

**How urban form effects sense of community: A comparative case study of a traditional neighborhood and conventional suburban development in Northern Virginia**

by

**Jason Lee Beske**

A thesis submitted to the graduate faculty  
in partial fulfillment of the requirements for the degree of  
MASTER OF COMMUNITY AND REGIONAL PLANNING

Major: Community and Regional Planning

Program of Study Committee:  
Timothy Borich, Major Professor  
Francis Owusu  
Michael Martin

Iowa State University

Ames, Iowa

2007

UMI Number: 1447521



---

UMI Microform 1447521

Copyright 2008 by ProQuest Information and Learning Company.  
All rights reserved. This microform edition is protected against  
unauthorized copying under Title 17, United States Code.

---

ProQuest Information and Learning Company  
300 North Zeeb Road  
P.O. Box 1346  
Ann Arbor, MI 48106-1346

To my father, wife & son

## TABLE OF CONTENTS

<b>LIST OF TABLES</b>	<b>V</b>
<b>CHAPTER I - INTRODUCTION</b>	<b>1</b>
<i>URBAN FORM, SENSE OF COMMUNITY &amp; CITY PLANNERS</i>	1
<i>THESIS OVERVIEW</i>	6
<b>CHAPTER II – LITERATURE REVIEW</b>	<b>8</b>
<i>URBAN FORM - INTRODUCTION</i>	8
<i>THE EVOLUTION OF URBAN FORM</i>	11
<i>EARLY AMERICAN CITY BUILDING &amp; THEORIES OF URBAN FORM</i>	14
<i>AMERICAN URBAN FORM FOLLOWING WORLD WAR II</i>	19
<i>DEFINITION &amp; NORMATIVE URBAN FORM</i>	20
<i>SENSE OF COMMUNITY – INTRODUCTION</i>	30
<i>SENSE OF COMMUNITY – DEFINITION &amp; ANTECEDENTS</i>	31
<i>SENSE OF COMMUNITY BENEFITS</i>	40
<i>RELEVANT STUDIES</i>	41
<i>DEMOGRAPHIC FEATURES EFFECTING SENSE OF COMMUNITY</i>	42
<i>SENSE OF COMMUNITY &amp; THE BUILT ENVIRONMENT</i>	44
<i>A NORMATIVE SENSE OF COMMUNITY &amp; MEASUREMENT</i>	47
<i>THE PLANNERS ROLE IN URBAN FORM &amp; SENSE OF COMMUNITY</i>	51
<i>HYPOTHESIS</i>	55
<b>CHAPTER III – RESEARCH METHODS</b>	<b>57</b>
<i>INTRODUCTION OF THE RESEARCH</i>	57
<i>TRADITIONAL URBANISM IN THE WASHINGTON, DC REGION</i>	59
<i>CASE STUDY COMMUNITIES</i>	60
<i>BRAMBLETON IN LOUDOUN COUNTY, VIRGINIA</i>	61
<i>STATFORD IN LEESBURG, VIRGINIA</i>	64
<i>SURVEY OF THE NEIGHBORHOODS</i>	66
<i>SURVEY PROCEDURES</i>	67

<b>CHAPTER IV – RESULTS &amp; DISCUSSION</b>	<b>70</b>
<i>DESCRIPTION OF THE RESPONSES</i>	<b>71</b>
<i>SIMILARITIES BETWEEN NEIGHBORHOODS</i>	71
<i>DIFFERENCES BETWEEN NEIGHBORHOODS</i>	73
<i>ANALYSIS OF THE RESPONSES</i>	<b>76</b>
<i>DEMOGRAPHIC VARIABLES &amp; SENSE OF COMMUNITY</i>	76
<i>ANALYSIS OF SENSE OF COMMUNITY – QUESTION 7</i>	78
<i>ANALYSIS OF SENSE OF COMMUNITY COMPONENTS – QUESTION 8</i>	79
<i>SIGNIFICANT CHARACTERISTICS</i>	81
<i>NON-SIGNIFICANT CHARACTERISTICS</i>	83
<i>TESTING OF THE HYPOTHESIS</i>	<b>85</b>
<i>DISCUSSION</i>	<b>87</b>
<b>CHAPTER V – CONCLUSIONS</b>	<b>89</b>
<i>SUMMARY OF THE RESEARCH</i>	<b>90</b>
<i>RESEARCH GOALS &amp; METHODS</i>	90
<i>KEY DEMOGRAPHICS &amp; PHYSICAL CHARACTERISTICS</i>	91
<i>SURVEY OUTCOMES</i>	92
<i>LIMITATIONS OF THE RESEARCH</i>	<b>93</b>
<i>SIZE OF THE SAMPLE</i>	94
<i>SELF-SELECTION BIAS</i>	95
<i>ADEQUATE SAMPLING OF SIMILAR NEIGHBORHOODS</i>	95
<i>RECOMMENDATIONS</i>	<b>97</b>
<i>FUTURE RESEARCH &amp; SENSE OF COMMUNITY APPLICATION</i>	97
<i>RECOMMENDATIONS FOR URBAN FORM &amp; PHYSICAL PLANNING</i>	99
<i>CONCLUSION</i>	102
<b>APPENDIX A-1</b>	<b>104</b>
<b>APPENDIX A-2</b>	<b>106</b>
<b>APPENDIX A-3</b>	<b>110</b>
<b>APPENDIX A-4</b>	<b>113</b>
<b>APPENDIX A-5</b>	<b>116</b>
<b>BIBLIOGRAPHY</b>	<b>117</b>
<b>ACKNOWLEDGEMENTS</b>	<b>124</b>

**LIST OF TABLES**

<i>Table 2.1. Sense of Community Theory Domain.....</i>	<i>50</i>
<i>Table 3.1. Survey Return Rate.....</i>	<i>68</i>
<i>Table 4.1. Overall Demographic Comparison.....</i>	<i>72</i>
<i>Table 4.1. (continued) Overall Demographic Comparison .....</i>	<i>73</i>
<i>Table 4.2. Select Demographic Characteristics and Sense of Community.....</i>	<i>77</i>
<i>Table 4.3. Select Demographic Characteristics and Physical Sense of Community.....</i>	<i>78</i>
<i>Table 4.4. Q7-Sense of Community Table and Significance.....</i>	<i>79</i>
<i>Table 4.5. Q8-Contingency Table.....</i>	<i>80</i>

## CHAPTER I - INTRODUCTION

If to please the people, we offer what we ourselves disapprove, how can we afterwards defend our work? Let us raise a standard to which the wise and the honest can repair.

-- **George Washington**, presiding officer, first Continental Congress (1787)

### *URBAN FORM, SENSE OF COMMUNITY & CITY PLANNERS*

Planners are often judged by the landscapes, neighborhoods, and communities they produce. However, contrary to the early development of the city planning profession, which was based on physical planning principles, planners today are often relegated to the analysis of quantitative data and social policy issues (Talen 2001). Planners need to focus on a broad range of social issues that influence communities, but they should also concentrate on the related physical attributes of cities. After all, the telos of city planning, contend Talen and Ellis (2001), is deeply embedded in urban form and the physical design of cities.

The field of planning has undertaken the challenge of solving broad societal issues while striving to define the ultimate role of city planners; struggling to maintain a focus on the physical community while the social community needed a cure for urban dilemmas (Talen 2001). Habitually, planners have conceded the field of city building to allied professions with stronger normative visions, often demonstrating little concern for larger public purposes and the long-term future of our communities and neighborhoods. If planners wish to strengthen their professional stature and legitimacy they need to engage the search for good city form with more seriousness, thoroughness, and urgency.

Criticisms attacking the profession of city planning abound. Whether or not well-founded, the actuality of the public's perception has been shaped not by the accomplishments of planners, but by prevailing assertions critical of the unfulfilled deeds of the planning enterprise. Perhaps this sentiment is best summed-up by the criticisms of Jane Jacobs (1961, 6).

Cities are an immense laboratory of trial and error, failure and success, in city building and city design. This is the laboratory in which city planning should have been learning and forming and testing its theories. Instead the practitioners and teachers of this discipline have ignored the study of success and failure in real life, have been incurious about the reasons for unexpected success, and are guided instead by principles derived from the behavior and appearance of towns, suburbs, tuberculosis sanatoria, fairs, and imaginary dream cities – from anything but cities themselves.

The current model of planning relies too little upon the accomplishments of successful city building examples of the past. The default setting for city building in the United States fails, allege Talen and Ellis (2001), because it institutes a particularly extreme

and sterilizing separation of land uses while simultaneously producing visual and functional disorder. Current community design practices that promote auto-dependent and fragmented land uses are widely known as producing the ubiquitous sprawl development that American's have come to expect.

