

SUSTAINABILITY FOR WHOM? AN EXAMINATION OF THE FORGOTTEN PILLAR OF
SUSTAINABILITY AT THE LOCAL LEVEL

by

Timothy P. Clark, B.A.

A thesis submitted to the Graduate Council of
Texas State University in partial fulfillment
of the requirements for the degree of
Master of Arts in Interdisciplinary Studies
with a Major in Interdisciplinary Studies
December 2014

Committee Members:

Dianne Rahm, Chair

Vince Lopes

Chad Smith

COPYRIGHT

by

Timothy P. Clark

2014

FAIR USE AND AUTHOR'S PERMISSION STATEMENT

Fair Use

This work is protected the Copyright Laws of the United States (Public Law 94-553, section 107). Consistent with fair use as defined in the Copyright Laws, brief quotations from this material are allowed with proper acknowledgment. Use of this material for financial gain without the author's express written permission is not allowed.

Duplication Permission

As the copyright holder of this work I, Timothy P. Clark, authorize duplication of this work, in whole or in part, for educational or scholarly purposes only.

DEDICATION

To my parents, family, and friends

ACKNOWLEDGEMENTS

First, I would like thank Dr. Dianne Rahm, who worked as my advisor and academic mentor on this project and throughout my last year as a Master's student. This work would not have been possible without her guidance, and I am thankful for it. I would also like to thank Dr. Vince Lopes, whose curiosity and passion is an inspiration. I would also like to acknowledge and thank Dr. Chad Smith, who agreed to help on to my committee and provided lots of invaluable advice to me, a student whom he barely knew initially. Finally, thanks to my parents, who supported me throughout this process, and who instilled in me the passion to care about equity in the first place.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS.....	v
ABSTRACT.....	vii
CHAPTER	
1. INTRODUCTION.....	1
Defining Sustainability.....	1
Why Local Government?.....	7
Local Government and Sustainability	14
Methodology.....	21
2. RESULTS.....	24
Analysis	36
Conclusion.....	41
APPENDIX SECTION.....	47
REFERENCES	53

ABSTRACT

This thesis examines the question of socioeconomic equity in sustainable cities. Of the three pillars of sustainability, social equity is typically the least researched by scholars and the least addressed by local governments. This gap in the research and policy making is problematic, particularly, when considering how the environmental challenges of the 21st century will disproportionately affect those in lower socioeconomic strata. In order to address these gaps in knowledge and gain a fuller understanding of how sustainable cities address socioeconomic equity, a survey was sent to 135 cities across the United States. Key findings include significant relationships between sub categories and the impact of education levels, Hispanic populations, and geographic location on predicting performances.

CHAPTER 1

Introduction

Sustainability is a concept that has recently gained much attention; yet, in both the academic community and amongst governmental actors, there is much confusion about what it even means to be sustainable. Recent research attempts to clarify this ambiguity by engaging in theoretical discussions about sustainability, and by sending surveys to and carrying out case studies on local government actors in order to understand how planners and policy makers put (or fail to put) the idea into action.

The first section of this thesis will detail the concept of sustainability and its evolving definition. Following that discussion, the next section will describe why local government is an important area to study for those concerned with sustainability. Then, the following section will review the prior literature on sustainable policy making in local government. Following this review, the methodology will provide details about the survey sent as part of this study, as well as present research questions. The thesis will ultimately conclude with a discussion of the findings, theoretical analysis, and policy implications.

Defining Sustainability

The 1987 report, *Our Common Future*, a product of the World Commission on Environment and Development, with direction from the United Nations, first defined the term sustainable development. Sustainable development, as the Commission defined it, is development that “meets the needs of the present

without compromising the ability of future generations to meet their own needs,” (Bruntland Commission 1987, 43). The Commission was named for its leader Harlem Brundtland, former Norwegian Labour Party Leader (Population and Development Review 1989). Capturing the optimism of the Global North and West as the fall of Eastern Bloc Communism became imminent, the definition centers on development and progress. Industrial society does not have to go backwards, or prevent countries from industrializing: if development occurs in such a way that is more environmentally sound and less resource intensive than the standard practices.

Predictably, this definition is more palatable with business leaders and nations than a more radical conceptual framework. Graf (1992) notes that the Brundtland’s definition of sustainability seems to appeal to everyone, from Green Party Members to Conservatives as well as the union movement and international business (Graf 1992). Largely, Graf (1992) argues, Brundtland echoes the desires of the global, economic hegemony and power structures that largely aim at maintaining order and cooperation in a time of environmental and political stress (Graf 1992).

As the term evolved in the 1990’s, it became what environmental policy scholar Walter Rosenbaum calls a “transcendent goal for the international environmental movement,” (Rosenbaum 2014, 24). Again, at a fundamental level, there is perhaps something more appealing about sustainability than, say, deep ecology, which advocates for more holistic changes in lifestyle and philosophy (Rosenbaum 2014). One could argue that sustainability (as it was originally

construed) does not require any paradigm shifts; rather, a person, community, or state may continue to pursue the same ends, but in a less resource intensive manner. Furthermore, as opposed to other environmental philosophies and movements that are more fundamentally opposed to and critical of technology, sustainability is less hesitant to embrace technology and innovation. In that sense, sustainability may favor global capitalism because of its capacity for innovative development, at least in theory. In short, the Brundtland's definition of sustainability works very well with current development, economic, and social paradigms.

Emerging alongside the Brundtland Commission, early sustainability literature attempts to define the term as well, and the general conclusions of early sustainable researchers reflect the concerns of the Brundtland Commission regarding development. For example, Brown et al. (1987), who conduct a review of nascent conceptions of sustainability in scholarly works, found that researchers consider the continued support of human life on Earth, while maintaining quality of the environment, to be priorities in sustainability for researchers. Only in the broadest sense do early sustainability researchers consider the concept of sustainability as applicable to biological systems with no apparent benefits to human civilization. More commonly, early research on sustainability focuses on an anthropocentric view of the subject that not only aims at sustaining human life, but sustaining a certain quality of life that those in industrial society enjoy (Brown et al. 1987).

In this evolving literature, the concept of sustainability came to involve three components: economic, social, and environmental. The economic and social components are of particular interest to this study. Environmental scholar Jonathan Harris defines these two components in the following manner:

Economic: “An environmentally sustainable system must be able to produce goods and services on a continuing basis, to maintain manageable levels of government and external debt, and to avoid extreme sectoral imbalances which damage agricultural and industrial production.”

Social: “A socially sustainable system must achieve distributional equity, adequate provision for social services including health and education, gender equality, and political accountability and participation.” (Harris 2000, 5-6).

Equity is an important component of both of these definitions. Harris’ definition is a reflection of the literature on sustainability, which increasingly began to recognize the importance of socioeconomic equity for sustainability. Economic activity certainly impacts environmental and social spheres. Yet, while early sustainability advocates recognize the importance of the environment in relation to economics, they fail to include the social context (O’Hara 1995). O’Hara (1995) argues that the connection between, say, women or the poor and their relationship with their environment is essential for sustainability (O’Hara 1995). This way of thinking that O’Hara (1995) posits provides the foundation for researchers to begin to consider the three pillars of sustainability, rather than just environment and economic development.

However, during the mid- 1990's, there still existed a larger disconnect between the pillars of sustainability (Basiago 1995). Basiago (1995) advocated for an integrated decision making model for policy evaluation that would aid officials in making the correct, sustainable decision. The analysis included evaluating futurity (i.e., what impact it will have on future generations), equity, global environmentalism, and biodiversity (Basiago 1995). In other words, Basiago (1995) enumerates a methodology for policy evaluation that attempts to bridge the gap in sustainable policy making. This gap, which separates social and economic implications of development, could lead to troubling consequences involving environmental justice and ultimately successful policy implementation. So, for example, an environmental policy that accounts for economic development but does not consider larger social impacts could fail to win support from local stakeholders. This sort of trouble is what Basiago's (1995) method attempts to mitigate.

