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Food-Based Businesses and the Creative Class in New England's Post-Industrial Cities

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FOOD-BASED BUSINESSES AND THE CREATIVE CLASS IN NEW ENGLAND'S POST-INDUSTRIAL CITIES

A Thesis Presented

by

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ABSTRACT

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IN NEW ENGLAND'S POST-INDUSTRIAL CITIES

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This master's thesis examines how the density of food-based businesses in New England's post-industrial urban neighborhoods relates to neighborhood demographic characteristics. The relationship between food-based businesses and demographic change has been examined in larger metropolitan areas, such as New York City and Chicago, and has found that younger, wealthier, and more highly educated residents tend to live where there are greater densities of food businesses. However, there has been little research on the topic in New England's post-industrial cities that have historically struggled to attract highly-sought knowledge workers. I find that food business density and the share of residents employed in creative class professions is positively correlated in most cases; however, over time, the share of creative class workers and food businesses per capita has a negative relationship. Additionally, the share of residents living below the poverty line and food business densities have a significant and positive relationship. Neighborhood racial composition is a less significant factor, overall. In sum, the findings from this study suggest that food business density and creative class populations have a more nuanced relationship in regional post-industrial cities compared to larger metropolitan areas.

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CHAPTER 1

INTRODUCTION

This study examines the relationships between neighborhood demographic characteristics and the food business environment in a post-industrial New England urban context. Similar research in larger American cities such as New York and Chicago has revealed that younger, wealthier, and more highly-educated residents tend to live in areas with greater densities of certain food businesses (Clark, 2003; Meltzer et al., 2010; Martin, 2014; Glaeser et al., 2018). Many of New England's mid-sized post-industrial cities are similarly pursuing the expansion and diversification of food-based amenities as a means of attracting "creative class" residents, in order to advance their wider goals of economic development and urban revitalization.

Leaders in New England's cities have considered a wide range of strategies over the years to reverse decades of economic stagnation in their regions, including business attraction and retention efforts, place marketing, and small business development and support programs. More recently, the belief that regional economic growth is a function of a region's ability to attract talented workers has led many city governments to focus on activities geared toward attracting "human capital" in the form of a highly-skilled workforce (Mathur, 1999).

Richard Florida's *Rise of the Creative Class* describes a new cohort of highly-skilled workers - the creative class - that for many city leaders personified the human capital theory of regional development. According to Florida, this cohort of professionals, including artists, engineers, lawyers, and educators, prefers to live in environments that possess a "cultural infrastructure" (Florida, 2002, p. 234) characterized

by cafes and restaurants along with other cultural amenities such as museums, , public parks, vibrant nightlife, and a diverse, tolerant population (Yigitcanlar et al., 2007). Florida's work on the Creative Class and Creative Cities became incredibly popular among city leaders of slow-growing regions by suggesting that city governments could help attract highly-sought knowledge workers by cultivating rich cultural environments, which could in turn strengthen their local economies (Clifton & Cooke, 2007). A growing interest in dining and related experiences also coincides with a relative decline in brick and mortar retail sales, with online sales exceeding general merchandise sales for the first time in history in early 2019 (Rooney, 2019). As a result, many city leaders in New England's post-industrial cities have invested in projects aimed at improving local cultural environments, hoping that such improvements may attract members of the creative class and in turn stimulate growth in their local economies.

Furthermore, growing societal interest in food experiences has inspired cities to leverage food-based amenities as a major component of their economic development strategies. A surging interest in food experiences is well-reported in market research. In 2016, the restaurant sector led employment growth in the overall economy for the sixteenth year in a row (National Restaurant Association, 2016). Even national clothing retailers such as Urban Outfitters and Tommy Bahama have begun experimenting with in-store dining options, finding that stores with dining components generate more sales per square foot than stores without (Maheshwari, 2012).

While creative knowledge-workers come in all ages, policies aimed at cultivating amenity-rich downtown environments have largely catered to the preferences of well-educated professionals of the "millennial" generation (Moos et al., 2016). Research

suggests millennials prefer food-based experiences more than previous generations: in 2015, 52% of millennials reported that their holiday spending would be spent on experiences compared to 39% of older consumers (PWC, 2015). Millennials also dine out more often (3.4 times per week) than older consumers (2.8 times per week) (Barton et al., 2012). Food amenities may spur additional spending in local economies. For example, a survey by the Project for Public Spaces (n.d.) reports that 60% of farmer's market shoppers reported that they only shop at nearby retail outlets on the days that they visit the farmers market. As such, many of New England's post-industrial cities have concentrated their efforts to spur the growth of local food-based businesses with the hope that greater concentrations of food-based experiences will influence desirable creative knowledge workers to move to their cities.

This research examines how changes to the food business landscape in post-industrial neighborhoods correlates with certain demographic characteristics associated with members of the creative class, such as higher rates of educational attainment, higher incomes, employment in "creative" knowledge-based fields, and younger age groups. Additionally, this research examines how the racial and ethnic composition in neighborhoods relates to the local food business environment. As New England's post-industrial cities are historically ethnically diverse communities, serving as important "gateways" for the assimilation of new immigrants to the United States, it is critical to examine how an increase in food amenities is related to neighborhood composition. By examining the relationships between these independent and dependent variables, the location preferences of those considered members of the creative class and food-based

amenities in the context of New England's older industrial regions may be better understood and may better inform decision-making at the local, regional, and state level.

This research seeks to answer the following questions:

1. How do changes to a neighborhood's food business environment in New England's post-industrial cities relate to changes in its population's demographic composition, specifically:
    a. Percent of population with a bachelor's degree or higher;
    b. Percent aged 25 to 34;
    c. Median household income;
    d. Employment in "creative" or knowledge-based jobs;
    e. Percent white
    f. Percent black
    g. Percent Asian
    h. Percent Hispanic or Latino of any race
    i. Percent other race or ethnicity
2. What implications do these relationships have for planners, policymakers, and public officials working for these cities and regions?

CHAPTER 2

LITERATURE REVIEW

This chapter provides an overview of the literature discussing industrial growth and decline in New England's urban centers, consumption cities, the "creative class", the location decisions of creative knowledge-workers, and the effect of food-based amenities on neighborhood demographics. Examining the literature on these topics establishes the critical context that grounds this thesis research and informs the interpretation of results, as well as the resulting discussion and policy recommendations.

Industrial Growth and Decline in New England's Urban Centers

In the latter half of the 20th century, New England's urban industrial centers were transformed by deindustrialization. For decades, these cities were vibrant political, social, and economic hubs, characterized by a "salt and pepper mix" of "small shops, two- and three-family houses, boarding houses, factories, [and] workrooms...[which] created [cities] of multiethnic neighborhoods as immigrants and natives alike settled near their workplaces" (Warner, 2011, p. 59). In New England's 19th century cities, the workplace was often a mill, with many cities master-planned around elaborate mill complexes.

However, manufacturing in New England suffered greatly in the mid 20th century. The New England textile industry, in particular, faced severe decline around mid-century, when "nearly 200 mills were shut down [and] many others drastically reduced their scale of operations" (Saxon, 1988, p. 54). This led to widespread job loss: over 100,000 mill

workers lost employment in textile mills from 1949 to 1954, which constituted over forty percent of all textile mill employees in the region (Saxon, 1988, p. 54).

The closing of textile mills occurred for several reasons, one being that many New England manufacturers moved their operations to southern states to escape high wages, union labor rights, and other employee protections that characterized New England's labor force (Koistenen, 2000). New competitors in the emerging southern economies led to further decline in New England's established industries (Koistenen, 2000). The effects of this industry migration were great: according to Koistinen (1988), "the shutdown of textile mills in New England in the 1920s produced high unemployment, widespread social distress, municipal bankruptcies, an overall slowdown in the regional economy, and deep concern about whether prosperity would ever return" (p. 502).

Concurrently, in the mid-20th century, inner city neighborhoods nationwide – including those in New England - began losing population due to suburbanization. Jackson (1985) describes how in the postwar years, "the best symbol of individual success and identity was a sleek, air-conditioned, high-powered, personal statement on wheels" – the automobile (p. 246). Between 1950 and 1980, vehicle ownership exploded, increasing by 200 percent while the U.S. population increased by 50 percent (Jackson, 1985). Automobile ownership became all the more necessary upon the passing of the Interstate Highway Act of 1956, "when the Congress provided for a 41,000 mile (eventually expanded to a 42,500 mile) system" (Jackson, 1985, p. 249). As a result of this key piece of legislation, and the widespread adoption of the automobile, land

development patterns shifted outward from the urban core, jump-starting "the long process of reducing the density of inner-city neighborhoods" (Warner, 2011, p. 61).

Because of the joint effects of migrated manufacturing industries from New England to southern states as well as suburbanization, many New England cities faced decades of stubborn decline. Abandoned, crumbling mill infrastructure became a symbol of the persistent economic distress faced by this region. Though "the emergence of Route 128 [of greater Boston] created numerous jobs in New England in the 1950s... [arising] largely from the research facilities, skilled labor, and managerial expertise available in New England.... workers and towns hit particularly hard by the decline of traditional manufacturing often did not share in the new prosperity" (Koistinen, 2000, p. 503-504). This holds true to this day: New England's recovery from deindustrialization, and its subsequent economic growth, has been most concentrated in greater Boston, with the regional economies of New England's smaller to medium-sized cities – once thriving economic centers – lagging behind.

Consumer Cities

Glaeser et al. (2001) describe a fundamental shift in cities' roles in society from centers of production, to centers of amenity consumption, or "consumer cities." Using a mix of quantitative and qualitative methods, Glaeser et al. argue that too little attention has been placed on cities as centers of consumption, outside of their traditional role as manufacturing and employment centers. They highlight how urban rent growth, as well as an increase in city-suburb reverse commuting, suggests that there has been higher demand for homes in central cities in closer proximity to amenity consumption

opportunities. However, they also find that some amenities are more positively related to population growth than others. Restaurant density is particularly predictive of population growth at the county level, whereas other amenities like bowling alleys and movie theaters had either no connection to or a negative association with population growth.