The inertia of existing policies, building practices and built form has blocked the political will of local governments to pursue enduring neighborhoods and communities through any commonly accepted normative standard of community design and urban form. The perception that sprawl and low-density urban form undermine neighborhood social ties and sense of community can have a significant impact on how future communities are planned (Freeman 2001). Ultimately, if planners remain tentative about espousing principles that underlie a normative city form, they are likely to be confined to an administrative and social role in the city building process (Talen 2001).

The requirements for a normative theory of urban form should deal directly with settlement form and its qualities, and not be an eclectic application of concepts from other fields (Lynch 1981). Real estate developers, whom Americans entrust to build their communities to a large degree, adhere to regulations legislated by habitually ineffective land development policies. Left unchecked and without any involvement by the public sector, private development more often than not has lacked the vision and power to build enduring, pedestrian-friendly communities (Duany 2005). Planners should be willing to clearly state that one mode of city building is objectively better than another (Ellis 2005b).

The assumption that planners perpetuate urban form that has had seemingly detrimental effects on the physical and social elements of our neighborhoods puts the whole planning enterprise into question. The credibility of the profession, according to Ellis (2005a), hinges on its ability to produce good city form reliably and consistently. Although negative assumptions prevail, there are signs that current trends in community building may have begun to make a shift towards more responsible practices in certain areas of the country (*Washington Post*, August 10, 2007).

Planners have been left with shallow resources with no definitive standard of good city form in the past. However, there has been an increased effort amongst professional planning organizations to espouse principles that work toward the development of a normative city building standard. The American Planning Association (2002) released a policy guide on smart growth that is aimed at effecting public policy by encouraging the federal and state governments to adopt legislation that assist with the implementation of responsible community building practices. The tenets of smart growth outlined in the policy guide are akin to the principles of traditional urbanism.

A growing interest in traditional urbanism, more commonly referred to as traditional neighborhood development or New Urbanism, has initiated a dialogue on the validity of developing a normative city form. Traditional urbanism focuses on connecting residential and neighborhood environments with social-psychological variables such as “sense of community”, which is the environmental experience of belonging or togetherness in the residential environment felt by community members (Kim 2001; Ellis 2002). This is done through designing and building neighborhoods and communities that stimulate sense of

community through pedestrianism and social interaction, which leads to increased community identity and attachment (Kim 2001). Supporters of traditional urbanism, and particularly New Urbanism, frequently cite an increased sense of community as one of their objectives (Freeman 2001). Interestingly, in the American Planning Association's (2002) motion to adopt their policy guide on smart growth, building communities that have a unique sense of community was mentioned as a defining factor.

The elements that define sense of community are somewhat disparate, but there is sweeping consensus amongst academic disciplines that sense of community is embedded in either the social or physical realm, or a combination of the two. There is, nonetheless, an ever-increasing interest in the role that sense of community plays in the social and built environments. Kim and Kaplan (2004) found that neighborhood sense of community is positively impacted by traditional urbanism and affiliated community design practices.

Nelessen (1994) maintains that our basic intuitions and common sense seek a sense of community. Building from scratch, redeveloping, or revitalizing a portion of a community, according to Lynch (1981), can stimulate or create a sense of community. Properly manipulating the built environment can invigorate people, leading to better communities and an increased sense of community.

Although city planning should be primarily attentive to the physical elements of communities, the study and integration of social research can assist planners and inform policies that influence and shape the built environment. In addition, conducting careful, rigorous studies can help planning scholars shed light on how the environments we build

shape our society; ultimately this knowledge can be used to achieve more livable communities (Freeman 2001).

### *THESIS OVERVIEW*

This study explores the relationship between urban form, sense of community, and the role city planners must embrace to become advocates of land development policies that positively affect good city form, sense of community, and neighborhood livability. A brief history of city building and urban form is explored as a means of examining the forces and guiding principles that have shaped successful neighborhoods and communities of the past. The benefits of such building practices are espoused. A proposed normative standard of urban form originates from this discussion and lays the foundation for land development policies that promote sensible planning principles and dismisses irresponsible past practices.

The review of literature analyzes the definition, construct, and theories of sense of community. Sense of community is examined from a multidisciplinary point of view, drawing upon a broad investigation of the social and physical elements that are embodied in literature. From the review of literature on sense of community, a normative sense of community measurement and translation as it relates to city planning and neighborhood design is espoused. The analysis of the role of city planners in guiding urban form and conjuring sense of community concludes the review of literature.

Next, research methodologies, including research design and data collection strategies are discussed. Detailed profiles of the research sites are presented primarily by drawing upon physical observation and analysis of the neighborhoods, as well as their demographic characteristics. Selection and physical characteristics of the two case study neighborhoods are described. The survey instrument used to measure residents' sense of community and collected data is then analyzed for the case study neighborhoods. Finally, lessons from the study as well as design and planning implications of the findings are discussed along with the study's limitations and future areas of research.

## **CHAPTER II – LITERATURE REVIEW**

### *URBAN FORM - INTRODUCTION*

As thought on the design of cities has evolved, overarching rationale has been to create and expand upon development patterns that are physically advantageous to city dwellers. Just as early American civilizations took advantage of rivers for commerce and industry, super highways, sprawled-out subdivisions and technology corridors play a major role in shaping our modern communities. Analyzing the urban patterns and propensities that have guided predominant urban form is important to understanding those practices that planners can either embrace or disavow.

In less than 100 years, urban form has made a dramatic shift away from development patterns embedded in historic traditions. Lewis Mumford (1925) correctly predicted in the 1920s that the rest of the century would be dominated by a “Fourth Migration” from the central cities to their suburbs. Since the 1950s, 90-percent of the growth in the United States has occurred in the suburbs and to the detriment of many communities there are no signs of a slowdown (Drukker 2006). Suburban villages and rural counties, asserts Barnett (1995), have been transformed into a new kind of city, where residential subdivisions extend for miles and shopping malls and office parks are strung out in long corridors of commercial development.

Architects, urban designers, geographers, planners, and landscape architects have frequently condemned suburbia for its formlessness, waste, lack of community, and exclusivity (Grant 2003). There is a commonly held belief that sprawl has been generated in large by the proliferation of technological advances, particularly the automobile, its subsidies, and ensuing land development policies. If Americans fully understood the amount of subsidies relating to automobile use, including air pollution, parking and other external costs, they would opt for urban patterns that counteract sprawl (Ewing 1997).

However, as the future development of communities transpires, it is widely believed that rapid suburban development will only continue (Lang 2005). Consequently, the planning policies that guide new development are severely inadequate to ensure quality growth, whether it occurs in the suburbs or inner-cities. Most local land-use regulations in the United States are based on prototype enabling legislation and prototype zoning and subdivision codes prepared for the U.S. Department of Commerce in the 1920s (Barnett

2003). Although modern zoning codes have evolved from these early models, they do not effectively deal with the complexities of current development. In fact, the foundation of urban sprawl can be found in local zoning and subdivision regulations that draw upon antiquated methodology.

Although communities are constantly threatened by such an endemic sprawling of development, Fishman (2005) hypothesizes that American cities have begun yet another migration, a “Fifth Migration” that will lead to the reurbanization of precisely those inner-city districts that were previously depopulated. Perhaps, aided by an ever-growing interest in repopulating our urban centers, Americans can once again begin to embrace previously successful city building practices.

According to Duany and Plater-Zyberk (1992), the development of Seaside, Florida, perhaps the best known example of traditional neighborhood development, has signaled the second coming of the American small town. As evidenced by planning movements that exhibit traditional urban patterns, there is an increasing interest for people to live in neighborhoods and communities that espouse principles reminiscent of responsible city planning practices.

To address these issues, urban form is analyzed by investigating those environs that are most prevalent in modern American communities. The successes and failures of these urban forms are examined in relation to relevant planning theory and current community design practices. The review of literature pertaining to urban form concludes with the proposition of a normative standard, which draws upon historical precedents. Following the

review of literature on urban form, sense of community and the role of the city planner in urban form and sense of community is analyzed.

### *THE EVOLUTION OF URBAN FORM*

Identifying the theories and methodologies that have affected modern-day development patterns aids our understanding of the rationale and impetus behind why communities have adopted their current physical form. The following examination explores those urban development patterns that have evolved throughout history, including associated rationale and benefits to the proliferation of urban form. The review of urban form also includes an analysis of American urban form and theoretical utopian concepts ranging from traditional urbanism to conventional suburban development.

City planners, asserts Ellis (2005a), must command the methods required to design the elements of well-structured regions, cities, towns, and neighborhoods. This requires a firm grounding in the history of urban form as well as contemporary models, with a sharp sense of what works and what doesn't from the whole of urban history and from many cultures (Ellis 2005a). For most of human history, people have banded together for mutual security or to be close to critical resources such as water, food, transportation and employment centers (Katz 1994). Planners and city designers, according to Katz (1994), have served the common good by laying out communities to serve people for most of this history; consistently with the city dweller in mind.

