

GROWING SOCIAL CAPITAL? A COMPARITIVE
STUDY OF A COMMUNITY DEVELOPMENT
INITIATIVE IN CLEVELAND, OHIO

by

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LIST OF ABBREVIATIONS

Abbreviation	Description
GIS	Geographic Information Systems
CUCD	Cleveland Urban Design Collaborative
AVA	American Viniculture Area
OSU	The Ohio State University
CSA	Community Supported Agriculture
CBD	Central Business District
DiD	Difference-in-Difference
ACS	American Community Survey
TTB	Alcohol and Tobacco Tax and Trade Bureau

ABSTRACT

Using the case of a recently established community-based vineyard in Cleveland, Ohio, this research explores the extent to which grassroots, collaborative community development initiatives might have the capacity to improve conditions in persistently declining neighborhoods in the U.S. Drawing on numerous indicator variables from a variety of secondary data sources, descriptive and inferential statistical analyses are employed in a comparative study of “social capital” in three Cleveland neighborhoods: (1) Hough, which is where the vineyard was created in 2010; (2) Fairfax, a comparison neighborhood adjacent to Hough; and (3) Central, a second comparison neighborhood southeast of Hough. Change in surrogate variables of social capital are analyzed in Hough as well as the two comparison neighborhoods for the period 2005-2009 through the period 2011-2015. Because social capital is not well defined as an empirical measure, multiple indicators are drawn from existing literature and analyzed for reasons of validity and robustness. That is, by bringing together data from multiple sources and comparing Hough to two similar neighborhoods over time, the paper aims to create strong circumstantial evidence that community-based vineyards—and grassroots, community-based urban agricultural projects more generally—plausibly have value for improving conditions in neighborhoods with histories of urban decline.

Key words: social capital, vineyard, urban agriculture, community building, urban decline

I. INTRODUCTION

Since the late twentieth century, many American cities have gone through significant transformations (Beauregard 2006). Cities of the Rust Belt, formerly in the automobile, iron, and steel industries, have undergone considerable economic decline and population loss. For example, the “shrinking city” of Cleveland, Ohio has been struggling for many decades to renew its economy and social fabric (Oswalt 2005; Hollander 2011). In 1950, Cleveland’s population peaked at 914,808 persons; while U.S. Census Bureau estimates put the city’s current population at around 388,072 persons. One of the most tangible manifestations of large-scale population loss is vacancy—both in land and in the built environment. To the extent that urban planning as a practice and discipline has historically focused on accommodating growth and, by extension, controlling the conversion of vacant land into developed space, conventional planning instruments are relatively poorly matched to the challenges of shrinking cities like Cleveland (Hollander et al. 2009). Accordingly, contemporary researchers and practitioners are actively engaged in developing and testing alternative strategies and frameworks for planning and community development in such places (Schuering 2011; Dewar and Thomas 2012; Ryan 2012; Weaver et al. 2016).

A broad framework that has gained significant traction in the shrinking cities planning literature is commonly known as the “green infrastructure” model (Schilling and Logan 2008). Among other things, the green infrastructure model proposes to convert vacant properties and vacant parcels into “green” uses such as local parks, community gardens, recreational trails, urban forests, and urban agricultural sites (Schilling and Logan 2008: 454). Of these proposals, urban agriculture projects have been growing in

number and in popularity in shrinking cities in general (Hardman and Larkham 2014), and in Cleveland in particular (Grewal and Grewal 2011). Proponents note that within de-densifying city spaces, replacing vacant and underused land with agricultural uses can create places of active social and civic engagement, which can also improve the environment, the economy, and overall well-being of a community (Lochner, Kawachi, and Kennedy 1999).

That being said, the “green infrastructure” model and its call for urban agriculture represents a paradigm shift away from the traditional pro-growth approach to city planning that has existed for much of the history of the discipline (Hollander 2011; Weaver et al. 2016). Accordingly, there is little in the way of best practices for shrinking cities to follow. The upshot is that the shrinking cities that are attempting to “right size” (Schilling and Logan 2008) through efforts such as planning for “smart decline” rather than “smart growth” (Hollander and Nemeth 2011) essentially function as laboratories of innovation. Thus, places like Cleveland, which is attempting to develop “new and innovative strategies for putting vacant land back to productive use without relying on traditional forms of urban development” (Schuering 2011, 1-2), afford researchers rich opportunities to study the efficacy of novel experiments in shrinking cities planning and community development.

On that backdrop, this thesis examines the case of an innovative “green infrastructure” project in the Hough neighborhood of Cleveland, Ohio. Cleveland’s Hough neighborhood has long experienced negative effects from urban sprawl and economic decline—since at least the Great Depression—arguably even more acutely than the city as a whole (Miller and Wheeler 1995, 2009). Recently, urban agriculture projects

have taken off in Hough, many of which have been supported by Cleveland's city government as means for repurposing vacant land and boosting the neighborhood's economy through local food production. Perhaps the largest such project in terms of scale and visibility is the Chateau Hough Vineyard, which was established in 2010 and has been active in local wine production ever since. In this thesis, I explore the possibility that the Chateau Hough project has coincided with positive change in the Hough neighborhood, using the concept of "social capital" as a guiding framework. Social capital is a construct that captures the value and benefits that exist within social networks. Core components of social capital are said to include trust, collective action, social inclusion, and information and communication networks (Putnam 1993, 1995). One implication of the established finding that green infrastructure projects can create new spaces of civic engagement (see: Lochner, Kawachi, and Kennedy 1999) is that such projects have the capacity to enhance one or more of these dimensions of "social capital" in a local community (e.g., Temkin and Rohe 1998). I aim to test this observable implication using secondary data in subsequent sections of this thesis.

Statement of Purpose

The core objective of this thesis is to explore change in indicators of social capital in the neighborhood surrounding Chateau Hough Vineyard relative to comparable neighborhoods that did not experience a similar community-based development during the study period. In other words, the thesis will treat the introduction of the Chateau Hough Vineyard as something of a quasi-natural experiment. Several proxy indicators taken from secondary data sources are studied for robustness and validation purposes. The proxies are derived from extant literature and will be analyzed in Hough relative to

two similar neighborhoods for time periods before and after the establishment of Chateau Hough Vineyard. Two central questions form the backbone of this investigation:

1. How have social and economic conditions changed in Hough in the past 10 years relative to: (a) the city of Cleveland and (b) similar neighborhoods within Cleveland?

2. Is there reason to believe that social capital might be increasing in the Hough neighborhood since the establishment of the Chateau Hough Vineyard?

Whereas on the surface the benefits of urban gardening might appear to be limited to locally grown food and eliminating visual blight on underutilized vacant land, the overarching hypothesis of this research is that such projects also have important intangible effects. Specifically, insofar as urban agriculture is associated with residents purposively interacting within a fixed geographic area, it is reasonable to believe that local food production activities can create place-based social capital and contribute to long-term community well-being (Mohan and Mohan 2002).

On that note, this study will attempt to understand whether a unique type of urban agriculture project—a nonprofit, community-based vineyard—can be linked to positive community-level change. I hypothesize that three aspects of social capital – trust, reciprocity, and social interaction – are positively influenced by well-executed “green infrastructure” projects such as the Hough vineyard. In subsequent chapters, I test implications of this broad hypothesis by employing a methodological strategy that leverages Geographic Information Systems (GIS) technologies and differences-in-differences analysis to study the possible effects of the vineyard on indicators of community well-being. By bringing together data from multiple sources and comparing

Hough to two similar neighborhoods over time, the paper aims to create persuasive circumstantial evidence that community-based vineyards—and grassroots, community-based urban agricultural projects—have value for improving conditions in neighborhoods with histories of urban decline.

II. LITERATURE REVIEW

Green Infrastructure and Urban Agriculture

Urban agriculture, in various forms, is on the rise in many American metropolitan areas. Growing food in urban areas is not a new idea. For thousands of years, city dwellers have acknowledged the value of local food production with respect to the economic, social, and environmental stability of urban places (Schuering 2011; Oulton 2012; Ilbery and Maye 2005; Kingsley and Townsend 2007; Landman 1993). Today, many urban citizens and institutions are increasingly attempting to address growing food insecurities and instabilities by producing more goods locally. The modern surge in urban agriculture is said to be highest in cities that have abundant vacant parcels of land (Lawson 2004; Schuering 2011). Where there is abundant vacant land, many city governments see opportunities to replace traditional forms of development (Schuering 2011). In fact, many “shrinking cities” that have lost substantial population since the mid-20th Century are beginning to follow a “green infrastructure” model (Schilling and Logan 2008) to rejuvenate urban neighborhoods, empower community members, and alleviate the depreciated economy of the city (Shilling 2008). This models attempts to “right size” the city by stabilizing communities with high levels of vacant land (Weaver et al. 2016). First, a green infrastructure plan and program must be implemented by city officials. Second, a land bank is typically created to assemble vacant lands and dispose of parcels to local actors who create long-term, community-beneficial plans for those parcels. Lastly, community consensus is essential through various cooperative community planning exercises (Schilling 2008). Green infrastructure projects range from parks, playgrounds, recreational trails, urban forests, water fronts, green roofs, and more. The

kind of green infrastructure projects that are of interest for this study are urban gardens and agriculture. Urban gardens can be valuable sources of green spaces which can have positive effects for the residents the live there, while right sizing the city to achieve stability (Kingsley and Townsend 2006; Schilling 2011).

Over the course of the past century, less and less of the food bought and consumed by Americans is grown locally (Pirog and McCann 2009). The growth in the local food movement is partially the result of an increasing interest in supporting local farmers and understanding the origin of one's food (Ilbery and Maye 2005; Pirog and McCann 2009). Growth in the local food system has been supported by community advocates and municipal policy-makers through the establishment of new community gardens, farmers' markets, and other urban garden projects (Sadler, Arku, Gilliland 2015). Such developments increase access to healthy produce, which may improve a community's overall health and well-being. Local food networks reflect a rising concern by communities to control growing, processing, and distribution of nutritious products where one might not otherwise be able to find them.

Issues related to local food systems have become prevalent in the shrinking city of Cleveland, Ohio. This once thriving city has been devastated by economic change, population decline, and endemic issues of property abandonment, vacancy, and blight (Miller and Wheeler 2009; Schilling 2008). The growing local food movement in Cleveland has received attention due to the abundance of vacant land for rebuilding the economy through urban gardens and other market programs (Berry 2009; Schilling 2008; Sadler, Arku, Gilliland 2015). Local pride has become a major part of the rise in these alternative food networks, which could be a solution to the growing problems of food

availability and economic and social decline (DuPuis and Goodman 2005).

On that note, while growing food in urban centers has exploded in recent times (e.g., Ilbery and Maye 2005; Pirog and McCann 2009), growing grapes for wine production and consumption is a relatively new and innovative manifestation of urban agriculture initiatives—one that, when properly cultivated, can generate numerous benefits by building links between local restaurants, farmers' markets, and civil society organizations (Matacena 2016). Through time, in a distressed community, the benefits of local vineyards can diffuse out and make quality of life better for community residents. Indeed, localizing the food system through production and consumption can improve and foster healthy social relations, civic involvement, cooperation, and trust between community members (Feenstra 1997; Pacione 1997).

Varying types of urban gardens can help to improve conditions in distressed communities by addressing multiple problems at once and by serving the community in manifold ways. For instance, green spaces offer environmental and social benefits and relief from the physical and mental pressure of city life (Kuo and Sullivan 2001); and urban gardens raise social awareness about where food comes from, how food systems are intertwined, and, in these ways, can become symbols of city life (DuPuis and Goodman 2005).

In a similar vein, gardens are a stimulating form of green space that require users to participate actively in cultivation and harvesting. For these and related reasons, research has shown that urban gardens may enhance *social capital* in the communities surrounding gardens (Firth, Maye, and Pearson 2011; Kingsley and Townsend 2006; Glover 2004). As such, utilizing vacant lands for gardens may provide benefits to the city

and its distressed communities beyond aesthetic improvements and food products. More intangibly, urban agriculture contributes to improving food security, increasing local economic activity, promoting environmental stability and neighborhood aesthetics, and—most relevant to the current research project—building social capital. Moving forward, this thesis adopts the latter lens to study an existing urban vineyard and evaluate its potential influences on indicators of community-level social capital.

Community-Level Social Capital

Social capital is a concept often taken to mean the value and benefits of social networks in a community. One prominent definition of social capital is that it refers to “features of social organization such as networks, norms, and trust that facilitate actions of cooperation for mutual benefit” (Putnam 1993, 67). Social capital is therefore typically linked to the presence of mutually supportive institutions within a neighborhood that residents can turn to “when the going gets rough” (Temkin and Rohe 1998). Generally viewed as an intangible resource, social capital “exists in the relations among persons” (Coleman 1988, 100). Information channels, norms, and sanctions are important aspects (Coleman 1988), along with civic engagement, reciprocity, and trust (Putnam 1993).

While there remains much academic debate over the meaning of social capital and its existence as an individual versus a collective resource (e.g., Portes and Landolt 2000), there is a growing consensus among practicing planners and community developers that community-level, or collective, social capital contributes to economic and social development (Lochner, Kawachi, and Kennedy 1999; Roberts 2004). Crucially, civic engagement appears to lie at the core of this beneficent relationship (Putnam 1993, 1995;

Coleman 1990). A strong correlation has been uncovered between community-level civic involvement, high institutional performance, and quality of life (Putnam 1993). Life is said to be relatively easier and more enjoyable for members of communities that are characterized by higher levels of social capital (Putnam 1995); conversely “low reserves of social capital endanger socially impoverished communities” (Smith 1998, 8).

Community, sense of place, social networks, trust, and reciprocity—concepts described in greater depth below—are considered pivotal elements to social capital (Kawachi and Kennedy 1997; Baum and Zierach 2003; Altschuler, Somkin, and Adler 2004) and are thought to influence levels of participation and civic engagement in a community.