Research in the 1990's served to shape the descriptions of sustainability and what a sustainable policy might look like. Yet, a description of sustainability still remains largely subjective into the 21st century. In 2001, Phillis argues that what appears sustainable for an environmentalist may appear unsustainable to an economist, and vice versa (Phillis 2001). Notably, the same can be said for an environmentalist or economist and a sociologist at this time. In order to provide a more rigid evaluation of what one could consider sustainable, Phillis (2001) creates a rather complex model using linguistic variables that ultimately could provide policy

makers with some quantifiable answer to the question of ‘what is sustainable?’ (Phillis 2001). Here, the methodology is not as important as the reason for its creation: necessity because of confusion. According to Phillis (2001), politicians and decision makers need a tool for sustainability that is systematic and unambiguous, due to the standard nebulosity of sustainable policy making that leads to different actors pulling in different directions and, ultimately, inefficacy in policy making (Phillis 2001).

As research and practice of sustainable policy continued through the 2000’s, the primary components of sustainability colloquially evolved to the “three E’s,” or Environmental Protection, Economic Development, and Social Equity. Additionally, with further research and time, sustainability trickled down to lower levels of government. The Brundtland Commission’s definition and subsequent literature usually centered on sustainability in a global, development context. For various reasons, which the following section will outline, the context expanded in the late 1990’s and onward through the 2000’s to include more focus on city and local governments. The research on local government during this time period confirms the concern of aforementioned sustainability researchers: there is a high level of confusion on what sustainability means amongst policy actors. As the literature will reveal, the confusion over sustainability is most certainly present at the local level.

This dispute may represent fundamental, underlying tensions in the definition of sustainability. Indeed, some of the tensions even suggest a paradox or contrast within the definition itself. For example, can growth really continue

inevitably while still ensuring equity? Would not some redistributive policies that curtailed growth for some in order to provide more opportunity for others be necessary? These questions represent a small sample of the seemingly limitless tensions in the concept. As a result, it is reasonable to assume that one or a combination of components of sustainability will be preferred or pursued more often than others because of the sheer difficulty in addressing all three at the same time. In other words, governments may neglect one “E”, but pursue the others for various reasons. Indeed, the literature reveals this preference to exist strongly at the local level.

It is critical to understand how and why local government approaches sustainability for many reasons, which the following sections will discuss. In order to begin that discussion, one must understand why local government is making the effort to address sustainability in the first place. In turn, a foundational understanding of why local government is important and intriguing for sustainability researchers will come to light in the following section.

Why Local Government?

Efforts made by city governments to be sustainable are more important because cities face unique challenges to the most threatening and complex environmental problem of today: climate change. Cities generally tend to possess general, common vulnerabilities, which, as the Intergovernmental Panel on Climate Change (IPCC) defines vulnerability, is the propensity or predisposition to be

adversely affected. In cities and settlements, the IPCC reports that urban areas are vulnerable to climate change impacts in three major ways:

- *Economic sectors*
- *Physical infrastructures*
- *Weather events' impact on the health of population* (Wilbanks et al. 2007).

Additionally, the IPCC posits that the level of a city's vulnerability tends to be a function of its location (near coastline, for example), economic status and demographics, and size, as larger settlements are at greater aggregate risk (Wilbanks et al. 2007). The IPCC also notes that a "lack of economic diversification" and "fragile urban infrastructures" often lead to higher vulnerability (Wilbanks et al. 2007, 361).

Human systems are particularly vulnerable to climate change and extreme weather events, and cities amplify these vulnerabilities. Extreme events cause exposure to hazardous waste and can threaten the environmental quality of a city or human settlement. Transportation and linkage systems that move people and services are vulnerable to drought, fire, landslides, and other events. Physical infrastructures such as buildings and roads can degrade with changes in precipitation regimes. Climate change threatens the stability of social systems as well. Homes, shelters, and community infrastructures are potentially vulnerable to climatic events. Furthermore, climate impacts the quality of life and can alter recreation patterns and impact health care systems. In turn, climate impacts a city's competitive economic advantages by affecting tourism, transport, and other sectors. Finally, these impacts are not experienced equally throughout a city; rather, some sectors and some

people—such as the very old, the very young, and the poor—tend to be more vulnerable to these impacts (Wilbanks et al. 2007).

A city government grounded in sustainability should, theoretically, be able to create a more resilient city; particularly if the city's sustainable initiatives and programs address all three pillars of sustainability. Lack of equity often determines the vulnerability of certain populations to climate change and, in general, environmental stressors that many in a city face. Therefore, if sustainability aims to address the most severe environmental challenge that cities face today, it must consider social and economic inequalities in settlements. To borrow from the late social ecologist Murray Bookchin, a great deal of the environmental calamity we deal with today stems from socioeconomic problems. This is no more apparent than it is when considering climate change vulnerability alongside sustainability.

Unfortunately, research suggests that local governments may not be adept at addressing socioeconomic equity issues. In what Whitehead calls neoliberal urban environmentalism, cities tend to engage in environmental policies that “explicitly linked ecological protection with economic growth,” (Whitehead 2013, 1349).

Whitehead's (2013) characterization sounds a lot like the Brundtland Commission's definition of sustainable development that implied growth and expansion, albeit in a more responsible manner. If growth dominates the framework for policy, this can often leave the advancement of equity issues behind. A more redistributive economic policy may create a more equitable city, but it may require a reduction of net growth as well. This tension between growth and equity may hinder the

inclusion of all three pillars in sustainability. In addition, city level decision making appears to contain bias against the equity pillar.

Furthermore, a neoliberal economic approach to governance can weaken adaptive efforts. A neoliberal form of adaptation, Whitehead (2013) argues, would advocate for increased growth and limited government to create a marketplace of innovation that eventually addresses the problems caused by climate change. Specifically, neoliberal urbanism in the sustainability context possesses roots in development oriented sustainability (harkening back to the Brundtland Commission) that link ecological protection with economic growth through market solutions and deregulation (Whitehead 2013). Whitehead (2013) points out that many of the policies that encourage sprawl development and create a disconnected, less resilient city come from urban, neoliberal thinking. Whitehead (2013) explains:

“The liberalisation of housing markets and mortgage systems has enabled the metropolitan property market to be greatly extended. The subsequent acceleration of urban growth regimes over the past 50 years has seen the costs of municipal road building and utility provision spiral. In another context the emergence of just in time urbanism classically associated with new forms of neoliberal flexibility in the delivery of goods and services to consumers, has also necessitated the building and maintenance of extended and costly infrastructure networks” (Whitehead 2013, 1361).

Whitehead describes a frequent criticism of suburban development that is all too common in city planning. The city encourages single-use development on the fringe, creating suburban block housing. In turn, local governments and developers tend to work collaboratively which, as Whitehead (2013) argues, is not necessarily beneficial to the community writ large. However, local governments hope to expand tax rates

in order to fund more services, and the increase in the tax base and rising property values that new development brings may seem to address the needs of the city (Hays 2000).

Furthermore, due to the desire to curb costs and accommodate the demands of businesses and residents, cities also engage in zoning practices. Zoning serves to separate different land uses into distinct areas within the city, and attempts to push the deleterious environmental problems associated with industry away from residential areas, while giving suburban home owners their own, private greenspace. However, these density limits on housing and single-use districts help to create disconnected, branched out communities (Hays 2000). The consequences of disconnection, often called sprawl, affect each pillar of sustainability. Whitehead (2013) details the economic burden of maintenance, but many local government actors and scholars are beginning to note the social and economic impact of such policies as well.

Because of the detrimental effects of single use zoning and certain types of suburban development, many officials work to reduce their city's level of sprawl by encouraging different types of practices and regulations on land usage. This shift in local development policy, often called "New Urbanism," came to light alongside a significant body of research that demonstrates how, as sprawl levels decrease, cities tend to see a plethora of benefits. One, citizens living in more compact and connected areas (i.e., not sprawl) tend to experience more socioeconomic mobility, spend less on housing and transportation, and have more transit options available for their daily

use (Ewing et al. 2014). The benefits from more density, mixed use development, and an increase in transit options not only boost socioeconomic indicators, but show positive environmental effects as well. Burchell et al. (2002) estimate that “smart” or controlled growth strategies could reduce the amount of cars significantly enough to positively impact air quality in many cities throughout the United States (Burchell et al. 2002).

Yet, despite the research and some forward thinking officials, suburban sprawl continues and its costs mount. As the maintenance price-tag goes up, it becomes too high for tax-revenue to cover, so the city often chooses the most obvious option: build more to pay for the last project. In the process, the city becomes overextended with disconnected social networks, forcing its citizens to drive further and further away from work and commercial centers in order to afford rising housing costs. In other words, the city traps itself in a cycle of ever increasing vulnerability due to disconnection, flawed infrastructure, and lack of mobility. This cycle severely threatens a city’s overall level of socioeconomic equity.