Patterns have changed frequently since the first cities were established more than 10,000 years ago. The form of cities is influenced more by the arrangement of their streets and squares than by any other consideration. Vitruvius, often considered the first city planner, laid down rules for the design of Greek settlements in the First Century BC (Lynch 1981). Although Greek cities did not follow a single pattern of development, often growing in organic, irregular patterns due to topography, it was understood the cities served the public welfare of those living in them, and thus were planned to accommodate certain needs (Ellis 2005b).

Following Greek city building traditions, Roman cities also displayed informal complexity and organic growth. However, as the Roman Empire spread across Europe and progressive city-building activity ensued, city planning began to evolve. The Roman military laid out cities on the fringe of the empire employing the simplicity of grid pattern; thus the popularity of this ubiquitous urban form was born. Roman city planners had the ability to layout the basic form of the city with relative ease, considering flat topography of the site and easy access to food and water (Lynch 1981). In the tradition of the grid, this predominate urban form began to sweep across Europe and subsequent medieval cities developed in a compact manner based upon the familiar grid, maintaining a utilitarian function over time (Kostof 1991).

The medieval experience led to the proclamation of the Laws of the Indies of 1573, perhaps the earliest and most thorough example of the legislative control of land development and urban form (Lynch 1981). In the proclamation, the Spanish emperor gave directions by which the Spanish colonial cities, including those in America, were to be built.

There were rules for site selection, the layout of an orderly square grid of streets and blocks, their orientation, the form of the central plaza, the segregation of noxious activities, the form of the wall, the disposition of common lands, the distribution of city lots and farms, and even the uniform style of the buildings (Eisner, Gallion and Eisner 1993). The Laws of the Indies ensured a familiar prescription of urban form on hundreds of cities for over 250 years.

During the European Renaissance, architects and landscape architects began to experiment with shaping urban space as if it were a piece of architecture. It was a commonly held belief that cities could and should be aesthetically pleasing and have functional order (Kostof 1991). Public squares, elegant streets and vistas, and symmetrical building arrangements became increasingly common as elements of city planning; this was evidenced by the great public spaces that were created in Rome and other Italian cities during the renaissance (Ellis 2005b). As the walls of renaissance cities were taken down, the various elements of city building began to have an increasingly profound effect on the expansion of urban form.

Following the Renaissance, the baroque city emerged between 1600 and 1750. The Baroque era is when plans began to be imposed on a site; no longer would topography stand in the way (Eisner, Gallion and Eisner 1993). In some cities, diagonal streets were added to strike through a regular grid. The principles of Baroque planning have fallen in and out of favor over the past four centuries; however, L'Enfant's plan for Washington is one of the premier examples of the concept in the world. Drawing upon the concept, city plans based on the American City Beautiful movement also evinced elements strongly resembling baroque design (Crawford 2005).

The next big transition in city building and urban form came with the Industrial era. Cities have changed more since the Industrial Revolution than in all the previous centuries of their existence (Ellis 2005b). As millions of new immigrants inundated cities, the building of railroad tracks, power plants and factories began to have a profound impact on the shape of the built environment. As manufacturers sought larger parcels of land away from cities, large manufacturing zones appeared. While these zones contributed to the outward expansion of cities, skyscrapers began to change the face of the inner city. As the middle class moved out of the inner city, where their jobs remained, to more spacious suburbs, commuting patterns and the proliferation of the automobile began to have a profound impact on the modern city (Crawford 2005).

### *EARLY AMERICAN CITY BUILDING & THEORIES OF URBAN FORM*

Environmental chaos during the late nineteenth century, which was linked to a number of social problems, added to the outward expansion of cities into newly formed suburbs. Suburbanization, according to Southworth and Ben-Joseph (1995), was seen as a vital force not only in urbanizing the countryside, but also in revitalizing the city. Increased growth outside of inner cities gave rise to utopian concepts that would shape theoretical planning thought for decades.

Traditions of city building that were popular in Europe were eventually carried to cities and villages throughout America. The gridiron plan of New York City was the early beginning of an urban character that eventually characterized the entire country (Eisner,

Gallion and Eisner 1993). This reached a height during the US westward expansion, when hundreds of gridded towns were platted along the railroads. In many cases, the exact same plan was repetitively stamped onto the land. This was a matter of expedience and almost all of these towns still have their original street network – once established, streets are not often changed (Crawford 2005).

The growth of American communities and modern-day planning, which grew out of the City Beautiful Movement and the World's Columbian Exposition of 1893 in Chicago, led to the assertion and pursuit of urban form variants meant to bolster community health, safety, and welfare (Gillham 2002). The development and proliferation of the electric street and subway trains in the 1880s and 1890s added to the push of communities further and further away from the central city, contributing to an entirely different urban pattern (Ellis 2005b). Streetcar suburbs were responsible for dividing cities both geographically and socially (Gillham 2002). Although not as divisive, they were a precursor to the auto-oriented sprawl that would dominate the landscape in the second half of the twentieth century.

Throughout the early twentieth century the automobile had a profound effect on the future development of communities. Whereas the previous streetcar suburbs had been long ribbons, the new pattern allowed growth wherever there were roadways (Gillham 2002). The new auto-oriented suburbs spread out as increased access to land decreased the cost of developable land. At the apogee of town planning in the 1920s, planners determined urban form by studying the best traditional towns of the era and adjusting their organizational principles only as necessary to accommodate the automobile (Duany 1999). Indeed, the consequential system in which communities were planned to accommodate separated land

uses forced individuals to grow accustomed to urban development patterns that have favored an ever-increasing reliance on the automobile.

Sociologist Clarence Perry (1929), in his work for the City of New York, proposed perhaps the most well known embodiment of a neighborhood for planners across the country that would endeavor to lessen the impending effects of the automobile. His advocacy of the “neighborhood unit” as a principle element of planning for communities was based on the needs of family life. Underlying principles for the “neighborhood unit” included specified boundaries, open spaces, institutional uses (i.e. school sites), local shops, an internal street system, and predetermined size (Watson, Platus and Shibley 2003). The unit was relatively self sufficient and afforded residents the opportunity to walk to principle amenities; typically within a quarter mile, or five minute walk.

As a Sociologist, Perry understood the social ramifications of the physically built environment. The scheme of the neighborhood was regarded both as a unit of a larger whole, as well as a distinct entity in itself. Although neglected as a planning principle for a large part of the twentieth century, the “neighborhood unit” has fallen into favor with planners, community builders, and theorist who recognize the inherent value and ability to contribute to quality of family life. The “neighborhood unit” concept has since been used as a basis for a number of planning theory suppositions.

The accelerated and ever-increasing change in America’s suburbs around the time of Perry brought about several utopian concepts that would challenge the evolution of communities across the country. Experimentation with alternative patterns of development

in the twentieth century produced planning concepts that attempted to address societal issues through physical community design. Visionaries from Penn to Pullman experimented with planned settlements to foster community and a utopian way of life (Gillham 2002). The increase in utopian community concepts also grew out of an advance in technology and the subsequent transformation of urban and rural growth. Although many utopian concepts were set aside as either fantasy or foolishness, according to Lynch (1981), they did play a part in social thought by exposing new values of urban form.

In the late nineteenth century, Ebenezer Howard (Lynch 1981) set forth a vision of a decentralized alternative to the big, sprawling industrial cities that would provide inspiration for other utopian visions. Garden cities (or the greenbelt town concept) were proposed as a series of compact, self-sufficient cities of approximately six thousand acres and thirty thousand people containing their own employment centers, residential neighborhoods, shopping districts, and an ample supply of parks and other public open spaces (Gillham 2002). A few notable garden cities were developed in the United States towards the middle of the twentieth century, including Reston, VA and Columbia, MD. Reston and Columbia, both suburbs of Washington, DC, were built to embody the elements espoused by Howard and are both highly sought-after in the region as desirable communities to reside.

Another utopian vision was that of American architect Frank Lloyd Wright, which he called Broadacre City. Wright favored decentralization from the central city, the only way to guarantee individual freedom, and visualized a great horizontal city of dispersed homes, offices and shopping centers connected by the automobile (Gillham 2002). Wright's prescription was accurate in its assessment of the ubiquity of the automobile and highway to

connect the built environment and shape urban form. However, urban form that favors the automobile over pedestrians has come to be associated with the many ills of urban sprawl.

Just as American cities began to build their first auto-oriented suburbs, another utopian concept that recognized the growing influence of the automobile led the way in the 1920s. Designed by Stein and Wright, Radburn, in Fairlawn, New Jersey, was perhaps the most celebrated early auto suburb. Radburn became nationally known for separate pathways for pedestrians and cars, a hierarchy of roads, cluster of residential neighborhoods, and common space provided by a greenway system (Gillham 2002).