There are at least two major uses of the term “community”. The first is the geographical and territorial notion of a community, such as the boundaries of a neighborhood or town (Gusfield 1975). The second is a relational community that is concerned with the “quality of character of human relationship, without reference to location” (Gusfield 1975, xvi). The ideas presented in this research will revolve around the idea of a community with geographic boundaries, such as a neighborhood, referred to as a place-based community (Gusfield 1975; Putnam 2000; Flora, Flora, and Gasteyer 2016)

Along those lines, communities are formed in space as residents interact with a common purpose and a collective future goal (Moseley 2003). Different types of communities can be formed through such means, and the distinction between overlapping communities can sometimes be vague; however, the result is that residents often develop strong identities with communities in which they are members—including those that are rooted in geographical places (Moseley 2003). Strong communities are those that possess

resilient social bonds with individuals that are engaged, participate, and feel capable of working through complications with other community members. Strong communities therefore boast social, economic, and environmental assets reinforced by an organizational structure that works toward common long-term goals (Boyes-Watson 2005; Woolcock 1998; Wilkinson 1991).

Community *development* is the process by which a community's residents come together to create solutions to mutual problems through collective action (Chavis and Wandersman 1990; Head 1979). From this perspective, the overall well-being of a community is said to depend on the degree to which community members are indeed capable of collective action. Effective community development initiatives should be long term, well-planned, inclusive, and beneficial to the community as a whole (Rohe 2004; Dale and Onyx 2010; Frank and Smith 1999). Community development seeks to improve the quality of life with the responsibility and benefits shared among the members. This means that issues must be addressed and opportunities taken advantage of for the well-being of the community over years.

Research suggests that urban gardening is one form of community development that might build social capital and strengthen ties within, and identification with, place-based communities (Kingsley and Townsend 2007; Chitov 2006; Firth, Maye, and Pearson 2011). Urban gardening is a system that occupies residents in a wide range of activities related to growing, processing, and distributing produce within the community. The prospects for urban gardening to social problems such as malnutrition, lack of infrastructure, and unemployment are great (Mougeot 2000). In the city of Cleveland, the typology of urban gardening projects includes community gardens, market gardens, and

greenhouses (Cleveland Urban Design Collaborative 2008). On the edges of this typology, Cleveland has recently seen the creation of an urban vineyard. As a more modern twist on gardening, urban vineyards have not received the same degree of attention in the community development and urban planning literatures as comparable traditional forms of urban agriculture. However, such projects arguably have the capacity to yield the same streams of benefits as other forms of urban agriculture if and when they have community-oriented missions.

Generally, there are two major classes of benefit streams claimed for “green infrastructure” land uses in cities, such as urban gardening. First, green spaces are vital to the environmental health of urban places, as well as the health of the residents. By providing for more diverse ecosystems relative to built-up urban space, urban green spaces plausibly contribute to air purification, micro-climate regulation, noise reduction, and improved water quality (Bolund and Hanhammar 1999). Moreover, urban *gardens* more narrowly contribute to health and physical well-being by improving local access to food. Second, green spaces such as urban gardens may also improve social relations in communities by creating new civic spaces for social interaction and engagement, thereby contributing to community-level social capital. Such outcomes can go a long way in facilitating collective action and improving overall quality-of-life in communities through community development (Brown and Jameton 2000).

As noted, to date there has been little research that specifically examines urban vineyard projects as community-based development initiatives similar to urban gardens and urban farms. One reason for this research gap is that vineyards are conventionally sited in rural settings that take up many acres of land. Dense urban environments have

largely been seen as unsuitable locations for vineyards. However, in many shrinking cities of the Rust Belt, vacant land is plentiful (Weaver et al. 2016). As a consequence, new laws, regulations, and planning processes are making it possible to establish different kinds of agriculture projects in the city boundaries that would not have been possible even as recently as ten or fifteen years ago (Schuering 2011).

Within distressed communities, studies have not yet shown if urban vineyards are linked to positive community change, although “social capital has become more important [to planners and city officials] in the wake of a general consensus that our nation’s social health has declined, thereby exacerbating social problems in many urban neighborhoods” (Temkin and Rohe 1998, 64). Currently, there is a broad consensus that community development should involve more than just housing; it should also involve the state of the surrounding community and the improvement of social capital between residents to improve quality of life (Kingsley, McNeeley, and Gibson 1997; Sullivan 1993; Vidal 1997).

Installing new green spaces (i.e., gardens, vineyards) is one possible mechanism for jumpstarting social capital creation. Green spaces such as gardens and vineyards are civic spaces which mandate that at least some community members work collectively to maintain, cultivate, and harvest the produce. This creates an oasis of relatively natural settings within dense built-up surroundings. For both of these reasons, local residents may be inclined to take ownership over green spaces, which contributes to their local sense of place (Yuen, 1996). Further, when citizens interact and work together to maintain urban green spaces, the accompanying sense of empowerment can contribute to a collective feeling of pride in making an important aesthetic change to the community

(Glover 2003). These positive connections between social capital and community gardening, especially in distressed neighborhoods, are well established in the literature (Glover 2004; Kingsley and Townsend 2007; Chitov 2006; Firth, Maye, and Pearson 2011); consequently, they are highly instructive for the present study, which aims to investigate whether such connections might also manifest in the case of urban vineyards.

Is the Grass Always Greener in Urban Gardens?

While the preceding literature review suggests there is strong support for the notion that voluntary involvement is crucial for solving community problems, it is important to note that there is not a scholarly consensus on the interplay of social capital and community gardening (Semenza, March, Bontempo 2006). In the first place, social capital is difficult to define, measure, and operationalize, meaning that it does not enter into quantitative research in a consistent manner. Further, at a more practical level, social capital can have costs as well as benefits. While community gardens may have benefits to a specific group of people, they can be quite exclusionary to others (Glover 2004). Depending on the original neighborhood conditions and the individuals living in the area, results can vary (Glover 2004). Social capital seems to result in power for those already in leadership positions, while it can lead to further fragmentation and divisions in some communities (Portes and Landolt 1996). That being said, social capital research should critically analyze neighborhood conditions, “as opposed to focusing exclusively on its collective action” (Glover 2004). For that reason, the next chapter attempts to explain the neighborhood-level dynamics that have been operating in the selected study area for the past several decades.

Summary

Urban garden projects in the United States have been held up as effective approaches for facilitating community organizing and empowering residents to improve neighborhood happiness and enhance a community's social capital (Armstrong 2000). Social capital in distressed communities is important for basic aspects of life "such as physical safety, good health, companionship, and self-esteem" (Dirk de Graaf and Derk Flap 1998, 453). Tying the two concepts together, urban green spaces may offer a mechanism for social capital accumulation by creating new civic spaces where residents can come together and engage in collective work that provides community-level benefits (Twiss et al. 2003). Gardens mobilize and empower residents of a community with the final result being a sense of pride in making an aesthetic change to the area with community members meeting in a public space to arrange for a common future goal. The social capital framework provides a means through which to investigate the level of ties and networks within a community. This correlation has already been uncovered in the literature on urban farming and community gardens (Glover 2004; Kingsley and Townsend 2007; Chitov 2006; Firth, Maye, and Pearson 2011; Lyson 2004; Twiss et al. 2003). In the remainder of this thesis, I extend this approach to analyze the extent to which an urban *vineyard* provides opportunities for enhancing social capital in distressed communities (Kingsley and Townshed 2006).

III. STUDY AREA

Brief History and Site Description

To appreciate the conditions of the Hough neighborhood, consider its historical context in Cleveland. After being incorporated into the City of Cleveland in 1873, Hough became home to many prominent residents and exclusive schools (Miller and Wheeler 2009). In the first part of the twentieth century, rapid growth in Cleveland's population was caused by canal, railroad, and telegraph infrastructure, due to its location at the strategic intersection of the timber, coal, and iron industries on the shore of Lake Erie. As such, Cleveland emerged as a national center for iron and steel production. In the 1910s, the automobile industry developed so rapidly that, by 1920, it became Cleveland's number one industry (Stapleton 1997). This swift growth in industry brought rapid growth in population. In 1900 the population was 381,768 persons, and by 1910 the population rose to 560,663—a staggering 46.9% increase in one decade (Gibson 1998). Following the First World War, many of the city's relatively wealthy residents moved to the suburbs, farther away from the city core, which helped to create patterns of middle class ethnic enclaves.

As suburbanization was in its early stages, the Great Depression brought a debilitating blow to the city. Manufacturing, mechanical, and trade industries, which employed many residents, were hit the hardest (Donnelly 2013). In 1932, the Cleveland Metropolitan Housing Authority, the first such authority in the nation, was created to clear the city's "slums". From 1932 to 1938, almost 1,000 homes were demolished in the city, leaving some citizens without residences (Wye 1973). As World War II again brought prosperity to the steel and iron industries of Cleveland, new laborers flocked to

the city for work, adding to the housing shortage problem. In the Hough neighborhood, absentee landlords became common, and many old houses were split into multiple rental units. Around the same time, the construction of multiple interstate highways, as well as the implementation of urban renewal projects, displaced many African Americans who were living in central parts of the city—many of whom ultimately relocated to the Hough neighborhood (Kerr 2011). Over time, the Hough neighborhood became blighted, housing codes were unenforced, garbage pickup was unreliable, police harassment was common, and abandoned buildings were cleared with fire.

Following decades of decline, for four days in July of 1966, the people took to the streets of Cleveland's Hough neighborhood. Fire bombing, looting, chanting, and protests took place due to the decades of oppression, slum clearance, economic restructuring, and so-called urban renewal in the area. The riots came to an end on Saturday, July 23, 1966. In the end, four African American men died, forty-six were wounded, and almost 300 were arrested (Michney 2006). After the riots, the neighborhood did not improve. Many businesses left and residents moved to other areas.

Today the Hough neighborhood has seen a slight increase in redevelopment, but it remains the poorest neighborhood in Cleveland. Moreover, the 1966 riots left the community in complete disrepair, which decreased property values compared to the surrounding area. Attempts to redevelop the neighborhood were hindered by city policies that led to further disinvestment (Keating 2000).

In 2008, the City of Cleveland and various universities, nonprofits, and local citizens established the goal of developing Cleveland into a thriving and resilient city (Weaver et al. 2016), with various projects in the works today (Cleveland Urban Design

Collaborative 2008). The purpose is to develop the economic, social, and environmental well-being for all residents of the city. The project views vacant land as a city asset and encourages citizens to reclaim their neighborhoods. The main purpose of the initiative is to enable residents to acquire vacant land to help stabilize property values, make neighborhoods safer, promote city beautification, and provide a local food source. The intention is to, over the course of the long term, make distressed neighborhoods safer and more enjoyable places to live.

One of the most successful programs to arise from these efforts is the City of Cleveland Land Reutilization (“Land Bank”) Program (CUDC 2008). This program seeks to ensure that vacant parcels are returned to a productive use by assembling underutilized properties into a large portfolio, and disposing of those properties only when prospective buyers come forward with long-term redevelopment plans that will add new value to the community. To facilitate this mission, the Land Bank offers grants to selected community-based projects to assist with their startup. One project that received assistance through the Land Bank program is the Chateau Hough Vineyard.

In 2010, Chateau Hough received a land grant from the Reimagine Cleveland Initiative. The mission of Chateau Hough is "to use innovative educational and entrepreneurial strategies to encourage, prepare and assist at-risk youth, veterans and those returning-or have returned-to neighborhoods after incarceration in creating greener, healthier and wealthier places to live, work and raise families” (Neighborhood Solutions Inc. 2017). Clearly, then, this non-profit vineyard has broader interests in civic engagement and community development. For example, in addition to growing grapes on the land, Chateau Hough: organizes Vineyard Volunteer Days and community dinner

nights; provides employment and training for incarcerated citizens; and grows fresh produce in its biocellar that it provides free of charge to local residents. As an integral part of the community, the vineyard manager is deeply invested in improving the community environmentally, socially, and economically (Anonymous. 2016. Email with vineyard manager by author. April 6).

Located at East 66th Street and Hough Avenue (Figure 1), the vineyard sprawls across three former land bank parcels in inner-city Cleveland. To establish the vineyard, volunteers from the community cleared the land, planted vines, and performed other tasks. About 300 vines of Traminette and Frontenac grapes were planted. Located in the Lake Erie American Viticultural Area (AVA), this area experiences the longest growing season in the Eastern United States (TTD 2013). Wine was first produced in the 2013 season, with the ultimate goal to sell wine to local restaurants and residents to enjoy and get experience the community where the grapes and wine were produced. The long term plan is to expand to the existing lot in the vicinity to continue to grow social capital in this neighborhood through new institutional infrastructure projects (Anonymous. 2016. Email with vineyard manager by author. April 6).