City officials also rely upon flawed decision making tools. Cost-benefit analyses (CBA) are a prime example. By typically measuring income and diminishing utility, CBA’s often “neatly sidestep” welfare improvement from redistribution programs. Furthermore, cost-benefit analysis is known to exclude goods that are not easily valued in monetary terms. In short, the benefit of environmental regulatory programs and programs aimed at addressing issues in vulnerable communities are often undervalued. Finally, CBA often does not account for the

social impacts of maldistribution programs (Stanton 2012, 401 and 403). Yet, CBA is a standard tool for policymaking, especially at the local level where neoliberal, market based decision making creates an environment where officials value bottom line costs and do not account for the externalities.

Equity initiatives also suffer from what Stanton calls the power-weighted decision rule. The concept is simple: those who stand to suffer the least from environmental degradation also stand to benefit the most economically. The environmental costs are passed off to poorer communities, and the rich become richer. In the larger context, the costs of climate change (extrapolation of 'environmental costs') gets passed on to vulnerable communities, while those benefiting from say, sprawl development, become richer and more resilient. In her analysis of externality costs, Stanton (2012) concludes that "when net winners from environmental degradation are more powerful than net losers, the degree of degradation will be higher than optimal," and vice versa (Stanton 2012, 402).

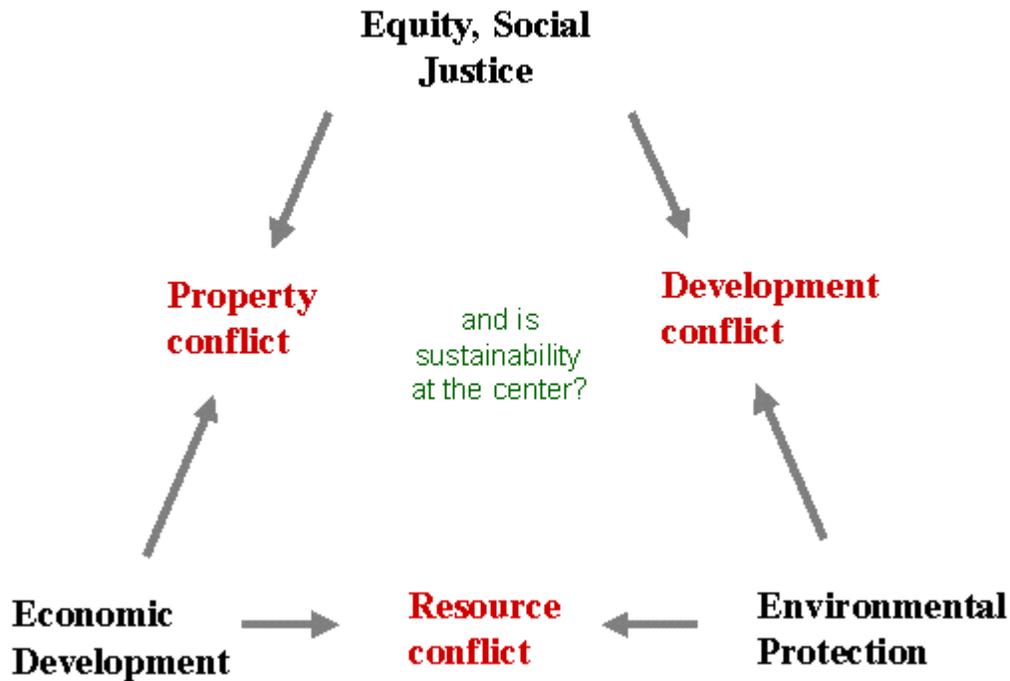
In short, while growth-focused economic development and even certain types of environmental management programs are thriving in city policy making, socioeconomic equity is in danger of being left behind. This disregard is not only troubling from a theoretical standpoint; rather, the failure to address all three pillars of sustainability at the local level threatens climate change resiliency of cities in the United States. Thanks to the efforts of urban sustainability researchers, there is a great deal of literature to draw upon that reveals just how cities actually put

sustainability into practice and, ultimately, provides some insight into the negligence surrounding socioeconomic equity in both research and local governments.

Local Government and Sustainability

It did not take long for local government researchers to take note of the tensions in sustainable, urban policy decision making. In 1996, Scott Campbell, who argues that planners should emphasize sustainable development, notes the difficulty of such a task. The planner, Campbell (1996) argues, must reconcile three competing interests: growing the economy, distribution of this growth fairly, and protection of ecosystems (Campbell 1996).

**Planners address three fundamental priorities:
And three resulting conflicts..**



(Campbell 1996).

In the figure above, Campbell (1996) captures the mindset of an urban planner and the tensions of sustainability that can affect a wide variety of city officials and policy actors. An official advocating for economic development, for example, will likely encounter conflict from environmental advocates and officials concerned with equity, arising from competition for natural resource allocation and property (e.g., affordable housing or luxury condos), respectively. Sustainable development would then be found at the center, or where these conflicting ideas are balanced.

Campbell (1996) then describes a pathway to sustainable development that argues for conflict resolution, increased pluralism, and other procedural paths. In short, Campbell (1996) first recognizes the importance of providing a framework for officials to use in order to come to consensus on sustainability. Yet, he also recognizes the inherent complexity of the task. Subsequent research on sustainability confirms the difficulty that Campbell (1996) first elucidates.

In his 2003 work *Taking Sustainable Cities Seriously*, Kent Portney (2003) identifies twenty-four U.S. cities pursuing sustainable programs and initiatives. Many sustainability scholars consider Portney's 2003 work as a seminal piece (Opp and Saunders 2013, for example) because it is the first study to create a scored index in order to evaluate sustainability rankings. Portney (2003) grouped the measures into clusters, and then scored the cities based on the types of programs they enact. Seattle, Scottsdale, San Jose, Boulder, Santa Monica, and Portland all scored the highest (Portney 2003). Yet, despite the fact that it is highly regarded, Portney's 2003 work did not measure or account for socioeconomic equality (Opp and

Saunders 2013). However, Portney's 2003 work does mark an advancement in urban policy and local government research; however, its impact and usage on the local level is still questionable. Going forward, many researchers followed in his footsteps.

Following Portney, Jepson's 2004 survey examines all three E's of sustainability, in U.S. cities with more than 50,000 people. At the time of the survey, this was 390 cities. Jepson's 2004 survey allows for 3 types of responses: action taken, action not taken, and action not permitted. The most common actions taken (per Jepson's survey) tend to involve land development and planning, while economic development and energy development are less commonly acted upon. Jepson's survey design includes 39 indicators for sustainability. While the indicators do touch on all three E's (some more explicitly than others), they are not grouped into separate respective categories. In any case, socioeconomic equality is poorly represented. In short, Jepson's 2004 survey does not address all three pillars equally, nor does it reveal a great deal about what local policy makers do to ensure socioeconomic equity in their city.

Conroy's (2006) study involves a regional survey of all communities in Indiana, Kentucky, and Ohio with populations over 2,000 but less than one million. The survey asks the respondents to assess their familiarity with the concept of sustainability, explain their city's activities that promote sustainability, explain activities that promoted sustainability, and background on the respondents' department (Conroy 2006). In order to assess the extent to which each community

addresses sustainability, Conroy (2006) develops a list of activities commonly associated with sustainability, then asks the respondents to note if the activity is underway, in the conceptualization phase, or not underway. Conroy's (2006) survey lists 16 activities that addresses each pillar of sustainability. Yet, many of the activities are broad. For example, an activity concerning the equity pillar asks if the city currently has an "Affordable Housing/Social Equity" program underway (Conroy 2006). Interestingly, many of the more specific activities, such as "green building" efforts or "polluters pay" are less commonly in progress than, say, the broader category of "public participation" (Conroy 2006). In short, while Conroy's (2006) study reveals a good amount about that region's local government's attitudes and impressions of sustainability, it does not delineate much regarding specific policies in place to address sustainability.