Clark et al. (2002) also highlight the importance of amenities in urban growth in his case study analysis of Chicago. They describe how "just a decade or so earlier, many observers were forecasting that Chicago, as part of the Rustbelt, was being driven like Detroit into a downward spiral of disinvestment... with investors and jobs moving to the suburbs and the Sunbelt" (p. 494). Despite this bleak forecast, Chicago emerged as the leader in absolute number of high-tech jobs at the turn of the twenty-first century, ranking ahead of Silicon Valley (Markusen et al., 2001). Clark et al. largely credit this to Chicago's development as "a post-industrial city focused on consumption and amenities" (p. 503). With entertainment being Chicago's top employing industry in the year 2000, Clark et al. argue that Chicago's amenities have allowed the city to become a highly desirable place to live and work and have allowed it to outperform other post-industrial cities that have not leveraged amenity-based planning and development strategies.

The Creative Class

In 2002, Richard Florida published what would become one of the most popular – and most criticized - recent works in the field of regional development, the *Rise of the Creative Class*. This book characterized a new generation of "creative" workers who are increasingly interested in residing in urban locations close to culture, leisure, and entertainment opportunities. For many city governments, especially those in "slow-

growth metropolitan areas" (Zimmerman, 2008, p. 230), the creative class worker became a highly desirable future resident that promised bright economic futures. As a result, "city and regional leaders began to use [Florida's] measures and indicators to shape their development strategies" (Florida, 2002, x).

According to Florida, the creative class is composed of both a creative core and a broader swath of creative professionals. The creative core consists of those working in the "science and engineering, architecture and design, education, arts, music and entertainment" fields, who generate original knowledge, technology, ideas, and art. The second group, creative professionals, includes those working in "business and finance, law, health care, and related fields" who do not necessarily create new ideas, but still "engage in complex problem solving that involves a great deal of individual judgement" and have "high levels of educational attainment or human capital" (Florida, 2002, p. 8).

Throughout his book, Florida describes how the creative class prefers to live in rich cultural environments. One tenet of such an environment is dynamic experiences, rather than static ones. For example, Florida argues that aging audiences and dwindling attendances at traditional cultural institutions such as orchestras, ballets, museums, and operas in recent years can be credited to the static nature of these cultural experiences. Instead, members of the creative class prefer the "indigenous street-level culture" found in mixed-use urban neighborhoods like Washington D.C.'s Georgetown, Boston's Back Bay, New York's East Village, or Pittsburgh's South Side (Florida, 2002, p. 182-183). Unlike the imported content found in museums, these communities are characterized by "native and of-the-moment" art and culture, cultivated by those who live close by (Florida, 2002, p. 183). Florida postulates that these environments are attractive to the

creative class because they allow them "the chance to experience the creators along with their creations" (Florida, 2002, p. 182-183). Florida also describes how members of the creative class gravitate toward "coffee shops, restaurants and bars, some of which offer performance or exhibits along with the food and drink; art galleries; bookstores and other stores; small to mid-sized theaters for film or live performance or both" (Florida, 2002, p. 183). In sum, the creative class prefers interactive experiences and opportunities for community connection, many of which center around food-related activities.

Despite, or perhaps because of, its popularity among city officials, Florida's research has drawn significant criticism. Many scholars assert that the bohemian urban centers described by Florida represent a consequence of economic growth, rather than a driving force behind it. Glaeser (2004) ran regressions on the data presented by Florida and found that, when controlled for a population's percent of people with a college degree and percent of young adults, there is little relationship connecting concentrations of "bohemians" to economic prosperity. Malanga (2004) and Moretti (2012) similarly comments that the development of creative urban centers is likely a byproduct of economic growth, rather than a driving force behind it.

Zimmerman (2008) conducted a case study analysis of Milwaukee, Wisconsin to assess the redevelopment strategies of the "city's image-makers, planners, and municipal actors" that aimed to foster creative economic development in the downtown. Zimmerman argues that the redevelopment strategy based around "creative class lifestyles, cultural practices, and consumption habits" ultimately "brought into sharper relief what was already one of the most economically and racially polarized large cities in

the United States" (p. 230). Thus, Zimmerman argues, redevelopment favoring creative class preferences exacerbates socioeconomic, racial and ethnic inequalities in cities.

Urban political economist, Maliszewski (2004) similarly critiqued Florida for his failure to acknowledge the ever-intensifying issue of economic inequality in urban centers. Like Glaeser, Malanga, and Moretti, Maliszewski refuted Florida's argument that an agglomeration of creative workers caused economic growth, rather than followed it, and warned that planning initiatives inspired by this theory would never be successful as a result of this backwards logic. Among the most well-known and comprehensive critiques of Florida's creative class thesis comes from Peck (2005), who argued that these creative strategies are not nearly as disruptive as Florida portrays them to be. Instead, Peck argues, "creative city" policies simply reinforce "'neoliberal' development agendas, framed around interurban competition, gentrification, middle-class consumption and place-marketing" (p. 741). Despite these critiques, Florida's work has nevertheless had a substantial impact on the field of urban policy and regional economic development since its publication.

Location Decisions of the Creative Class

A growing body of research seeks to better understand why the creative class chooses to live where it does. Existing literature on residential location patterns of the general population emphasizes that residential choices are most strongly influenced by "'hard' market factors, such as the availability of jobs, higher wages or the affordability of housing" (Brown & Męczyński, 2009, p. 240). However, like Florida, Yigitcanlar (2007) posits that the key to attracting creative workers is to cultivate rich cultural

environments. Others (Brown & Męczyński, 2009; You & Bie, 2017; Frenkel et al., 2013) argue that a combination of "hard" factors and "soft" infrastructure are what ultimately attract creative knowledge workers.

Lawton et al. (2013) analyze the residential preferences of the creative class using a mixed qualitative and quantitative study of young creative Dublin professionals. They find that classic location factors such as proximity to the workplace, age, and housing costs were more important than the "soft" cultural factors propagated by Florida. Specifically, Lawton et al. find that most influenced knowledge creative workers residential choices were housing costs, distance to work, and size of dwelling, while the least important factors were proximity to pubs and nightclubs, proximity to major roads, and availability of day-care. Lawton et al.'s findings indicate that, at least in the context of Dublin, classic location factors are the most dominant considerations that influence the residential choices of the creative class.

In contrast, Yigitcanlar et al. (2007) paint a portrait of "knowledge worker" residential preferences largely focused on the importance of "soft" sociocultural characteristics. Through a review of the literature on knowledge work and workers, Yigitcanlar et al. conclude that knowledge workers "prefer inspiring cities with a thriving cultural life, an international orientation and high levels of social and cultural diversity (p. 7)." These individuals have "considerable disposable income" and frequent "cafes spilling onto the pavement, brightly lit arcades, harbour-side shopping... [and] thronging malls" (p. 11). According to Yigitcanlar et al., knowledge workers prefer to live in diverse neighborhoods with blurred private/public realms and a strong sense of community. This argument strongly supports Florida's (2002) creative class thesis by

emphasizing the role that culture plays in attracting residents working in creative and knowledge-based industries.

Other scholars emphasize the importance of both "hard" and "soft" factors in knowledge workers' residential decision-making process. Brown & Męczyński (2009) empirically investigated why individuals, rather than firms, decide to locate in specific cities. Brown & Męczyński conducted questionnaire-based interviews with over 280 knowledge-based workers in two European post-industrial cities: Birmingham, England and Poznan, Poland, inquiring about specific motivators for moving to the city. Brown & Męczyński found that the most important factors influencing the worker's decisions to live in Birmingham or Poznan were a combination of "hard" and "soft" factors. Specifically, job opportunities and transportation access were among the most important "hard" factors, while personal connections such as proximity to friends and family were the most important "soft" factors dominating knowledge worker location decisions. Notably, the "soft" factors emphasized by Florida such as leisure and entertainment opportunities were moderately but comparatively less important factors influencing location decisions.

You & Bie (2017) similarly point to a combination of classic and soft factors in knowledge-worker residential location decisions. They use spatial regression and variance partitioning to examine the factors that influence the agglomeration of creative workers in Shenzhen, China in 2000 and 2010. They find that overall, economic opportunities most consistently influenced the location choices of knowledge workers. However, cultural and tolerance factors were also found to be significant, leading You & Bie to conclude that "multiple approaches, including promoting social mixture over time,

enhancing quality of place, and keeping economic prosperity" must all be utilized to "foster creative capital" in cities (p. 98).

Like Brown & Męczyński (2009) and You & Bie (2017), Frenkel et al. (2013) paints a hybrid picture of knowledge workers as "household members, employees, and leisure consumers," who consider both classic and leisure-oriented factors when deciding where to live (p. 39). Frenkel et al. examine the location decisions of knowledge-workers in the Tel-Aviv Metropolitan area to compare the importance of classic location factors, such as housing affordability and proximity to high-paying jobs, to the importance of "lifestyle factors" proposed by Florida (2002) and Yigitcanlar et al. (2007). Using a utility-based discrete choice model, Frenkel et al. find that both classic utilitarian residential choices and access to culture and leisure were important factors in the residential choices of creative knowledge workers. Specifically, the most important factors influencing knowledge workers' residential choices were socioeconomic level in a community and housing affordability. However, a desire to live close to cultural amenities was also among the most important factors, with these individuals also preferring to live closer to the city center.

Additionally, Frenkel et al. highlight discrepancies in results from this study and studies of other cities such as Ranstad, Netherlands (Van Oort et al., 2003), and Dublin, Ireland (Lawton et al., 2013). In Ranstad, access to open space and natural amenities were among the most important factors attracting creative knowledge workers, while these factors were non-significant for Tel-Aviv. In Dublin, size of dwelling was found to be a top consideration for these individuals in their home search. The findings suggest

that residential preferences of knowledge workers are highly contextual and differ significantly across geographies.

The literature suggests that a wide range of factors influence the residential decisions of knowledge-based creative workers. Additionally, an individual's age and region of origin also significantly influences location preferences. Classic location decision factors such as job opportunities, housing options, and transportation access continue to dominate where creative and knowledge-based workers are choosing to live. However, there is also growing evidence suggesting that "soft" factors like local cultural environments play a supplemental role in residential decision-making, albeit more strongly in some regions than in others. Perhaps Brown & Męczyński (2009) articulates this best by stating that "'quality of place' issues should be considered as 'steering' factors in location choice, while life events (such as starting the first 'career' job, preferences of spouse and familial ties) are the actual 'triggering factors' for choices to be made" (p. 249). For many municipal leaders in post-industrial cities, the opportunity to influence these "steering" factors as a way to attract the creative class is too great to pass up.