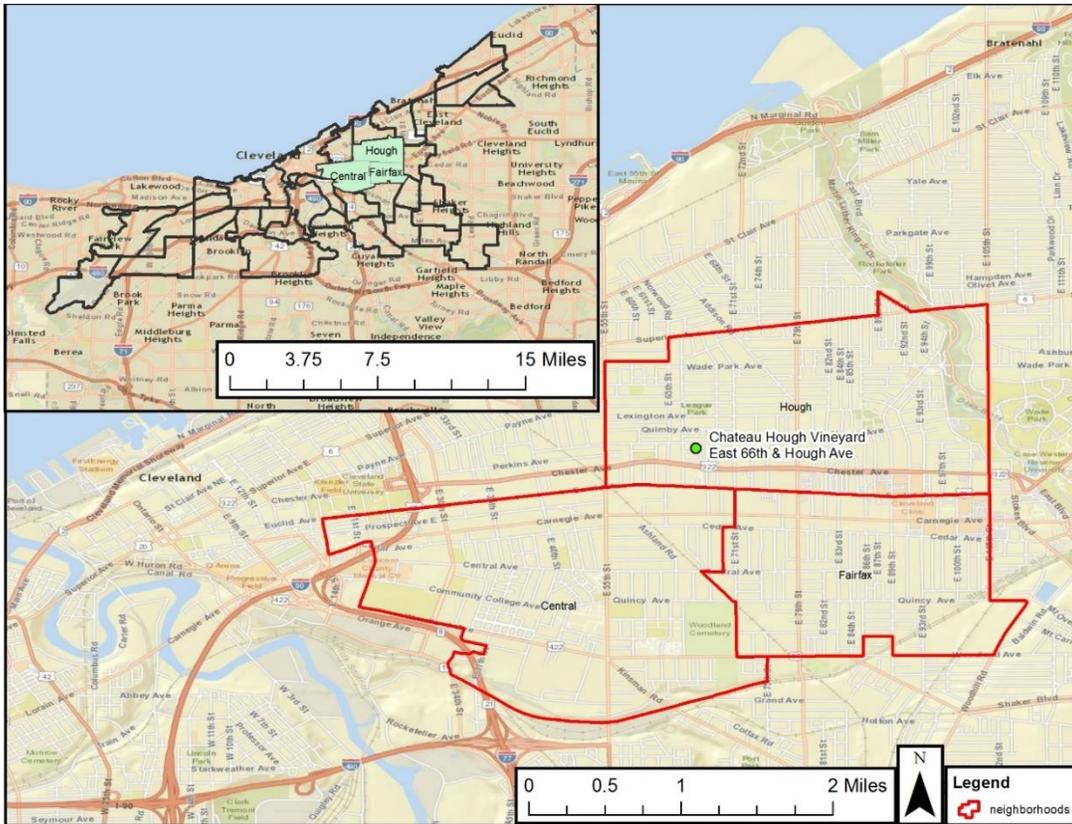


Figure 1: Location of Chateau Hough. Source: City of Cleveland.

Certainly, Chateau Hough is not the only green infrastructure/urban agriculture project in Cleveland. Community gardens, for instance, are found throughout Cleveland (Figure 2). The Ohio State University Summer Sprouts Program, which has been helping neighborhoods and community members establish community garden since 1976 (OSU Extension 2016), has been a major factor in these developments. What is noteworthy, though, is that there appears to be some recent clustering of community gardens in and around the Hough area (Figure 2)—perhaps a reflection of Chateau Hough’s influence on the neighborhood. Today, the City of Cleveland Land Bank develops land contracts for the gardeners while many neighborhood clubs, faith based groups, non-profit agencies, and schools sponsor gardens to help them thrive.

Figure 2 shows the community gardens that have been established since 2009 through the Ohio State University Extension Summer Sprouts program. Because of their timing relative to the Cleveland Land Reutilization Act, these community gardens are assumed to have been established on land bank parcels. More precisely, because data on the locations of land bank parcels are not available on the City of Cleveland’s website—nor were data requests answered—the distribution of community gardens between 2009 and the present pictured in Figure 2 is taken to be the distribution of all gardening projects that have resulted from the Cleveland Land Reutilization Act.

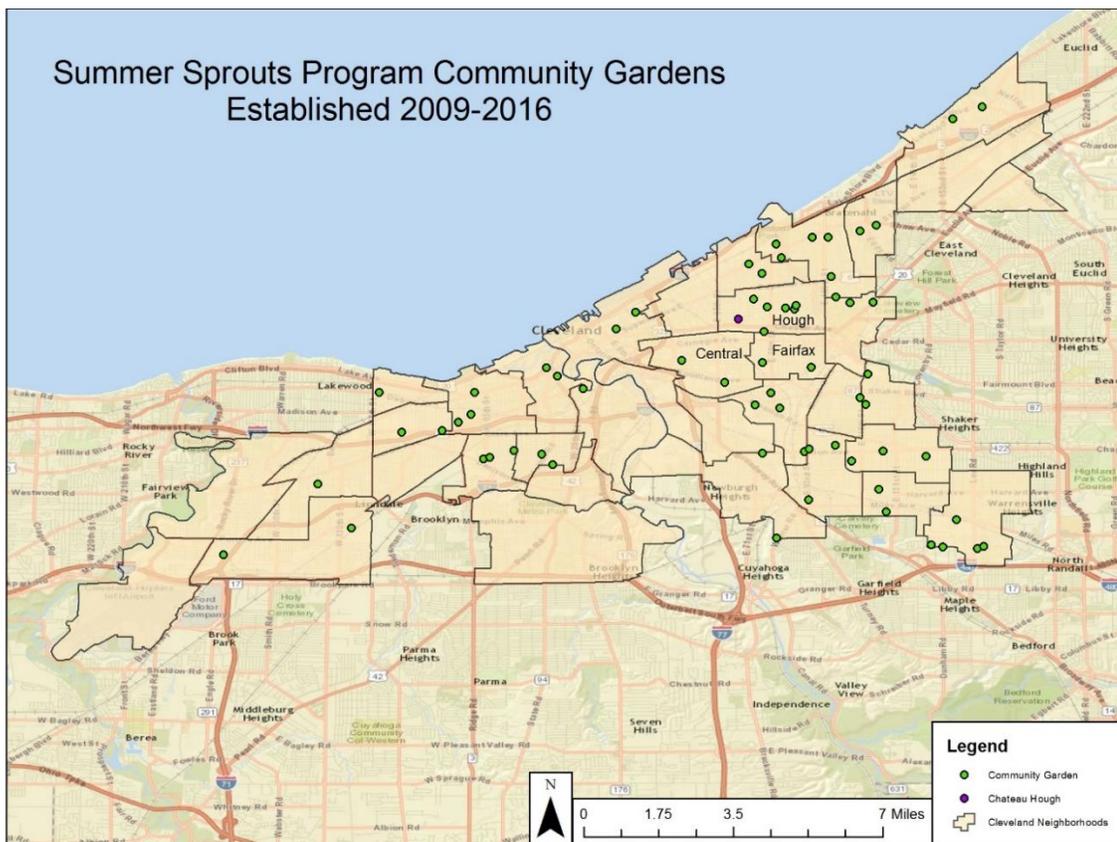


Figure 2: Public community gardens established 2009-2016. Source: The Ohio State University.

When viewing the distribution in Figure 2, it is evident that several community gardens have been established in Hough over the past few years. At the same time,

Central and Fairfax—the two neighborhoods that border Hough to the south—have seen substantially less urban gardening activity (also see Figure 3). Due to both their spatial proximity to Hough¹ and their relatively low gardening activity, the Central and Fairfax neighborhoods thus appear to be good candidates for use as comparison neighborhoods in this study. The next subsection of this chapter makes that case in a more substantive fashion. At present, it is more important to note that Chateau Hough is not the only green infrastructure project to come out of the land bank program (Figure 2); this presents a challenge to the study insofar as the presence of other community gardens will make it difficult to tie any observed changes in social capital indicators directly to Chateau Hough.

However, it is equally important to recognize that Chateau Hough is not a typical community garden. What is unique about the Chateau Hough Vineyard relative to more common forms of community gardens is its scale. The vineyard manager has successfully assembled multiple parcels—not just a single land bank parcel—in his efforts to extend this civic project to accommodate more people in the neighborhood and to grow other fruits and vegetables to donate to the community. The vineyard is not divided into plots, nor are there any fences prohibiting access—meaning that members of the community can freely garden when they wish without being tied to a specific plot (Anonymous. 2016. Email with vineyard manager by author. April 6).

In contrast, typical community gardens tend to be much smaller in acreage and scale compared to Chateau Hough, and they exclude non-members from use through fences and a variety of other mechanisms. This outcome potentially contributes to

¹ By Tobler's First Law of Geography (Tobler 1970), entities that are near one another in space are more alike than entities that are farther apart.

exclusion, as residents of the community might be unable to gain access to the limited plots in small scale local community gardens. That the vineyard is not enclosed suggests that it is intended to be inclusive of everyone in the community regardless of religion or age. Moreover, the vineyard manager noted specifically that community involvement is essential to the project in order to bring community members together to build trust and social capital (Anonymous. 2016. Email with vineyard manager by author. April 6). In this regard, he operates much like a community developer seeking to improve quality of life for all of Hough’s residents (Anonymous. 2016. Email with vineyard manager by author. April 6).

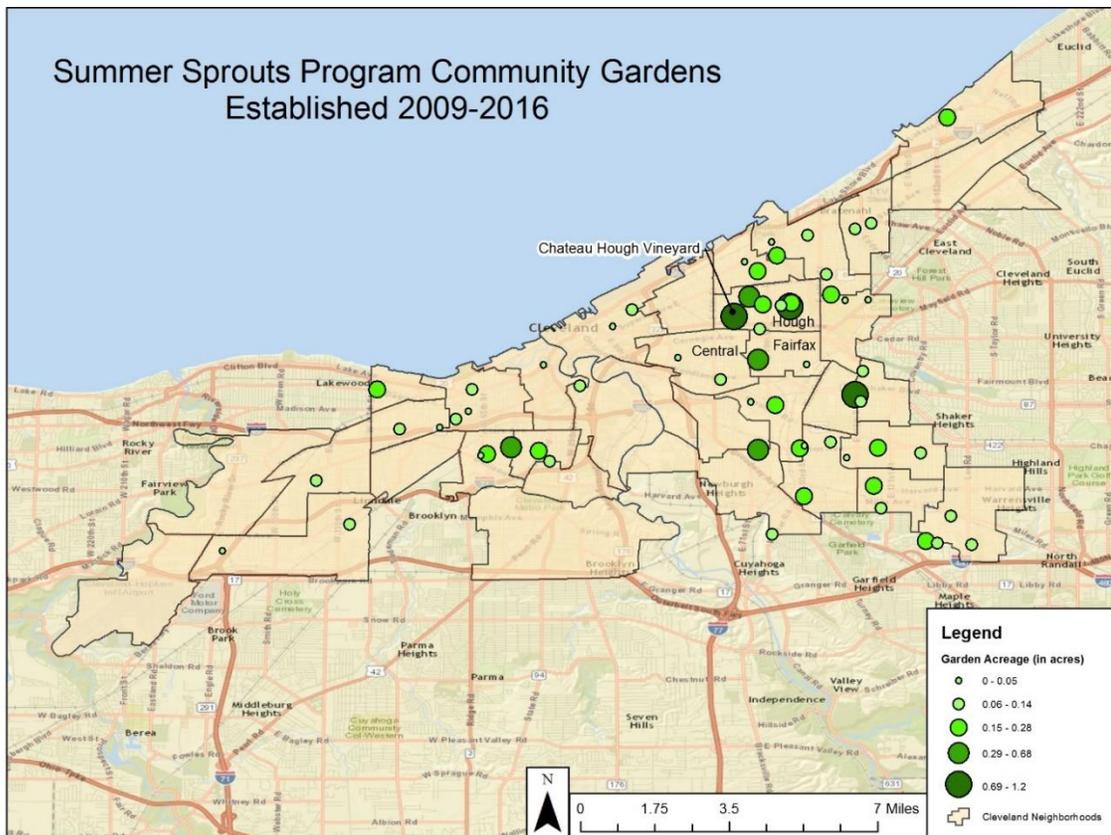


Figure 3: Acreage of community gardens. Source: The Ohio State University and City of Cleveland.

With respect to scale of operation, comparing the total garden acreage of Chateau Hough (Figure 3) to other (presumably land bank) community gardens established from 2009 to 2016 shows clearly that the vineyard is much larger than gardens in nearby neighborhoods. In general, the larger the garden (or other civic space), the more people able to participate in the activity—and the more participation, the more likely it is that community members develop a sense of pride in and/or attachment to their communities that would facilitate collective action (e.g., Yuen 1996). Consequently, one might expect to see higher levels of *social capital*—or, minimally, possible indicators of social capital accumulation—in Hough relative to surrounding neighborhoods.

Data Profile

The Great Depression of the 1930s, civil disorder in the 1960s, and the departure of the middle class to the suburbs in the 1970s resulted in extensive patterns of historical disinvestment in the Hough neighborhood. In addition, the city overall has seen a major population decrease, and, for that reason, has been experimenting with new programs that are not common in traditional, growth-oriented city planning (Hollander et al. 2009). Through these efforts, the city of Cleveland has been one of the most active Rust Belt cities in promoting and implementing urban agriculture (Oulton 2012). Over the last ten years, many new urban agriculture projects have been established throughout the city, many in the form of community gardens, farmer's markets, and community supported agriculture (CSA's) (CUDC 2008). The revival of urban agriculture in Cleveland has led to major redevelopment of many parts of the city. However, despite these important developments, the Hough neighborhood remains one of the poorest and most segregated neighborhoods in Cleveland.

While the city of Cleveland as a whole is approximately 53% African American and 37% white (Figure 4), Hough is nearly 97% African American and approximately 2% white (Figure 5). These differences in community/demographic characteristics, are important factors for understanding the vineyard and the community surrounding it. In a sense, if the vineyard is in fact a “grassroots”, community-based initiative, then participants in its community-oriented activities should reflect the demographics of the neighborhood.

