of our everyday lives as it is an indicator of a culturally and economically healthy city. This very binary makes food a powerful societal necessity—it has the grassroots potential to positively affect the lives of local residents while propelling a city forward as a whole. The ways in which we interact with food are determined by a complex network of culture, demographics, and economy. Steve Striffler sums it up, asserting “The importance of food is obvious. We are what we eat” (1).

1. Food Is Shared Culture

Food is an essential component of the human experience—it is a daily ritual of nourishment and amusement as well as a foundational part of each of our own identities and lives. For this reason, food holds personal value to the individual, a neighborhood, and even a city. As something that we all have in common and interact with on a daily basis, food brings people together. This human factor of food has the power to be a place-making tool, forming communities and providing neighborhoods with a sense of identity. As Michael Pollan proclaims, “The shared meal elevates eating from a mechanical process of fueling the body to a ritual of family and community, from the mere animal biology to an

act of culture” (*In Defense of Food: An Eater’s Manifesto*, 1992). Further, food is entertainment, and acts as such for a city’s residents as well as visitors searching out that perfect snack while passing through. As such, food is increasingly important to enhancing a city’s sense of vibrancy, defining itself as a cool place where people want to move to and spend time in. As a fundamental defining factor of ourselves, our cultures, and our city, food naturally resonates with each of us and transcends to how we define the various diverse people and cultures of where we live.

2. *Food Determines Health*

Food is vital for the well-being of a city’s residents, providing adequate nutrition regardless of socioeconomic status. As Martin et al. assert, “The availability of nutritious and affordable food can greatly impact chronic disease rates and other critical individual health outcomes in a community” (1). With food, it is possible to simultaneously deal with public health and economic development. A healthier, well-nourished public provides a city with a better workforce, active consumer base, and a more civically engaged public. The health impacts of food systems are prominent, as “access to high-quality food is also important from a public health point of view because in low socioeconomic status groups, the burden of diet-related diseases is disproportionately high” (The Atlantic).

3. *Food is Economic*

While food’s personal factor draws interest and generates excitement among communities, food has strong impacts on a city’s economic development. As the ‘Made at Swift’ team assert, “Good food is food business,” and the food sector can help “leverage [a city’s] assets to create jobs for current city residents, grow business, and strengthen civic

ties to build a vibrant city” (3). It is crucial to note that the food sector is an accessible entry point to economic development at a macro level as well as personal economic development for those city residents who may face barriers to entry in a different industry.

Food also offers a touch point for people to spend money and time in a city, contributing to economic development from the outside. In fact, the food system represents a significant portion of the US economy, accounting for at least \$1 trillion in annual sales, 13% of the gross national product, and 17% of the workforce (American Public Health Association, 1).

The food sector is also an important component of a local economy because of its reliance on employing local residents. More than any other industry, the food sector represents an investment into local residents and business, stimulating a sustainable economy that contributes tax revenue, enhances infrastructure, and spans many other industries and networks of people. In fact, an economic development plan centralized around food represents a changing trend in how to grow a city’s economic vitality. As the American Planning Association emphasizes, “The economic development field has changed in the last decade from one that primarily emphasized location and firm-based approaches to one that more overtly acknowledges the development of human capital...the sets of skills, knowledge, and value contributed by a population and has become a recognizes asset” (How the Arts and Culture Sector Catalyzes Economic Vitality). Food has the potential to leverage a city’s internal workforce and job opportunities while promoting its food assets and driving external economic benefits. The Economic Analysis of Detroit’s Food System sums this up, stating that “the good news is that many skills

required in the food industry can be taught relatively quickly and easily, making it a sector with significant but surmountable barriers to entry with the right types of programs and initiatives in place” (68). Because of food’s surmountable barriers, it represents a logical strategy for economic development, “increasing employment, income, and output in rural areas, helping address ‘food desert’ challenges in cities’ low-income neighborhoods, fostering civic engagement, and enhancing urban-rural connections” (O’Hara, 32). Food impacts a city’s economic development from multiple levels of a local economy.

B. What is a Food System?

It is first necessary to define the concept of a food system, as food can only be the integrative positive force when there are systems in place to get food to people. Simply, a food system is “an integrated and interconnected network” that includes “everything that happens with food, from where and how it is grown, to how it is ultimately disposed of” (City of Austin’s State of the Food System Report, 1). The basic components of a food system are production, processing, distribution and aggregation, access, consumption, and waste recovery. See Figure 1 for a graphic of these traditional food system components. While discussing food systems and viewing relevant diagrams, it is necessary to note that while the figures used in this report to illustrate components of a food system are valid and useful in terms of simplifying the system, in reality, food systems “are not linear nor are they circular...they are webs of people and the resources and behaviors they affect” (Chase & Grubinger, 1). Distinguishing this complexity is critical to understanding the interconnectedness of each node within a food system.

While we most commonly interact with food at a local level at grocery stores, our food is predominantly a product of global supply chains. As the Sustainable Cities Institute outlines, “As food production and storage techniques have become more sophisticated, and yearlong demand for seasonal products has increased, our food systems have become more globalized, connecting people and economies all over the world” (2). Steve Striffler, the author of *Chicken: The Dangerous Transformation of America’s Favorite Food*, references this reliance on a globalized industrial food system, stating “the family farm gave way to agribusiness, the most productive system of growing, delivering, preparing, and consuming food the world has ever known. Our eating habits, appearance, and health have all changed dramatically as a result of this revolutionary method of delivering food” (1). This global food system optimizes the convenience with which we shop, cook, and eat; however, it has also spurred unforeseen social, economic, and environmental issues.

Traditional Food System: Economic Value Chain

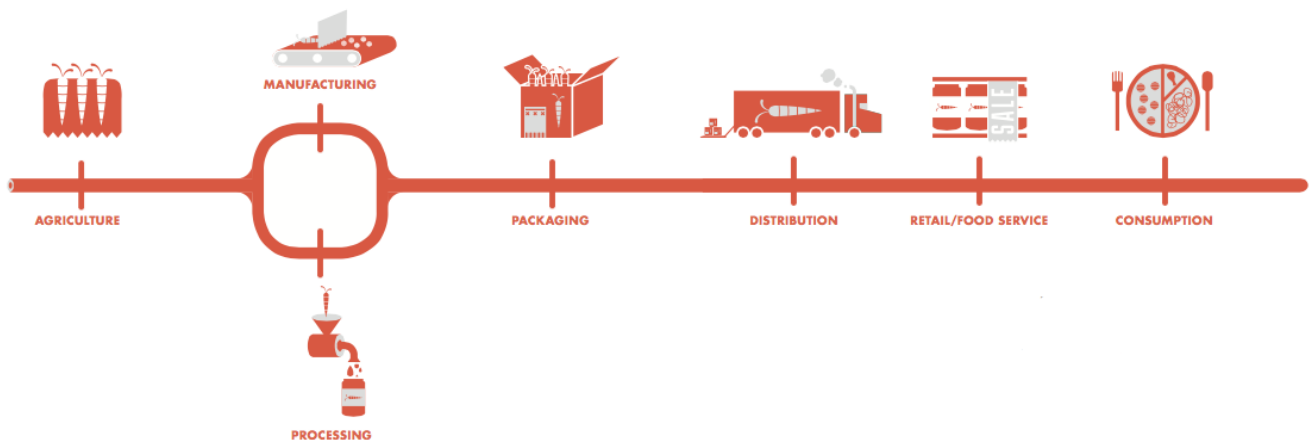


FIGURE 1. TRADITIONAL FOOD SYSTEM FROM ECONOMIC ANALYSIS OF DETROIT’S FOOD SYSTEM.
(SOURCE: ECONSULT SOLUTIONS, INC. AND URBANE SOLUTIONS, LLC)

1. A Functional Food System

In an ideal food system, the aforementioned food system processes work seamlessly to provide various health, economic, cultural, and environmental benefits to a region. As the City of Austin's State of the Food System Report outlines, "A sustainable food system is one that takes into account all aspects of sustainability, which is defined as finding a balance among three sets of goals: 1) prosperity and jobs, 2) conservation and the environment, and 3) community health, equity, and cultural vitality" (1). These three clusters of goals provide a starting point to delve deeper into the specific components of a sustainable food system unique to Hartford. From this report's primary interviews with notable food sector stakeholders, a handful of key components of a functional food system became clear. A functional food system is one that:

- Overcomes issues of access to provide healthy, high-quality, culturally relevant foods to anyone who needs it without emergency intervention.
- Provides this food at affordable prices.
- Sources as much local food as possible, given an area's growing season and climate.
- Provides food sector jobs to a city's residents and living wages for these workers.
- Benefits the local economy through supporting local food business.
- Offers an environmentally responsible alternative to often unsustainable agribusiness and industrial food production.

- Has community and political leadership dedicated to supporting local food business and optimizing a city's food system.
- Organizes waste collection and reuse of resources as much as possible.

In order to realize these ideal functions, the various components of a healthy food system must work together, where the independent elements form a complex whole. The critical component here is that a food system is not simply a group of nodes; rather, it is the interconnectedness of these aforementioned components of a food system that contributes to a healthy system or the lack thereof that limits the system's effectiveness. As Hartford Food System (HFS) summarizes, "Networks linking farms with cities, community gardens with low-income residents, growers with consumers, shippers with distributors, Cooperative Extension agents with people in need of nutrition information, all act as the blood vessels of food systems (A Guide to Developing Community Food Programs, 2). In an ideal food system, the components of a food system work together, like blood vessels, to serve an area's food needs.

A food system's agricultural production is determined by states' farmland preservation plans and funding, zoning ordinances, and other food policy. In a healthy system, local government lowers barriers for farmers, both rural and urban, through these tools, in order to stimulate maximum local agricultural production. Packaging and distribution are handled primarily by local firms, determined by a region's food infrastructure and transportation systems. A healthy system relies on its local companies to reinvest in the local economy and looks to improve the methods by which food is processed then gets to retailers and consumers. Examples of these connections between

nodes are aggregation infrastructure like a food hub, as well as transportation infrastructure such as improved public transportation that streamlines the process by which food gets to consumers and vice versa. Food retailers and food service in a functioning food system are able to provide healthy, affordable, and culturally relevant food to consumers. This is achieved through collaboration between retailers and local distributors, as well as through governmental action in programs such as SNAP and WIC to ensure healthy food is incentivized in a city. A food system's consumption is determined by a system's demographics in terms of what is culturally relevant, the availability of healthy foods, food retail infrastructure such as markets and accessibility to these markets, and more systematic determinants such as food education. In a functioning food system, these bonds between nodes work together to ensure that both culturally relevant and healthy food is available to everyone, there are indeed places where these foods can be acquired affordably, and that education is being implemented to improve the knowledge base and food lexicon of local consumers. Lastly, food waste in a healthy food system is reorganized by the government and private food stakeholders as an important component of the food system, there is adequate food waste infrastructure including innovation toward composting, and the community overall understands the importance of food waste sustainability. While a food system web is complex and difficult to conceptualize because of each system's unique functionalities, some critical components such as food policy, transportation, planning policy, workforce, food infrastructure, and education, flow through the web and interconnect each node of the food system to one another.

These aforementioned components of a functional food system provide key benefits to local residents. It is these ideal functions that allow the cultural, health, and economic benefits to grow and thrive in a city. In all, a healthy food system holds the potential to supporting a vibrant city. See Figure 2 for a graphic displaying the components of a sustainable local food system.



FIGURE 2. SUSTAINABLE LOCAL FOOD SYSTEM FROM FOOD SYSTEMS. (SOURCE: SUSTAINABLE CITIES INSTITUTE)

2. *A Broken Food System*

While the characteristics of a healthy food system outlined above may seem simple, they are increasingly difficult to achieve due to such large-scale issues of income disparity, confined poverty, food subsidies, education, structural racism, and health issues. As the

Atlantic states, “Nutritional disparities between America’s rich and poor are growing, despite efforts to provide higher-quality food to people who most need it” (The Atlantic). In a hyper-globalized society, attention has turned to large food corporations and massive supply chains because of the money involved instead of creating truly local sustainable food systems from investing in local food communities.

In terms of economic impacts, the current global food system’s reliance on agribusiness has “decreased the economic viability of small and medium-sized farms, increased fossil fuel consumption, reduced the number of farm-related local business and processing facilities and made the profession of farming less attractive to younger generations” (University of Michigan Urban & Regional Planning). Likewise, the University of Michigan study reveals that “while the current food system offers consumers inexpensive food, the amount of processing, lengthy distribution channels, and global trade patterns favor prepared food that is calorie-rich but nutritionally deficient” which in turn is overwhelmingly sold at “conventional food retail sources, such as grocery stores, [that] are inequitably distributed throughout our communities” (5). This creates an all-too common urban food desert, where healthy foods cannot be purchased by predominantly residents of lower socioeconomic status. The term food desert is a debated concept in the field, with different actors emphasizing different aspects of food access. As the USDA outlines, most definitions of food deserts navigate the issues of:

- Accessibility to sources of healthy food, as measured by distance to a store or by the number of stores in an area.

- Individual-level resources that may affect accessibility, such as median household income or vehicle availability.
 - Neighborhood-level indicators of resources, such as the median household income of the neighborhood and the availability of public transportation.
- (USDA)

Often, we see mass food insecurity that prevents mostly low income individuals, and disproportionately residents of color, from accessing healthy food at affordable prices. “Access to safe and healthy food also reflects the wider racial, ethnic and class disparities in the U.S. that are caused by structural inequality in health, social, economic, and political domains” (Elsheikh & Barhoum, 4). See Figure 3 for a graphic on the disproportion of minorities in high food-insecure counties in the United States. This food insecurity gap in turn lends itself to encouraging the consumption of unhealthy, cheap foods that can lead to poor health conditions. The researchers support these poor health conditions by referencing that “African Americans are 1.8 times more likely to have diabetes as non-Hispanic whites...2.5 million of all Hispanic/Latino Americans aged 20 years or older have diabetes” (Elsheikh & Barhoum, 6).