A prevalence of modern urban form inceptions are the result of a succession of conceived theoretical designs, conjectural incarnations, or a combination of the two. Radburn took advantage of community design principles employed in several theoretical postulations and as a basis for its design drew upon several precedent design concepts, including Ebenezer Howard's greenbelt towns. For instance, the superblock, found in Raymond Unwin's successive garden city work, was found in design principles used in Radburn (Watson, Plattus and Shibley 2003). In turn, many of Radburn's innovations influenced several standard features of subdivisions throughout America. The superblock, cul-de-sac, and neighborhood units, borrowed from Clarence Perry's assumptions, would become standard planning practice for suburban development for decades (Watson, Plattus and Shibley 2003).

Radburn demonstrated a new American city building concept that has been emulated throughout the world. Ultimately, recognizing the growth of automobile usage and its impact

on urban form, Watson, Plattus and Shibley (2003) acknowledge that Radburn has taught Americans how to live in spite of the automobile. The fact that social elements of community life would suffer due to the physically-planned built environment would be an austere, yet anonymous reality for many Americans throughout the remainder of the twentieth century.

### *AMERICAN URBAN FORM FOLLOWING WORLD WAR II*

Prior to the post- World War II exodus to the suburbs, as well as the successive occurrence of urban renewal in the 1950s and 1960s, community planning methodologies were based on principles of common sense and a tradition of rational neighborhood design carried to the United States by European settlers (Lynch 1981). The freestanding ideal planned community quickly became a relic (except among planners and academics) after World War II. Somewhere in the rush to provide public housing, the concept of creating a sense of place was lost, and planned developments replaced planned communities (Heid 1999).

Since then, communities have given little thought to urban form; often giving rise to planning policies that accommodate the often frivolous needs of the automobile and ever-expanding suburbs at the expense of community cohesiveness and good urban form. Laissez-faire development principles have precluded the need for places of social gathering and interaction, leading to a weakened sense of community. Altogether, this approach to

development is proliferated by imprudent and thoughtless local planning policies, further exacerbating a decreased sense of community.

City planning has become too immersed in the administration and survival of housing, environmental, and energy programs and in responding to budget cuts and community demands to have any clear sense of direction with regard to city form (Jacobs and Appleyard 1987). As a result, the automobile has virtually destroyed cities as they once were. However, with a seeming lack of empirical evidence, urban policymakers who want to reduce suburban sprawl have very little evidence to determine whether suburban dwellers would be willing to shift their current residential preferences toward a more traditional urban development pattern (Talen 2001).

### *DEFINITION & NORMATIVE URBAN FORM*

Over time, humans have sought to create settlements based upon principles of rationality. These settlements, or communities, have more often than not allowed for efficiency of use, introducing practical methods of physical and social interaction for the benefit of their citizens. Thus far, the review of literature has demonstrated that over time certain urban forms and city building practices have evolved and contributed to the betterment of the society for which they are designed; or at least this was the case until the late twentieth century. History has contributed many influential individuals and successions

of thought that have inspired the conceptions, theory, methodology, and form of the built environment. A conglomeration of practical thought has led to an urban form that is widely heralded as a normative city building standard.

However, as demonstrated, planning towards the end of the twentieth century began to erode positive contributions made over centuries of city building. Jacobs and Appleyard (1987) asserted an urban design manifesto that identified several community problems, including the abandonment of the pedestrian for the benefit of the automobile. This is largely due to a focus that has shifted away from rational planning principles and planners that have lost their beliefs and rootless professionalism on the part of other design professionals. Too many proposals have been given that are not rationally related to a certain place, and instead of analyzing solutions to particular community design problems, planners have spent too much time devising quick surveys and solutions (Jacobs and Appleyard 1987). Instead of proactively designing communities and neighborhoods, planners are often busy reacting to the forces that tend to destroy models of urban form that have proven to be favorable throughout history.

Talen (2001) speculates that planners have tended to rely on various environmental, economic, and social principles as the basis for pursuing particular spatial patterns in the absence of a robust theory of good city form. While this strategy is useful, it is incomplete, since a theory of good city form must directly engage both aesthetic ideas about the organization of space and ethical ideals concerning the city as a supportive setting for quality of life (Harries 1997). A normative theory, therefore, must deal with the complexities of

aesthetic, ethical, and political theory to secure its foundations and cannot rely solely on empirical evidence from the social and natural sciences (Talen 2001).

A useful starting point for defining normative urban form originates from a definition by Lynch (1981, 48), who describes city form in a multi-faceted, diverse manner as:

[T]he spatial arrangement of persons doing things, the resulting spatial flows of persons, goods, and information, and the physical features which modify space in some way significant to those actions, including enclosures, surfaces, channels, ambiances, and objects. Further, the description must include the cyclical and secular changes in those spatial distributions, the control of space, and the perception of it.

This comprehensive description of urban form draws upon social, political, cultural, economic, and physical realms of urban life. As will be seen, the dimensions and methodologies of urban form are as diverse as the realms in which it exists.

As a leading proponent and advocate for the creation of a normative city form, Lynch (1981) called into question the ability of current theories to truly embrace the interrelation of human purpose and city form. Although the field of city planning may not have a long established history of theoretical development, there are a number of individuals that have developed widely held beliefs that there is in fact a best method of developing communities.

The work of Nelessen (1994) and his studies of visual preferences, as well as Nasar's (1994) related studies of urban images show individual preference by individuals to favor certain city building practices. In addition, Lynch (1981) and Alexander (1977) uncovered the consistency with which people migrate toward certain patterns that are legible and

unified, patterned and complex. Ellis (2005a) asserts that planners should learn from the past and present of places that are functional, sustainable, and rewarding to the human spirit. His assertion is founded in the belief that some spatial patterns provide better conditions for human flourishing and fulfillment than others.

As one of the progenitors of the school of thought associating the principles of city form with the well-being of city dwellers, Jacobs (1961) asserted the need for a ubiquitous principle in the art of city design. She called for an intricate and close-grained diversity of uses that give each other constant support, both economically and socially. This led to the development of an ad hoc normative standard that links the need for mixed land uses, small blocks, mixture of buildings, and a sufficiently dense concentration of people; all to enhance an overall sense of community (Jacobs 1961).

Knack (1995) contends that in order to achieve community, a strong program that includes a mixture of housing types, a retail component, schools, and an open space framework is required. In the last decade, this agenda has been largely propagated by those who espouse principles of traditional neighborhood development (or Neotraditionalists). Neotraditionalists hold that the basic planning principles that guided the growth of communities prior to the spread of sprawl in the second half of the twentieth century are the standards that should guide a renewed focus on planning theories and methodologies.

The main principles of traditional neighborhood development (TND) include elements commonly instituted by the Congress for the New Urbanism (2000). New Urbanism and TND are relatively recent movements aimed at returning to physical planning

principles that existed prior to the spread of urban sprawl after World War II. Both embody key doctrines that are central to theory and criticisms of present planning: mixing land uses, rejecting single-use zoning, integrating housing types, and giving more prominence to public transit and public space (Talen 2001).

Although the concepts are related, New Urbanism can be distinguished as a set of principles for guiding urban form, and the specific techniques associated with realizing them, while a TND is a community built upon those techniques and principles. New Urbanism embraces a set of 27 principles that are meant to guide neighborhood and regional planning that do not specifically address building or neighborhood geometric character (Congress for the New Urbanism 2000). TND is a partially overlapping subset at the neighborhood level and may not necessarily address such regional issues as transit or corridor planning (Leinberger 2003). TND may also include more prescriptive designs for building and neighborhood geometries.

The historical lineage of New Urbanism is often confined to the traditional American small town, John Nolen's planned communities, or the "neighborhood unit" model of Clarence Perry (Talen 2006). Primarily initiated by architects in the 1980s, New Urbanism is an urban design movement that attempts to address many of the ills of our current sprawl development pattern while returning to a cherished American icon: that of a compact, close-knit community (Katz 1994).

Perhaps the principles set forth in Charter of the Congress for the New Urbanism comes closest to providing the core principles by which a normative urban form can be

achieved. New Urbanists advocate restructuring public policy and development practices to support the following principles: diverse neighborhoods in use and population; communities that are designed for the pedestrian, transit, and the automobile; cities and towns that are shaped by physically defined and universally accessible public spaces and community institutions; and, urban places framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice (Congress for the New Urbanism 2000).

Both the principles of New Urbanism and planning techniques found in TND's are closely associated with traditional urbanism, an overarching theme that is gaining increased attention in literature as a unifying theory of urban form (Talen 2001; Leinberger 2003). Traditional urbanism borrows from great cities of the past, as well as traditional small towns found in the older American cities, towns, and villages, to create a proper mixing of different urban functions unified by fundamental rules about neighborhood structure, the placement of buildings on streets, and the design of public spaces (Talen and Ellis 2001). It is in-part a reaction to the often inefficient use of land and infrastructure and lack of a sense of community that has become ubiquitous in many newer developments.