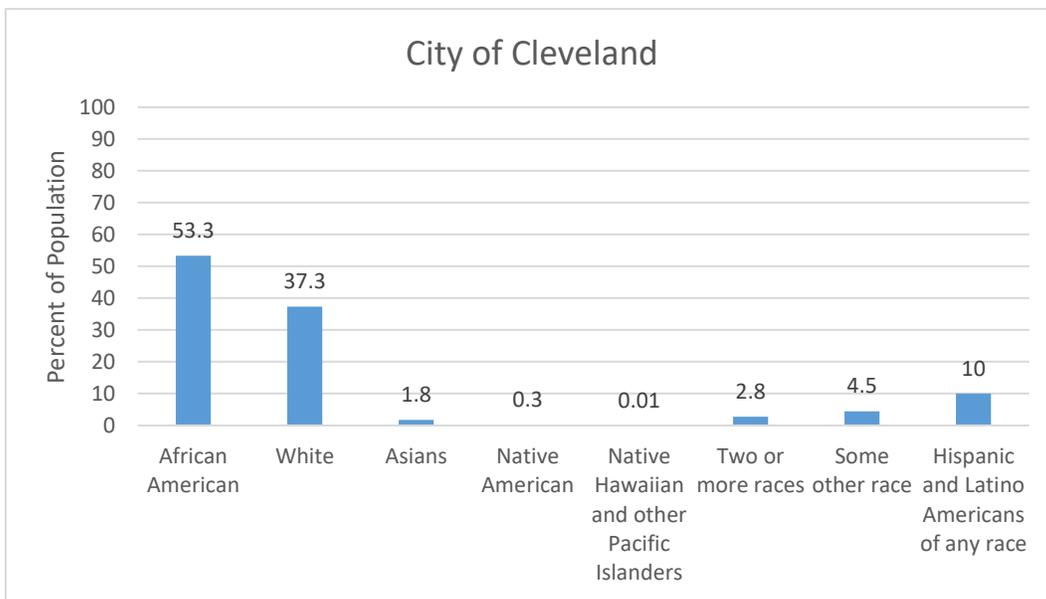


Figure 4: Racial breakdown of the city of Cleveland. Source: City of Cleveland.

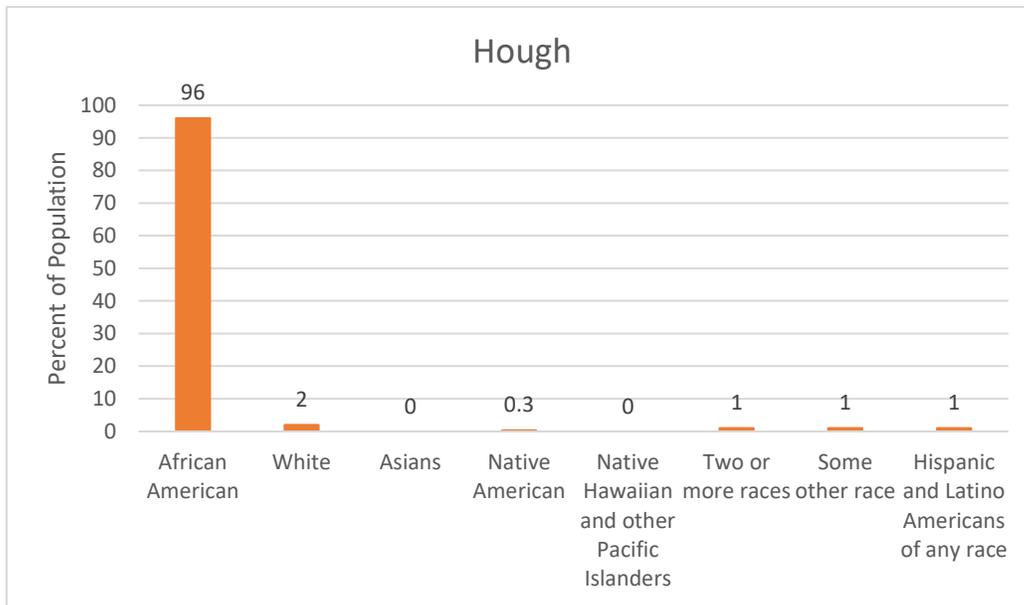


Figure 5: Racial breakdown of Hough. Source: City of Cleveland.

Since the 1940s, the Hough neighborhood has predominantly been composed of minorities of with a lower socio-economic status than the city more broadly. The population has declined since the riots of 1966, but the demographics have largely remained the same. Figure 6 shows the population of Hough since 1940.

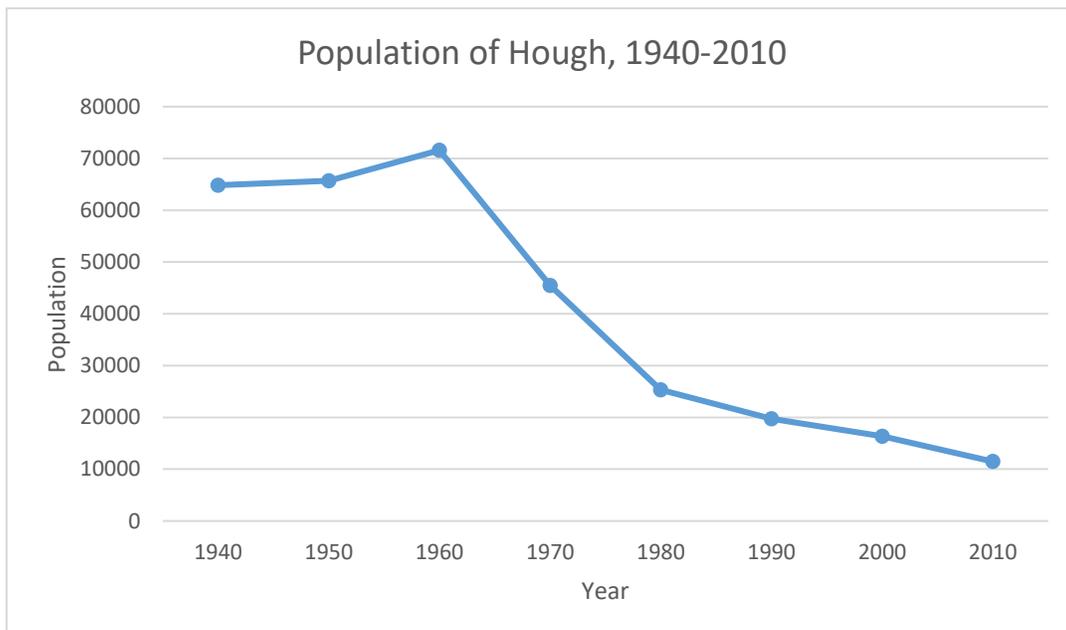


Figure 6: Population of Hough from 1940 to 2010. Source: City of Cleveland.

Over the past five decades, the population in Hough has experienced a sharp decline. While the entire city has seen a drop in population, the Hough neighborhood was particularly hard hit. In addition to population decline, the average household income has not risen. Figure 7 shows the average household income of the residents in 2010. Many of the individuals that live in the neighborhood make \$10,000 or less a year, meaning many households persist below the poverty line.

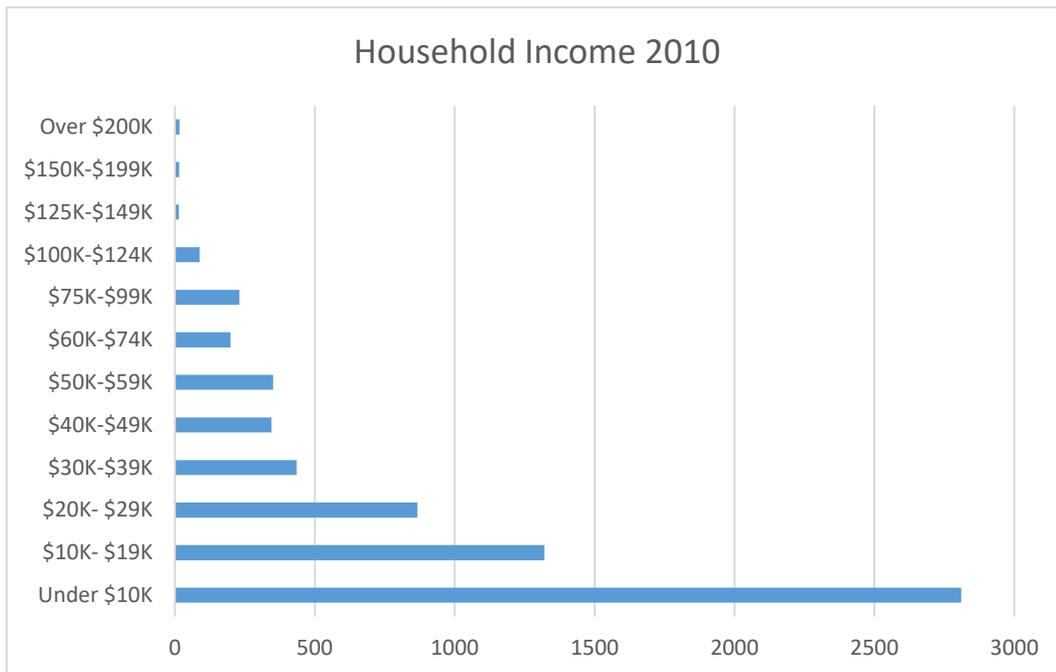


Figure 7: Household income of Hough for 2010. Source: City of Cleveland.

The percentage of residents who own versus rent their homes is another important aspect to consider in Hough. In many low-income areas, absentee landlords are common, since many residents do not have sufficient income to be eligible for a home loan. Many residents of Hough rent rather than own their houses (Figure 8). Ownership status can directly relate to the housing conditions and amount of economic and social capital in this neighborhood (Saegert, Thompson, and Warren 2002). In addition, the number of vacant lots in Hough is also staggering, a characteristic that is influenced by the shrinking

population of Cleveland. The presence of many vacant buildings creates negative conditions for the neighborhood, as these vacant buildings create an undesirable aesthetic and can encourage outcomes that lead to further decline of the neighborhood. The viscous, negative cycle caused by blight and neighborhood decline is well documented (Brueckner and Helsley 2011; Metzger 2000).

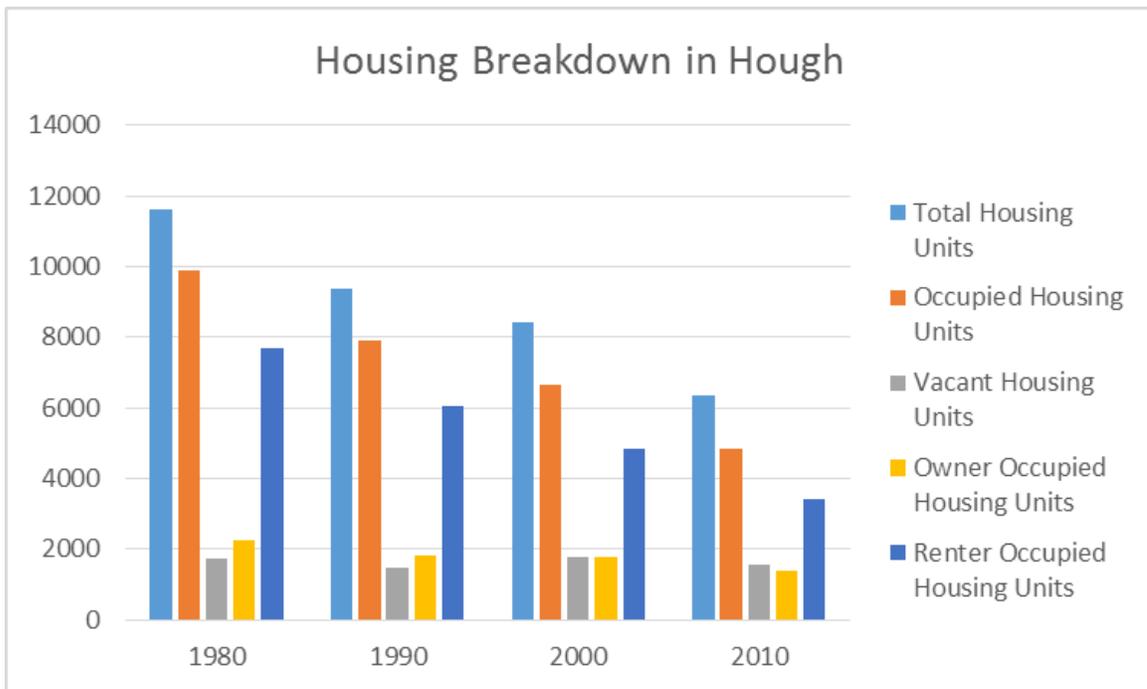


Figure 8: Housing units in Hough. Source: City of Cleveland.

In 2010, more than half of Hough residents lived in rental units, and 63.8% of all housing structures were multi-family units (U.S. Census Bureau; City of Cleveland). Viewing these three neighborhood conditions in Hough, it seems that many of the residents are not benefiting from the current government programs. To fully understand the change in neighborhood dynamics, and to ascertain if the urban vineyard is linked to any positive community changes, more information must be analyzed from the community.

On that note, if positive results can be linked to the creation of an urban vineyard in one neighborhood, then such a project could plausibly be successfully implemented in other parts of the city as well. While the city of Cleveland has hundreds of urban gardening projects, Chateau Hough is unique in the idea, structure, and vision of the community. Indeed, although urban gardens are found in virtually every neighborhood in Cleveland, Hough seems to be unique and stand out from all the others. Grapes are not commonly grown in typical urban gardening projects since this does not create produce for the residents of the area to consume immediately. Since the final product of the grapes is wine, community members have to work hard and long to reach their goals. This project goes beyond simply creating food by bringing people together that would not otherwise communicate on a daily basis. This new institutional infrastructure can have profound effect on the residents of the community. Before the vineyard was established, many residents did not have a public space to gather and discuss community goals and issues. This organization has efficiently organized members of the community to create new social networks and, through time, trust between the community members. By people coming together and creating new bridging and bonding networks, everyone has the potential to develop opportunities to get ahead in life due to this grassroots community movement.

The vineyard is registered as a 501(c) (3) non-profit organization. The vineyard manager as well as other members of the community are highly invested in this and other neighborhood efforts to make the community better. The vineyard manager noted that “you don’t have to move to live in a better neighborhood, find ways to renew it and make your community better.” (Anonymous. 2016. Email with vineyard manager by author.

April 6). This new kind of agriculture has shed light on the distressed neighborhood and the members of the community have a new vision of what their community could and should be in the future. The goals of the vineyard are simple and decidedly community oriented: to reuse distressed vacant land, create healthy products for market, and provide employment. Even if the vineyard ultimately fails the manager hopes that “the effort to rebuild the community, and the new friends made in the process, has made the project worthwhile.” (Anonymous. 2016. Email with vineyard manager by author. April 6).