While the global food system certainly is flawed in certain ways, this system should not be conflated with local food systems, which suffer from their own, albeit similar, symptoms. As Hartford Food System asserts, “Each food system is unique but lies nested within more encompassing, interconnected global food systems” (A Guide to Developing Community Food Programs, 1). While the conceptual framework of global

food systems must be acknowledged, this report focuses on Hartford's local urban food system.

In a broken local food system, government fails to lower barriers for farmers from not incentivizing local agricultural production. This failed policy leads to overreliance on global supply chains that disperses local money externally rather than reinvesting in the local economy and workforce. Packaging and distribution are not optimized in a broken food system due to lack of food infrastructure and adequate transportation for both producers and consumers. Food retailers and food service in a broken food system are not able to provide healthy, affordable, and culturally relevant food to consumers from their failure to collaborate with local distributors as well as an overall lack of awareness and utilization of governmental food assistance programs. In a broken system, dysfunction between nodes prevents the availability of culturally relevant and healthy food, affordable healthy food consumption, and does not integrate food education. Lastly, the government does not incentivize food waste and the community often does not value this kind of sustainable action. An integrated web driven by these interconnections, or lack thereof, controls the effectiveness of a food system from completing its duties.

Percentage of Minority Counties in the U.S. Versus Percent Within High Food-Insecurity Rate Counties, 2013

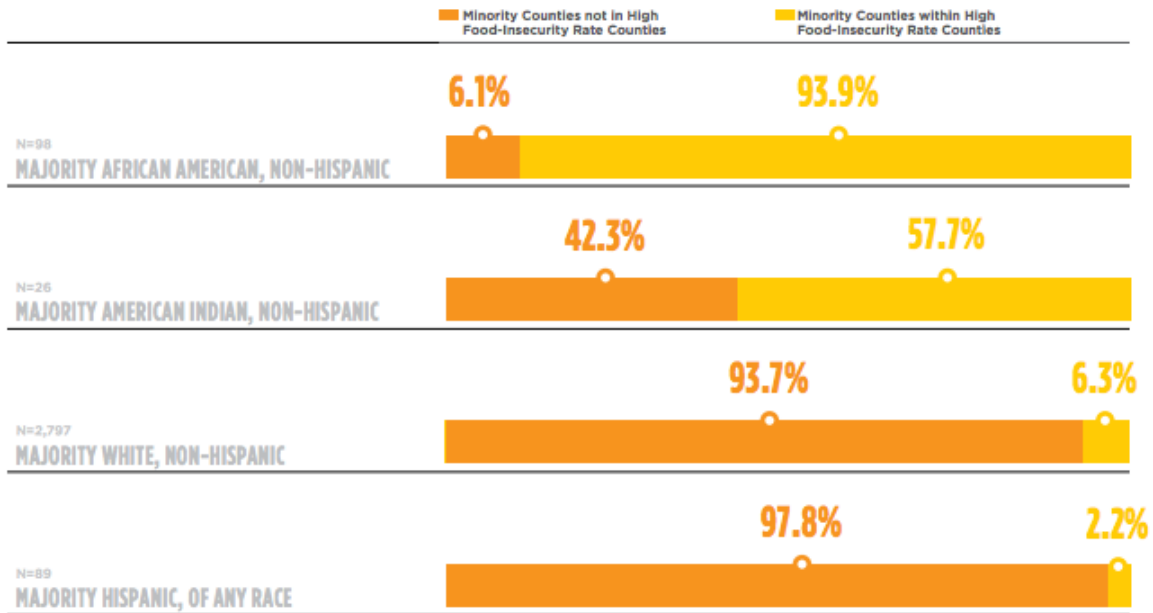


FIGURE 3. PERCENTAGE OF MINORITY COUNTIES IN THE U.S. VERSUS PERCENT WITHIN HIGH FOOD-INSECURITY RATE COUNTIES, 2013. (SOURCE: MAP THE MEAL GAP 2015. FEEDING AMERICA)

Like many American cities that currently struggle with dysfunctional food systems and issues of food insecurity, Hartford must examine the particular assets and challenges it faces in order to rectify this large-scale issue.

III. Methodology

A. Research Question

This report is centered upon understanding Hartford, Connecticut's food-related assets, challenges, and opportunities. It is based upon the assumption that a sustainable food system is essential to the city and its residents' cultural, health, and economic long-term health. Thus, as aforementioned, this report examines these questions about Hartford's food system:

1. What are the city's food assets and challenges?
2. Where are its opportunities for growth and improvement?
3. Is investing in Hartford's food economy as an industry cluster right for Hartford in its cultural, health, and economic progress?
4. If food is found to be a noteworthy priority for Hartford, what concrete recommendations might make this food-related progress become a reality?

B. Research Design

In order to answer this report's research questions, the research design was geared toward both primary and secondary sources. The primary sources were interviews conducted by the researcher with food stakeholders in the City of Hartford. This report's value is that it fills the gap where other comprehensive food-related reports in the city have lacked taking into account a wide variety of food actors. Recruitment thus included acquiring a sample of the entire Hartford food system that was as representative as possible. The initial goal was to interview 20 food stakeholders, with 10 being involved in actual food businesses such as restaurants or food-related entrepreneurial ventures, and the other 10 being top-level actors in such fields as food policy, legislation, non-profits, or distribution. By achieving a representative, diverse sample of food actors, particular perceptions of the city's assets, challenges, and opportunities could be triangulated off one another so that a combined understanding of the city's food system could be aggregated. This research design was chosen in order to aggregate data from the various actors in Hartford's diverse food sector.

Along with primary interview data, secondary sources were used to frame the interviews within context of the general food system conceptual framework as well as the particular city-related food research conducted in recent years. This literature review was used to frame the analysis of Hartford's food system, inform the recommendations made later in this report, and confirm assumptions and assertions made by interviewees. Field observations of Hartford food-related infrastructure were also conducted to support existing research. This combination of interviewing and secondary sources works to both provide a fresh perspective and new insights relevant to Hartford while validating the primary findings within the broader food literature.

C. Data Collection

Eventually, 22 food stakeholders from the Hartford area were interviewed, exceeding the initial goal. Each stakeholder was interviewed for about one hour and was asked particular questions about their business or position, as well as broader questions on Hartford's assets and challenges as well as over-arching conceptual questions about functional food systems in general. Interviews were recorded and transcribed by the researcher.

D. Data Aggregation

After the interviews were conducted, recorded, and transcribed, the interview data was codified according to the research design. This included sorting transcript data among section content (conceptual framing, Hartford's current food sector, recommendations) as well as key topical findings (food desert, infrastructure, top-down leadership, fragmented food community, small business climate, and talent retention). In aggregating the interview

data, it became possible to organize a large amount of primary research and distill it into tangible sections that could be both navigated in their own right and examined under the lens of current food research and pertinent literature.

IV. Analysis—Hartford’s Current Food Sector

A. Introduction to Hartford’s Food System

Food systems are not self-contained mechanisms; rather, they are shaped by a variety of social, political, and environmental factors. In Hartford, the food system has not been emphasized by the local government or community until recently, and as such does not function in certain areas as well as it could be. It has left the city with overall issues regarding food security, or lack thereof. According to the US Department of Agriculture, food security means that households have access at all times to enough food for an active, healthy life for all household members. Feeding America’s 2015 “Map the Meal Gap” shows that 13.4% of Hartford County residents are food insecure. Of these residents, 58% have household incomes below the threshold for Supplemental Nutritional Assistance Program (SNAP) and were eligible for this program. But, 42% of these residents are still considered food insecure despite their household income being above the SNAP threshold. Thus, there is an underestimated number of distressed households that fall through the gap in SNAP’s guidelines and face increased food insecurity.

This section explores the structures in place that make up the food system landscape of this food insecurity situation. Mirroring the food system chain, the analysis will start from production and end at regulatory legislation, providing a lens with which to assess Hartford’s food strengths as well as its deficiencies.

B. Origins—Where is Food Produced in the Region?

Despite Connecticut's small size and short growing season, its agricultural production is disproportionately robust and profitable. "The Connecticut agricultural industry contributes up to \$3.5 billion in output per year to the state economy and generates approximately 20,000 jobs" (UConn Department of Agricultural and Resource Economics). Among the New England states included in the region, Connecticut was ranked second in output only to Massachusetts (\$13.0 billion). Connecticut's output was approximately equal to that of both New Hampshire and Rhode Island (\$2.5 and \$1.1 billion) combined (Governor's Council for Agricultural Development). See Figure 4 for a graphic on the total agricultural monetary output levels for each Connecticut county.

Total Output Impacts at the County Level, 2007

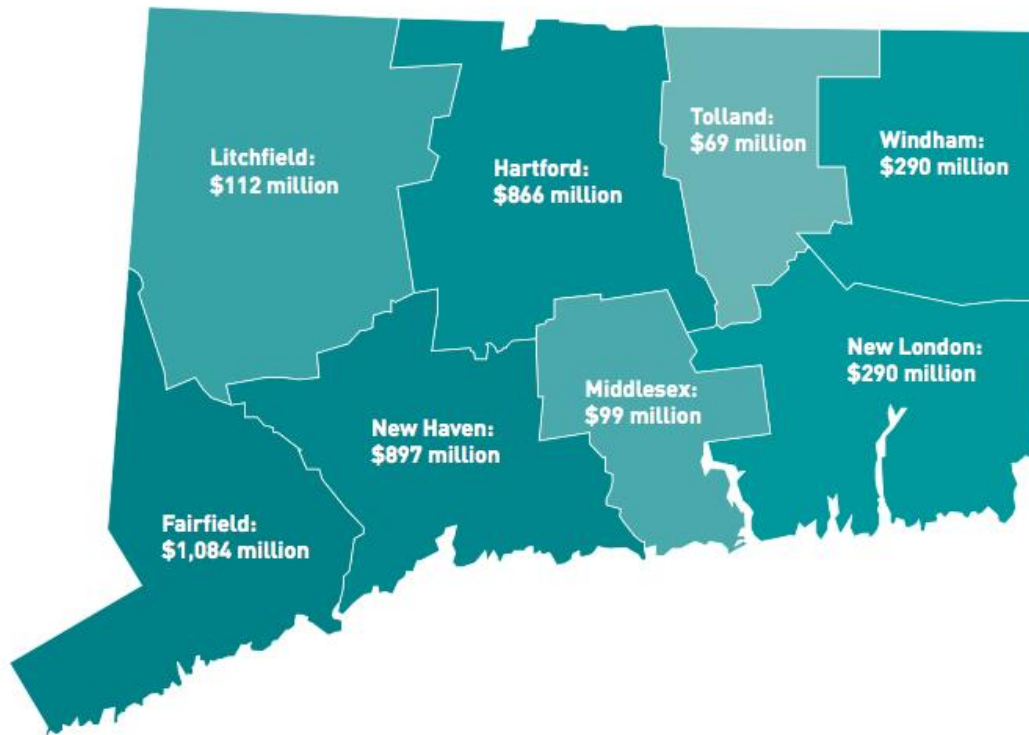


FIGURE 4. TOTAL OUTPUT IMPACTS AT THE COUNTY LEVEL, 2007. (SOURCE: GROW CONNECTICUT FARMS: DEVELOPING, DIVERSIFYING, AND PROMOTING AGRICULTURE: FIRST ANNUAL REPORT: DECEMBER 2012. GOVERNOR'S COUNCIL FOR AGRICULTURAL DEVELOPMENT)

While Connecticut's food production may be comparatively robust for New England, relative to the main food production states in the United States, Connecticut pales in comparison. Even if all food currently produced in-state were consumed in-state, it would only represent 3.5 percent of Connecticut consumer expenditures on food. In fact, it is unlikely to be possible to even achieve 3.5 percent. Well-entrenched marketing and distribution channels for key sectors (poultry, dairy, and fish) limit the market potential (Warner, T., Lopez, R., Rabinowitz, A., Campbell, B., and Martin, J., 4). It is clear that the majority of food comes into Connecticut and Hartford from national and international

supply chains due to the state's small production levels especially given population density. While the state may be producing a significant amount of produce, meat commodities in particular are a deficiency in the local food production ecosystem. See Figure 5 for a pie chart displaying the agricultural sale proportion for crops grown in Connecticut.

Agricultural Sale Proportion for Each Crop Grown in Connecticut

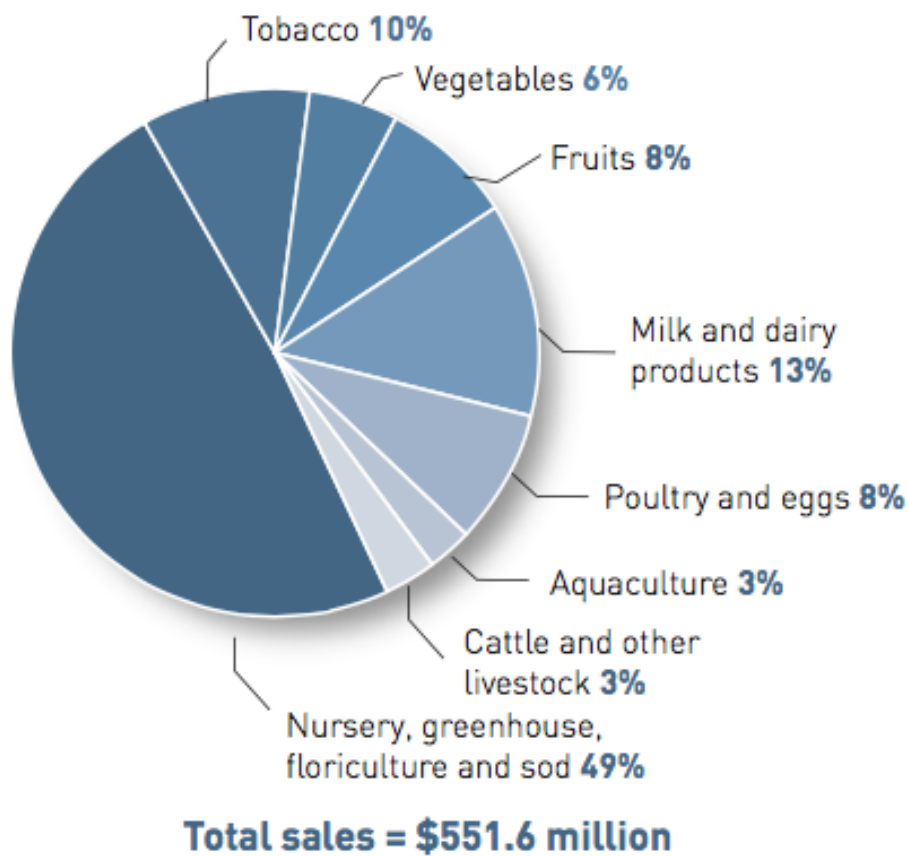


FIGURE 5. AGRICULTURAL SALE PROPORTION FOR EACH CROP GROWN IN CONNECTICUT. (SOURCE: GROW CONNECTICUT FARMS: DEVELOPING, DIVERSIFYING, AND PROMOTING AGRICULTURE: FIRST ANNUAL REPORT: DECEMBER 2012. GOVERNOR'S COUNCIL FOR AGRICULTURAL DEVELOPMENT)

According to the Connecticut Economic Resource Center, food manufacturing is designated as an emerging industry in the Hartford area, signaling a potential sector for growth in Hartford as a deindustrializing city (22). As the Hartford Courant reports, “Bucking a national trend and reversing decades of decline in the 20th century, the number of farms in Connecticut surged dramatically upward in recent years, most likely driven by growing consumer demand for fresh, locally grown food” (Grant). There is undeniable demand for locally produced food in Connecticut, as an estimated \$196 million (or 76%) is sold in-state (Warner et al., 2). Thus, while food grown in Connecticut may not represent a significant proportion of overall food consumption in the state or in Hartford and most food comes into the city via mainstream supply chains, there is an uptick in both local food production and demand for these products.