Food Amenities and the Creative Class

Though the influence of amenities in the location decisions of the creative class is widely debated, as Glaeser et al. (2001) find, certain types of amenities are more likely to influence residential choices than others. In particular, Glaeser et al. find that restaurant density is strongly related to population growth in counties across the U.S. (2001). Certain demographic characteristics such as age, educational attainment level, and

income have also been found to strongly correlate with certain types of amenities located in neighborhoods. Clark (2003), Meltzer et al. (2010), Martin (2014), and Glaeser et al. (2018) observe that younger, college-educated residents – many of whom may be considered members of the creative class - tend to live in locations with greater proportions of food-based amenities.

Clark (2003) finds that certain types of amenities correlate with concentrations of different segments of the population. Using regressions controlling for up to twenty variables across 3,111 U.S. counties, he discovers that natural amenities like moderate temperature and access to bodies of water correlate with higher proportions of elderly residents, while college students tend to live closer to "constructed" amenities such as opera, juice bars, museums, and Starbucks, and residents who filed high tech patents congregated in locations with ample access to both natural and constructed amenities. Clark's research makes the important distinction that certain amenities attract residents who are in different stages of life. Further, the findings highlight that younger residents of college age, as well as residents who filed high-tech patents, tend to live in places where they have access to constructed food-based amenities such as Starbucks and juice bars.

Similarly, Meltzer et al. (2010) explore the relationship between retail environments and neighborhood demographic characteristics in New York City using data from the Census Bureau's Zip Business Pattern series, finding that a greater density of food service establishments such as restaurants are located in neighborhoods with higher income residents. Martin (2014) observes that "eating [at restaurants] has become an important part of how people spend their leisure time and disposable income" (p. 1871).

In a recent study most directly related to the goals of this research, Glaeser et al. (2018) examines the relationship between the quantity of food-based amenities such as grocery stores, cafes, restaurants, and bars and demographic characteristics in New York City neighborhoods. Using Census, Federal Housing Finance Agency, Streetscore (an algorithm that uses Google Streetview) and Yelp data, Glaeser et al. determine that growth in certain types of businesses such as bars, cafes, and grocery stores were good predictors of increases in the share of college educated residents in a neighborhood. Glaeser et al. also find that changes to the business ecosystem in an area predict changes to residents' age and a neighborhood's racial composition, though much less strongly compared to changes in a neighborhood's share of college-educated residents.

Glaeser et al.'s (2018) paper has important implications for this thesis. First, this study's methodology most significantly influences the methods used for this paper. Second, Glaeser et al. find strong evidence that greater densities of food-based businesses indeed correlate strongly with higher percentages of those who likely fall into the category of creative class. However, his study examines the nation's most populous city and largest financial hub, New York City. This context is extremely different from the economic and social contexts of many of New England's mid-sized post-industrial cities, which, unlike New York City, have historically struggled to attract a younger, highly educated knowledge-based workforce.

Importantly, Reese & Sands (2008) raise the question of whether the creative class thesis is even applicable outside of major metropolitan areas. Therefore, by studying the relationship between food amenities and demographics outside of a major metropolitan context, planners and policymakers working for New England's post-

industrial communities may be able to better understand how food-based economic development strategies may or may not affect their communities.

Conclusion

The literature serves as important context as post-industrial city leaders continue to turn to food-based economic development strategies as a means of attracting and retaining younger, college-educated residents. Though the positive relationship between food-based amenities and members of the creative class has been noted in large urban centers like New York City and Chicago, it is less understood in the context of New England's mid-sized post-industrial cities. Without an understanding of the relationship that currently exists between food-based amenities and demographic characteristics in this context, planners, policymakers, and civic leaders working in these areas cannot make fully informed decisions about the effects that an augmented food-centric business and cultural environment may have on their communities.

CHAPTER 3

FOOD-BASED REVITALIZATION STRATEGIES IN NEW ENGLAND'S POST-INDUSTRIAL CITIES

New England's mid-sized post-industrial cities have pursued the expansion of food-based businesses using a wide range of strategies in recent years. Some cities express a desire for more restaurants or cafes in their master plans, while others have created business programs and incentives explicitly targeting food-related businesses. Still more cities have created food-themed programming, often organized and promoted by Business Improvement Districts (BIDs) or cultural districts, seeking to bolster local cultural capital through community events centered around cuisine. Importantly, many of these cities connect their food-related initiatives to wider goals of resurgence driven in part by the attraction and retention of members of the creative class.

City Planning Documents

Cities across New England are increasingly incorporating food-related amenities into their wider revitalization strategies. A common theme across post-industrial city plans is a stated desire to create "live, work, and play" environments that are perceived as being the preferred residences of choice for young professionals. For example, Chicopee, Massachusetts created a Chicopee Transformative Development Initiative (TDI) District in 2019 that "aspires to build upon recent momentum to activate vacant buildings and become a hub for high-skilled workers and homegrown entrepreneurs," clearly communicating their desire to both attract new and retain existing residents working in knowledge-intensive fields (Chicopee). Echoing Florida's (2002) emphasis on the

importance of experience to creative knowledge-workers, the Chicopee TDI District "aims to create an urban atmosphere – an experience which cannot be found in surrounding rural and suburban areas" (Chicopee).

The linkage between revitalized live/work/play districts and food amenities emerges when examining the planning documents of many of New England's mid-sized post-industrial cities. For example, the City of Worcester's Downtown Theatre District Master Plan incorporates a map outlining potential sites for hosting "Programming for Temporary Food and Fun," including a farmer's market, pop-up diner, and food trucks. These additions to Worcester's downtown are described as being integral to their wider strategic plan to "create a lively District for Worcester businesses, visitors and residents to work, live, study and play" (p. 17).

In a Market Analysis and Strategic Action Plan for Downtown Haverhill (2007), project consultant Gruen, Gruen & Associates describe how "resurgence of areas like Downtown Haverhill frequently relates to eating and drinking places," and therefore, "the challenge will be to attract a critical mass of food-related and agglomeration of specialty stores or services that have unique attractions" (p. 11). Specifically, the report cites "coffee or espresso and tea shops, take-out restaurants," a "sit-down coffee house" and a "full-service 'Downtown-centric' grocery store" as examples of businesses that, when located in close proximity to each other, "will help provide customer traffic... [and] will enrich the image of the Downtown as more than just a place to work or shop" (p. 11). In this way, the consultants very clearly connect the quantity and variety of food-related amenities to the resurgence of downtown Haverhill by stating that more restaurants, cafes

and other food businesses are needed in order for Haverhill to fully realize its potential for revitalization.

The City of Brockton, Massachusetts' Downtown Action Strategy similarly frames food businesses as desirable additions to its downtown that the city believes to be catalysts for additional redevelopment. One of the main themes throughout their Downtown Action Strategy is a need to "improve the mix of uses downtown" such as cafes and restaurants, as well as "food stores... breweries and smallbatch distilleries" (p. 8) The City of Brockton takes it a step further in its commitment to expand its food businesses portfolio, outlining its plan to dedicate a city-owned parcel into a generator of food-businesses – a restaurant incubator. The City of Brockton applied for and received a $50,000 Massachusetts Urban Agenda Economic Development Planning Grant that they plan to use to renovate a former office building into a restaurant incubator (Laroque, 2016). According to the Downtown Action Strategy, the restaurant incubator would "house a changing array of street-level dining options run by entrepreneurs testing concepts for restaurants" (p. 10) These restauranteurs, as well as owners of other types of "food-focused businesses," would also be permitted to use a commercial kitchen.

New dining opportunities are a welcome addition to Brockton's downtown. According to Brockton's Planning Director, Rob May, "we are desperate for new restaurants downtown" (Laroque, 2016). Similarly, Brockton Mayor Bill Carpenter expressed, "one of the things people look for when visiting or choosing to live downtown is restaurants. It also ties in with us looking to bring additional companies downtown" (Laroque, 2016). In addition to a restaurant incubator, Brockton's Downtown Action Strategy outlines its goal of permitting and promoting outdoor dining – including food

trucks – as well as creating additional programming for downtown Brockton's farmer's market.

The City of Waterbury, Connecticut similarly emphasizes a clear desire for additional food amenities in its downtown throughout their Downtown Strategic Plan (2016). In order to "reclaim its position as a regional employment center and commercial hub," the Waterbury Downtown Strategic Plan states that "the ground floors of buildings must be activated with public programming such as restaurants, bars, coffee shops..." as "these are the elements that bring people to the street and create the activity desired in a thriving urban center," (Downtown Strategic Plan, p. 8). In particular, the Town of Waterbury expresses interest in attracting "family restaurants, outdoor dining, an ice cream establishment and healthy food vendors such as fresh juice and smoothie bars" to downtown Waterbury with the hope of "[enhancing] the downtown's destination status ... [and to] help create demand for other shopping options," (Downtown Strategic Plan, p. 49).

The City of Waterbury also hopes to create a "retail and dining destination with multiple small shops such as cheese, wine, hardware, fresh produce, bakery, butcher, spice shop, coffee, florist, and others," (Downtown Strategic Plan, p. 74). Much of the proposed retail for the space relates to food and drink consumption. Like Brockton's planned restaurant incubator, Waterbury hopes to include "shared commercial cooking equipment for vendors" within the marketplace (Downtown Strategic Plan, p. 74). The Waterbury Downtown Strategic Plan states that a downtown marketplace is "required for several reasons," including a need to "compete for businesses, workers, and residents," a need to create an "expected amenity in a thriving urban downtown," and the ability to

"[serve] as an incubator for small food and craft businesses" (Downtown Strategic Plan, p. 74).

Clearly, a theme has emerged across the planning documents of many mid-sized post-industrial cities in New England. Food-related businesses - from fine dining to fast-casual, outdoor cafes, artisanal cheese shops and ice cream parlors - are in high-demand for city leaders who are eager to attract new residents and visitors to their long-overlooked downtown districts.

Business Programs and Incentives

Three cities included in this study – Springfield, Massachusetts, Lowell, Massachusetts, and New Britain Connecticut – have created business programs and incentives exclusively available to food-related businesses with the hope of increasing the quantity and variety of food-centered businesses as a component of wider downtown revitalization efforts.