This grassroots organization seems to be gaining national attention; interviews have been conducted for The Opera Magazine, TEDx Program, and has even won support of a local representative to invest more time and money into the vineyard and future projects. This is only the beginning of the vineyard project, with a five-year plan to build another vineyard in an abandoned firehouse down the street. Every year more residents of the community join to help make the neighborhood a great place to live in again. As a consequence, it is reasonable to expect that the vineyard has had a hand in establishing new institutions and networks that facilitate the growth and development of civic pride and the strengthening of internal capacity for collective action. In other words, it is plausible that the vineyard is playing a role in building local *social capital*.

Comparison Neighborhoods

By examining the side-by-side changes in Hough and comparison neighborhoods in Cleveland over time, it may be possible to detect change in indicators of local social capital from before the establishment of the vineyard to present day. For the present study, two comparison neighborhoods were chosen for reasons to be discussed below. However, above all, the selected “control” neighborhoods are similar to Hough in their

demographics, housing makeup, poverty levels, proximity to downtown, and population change over time.

Comparison neighborhoods were chosen by viewing neighborhood data from 1980 to 2000, and selecting two adjacent neighborhoods that experienced approximately the same patterns of change over this time period, and that have similar current sociodemographic profiles. Specifically, during the span of 1980 to 2000, all neighborhoods—Hough and the two control areas—experienced substantive declines in population, owner occupied housing, and housing values. To observe whether the vineyard has coincided with positive change in the Hough neighborhood, data were collected from the U.S. Census American Community Survey (ACS) Five Year Estimates for 2005-2009—before the vineyard was established—and 2010-2014, after the vineyard was established.

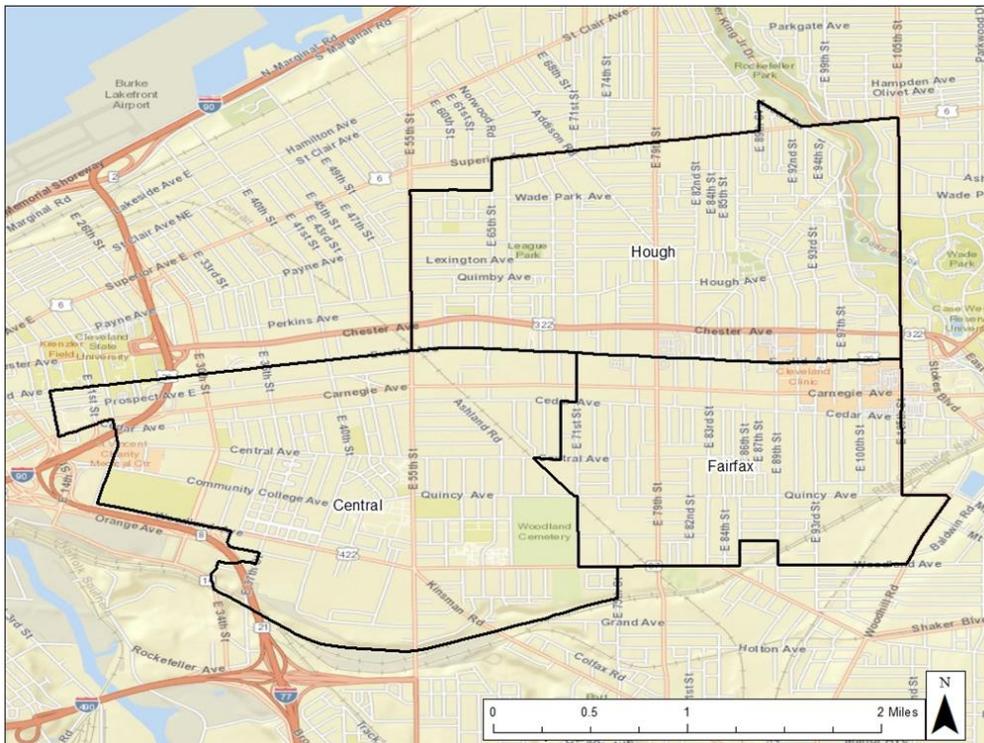


Figure 9: Neighborhoods of comparison in Cleveland.
Source: City of Cleveland.

Notably, neighborhood boundaries (Figure 9) rarely coincide with U.S. census geographies (e.g., Weaver et al. 2014). To engage with this issue, census block groups were selected as units of analysis. Census block groups are the most geographically compact census units for which socioeconomic data (e.g., education levels) are reported. More importantly, though, in this case block groups are sufficiently small enough in size that it is possible to aggregate block group-level data to the boundaries of neighborhoods that are officially recognized by the city of Cleveland (Figure 9). That being said, a trade-off exists between spatial and temporal resolution in census data. Explicitly, data reported for the [relatively] fine spatial resolution of census block groups are only available for five-year temporal windows. Thus, to achieve a “before-and-after” research design, the two Census ACS datasets that are chosen are the non-overlapping 2005-2009 (before) and 2010-2014 (after) five year estimates.

The official, City-recognized boundaries of the Hough neighborhood are East 55th Street to the west, Euclid Avenue to the south, East 105th Street to the east, and Superior Avenue to the north (Figure 9). The neighborhood contains seventeen block groups, which will be used to measure the socio-economic changes (Figure 10). The two comparison neighborhoods are located to the south of Hough. Fairfax is located directly to the south. It shares a norther border with Hough of Euclid Avenue with the southern border the neighborhood at Woodland Avenue. To the west of Fairfax is the neighborhood of Central. This neighborhood is adjacent to the central business district (CBD) of Cleveland to the west. Fairfax contains six census block groups, while Central is contains eleven block groups (Figure 10). Hence, the reason for selecting two control or comparison neighborhoods is to create a balanced research design (i.e., a similar count

of block groups overall).

The City of Cleveland has a complete dataset for each of the neighborhoods, and updates this information and data every few years. The location of the neighborhoods is important, but the demographics are more important for the comparison study. The population of all three of these neighborhoods have declined since approximately the 1950s (Figure 11), and have identical demographic data since the 1980s. Since these neighborhoods are similar in many aspects, it will be possible to see if any change has happened since the establishment of the vineyard in Hough in 2010. If this vineyard does have positive social impacts on the neighborhood, the statistical analysis might reveal these changes.

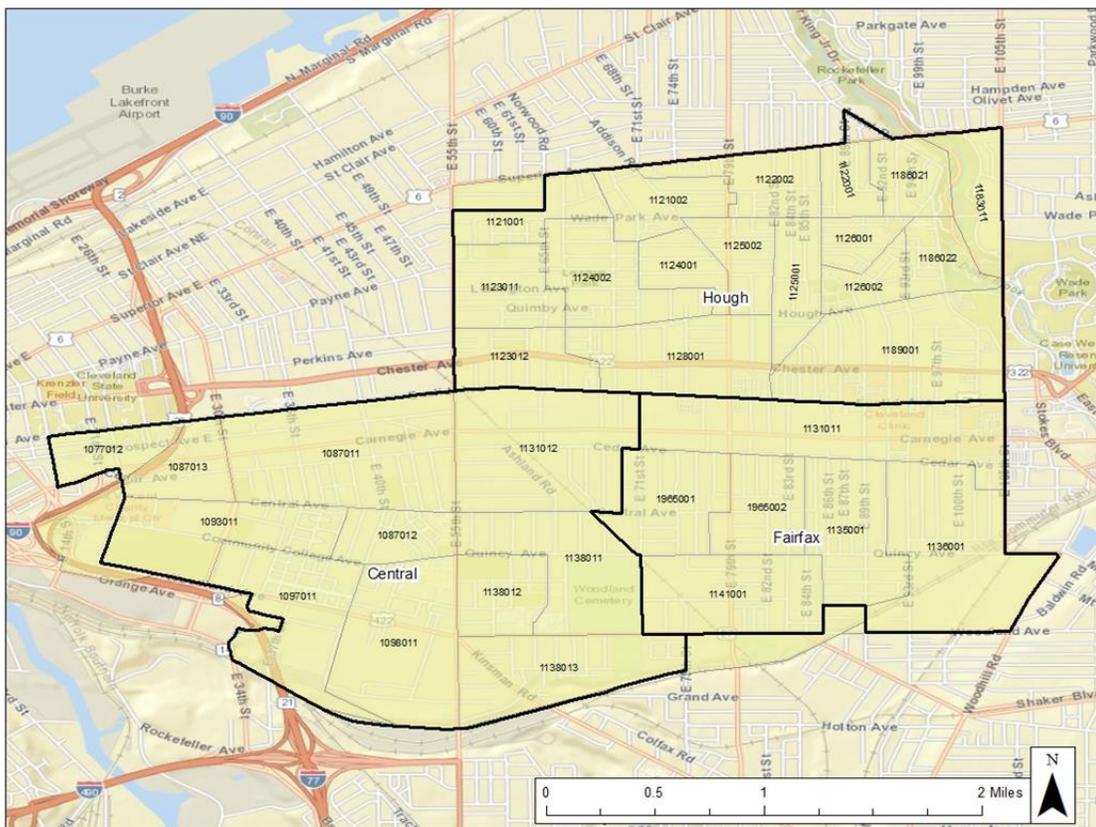


Figure 10: Census block groups for the analysis. Source: US Census Bureau.

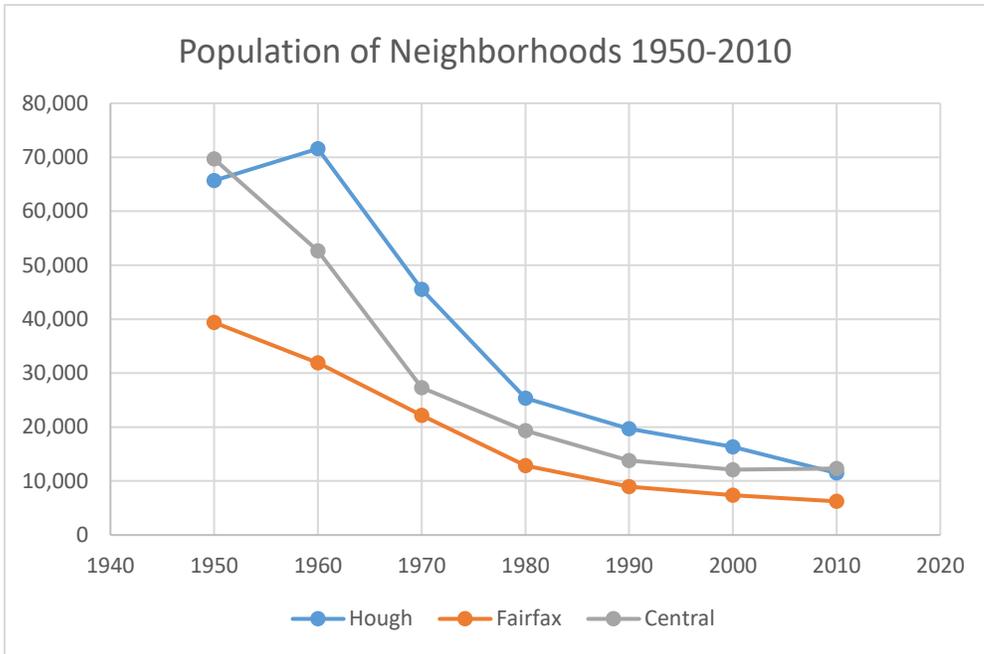


Figure 11: Population of all three neighborhoods from 1950-2010.
Source: City of Cleveland.

IV. THEORETICAL FRAMEWORK

The social capital model of neighborhood change proposed by Temkin and Rohe argues that two components of social capital are critical for shaping the course of a neighborhood over time (Temkin and Rohe 1998). In effect, the model (Figure 12) begins with the assumption that a neighborhood has a preexisting socioeconomic status. There are many potential causes of change in a neighborhood to alter the status of an area. These forces of change do not work in the same manner in all neighborhoods, and depend on the original strength of social capital in the community (Temkin and Rohe 1998). Rather, it is a combination of (1) sociocultural milieu and (2) institutional infrastructure that will stabilize a neighborhood after an event. Neighborhoods with low levels of both sociocultural milieu and institutional infrastructure will experience a downward succession over time, while a neighborhood with strong levels of both will stabilize or even increase through time (Temkin and Rohe 1998).

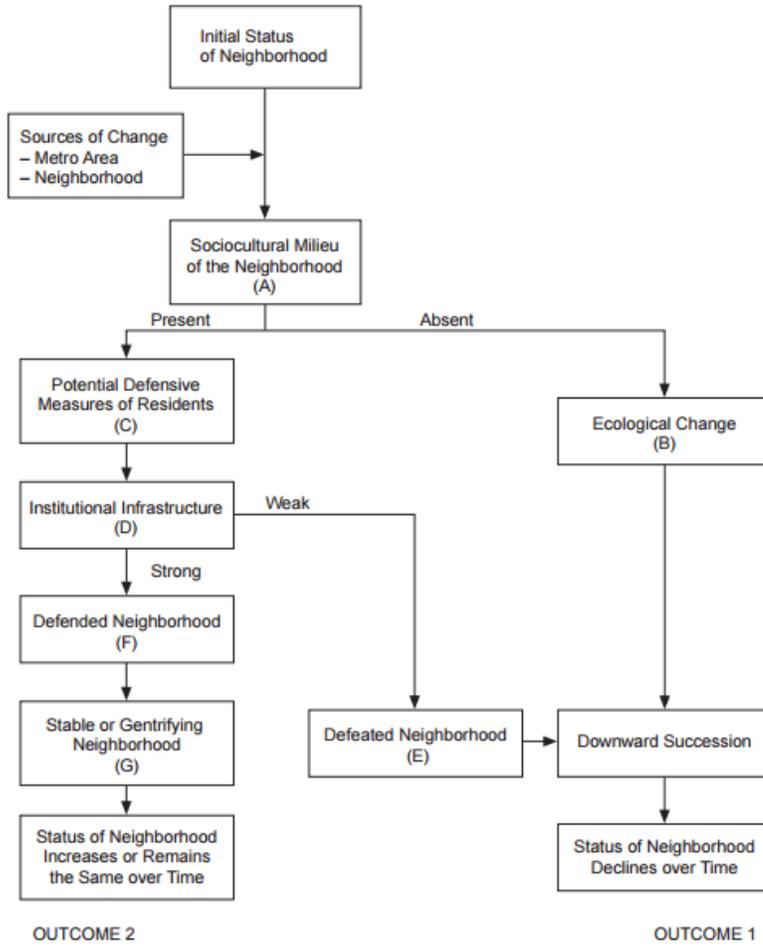


Figure 12: Social capital model of neighborhood change.
Source: Temkin and Rohe 1998.