Conroy's (2006) study confirms prior sustainability researchers' suspicions. Conceptually, sustainability may not be well understood at an organizational (i.e., top to bottom of the office) level. Regarding findings for activities, Conroy (2006) notes that explicit sustainable programs are not typically underway, and that established activities relating to sustainability (e.g., recycling) are more commonly adopted than more cutting edge, innovative policies. Finally, Conroy (2006) notes that sustainability still appears to remain a buzzword in the minds of city officials, rather than a lasting, impactful paradigm shift in city governance (Conroy 2006).

Saha and Paterson's 2008 survey aims at gaining a fuller knowledge of sustainable policy efforts across all three pillars of sustainability. Saha and Paterson

(2008) note that the majority of sustainability research focuses on environmental protection policy rather than the other pillars of sustainability (Saha and Paterson 2008). In order to expand on prior research, Saha and Paterson (2008) design their survey by first compiling 66 initiatives that deal with each pillar. The authors then survey 50 experts and policy makers, asking them to rank the five most important initiatives in each category. Saha and Paterson (2008) then compile a list of 36 total initiatives that cover each pillar (Saha and Paterson 2008). By including an array of expert opinion into the construction of the survey, the authors argue that their survey definition of sustainability is less limited than previous, similar studies.

Their findings are interesting. A total of 34 percent of the responding cities currently possess a sustainability department, 25 percent of responding cities do not have a sustainability department, but do incorporate certain aspects in their environmental/community planning. For those cities yet to incorporate sustainability into their decision making, the cities seem to dismiss the term as a buzzword (as Conroy found) or lack the capacity to implement the sustainable policy. Regarding equity, 93 percent of respondents consider a healthy economy to be very important, 79 percent view a healthy environment as very important, but only 63 percent mention equity as important (Saha and Paterson 2008). Saha and Paterson's 2003 research further confirms the lack of emphasis that socioeconomic equity issues receive under the umbrella of sustainable development.

In a subsequent article that reviews scholarly work, Saha (2009) makes recommendations for future sustainability research. She argues that the first task of

academics should be to address this disconnect between sustainability and socioeconomic equity (Saha 2009). The research of Opp and Saunders (2012) provides a good first step in examining this disconnect.

Susan Opp and Kyle Saunders (2012) author the most comprehensive analysis of sustainable planning in relation to socioeconomic equity to date. The authors point out that American cities typically place greater emphasis on environmental and economic development while ignoring-- or at least not equally pursuing-- social justice and equity issues (Opp and Saunders 2012). The authors base their research off an expansion of prior studies that use sustainability indices. The indices include several broad areas that a city could pursue through a set of specified policies.

Opp and Saunders' (2012) goal in their research is to create a more comprehensive examination to better measure the three pillars of sustainability in city government. In order to accomplish this goal, they identify and enumerate indicators from each area of sustainability and weigh each dimension equally (Opp and Saunders 2012). Opp and Saunders' (2012) then delineate an index with 84 indicators of sustainability, 50 more than the prior researchers. Some indicators for the "social equity/inclusion/justice" category involve incentives for affordable housing and programs to support community gardens (Opp and Saunders 2012). Their analysis, based upon a national survey conducted by the International City/County Management Association, included data from more than 2000 local governments (Opp and Saunders 2012).

Opp and Saunders' (2012) index is unique in that it ranks the top 150 cities in the United States in terms of all pillars of sustainability. It is common to claim via conjecture or assumption that some cities are more sustainable than others. These cities (e.g., Portland or Seattle) may have a sustainability program or initiative, or may be generally more progressive than other cities. However, Opp and Saunders' (2012) index provides a systematic ranking of sustainable cities, based in sound methodology that centers on a complete definition of sustainability. In turn, a researcher with interest in examining a question dealing with sustainable cities may rely on Opp and Saunders' (2012) comprehensive sustainability rankings for a suitable test population. This tool is endlessly valuable for learning more about sustainability in city governments.

Thus, that is what this study seeks to do: provide a greater understanding of how sustainable cities address equity issues, using the most up-to date, readily available, and methodologically sound compilation as constructed by Opp and Saunders (2012). This study will examine socioeconomic equity in much greater detail than prior literature. Rather than relegated to a subsection of sustainability, socioeconomic equity is the sole object of research here. Additionally, more questions on equity will be asked, and more categories of equity will be examined than in prior research. In addition, the survey population is designed in such a way that gives the researcher a greater insight into how sustainable policy makers consider socioeconomic equity. In other words, the survey is deliberately skewed

towards sustainable policy makers and officials in local government. The next section will describe these methods in further detail.

Methodology

While Opp and Saunders and others provide a substantial amount of information about sustainability in municipalities, there is still much room for improvement. For example, unlike prior surveys, this study will focus directly on socioeconomic equity. The survey accomplishes this by not only asking more questions, but by posing questions that are more in depth than prior literature. So, rather than simply ask if a city has an affordable housing plan, this survey asks the respondents six questions concerning housing policy. Each question belongs in its own category, of which there are four: Economic Development, Wage and Benefits, Housing Fairness and Affordability, and Environmental Justice.

Questions are adapted from the concerns expressed regarding socioeconomic equity in prior literature on sustainability, as well as the Center for American Progress' (CAP) 2014 report *Cities at Work: Progressive Local Policies to Rebuild the Middle Class*. The report organizes itself around eight broad areas of local government policy. Not all areas are represented in this survey. The areas that are represented in this were explicitly tied to equity, and more commonly addressed in prior literature.

A total of 150 cities comprise the survey population. Again, these 150 cities come from Opp and Saunders' Sustainability Index. Opp and Saunders' original population consisted of all U.S., member cities of the International/County

Management Association (ICMA) with over 2,500 people (Opp and Saunders 2012). Of the 2,176 respondents (25.4% response rate), the 150 highest scores comprise this survey's population. Thus, this survey's population consists of empirically defined, sustainable cities. The survey respondents come from online searches of each city's website. The goal of the search was to find each city's sustainability official, or the closest position to it. If the city does not have a sustainability officer, an environmental policy official or community policy official, or generic city policy actor is substituted. Of the 150 cities, 44 cities provide an official associated with sustainability, 36 list an environmental services officer, 63 provide only a planning and development contact for the population, and seven cities did not list any contact emails on their website. Those cities that do not list contacts were excluded from the survey population.

Thus, the population for this survey focuses on sustainability, with both the cities and the individual respondents chosen with sustainability in mind. This approach allows for a deeper understanding of how equity factors into sustainable policy making at the local level, and it allows for comparison between sustainability officers, environmental managers, and development officials.

After the survey's construction and initial edits, a pre-test of the survey went out to the Graduate Assistants within Texas State's Political Science Department. Through the survey, the thesis seeks to answer two primary research questions. First, to what extent are sustainable cities pursuing socioeconomic equity (RQ 1).

Second, what (if any) factors contribute to a sustainable city pursuing socioeconomic equity (RQ 2).

The completed survey appears in Appendix A, and the results, analysis, discussion, and policy implications will be discussed in forthcoming sections. Of the 141 potential respondents, six emails bounced, reducing the population size to 135. Of these 135, 44 cities responded, yielding a response rate of 32.6%. The initial survey distribution was preceded by a cover letter designed to explain the purpose of the study and ensure confidentiality. The first distribution garnered 30 responses. Following this initial distribution, seven reminders to complete the survey were sent between June 2014 and October 2014. The descriptive statistics and frequency distributions are presented below.

CHAPTER 2

Results

The overall demographic information for the cities studied appears in Table

1. See Table 1 for a description of the respondents' populations.

Table 1: Population Statistics of Sample Cities

N	44
Mean	169,657
Median	61,376
Std. Deviation	312,182
Range	1,516,429
Minimum	9,577
Maximum	1,526,006
25 th Percentile	22,671
50 th Percentile	61,376
75 th Percentile	179,248

Table 1 describes the population of the survey sample. The mean population of the responding cities was 169,657. The largest responding city was 1,516,429 and the smallest was 9,577. In short, there was a wide range of populations surveyed, and the survey sample reflects this diversity.

The subsequent tables describe the indexed responses for each sub category of the survey. Each question response was scored and indexed for its respective category. Tables 2 and 3 illustrate the score variations for the sub category that measured the respondent's willingness to invest in job programs, hold businesses accountable to the localities' needs, and attract businesses that kept money and

investment inside the city. This sub category is called Economic Development.

Following Table 2, Table 3 presents the descriptive statistics for the responses for this sub category.