The City of Springfield's Downtown Dining District was "designed to attract and assist full-service restaurants seeking to locate in Springfield's downtown dining district," with the goal of "[encouraging] and [promoting] investment and job creation through financial assistance in the district" (DDDF). The program is funded using the United States Department of Housing and Urban Development (HUD) Section 108 Loan Program. Springfield's Downtown Dining District hopes to attract "experienced restaurateurs" who are seeking to create new restaurants within the designated district boundaries (DDDF). The loans range from $50,000 to $200,000 and have a fixed interest rate between 2% and 4%, with a repayment term of ten years. This funding may be used

for “design, construction, equipment, and working capital, and is only available for food-based businesses, which the City defines as businesses with “more than 50% sales of food products” (DDDF). The fund may also “consider on a case-by-case basis other food-based businesses” such as “fresh/prepared food markets/delis, locally produced/developed food or beverage tasting facilities, and other unique concepts that would add significant value to the district” (DDDF).

The City of Springfield’s Downtown Dining District fund was created in tandem with over $3.3 billion in investment in Springfield’s downtown, including the $950 million MGM Springfield casino project and the recently-completed $94 million renovation of the historic Springfield Union Station (DDDF). The developments are either located adjacent to or within the Dining District. Thus, food businesses – restaurants in particular – are positioned as important compliments to other redevelopment efforts in Springfield’s downtown.

In partnership with the Lowell Development and Financial Corporation, the City of Lowell, Massachusetts offers a Downtown Venture Fund Program, a resource available to “new retail and restaurant ventures” that plan to locate in downtown Lowell. Up to $100,000 in funding is available for businesses and retail that may be used for design work, construction, equipment, inventory, and working capital. The goal of the Downtown Venture Fund program is to “add value and diversity to the retail and restaurant climate of Downtown Lowell by making available low-cost financing... [to] create the critical mass needed to encourage others to open new ventures in Lowell; similar to what has occurred in recent years in Portsmouth, NH, Newburyport, MA and Portland, ME, among others” (DVF). In addition to distinctly-creative retail concepts (art

galleries, antique shops, and "specialty bed, bath and kitchen accessory shops"), the Fund aims to target food related businesses such as restaurants (excluding fast-food establishments); "coffeehouse[s] offering entertainment;" and specialty food stores (DVF). The Downtown Venture Fund initiative demonstrates how city officials often jointly pursue expansion of arts-related and food businesses.

Lastly, the City of New Britain offers a New Restaurant Incentive Program for new restaurants located in New Britain's Enterprise Zone. This program is exclusive to businesses that are classified as either a Full Time or Limited Service restaurant using the Department of Labor's North American Industry Classification System (NAICS). As part of this program, the new restaurant business receives tax exemptions that "may be 100 hundred (100) percent [exempt] in the first year and 50 percent exempt in the second year" (ED Tool Box).

BIDs, Cultural Districts & Restaurant Associations

In addition to planning documents, many of New England's mid-sized post-industrial cities have created Business Improvement Districts (BIDs), cultural districts, or restaurant associations that, among other functions, support and promote local food-based businesses.

Several cities examined in this study (Springfield, Massachusetts; Manchester, New Hampshire; New Britain, Connecticut; Hartford, Connecticut; Bridgeport, Connecticut) have formed Business Improvement Districts (BIDs). BIDs are "special assessment districts in which property owners vote to initiative, manage and finance supplemental services or enhancements above and beyond the baseline of services

already provided by their local city" (Business Improvement Districts, n.d.). The additional fee associated with the BID is only paid by the properties located within the designated BID boundary. The services and programs provided by the BID vary by place, but often include "marketing and public relations services," "improving the downtown marketplace or city/town center," "capital improvements," "public safety enhancements," and "special events" (Business Improvement Districts, n.d.). For these reasons, BIDs are an attractive and popular way for New England's post-industrial cities to generate revenue and create additional management that focuses on revitalization efforts specifically targeting their downtown areas.

The BIDs created by New England's post-industrial cities have heavily focused on food for themes for programming, marketing and placemaking themes. The marketing of dining options often stresses the multicultural dining options available in downtowns which reflect the racial and ethnic diversity of each city. For example, the City of Manchester, New Hampshire's BID website describes the "impressive array of restaurants offering ethnic cuisines, such as Bosnian, Caribbean, Chinese, French-Canadian, Greek, Hungarian, Indian, Italian, Japanese, Mexican, Middle Eastern, Nepali, Thai, Vietnamese and more" located in its downtown (Shopping & Dining in Manchester, n.d.). On its website, the Springfield BID emphasizes its range of dining options, from "great locally owned coffee shops where you can enjoy an espresso or latte while reading or working on the laptop" to "delicious lunch spots where you can grab a quick panini or have an elegant business lunch," and finally "incredible dinner spots for a romantic night out, a business dinner, or a family meal" (Dining, n.d.). The City of Hartford's BID blog similarly promotes its restaurants and other eateries, as seen in just a sample of its article

titles: “Photos: Taste of the Carribbean 2019,” “6 Places to Get a Brain Freeze All Summer Long,” “Free Lunchtime Music,” “10 Places to Stuff Your Face with Chocolate Cake,” “Hartford Bakery Guide,” “13 Sandwiches You Should Eat in Hartford” (Awesome Things, n.d.). Clearly, much of the money generated through BIDs in New England’s post-industrial urban centers is used in efforts to brand downtowns as dynamic food destinations.

Many Massachusetts cities – including Worcester, Springfield, Lowell, Lynn, and Haverhill – have created cultural districts that promote arts, culture, and entertainment within a defined boundary. However, unlike BIDS, cultural districts do not require that property owners pay an additional for shared services. Instead are state-designated and thus cultural districts qualify for state grants through the Massachusetts Cultural Districts Initiative (Kotsopoulos, 2014). The goals of cultural districts are “to attract artists and cultural enterprise; encourage businesses and job development; establish the district as a tourist destination; preserve and reuse historic buildings; enhance property values and foster local cultural development” (Kotsopoulos, 2014).

Like BIDs, the events and marketing efforts of cultural districts are often food-themed. For example, the City of Lowell’s Canalway Cultural District boasts an “array of dining destinations... making it the premier entertainment hub of the Merrimack Valley” (About the Canalway Cultural District, n.d.). Reflecting Florida’s (2002) emphasis on the creative class preference for dynamic and authentic cultural experiences, Lowell emphasizes the proximity of its dining options to other cultural amenities: “many restaurants are within walking distance to art and performance venues in the Canalway Cultural District... enjoy a relaxing meal before a show, or cap off the evening with

cocktails and dessert for a pleasurable experience in the District" (About the Canalway Cultural District, n.d.). The food programming and marketing for designated cultural districts demonstrate how food, arts and culture are leveraged in tandem to enhance the perception of New England's post-industrial cities as premier cultural destinations.

Additionally, although the City of Lawrence does not have an established cultural district or BID, its website outlines its goal of "building the vitality of the downtown core through the creation of new residential, business, retail, cultural and entertainment opportunities" (Business & Economic Development, n.d.). Reflecting this, "a group of restaurant and bar owners in Lawrence have teamed up under a common goal: to advocate for what they see as a burgeoning foodie scene in the city," creating a Lawrence Restaurant and Bar Association (Mathews, 2018). According to Eddie Crespo, the spokesperson for the Lawrence Restaurant and Bar Association, the organization aims to "[provide] a unified voice to the bar and restaurant community in Lawrence...be advocates toward helping progress our business goals collectively... promoting the city of Lawrence as a destination of choice for people want to sample new cuisines or visit fun establishments or bars" (Mathews, 2018). The formation of the Lawrence Restaurant and Bar Association reflects a desire to bolster the food business presence in Lawrence and to strengthen the business environment of their downtown.

Conclusion

New England's mid-sized post-industrial cities are pursuing the growth and expansion of food-related businesses using a multi-pronged approach, as stated many in their city planning documents. Business programs targeting restaurants and other food

businesses provide resources such as loans and other technical support. BIDs and state-designated cultural districts enable cities to generate or apply for funding that is often used to promote the downtown as a “foodie” destination. These efforts contribute to wider goals of revitalization in downtown centers that have for decades struggled to attract and retain residents employed in creative class professions.