Socio-cultural milieu is composed of identity, interaction, and opportunities, which relates to the ideas of collective norms and trust in social capital research (Temkin and Rohe 1998). Collective norms in a community are “shared patterns of behavior, beliefs, and practices that are acquired via social learning” (Henrich and Henrich 2007, 133). Trust speaks to a willingness to cooperate with others in a community to solve collective problems (Weaver et al. 2016). Strong socio-cultural milieu will exist in places where residents strongly identify with the place, residents interact on a regular basis, the place is connected to outside opportunities, and there are opportunities to engage in social

activity (Temkin and Rohe 1998).

Institutional infrastructure refers to the quality of formal organizations in the neighborhood and the efficiency of those organizations to engage members of the community (Temkin and Rohe 1998). Social networks are a set of relations within a society that have many benefits to the residents (Kadushin 2012). Social networks offer access to support, resources, and expertise. Specifically, *bonding networks* are networks of support between individuals who have a common shared connection—bonding networks are largely considered to be networks of horizontal relationships (e.g., Weaver et al. 2016). In contrast, *bridging networks* are networks of connection that link communities or individuals to other social groups or opportunities—for example, to political decision makers.

When a neighborhood possesses both strong socio-cultural milieu and institutional infrastructure, it is assumed to possess a sufficient stock of social capital to defend itself against processes of neighborhood decline (Temkin and Rohe 1998). Neighborhoods that lack sufficient social capital will tend to experience downward successions of urban shrinkage and decline.

In the above context, if a community development intervention contributes to social capital accumulation, then there are at least two possible observable implications. First, measurable indicators should reveal positive change in one or both of the dimensions of social capital discussed above—i.e., sociocultural milieu and institutional infrastructure (Figure 12); and, second, any preexisting processes of urban shrinkage or decline ought to exhibit signs of weakening or reversing. These observations guide the empirical exercises that are undertaken in the remainder of this thesis.

V. METHODOLOGY

Social capital is largely intangible, and therefore, cannot be measured or observed directly. A good deal of work on social capital is therefore qualitative, involving surveys, participatory groups, and ethnographic studies (see: Weaver et al. 2016). Such qualitative work is extremely useful for uncovering social interactions and community dynamics that are likely to be hidden from quantitative data. However, the use of quantitative proxy variables from existing secondary data sources also has several upsides: the technique is relatively inexpensive, less time-consuming, and can be accomplished for extensive and diverse study areas (e.g., Rupasingha, Goetz, and Freshwater 2006; Weaver et al. 2016). Still, the use of secondary data is impersonal and might not reveal a complete picture of the changing neighborhood conditions (Weaver et al. 2016). This is an important trade-off in social capital research. Namely, whereas comparably qualitative research might be more effective at achieving depth, a relatively quantitative investigation is plausibly able to adopt a broader scope that allows for more generalizability via replication analyses. For present purposes, these latter considerations, as well as the low operational costs involved, guide the decision to rely on secondary (quantitative) data sources for the remainder of this study.

To study the effects of the Chateau Hough vineyard, the vineyard is framed as an intervention that occurred in Hough but did not take place in the comparison neighborhoods of Central and Fairfax. In that sense, the establishment of the vineyard acts like something of a quasi-natural experiment to comprehend changes in various social capital and/or decline indicators from before (from 2005 to 2009) to after (from 2010 to 2015) the vineyard intervention can be analyzed. In total, there are seventeen

block groups together in the Fairfax and Central neighborhoods (“control” or comparison group) and seventeen in the Hough neighborhood. The two comparison neighborhoods are tested against the Hough neighborhood to observe any changes in the selected indicator variables in the following manner:

First, difference-in-difference (DiD) analysis is used to compare proxy variable values in Hough to the other neighborhoods. For each of the proxy variables of interest, a DiD estimator is created by subtracting the difference in the variable measured between the neighborhoods *before* the vineyard was established (time 0), from the between-group difference *after* the vineyard is established (time 1). Because any observed difference could be the result of variation in unobserved group-level attributes, the DiD method assumes that such attributes do not vary through time. As such, the before difference between groups should equal the after difference, plus any possible changes that coincided with the community-based vineyard and its influences in the community (Gerber and Green 2012; Weaver 2016). Second, once DiD estimators are obtained for all proxy variables, randomization inference is used to test the null hypotheses that between-group differences in the proxy indicator variables did not experience significant change over time.

VI. DATA

Because social capital is an intangible asset (Flora, Flora, and Gasteyer 2016), researchers have proposed numerous proxy variables to measure components of social capital discussed in the preceding section. Data used in the analysis will come from a variety of sources, with the U.S. Census American Community Survey (ACS) being the primary one. The U.S. Census ACS is a 5-year estimate for 2005 to 2009 and 2010 to 2014. These two-time period will be used for each of the variables. There is no overlap between these two periods since the vineyard was established in 2010, between the ACS dates. Since the U.S. Census Bureau changed the block group boundaries between 2000 and 2010, a form of aerial interpolation was used to migrate the 2005-2009 data into the same block group boundaries. Explicitly, using a weighting scheme to allocate data using the Census Bureau's geographic equivalency files, the data reported for the 2000 census block groups were converted to the 2010 block group boundaries (see: Missouri Census Data Center 2016).

Electoral Participation

The number of residents voting in a community has been cited many times as a fundamental component to social capital in a neighborhood, and it is one of the more widely used indicators of social capital proposed for analyses of secondary data (Putnam 2000, 2003; Smith, Beaulieu, and Israel 1992). Americans' involvement in voting over the past few decades has been transforming. In America, there are a multitude of ways to express one's views and exercise one's rights such as working for a political party, contacting officials, attending public meetings, signing petitions, and many more. While some individuals are more involved than others, through each election fewer Americans

are involved in the political process. During the twentieth century, access to voting has been hampered by new laws and requirements to participate (Putnam 2000; Piven and Cloward 2000). Voting is the most basic form of active participation in a democratic system. Due to this, voting can be thought of as a proxy measure of local engagement in democratic processes (Putnam 2000). Studies have shown that people who vote are more likely to volunteer, give to charity, attend community or school meetings, and cooperate with other residents when problems arise (Putnam 2000). Therefore, the act of voting can be a passageway to other forms of volunteerism and good citizenship in one's community (McCann 1998).

Voting data were collected from the State of Ohio Secretary of State for the two most recent local (Mayoral) elections in the city of Cleveland. Since many individuals show up to vote in national elections, local elections from 2009 and 2013 will be used to indicate the level of community involvement in the political system in the three neighborhoods. Higher voting rates in local elections may point to the community being more invested in their well-being. Local elections are one of the most pivotal ways to see change in distressed neighborhoods, such as Hough. Local government is the closest level of government for the people -- and the one in which the people have the most influence. Local government decisions tend to have a major impact on the resident's daily lives and the community as a whole. Participation in these elections is particularly about making collective decisions about the community (Putnam 1996). Community identification and the desired standard of the community influence how people vote and in what capacity (Campbell et al. 1960). Social interaction between the community members should influence others to vote more frequently and for the representatives who are invested in

improving the neighborhood (Putnam 1966). While residents have a psychological attachment to the place they live, there is also a community social interaction which will influence who the residents vote for and the level of electoral participation (Putnam 1966). It has been shown that social membership in organizations is linked to voting participation (Putnam 1966, 2000; Coleman 2004, Dahl 1961). So, the transmission of political attitudes and the willingness to participate in political activities can be a result of formal and informal social interactions. In a community which is tightly knit and seeks change, a diffusion of voting behavior will happen to encourage the development of democratic actions (de Tocqueville 1988; Putnam 1966).

The establishment of Chateau Hough has spurred an environment of discussion and interaction between the community members which did not exist in the past. By the residents coming together in this open sphere, they can collectively agree on what needs to happen in the community to reach their desired goals. By more residents over time participating in this community based organization, voting rates could expand and diffuse across the community to make the lives of the individuals better as well as the entire community.

Incoming Homeowners

Homeowners tend to be much more embedded in their communities' relative to renters, even with other social and economic conditions held constant. Indeed, homeownership is frequently adopted as an indicator of social capital in and of itself (Glaeser, Laibson, and Sacerdote 2002). A great deal of research has suggested that housing tenure is related to community outcomes (O'Brien 2012). Homeowners are far more likely to develop collective norms, be invested in local affairs, and participate in

political organizations (Fischel 2001). Of crucial importance, as Manturuk and colleagues (2010: 474; emphasis added) observe:

Prior research has demonstrated that homeowners are more likely to belong to neighborhood groups, and that membership rates are highest among *new homeowners*. (Manturuk, Lindblad, & Quercia, 2009)

On that backdrop, U.S. Census ACS data are collected for two time periods (2005-09 and 2010-14) for the fraction of homeowners who moved into their homes in or after the year 2000. Because the Census Bureau reports “year of ownership” in ten-year increments (e.g., 1990-99, 2000-09, etc.), it is necessary to select a common starting year to operationalize “new homeowners” consistently in both datasets being queried. Given that the first dataset ends in the year 2009, the year 2000 was the most recent starting point that was common to both ACS data products (2005-09 and 2010-14). As a result, for analytical purposes, “new homeowners” are measured as those owners who moved into their homes since the year 2000.

Education: School Dropouts and College Graduates

Research suggests that where social capital is relatively high, school dropout rates are likely to be relatively low (Coleman 1987; Smith, Beaulieu, and Israel 1992). In the home is the most influence on the mental development of a child (Marjoribanks 1972). Nevertheless, the family environment is not the only network in a child’s life. A network that includes the home, school, and the community has an influence on the child and their ability to have success in school (Marjoribanks 1972). This indicates that community interaction that conveys norms and values consistent with education is likely to produce students with a greater sense of social integration and a smaller likelihood of dropping out. At the community level, social capital exists in the social networks, interactions, and

norms between the adults that facilitate educational attainment (Smith, Beaulieu, and Israel 1992).

Therefore, child development is strongly shaped by reserves of social capital in a community (Putnam 2000). Research has been shown that trust and reciprocity within a child's family, school, and community have wide effects on the opportunities, choices, performance, and development available to a student (Bronfenbrenner, Moen, Garbarino 1984). These informal networks have the ability to protect children when needed, but in areas where stocks of social capital are low, these support systems are least likely to exist. Where civic engagement is high, generally there is higher parental support and lower rates of student misbehavior (Putnam 2000). Studies have shown that the ability for a student to learn is influenced by social networks and trust in the broader community, as opposed to at home (Rollow and Bryk 1993). These parent communities offer a "social resource to at-risk students" (Putnam 2000, 302) since parents and the community work with students, everyone can benefit. In a community with higher levels of social capital, other adults in the community are able to help out with basic child care and needs when the parent is unavailable. In a community with denser social networks, neighbors can help with afterschool care, homework, car-pooling, and much more. This, over time, will create strong social networks between the parents to help at-risk children succeed in school. This is a broader indicator of community wellbeing. In a neighborhood that has stronger levels of social capital, an individual's quality of life should be improved. The high school dropout rate is one measure of the community building stronger relations, which can be accessed through the U.S. Census ACS and compared through the neighborhoods.

Studies have shown that the number of years in school increasing one's attendance in community organizations (Glaeser, Laibson, and Sacerdote 2000; Putnam 2000; Glaeser 2001). College graduates are more likely to participate and solve local problems with other community members (Glaeser 2001). Individuals who graduate from college are more likely to trust neighbors and help out when time are tough for their neighbors (Glaeser 2001). Education not only teaches one's skills and knowledge, but also teaches social skills. A significant amount of time in higher education is spent on learning how to communicate with peers in an educational setting (Glaeser 2001). Due to this, college graduates have an easier time navigating the political process and helping solve problems facing the community. So, the more college graduates seen in a community, the higher probability that they can solve individual and community level problems (Cortese 2003).

Population Change

Lastly, population in the neighborhood could be a significant factor when viewing social capital within the community. If the neighborhood is stabilizing in population, people could be more invested in the community and the wellbeing of others. If the historic processes of population decline in the Hough neighborhood are slowing or stabilizing relative to the two comparison neighborhoods, this could point to increasing stocks of social capital in the Hough neighborhood (Putnam 2000). More precisely, in the context of ongoing prevalent, severe, and persistent population loss in Cleveland (e.g., Beauregard 2006; Weaver et al. 2016), a relatively stable population might be a sign of stronger local social capital (e.g., Temkin and Rohe 1998; Weaver et al. 2016).

Since social capital is an intangible resource that cannot be directly measured or

observed, the aforementioned proxy indicators, taken together, may provide some insights into how social capital might be changing in the study area. In addition to those variables, which can be analyzed with difference-in-differences (DiD) methods, I will consider two additional metrics that do not lend themselves to DiD analysis.