Traditional urbanist developments are designed to promote safe and efficient use of transportation modes, generally by way of an interconnected, grid pattern network of streets. The interconnected street pattern is meant to limit the use of isolated cul-de-sacs that force the major circulation pattern of a community onto a few major roads. Independent networks of sidewalks and bikeways complement the street network (Leinberger 2003). In traditional urbanism, neighborhoods are also meant to be pedestrian-friendly and typically have narrower streets than conventional suburban developments. The compact nature of

traditional neighborhoods also means that developments are designed for the human scale, which is defined as the relationship between the dimensions of the human body and the proportion of the spaces which people use (Nelessen 1993).

Additionally, architecture is an important element of traditional urbanist projects (Gillham 2002), often using influences from pre-World War II housing. Traditional urbanism strives to create a traditional village neighborhood by relegating the garage to the back of relatively small lots and restoring street-focused front porches. Traditional urbanism inherently encompasses benefits not realized by more recent conventional suburban developments. This partially stems from a compact development pattern that promotes a more efficient use of land, which is accompanied by lower costs of providing public infrastructure and services (Talen 2001).

Several studies have compared traditional urbanist developments to conventional suburban development and found a number of benefits primarily related to resident health, automobile usage and walking habits. For example, residents of Southern Village, a traditional neighborhood development in Chapel Hill, North Carolina, generate 22 percent fewer automobile trips and take three times as many walking trips as residents of a nearby, demographically similar conventional suburban development (Khattak and Rodriguez 2005). Khattak and Rodriguez (2005) reported that 17.2 percent of trips in the traditional development are by walking compared to 7.3 percent in the conventional suburban development.

Residents of Fairview Village, a traditional urbanist neighborhood, own about 10 percent fewer cars per adult, drive 20 percent fewer miles per adult, and make about four times as many walking trips than residents of more conventional suburban neighborhoods (Dill 2004). Residents of Fairview Village, according to Dill's (2004) research, took fewer vehicle trips and more non-motorized trips for local errands such as shopping, restaurants and libraries, visiting health clubs and recreation than residents of the conventional suburban neighborhood due to the proximity of those services.

McCann and Ewing (2003) reported a direct relationship between sprawl, marked by conventional suburban development patterns, and chronic disease. They found that people living in counties marked by sprawling development are likely to walk less and weigh more than people who live in less sprawling counties. This led to an increase in hypertension, or high blood pressure; a direct correlation between urban form and resident health (McCann and Ewing 2003).

Better community planning and more compact development can help people live within walking or biking distance of some of the destinations they need to get to every day such as workplaces, retail establishments, schools, and parks, and transit stops. Rather than building single-use subdivisions or office parks, communities should be planned with mixed-use developments that put housing within reach of other destinations. By building with higher densities, as opposed to sprawling outward, neighborhoods can be designed to shorten distances between destinations, making services more convenient; shortening car trips or enabling people to walk more frequently. Not only does this promote increased health,

residents also have the ability for increased interaction, which can increase overall sense of community.

Benefits aside, Talen and Ellis (2001) argue that our current, unsophisticated model of urbanization, formless sprawl, is in a profound way linked to the lack of a solid theory of good city form, weakening the overall practice of planning. Although development in the past 50 years has cast a shadow of doubt on the ability of local governments to facilitate the implementation of quality development, the acknowledgement of traditional urbanism has fostered renewed hope in the future of the built environment. Among more recent development standards, traditional urbanism possesses the characteristics that are most aligned with a normative urban form. The guiding factors of the planning principles of traditional urbanism are heavily supported as the normative basis for good urban form (Jacobs 1961; Lynch 1981; Nelessen 1994; Talen 2001; Leinberger 2003). They refer to the quest for excellence, quality, and beauty in our built environments – and how land development ought to be (Talen and Ellis 2001).

Physical elements of neighborhoods and communities are essential because they have the ability to nurture and facilitate the everyday needs of residents, including the fulfillment of social objectives. People want the ability to walk to everyday amenities, such as shopping, and perhaps even to their jobs. People also want to feel safe and have access to open spaces in close proximity to their homes (Nelessen 1994). As demonstrated in the literature, the key doctrines of traditional urbanism are central to planning theory and criticism, past and present: mixing land uses, rejecting single-use zoning, integrating housing types, and giving public transit and public space more prominence (Talen 2001). The need for theoretical

development to support and nurture normative prescription is critical, alleges Ellis (2002), if we want to have any hope of promoting true beauty in city planning rather than allowing half-solutions and disingenuous proposals to proceed.

Building strong and enduring neighborhoods and cities continues to be a matter of social, economic, and environmental health that ultimately determines our quality of life (Duany 2000). Research has shown that communities where neighbors interact, have a sense of belonging, and have a feeling of responsibility for one another, are harder to find, having become a casualty of sprawl (Ewing 1997). To alleviate this problem, planners should lead the city building process, not just react. However, in leading, they should espouse an urban form that is founded upon physical and social principles that produce a built environment conducive to the betterment of society.

Although important, the value of communities goes beyond physical components of the built environment. The role of community, according to Wilkinson (1991) is important due to its setting for the interaction between the individual and society. This is crucial because immediate social experience is necessary for social well-being. The community is also important because of its role in meeting the needs of people, especially the needs for collective involvement and social definition of self (Wilkinson 1991). Facilitated by the built environment, interactions in local society play a vital role in human experience and the development of a sense of community.

## *SENSE OF COMMUNITY – INTRODUCTION*

Placemaking, or creating a sense of place, is a planning abstraction that has become widely accepted in the broader circles of development and by the public. It requires fostering identity and connectivity for a community, so that in the end people take pride and feel attached to where they live. Placemaking, according to Heid (1999), happens through building town centers, as well as attendant elements such as street signs and sidewalks. It is the result of detailed and experienced attention to the form and look of local buildings, landscape design that anchors a project in its local and regional environmental setting, and symbolic placement and design of community for schools, churches, squares, retail centers, and corner stores (Heid 1999).

Placemaking, as it pertains to planners, is closely associated to the sense of community concept. Sense of community relates to the satisfaction of community residents' and overall quality of life and is a growing ideal that planners encourage in public policy. This is not only because sense of community contributes to a more desirable and livable neighborhoods, it can also be used as a means of measuring the effectiveness and success of the decisions and recommendations that planners advocate (Sustainable Calgary 2001; Harlan 2003; The Sense of Community Project 2007). An analysis of the definition, antecedents, related studies, and a normative measurement of sense of community follows.

### *SENSE OF COMMUNITY – DEFINITION & ANTECEDENTS*

Despite the existence of a large body and the broad use of the term, there is no universally accepted definition of the term “sense of community” (Unger and Wandersman 1985; Balaoing, et al. 1995). The problem appears to be that while an apparent consensus exists on the meaning of the term “sense of community,” the term itself remains difficult to define. In many ways, sense of community is an intangible concept, and the absence of a definition reflects this. Researchers who claim to have defined sense of community have often done no more than suggest ways of measuring sense of community, without approaching a normative definition (Van Laar 1999). For example, Van Laar (1999) suggests that an intention to reside for a certain length of time in a neighborhood or the number of neighbors known by their first names define community, when in fact such parameters do no more than propose a measure of sense of community.

Wiesenfeld (1997) defines “sense” as the product of the collective representations of community members; the essence of this notion is community members' eagerness for a collective project defined as “we-ness”. She adds that in a normative sense, this consolidated self should include a profound respect for cultural, ethnic, and religious diversity, even within conflictive situations. In the same tone, Hernandez (1998) points out that this sense can be appreciated in two phrases: “this is our space”, and “we are not alone”. Nonetheless, as it relates to sense of community, “sense” provides a meaning or feeling that one gets regarding a place, such as a neighborhood or community, or collective group.

The term “community” refers to several perceptions including geographic locations, membership in a social group, a collection of individuals who share a particular behavior or demographic characteristic, and a subjective sense of connection that individuals feel because of a shared characteristic and their common sense of fate (Herek and Glunt 1995). While the first refers to a community of place, the other three kinds of communities refer to communities of interest (Glynn 1981; McMillan and Chavis 1986).

Etzioni (1995a) asserts that while other social sciences have recently begun to acknowledge the importance of the concept of community, thus pondering a definition and concept of the term, community has been a cornerstone of sociological thinking for centuries. He defines community as embodying three characteristics:

- (1) A community entails a web of affect-laden relations among a group of individuals, relations that often crisscross and reinforce one another; and (2) community requires a commitment to a set of shared values, norms, and meanings, and a shared history and identity in-short, a shared culture...and, (3) communities are characterized by a relatively high level of responsiveness (Etzioni 1995a).