CHAPTER 4

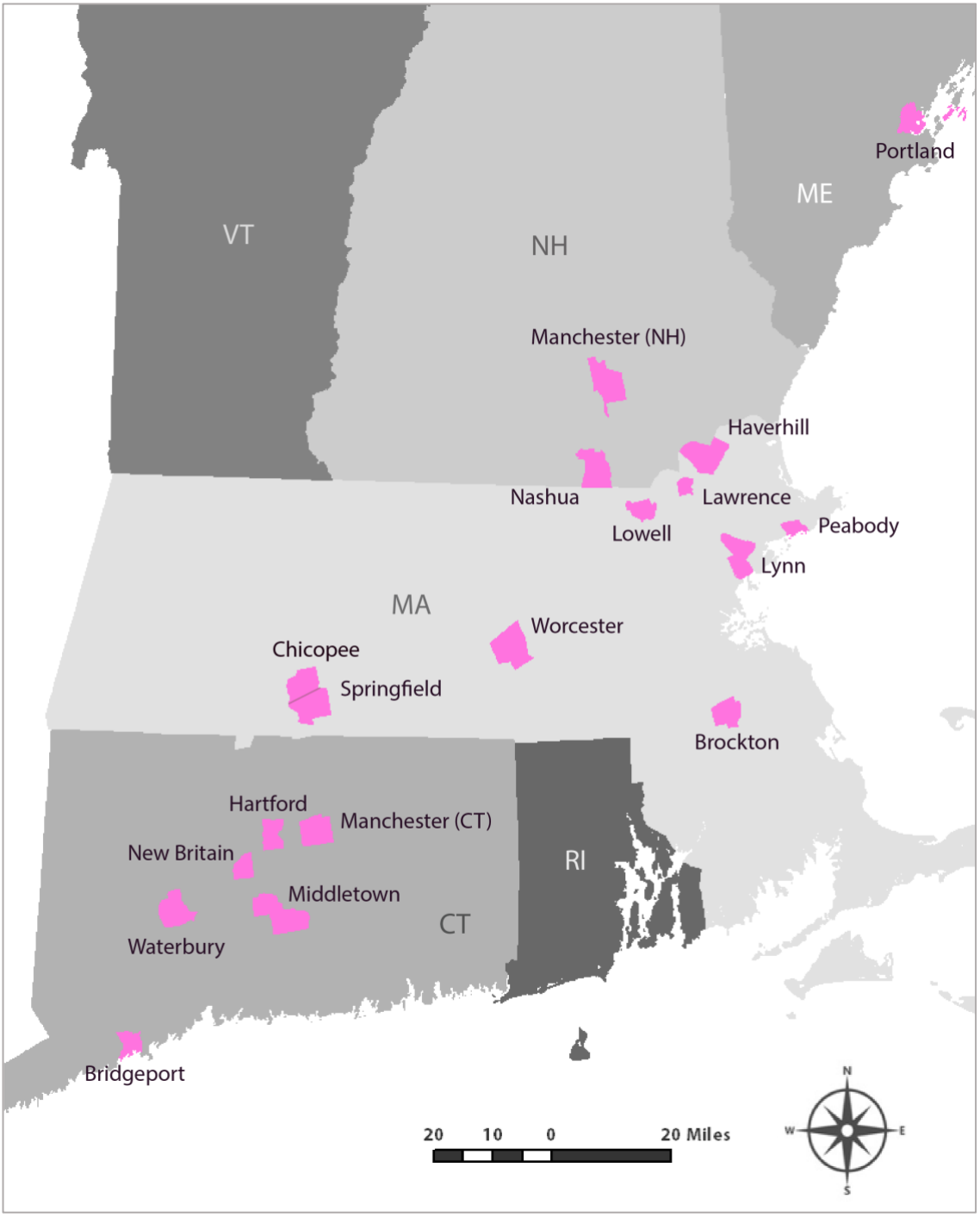
METHODOLOGY

This research will be conducted using primarily quantitative methods. First, a total of eighteen mid-sized, post-industrial cities in New England were chosen as the research sample using the following criteria: each has a population between 45,000 and 200,000 residents, a significant industrial history marked by a period of rapid population growth and one of decline, and exclusive zip codes that do not significantly overlap with adjacent cities or towns (see Table 1). Cities in Vermont and Rhode Island that would otherwise fit this criteria were not included in this study because their zip codes are not exclusive to municipal jurisdictions. The units of analysis for this research are individual zip codes within the chosen eighteen cities.

Table 1: List of Cities Included in Research

Bridgeport, Connecticut	Lowell, Massachusetts	New Britain, Connecticut
Brockton, Massachusetts	Lynn, Massachusetts	Peabody, Massachusetts
Chicopee, Massachusetts	Manchester, New Hampshire	Portland, Maine
Hartford, Connecticut	Manchester, Connecticut	Springfield, Massachusetts
Haverhill, Massachusetts	Middletown, Connecticut	Waterbury, Connecticut
Lawrence, Massachusetts	Nashua, New Hampshire	Worcester, Massachusetts

Figure 1: Map of Cities Included in Research



Source: MassGIS.

Second, I chose independent and dependent variables to examine over two time periods to assess how changes to the food business environment correlate to changes to a neighborhood's demographic characteristics (see Tables 3a and 3b). I extracted demographic data from the American Community Survey, and the food business data from the U.S. Census Bureau Zip Business Pattern series.

I chose eight demographic characteristics as my independent variables (see Table 3a), collected for the years of 2012 and 2016. These variables include: median household income, percent of population who are 25 to 34 years old, percent of population with a bachelor's degree or higher, percent white, black, Asian, Hispanic or Latino of any race, and other race or ethnicity, percent employed in Creative Class professions, percent employed in Creative Core 1 occupations, percent employed in Creative Core 2 occupations, and percent employed in Creative Core 3 occupations.

The occupation types chosen for the creative class profession types were borrowed from Bereitschaft & Cammack's (2015) study, which translated Florida's Bureau of Labor Statistics-based categorization of creative class and creative core occupations into comparable data from the U.S. Census Bureau's American Community Survey (ACS). Using this classification, Creative Class occupations are represented by the 'management, business science and arts occupations' major occupational group, the Creative Core 1 by the 'computer, engineering, and science occupations' sub-group, Creative Core 2 by the 'education, training and library occupations' sub-group, and Creative Core 3 by the 'arts, design, entertainment, sports, and media occupations' sub-group.

Table 2: Demographic Variable Definitions and Sources

Variable	Definition	Source
Population characteristics		
% 25 to 34 years old	% of population between the ages of 25 and 34 years old	American Community Survey 2008-2012, 2012-2016
Median Household Income	Median household income	
% Bachelor's Degree or Higher	% of population with at least a Bachelor's degree	
% in Poverty	% of population below poverty line	
% Hispanic	% of population Hispanic or Latino of any race	
% White	% of population white (non-Hispanic)	
% Black	% of population black (non-Hispanic)	
% Asian	% of population Asian (non-Hispanic)	
% Other Race	% of population of another race or ethnicity	
% Creative Class	% of workers employed in 'management, business, science and arts' occupations	
% Creative Core 1	% of workers employed in 'computer, engineering and science' occupations	
% Creative Core 2	% of workers employed in 'education, training and library' occupations	
% Creative Core 3	% of workers employed in Arts, design, entertainment, sports, and media occupations	

Table 3: Food Business Variable Definitions and Sources

Variable	Definition	Source
Food business metrics		
# of Supermarkets Per Capita	# of supermarkets or grocery stores (not convenience stores) in ZIP divided by population	Zip Code Business Patterns 2012, 2016
# of Specialty Food Stores Per Capita	# of specialty food stores in ZIP divided by population	
# of Bars Per Capita	# of establishments in ZIP divided by population	
# of Restaurants Per Capita	# of establishments in ZIP divided by population	

Additionally, I chose four food business types for this study: supermarkets, specialty food stores, bars, and restaurants. A full description of the food service and retail subsectors chosen to represent these categories is included in Table 3. The density of these food businesses was measured on a per capita basis by dividing the number of a type of food business in a zip code by the zip code's total population.

Table 4: Food Service and Retail Subsectors

NAICS code	Industry sub-sector	Variable
7224	Drinking Places (alcoholic beverages)	Bars
7225	Restaurants and other eating places	Restaurants
722511	Full service restaurants	
722513	Limited-service restaurants	
722513	Cafeterias, grill buffets, and buffets	
722514	Snack and nonalcoholic beverage bars	
4551	Supermarkets & other grocery (except convenience) stores	Supermarkets
4552	Specialty Food Stores	Specialty Food Stores
44521	Meat markets	
44522	Fish and seafood markets	
44523	Fruit and vegetable markets	
445291	Baked good stores	
445292	Confectionery and nut stores	
445299	All other specialty food stores	

Source: NAICS

Finally, I ran two regressions to analyze the demographic and food business data. The first analysis involved a regression between the demographic characteristics and the number of food businesses per capita in 2016. This analysis reveals the associations that exist between each type of food business and the demographic characteristics in one given year. In a second analysis, I ran regressions to analyze the changes in both the demographic characteristics and food business densities from 2012 to 2016. By analyzing changes in the independent variables (demographic characteristics) in as they relate to changes in the dependent variables (densities of food-based businesses) from 2012 to 2016, I will assess how changes to food-based business composition may be influencing the location decisions of future residents. In this way, I investigated how changes to the

food business landscape are related to the demographic composition in neighborhoods throughout post-industrial cities in New England in 2016 and from 2012 to 2016.

CHAPTER 5

RESULTS

This chapter summarizes the primary findings from two statistical models. The first explores the density of food-based businesses using data from the American Community Survey 2012-2016 5-year Estimates as it relates to a selected set of demographic characteristics from the same period. For the sake of brevity, this will be referred to as the "2016 analysis;" however, is important to note that the data actually represents an average of the estimates for the years spanning 2012 to 2016. Because it focuses on a single time period, this portion of the analysis investigates the static relationships between the types of people and the types of food businesses that exist in a neighborhood (see Table 4).

The second analysis involves a regression between the rates of change in the densities of food businesses and the demographics of a neighborhood from 2008-2012 to 2012-2016, as regressed against contemporaneous neighborhood character (see Table 5). Like the first analysis, the second analysis will be abbreviated as the "2012 to 2016 analysis," though it actually examines the correlations between changes in the 2008-2012 averages and the 2012-2016 averages. In doing so, the second analysis examines the dynamics that exist between the changes in the social environment and food business environment over time from 2012 to 2016 (see Table 5). In sum, the first analysis will provide insight into neighborhood demographic characteristics as they relate to the food business environment, and the second analysis will provide insight into how these relationships are changing over time.

Correlations Between Demographic Characteristics
and Number of Food Establishments Per Capita: 2016

There are four different outcome measures, each reflecting a different type of food-based business. While all related to food, each type behaves very differently when regressed against the different demographic variables.

Specialty food stores positively correlated with the share of households in poverty, and negatively correlated with median household income. This suggests that specialty food stores sell food items that cater to customers with lower incomes, rather than high end specialty foods.

Table 5: Pairwise Correlations Between Demographic Characteristics and Number of Food Establishments per Capita: 2016

Variables		# of Supermarkets Per Capita	# of Specialty Food Stores Per Capita	# of Bars Per Capita	# of Restaurants Per Capita
% 25 to 34 Years Old	Correlation Coefficient	-9.5E-06***	3.8E-04***	8.3E-05***	6.8E-04***
	p-value	-0.0000003	0.0001000	0.0000005	0.0000009
Median Household Income	Correlation Coefficient	-1.3E-08***	-2.3E-09***	-8.4E-09*	-1.6E-08
	p-value	0.001	0.009	0.070	0.685
% Bachelor's Degree or Higher	Correlation Coefficient	-7.5E-06	-7.9E-07	1.5E-05**	1.9E-04***
	p-value	0.172	0.528	0.020	0.002
% in Poverty	Correlation Coefficient	1.4E-05**	3.6E-06***	1.9E-05***	5.4E-05
	p-value	0.010	0.005	0.004	0.344
% Hispanic	Correlation Coefficient	7.7E-04**	2.3E-05	3.2E-04	-1.9E-03
	p-value	0.020	0.768	0.416	0.564

% White	Correlation Coefficient	-6.3E-04**	5.1E-07	-1.3E-04	2.0E-03
	p-value	0.020	0.993	0.684	0.456
% Black	Correlation Coefficient	5.1E-04	8.0E-06	-3.4E-04	-4.6E-03
	p-value	0.319	0.945	0.571	0.359
% Asian	Correlation Coefficient	-1.1E-03	-2.7E-04	7.5E-04	1.6E-02
	p-value	0.369	0.330	0.606	0.186
% Other Race	Correlation Coefficient	2.3E-03	-1.2E-03	-6.2E-03	-4.7E-02
	p-value	0.614	0.252	0.247	0.291
% Creative Class	Correlation Coefficient	-1.2E-03*	-1.5E-04	2.0E-03***	2.1E-02***
	p-value	0.050	0.302	0.005	0.0003
% Creative Core 1	Correlation Coefficient	-3.0E-03	-2.4E-04	5.7E-03**	6.5E-02***
	p-value	0.144	0.612	0.020	0.001
% Creative Core 2	Correlation Coefficient	-9.8E-03***	-9.4E-04	-1.8E-03	-5.7E-02**
	p-value	0.000	0.139	0.592	0.040
% Creative Core 3	Correlation Coefficient	-8.7E-03	1.1E-03	1.1E-02	8.8E-02
	p-value	0.229	0.491	0.192	0.213

Source: American Community Survey, 2012-2016; Zip Business Patterns 2012, 2016.