Anecdotal Evidence

The overarching goal of analyzing change in multiple quantitative indicators of social capital (see the preceding subsections), then, is to understand whether circumstantial evidence stacks up in favor of the idea that social capital might be accumulating in Hough relative to the control neighborhoods. As another layer of evidence, the thesis will also consider the counts of certain types of institutions that may contain information on social capital. Crucially, these variables, which count relatively rare events—institutional creation—do not lend themselves to statistical analyses. As such, they will be treated as an anecdotal check on the DiD analyses.

Civic Organizations

Interest and involvement in the political system are critical preconditions for more active forms of civic involvement. At the grassroots level, attending a campaign meeting or volunteering for a political party has become rare over the past thirty years (Putnam 2000). The forms of political participation that have declined slowest is activities that can be undertaken as an individual, while organized activities at the community level have declined most strikingly (Putnam 2000). This pattern of decline “cooperation falling more rapidly than self-expression” (Putnam 2000) may have encouraged the declining activity in the political system and the involvement in the community.

Voluntary and grassroots organizations allow residents to express their interests

and demands on the government and protect themselves from power abuse by the representatives. Political information flows through social networks and within these networks public information is discussed. Over time, these informal discussion networks between individuals establish habits of cooperation, trustworthiness, and reciprocity, which, in the long term, build bridging networks with individuals outside one's every day social group (Putnam 2000). By residents coming together in a public environment, these voluntary associations serve as forums of negotiation and planning which can lead to even more active participation in civic life (Craig 1996). Through community involvement, a resident's voice can be amplified and multiplied to solve the community's problems (Verba, Schlozman, and Brady 1995). Social capital fostered through these organizations allows political information to spread so more individuals can be present in the political system to represent their community to ultimately achieve community goals (Crenson 1978).

The Chateau Hough vineyard seeks to create social capital by bringing the residents of the community together in a public sphere (Anonymous. 2016. Email with vineyard manager by author. April 6). This open environment is an area of discussion between residents that would usually not communicate or interact. This makes people more aware of their own viewpoints and the views of others. With the collective voice of many community members, the local representatives that can invest in their community may have a higher chance of being elected. With the government officials elected that the community wants, investment might be put into the neighborhood to create a positive change in the whole community over the long term. In a community that has higher levels of social capital, residents are more likely to support the governments legitimacy

and if a resident trusts their neighbors more residents are willing to cooperate to make the neighborhood a better place (Putnam 2000, Song and Yarbrough 1978).

Americans over the past three decades have been less involved in civic organizations such as school groups, recreational clubs, work groups, labor unions, religious organizations, neighborhood groups, charitable groups, and youth groups (Putnam 2000, Babchuk and Booth 1969). Membership in these organizations is one of the most known components of social capital and is seen as a useful indicator to social change in a community. The amount of time one devotes to organized activities will vary, but typically the time spend on these activities is relatively small with most meeting occurring once a week or month. However, the amount of time the average American spends on civic involvement has decreased over the past decades (Putnam 2000). Individuals living in impoverished areas are less likely to be involved in community organizations (Babchuk and Booth 1969). Grassroots non-profit organizations are key to helping impoverished communities build social cohesion and trust.

These institutions benefit residents at the individual level as well as the community level. Social networks provide ways to which we can carry out good deeds to foster norms of reciprocity that encourages the attention of others to do the same. Over time, more residents of the area will be willing to help others which can produce profound change in an area. Altruism is encouraged by civic institutional involvement. Members of organizations such as religious, school, and other community organizations are more likely to be invested in the community, donated money, and participate in other civic events (Putnam 2000). Individuals that participate in civic organizations should be more interested in politics, more optimistic about the future of the community, and

exhibit other modes of civic virtue. Social connections are a strong predictor of volunteering and charity (Amato 1990). A small group of individuals volunteering will encourage more in the community to volunteer in both formal and informal means. The more individuals participating in community organizations and events could indicate a stronger bond and level of trust between residents which can correspond to higher levels of social capital in a community. Over the long term, more and more residents will participate in community organizations and become heavily invested in the well-being of all that live there, as well as the neighborhood financially, socially, and environmentally (Putnam 2000).

Certain types of community organizations convey information about social networks that are present in a community. Religious, civic, professional, and other organizations can be an indicator for increasing social networks of a community (Putnam 1993, 2000). Institutional infrastructure, such as Chateau Hough, can efficiently and efficiently organize and empower the residents of the neighborhood. This grassroots organization, seeks to influence and change the built environment of the neighborhood, while also empowering the residents that call the neighborhood home. The National Center of Charitable Statistics lists civic organizations which are associations in the community (The Urban Institute 2016). By obtaining all the civic organizations, a dataset can be created that provides comprehensive information on the location and distribution of these organizations within the study area. Each civic organization has an IRS ruling date, which corresponds to the approximate year of creation. By viewing how many civic organizations were present in each neighborhood before the vineyard was created compared to afterward, this can point to the fact that there is more investment into the

neighborhood today than in the past.

Urban Gardens

As indicated above, research has found that urban gardens are effective institutions for increasing the levels of social capital in a community (Kingsley and Townsend 2006; Firth, Maye, and Pearson 2011; Twiss et al. 2003). Members participating in community gardens tend to experience higher levels of social assistance and networks through time (Kingsley and Townsend 2006). An urban garden tends to offer residents a space to communicate, cooperate, socialize, and gain support and knowledge from other residents of the area. This method of socialization is similar to traditional civic organizations, which is seen as essential in achieving higher levels of social capital in a community (Putnam 2000). These gardens are places of community activism and provide a context for learning which can lead to further action by the members of the community to mobilize for the change they wish to see in the community. Urban gardens are unique “in their ability to integrate food production with environmental stewardship and civic engagement” (Krasny and Tidball 2009). For the community, urban gardens are valuable places of learning which can assemble residents for advocacy, promote community well-being, and be locations for celebration (Krasny and Tidball 2009). Urban gardens produce more than just food; they provide places for social interaction and sharing (Alaimo, Reischl, and Allen 2010). Through time, trust can be built between members of the community with frequent socialization and community organizing. Similar to traditional civic organizations, urban gardens can be significant locations of social interaction to facilitate social and economic changes in a community. Therefore, in addition to investigating whether or not new civic organizations have been

established in the study areas since the formation of the Chateau Hough Vineyard, I will also consider the number of community gardens that have been established in the same areas for the same time period.

VII. RESULTS

The results from the difference-in-differences (DiD) analyses described above are presented here for each proxy variable.

Electoral Participation

Voter participation in the two most recent Mayoral elections (2009 and 2013) was used to measure local political participation of residents in Hough and the control neighborhoods. Table 1 presents the results from analyzing neighborhood-level differences in turnout in the 2009 and 2013 Mayoral election. Notably, there has been a decline in turnout in both neighborhoods. However, in the comparison (Fairfax and Central) neighborhoods, voter turnout appears to have dropped off significantly more so than in the Hough neighborhood. If the drop off in Hough and these control neighborhoods were the same, then the DiD estimate would be zero (Figure 13). However, the observed DiD estimate is 3.3%, which suggests that turnout fell much more slowly in Hough relative to the control neighborhoods. Moreover, this result is highly statistically significant (pseudo p-value < 0.01). In practical terms, the drop in voter turnout in Hough from 31.6% to 26.3% was much smaller than the drop in turnout in the comparison neighborhoods, from 27% to 18.4%--and the evidence suggests that this difference (in differences) was unlikely to have occurred by chance. Instead, something about Hough made it less susceptible to the substantial decline in local electoral participation that plagued the control neighborhoods.

Table 1. Results for Voter Turnout

	2009	2013	Change
Hough (n=17)	31.6%	26.3%	-5.3%
Comparison (n=17)	27.0%	18.4%	-8.6%
Difference	+4.6%	+7.9%	+3.3%
Difference-in-differences:	+3.3 %	p=0.006***	

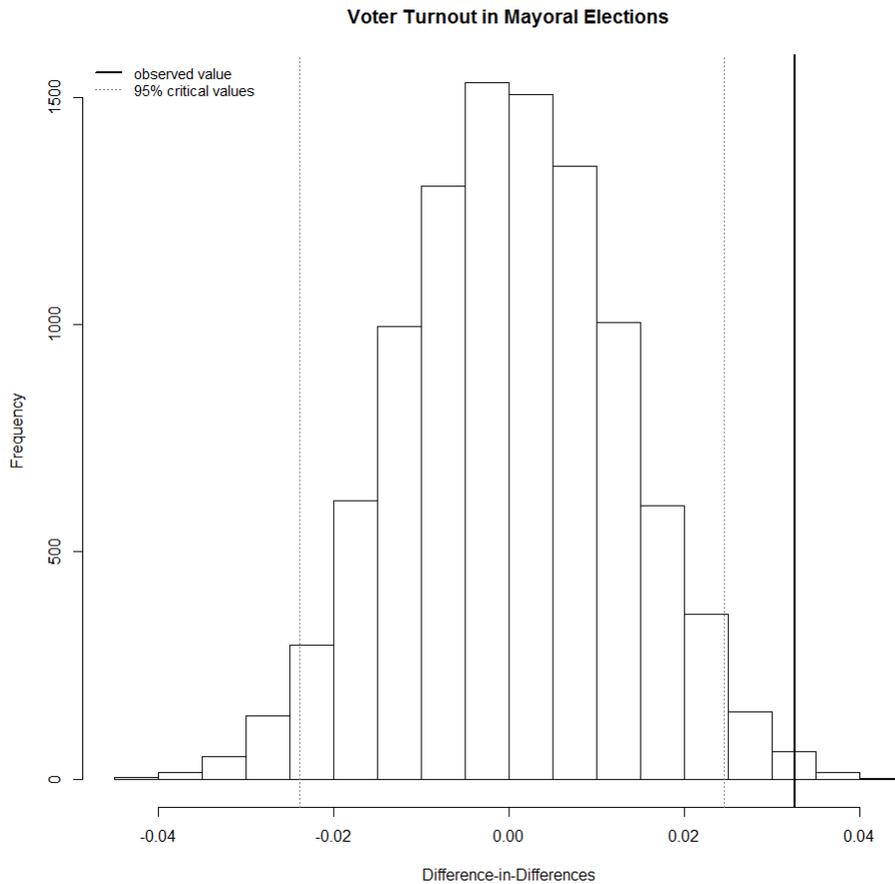


Figure 13: DiD distribution for voter turnout. Pseudo p-value for the observed estimate = 0.006 < 0.01.

Incoming Homeowners

The fraction of incoming, or “new” homeowners in the Hough neighborhood was calculated as owner occupied units for which the head of household moved into the house in the year 2000 or later divided by the total number of owner occupied housing units.

Table 2 shows the results from the DiD analysis for this variable. There has been a slight increase in the number of “new homeowners” in Hough. Interestingly, at the same time Hough experienced a 6.2 percentage point *increase* in new homeowners, Fairfax and Central saw a one percentage point *decrease* in this same metric. The difference in differences estimate is therefore 7.2 percentage points. Despite the relatively large magnitude of this estimate, it does not achieve statistical significance (pseudo two-tailed p-value = 0.313). Notwithstanding, this lack of statistical significance, the direction of the DiD estimate fits quite well with the overarching hypothesis of this thesis. Inasmuch as new homeowners tend to be active and civically engaged residents in their communities (Manturuk, Lindblad, & Quercia, 2009), they contribute to local social capital (Manturuk, Lindblad, & Quercia, 2009). Thus, an increase in new homeowners might reflect growth in community social capital.

Table 2. Results for Incoming Homeowners

	2005-09	2010-14	Change
Hough (n=17)	31.8%	38.0%	+6.2%
Comparison (n=17)	35.4%	34.4%	-1.0%
Difference	-3.6%	+3.6%	+7.2%
Difference-in-differences:	+7.2 %	p=0.313	

Education

The fraction of individuals 16 and over who are not enrolled in school and do not have a high school degree (i.e., high school dropouts) was obtained from the U.S. Census ACS. In a positive development, the Hough neighborhood has seen a steady decline in this high school dropout metric. At only 4.7% for the 2010-2014 time period, this is much lower than the citywide average for Cleveland City Schools at 16.5% (Hawley et al.

2013). In contrast, the comparison neighborhoods saw an increase in the fraction of high school dropouts between the two time periods under investigation. In the “before” time period, Central and Fairfax had a combined high school dropout rate of 12.5%, which increased to 14.7%—right below the city’s average—by the second time period (Table 3). This finding is not statically significant (pseudo two-tailed p-value = 0.555; however, the directions of change in both neighborhoods support the narrative of (potential) growth in social capital in Hough relative to Fairfax and Central. Namely, families may be more invested in their students’ education and wellbeing—investments that tend to thrive in environments characterized by high levels of social capital (Smith, Beaulieu, and Israel 1992).

At the opposite end of the educational spectrum, college graduates are calculated as the fraction of adults 25 years or older that has completed a bachelors’ degree or higher (Table 4). While there was a small uptick in the percent of college educated individuals in the Hough neighborhood—from 9.1% to 9.5%—and a small downtick in the comparison neighborhoods—from 6.4% to 6.3%—these changes are not very convincing. The two-tailed pseudo p-value associated with the negligible DiD estimate of 0.0005 is 0.867, which suggests that there was effectively no change observed between the two study areas.

Table 3. Results for High School Dropout Rate

	2005-09	2010-14	Change
Hough (n=17)	7.3%	4.7%	-2.6%
Comparison (n=17)	12.5%	14.7%	+2.2%
Difference	-5.2%	-10.0%	-4.8%
Difference-in-differences:	-4.8%	p=0.555	

Table 4. Results for College Graduates

	2005-09	2010-14	Change
Hough (n=17)	9.1%	9.5%	+0.04%
Comparison (n=17)	6.4%	6.3%	-0.01%
Difference	+2.7%	+3.2%	+0.05%
Difference-in-differences:	0.05%	p=0.867	

Population Change

While the population of Cleveland has been declining for many decades and continues to do so, the Hough neighborhood might be showing signs of stabilization. Relative to the other neighborhoods, the Hough neighborhood lost an estimate 271 people between 2005-2009 and 2010-2014 (Table 5); while the control neighborhoods lost a combined 1,436 residents in Fairfax and Central. In other words, Hough experienced a 2 percent drop in population at the same time the population in the control neighborhoods fell by nearly 8 percent. For the same two ACS period estimates, the City of Cleveland’s population as a whole was estimated at 439,013 (2005-2009) and 392,114 (2010-2014), corresponding to a 10.7% population decrease. In this respect, population change in the control neighborhoods seems relatively reflective of large scale changes that occurred in Cleveland over the course of the study—while the population loss in Hough seems insignificant by comparison. This slowing depopulation—although the DiD estimator is not statistically significant (two-tailed pseudo p-value = 0.498)—is arguably an indicator of inchoate stability in the neighborhood.