McMillan (1996) describes community in terms of the distinction between "us" and "them," or in terms of the boundaries that establish who are the "outsiders." Wilkinson (1991) defines three elements of community: a locality, a local society, and a process of locally-oriented collective actions; all vary through time depending upon the actions people take in response to local problems and opportunities. In addition, Wilkinson (1991) maintains that the substance of community is social interaction.

Lyon (1987) reported that sociologists had come up with more than 90 definitions for community and found that they agreed on only one point: communities consist of people. Given the number of definitions of community, there tends to be one ever-present theme across the literature – almost all communities have a shared tradition. Despite the inability of researchers to derive a normative definition of community, there are a number of useful conceptualizations in the literature that examine sense of community.

Unger and Wandersman (1985) define sense of community as feelings of membership and belongingness, and shared socioemotional ties, while Sarason (1974) defines the ingredients of sense of community as the perception of similarity to others, and acknowledged interdependence with others, a willingness to maintain this interdependence and a feeling that one is part of a larger dependable and stable structure. Similarly, Myers and Diener (1995) describe sense of community as a network of supportive relationships, a “we” feeling or pride in and feelings of belonging to a group.

One of the most comprehensive definitions is provided by McMillan and Chavis (1986), who stress four elements of sense of community: membership in a group, a shared emotional connection between community members, mutual influence of community members on each other, and the sharing of values among community members. They show that various types of people, including citizens and social scientists, use these elements in assessing the strength of various communities and that the ratings of these individuals exhibit a high degree of agreement (Van Laar 1999).

Sense of community, and its correlates, is a topic that captures the attention of a variety of professionals. Although design professionals such as city planners have increasingly attempted to define and quantify the concept by adding their insights and knowledge, a majority of interest has been expressed by researchers from a range of academic disciplines, including sociology, psychology, community development, political science, and environmental behavior (Chavis, et al. 1986). The following definitions have been promulgated by various disciplines.

When describing sense of community sociologists (Kasarda and Janowitz 1974; Hummon 1992) often refer to community attachment or a resident's emotional bond or tie to their community. Community attachment is seen as peoples' subjective perceptions of their environments and their conscious feelings about those environments. It involves both an interpretive perspective on the environment and an emotional reaction to it. According to Hummon (1992), sense of community involves a personal orientation toward place, in which ones understanding and feelings about place become fused in the context of environmental meaning.

In relation to sense of community, geographers share the perception that responses to the environment are either aesthetic, tactile, or emotional (Cross 2001). This is described by Tuan (1974) as topophilia, or the affective bond between people and place or setting. Similarly, sense of community is described by anthropologists as place attachment, or the symbolic relationship formed by people giving culturally shared emotional meanings to a particular space or piece of land that provides the basis for the individual and group understanding of and relation to the environment (Low 1992).

Landscape architects also view sense of community as a concept akin to place attachment; however, they see it as more than an emotional and cognitive experience. They believe that people become linked to place by cultural beliefs, practices and customs by a sense of recurring events (Jackson 1994; Cross 2001). Similar to landscape architects, environmental psychologists view a person's immediate surroundings as including both physical and social elements. They view sense of community by one's experience with the environment, such as individual feelings of excitement and joy from the interaction with place (Steele 1981; Cross 2001).

Although studied by numerous academic disciplines, perhaps the greatest amount of research on sense of community has come from environmental psychologists. The academic study of sense of community originated in 1974 when community psychologist Seymour Sarason presented the concept as the overarching concept by which the field should be defined. According to Sarason (1974), sense of community is the perception of similarity to others, the feeling that one is part of a larger dependable and stable structure, an acknowledged interdependence with others, and a willingness to maintain this interdependence by giving to or doing for others what one expects from them.

Although sense of community was primarily defined early on by those in the social science fields, an increasing emphasis on physical sense of community has produced an interest by individuals involved with the physical design of communities. More recently, city planners and others in design-related fields have begun to understand the importance of sense of community as it relates to their practice and have thus started to draw upon the aforementioned concepts defined by associated academic disciplines. Nelessen (1994)

perceives sense of community as revolving primarily around those physical aspects of community design. Friendships are mentioned as an important social aspect of place; however walkability, open space, and transportation are all key contributing elements to sense of community.

To planning theorist Kevin Lynch (1981), the simplest form of sense is identity, or in a more narrow term, sense of community. It is the extent to which a person can recognize or recall a place as being distinct from other places – as having a vivid, or unique, or at least a particular, character of its own. Past considerations of sense were based solely on an analysis of the physical environment, but to truly fit form to behavior, Lynch (1981) alleged that one must look at place and the person together, that is the physical and social realms of a community.

According to recent applications, sense of community is defined as the environmental experience of belonging or togetherness in the residential environment felt by community members who share certain meanings, values, perceptions, responsibility, and identity of community (Kim 2001). Drawing upon the conceptions of other theorists, Kim (2001) posited that sense of community consists of four major domains – community attachment, pedestrianism, social interaction, and community identity. Additionally, each domain consists of several subcomponents.

Over time, theories and postulations regarding issues of human interaction and association with individuals in a community setting have set the stage for the study of sense of community. As observed, defining sense of community is inherently interdisciplinary,

drawing upon vast perspectives to inform theory and literature. It is through a multidisciplinary confluence of contemplation that planning has come to relate to and define sense of community. An analysis of historical concepts contributing to the theory of sense of community as it relates to planning and related disciplines follows. These antecedents have made it possible to look at the evolution of prevalent and salient thought that has led to a deeper analysis of the topic.

Perhaps one of the earliest analyses that provided a correlation to the concepts embodied in sense of community was introduced and categorized by Töennies (1887). *Gemeinschaft* and *Gesellschaft* are sociological terms that describe two normal types of human association. *Gesellschaft*, often translated as society or association, describes associations in which the larger association never takes on more importance than individual self interest (Töennies 1887). *Gesellschafts*, according to Töennies (1887), typically derived from an elaborate division of labor, emphasizing secondary relationships rather than familial or community ties, generally embodying a low level of individual loyalty to society.

*Gemeinschaft*, often translated as community, is an association in which individuals are oriented to the large association as much if not more than to their own self interest (Töennies 1887). Unlike, *Gesellschafts*, individuals in *Gemeinschaft* are regulated by common beliefs about the appropriate behavior and responsibility of members of the association, to each other and to the association at large. Töennies (1887) saw the family as the most perfect expression of *Gemeinschaft*. Akin to sense of community, Töennies (1887) expected that *Gemeinschaft* could be based on shared place and shared belief as well as

kinship, characterized by strong personal relationships, strong families, and relatively simple social institutions.

Similar to the societal associations adopted in *Gemeinschaft* and *Gesellschaft*, Etzioni (1988) promoted the concept of “I” and “We” to describe two opposing community positions, in which exists a continuum of social responsibility and interaction within the community. On one end, the conservative position, or “We”, views society as an organic whole or the sole source of authority, while the liberal position (“I”) maintains that the individual and society presuppose and necessitate one another (Etzioni 1988). According to Etzioni (1988), neither end of the continuum is wholly desirable since an abundance of either can be excessive. Society functions best when there is favorable balance of “We” and “I”.

The social elements embedded in a traditional urban neighborhood are akin to Etzioni’s (1988) “We”, however with an intricate balance of individualism. According to Etzioni (1995b), those who favor this type of balance, also known as responsive communitarians, hold that providing for individual liberties limits the costs for maintaining social order, allows members of society to express aspects of their selves, and enables the development of new, adaptive social patterns. The contrasting “I” perspective is likened to a conventional suburban development, where the physical and social aspects of the neighborhood promote individuality and a lack of desire to interact as part of society.

The “I” concept supports individuality, with little thought given to the value of society. According to Etzioni (1995b), to individualists, it is not possible, desirable, nor morally justifiable to absorb fully members’ identities, energies, and commitments into the

social realm. In comparison, “We” can be viewed as a community or neighborhood that acts as the favorable social unit – where value is placed in the collective whole by its members. The desire of individuals to interact socially, coupled with the ability of the built environment to accommodate the desired social behavior provides a parallel comparison to sense of community.

Social capital is another antecedent of sense of community and is referred to as the inclinations that arise from social networks to do things for each other (Putnam 2000). According to Putnam (2000), social capital is a key component to building and maintaining democracy, but declining social capital, as seen in lower levels of trust in government, lower levels of civic participation and urban sprawl, have had a significant role in making America far less connected (Putnam 2000). There are two main components of the concept: bonding social capital and bridging social capital. The former refers to the value assigned to social networks between homogeneous groups of people and the latter to that of social networks between socially heterogeneous groups. Bridging social capital is argued to have a host of other benefits for societies, governments, individuals, and communities. Putnam (2000) notes that joining an organization cuts in half an individual's chance of dying within the next year.