This local food production is epitomized by the growth in urban agriculture in the city. Most notably, Grow Hartford and KNOX represent pioneers of Hartford’s local food production. Grow Hartford harvested more than 21,000 pounds of produce from its urban lots last year, with food going to many low-income households and community service organizations as well as sold at farmers’ markets (Stearns). Likewise, KNOX has transformed acres of vacant lots into edible, productive gardens to combat food insecurity in the city and currently oversees 22 community gardens that serve 350-plus families (Stearns). With the Hartford Food Commission’s assistance in passing amendments to the city’s urban agriculture zoning ordinance, this local production may become a significant source of food for the city, in particular its inner city neighborhoods.

C. Consumers—Who are they?

The consumers in Hartford’s food system represent a different demographic from the rest of Hartford County. First, Hartford residents are generally poor compared to the surrounding towns. Estimated median household income is \$27,417, while estimated median household income for Connecticut as a whole is \$67,098 (City Data- Hartford, Connecticut). As seen in Figure 4, Hartford’s poverty and minority populations are concentrated within municipal borders, while adjacent suburbs and towns are affluent and predominantly white. Second, Hartford consumers are racially diverse. See Figure 6 for a comparison of racial diversity between Hartford, Bridgeport, New Haven, and Connecticut overall.

Demographic Percentages of New Haven, Hartford, Bridgeport, and Connecticut Overall

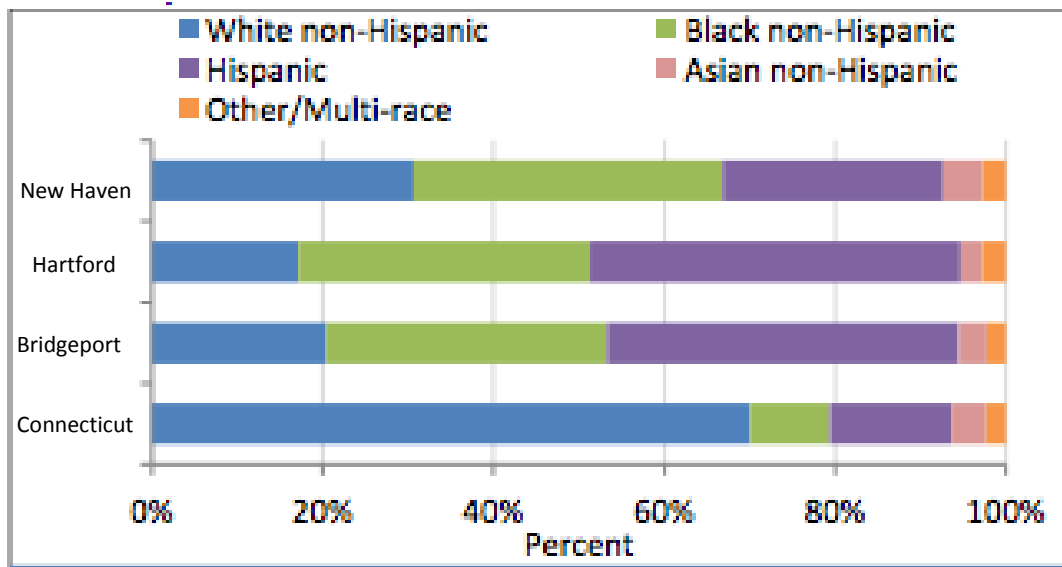


FIGURE 6. DEMOGRAPHIC PERCENTAGES OF NEW HAVEN, HARTFORD, BRIDGEPORT, AND CONNECTICUT OVERALL. (SOURCE: 2012 AMERICAN COMMUNITY SURVEY 1-YEAR ESTIMATES. US CENSUS BUREAU)

Figure 7 shows Hartford County's race distribution overlaid by median household income levels. It is clear that Hartford disproportionately contains the area's minorities and generally is home to the area's residents with lower socioeconomic status.

Racially and Economically Segregated Areas in Connecticut, 2012

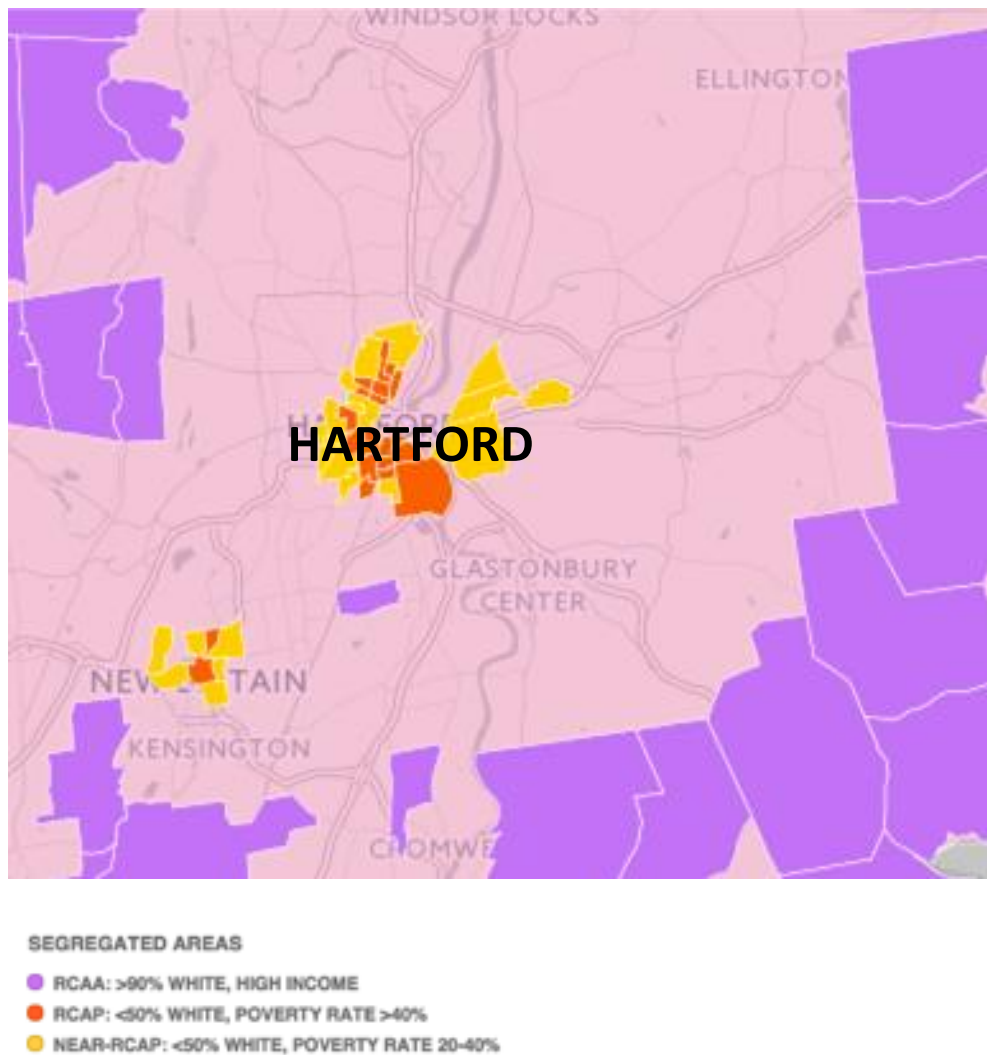


FIGURE 7. RACIALLY AND ECONOMICALLY SEGREGATED AREAS IN CONNECTICUT, 2012. (SOURCE TRENDCT)

Map created by DataHaven based on 2008-2012 Census Data

RCAA—Racially Concentrated Area of Affluence

RCAP—Racially Concentrated Area of Poverty

Near-RCAP—Near Racially Concentrated Area of Poverty

As Wade Gibson of Connecticut Voices for Children states, “You can go from some of the most troubled places in the country to some of the most fortunate in just a couple of minutes in your car” (Hartford Highlights a State’s Divide). Hartford’s poverty rate, at 38%, is more than triple that of Hartford County or that of Connecticut overall, 11.5% and 10% respectively (Metro Hartford Progress Points 2014; Hartford CERC Town Profile). It is apparent from this data that Hartford represents a concentrated impoverished city among an affluent suburban population. See Figure 8 for percentage of poverty levels in Hartford, Bridgeport, New Haven, and Connecticut overall.

Poverty Levels in Connecticut Overall, Bridgeport, Hartford, and New Haven

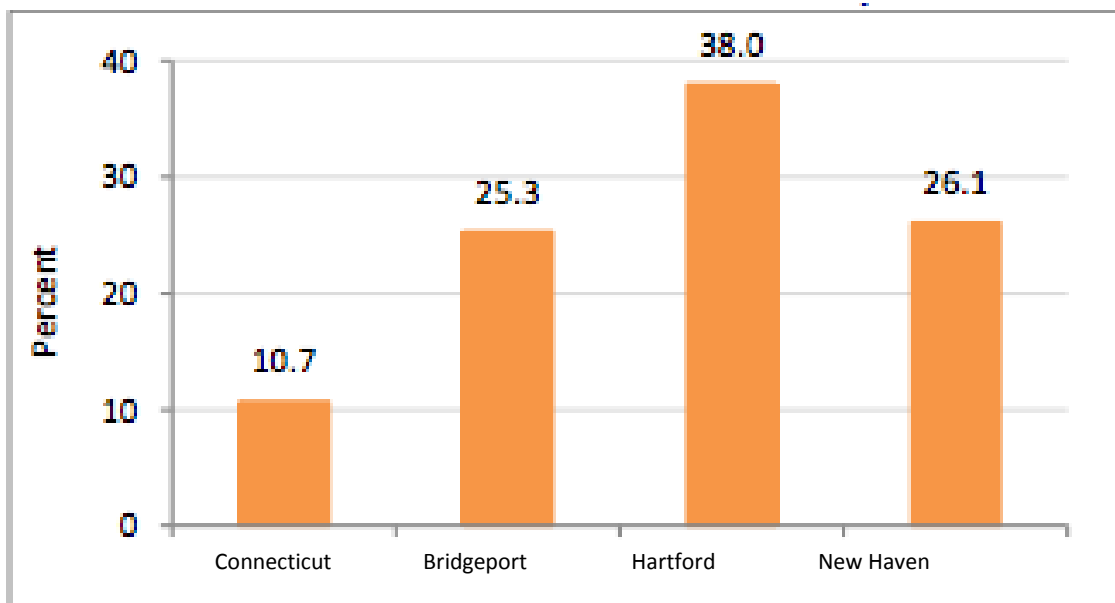


FIGURE 8. POVERTY LEVELS IN CONNECTICUT OVERALL, BRIDGEPORT, HARTFORD, AND NEW HAVEN.
(SOURCE: 2012 AMERICAN COMMUNITY SURVEY 1-YEAR ESTIMATES. US CENSUS BUREAU)

Third, Hartford's consumer population remains young while the rest of Connecticut is aging rapidly. In the next decade, Hartford will gain an estimated 900 residents between the age of 25 and 54, while both inner and outer suburbs will lose a bulk of this population and add a significant amount of residents 55 years and older (Metro Hartford Progress Points 2014). Hartford's relative diversity, poverty, and youth characterize the consumer population that the city's food system predominantly aims to serve.

Lastly, Hartford's consumer population struggles with various health issues. The disparity of buying and consuming nutritious foods contributes to serious health barriers for the residents of the city, where predominantly low-income, minority populations within Hartford deal with increased health issues. In fact, in 2009 it was reported that approximately 40% of Hartford children were at-risk or obese, compared to approximately 25% statewide (Pachter, Hispanic Health Council). Further, there is a negative correlation between obesity and school achievement (How Hartford is Eating). Hartford evidently faces a systematic issue within its urban food environment, in which disproportionate food insecurity in low-income communities contributes to increased health issues and lower levels of academic achievement. This kind of process symbolizes Hartford's issues, but also amplifies its room for opportunity and improvement in the food system. But, as many interview participants noted, there seems to be a growing food lexicon among Hartford consumers as well as a deeper awareness of where their food comes from.

D. Access Points—Where can consumers get food?

With a population of 124,060, Hartford has two full-size supermarkets, eight medium-sized groceries, and 9 small markets (Martin et al.). Small stores, or bodegas, are

categorized in this study as between 1,000 and 2,500 ft², medium stores are between 15,000 and 39,999 ft², and large stores are between 40,000 and 80,000 ft². These stores were found to have varying levels of available healthy food as well as varying levels of both internal and external appearance quality. Large stores had the higher scores for internal, external, and produce quality variables (Martin et al.). Small stores had the lowest scores in terms of these variables. While these small, medium, and large stores vary as aforementioned, they all offer at least a certain level, albeit potentially low quality, of healthy options for Hartford residents.