For the scale column, a score of “0” would mean that the respondent does nothing related to equity in that category. Conversely, a score of would 7 for Economic Development, 14 for Wage and Benefit Standards, 8 for Housing Affordability and Fairness, and 6 for Environmental Justice would mean that the respondent answered all the questions favorably, and thus achieved a perfect score for the sub category. In short, each question was scored individually, and individual responses were added to form the cumulative score for this sub category.

Table 2: Sub Category Descriptives Table

Sub Categories	N	Mean	SD	Minimum	Maximum	Median
Economic Development	44	4	2	0	7	3
Wage and Benefits	44	2	2	0	7	1
Housing Fairness and Affordability	44	4	2	0	7	4
Environmental Justice	44	4	2	0	6	3

N= Number; SD=Standard Deviation

Table 3: Sub Category Frequency Table

Sub Categories	0	1	2	3	4	5	6	7	N
Economic Development	2	4	9	13	2	4	3	7	44
Wage and Benefits	13	15	7	4	2	2	1	13	44
Housing Fairness and Affordability	9	1	1	6	11	8	5	3	44
Environmental Justice	13	15	7	4	2	2	1	13	44

N= number; Top row represents score values

Tables 2 and 3 provide descriptive statistics and score frequencies for the sub categories. The following subsections will detail the findings in these tables for each sub category, beginning with economic development.

Economic Development

Economic development questions focused on how the cities attempt to attract business, what kind of businesses they value attracting, and how the cities address poverty problems. Only 36% of the scores for this section fell above the median. Less than half of the responding cities (48%) have a jobs training program of any kind. Most cities agree or strongly agree that their city invests in infrastructure in low income areas (86%) and most also agree or strongly agree (73%). Most of the variance in this section therefore stemmed from targeted questions related to jobs training programs and investment in community colleges (questions 1 and 1b).

Section Two: Wage and Benefit Standards

Questions for this sub category assessed cities' willingness to provide protection for workers in the form of collective bargaining, ensuring benefits and labor standards, and enforcing city-wide wage policies. Each question was scored individually, and individual responses were added to form the cumulative score for this sub category.

Judging by the mean value of 2 and the median value of 1, scores at the low end of the spectrum for wage and benefit standards are far more common for the responding cities. Wage and benefit questions seek to evaluate how cities attempt to protect and empower employees by ensuring living wages, benefits, and cooperation between employees and their employer. Thus, due to the high propensity for low scores, the cities generally tend to perform lower than one might expect at ensuring protections and benefits for workers.

Of the responding cities, 80% of the cities' minimum is not above the federal minimum of \$7.25 an hour. Only 32% of cities surveyed require employers to compensate 150% for overtime (more than 40 hours worked), to provide their employees with health insurance, or to provide paid sick leave for employees. Most cities (78%) do not possess a statute that protects workers. Only three out of the 44 cities ensure that workers are paid for all hours worked, two out of the 44 cities stop independent contractor misclassification, zero protect workers from employer retaliation, only one raises cost to employers for violating the law, and two list other measures to protect workers not listed in the survey. A slight majority of cities

(51%) evaluate company and labor conditions prior to granting contracts, and most cities agree (59%) that collective bargaining is common between employers and employees in their city.

Section Three: Housing Affordability and Fairness

Tables 2 and 3 also provide descriptive statistics for housing affordability and fairness. Questions in this sub category addressed cities' policies on creating and maintaining affordable housing units, as well as house city policies on housing fairness. Questions were scored individually, then response scores were added together to produce a cumulative score for the sub-category. With a standard deviation of 2, cities' responses imply a high degree of deviation on housing policy. The majority of respondents (64%), however, scored below the 50th percentile.

The vast majority of cities (95%) prohibit housing discrimination. Targeted, affordable housing programs are less common, as 81% of cities do not offer mortgage refinancing programs for at risk homeowners. Furthermore, 59% of cities do not provide a just-cause eviction program that limits eviction to a specific list of causes, and 82% do not require developers to compensate for affordable housing losses that accrue during demolition. Most cities (57%) do believe they possess ample affordable housing units, and 50% of cities provide tax-based incentives for developers to include affordable housing units.

Section Four: Environmental Justice

Finally, Tables 2 and 3 present frequencies distributions and descriptive statistics for questions concerning environmental justice. Questions in the

Environmental Justice sub category address cities' policies on improving decaying urban infrastructure, community garden programs and environmental education in low income areas, and climate change vulnerability.

Environmental justice questions attempted to assess the degree to which cities valued the quality and restoration of the human, urban environment. About 23% of respondents scored above the median (3) for the environmental justice category. Approximately 73% of responding cities had not conducted a climate change vulnerability assessment. The high volume of low scores skewed the mean downward, below the median value of 3. Most cities agree that their city is working to improve access to public park space in low income communities, and most respondents have some kind of program to support community gardens. The majority of cities do not have a program that provides environmental education to low-income youth, and around 38% of cities admitted their city had a high degree of urban infrastructure decay.

For the four categories, the maximum score was only obtained for economic development and environmental justice. For the latter sub category, the highest score possible was obtained just once. Still, there is substantial room for growth in economic development and environmental justice. Moreover, in the other sub categories, there is significantly more room for improvement. Thus, responding cities did not perform as well as might be expected on many aspects of the survey. The following section will outline the significant correlations between the sub

categories, as well as the significant correlations between demographic variables against the sub-categories and the total score.

Correlation and Regression Analyses

Two sets of linear regression analyses were performed to gauge the overall significance of the model. The 13 independent, demographic variables were analyzed against each sub category (Economic Development, Wage and Benefit Standards, Housing Affordability and Fairness, and Environmental Justice) and against the total score, which was compiled by adding the scores of each category together for each respondent. Each question in every sub category was individually scored based on the response. These individual scores were added together to produce the score for the respective sub category. For each responding city, these sub category scores were combined to produce the total score on the survey. A high score in a particular sub category indicates that the city performs well in that sub category. More broadly, if a city scores high on the cumulative score, then that city performed well on the survey as a whole.

When considering all the variables against the categories and total, the model as a whole did not produce significance ($p > .05$). However, the second set of regression modeling demonstrated significant relationships between the sub categories, as well as several significant correlations. Table 4 (below) illustrates the comparisons between each sub category.

Table 4: Significant Relationships between Sub Categories

Sub Categories	Tests	Economic Development	Wage and Benefit	Housing Affordability and Fairness	Environmental Justice
Economic Development	Pearson Correlation	1	.389**	.146	.114
	Significance		.009	.343	.461
	N	44	44	44	44
Wage and Benefit Standards	Pearson Correlation	.389**	1	.282	.309*
	Significance	.009		.064	.041
	N	44	44	44	44
Housing Affordability and Fairness	Pearson Correlation	.146	.282	1	.617**
	Significance	.343	.064		.000
	N	44	44	44	44
Environmental Justice	Pearson Correlation	.114	.309*	.617**	1
	Significance	.461	.041	.000	
	N	44	44	44	44

* Indicates statistically significant ($p < .05$) correlation

In the far left column of Table 4, each sub category is displayed. Table 4 provides the Pearson Correlation and Significance between each sub category, as well as the total number of respondents (N). The Economic Development sub category posed questions over how cities deal with unemployed job seekers, how cities attempted to attract businesses, what kind of businesses cities tend to attract, and how cities held these businesses accountable to the needs of the locality. Questions in the Wage and Benefit sub category address how a city protects worker rights in collective bargaining, protects wages and ensures adequate pay, and promotes worker benefits such as health care and vacation time. The Housing Affordability and Fairness sub category includes questions that concern how the

cities prevent housing discrimination, promote tenant rights, keep housing costs down, and protect financially vulnerable home owners. Finally, the Environmental Justice sub category asks the respondent questions over investment in decaying urban infrastructure, climate change vulnerability assessment, community gardens, and environmental education in poorer communities.

The first relationship worth noting involves economic development and wage and benefits. As Table 4 demonstrates, the Economic Development sub category was significantly correlated ($p < .05$) with the Wage and Benefit Standards sub category. The correlation was also moderately positive, demonstrating that a city's performance on the Wage and Benefit sub category can be predicted by its performance on the Economic Development category (and vice versa) because, as the correlation implies, scores in either category tend to increase with scores in the other.