Sense of community antecedents have been developed over centuries of scholarly work. A main thrust has been to understand the forces that effect or associate with sense of community. However, as antecedents dissipate and studies relating to sense of community grow, there has been an increasing desire to understand the actual benefits of such a concept.

*SENSE OF COMMUNITY BENEFITS*

A strong sense of community appears to be related to a range of positive outcomes for individuals and communities both at the geographic and relational levels. At the neighborhood level, people who have a strong sense of community have greater feelings of safety and security, participate more in community affairs, and are more likely to vote, recycle, help others and volunteer (Schweitzer 1996). Having a strong sense of community improves individual sense of well being, in terms of increased happiness, decreased worrying, and a greater sense of self-efficacy (Davidson and Cotter 1991). Additionally, as Bachrach and Zautra (1985) found in their study of community response to the threat of a hazardous waste facility, a strong sense of community is related to a high degree of self-efficacy, and can help people deal with stressors in their community in proactive ways.

Contrary to the amount of research that demonstrates the overwhelming benefits of sense of community, a study by Brodsky (1996) shows that a strong sense of community is not always beneficial. In her study of resilient single mothers living in dangerous housing projects, she argues that sense of community can be a positive, neutral, or negative concept. Brodsky (1996) found that the women in her study felt it was to their and their children's advantage to have a low sense of community by not getting involved with any groups and maintaining distance from neighbors.

Many researchers have investigated factors that are correlated with sense of community, though often, results from one survey have contradicted those of another. Sometimes, apparent correlations are contradicted by studies that are not investigating sense

of community directly, but a related concept like community participation, making it difficult to draw clear conclusions. The following studies further address pertinent issues as they relate to sense of community.

### *RELEVANT STUDIES*

Studies regarding sense of community are varied depending on the discipline conducting the research and the thrust of the issue. Relevant studies included in this review primarily address issues related to demographics and the built environment. The findings and basis of the reviewed literature on sense of community is used as a foundation for the research in this thesis.

Traditionally, sense of community research has examined communities at the geographic or neighborhood level, where many researchers agree the sense of community is decreasing (Glynn 1986; Putnam 2000). However, researchers increasingly argue that the overall sense of community in society is not decreasing, but instead interest-based or relational groups are satisfying the need for community. Obst et al. (2002b) investigated the geographic and relational sense of community experienced by members of a science fiction fan club, and found that members generally felt stronger community ties to the fan club than to their neighborhood, despite the fact that much of the communication among fan club members was conducted over the internet. Nonetheless, alongside this growing interest in the sense of community of relational communities, researchers continue to find an important

relationship between geographic communities and sense of community (Glynn 1986; Chavis and Pretty 1999).

#### *DEMOGRAPHIC FEATURES EFFECTING SENSE OF COMMUNITY*

Researchers have studied a range of socio-demographic features that they allege may be related to sense of community. Several researchers have found strong sense of community to be correlated with older age (Davidson and Cotter 1986; Wilson and Baldassare 1996), although Korte (1988) found that community helping, a concept related to sense of community, is correlated with younger age. Sense of community has also been correlated with the number of years residents have lived in a community (Kasarda and Janowitz 1974; Glynn 1986), though Davidson and Cotter (1991) did not find a correlation between residence time and sense of community.

Having children at home seems to be correlated with sense of community (Nasar and Julian 1995; Obst et al. 2002c). However, potentially contradictory findings come from Florin and Wandersman (1984) who found community participation, a concept that is related to sense of community, to decline with increasing household size. People with lower levels of education appear to have a higher sense of community (Buckner 1988), though neighborly helping, another related concept, is correlated with higher education (Korte 1988). Other socio-demographic features related to strong sense of community include ethnic homogeneity, marriage and higher income levels (Davidson and Cotter 1986; Nasar and Julian 1995; Wilson and Baldassare 1996).

Early work on sense of community was based on neighborhoods as the referent, and found a relationship between sense of community and greater participation (Hunter 1975; Wandersman and Giamartino 1980), perceived safety (Doolittle and McDonald 1978), ability to function competently in the community (Glynn, 1981), social bonding (Riger and Lavrakas 1981), social fabric (strengths of interpersonal relationship) (Ahlbrandt and Cunningham 1979), greater sense of purpose and perceived control (Bachrach and Zautra 1985), and civic involvement (Davidson and Cotter 1986). However, these initial studies lacked a clearly articulated conceptual framework, and none of the measures developed were based on a theoretical definition of sense of community.

Wilson and Baldassare (1996) argue that both localism, an interconnectedness with others in a familiar surrounding, and privacy contribute to suburban residents' perceptions of having an overall sense of community. Their research on whether suburban residents describe their areas as having an overall sense of community when they report greater localism and privacy provides evidence that suburban communities offer an overall sense of community for many residents (Wilson and Baldassare 1996). The measure of sense of community went beyond the typical psychological method of measure to include how residents' describe their community as having a sense of community. Wilson and Baldassare (1996) reported that satisfaction with privacy and localism are both important predictors of having an overall sense of community, and measures of urbanization, including city size, density, and heterogeneity, all diminish the overall sense of community.

*SENSE OF COMMUNITY & THE BUILT ENVIRONMENT*

The idea that the built environment can be designed to promote sense of community forms the basis of several fields of community design, including traditional urbanism. However, critics caution against overestimating the ability of the built environment alone to inspire community, and look more strongly to the influence of social features of a neighborhood (Talen 1999).

Nonetheless, researchers have made some interesting finds, including an apparent correlation between sense of community and neighborhoods that have easy pedestrian access and a variety of nearby commercial, recreational and educational facilities (Glynn 1981; Nasar and Julian 1995; Plas and Lewis 1996; Wilson and Baldassare 1996). Nasar and Julian (1995) also found that easy access to a common outdoor green space increased sense of community.

Studies suggest a link between living in a smaller city or town and sense of community (Obst et al. 2002b). Although several studies point to the connection between the quality of the built environment and an increased sense of community, a study by Kingston et al. (1999) challenged the notion that environmental design is linked to sense of community and found no relationship between sense of community and physical aspects of neighborhoods (the presence of open spaces and local shops). However, the authors caution that in order to adequately investigate the link between the built environment and sense of community, a more complex set of environmental ratings should be employed than was used in their study.

Talen (1999) advanced the investigation into physical sense of community by examining how it relates to neighborhood form. She assessed whether the social doctrine of traditional urbanism (new urbanism and neotraditional development) can be successfully supported or integrated with the social sciences literature. By evaluating the social doctrine of these like-minded development principles as they pertain to physical design, Talen (1999) found that although research supports the idea that resident interaction and sense of community are related to environmental factors, such as the beliefs held by environmental psychologists, the effectuation of this goal is usually only achieved via some intermediate variable (i.e., affluence); stressing the need for further research.

Furthermore, the determination of whether or not the physically built environment (vis-à-vis traditional urbanism) can succeed in reaching its social goals may be dependent upon how sense of community is specifically defined (Talen 1999). According to Talen (1999), it is likely that different meanings may require, or may be contingent upon, different environmental contexts. For example, residents of a TND may favor shared ecology, where social integration and a rejection of functionally separated land uses are important, whereas, residents of a conventional suburban development favor large yards, separation of land uses and auto-dependency. Therefore, a varied neighborhood context builds varied definitions and desires for sense of community.

Research by Brown and Cropper (2001) found a correlation between particular elements of conventional suburban development (cul-de-sacs) and higher sense of community levels. Additional research by Nasar (2003) showed that individuals are attracted to their neighborhoods due to various physical attributes and residents of traditional urban

and conventional suburban developments exhibit similar levels of sense of community. It is highly likely that different types of neighborhoods attract different types of people (Nasar 2003); and oftentimes, residents in disparate neighborhoods either understand sense of community differently or are seeking sense of community for different reasons.

Wilson and Baldassare (1996) found conventional suburban residents valued privacy and social isolation, while occupants of TND's were shown to favor social interaction with neighbors and urbanization to build sense of community. Residents of both neighborhood variants not only placed value on disparate neighborhood elements to promote a sense of community, their perception of the elements that embody the definition of sense of community also varied. Additional studies have addressed the relationship between the built environment and sense of community. Those relationships are furthered analyzed in the next section since they provide a basis for establishing a normative sense of community.

A normative standard as it relates to the built environment is vital to advance research regarding the importance of urban form as it relates to sense of community. As evidenced in the literature, sense of community definitions vary across disciplines with meanings derived from a lineage of pedagogical propositions. In addition to a cross-disciplinary understanding of the concept, research also reveals that sense of community is defined by a variety of contextual understandings. Overall, there tends to be a wide variation in the understanding of sense of community and how it pertains to the built environment. This makes it difficult to determine what encompasses the concept, as well as how to measure it.