Hartford is also home to over 130 corner stores (Healthy Food in Hartford, 1). It must be noted that these corner stores differ from the small markets discussed above in terms of food availability. These stores offer less nutritious foods such as snacks and drinks, as well as items such as cigarettes. They are less conducive to the general health of Hartford residents despite their prevalence. The two full-size supermarkets are close to the West Hartford border, an affluent suburb, and does not serve many of Hartford's residents in other neighborhoods. The distribution of large, medium, and small grocery stores within Hartford can be viewed in Figure 9. Further, Figure 10 displays the median household income level distribution in the city, and Figure 11 shows each neighborhood's average distance to the closest food access point within the city. These three figures are meant to be viewed and assessed together in order to gain a sense of the city's food availability, income level, and distance to access point as indicators of overall food security or lack thereof.

Location of Large, Medium, and Small Grocery Stores in Hartford

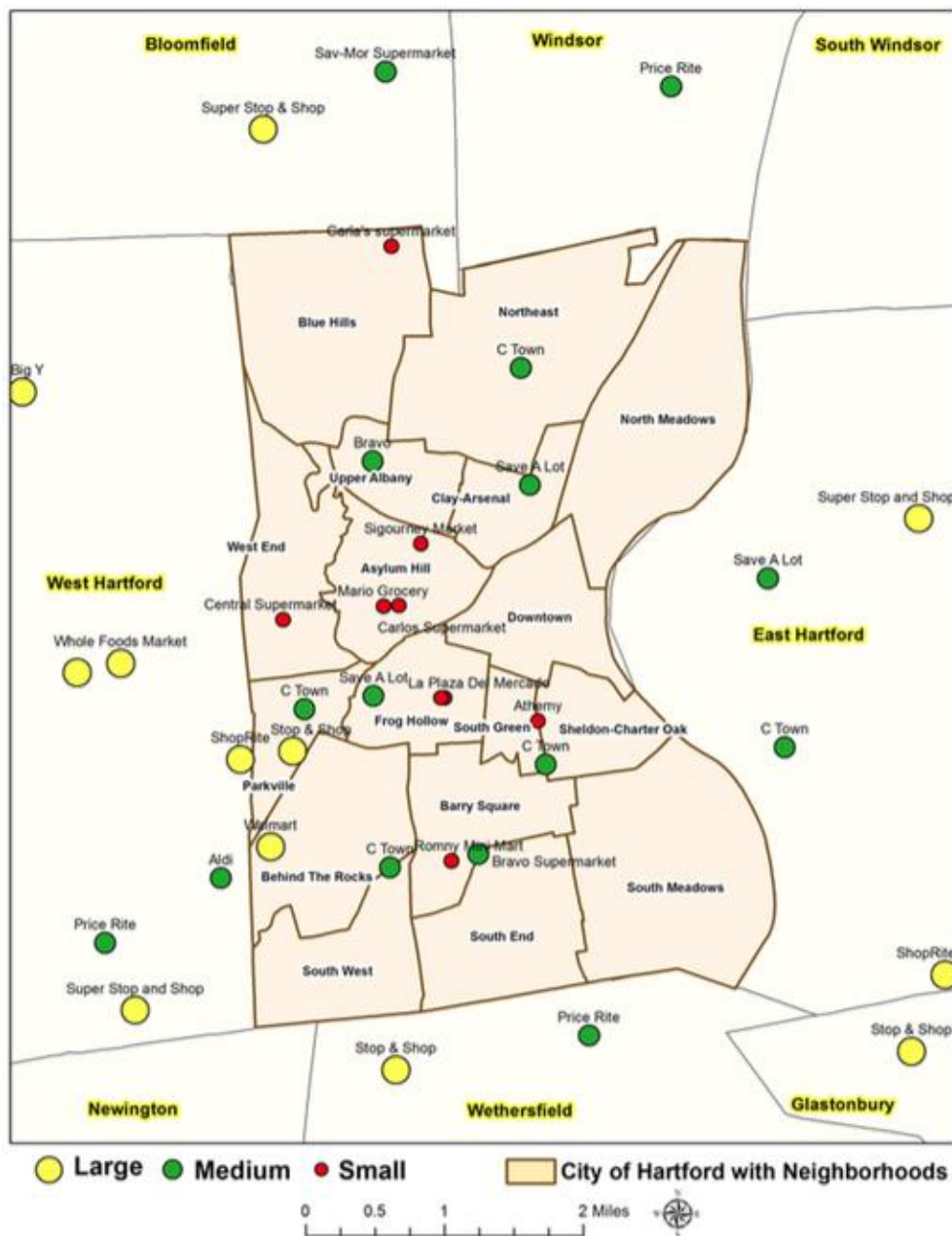


FIGURE 9. LOCATION OF LARGE, MEDIUM, AND SMALL GROCERY STORES IN HARTFORD. (SOURCE: MARTIN ET AL. WHAT ROLE DO LOCAL GROCERY STORES PLAY IN URBAN FOOD ENVIRONMENTS?)

Income Level Distribution in Hartford and its Surrounding Area

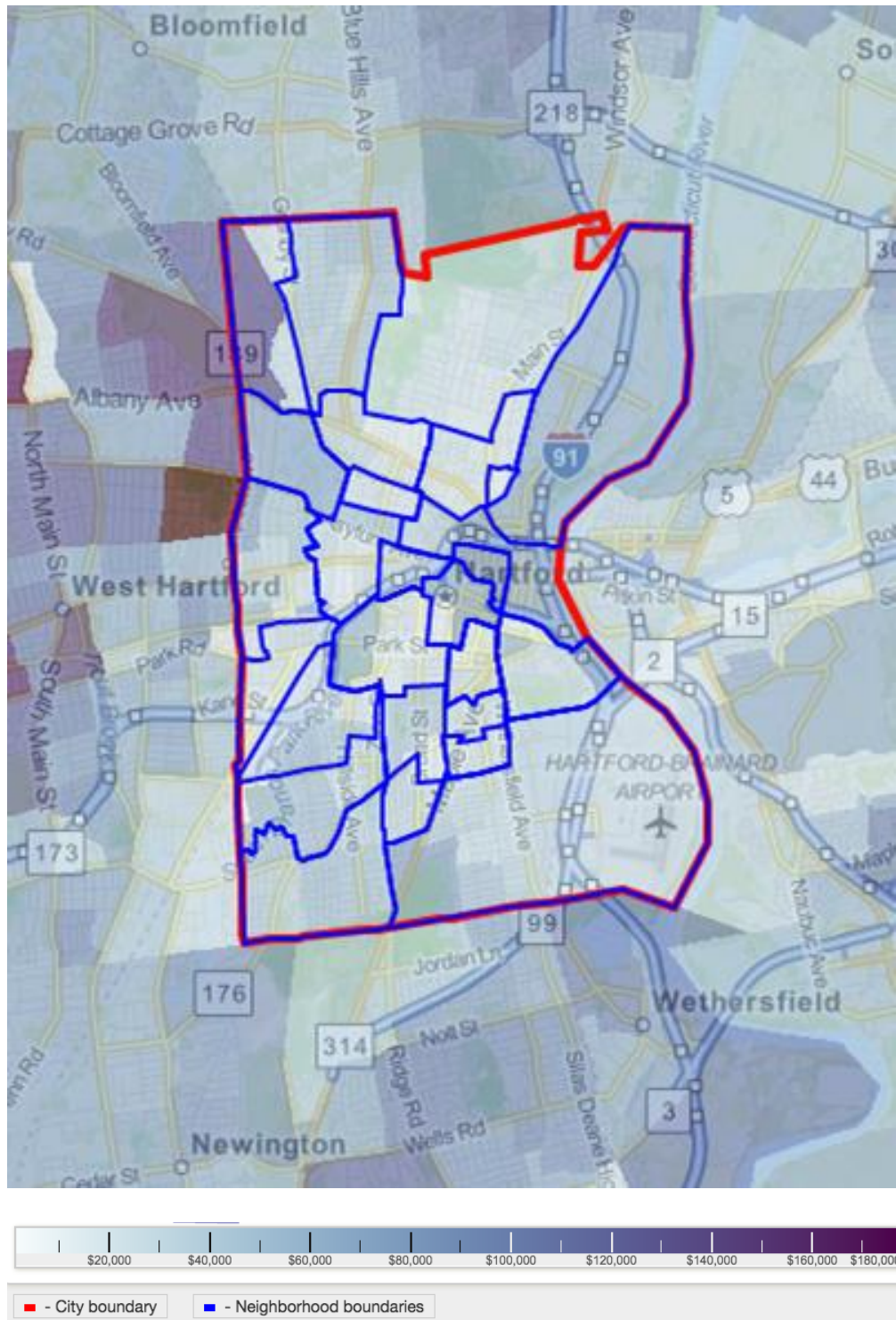


FIGURE 10. INCOME LEVEL DISTRIBUTION IN HARTFORD AND ITS SURROUNDING AREA. (SOURCE: HARTFORD CONNECTICUT NEIGHBORHOOD MAP. CITY-DATA.COM)

Census Block Group Distance to Hartford's Large, Medium, and Small Grocery Stores

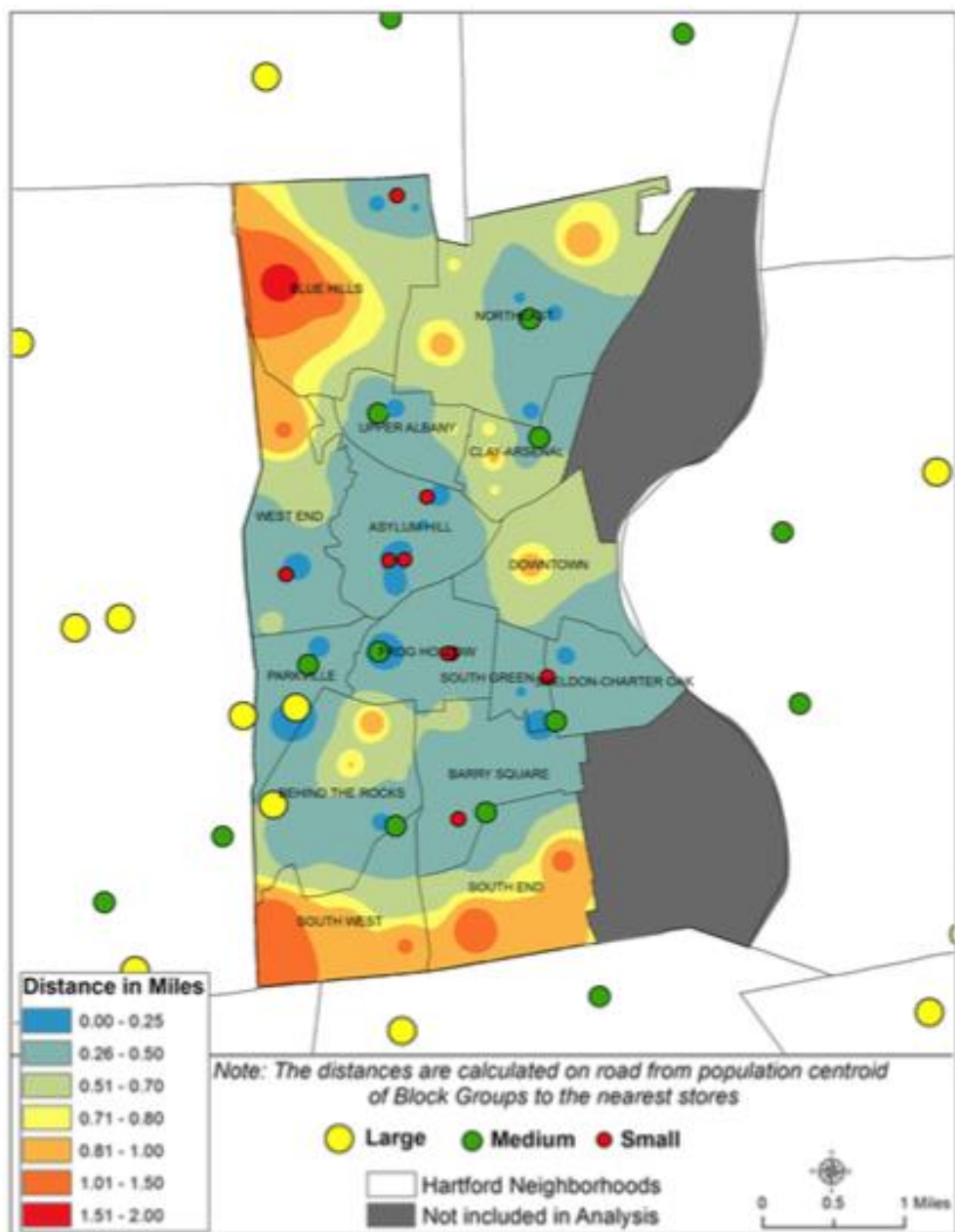


FIGURE 11. CENSUS BLOCK GROUP DISTANCE TO HARTFORD'S LARGE, MEDIUM, AND SMALL GROCERY STORES. (SOURCE: WHAT ROLE DO LOCAL GROCERY STORES PLAY IN URBAN FOOD ENVIRONMENTS? A CASE STUDY OF HARTFORD-CONNECTICUT. PLOS ONE)

From the previous three figures, Hartford's food access points can be generally assessed. First, the larger supermarkets in Hartford are located close to the more affluent suburbs. Second, most residents live within a mile of a large, medium, or small grocery. Physical access to grocery store locations does not seem to be a predominant issue. Third, every food access point is located within a relatively low-income neighborhood. In fact, "healthy foods are equally available and sometimes less expensive in local stores in the city compared to suburban stores" (Martin et al., 9). There are a few pockets that would traditionally be labeled food deserts due to their distanced physical proximity from food access points, such as the Blue Hills, South West Hartford, and the South End neighborhoods.