The second association with significance is between the Wage and Benefits sub category and the Environmental Justice Category ($p < .05$). The two sub categories show a moderate, positive correlation (.309). Thus, cities who performed well in the Wage and Benefits sub category tended to perform well on the Environmental Justice sub category.

The final significant relationship ($p < .05$) between the sub categories is between the Environmental Justice sub category and the Housing Affordability and Fairness sub category. The correlation (.617) is strong and positive, which is the strongest correlation between the categories. Thus, cities who performed well in

the Housing Affordability and Fairness sub category were much more likely to perform well on the Environmental Justice sub category (and vice versa).

Using multiple regression analysis, a total of 13 different demographic independent variables were analyzed against the scores for each sub category, as well as the aggregate scores. Again, aggregate or total scores for each city were gathered by adding together the scores for each sub category. Demographic data was gathered from the American Community Survey. The variables include: the city's population, the city's location, the city's rank in the Opp and Saunders survey, racial demographics (percent White, Black, and Hispanic), education (percent less than high school, high school diploma, some college, bachelor's or higher), median age, median household income, and percent below poverty level.

The model as whole showed no significance. While surprising, one reason for this lack of significance may be variable clouding that obfuscates the driving factors in the model. In order to gain some further insight into the independent, demographic variables' impact on the sub categories and total score, a correlation analysis was performed.

Table 5: Significant Correlations between Categories and Demographic *

Dependent Variables	Population of City	Percentage with Less than High School Education	Percentage of Population Hispanic	Location of City
Economic Development	Pearson Correlation .24 P<.05*	p>.05	p>.05	p>.05
Wage and Benefit	p>.05	Pearson Correlation: .298 P<.05*	Pearson Correlation:.348 P<.05*	p>.05
Housing	p>.05	Pearson Correlation: .335 P<.05*	p>.05	p>.05
Environmental Justice	p>.05	p>.05	p>.05	p>.05
Total Sum Score	p>.05	p>.05	p>.05	Pearson Correlation: - .318 P<.05*

*Indicates Significant Variables

Table 5 illustrates the significant relationships ($p < .05$) between the sub categories and total score with some demographic variables. As Table 5 implies, the majority of independent, demographic variables showed no significant ($p > .05$) relationship with the sub categories or total. Independent, demographic variables with no significance with any dependent variables are not presented in Table 5.

For the Economic Development sub category, the only significant independent, demographic variable was population. The correlation is moderately positive (.24), so as a city's population increases, its performance on the Economic Development sub category tends to increase as well. No other independent, demographic variable has any significant impact on the Economic Development sub category.

There were two independent, demographic variables that had a significant impact ($p < .05$) on the Wage and Benefits sub category: percentage of population with less than a high school education and the percentage of the population that is Hispanic. The percentage of persons in the population with less than a high school education shows a moderately strong (.298), significant ($p < .05$) correlation with the Wage and Benefits sub category score. Thus, scores in this category tend to increase as the proportion of persons with less than high school diploma (or equivalent) increases. The same can be said for Hispanic populations. As Hispanic population increases, scores on the Wage and Benefits sub category tend to increase due to a moderately strong, positive (.348) and significant ($p < .05$) correlation. Finally, percentage of population with less than a high school education also tended to impact a city's score on the Housing Affordability and Fairness sub category. The correlation between these two variables is positive and moderately strong (.335), and significant ($p < .05$). Thus, cities tended to perform better on the Housing Affordability and Fairness sub category if they had a higher percentage of persons without a high school degree or equivalent.

Finally, for total score on the survey (calculated by combining scores on Economic Development, Wage and Benefit, Housing, and Environmental Justice), there was a significant relationship with the score and the location of the city. To determine geographic locations, cities were grouped into 1 of 4 categories: 1=North East, 2=South, 3=Midwest, and 4=West. Judging by the moderately strong, negative correlation (-.318), cities with higher location numbers tended to perform less well on the survey as a whole. Thus, cities in the West and Midwest tended to have lower total scores than cities in the south and north east.

Analysis

Descriptive Statistics and Frequency Tables

For each category, there is significant room for improvement in scores. The vast majority of scores were below the median for each separate category. Cities generally scored best on the wage and benefit standards section; still, 61% of respondents scored below the median for that category. Thus, these sustainable cities could generally do a lot more to address the third pillar of sustainability.

Regarding economic development, respondents indicated that they valued investment in low-income communities and cooperatively run businesses. However, when asked specific “Yes or No” questions, respondents fared less well, indicating that specific policies may be lagging behind the subjective opinions of city officials. Across categories, respondents more often than not agreed their city was excelling in a particular way, but specific questions on policy pulled scores down. For example, almost 8 out of 10 cities’ minimum wage is not higher than the federal

minimum. This question was scored higher than other questions in the wage and benefits standards category, as one's wage has wide ramifications for one's level of consumer choice, housing quality, and educational access—just to name a few.

Perhaps more surprising, just over 70% of responding cities had not performed a climate change vulnerability assessment of some kind. Given that climate change is widely regarded as today's most serious and least understood environmental challenge, it was surprising to see that sustainable cities rarely conducted such an assessment. In short, regarding issues surrounding socioeconomic equity, the descriptive statistics indicate that sustainable cities have a lot of room to improve.

Summary and Analysis of Findings between Sub Categories

First, the lack of significance between some variables was counterintuitive. For example, there was no significant relationship between the rank on the original, Opp and Saunders index and the rank on this most recent index. This lack of significance suggests that sustainability surveys are fairly subjective: even when using many of the same respondents, performances on the surveys can vary based on which aspects of sustainability the author(s) try to assess. Accordingly, there is no, single authoritative study on what constitutes sustainable policy making at a local level in the United States. Thus, future research on sustainability and local government would be wise to understand prior research as an amalgamation of different, though not necessarily competing, values that can change from study to

study. Accordingly, there is no single, authoritative study on what constitutes sustainable policy making at a local level in the United States.

Economic indicators also played no significant role in determining performances on sub categories or the survey as a whole. Given that two of the categories directly concerned cities' economic policies that directly affect wages and development, the fact that median income and percentage at or below the poverty line showed no significance in this model was surprising. While the source of this lack of significance is difficult to determine, it may be possible that cities do not generally consider addressing economic inequality to be within their jurisdiction or realm of responsibility. Or, the capacity of cities to respond may vary significantly, and this variance in capacity may drive differences in scores. Still, without further study, one can only speculate as to why the economic variables do not seem to show significance with any categories.

As Table 4 illustrates, cities with superior performances in the economic development category tend to show higher scores in the wage and benefit category at a significant level. It follows that cities with who value an active role in equitable economic development would also tend to take the necessary measures to ensure fair worker pay and benefits. In other words, sustainable cities that show a propensity for progressive economic development policy also tend to take an active role in ensuring adequate pay and worker benefits. Thus, how a city perceives economic development plays an important role in how cities view their role of protecting employees, and vice versa.

A more surprising relationship may be the significance between the environmental justice category and the affordable and fair housing category. At first glance, these categories may not appear to hold many similarities. Yet, after closer thought, their interrelation becomes more apparent. Affordable housing plans are often accompanied with infrastructure and park improvement. On a broader level, both housing and environmental justice concern aspects of the urban, human environment. Thus, it follows that cities that care to provide affordable housing would also see value in improving and maintaining other aspects of the built environment, such as community gardens or park space.

Finally, wage and benefits and environmental justice show strong, positive correlations. This relationship can perhaps best be explained by a general tendency in progressive thought: both categories include questions that are strongly associated with government's role in fostering social and economic justice. Wage and benefits question primarily concern worker empowerment and protection, while environmental justice questions in large part assess how a city views its responsibility to enhance the built environment of those in lower socioeconomic strata. Thus, these categories shed light on how the cities view the role of local government in enhancing the well-being and protection of the individual. Cities that are more likely to take an active role in protecting workers thus also tend to value taking an active role in protecting the environment of underprivileged residents.

Analysis of Correlation between Demographic Variables and Scores

The survey results demonstrate that as population increases, scores on the economic development scores increase as well. Larger cities have unique opportunities and challenges that may account for this significant relationship. First, larger cities generally have more resources and revenue at their disposal to use for job development programs, for example. Because of a greater pool of resources, larger cities may feel less pressure to attract new growth through unconditional subsidies. Larger cities tend to have a higher population density, and this may contribute to a higher demand from the general population to provide for the unemployed.