Table 5. Results for Population Change

	2005-09	2010-14	Change	% Change
Hough (n=17)	13,485	13,214	-271	-2.0%
Comparison (n=17)	18,310	16,874	-1,436	-7.8%
Difference	-4,825	-3,660	+1,165	--
Difference-in-differences:	+1,165	p=0.498		

VIII. DISCUSSION

The statistical analyses presented in the preceding chapter arguably reveal emerging tendencies toward positive community change in the Hough neighborhood of Cleveland, relative to adjacent comparison communities. Given the focus of this thesis, I submit that these current tendencies might reflect changes to otherwise unobservable changes in community-level social capital in Hough. More precisely, the circumstantial evidence at least weakly suggests that one of three situations—consistent with the social capital model of neighborhood change (Temkin and Rohe 1998)—is manifesting. That is, social capital in Hough may either be (1) increasing relative to the comparison neighborhoods, (2) staying stable relative to the comparison neighborhoods, or (3) decreasing more slowly than it is in the comparison neighborhoods. For instance, both voter turnout and population continue to decline in both neighborhoods—but much more slowly in Hough than in Fairfax and Central. At the same time, the fraction of high school dropouts in Hough appears to be on the downswing, while it is rising in the comparison neighborhoods. The fraction of “new homeowners” in Hough is on the incline at the same time it is falling in Central and Fairfax. While only the voter turnout difference achieved statistical significance in the study, all of these results point in the direction of relatively stronger social capital in Hough compared to the control study areas (e.g., Temkin and Rohe 1998).

Clearly, many neighborhood-level changes are obscured from secondary data. However, at least on paper, Hough and the two control neighborhoods have had quite similar trajectories and experiences since at least 1980. In recent years, one of the most visible changes to occur in Hough but not in Central and Fairfax was the creation of the

Chateau Hough Vineyard—a grassroots, community-based initiative that aims to include all local residents in community development. With this new institutional infrastructure in place, it is plausible that the vineyard is playing an important role in social capital accumulation in Hough that currently has no match in the control neighborhoods. In other words, the patterns observed in the statistical analyses may be, at least in part, reflective of positive impacts that Chateau Hough is having in the community.

That being said, keep in mind that data analysis—particularly when the results are relatively weak—only reveals a partial picture. Consequently, it might be helpful to situate the preceding results onto key layers of anecdotal evidence. Toward that end, consider that several new “civic organizations” (see the section entitled “Civic Organizations” in Chapter VI) have been established in Hough. New civic organizations may be a reflection of rising stocks of social capital in a community (e.g., Putnam 2000). However, compared to Central and Fairfax, far fewer civic organizations have been established in Hough since 2010 relative to the control neighborhoods (Figure 14).

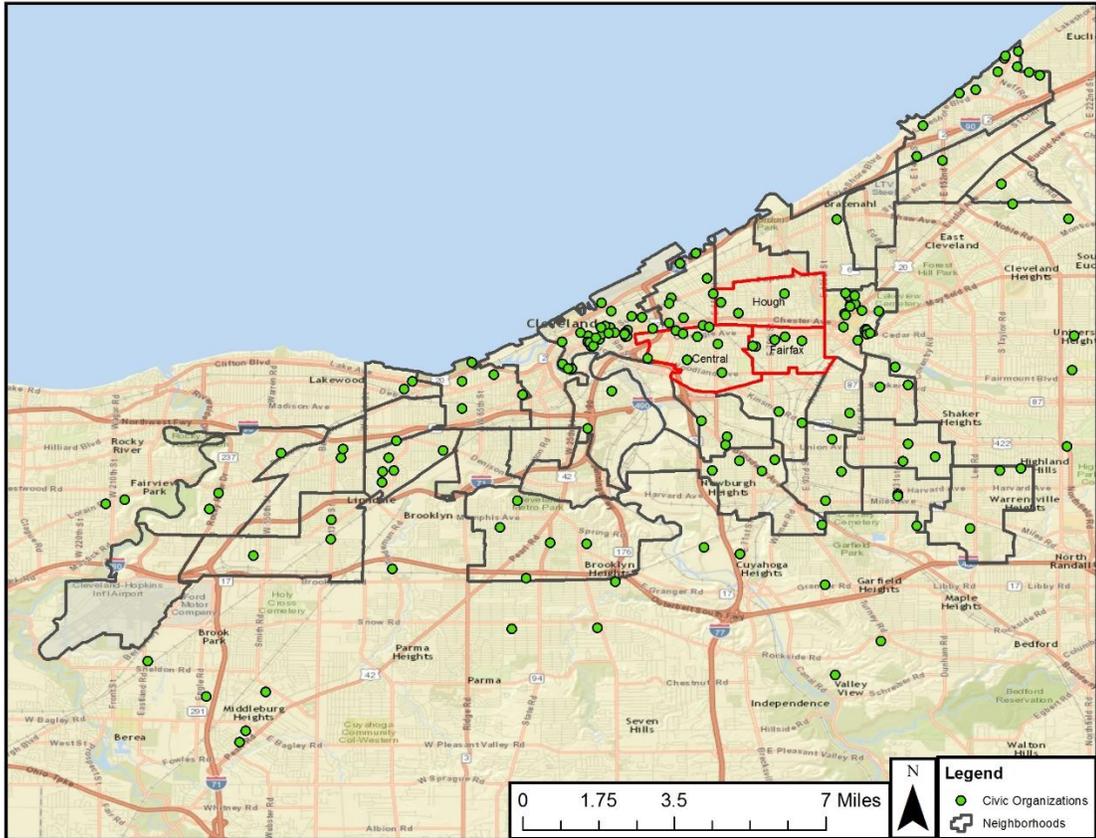


Figure 14: Civic organizations in Cleveland established after 2010.
 Source: National Center for Charitable Statistics and City of Cleveland.

The observation that fewer civic organizations have incorporated in Hough relative to Central and Fairfax since the introduction of the urban vineyard outwardly goes against the growing narrative that social capital is faring better in the former neighborhood relative to the latter neighborhoods. Nevertheless, while ample social capital literature treats the types of civic organizations mapped in Figure 14 as proxies of institutional infrastructure (and thus indicators of social capital) (e.g., Putnam 2000; Babchuk and Booth 1969; Temkin and Rohe 1998), they might not serve that purpose in inner city Cleveland. For instance, in the United States involvement in formal civic organizations have been decreasing over the past few decades. At the same time, the

variety of civically minded organizations is much greater than it was a few decades ago (Sobel 2002). Thus, while classic works focus on membership- (and fee-) based organizations like sports and bowling clubs (e.g., 2000), it is important for contemporary studies to go beyond these traditional classes of civic entities. For the purposes of this study, community gardens are one form of a civically-minded and community-oriented entity that is not included under the umbrella of “civic organizations” as it tends to be defined (e.g., Putnam 2000). Unlike membership- (and fee-) based civic organizations, however, urban gardens might be more rooted in geography and, potentially, more inclusionary. For that reason, change in the number of community gardens might be a more useful indicator of increasing or stabilizing social capital in a neighborhood. Community members are active maintainers of the local green spaces, meaning that they have ample opportunity to interact and build trusting relationships. Residents of a community can use the social networks accumulated through gardening to benefit their own life as well as community life (Sobel 2002). In the long term these benefits can diffuse out to benefit members of the community who are not even associated with the organization.

With these points in mind, it is essential to indicate that since the creation of Chateau Hough, the Hough neighborhood has established far more community garden—in terms of both acreage and quantity—than Fairfax and Central combined. In Hough, at the end of 2016, there was a total of seven public gardens that have been established since 2009. This is a total of 2.14 acres of land in the neighborhood. Central and Fairfax both have seen two public urban gardens established since 2009. For these neighborhoods the four community gardens have a combined acreage of 0.476, considerably lower in the

amount of land then is seen in Hough (Figure 3). In light of these findings, change in these informal “civic organizations” adds a layer of anecdotal support to the statistical evidence, which points toward positive social capital outcomes in Hough relative to the control neighborhoods following the introduction of an urban vineyard.

Apart from all of the numbers and statistics that speak to social capital, a noteworthy component of the vineyard is that there is no fence around the garden. Indeed, anyone can come to help at any time of the day. Many urban gardens will establish a fence around the garden to keep out individuals which are not associated with the project. There have been no instances of vandalism to the vineyard since it has been established. The community seems to truly back this project with no reports of negative behaviors towards the project or the residents which participate in the organization. Such circumstances in and of themselves may also speak to relatively high social capital in Hough compared to other neighborhoods.

IX. CONCLUSIONS AND LIMITATIONS

This thesis sought to evaluate two research questions: 1) have social and economic conditions changed in the past ten years relative to the city and the comparison neighborhoods? and 2) has social capital increased in Hough since the establishment of the vineyard? Statistical and anecdotal evidence suggests that there has in fact been social change in Hough over the past ten years. However, the observed rates of change are slow, and more time is likely needed to observe any significant quantitative change that may occur in the area as a result of recent community development interventions. Nonetheless, various social metrics do seem to be changing in more positive directions in Hough when compared to Central and Fairfax. Although most of the variables did not reach statistical significance at conventional levels, the study revealed that: population in Hough appears to be stabilizing; new homeowners are moving to the neighborhood; residents are voting in local elections at higher rates than they are in similar neighborhoods; fewer residents are classified as high school dropouts; and more community gardens are being formed relative to nearby communities.

On these grounds, it can be claimed that Hough is changing in ways that baffle from the tendencies being observed in Central and Fairfax and in the city of Cleveland as a whole. One reason for this deviation may be that Hough is experiencing relatively positive changes in its community-level social capital (e.g., Temkin and Rohe 1998). Whether or not this is the case ought to become clearer as time passes. Indeed, should the emerging patterns revealed in the foregoing analyses give way to stronger and more effective community-level trust, reciprocity, and social networks in the near future, then the types of methodological interventions circumstantial evidence derived in this study

might have broader value for predicting social capital accumulation at the neighborhood level.

On an encouraging note, since I have been writing this thesis, several developments suggest that social capital may be both on the rise and being efficaciously used. For instance, Chateau Hough recently published a five-year plan for the neighborhood to expand their current operations to an entire city block, in order to create an urban agriculture zone. Additionally, the vineyard intends to expand to an abandoned firehouse several blocks away—both to build its internal capacity and to remove visual blight from the neighborhood, thereby contributing to community-level wealth. Furthermore, on an aggregate level, residents outwardly appear to be more invested in their community than in the past. Recall that voter turnout was the only variable from the statistical analyses that achieved significance. Corroborating that narrative, residents in Hough recently experienced success in electing a local representative to office. That representative is introducing a bill to fund new urban gardening and viticulture projects throughout Hough and the City as a whole.

Thus, the evidence for positive changes in social capital in Hough—following an innovative community development intervention—seems to be stacking up. Still, there are several limitations to this study. Among the major limitations are the time frame of the analysis, data limitations, and the small sample size used in the quantitative analysis.

Concerning time, given that the vineyard was only established in 2010, and that the bulk of data available for the study ended in 2014, positive (or, feasibly negative) effects from the intervention may not be adequately captured in such short turnaround datasets. By conducting this same investigation in the near future, with longer time

horizon data, researchers can reveal a complete picture of the changing conditions in Hough compared to the Central and Fairfax neighborhoods.

Similarly, while there was a substantial amount of census data used in the analysis, I was unable to obtain desired data from sources such as the city of Cleveland. Several data requests—such as for the locations and outcomes of land bank parcels—were not responded to, meaning that valuable data was not able to be included in this study. With data from the city, a more robust investigation is presumably possible. Concerning the data that were used in the study, the U.S. Census ACS data is reported for five-year periods. Thus, even current data tend to be somewhat dated when they are released.

Regarding sample size, any neighborhood-level analysis tends to consider somewhat compact geographic study areas. For my purposes, that meant that only thirty-four census block groups were considered to be “part” of the neighborhoods under investigation. For that reason, supplementing census data with other, more micro-level data sources, would be a valuable extension of this work. Once such data source could be parcel-level data on real property conditions (e.g., Weaver et al. 2014).

More generally, a qualitative study using surveys, interviews, and participant observation would have great value for overcoming some of the challenges endemic to studies of social capital that rely exclusively on secondary data indicators (see Weaver et al. 2016). Indeed, the original plan for this thesis was to adopt such a methodology; however, time and budget restrictions, in addition to local circumstances, conspired against that intention. Regarding local circumstances, residents of the community have been subject to numerous surveys over the past few years, and they wish to keep the

number of surveys conducted to a minimum (Anonymous. 2016. Email with vineyard manager by author. April 6). If surveys conducted in Hough were shared with researchers and community development organizations, it would make studies in the community more accessible and efficient for both the researcher and residents of the community.

Taken together, these limitations are thought to be a driving force behind some of the ambiguity of the results derived above. However, one of the justifications for studying multiple indicators of social capital was to add some robustness to the conclusions. In that respect, the fact that all of the statistical evidence appears to fall on the same side of the ledger—though, again, not all in a statistically significant manner—suggests that Hough is changing in ways that are different from nearby and citywide trends, and that on balance these changes appear to be positive when compared to the changes happening elsewhere in the city.

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