Farmers' markets represent a second type of food access point for Hartford's consumers. Currently, there are seven farmers' markets within Hartford, as well as a new mobile farmers' market run by Hartford Food System that travels and fills the gaps that these stationary markets miss. These markets are available to SNAP recipients, which means that they try to be accessible to all residents. Overall, the city has an adequate cohort of farmers' markets; however, as many interview participants noted, farmers' markets can only provide so much—there is a limit to their food market share. The following figure shows the locations of farmers' markets in Hartford.

Location of Hartford's Seven Farmers' Markets

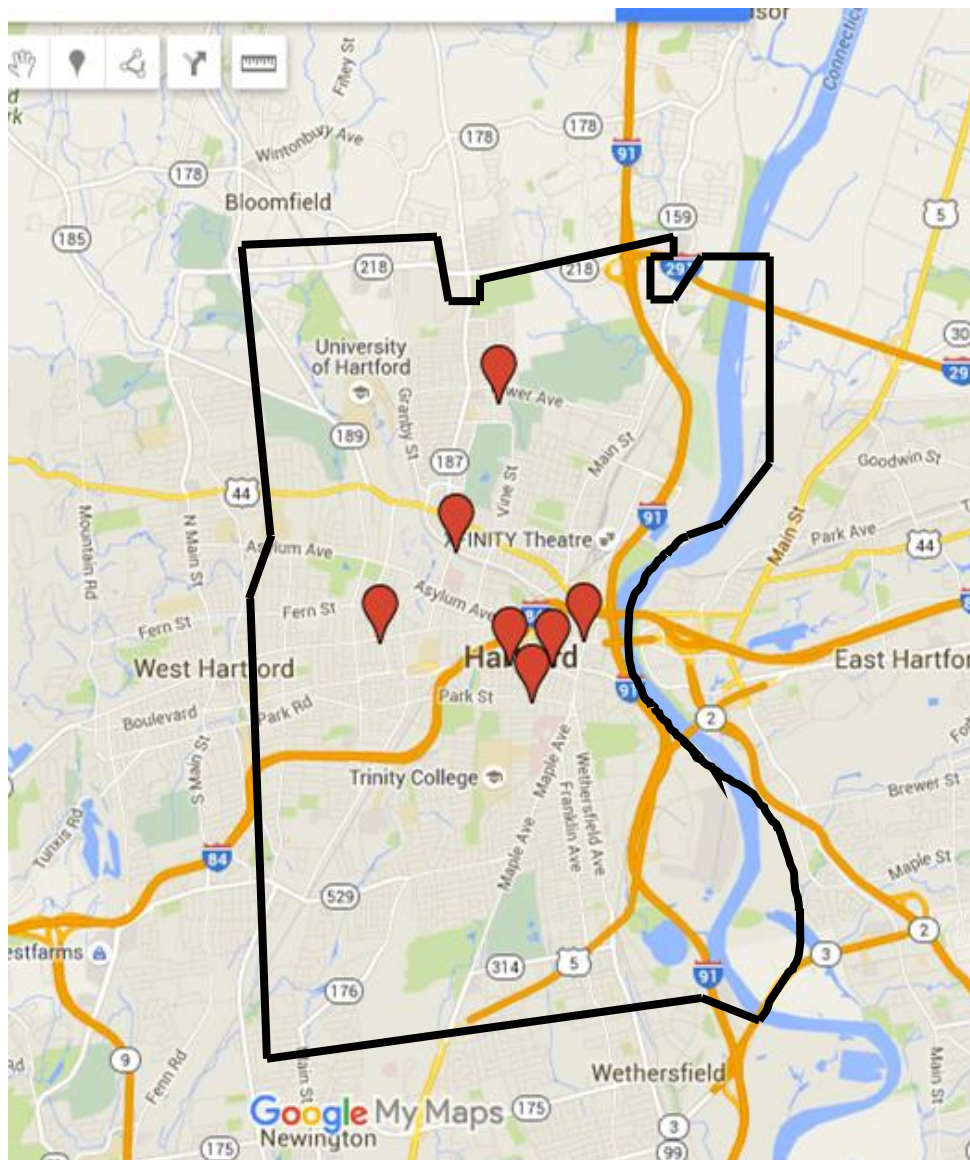


FIGURE 12. LOCATION OF HARTFORD'S SEVEN FARMERS' MARKETS. (SOURCE: GOOGLE MAPS)

E. Distribution

Hartford mainly relies on large-scale distributors for its food supply into the city, but the Hartford Regional Market represents a unique food distribution asset. The market acts as a centralized location for farmers as well as wholesalers to distribute food. The

market is the largest food distribution terminal between New York and Boston. Further, it is home to nine private wholesale businesses as well as a 144-stall farmers' market. The market contributes \$165 million in annual gross sales to Connecticut's economy (CT Department of Agriculture).

But, as the Market Ventures' Hartford Regional Market Master Plan indicates, "the original structures at the Regional Market have far exceeded their useful life and do not reflect modern food handling or distribution standards, nor conform to a changing regulation environment (6). While the City of Hartford has conducted feasibility studies for how to modernize the Regional Market into a viable food hub, the city has continuously lacked adequate funding, leaving the market to function adequately as a regional market, but without the additional benefits that increased investment and transformation into a food hub may offer.

F. Workforce

Hartford is known for its skilled workforce in the healthcare, finance, and insurance industries. But, it is also the epitome of a commuter city. As the 2014 Metro Hartford Progress points state, "The population of Hartford doubles each workday, as commuters travel from all over the region to jobs in the city, which tend to be concentrated in highly skilled professions such as insurance and finance" (3). But, Hartford residents tend to have lower levels of educational attainment and thus are limited in their employment. As the 2015 Connecticut Economic Development Strategy states, "The disparity in educational attainment, including the achievement gap and the lower college readiness rates of certain minority groups, has severe implications for future median household income and the

ability of Connecticut's workforce to satisfy businesses' demand for skilled labor" (40).

The food sector offers a viable industry with low barriers to employment.

Examining the entire food sector, the Connecticut food sector employs nearly 180,000 people with \$32 billion in sales (Good Food is Good Business: Made at Swift, 3). In Hartford, the food sector employs 40,700 people, which is approximately 7.3% of total Hartford employment (CT Department of Labor; Bureau of Labor Statistics). The Hartford food sector workforce is an emerging force in the local economy, and because of its lower barriers to entry, it may signify a point of internal investment for the local workforce. But, it must be noted that the food industry is a notoriously low-paying sector, so there must be structures in place to ensure living wages for Hartford's food service workforce.

G. Transportation

Hartford has recently been the beneficiary of increased public transit investment from the Connecticut Department of Transportation and the Federal Transit Administration's New Starts program, as evidenced by the CT Fastrak, Hartford's new Bus Rapid Transit (BRT) system that utilizes bus-only roadways to better integrate Hartford with its surrounding inner suburbs. Many interviewees pointed to this transportation investment as a point of hope for the city, citing that it increases accessibility for Hartford residents and provides an incentive for suburban residents to visit the city. Likewise, "In 2015, Governor Malloy unveiled a 30-year, \$100 billion plan to update and improve Connecticut's infrastructure. Included in the plan are increased speed, access, and frequency of rail and freight transportation within Connecticut but also to major regional hubs like New York, Boston, Philadelphia, and Montreal" (Connecticut Economic

Development Strategy 2015, 18). There is hope for future transportation infrastructure development as evidenced by Governor Malloy's plan.

H. Non-Profit Organizations

Hartford has an active cohort of non-profit food organizations that have a strong foothold in the trajectory of food in Hartford. Throughout the interview process, participants emphasized the momentum these organizations have in restructuring the way Hartford's food system functions and in reshaping food policy in the city. The most notable food-related organizations are Hartford Food System, Billings Forge Community Works, and KNOX. Hartford Food System (HFS) implements programs that improve access to nutritious and affordable food, helps consumers make informed food choices, advocates for a robust and economically sound food system, and promotes sustainable food policies at all levels of government (Hartford Food System). Billings Forge Community Works promotes access to healthy foods, engages youth, and develops employment opportunities and economically sustainable social enterprises through a community garden, farmers' market, and culinary job training program (Billings Forge Community Works). KNOX uses horticulture as a catalyst for community engagement, using programs like their community gardens to empower local residents to contribute to healthier neighborhoods (KNOX). Alongside these organizations are more hunger-specific organizations like End Hunger CT and Foodshare. End Hunger CT is aimed at ending hunger on a state level by promoting federal assistance programs and advocating for positive change at local, state, and national levels (End Hunger CT). Foodshare is a food bank that aims to reduce hunger through distributing donated food to partner programs as

well as through their mobile foodshare trucks. These organizations are involved in everything from urban agriculture to farmers' markets to workforce development to public health to food policy and advocacy. Through this report's interview data, it is apparent that the overwhelming perception of the Hartford food system's non-profit ecosystem is quite robust and active.

I. Food Policy

Through this report's interview process, Hartford's food policy was described as fair and well-regulated, but with areas for improvement. The city has an active food policy council, called the City of Hartford Advisory Commission on Food, which was established to "integrate all City agencies in a common effort to improve the availability of safe and nutritious food at reasonable prices for all Hartford residents, particularly those in need" (2015 Annual Report: Recommendations to Improve Food Access & Food Security). This commission's current recommendations reflect the status of Hartford's food policy:

- Ensure that Hartford maximizes use of the Summer Meals program
- Ensure that eligible Hartford residents are able to utilize the Supplemental Nutrition Assistance Program (SNAP)
- Support efforts to increase the number of gardens and farm sites in Hartford
- Support every effort to promote the use of federal and state food assistance benefits to purchase fruits and vegetables
- Encourage the development of school gardens in Hartford schools and ensure that the gardens are supported and used effectively

- Support the development of a grocery store associated with the development of Downtown North
- Support the redevelopment of the Hartford Regional Market
- Support efforts to divert food waste from the city's waste stream

The city has an active Supplemental Nutrition Assistance Program (SNAP) and Women, Infant, and Children (WIC) program. The one notably deficient area in food policy for the city is in their urban agriculture incentives. Under the Farmland Preservation Act, rural farmland is subsidized, while zoning ordinances in the city make urban farming difficult and more expensive. This disparity was voiced by interviewees, but it seems in the coming months that the Advisory Commission on Food is on its way to passing amendments to the city's zoning ordinance that would incentivize urban agriculture and the community benefits that they produce.

V. Findings

A. Hartford Is a Quasi Food Desert

Hartford is not necessarily a food desert based on the common physical proximity definition, but suffers from similar food issues as traditional food deserts. While nutritious, affordable food can be found and is accessible in Hartford, it is not consistently high quality and is found in stores with varying levels of internal and external appearance that are not necessarily conducive to healthy shopping. Most significant in the Martin et al. study is both “significant variability of quality of produce and store appearance, with Hartford stores faring much worse than the suburban stores” (9). This low quality produce and comparatively blighted stores may impact “customers’ willingness to shop in these

stores or to purchase fruits and vegetables that contribute to a healthy diet.” Thus, Hartford’s food access may objectively be better than expected despite its lack of large supermarkets, but it still struggles with food issues from auxiliary issues of food equality such as quality of produce and store condition. During interviews, many participants cited this binary between the availability of healthy foods in Hartford and the lack of consumer utilization of these foods. This is partly due to typical cultural diets, where the healthy foods available in stores may not be culturally relevant to certain groups of consumers. Thus, Hartford may still suffer from the negative impacts of certain urban food limitations, but it does not exactly align with the conventional urban food desert framework that views food insecurity as dependent upon the existence of large supermarkets. This quasi-food desert climate incentivizes Hartford residents to shop at smaller markets, where both healthy diet staples, such as a variety of fruits and vegetables, and junk food is prevalent. The lack of large supermarkets should not be underestimated however, since Hartford residents have fewer choices to find, buy, and consume the healthy food that is available.

Only a couple of Hartford neighborhoods could be defined as food deserts based on the simple proximity assumption, but the entire city can be considered food insecure based on such determinants as poverty levels, access to transportation, and education levels. According to Rabinowitz & Martin, Hartford is ranked 169 out of 169 Connecticut towns in terms of its population being at-risk, defined as “a town’s particular mix of income and socioeconomic characteristics to determine the likelihood that a resident in a particular town is food insecure,” but five out of 169 in terms of its food retail ranking, and two out of 169 in terms of its food assistance ranking (2012 Community Food Security in

Connecticut). The food retail ranking is an analysis on “geographic proximity from town population centers to food retailers and the number of food retail options for consumers.” The food assistance ranking is an analysis on “an examination of participation in public food assistance programs and availability of public bus transportation to determine how well town residents are being served.” From these rankings, it is apparent that Hartford is not a traditional food desert; rather, it actually has available access to food and utilized public food assistance. But, it continues to struggle mightily with auxiliary factors that affect the city’s population to be truly food secure.

Because small markets do not have the economies of scale to charge less for food, healthier food is often more expensive in smaller, urban stores. But, in Hartford it seems that markets settle for lower quality healthy foods that cost less to source in order to compensate for this lack of economy of scale. Thus, smaller urban markets face a dilemma between sourcing and selling healthy food at high prices that their customers cannot afford, or sourcing and selling lower quality healthy food that is undesirable to many local residents. This chain of reactions, from food insecurity to poverty, influences the type of businesses that settle within Hartford, and further contributes to the stark differences between Hartford and its neighboring suburbs.

B. Aggregation

There is a general lack of food-related infrastructure in Hartford, as well as a lack of modernization of the existing food infrastructure. Because of this, there is not a good food aggregation system that can assist in incentivizing local growing over large-scale supply chains that contribute to the city’s food insecurity. In modern food system

innovation, the most common and well-known example of food aggregation infrastructure is a food hub. According to the USDA's Regional Food Hub Resource Guide, a food hub is defined as "a business or organization that actively manages the aggregation, distribution, and marketing of source-identified food products primarily from local and regional producers to strengthen their ability to satisfy wholesale, retail, and institutional demand" (4). Currently, the Hartford Regional Market is a wholesale market and distribution facility and has a limited farmers' market. But, it lacks the full-scale aggregation of local products and marketed producer-to-consumer and food tourism benefits that a food hub would offer. While the Hartford Regional Market continues to exist, it has not been modernized, and is not even known or utilized by the majority of Hartford residents. This is due to its wholesale functioning, in which it is predominantly exclusive to food businesses, operates before dawn, and has limited farmers' market time openings. Further, the Regional Market represents an underutilized food asset that could assist in stimulating both food security and economic development within the city. Because of these issues, although there is a civically engaged food community in Hartford and its surrounding area, there is not an adequate system for small Hartford food businesses and residents to engage with and support the local food economy.