*p<.10, **p<.05, ***p<.001

Supermarkets were the only food business type that was found to have a statistically significant relationship with race, positively correlating to the share of Hispanic or Latino households and negatively to the share of white households. Supermarket density also negatively correlated with median household income, the share

of residents employed in Creative Core 2 occupations. The number of supermarkets per capita also positively correlated with the percent of households in poverty.

Bars were highly and positively correlated with the share of residents between the ages of 25 and 34. This was the most highly correlated relationship found in this entire study ($p<.01$). Bar density was also highly correlated with the percent of households in poverty, the percent of residents employed in Creative Class or Creative Core 1 occupations, and the share of residents with a bachelor's degree or higher. This suggests that younger individuals, highly educated individuals, and individuals living below the poverty line live in areas with greater densities of drinking establishments throughout New England's mid-sized post-industrial cities.

Restaurants were the food business with the greatest number (4) of highly correlated demographic characteristics ($p<.01$). Restaurant density was highly and positively correlated was most significantly related to the share of residents between the ages of 25 and 34 ($p<.01$), which was the second most highly correlated relationship found in this study, after bars and age. Restaurant density was also highly correlated ($p<.001$) with education, share of residents employed in general Creative Class occupations and Creative Core 1 occupations. Interestingly, restaurant density was moderately negatively related to the share of residents employed in Creative Class 2 professions.

In terms of demographic characteristics, age was found to be the strongest predictor of food businesses in 2016, having a highly statistically significant relationship ($p<.01$) with all four food business variables (see Table 4). The most statistically

significant among these variables was the share of residents between the ages of 25 and 34 and bar and restaurant densities.

Regarding occupational relationships with food business density, concentrations of residents who work in Creative Class occupations and Creative Core 1 occupations are most strongly and positively correlated with two food businesses (bars, restaurants). However, Creative Core 2 professionals were moderately negatively correlated with two food business types (restaurants, supermarkets). Creative Core 3 professionals did not have a statistically significant relationship with any food business category.

Race was a less strong predictor of food business density, with the exception of supermarkets; neighborhoods with higher shares of Hispanic or Latino residents were positively correlated with supermarket density, while the shares of white residents were negatively related to supermarket density. The shares of black, Asian, and other racial and ethnic groups did not have statistically significant relationships with the densities of any food businesses.

Regarding income, the share of households in poverty were positively correlated to three types of food businesses: bars, specialty food stores, and supermarkets. Furthermore, median household income was only found to have statistically significant relationships with two types of food businesses, both negative: supermarkets and specialty food stores.

Overall, age, education and occupation were found to be more highly and positively correlated with food amenities. Race was correlated with food business density in fewer instances, only having a relationship with supermarket density. Income was found to predict locations of supermarket, specialty food stores, and bars.

Correlations Between Changes in Demographic Characteristics and Number of Food Establishments Per Capita: 2012-2016

Examining the relationships between the rates of change between demographic characteristics and the food business environment over time provides insight into how changes to the densities of certain food businesses may be indicative of wider neighborhood demographic change.

Table 6: Pairwise Correlations Between Changes in Demographic Characteristics and Number of Food Establishments per Capita: 2012-2016

Variables		Change in # of Supermarkets Per Capita	Change in # of Specialty Food Stores Per Capita	Change in # of Bars Per Capita	Change in # of Restaurants Per Capita
Change in % of Residents 25 to 34 Years Old	Correlation Coefficient	-4.3E-04*	3.8E-04**	2.9E-04	-2.2E-03**
	p-value	0.090	0.001	0.559	0.060
Change in Median Household Income	Correlation Coefficient	-1.1E-04	1.2E-04	4.9E-04	-5.3E-04
	p-value	0.759	0.491	0.504	0.753
Change in % Bachelor's Degree or Higher	Correlation Coefficient	-2.0E-06	4.8E-06	5.8E-07	-2.1E-06
	p-value	0.454	0.710	0.912	0.860
Change in % in Poverty	Correlation Coefficient	1.0E-03***	-3.3E-04*	1.6E-03**	4.3E-03***
	p-value	0.003	0.050	0.020	0.006
Change in % Hispanic	Correlation Coefficient	2.1E-04	1.3E-04	5.5E-04*	3.7E-04

	p-value	0.195	0.105	0.090	0.618
Change in % White	Correlation Coefficient	-6.9E-05	-3.1E-03**	-3.5E-05	1.5E-03
	p-value	0.814	0.025	0.952	0.261
Change in % Black	Correlation Coefficient	-5.2E-05	4.5E-06	-1.9E-05	-1.1E-04
	p-value	0.123	0.783	0.773	0.476
Change in % Asian	Correlation Coefficient	-3.0E-13	1.0E-13	3.7E-13	-2.0E-12
	p-value	0.635	0.733	0.766	0.491
Change in % Other Race	Correlation Coefficient	-5.6E-06	1.0E-04	3.6E-05	-7.5E-05
	p-value	0.809	0.371	0.424	0.478
Change in % Creative Class	Correlation Coefficient	-6.9E-04***	8.2E-05	-4.4E-05	-1.5E-03*
	p-value	0.0001	0.358	0.905	0.080
Change in % Creative Core 1	Correlation Coefficient	-1.3E-04*	-4.2E-05	-1.8E-04	-2.5E-06
	p-value	0.080	0.222	0.218	0.994
Change in % Creative Core 2	Correlation Coefficient	-1.4E-13	-2.5E-13***	-3.5E-13	-1.5E-13
	p-value	0.397	0.002	0.295	0.851
Change in % Creative Core 3	Correlation Coefficient	-5.9E-15	-9.2E-15	9.5E-14	-2.6E-13
	p-value	0.948	0.834	0.594	0.530

Source: American Community Survey 2008-2012, 2012-2016; Zip Business Patterns 2012, 2016.

*p<.10, **p<.05, ***p<.001

The demographic variable that had the most statistically significant relationships with food businesses was percent in poverty. Percent in poverty was found to be statistically significant with all four food business categories. Specifically, percent in poverty was very strongly (p<.01) and positively correlated with both the change in the number of supermarkets per capita. Percent in poverty was moderately (p<.05) and

positively correlated with the change in the number of bars per capita, and slightly ($p<.1$) negatively correlated to the number of specialty food stores per capita. This indicates that over time, the percent change in the share of residents in poverty is a strong predictor of all four food business categories. One would be more likely to find a greater number of supermarkets, bars and restaurants, and fewer specialty food stores, in zip codes that have experienced an increase in the share of population below the poverty line from 2012 to 2016.

These findings are not totally surprising given that poverty was found to be statistically significant in 2016 for three of the four food business variables (specialty food stores, bars, and supermarkets). However, in the 2016 analysis, four total demographic variables (% in poverty, % ages 25-34, % Creative Class, and median household income) were found to be statistically significant with at least three food business variables, whereas in the second analysis, only two demographic variables - percent in poverty and % ages 25 to 34 - were found to be statistically significant with at least three food business categories.

The share of residents between the ages of 25 and 34 was found to have statistically significant relationships with three food business variables: specialty food stores, supermarkets and restaurants. Specifically, the share of residents between 25 and 34 was found to have a moderately significant ($p<.05$) and positive relationship with the number of specialty food stores per capita, a moderately significant ($p<.05$) and negative relationship with the number of restaurants per capita, and a slightly significant ($p<.1$) and negative relationship with the number of supermarkets per capita. This indicates that over time, the percent change in the share of residents between the ages of 25 and 34 is a

good predictor of three food business variables. One would be more likely to find fewer restaurants and supermarkets, and a greater number of specialty food stores in zip codes that have experienced an increase in the share of the population between the ages of 25 and 34 from 2012 to 2016.

Additionally, the percent change in the share of residents working in Creative Class professions was found to have a strong significant ($p<.01$) and negative relationship with the number of supermarkets per capita, and a slightly significant ($p<.1$) and negative relationship with the number of restaurants per capita. This indicates that one would be more likely to find fewer supermarkets and restaurants in zip codes that have experienced an increase in the share of the population working in Creative Class professions from 2012 to 2016.

Four demographic characteristics had a single statistically significant relationship from 2012 to 2016: percent change in % Hispanic, percent change in % white, percent change in % Creative Core 1, and percent change in % Creative Core 2. The percent change in the share of residents who are Hispanic was found to have a slightly significant ($p<.1$) and positive relationship with the change in the number of bars per capita. The percent change in the share of residents who are white was found to have a moderately significant ($p<.05$) and negative relationship with the change in the number of specialty food stores per capita. The percent change in the share of residents working in a Creative Core 1 professions was found to have a slightly significant ($p<.1$) and negative relationship with the change in the number of supermarkets per capita. Finally, the percent change in the share of residents working in Creative Core 2 professions was found to have a strong ($p<.01$) and negative relationship with the change in the number of

specialty food stores per capita. These findings indicate that one would be more likely to find a greater number of bars per capita in zip codes that have experienced an increase in the share of Hispanic residents, fewer supermarkets per capita in zip codes that have experienced an increase in the share of Creative Core 1 professionals, and fewer supermarkets per capita in zip codes that have experienced an increase in the share of white residents or Creative Core 2 professionals.