Wage and benefit standards show a significant relationship with Hispanic demographics and percentage of population who possess less than a high school education (Table 5). Hispanic voters tend to support Democrats, and this may result in producing local leaders who, generally speaking, are more accommodating to labor demands than Republicans. Furthermore, a high Hispanic population and a high percentage of citizens without a high school diploma (or equivalent) may indicate a larger blue-collar, working class based economy. While the decline of labor and worker rights in many parts of the United States is well documented, it is still reasonable to assert that areas with a substantial industrial or working class sector would demand a more proactive, pro-worker local government. Similarly, Table 5 also demonstrates a significant relationship between percentage of population with less than a high school diploma (or equivalent) and Housing Affordability and Fairness. In

this regard, a lower level of education usually translates to a lower income. Thus, affordable housing programs and initiatives may simply be far more necessary in areas with higher levels of citizens who lack a high school diploma or GED.

For total scores, location of the city was the only significant factor. Western cities were comprised mostly of cities from California and Oregon. Again, for the location variable, cities fell into either 1 of 4 categories. Categories 3 and 4 represent the Western and Midwestern regions of the United States. According to the regression modeling, cities in the 4 and 3 regions typically performed less well on the survey as whole, with the 4th, Western most region performing the worst. Notably, California (along with other states bordering the Pacific coast) is considered a progressive state, frequently electing Democrats, with leaders who often speak out in favor of green policies. However, based on the results of this survey, the responding cities in these states often lag behind cities in other regions. Because many consider this region to be the United States' bastion of sustainable policy making, these findings are not insignificant.

Conclusion

Findings

To preface this section, survey research is far from a perfect methodology. Nevertheless, when its findings are understood in the proper context, then one can draw useful, if not powerful conclusions. At a fundamental level, the body of survey research on a particular issue should be seen as an amalgamation of individual pieces. It is the job of the research to decipher the puzzle as a whole, while

attempting to fill in gaps of the puzzle. Thus, the findings in this research are just pieces in the puzzle. They are limited by the subjective bias of the researcher, the respondents, and constrained by many of the same larger limitations that impacted prior research—e.g., the lack of consensus on what it means to be sustainable. Despite these admitted shortcomings, because they build off prior shortcomings and attempt to address gaps in broader knowledge, these findings can provide future researchers with more, valuable information about the nature of sustainable policy making at the local level in the United States.

This study yielded several important findings. One, geographic location significantly influenced a city's performance on the total score. Cities in the Western region of the United States tended to perform the worst, overall, followed by cities in the Midwest, cities in the South, and cities in the East. Two, education levels predicted several sub category scores. Cities with lower levels of education in their population tended to score better across several sub categories. Three, levels of Hispanic population had similar effects: as percentage Hispanic population increased, scores on several sub categories increased as well.

Additionally, as detailed in the prior section, several sub categories had significant correlations across other sub categories. These relationships demonstrate that policy preferences often predict other policy preferences in city government. In other words, policy does not exist in a vacuum; rather, policy making is interrelated with prior decisions and follows certain patterns at the local level.

Discussion of Findings

From a theoretical perspective, two points are critical. One, socioeconomic equity is an inherent concept within sustainability: a state, a country, or—in the case of this particular study—a city is not sustainable if it suffers from a high degree of social and economic inequality for the fairly direct reason that those in disproportionately low levels of socioeconomic strata suffer the most from environmental problems. The nature of perhaps the world's most severe challenges—climate change and water scarcity—are testament to this general truism.

Two, socioeconomic inequity has long been linked to environmental degradation (Downey and Strife 2010). As wealth moves upward, and those in the middle and working class see less access to economic and social resources, those accumulating the resources have more potential to create waste and pollution, but become increasingly insulated from the external costs. In such a situation, those accumulating and controlling resources, who have the power to pass off external costs, are economically and politically elite. Downey and Strife define elites as those who in a position of power over a system's economic, political, military, or ideological networks. In explaining the importance of elite theory and environmental degradation, Downey and Strife (2010) cite Boyce (2002) who argues that environmental degradation typically consists of winners and losers. Boyce (2002) suggests that the ability of a person or group to pass off environmental costs works as an enabling factor to engage in environmentally destructive behavior.

Furthermore, implicit in Boyce's (2002) argument is that environmental deration and inequity are "inextricably linked to one another," (Downey and Strife 2010, 160).

So, in a sustainability context, the problem of socioeconomic inequity is two-fold. One, it increases vulnerability to environmental stress throughout large segments of the population. Two, it enhances the ability of small, elite groups to create more pollution and waste.

Downey and Strife apply their argument to a broader, global scale. Nevertheless, its truths are analogous to cities. And this should concern advocates for sustainability in the United States. As Whitehead (2013) explains, U.S. cities tend to support ecological protection if it can be linked to economic growth. In turn, U.S. cities are prone to operate almost pathologically, primarily concerned with immediate revenue generation without much regard for the tenets of sustainability. Such a mindset is prone to generate the exact context that Downey and Strife describe: one governed by elite business and political interests.

It is difficult to determine the extent to which the results of this particular study give additional credence to these theories. What can be said is that sustainable cities have a lot of room to grow when it comes to addressing socioeconomic equity. Additionally, mainstream concepts of sustainability, particularly that California, Oregon, and Washington possess higher ground on the issue of sustainability, are heavily put into question by the results of this survey. Finally, in regards to the findings, education plays a counterintuitive role in determining the scores of certain categories. While higher levels of education generally correlate with progressive

political ideas, cities with higher levels of relatively uneducated citizens scored higher on several categories. This implies that socioeconomic equity policy is less a product of educational enlightenment, but more so a product of social and economic facts on the ground.

As a result of this study, future research on the topic of sustainability would be wise to consider the following: one, the concept of sustainability is malleable. Studies will vary based on how the researcher defines sustainability, and how the respondent understands sustainability. Thus, future studies should incorporate a dialectical approach to sustainability research that seeks to find the intersection between competing values. The findings presented here do not disprove any research; rather, they simply add more knowledge to a web of understanding that is, quite frankly, in need of more development.

Two, students and academics concerned with sustainability would be well advised to think deeply about why these pillar values of sustainability seem to compete with one another so often. The answer may be found in the current socioeconomic paradigm that is rooted in unchecked growth, consumption, and dominance. Future research on sustainability in cities and city government should keep this inherent tension between sustainability and current paradigms in mind, particularly because cities in the United States seem to be very much subservient to them.

At the very least, socioeconomic equity cannot be ignored at any level of sustainability research, whether it focuses on the very local or the very global. Indeed,

the continued persistence and health of complex human societies may very well depend on how socioeconomic equity is maintained and enhanced across various levels of society.

APPENDIX SECTION
Appendix A

Below is a copy of the survey questions and potential responses. If an answer indicated that the city pursued or valued that particular equity issue, a single point or two points were awarded. The scale depends on the question. Three questions were scaled as more valuable than the others: question 5, question 10, and question 17.

The reason for this additional value is theoretical. This survey places a premium on minimum wage policy (question 5), because it is viewed as a baseline policy for equity, and has larger implications for how the city views the value of wages and government intervention in the private sector. Question 10 concerns housing fairness. Prohibiting housing discrimination is a critically important, baseline policy. Finally, question 17 concerns a climate change vulnerability index. Because climate change is considered the most wide ranging environmental challenge human settlements face, this question was scored with more value at stake.

The following four questions refer to economic development efforts in your city.

1. My city has job training programs for the unemployed

Yes

No

If yes, the program (check all that apply):

Networks local businesses with job seekers

Provides scholarships/grants to local community college(s)

Provides skills for living wage jobs

2. My city invests in improving infrastructure in low-income communities

Strong Disagree

Disagree

Agree

Strongly Agree

3. Cooperatively run, employee managed businesses are thriving in my city

Strongly Disagree

Disagree

Agree

Strongly Agree

4. My city has mechanisms in place that hold businesses accountable if they receive subsidies or other special municipal assistance

Yes

No

The following five questions refer to wage and benefit standards in your city.