While the CT Fastrak conveys hope for the city's increased transportation infrastructure, right now there is still limited availability for Hartford residents to optimize transportation for improving their food access. Improved public transportation is a point of progress for the city, but should be emphasized in terms of its ability to affect food access to places like a proposed food hub at the site of the Hartford Regional Market.

As evidenced by interview data, there is too much emphasis on farmers' markets and not enough incentive for commercial-scale urban food growing infrastructure. Many of the interviewees described farmers' markets as "cute," "ran their course," or "can't be be-all-end-all." This criticism of over-saturation for farmers' markets was accompanied by a lack of commercial urban farms in the city. Farmers' markets should still hold prominent places in food communities, but they lack the large-scale commercial production that increased urban food growing infrastructure could provide.

The data also indicated the lack of commercial kitchens in the city, hampering food entrepreneurial opportunities for Hartford residents. Commercial food production requires certain permits and regulations that are difficult to obtain without the technical assistance sometimes associated with an incubator commercial kitchen. This deficiency may be affecting the creation and growth of local resident-led food business.

The lack of investment in new or better infrastructure is partly due to the lack of available governmental and municipal funding and partly due to priorities. As seen with the disinvestment in the regional wholesale market, the City has innovative thoughts in the food ecosystem, but this lack of funds generally prevents increased infrastructure innovation. But, Hartford holds immense opportunity for food infrastructure improvements and effectiveness, as Hartford is a small city spatially and Connecticut a small state overall, that if the government at some point shifts priorities and invests in the food infrastructure, these systems could be optimized with relative ease.

Likewise, Hartford holds potential as a site of increased federal, private, and grant-based investment into food infrastructure. As already evidenced by federal funding into the

CT Fastrak, Hartford is on the rise with many economic development and cultural improvement endeavors in the city. While the city itself may lack funds for being the sole investor into improved food infrastructure, these auxiliary sources may push this infrastructure innovation over the edge. Federal funding may come from the USDA or the FTA for more transportation improvements. Private funding may come from the immense amount of local wealth in Hartford's insurance and healthcare industries. Grant-based funding could come from large foundations interested in improving food systems and food justice, such as the Robert Wood Johnson or Annie E. Casey foundations. While Hartford is strapped for direct municipal investment, these other sources of investment into food infrastructure that affect local residents' access to healthy foods should be further investigated by local food stakeholders and legislators.

C. Leadership

City government may not adequately support Hartford-based businesses and the local workforce, looking instead to external sources of investment in the city. As one food entrepreneur passionately noted, "Hartford residents need to self-actualize, and the city government cannot just try to locate external businesses in Hartford." This top-down leadership is not just a matter of city government; rather, it is also an issue among the influential food-related non-profits in the area. While these non-profits do important food-related work, there continues to be a disconnect between people involved in the city's food movements and residents who are the actual victims of food issues. While many of these non-profits are connected to their communities, people affected by food injustice typically

are not the political actors involved in working to resolve food issues in the city. This power disparity connotes a lack of garnering leadership among affected communities.

Among this report's interviewees, there also seems to be a distrust of Hartford's politicians regarding the City's progress as it pertains to the food system. First, interviewees indicated that there is a lot of 'talk' in the city about food, but that it does not feel like there is any real mass action. Others described this lack of real political movement around food as the City being averse to change. Most notably, interviewees asserted that Hartford lacks clear trajectory, looks at the quick fix, and continually relies too heavily on what one participant described as 'hail-mary' funding. This sentiment was reflected by other participants who spoke of large-scale, feel-good projects that fail to live up to expectations. Because of these feelings about the city, it seems that food is left out of many political agendas. For one, food system change cannot be accomplished by a quick fix or by accomplishing one large project. Rather, it is about catalyzing change at many levels in order to affect the multiple dimensions of a food system.

But, there are many opportunities available surrounding the issues of leadership and political disconnect. First, the City has the opportunity to invest in the people that already live here and to grow support for food businesses that are already here. If the government supports internal rather than external food business, there is a great opportunity for local food jobs to inject wealth back into the local community. For instance, the City invested in an upscale market downtown called The Market at Hartford 21, which closed, leaving the city unpaid on its investment. Rather than investing in an external entity, hoping that it will solve the city's food issues, the City could have

implemented improvement programs for the existing markets, owned by longtime Hartford residents. Lastly, many participants noted opportunity within Hartford's food system with a new mayor and a changing of the guard within political leadership.

D. Food Community

While the individual food stakeholders in the city, in particular food non-profits, are influential and heavily involved in the trajectory of food in the city, among the interview participants and as observed from food ventures and projects in Hartford, the local food community is perceived as fragmented, with little information shared among food stakeholders. Often, this disconnect happens based on the level of food actors in Hartford. While there is collaboration among food non-profits or among restaurants separately, there seems to be a lack of collaboration between these different cohorts of food stakeholders. The food community was described as "disparate," "lacking organization," "lacking communication," and "not working together." Because of this lack of collaboration, the local food ecosystem is composed of many singular actors instead of existing as a true community of food stakeholders committed to a shared vision.

This notion of independent actors may stem from the current condition of fragmented towns and neighborhoods in the Hartford area. As multiple interviewees suggested, no one shares resources across town lines or among Hartford's neighborhoods. In particular to food, many noted the positive benefits of Hartford's diversity, but also the difficulties this diversity poses to the food community collaborating as a whole. In order for this diversity to be an asset to the Hartford food system, this fragmentation among neighborhoods and food actors needs to be repaired.

Among food-oriented organizations in particular, a challenge to enhanced collaboration is the entire culture of non-profit funding. Because food organizations are competing for the same funding sources, collaborative practices are not formed easily. Rather, this competition for sources supports fragmentation and contributes to Hartford's slow innovation within the food system.

E. Food Business

Hartford does not efficiently incentivize the establishment and health of local food business that could in fact be the source of a stronger local economy. The causes of this business environment can be split into organically rooted issues within the city and issues that City leadership has directly allowed but has the power to remedy. First, due to Hartford's perceived lack of innovation or vibrancy, new food business owners looking to locate are drawn out of the city to the area's wealthier and more thriving suburbs. Hartford's long-standing negative business perception and difficulties overcoming its commuter city status have contributed to the challenging business reality in the city. Now, most new food businesses choose to settle in more substantiated markets where their return on investment is more heavily assured. As one food entrepreneur notes, "Compared to adjacent towns, it does not make sense to open a food business in Hartford." This is in part due to higher expenses in urban settings as well as the difficulty finding a suitable place to locate within the actual city.

While some of Hartford's unfriendly food business environment is due to common challenges among mid-sized economically distressed cities, there are some overt mishandlings of new business in the city. First, as many noted, the city red tape around

food makes it tough to settle in the city and make progress in the food ecosystem. For instance, a notable food entrepreneur mentioned the difficulties working with zoning ordinances to open a patio at her restaurant despite the obvious positive outcome a patio at her restaurant would have provided for the neighborhood. Likewise, food policy in the city is predominantly not handled by people who have worked in the food industry, resulting in logistical and regulatory challenges that do not align with incentivizing food business in the city. In particular, the licensing and cost structures hinder business growth in the city. There is also no aggregated information or go-to assistance for new food business owners, resulting in increased difficulties for these would-be food entrepreneurs to efficiently learn about the legalities and regulations of food business, for example. It is not that City leadership is blatantly trying to prevent food business growth; rather, it is simply that logical steps for incentivizing food business within Hartford have fallen to the wayside in terms of the City's priorities.

F. Local Talent

The combination of Connecticut's aging population and dispersal of its younger residents has led to a talent retention issue in the Hartford area. This is in part due to negative perceptions of Hartford, the food sector included. When recent college graduates and young professionals think of where they want to move to or settle, Hartford is not often on their list of potential candidates. In 2014, more than 29,000 young adults in the 20-to-34 age group moved out of Connecticut, an increase of more than 20 percent from 2007 (Busemeyer). Further, Ron Van Winkle, West Hartford's town manager, notes, "You couldn't get [millennials] to move back to Connecticut. They enjoy the urban life. And that

has been a boom to many cities. Hartford hasn't been able to create that urban life" (Busemeyer). Hartford lacks the "cool" factor of many other New England cities. The result is a dispersal of young, creative, and innovative people. Because of this lack of talent retention, hiring in the Hartford area is tough. Almost every interview participant from this report who owns a restaurant or other food venture asserted the difficulty of finding passionate, good help in the area. In particular, many additionally noted a difficulty building a food business team and finding quality help that cares about food. A growing national trend among young people is an awareness and dedication to knowing where their food comes from and supporting local, sustainably grown or produced food products. If this demographic is continually leaving the Hartford area, this dispersal represents both potential consumers and employees of local food businesses.

The opportunity regarding talent retention is immense, offering young innovators a blank slate with which to shape their city into a place they want to live. Every food entrepreneur interviewed highlighted this opportunity. Not only a blank slate, Hartford also represents a city where you can make your mark and gain notoriety quickly, easily becoming a big fish in a small pond. As one food entrepreneur noted, "if you do something cool, you can actually impact the city." Unlike overly crowded markets, the City of Hartford has not yet been saturated by an influx of young people. Further, as Van Winkle further indicates, "Hartford is changing—they've recognized the importance of having people live in the city. Building attractions was the wrong approach. Apartments bring life to the downtown. A food store and amenities will help" (Busemeyer). While this talent retention issue can be framed as a deficiency for the city, this report's interview data

suggests that Hartford's current demographics and business climate, albeit challenging, represent the single most significant opportunity for passionate young innovators to take advantage of.

VI. Recommendations

The following recommendations are based on the interviews as well as from a review of implemented food system strategies in other cities. These sources were coupled with my own practitioner experience working (as well as eating) in the Hartford food system. It also must be noted that the City of Hartford Advisory Commission on Food, the City's food policy council, is already doing substantial work in advocating for necessary changes within Hartford. While some of the following recommendations suggest innovative methods for improving the system, others aim to reemphasize and support the work that this commission and other food stakeholders are making progress toward in the city.

- **Invest in Urban Food Access Points that Offer Healthy Food Options**

As evidenced by Hartford's quasi food desert conditions, the healthy food available to Hartford residents is of low quality and is not incentivized due to varying conditions and often low-quality appearances of market buildings. A food quality initiative could be developed by a team comprised of the Department of Public Health and food non-profits such as Billings Forge Community Works and Hartford Food System. The initiative would ideally make connections between urban stores and alternative sources of quality healthy foods such as farmers' markets more streamlined. An initiative of this kind could also be the formation of an urban market cooperative, which would increase these stores' buying

power from large-scale distributors and in turn increase the quality of healthy foods in these markets. While there is an existing façade program in Hartford, the City of Hartford Advisory Commission on Food could be a forum for creating a grocery store-specific façade program aimed at correcting for the barriers store blight creates in encouraging the consumption of healthy foods in the city.

- **Advocate for Increased Food Aggregation**

In order to compensate for the city's dearth in food aggregation infrastructure, a viable food hub should continue to be advocated for, and auxiliary funding sources should be identified. The Hartford Regional Market in particular should be slated to receive increased attention and monetary assistance to transform into a food hub that Hartford needs. As Hartford Food System's Food Hub Study indicates, "with improvements in infrastructure that will increase the number of local customers, this will allow more Hartford County farmers to grow more, bring their crops to larger markets and, ultimately, increase their bottom line" (5). The City of Hartford Advisory Commission on Food has been advocating for a food hub at the Regional Market since 2014, but state funds have limited further development. This advocacy should not be hindered by available state budget allocations, as a combination of sustained advocacy and acquisition of alternative funds could make the food hub a reality in the near future.

- **Engage the Private Sector in Food Economy**

Hartford is known for its large-scale private sector comprised of a thriving insurance and healthcare industry. These companies offer a relatively untapped source of assets and capital for the Hartford food system. A prime example of this potential is

implementing a food workforce development program with major private-sector companies in the city. Currently, these companies use national food-service contractors for their cafeterias that often have barriers to employment for the local community. But, increasing their involvement in the local food economy will benefit their social responsibility while benefiting Hartford's workforce, which is well-suited for the food industry—it is a reciprocal beneficial relationship for both sides. Drawing this kind of social investment from the private-sector would be an ideal task for the influential group of food-related non-profit organizations in the city that are already funded by private-sector foundations.

- **Increase Food-Based Education**

While Hartford already has a certain level of food and nutrition education in the public school system, additional food education would assist the Hartford community with its consumption of available healthy food options and prevent some of the food-related health issues the city faces. This recommendation is also inexpensive—it is a grassroots system of creating systematic change in how a community eats and thinks about food. “Nutrition Education is an evidence-based, cost effective way to improve health outcomes and foster healthy eating habits for a lifetime” (Hard, Uno & Koch, 1). In a city strapped for additional funding for food system improvements, food education represents a realistic, inexpensive option for Hartford. This increase in food education could be implemented through a combination of administrative support from the Department of Education and classroom programming from grassroots food non-profits like KNOX.

- **Streamline the Food Business Startup Process**

Hartford government does have a small business resource guide and a small business development program, but it does not have any aggregated information for food businesses. A one-stop destination for food business startup guidance as well as an online resource guide for the food business startup guide would give the Hartford food community a specialized domain for strengthening the food system internally. Further, because of the diversity within the food industry, some current small business assistance in the city may not be addressing all cultures, ethnicities, or socio-economic levels. The food business startup process must be inclusive to incentivize food business from all communities in Hartford. This process could be implemented by a combination of the Department of Economic Development, an entrepreneur incubator like reSET (Social Enterprise Trust), and feeder organizations like KNOX that work with underrepresented food entrepreneurs.