Overall, fewer statistically significant relationships were found in the second analysis examining changes over time from 2012 to 2016, compared to the first analysis of spatial relationships during the 2012-2016 period. For example, median household income was found to be a strong ($p<.01$) negative predictor of supermarkets and specialty food stores, and a slightly negative predictor of bars per capita, in the 2012 to 2016 period. However, the change in median household income was found to have no statistically significant relationships with changes in the number of the four food businesses per capita in the second analysis. This indicates that ZIP codes with higher income levels tend to have fewer supermarkets, specialty food stores, and bars per capita; however, changes in the median household income are not a strong predictor of changes in the number of supermarkets, specialty food stores, and bars per capita.

The share of residents with a bachelor's degree or higher was found to have two statistically significant relationships in the first analysis examining spatial relationships in 2012 to 2016, and no statistically significant relationships in the second analysis that examined changes from 2012 to 2016. The share of residents with a bachelor's degree or higher was found to have a strong ($p<.01$) and positive relationship with the number of restaurants per capita, and a moderately ($p<.05$) significant and positive relationship with

the number of bars per capita. However, the change in share of residents with a bachelor's degree or higher was found to have no statistically significant changes in the number of four food businesses per capita in the second analysis. This indicates that ZIP codes with higher shares of residents with a bachelor's degree or higher tend to have more restaurants and bars per capita. However, changes in the share of residents with a bachelor's degree or higher are not a strong predictor of changes in the number of restaurants and bars per capita.

Occupation variables - percent employed in Creative Class professions, Creative Core 1 professions, and Creative Core 2 professions – were found to have differing relationships with food business variables in the second analysis of changes over time compared to the first analysis. In the first analysis, the share of residents employed in a Creative Class profession was found to have a strong ($p<.01$) and positive relationship with the number of restaurants per capita, and a moderately significant ($p<.05$) and positive relationship with the number of bars per capita. However, in the second analysis, the share of residents employed in Creative Class professions were found to have negative relationships with both the number of supermarkets per capita ($p<.01$) and the number of restaurants per capita ($p<.1$). This indicates that, like % bachelor's degree or higher, ZIP codes with higher shares of residents employed in Creative Class professions tend to have more restaurants and bars per capita. Conversely, changes in the share of residents employed in Creative Class professions are actually a negative predictor of changes in the number of restaurants and supermarkets per capita over time.

In the first analysis, the share of residents employed in Creative Core 1 professions was found to be highly ($p<.01$) positively correlated with the number of

restaurants per capita, and moderately ($p<.05$) positively correlated with the number of bars per capita in the 2012-2016 period. However, in the 2012 to 2016 period, the percent change in the share of residents employed in Creative Core 1 professions was only found to have a slightly ($p<.1$) negative relationship with the change in the number of specialty food stores per capita. This indicates that ZIP codes with higher shares of residents employed in Creative Core 1 professions tend to have more bars and restaurants per capita, but that changes in the share of residents employed in these professions are a slightly negative predictor of specialty food stores per capita over time.

Finally, the share of residents employed in creative core 2 professions was found to be highly ($p<.1$) negatively correlated with the number of supermarkets per capita and moderately ($p<.05$) negatively correlated with the number of restaurants per capita. However, in the second analysis, neither of these food business variables was found to have a statistically relationship with percent employed in Creative Core 2 professions in the second analysis; instead, the percent change in the share of residents employed in Creative Core 2 professions had a strong ($p<.01$) negative relationship with the change in the number of specialty food stores per capita. This indicates that ZIP codes with higher shares of residents employed in Creative Core 2 professions tend to have fewer supermarkets and restaurants per capita. However, changes in the share of residents employed in Creative Core 2 professions are a negative predictor of specialty food stores per capita over time.

CHAPTER 6

DISCUSSION

Overall, the findings point to discrepancies between the densities of food businesses with current demographics and demographic trends over time. For example, the 2016 correlations suggest that younger, more highly-educated residents working in Creative class and Creative Core fields, as well as those living below the poverty line, tend to live in areas with greater densities of certain food amenities. However, examining the relationships between food businesses and demographic characteristics over time from 2012 to 2016 reveals that many of the same demographic variables – such as the percent of residents employed in Creative Class, Creative Core 1, and Creative Core 2 occupations – actually have a negative relationship with several food business categories. So, though zip codes with higher shares of residents working in these occupations tend to have greater densities of certain food amenities, this relationship is often negative over time.

These findings suggest that scholars like Sands & Reese (2008) and Lewis & Donald (2010) may be correct in their speculation that the creative class thesis may not be as applicable outside of major metropolitan centers. The findings also suggest that the residential location choices of creative class workers in these regions may be more influenced by more "classical" location factors such as the quality and affordability of housing, proximity to jobs, and transportation access, rather than proximity to amenities like food businesses.

Perhaps the most striking finding was that the percent of residents living below the poverty line was consistently found to have a significant and positive relationship

with the density of food businesses (with all four food businesses in the 2016 analysis, and with three out of four food businesses in the 2012-2016 analysis). Therefore, the findings strongly suggest the colocation of residents who live below the poverty line with food amenities. Additionally, the density of food businesses had a significant and negative relationship with median household income in the 2016 analysis.

This inverse relationship between income and food amenities could be due to the land use patterns in post-industrial cities. Neighborhoods with higher income households in these cities are largely zoned for residential uses only, while the dense, mixed-use downtowns found in New England's post-industrial cities – which have higher shares of multifamily and low-income housing – permit businesses such as restaurants, bars and specialty food stores. Therefore, an increase in the number of food businesses per capita is more likely to occur in downtown neighborhoods than in more suburban residential neighborhoods. This finding adds nuance to the literature, which has pointed to links between higher income households and certain food amenities such as restaurants in larger cities (Meltzer, 2010; Martin, 2014).

Race was found to be a less significant factor across both analyses, which is consistent with previous findings that have found racial composition to be minimally related to changes to the food business environment (Glaeser et al., 2018). Perhaps surprisingly, race correlated with supermarkets. Specifically, supermarket density was found to be positively correlated with the share of Hispanic residents in 2016, and negatively correlated with the share of white residents in 2016. Median household income was also found to negatively correlate with supermarket density. This counters the "food desert" narrative that often characterizes higher-income white neighborhoods as

having greater access to fresh food and produce compared to neighborhoods with higher shares of minority households. This may be because white households with higher income levels are choosing to live in more suburban neighborhoods within post-industrial cities, that do not possess large commercial plazas that are zoned to allow larger supermarkets and grocery stores.

Additional research should be conducted to investigate these relationships further. First, it would be helpful to replicate this study using a sample study of large metropolitan centers (such as New York, San Francisco, Boston, and Seattle) so that the findings from this study can be directly compared to findings in cities with large populations of creative class workers. It would also be beneficial to add housing-related variables to this study to investigate how the food business environment is related to changes to the housing environment (such as increases/decreases in rents/home values). Finally, future studies should utilize more granular data – like the Yelp data used in Glaeser et al.'s 2018 study - to better understand how changes to the food business environment in a neighborhood relate to demographic changes. This would further clarify the types of businesses (fast food restaurants, high-end restaurants, coffee shops) that are related to changes in certain population characteristics.

CHAPTER 7

CONCLUSION

This paper generates new knowledge on the relationship between food-based businesses and demographics in the understudied context of New England's mid-sized post-industrial cities. It highlights how these spatial relationships are distinct from those found - and more commonly studied - within major metropolitan areas like New York City and Chicago. Though various types of creative class workers tend to live in neighborhoods with greater densities of food amenities, a negative relationship exists between concentrations of these creative class workers and the densities of food businesses over time. Additionally, poverty is closely and positively linked to the current distribution of and growth in food business densities, reflecting the concentration of poverty in New England's regional urban core neighborhoods.

By studying these phenomena in mid-sized regional urban areas like those found throughout New England, planners and policymakers working for these regions and in other similar regions across the country may better understand how efforts to increase the quantity and variety of food-related businesses as an economic development strategy may affect their cities. Without this knowledge, cities may apply policies based on findings from research conducted in major metropolitan centers like New York City and Chicago and implement food-based policies hoping for a certain social and economic outcomes, despite having completely different demographic and economic environments. Expanding this research to a mid-sized post-industrial context fills gaps in the literature

by revealing how food business densities are related to the demographic composition of New England's urban neighborhoods.

APPENDIX

SUMMARY STATISTICS

Table 7: Summary Statistics of All Variables

Variable	Year	Mean	Std. Dev.	Min	Max	n
Percent 25 to 34 Years Old	2012	15.6%	4.4%	9.5%	43.0%	74
	2016	16.2%	4.6%	8.1%	42.2%	74
Median Household Income	2012	45,715	17,251	11,156	86,625	74
	2016	46,732	17,394	11,755	87,996	74
Percent Bachelor's Degree or Higher	2012	16.2%	11.7%	1.0%	83.6%	74
	2016	24.1%	12.7%	3.8%	79.8%	74
Percent in Poverty	2012	21.7%	11.5%	2.0%	55.5%	74
	2016	22.4%	12.0%	2.2%	55.6%	74
Percent Hispanic	2012	27.1%	20.3%	2.7%	83.6%	74
	2016	29.1%	20.7%	2.2%	86.6%	74
Percent White	2012	51.3%	25.4%	3.9%	88.3%	74
	2016	48.1%	25.1%	1.9%	89.8%	74
Percent Black	2012	14.5%	14.3%	0.3%	75.1%	74
	2016	15.1%	13.7%	1.0%	76.6%	74
Percent Asian	2012	4.3%	5.0%	0.0%	36.6%	74
	2016	4.8%	5.7%	0.1%	36.6%	74
Percent Other Race	2012	2.8%	1.8%	0.5%	11.0%	74
	2016	2.8%	1.5%	0.5%	10.3%	74
Percent Creative Class	2012	30.9%	11.1%	11.0%	79.1%	74
	2016	31.1%	11.3%	12.0%	83.5%	74
Percent Creative Core 1	2012	4.5%	3.2%	0.6%	20.0%	74
	2016	4.9%	3.4%	0.0%	20.0%	74
Percent Creative Core 2	2012	5.7%	2.1%	0.0%	11.9%	74
	2016	5.5%	2.5%	0.0%	16.8%	74
Percent Creative Core 3	2012	1.3%	0.9%	0.0%	5.1%	74
	2016	1.4%	0.9%	0.0%	4.1%	74
	2012	3.55E-04	3.95E-04	0.00E+00	2.79E-03	74

# of Supermarkets Per Capita	2016	3.91E-04	5.93E-04	0.00E+00	4.89E-03	74
# of Specialty Food Stores Per Capita	2012	1.18E-04	2.31E-04	0.00E+00	1.46E-03	74
	2016	7.93E-05	1.34E-04	0.00E+00	9.81E-04	74
# of Bars Per Capita	2012	4.53E-04	1.23E-03	0.00E+00	7.55E-03	74
	2016	3.08E-04	6.94E-04	0.00E+00	4.12E-03	74
# of Restaurants Per Capita	2012	3.02E-03	5.76E-03	9.64E-05	4.23E-02	74
	2016	3.14E-03	5.79E-03	2.85E-04	3.83E-02	74
Source: American Community Survey 2008-2012, 2012-2016; Zip Business Patterns 2012, 2016.						