5. My city's minimum wage is higher than the federal minimum

Yes

No

6. My city requires businesses to provide the following for their employees (check all that apply):

Payment of overtime for 150% or more for over 40 hours worked

Health Insurance

Paid sick leave

7. My city has passed a statute that protects workers

Yes

No

...If yes:

that mandates requires the following (Check all that apply):

Ensures workers are paid for all hours worked

Stops independent contractor misclassification

Raises the cost to employers for violating the law

Protects workers from retaliation

My city's ordinance has other measures

(Please describe):

8. My city evaluates company labor conditions and standards before granting contracts
Yes
No

9. My city provides landlords with free training on fair housing laws
Yes
No

The Following Six Questions deal with Housing Fairness and Affordability in your city

10. My city prohibits housing discrimination
Yes
No

...If yes:

My city prohibits housing discrimination based on the following (check all that apply):

race

income

gender

sexual orientation

citizenship status

other (please describe)

11. My city offers mortgage refinancing for at-risk homeowners
Yes
No

12. My city has a just-cause eviction program that limits evictions to a specific list of causes
Yes
No

13. My city requires developers to replace low income housing units with new ones before demolition of old units
Yes
No

14. There are ample affordable housing units in my city
Strongly Disagree
Disagree
Agree reverse
Strongly Agree

15. My city provides tax-based incentives for developers to include affordable housing
Yes
No

The following four questions relate to environmental justice in your city

16. My city has a program to support community gardens
Yes
No

17. My city has conducted a climate change vulnerability assessment to determine which residents and neighborhoods will be most adversely affected by stresses caused from climate change
Yes
No

18. My city is working to improve public park access in low-income areas
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree

19. My city offers environmental education programs to low income youth
Yes
No

20. My city has a high degree of inner city decay
 Strongly Disagree
 Disagree
 Agree
 Strongly Agree

Appendix B Survey Population

Richmond, IND
Burley, ID
San Luis, AZ
Duluth, MN
Fayetteville, NC
Dublin, CA
Des Moines, IA
Delray, FL
Jackson, WY
Long Beach, CA
Falls Church, VA
Council Bluffs, IA
Asheville, NC
San Juan Capistrano, CA
White Bear, MN
Palm Springs, CA
Ashland, OR
Waco, TX
Menomonie, WI
South San Francisco, CA
Rockford, ILL
Cleveland Heights, OH
 Mooresville, NC
Durham, NC
Tenafly, NJ
Silver City, NM
Philadelphia, PA
Fort Collins, CO
Glendale, AZ
Champaign, ILL
Winston Salem, NC
Evanston, ILL
Grand Rapids, MI
Enid, OK
Marquette, MI
Santa Fe Springs, CA
Tifton, GA
Orland Park, ILL
South Euclid, OH
New Haven, CN
Fort Worth, TX
San Antonio, TX

Virginia Beach, VA
Palo Alto, CA

REFERENCES

- Besiege, Andrew D. 1995. "METHODS OF DEFINING 'SUSTAINABILITY'." *Sustainable Development* 3, no. 3: 109-119. *Business Source Complete*, EBSCOhost (accessed April 28, 2014).
- Boyce, J.K. 2002. "The political economy of the environment." Northampton, MA: Edward Elgar.
- Brown, Becky, Mark Hanson, Diana Liverman, and Robert Merideth. 1987. "Global Sustainability: Toward definition." *Environmental Management* 11, no. 6: 713. *Publisher Provided Full Text Searching File*, EBSCOhost (accessed April 27, 2014).
- Burchell, R.W., Lowenstein, G., Dolphin, W. R., Gall, C.C. et al. 2002. *Costs of Sprawl-2000*. Transit Cooperative Research Program Report No. 74. Washington, DC: National Academy Press.
- Campbell, Scott. 1996. "Green cities, growing cities, just cities? Urban planning and the contradictions of sustainable development." *Journal Of The American Planning Association* 62, 296-312. *Social Sciences Full Text (H.W. Wilson)*, EBSCOhost (accessed April 28, 2014).
- Conroy, MM. 2006. "Moving the middle ahead - Challenges and opportunities of Sustainability in Indiana, Kentucky, and Ohio." *Journal Of Planning Education And Research* 26, no. 1: 18-27. *Social Sciences Citation Index*, EBSCOhost (accessed April 28, 2014).
- Conroy, Maria Manta. 2004. "Taking sustainable cities seriously: economic development, the environment, and quality of life in American cities [by] Kent E. Portney." *Journal Of The American Planning Association* 70, no. 2: 238-239. *Avery Index to Architectural Periodicals*, EBSCOhost (accessed April 28, 2014).
- Downey, Liam, and Susan Strife. 2010. "Inequality, democracy, and the environment." *Organization & Environment* 23, no. 2: 155-188. *Alternative Press Index*, EBSCOhost (accessed November 10, 2014).
- Ewing, Reid, Shima Hamidi, et al. 2014. "Measuring Sprawl 2014." Smart Growth America. <http://www.smartgrowthamerica.org/documents/measuring-sprawl-2014.pdf>

- Graf, William D. 1992. "Sustainable ideologies and interests: Beyond Brundtland." *Third World Quarterly* 13, no. 3: 553. *MasterFILE Premier*, EBSCOhost (accessed April 29, 2014).
- Jonathan M. Harris, "Basic Principles of Sustainable Development," Working Paper. 00-04, Global Development and Environmental Institute, Medford, MA, 2000 5-6.
- Intergovernmental Panel on Climate Change. 2012. "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation Special Report of the Intergovernmental Panel on Climate Change." Cambridge University Press: New York, New York.
- Jepson, Edward J. 2004. "The adoption of sustainable development policies and techniques in U.S. cities: how wide, how deep, and what role for planners?." *Journal Of Planning Education & Research* 23, no. 3: 229-241. *Avery Index to Architectural Periodicals*, EBSCOhost (accessed April 28, 2014).
- O'Hara, Sabine U. 1995. "Sustainability: Social and ecological dimensions." *Review Of Social Economy* 53, no. 4: 529-551. *Business Source Complete*, EBSCOhost (accessed April 28, 2014).
- Opp, SM, and KL Saunders. 2012. "Pillar Talk: Local Sustainability Initiatives and Policies in the United States - Finding Evidence of the "Three E's": Economic Development, Environmental Protection, and Social Equity." *Urban Affairs Review* 49, no. 5: 678-717. *Social Sciences Citation Index*, EBSCOhost (accessed April 26, 2014).
- Phillis, Yannis A., and Luc A. Andriantiatsaholiniaina. 2001. "Sustainability: An Ill-Defined Concept and Its Assessment Using Fuzzy Logic." *Ecological Economics* 37, no. 3: 435-456. *EconLit*, EBSCOhost (accessed April 28, 2014).
- Saha D. Empirical research on local government sustainability efforts in the USA: gaps in the current literature. *Local Environment*[serial online]. January 2009;14(1):17-30. Available from: Academic Search Complete, Ipswich, MA. Accessed December 1, 2013.

- Saha, Devashree, and Robert G. Paterson. 2008. "Local government efforts to promote the 'Three Es' of sustainable development: survey in medium to large cities in the United States." *Journal Of Planning Education & Research* 28, no. 1: 21-37. *Avery Index to Architectural Periodicals*, EBSCOhost (accessed April 26, 2014).
- Samuel P. Hays, *Environmental Politics*. Pittsburgh: University of Pittsburgh Press, 2000.
- Stanton, EA. 2012. "The Tragedy of Maldistribution: Climate, Sustainability, and Equity." *Sustainability* 4, no. 3: 394-411. Science Citation Index, EBSCOhost (accessed December 1, 2013).
- Walter A. Rosenbaum, *Environmental Politics and Policy*. Los Angeles: CQ Press, 2014.
- Whitehead, M. 2013. "Neoliberal Urban Environmentalism and the Adaptive City: Towards a Critical Urban Theory and Climate Change." *Urban Studies* 50, no. 7:1348-1367. Social Sciences Citation Index, EBSCOhost (accessed December 1, 2013).
- Wilbanks, T.J., P. Romero Lankao, M. Bao, F. Berkhout, S. Cairncross, J.-P. Ceron, M. Kapshe, R. Muir-Wood and R. Zapata-Marti, 2007: Industry, settlement and society. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 357-390.
1989. "For Global Cooperation on Environmental Problems." *Population & Development Review* 15, no. 4: 784-787. *SocINDEX with Full Text*, EBSCOhost (accessed April 29, 2014).