- **Amend Zoning Ordinance to Aggressively Incentivize Urban Agriculture**

The City of Hartford Advisory Commission on Food has already designated this recommendation a point of emphasis in both 2013 and 2014, but continued advocacy for this zoning ordinance would likely increase urban agriculture and local food overall within the city. Hartford's explicit support of urban agriculture through its inclusion in a zoning ordinance will likely incentivize the overall culture of urban agriculture in the city. An urban agriculture designation also will assist in clarifying city food policy, specifying where operations can take place without causing nuisance to the surrounding

neighborhood. Zoning ordinances can also allow on-site produce sales and specify areas for farmers' markets, which is especially important given that previous restrictions to this created "significant barriers urban farming and unnecessarily impede the realization of many of the benefits of city agriculture" (Maloney, 2595). Examining permit and licensing regulations for zoning categories would likely reveal other barriers to entry for certain residents looking into urban agriculture in terms of cost, time, and human resources. This amendment is currently being reviewed by the Department of Health and Human Services.

- **Develop a Food System Investment Syndicate of Private-Sector, Public-Sector, and Philanthropic Capital Sources**

While ambitious, developing an investment syndicate specific to the Hartford food system would offer the City an alternative source of funds given the limited public funds available. Given the robust private-sector in Hartford and philanthropic community, the City contains the components necessary to team up with food non-profits to develop a collaborative syndicate for the food system. Examples of potential syndicate implementation strategies would be the development of a food business fund and loan program or an infrastructure fund. Given the City of Hartford's limited municipal monetary capital, an alternative syndicate comprised of many influential Hartford stakeholders would improve the capital base for the city's food system.

VII. Conclusion

Hartford's food system, while currently deficient in critical areas, holds potential as a vehicle for the city's overall improved vitality. This is in part due to the very nature of food systems in general as well as Hartford's specific assets and strengths. Food is an

integral aspect of everyone's lives at multiple levels, affecting our culture, health, and economic well-being. Further, it is an identifying factor of whole communities and cities. In Hartford, the food system has not been optimized to its full capacity, allowing the city's residents to remain disproportionately impoverished and unhealthy compared with the county's affluence. From the extensive literature on sustainable food systems as well as interviews with notable food stakeholders, it is apparent that food offers a potential solution to critical issues within Hartford.

This report has attempted to assess Hartford's food assets and challenges in an aim to evaluate the viability of emphasizing the food system for the city. Further, it identified the city's opportunities for improvement and growth in order to make tangible recommendations for the city to make reality out of its potential. These goals of the report were accomplished through an extensive review of pertinent literature of food's role in cities overall and the benefits a healthy food system has for its ecosystem. Further, the report analyzed each component of Hartford's food system, from production to food policy, in order to identify the local food assets and deficiencies. Lastly, the analysis revealed unique findings for Hartford's food system, which the recommendations aim to address by utilizing the area's assets to neutralize its food deficiencies.

While this process represents an encompassing methodology for assessing Hartford's food system, there are some key limitations to the report. Most notably, while this report's methodology aimed to represent a wide variety of the diverse stakeholders in the Hartford food system, even better diversity could have been achieved. Ideally, this report would account for each of Hartford's neighborhoods, interviewing a certain number

of food stakeholders from each one. But, the researcher was limited by a short timeline as well as a lack of access to certain stakeholders. In particular, a strong food network has not been established in lower income neighborhoods due to a lack of social capital. It was difficult gaining access to minority-owned restaurants and developing these relationships within the report's timeline. Also, some food stakeholders within the city were more willing to participate than others, making some areas of the food sector more represented in this report than others. In particular, large-scale distributors were not as enthusiastic to participate as local food entrepreneurs or non-profit executives, most likely due to their lesser involvement and investment in the local food system. These limitations should be accounted for in future food studies in the city through increased collaboration among food actors to aggregate resources and connections.

This report lays the framework for future Hartford food actions to support and cultivate growth within the Hartford food system. Through its broad emphasis on diversity within the food sector, it aims to be the jumping off point for other organizations and actors within the Hartford food sector to provide tailored programs, policies, and activities. We hope that it will reach multiple levels within Hartford, sparking convening and collaboration among neighborhood stakeholders, Hartford's private-sector, non-profit organizations, and the City itself. While we hope to reach higher-level institutions and funders out of touch with the food system, we also hope to stimulate conversation and action on a grassroots neighborhood level. At this micro level, neighborhoods can use this report to assess and improve their own challenges of growth within the food system and address discrepancies of employment and political agency in terms of food.

Likewise, this report should act to support the existing food system work going on in the city, reemphasizing Hartford's assets in food advocacy and action. As aforementioned, the City's Advisory Commission on Food and its non-profit organizations are making progress in improving the food system, and the City is catching on in terms of its willingness to support this cause. It must be emphasized though that improving a food system is a large-scale structural transformation that will take time. The deficiencies within Hartford's food system are systematic in nature and will not be improved by any one quick fix; rather, the various food actors and civically engaged residents will need to continuously work together to make food progress in the city a viable goal.

In sum, food matters for Hartford. It is both a significant component of the city's current social, health, and economic issues as well as a potential solution to the same issues with due progress and investment. The impact of investing in Hartford's food system through civic engagement and through monetary means is essentially limitless in scope. While we hope that this report lays the framework for potential solutions to the city's food issues, at its root this report uncovers the oft-complicated language and bureaucracy of the food system and clearly articulates what assets are here, what is not working, and how food can be an integral aspect of Hartford's resurgence. Food is right for Hartford—it aligns with the assets and the residents who are already here, rather than searching for external sources of economic stimulation. This report is a preliminary step that lays the groundwork for future food system improvement in the city, not just for the obvious social, health, and economic benefits, but also for cultivating a food system that inherently supports our local residents.

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Appendix A: Hartford Demographic Data

Demographics													
<i>Population (2012)</i>				<i>Race/Ethnicity (2012)</i>									
	<i>Town</i>	<i>County</i>	<i>State</i>		<i>Town</i>	<i>County</i>	<i>State</i>						
2000	121,578	857,183	3,405,565	White	43,106	654,726	2,802,217						
2010	124,760	887,976	3,545,837	Black	47,019	117,181	355,660						
2012	124,879	893,504	3,572,213	Asian Pacific	3,284	39,220	139,827						
2020	126,656	922,085	3,690,997	Native American	895	2,327	8,531						
'12-'20 Growth / Yr	0.2%	0.4%	0.4%	Other/Multi-Race	30,575	80,050	265,978						
				Hispanic (any race)	53,755	137,155	480,185						
Land Area (sq. miles)	17	735	4,845	<i>Poverty Rate (2012)</i>	33.9%	11.5%	10.0%						
Pop./ Sq. Mile (2012)	7,218	1,215	737	<i>Educational Attainment (2012)</i>									
Median Age (2012)	30	40	40	Persons Age 25 or Older	<i>Town</i>	<i>%</i>	<i>State</i>	<i>%</i>					
Households (2012)	45,895	349,158	1,360,184	High School Graduate	21,507	30%	677,253	28%					
Med HH Inc. (2012)	\$28,931	\$64,752	\$69,519	Associates Degree	3,936	5%	177,531	7%					
				Bachelors or Higher	10,709	15%	879,089	36%					
<i>Age Distribution (2012)</i>													
	<i>0-4</i>		<i>5-17</i>		<i>18-24</i>		<i>25-49</i>		<i>50-64</i>		<i>65+</i>		<i>Total</i>
Male	4,865	4%	12,034	10%	9,585	8%	20,337	16%	8,377	7%	4,825	4%	60,023
Female	3,927	3%	12,069	10%	9,869	8%	22,427	18%	9,782	8%	6,782	5%	64,856
County Total	50,352	6%	152,709	17%	79,468	9%	299,428	34%	180,710	20%	130,837	15%	893,504
State Total	200,031	6%	612,181	17%	328,661	9%	1,194,793	33%	726,725	20%	509,822	14%	3,572,213

Data from Hartford CERC Town Profile 2014.