WORKS CITED

About the Canalway Cultural District. (n.d.). Retrieved from http://www.likelowell.com/canalways-cultural-district.

Awesome things. (n.d.). Retrieved from https://hartford.com/awesome/

Barton, C., Koslow, L., Fromm, J., & Egan, C. (2012). Millennial passions: Food, fashion, and friends. Boston Consulting Group. www.bcg.com/documents/file121010.pdf.

Bereitschaft, B., & Cammack, R. (2012). Neighborhood diversity and the creative class in Chicago. Applied Geography, 63, 166-183.

Brown, J., & Męczyński, M. (2009). 'Complexcities': Locational Choices of Creative Knowledge Workers. *Built Environment (1978-), 35*(2), 238-252. Retrieved from http://www.jstor.org/stable/23289838

Business Improvement Districts. (n.d.). Retrieved from https://www.mass.gov/service-details/business-improvement-districts-bid

Chicopee. (n.d.) Retrieved from https://www.massdevelopment.com/what-we-offer/key-initiatives/tdi/tdi-districts/chicopee

City of Brockton, Massachusetts. (2011). *Downtown Action Strategy*. Stantec Urban Places Group; A.G. Jennings, LLC.

City of Haverhill, Massachusetts. (2007). *Market Analysis and Strategic Action Plan for Downtown Haverhill.* Gruen, Gruen & Associates.

City of Waterbury, Connecticut. 2015. *Downtown Strategic Plan*. Sasaki Associates.

Clark, T. N., Lloyd, R., Wong, K. K., & Jain, P. (2002). Amenities Drive Urban Growth. *Journal of Urban Affairs*, 24(5), 493–515. https://doi.org/10.1111/1467-9906.00134

Clark, T. N. (2003). 3. Urban amenities: Lakes, opera, and juice Bars: Do they drive development? *Research in Urban Policy,* 103-140. doi:10.1016/s1479-3520(03)09003-2

Clifton, N., & Cooke, P. (2007). The ‘creative class’ in the UK. *Regions Magazine*, 266(1), 10-11.

Dooling, S. (2019). Report: Immigrants Play Crucial Role In Lowell's Economy And Workforce. *WBUR*. Retrieved from

https://www.wbur.org/bostonomix/2019/07/10/immigrants-lowell-new-american-economy

Dining. (n.d.). Retrieved from https://springfielddowntown.com/places/eat/

Downtown Dining District Fund. (n.d.). Retrieved from https://www.springfield-ma.gov/planning/index.php?id=583

Downtown Venture Fund. (n.d.) Retrieved from http://www.ldfc.org/down-town-venture-fund

Economic & Business Development. (n.d.). Retrieved from https://www.cityoflawrence.com/333/Economic-Business-Development

Glaeser, E. L., Kolko, J., & Saiz, A. (2001). Consumer city. *Journal of Economic Geography*, 1(1), 27-50. doi:10.1093/jeg/1.1.27

Glaeser, E. (2004). Review of Richard Florida's the rise of the creative class. *Regional Science and Urban Economics*, 593–596.

Glaeser, E. L., Kim, H., & Luca, M. (2018). Nowcasting Gentrification: Using Yelp Data to Quantify Neighborhood Change. *SSRN Electronic Journal*. doi:10.2139/ssrn.3123733

Economic Development Tool Box. (n.d.) Retrieved from http://www.newbritainct.gov/services/economic_development/economic_development_tool_box.htm

Florida, R. (2002). *Rise of the Creative Class*. S.l.: Basic Books.

Frenkel, A., Bendit, E., & Kaplan, S. (2013). Residential location choice of knowledge-workers: The role of amenities, workplace and lifestyle. *Cities*, 35, 33-41. doi:10.1016/j.cities.2013.06.005

Jackson, K. (1985). *Crabgrass Frontier: The Suburbanization of the United States.* New York: Oxford University Press.

Koistinen, D. (2013). *Confronting Decline: The Political Economy of Deindustrialization in Twentieth-Century New England*. University Press of Florida.

Kostopoulos, N. (2014). Worcester will consider establishing cultural district. Telegram. Retrieved from https://www.telegram.com/article/20141130/NEWS/311309766

Laroque, M. (2016). Downtown Brockton restaurant incubator plan gets grant. The

Enterprise. Retrieved from https://www.enterprisenews.com/article/20160120/NEWS/160129380

Lawton, P., Murphy, E., & Redmond, D. (2013). Residential preferences of the 'creative class'? *Cities*, 31, 47–56. https://doi.org/10.1016/j.cities.2012.04.002

Maheshwari, S. (2012). The rise of the retailer-restaurant. *Bloomberg*. www.bloomberg.com/news/articles/2012-12-06/ the-rise-of-the-retailer restaurant. Malanga, S. (2004). The curse of the creative class. *City Journal*, 14 (1).

Maliszewski, P (2004) Flexibility and its discontents. *The Baffler* 16, 69–79.

Marcuss, M. & Borgos, R. (2004). Who are New England's immigrants? *Communities and Banking, Federal Reserve Bank of Boston*. 10-21.

Markusen, A., Chapple, K., Schrock, G., Yamamoto, D., & Yu, P. (2001). High-tech and I-tech: How metros rank and specialize. Project on Regional and Industrial Economics, Humphrey Institute of Public Affairs, University of Minnesota.

Martin, N. (2014). Food fight! Immigrant street vendors, gourmet food trucks and the differential valuation of creative producers in chicago. *International Journal of Urban and Regional Research*, 38(5), 1867-1883. doi:10.1111/1468-2427.12169

Mathews, Z. (2018). Restaurant association aims to boost Lawrence food scene. *The Eagle Tribune. Retrieved from:* https://www.eagletribune.com/news/merrimack_valley/restaurant-association-aims-to-boost-lawrence-food-scene/article_4c62f73a-5002-556b-b7f6-32a87e006b16.html

Mathur, V. K. (1999). Human Capital-Based Strategy for Regional Economic Development. *Economic Development Quarterly*, 13(3), 203-216. doi:10.1177/089124249901300301

Meltzer, R., & Schuetz, J. (2010). Bodegas or Bagel Shops? Neighborhood Differences in Retail & Household Services. *SSRN Electronic Journal*. doi:10.2139/ssrn.1698927

Moos, M. (2016). From gentrification to youthification? The increasing importance of young age in delineating high-density living. *Urban Studies*, *53*(14), 2903–2920. doi: 10.1177/0042098015603292

Moretti, E. (2012). The new geography of jobs. Boston, MA: Mariner Books/Houghton Mifflin Harcourt.

National Restaurant Association. (2016). Restaurant job growth to outpace economy in

2016. Retrieved from www.restaurant.org/News-Research/ News/Restaurant-job growth-to-outpace-economy-in-2016.

Oort, F. V., Weterings, A., & Verlinde, H. (2003). Residential amenities of knowledge workers and the location of ICT-FIrms in the Netherlands. *Tijdschrift Voor Economische En Sociale Geografie*, 94(4), 516-523. doi:10.1111/1467-9663.00278

Peck, J. (2005). Struggling with the creative class. *International Journal of Urban and Regional Research*, 29(4), 740-70.

Project for Public Spaces. n.d. "Measuring the Impact of Public Markets and Farmers Markets on Local Economies." www.pps.org/ reference/measuring-the-impact-of-public-markets-andfarmers-markets-on-local-economies/.

PwC. 2015. "2015 Holiday Outlook: Millennials Matter; Experience Is Essential." www.pwc.com/us/en/retail-consumer/assets/pwc-2016- holiday-report.pdf.

Reese, S. & Sands, G. (2008). Creative class and economic prosperity: Old nostrums, better packaging? Economic Development Quarterly, 22(1), 3-7.

Rooney, K. (2019). Online shopping overtakes a major part of retail for the first time ever. CBNC. Retrieved from https://www.cnbc.com/2019/04/02/online-shopping-officially-overtakes-brick-and-mortar-retail-for-the-first-time-ever.html

Saxon, B. (1988). Fall river and the decline of the New England textile industry, 1949-1954. Historical Journal of Massachusetts, 16(1).

Shopping & Dining. (n.d.) Retrieved from https://www.yourmanchesternh.com/Live-Here/Shopping-and-Dining

Sullivan, M. (2018). New restaurant options make Worcester one of hottest foodie destinations in New England. *Telegram*. Retrieved from https://www.telegram.com/news/20180224/new-restaurant-options-make worcester-one-of-hottest-foodie-destinations-in-new-england

Warner, S. (2011). The American Industrial Metropolis, 1840-1940.

Yigitcanlar, T., Baum, S., & Horton, S. (2007). Attracting and retaining knowledge workers in knowledge cities. *Journal of Knowledge Managemen*t, 11(5), 6-17. doi:http://dx.doi.org/10.1108/13673270710819762

You, H., & Bie, C. (2017). Creative class agglomeration across time and space in knowledge city: Determinants and their relative importance. *Habitat International*, 60, 91-100. doi:10.1016/j.habitatint.2016.12.010

Zimmerman, J. (2008). From brew town to cool town: Neoliberalism and the creative city development strategy in Milwaukee. *Cities*, 25(4), 230-242. doi:10.1016/j.cities.2008.04.006