Appendix B: CT Fastrak

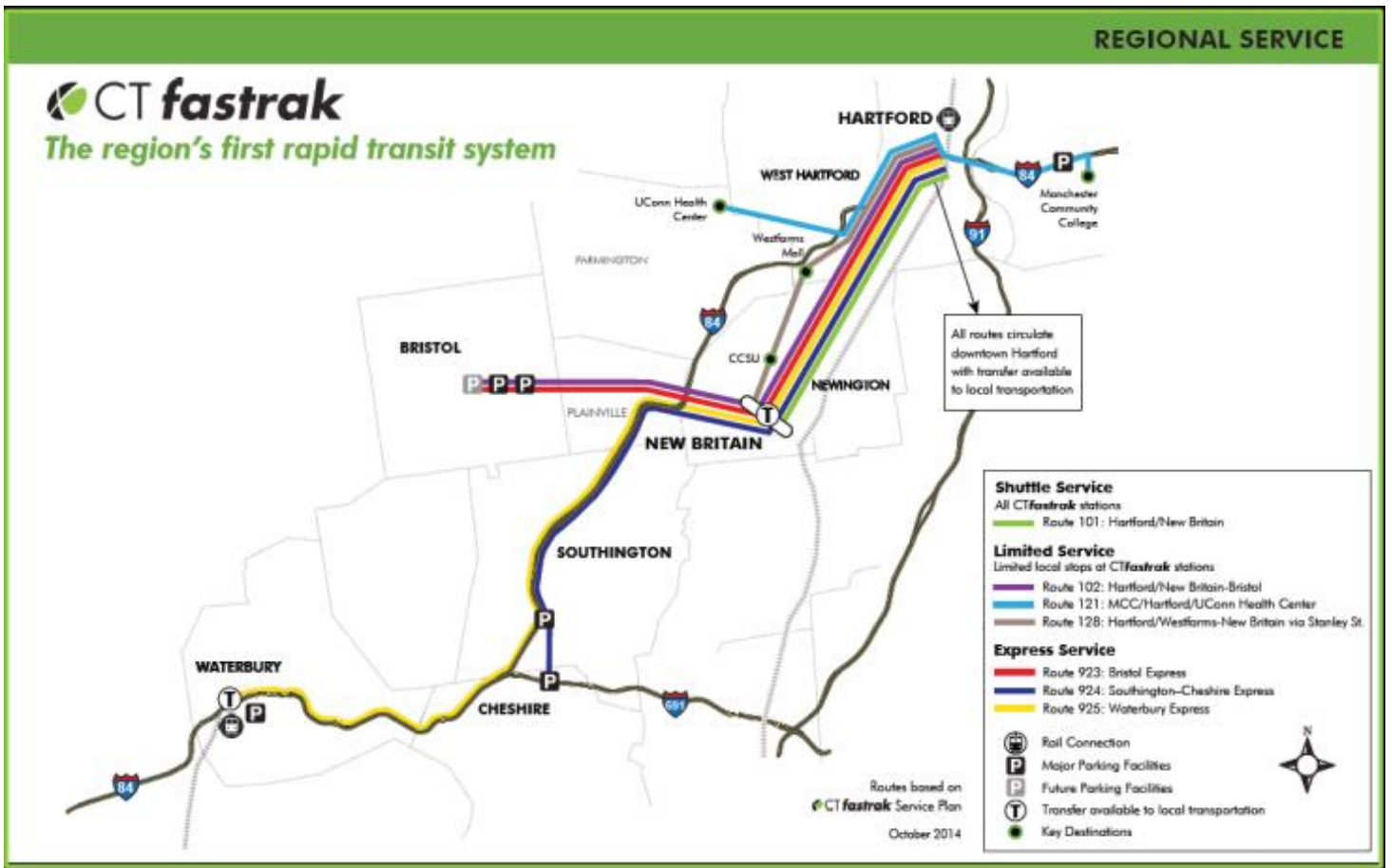


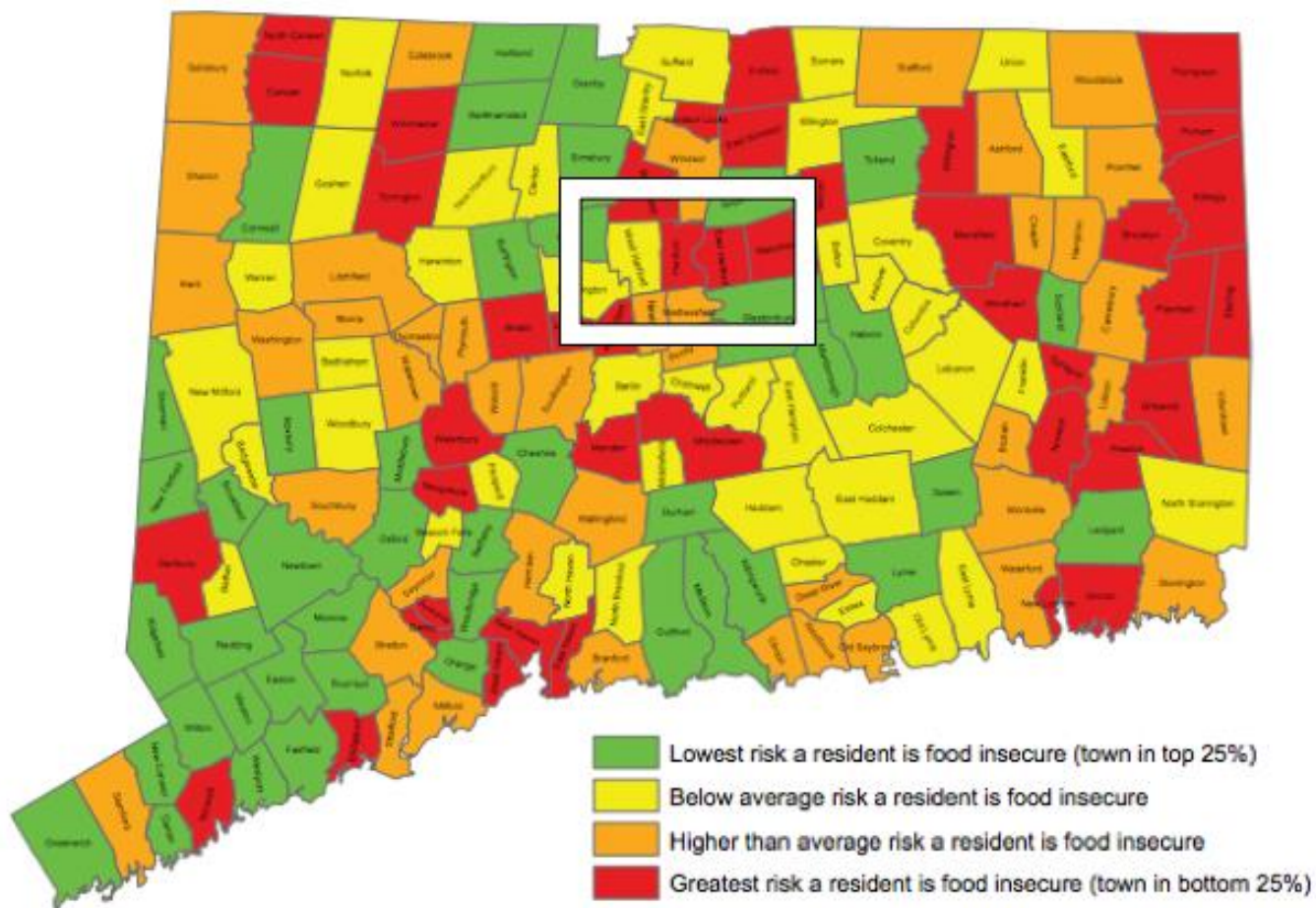
Figure from ctfastrak.org

Appendix C: Hartford Regional Market



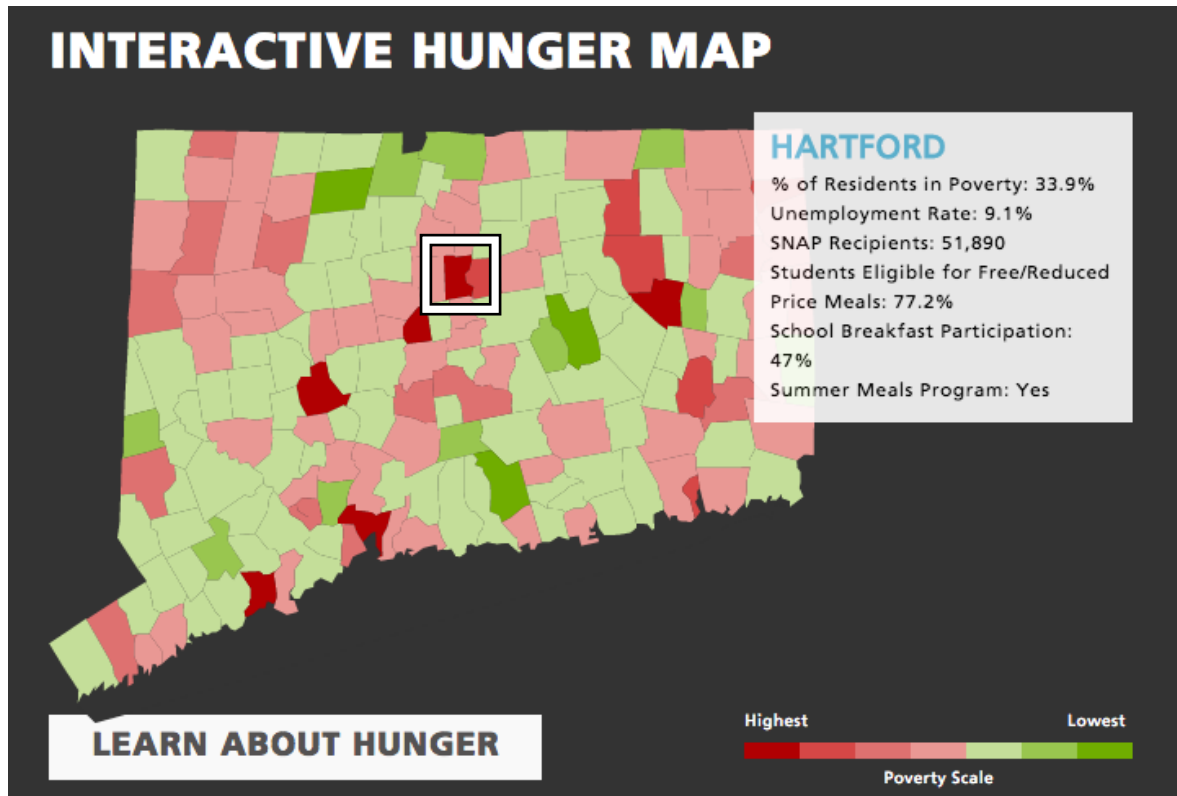
Hartford Regional Market Master Plan: Phase 1 Report. Market Ventures, Inc.

Appendix D: Hartford's At-Risk Food Insecurity Compared to All CT Towns



FROM 2012 Community Food Security in Connecticut: An Evaluation and Ranking of 169 Towns.
University of Connecticut.

Appendix E: A Snapshot of Hartford's Hunger Determinants



FROM Interactive Hunger Map. *EndHungerCT*.

Appendix F: Sample Qualitative Interview Protocol

“For this interview, the goal is to learn about your role and expertise within the Hartford food system. I’d like for this interview to be flexible and tailored to your personal knowledge, so if you feel like I have neglected to inquire about an important facet of your role or of the food system overall, please let me know and we can make that shift. Likewise, if you feel uncomfortable answering any question, please let me know and we can move on to the next. With your help, reSET hopes to develop optimized programming for food entrepreneurs to take charge of the city!”

*Note: specific questions are tailored here, and not all questions will be asked depending upon the individual participant.

Individual Participant Roles in the Hartford Food System (Potential probing questions indented)

Please describe your business/organization and your specific role.

- Number of employees? Years in business/operational? Involvement over time?
- Why did you become involved in this venture/organization? Hours worked per day?
- Is your venture profitable? Customer base? Decide on location?
- Funding/capital? What about investors?
- Organizational/business culture?

What was your ‘spark’ to working in the food entrepreneurship ecosystem?

Do you have experience in other entrepreneurial ventures? Food or not?

Internal (Organizational/Business) Challenges and Food System Challenges

What do you perceive as the issues with Hartford’s food system? (external)

- Resources? Connections? Technical capacity? Infrastructure? Policy?

What about Hartford in general? What are the obstacles and challenges the city faces?

What are the greatest business/organizational challenges you face everyday? (internal)

What challenges do you foresee for your organization/business? Plans to solve?

What do you see as the most prominent challenges to food entrepreneurship in Connecticut?

How do you feel about the particular laws and regulations for food entrepreneurship in Connecticut and New England?

Solutions to Challenges and Food Entrepreneurship’s Role in Process

Can Hartford’s food ecosystem revitalize or enliven the city? If so, how?

How is food entrepreneurship a viable option for economic development?

What is the food ecosystem’s connection to greater community development?

What ways could the food system be optimized to benefit you and your company/organization?

What kinds of connections need to be made among actors in the food system to viably advance the food entrepreneurship sector as a whole?

How might food entrepreneurship affect employment?

What do you perceive as Hartford’s greatest food-related assets?

Grand Food Vision for the City

What is your vision for the Hartford food system?

What do you see as the future of food entrepreneurship in Connecticut?

Where do you see the biggest opportunities for food in Connecticut?

“Thank you. Do you have any questions, or would you like to add anything?”

Appendix G: IRB Approval Letter and Consent Form



IRB Proposal No. 2015-031

REPORT ON ACTION OF COMMITTEE ON RIGHTS OF HUMAN PARTICIPANTS IN RESEARCH AND TRAINING PROGRAMS

Investigator: Zachary Fromson
Advisor: Kathryn Madden
Department: IDCE
Project Title: The Hartford Food System: a proposal of best practices for reSET's Food Entrepreneur Programming

This is to certify that the project identified above has been reviewed by the Committee appointed to review proposed research, training and related activities involving human subjects, which has considered specifically:

1. the adequacy of protection of the rights and welfare of the subject involved;
2. the risks and potential benefits to the subject of importance of the knowledge to be gained; and
3. the adequacy and appropriateness of the methods used to secure informed consent.

Action date: 12/04/2015

The collective judgment of the Committee is that:

(x) the study is **APPROVED** (Research may begin.)

Signature

Chair, Human Subjects Committee

APPROVAL EXPIRATION DATE: 12/04/2016

To renew this approval for an ongoing study to extend it beyond the expiration date, federal regulations require completion of a Continuing Review form indicating it is your project's "Annual Report". This form and an unstamped copy of the consent form should be submitted to humansubjects@clarku.edu two weeks before the expiration date above for IRB review and approval. The Continuing Review form is available at <http://www.clarku.edu/offices/research/compliance/humsubji/index.cfm>.

Please note if the Continuing Review form is not submitted for renewal of your IRB approval, the approval will lapse and under federal regulations no further work under that protocol may occur after the expiration date.

INVESTIGATOR RESPONSIBILITIES for all APPROVED research projects:

1. The Clark IRB requires that informed consent documents given to subjects participating in non-exempt research bear the approval stamp of the Clark IRB. The **stamped consent form document** is the only consent form that may be photocopied for distribution to study participants.
2. Investigators must keep consent forms on file for the **three years** following the date of IRB approval. Faculty advisors are also obliged to keep, for three years, consent forms received from research projects undertaken by students.
3. The investigator(s) must notify the IRB chair **immediately** of unanticipated problems that affect subject welfare.
4. Any changes to this protocol must be submitted to the IRB for review **prior to being implemented**.
5. Federal regulations require **continuing review** of all approved protocols. The Office of Sponsored Programs and Research (OSPR) will send the investigator(s) a Continuing Review form, which is due by or before the expiration date above. In order to ensure our continued compliance, we ask for your assistance by filling out this brief form and returning it to OSPR within **two weeks of receipt**. Indicate "Annual" if the study is ongoing or "Final" if the research has been completed. (Form is available at <http://www.clarku.edu/offices/research/compliance/humsubji/index.cfm>)

Clark University FWA 00000262

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Appendix D: Consent Form



Interview Consent Form

Title of Research Study: The Hartford Food System: A Proposal of Best Practice for reSET's Food Entrepreneur Programming

Person in charge of study: Zachary A. Fromson, Master's Student in Community Development & Planning
860-993-5026
ZFromson@clarku.edu

Researcher supervisor: Kathryn J. Madden, AICP, Associate Professor of Community Development & Planning
617-774-0005
KMadden@clarku.edu

The signing of this form constitutes consent to participate in an approximate 40 to 60 minute interview being conducted by Zachary A. Fromson, master's graduate student in the Community Development & Planning department at Clark University. This research is supervised by Professor Kathryn J. Madden, AICP of the Community Development & Planning department, and will fulfill the researcher's master's research project requirement. The purpose of this study is to provide reSET Social Enterprise Trust, the leading social enterprise incubator in Connecticut, with an assessment of the Hartford food system and accompanied recommendations for food entrepreneurship programming. **Your participation may impact reSET's ability to better understand the assets and challenges food entrepreneurs face in the Hartford food system (7).** The interview will be audio recorded and transcribed.

Your participation in this study is entirely voluntary. **You are not obliged to participate in this study, and nobody else will know who did and did not choose to participate (8).** You are free to terminate your participation in this research at any time without penalty, or to refuse to answer any questions to which you don't want to respond. **While reSET staff have participated in the recruitment of interview participants, precautions have been taken to ensure confidentiality of your interview and transcripts. Most notably, consent forms and transcripts are kept off reSET premises, and are kept locked filing cabinets at Clark University's IDCE house in Kathryn Madden's office, Room 202, and the researcher's computer in password protected files accordingly (2).** Your participation in this study is confidential. Neither recordings nor interview transcripts will contain names or any other information allowing identification of individual participants; participants will be identified by code number only. When Skype or similar technologies are used for interviews, there user names will not be associated with the data—only the audio portion will be stored.

Attribution of your input or quotes will only be used with your explicit permission. This does not negate the fact that after the interview has concluded, consent forms are locked in a filing cabinet in the IDCE house in Kathryn Madden's office, transcripts coded with anonymous reference numbers, and transcripts saved under password protected files. These precautions for confidentiality are ensured regardless of your choice to allow the researcher to attach your name to specific quotes. In order to gain preliminary permission to use your name in the report, please read and sign the following. You may choose to either sign or not sign the following. This signature only gives preliminary permission to contact you further for particular quotes, but permission for specific quotes will only be used once contacting you individually again once all interviews have been conducted (9):

By signing below, I verify that I have read the above section on attributing my name to specific quotations and agree to be contacted further by the researcher to gain permission for specific quotations used in his report:



_____ (Signature) _____ (Date)
 _____ (Printed Name)

IRB Protocol #: 2015-03/
 IRB Approval: [Signature]
 Approval Date: 12/04/2015
 Void After: 12/04/2016

Signed consent forms will be stored in a locked storage area in the International Development, Community, and Environment house at Clark University in Kathryn Madden's office, accessible only to myself, Zachary A. Fromson, and my research supervisor, Professor Kathryn J. Madden, AICP, separate from audio recordings and transcripts. Transcripts will be stored in electronic form only, in password protected files on Zachary A. Fromson's computer. Recordings will be destroyed upon completion of the three-year research project. Password protected transcript files will be retained until the researcher's graduation from Clark University's Community Development & Planning Department, expected May 2016. Upon the researcher's graduation, these files will promptly be permanently erased. If you have questions or concerns about this study, you may contact myself, Zachary A. Fromson, or Professor Kathryn J. Madden, AICP, at the aforementioned contact information.

By signing below, I verify that I have read this consent form and agree to participate in this interview. I have been given a copy of this consent form.

_____ (Signature) _____ (Date)
 _____ (Printed Name)

This study has been approved by the Clark Committee for the Rights of Human Participants in Research and Training Programs (IRB). Any questions about human rights issues should be directed to the IRB Chair, Dr. James P. Elliott (508) 793-7152.

Oral consent statement:

The study participant ID/Name _____ has declined to sign this form. I have instead read her/him the consent statement above, and s/he has given consent to participate in this study.

_____ (Signature of person obtaining consent) _____ (Date)

The person has agreed to be audio recorded (circle one): YES NO _____ (Initial)