## *A NORMATIVE SENSE OF COMMUNITY & MEASUREMENT*

Perhaps it is because research into sense of community is still in its early stages that a definitive measurement has yet to be standardized, or that findings in different settings continue to contradict each other. The real point of research into sense of community is not simply to understand what it co-associates with, but what can be done to influence it. While the literature reviewed here is very important groundwork, pointing to the ability of physical design to change the social life of a community, much more must be studied and understood before ubiquitous sense of community-enhancing initiatives can be implemented.

Perhaps the most widely accepted model of sense of community comes from psychologists McMillan and Chavis (1987), who identified four main elements of sense of community: membership, influence, integration and fulfillment of needs, and shared emotional connection. Based on these elements, sense of community was defined as a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together (McMillan and Chavis 1986).

Building on this model, Chavis, Hogge, McMillan and Wandersman (1986) developed an index to empirically test and measure sense of community. The Sense of Community Index has since been widely adopted as a measure of sense of community (Appendix A-5). Although this scale was originally developed to measure the sense of

neighborhood residents (geographic community), it has been shown to be an effective measurement in relational communities as well.

Over time, other researchers have offered alternative perspectives and measures of sense of community. Glynn (1981) identified homogeneity, interdependence, shared responsibility, face-to-face relationships, and common goals as essential elements of sense of community. Buckner (1988) emphasized sense of community as the sense of belongingness, fellowship, and identity experienced in the context of a functional group or geographically based collective, and Joranko (1998) highlighted the importance of connection, belonging, support, safety, empowerment, and participation to sense of community.

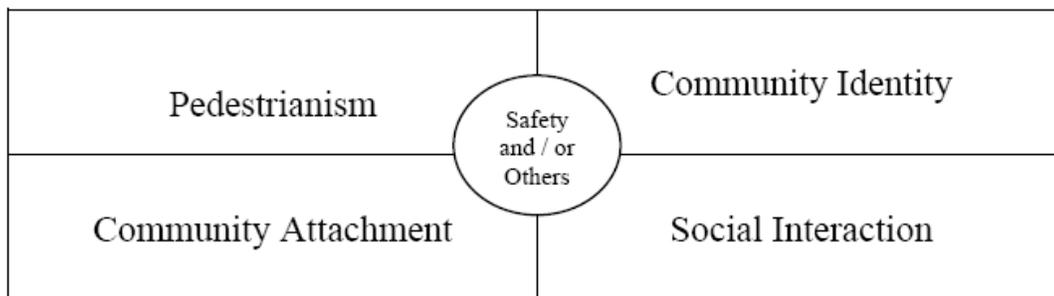
Obst et al. (2002a) reexamined the McMillan and Chavis (1986) model of sense of community to determine its appropriateness. A series of studies of both geographic and relational communities identified a fifth dimension, conscious identification, that they assert could expand the model of sense of community. Conscious identification is the existence of a strong relationship between an individual's self image and membership in a community (Obst et al. 2002b). Efforts to define and measure sense of community continue, with recent work exploring individual and group level effects of sense of community, as well as sense of community in physical communities (Chavis and Pretty 1999; Kim 2001).

In an attempt to link previously reviewed sense of community studies, thus establishing a normative measurement, Kim and Kaplan (2004) explored the physical relationship between sense of community and urban form by creating a broad framework for the physical and social dimensions. They compared and contrasted two distinct

neighborhoods, one embodying the principles of traditional urbanism, the other a conventional suburban development. The research showed that the physical and social elements of traditional urbanism indeed had the ability to increase resident sense of community in a neighborhood setting (Kim and Kaplan 2004).

Research by Kim (2001) created the basis for which the social and physical dimensions of sense of community were established in a pioneering measurement (Figure 2.1). The integrative measurement broke the physical and social domains of sense of community into four contributing domains – community attachment, social interaction, community identity, and pedestrianism – and applied them to a case study neighborhood (Table 2.1). Each domain was further separated into several subcomponents that have received multidisciplinary attention in the literature (Figure 2.2). Kim’s (2001) framework mainly draws upon these subcomponents to create a multidisciplinary and distinctive approach to a survey instrument that measures sense of community.<sup>1</sup>

**Figure 2.1. - Sense of Community Model Matrix**

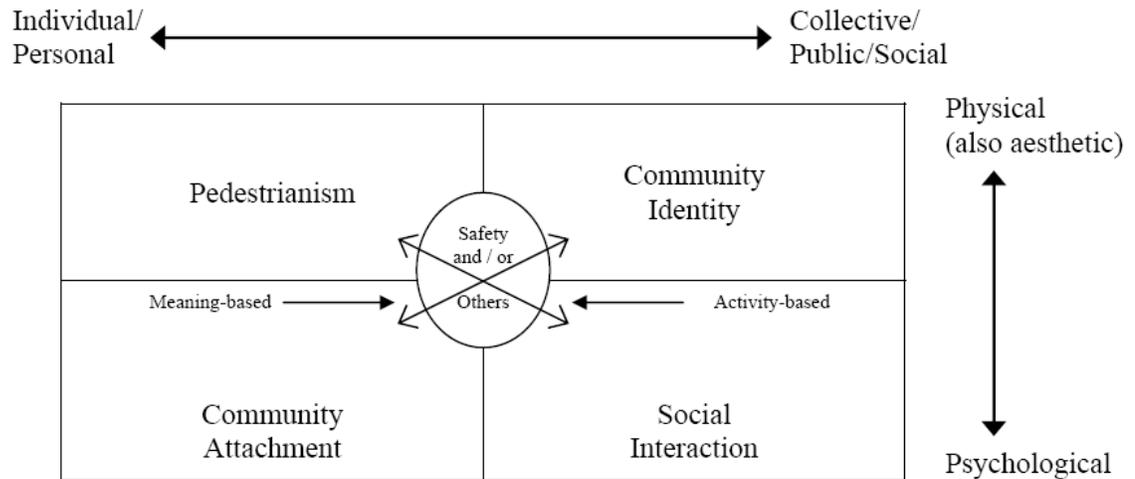


<sup>1</sup> Kim’s (2001) sense of community model, including hypothesized domains, is used as a basis for the normative theory and survey instrument in this thesis.

**Table 2.1. - Sense of Community - Theoretical Domains**

	Domains of Sense of Community			
	Community Attachment	Pedestrianism	Social Interaction	Community Identity
<b>Primary Action</b>	Bonding with Community	Knowing Community	Being Involved in Community	Identifying (with) Community
<b>Subcomponents</b>	Community Satisfaction	Walkability	Neighboring	Uniqueness
	Connectedness	Pedestrian propinquity	Casual social encounter	Continuity
	Sense of Ownership	Mass transit	Community participation	Significance
	Long-term local integration	Pedestrian scale / street-level activities	Social support	Congruence
				Cohesiveness

**Figure 2.2. - Domains of Sense of Community and Their Hypothesized Relationships**



## *THE PLANNERS ROLE IN URBAN FORM & SENSE OF COMMUNITY*

Increasingly, planners are tasked with designing and encouraging urban form that promotes a functionally desirable built environment, however, they are not often given the mandate to produce plans for such urban change. The means and realm in which they work often makes it difficult to foster urban form and community environments that either sustain or increase sense of community. The planning profession needs to do a better job of synthesizing all of its research into the creation of great places (Ellis 2005a). In addition, city officials must be part of the solution for urban change as the role of planners is often relegated to discretionary and variable.

A few exemplary cases show the impact that planners at the local government level, with the help of city officials, can have by using sense of community as a tool to assess and increase neighborhood livability. The City of Calgary has begun an innovative project in which a quantitative measurement of residents is taken to determine their level of sense of community. Calgary residents consider a strong sense of community to be a vital contributor to their quality of life and to the city's sustainability ([www.sustainablecalgary.ca](http://www.sustainablecalgary.ca) 2007). Subsequently, sense of community was adopted as an "indicator in progress" in Sustainable Calgary's 2001 State of the City Report, and designated a priority action for sustainability.

Working with numerous community partners, Calgary supported research for the development of a tool to assess sense of community. A Calgary neighborhood received a grant to establish a report evaluating ways in which sense of community could be viewed as a

tool and measurement to better community life. According to the report instituted by Sustainable Calgary (2001, 36), sense of community includes:

[A] feeling of belonging or membership, having influence on your community, being able to meet most of your needs through your community (for safety, services, respect). It means being emotionally connected with and committed to your community. It can be found in neighborly and friendly actions like waving, chatting, visiting, borrowing and lending items and giving assistance. Sense of community has both community and individual level benefits.

The report asserted that creating a more compact community is one of the central challenges to creating a sustainable urban community (Sustainable Calgary 2001). A more compact community can encourage more efficient transportation patterns and habits. Furthermore, more compact design can help build a stronger sense of community by making it easier for citizens to interact with each other.

A pilot scientific survey aimed at examining how people in Phoenix, Arizona view their community and environment provided good insight regarding the societal attitudes of residents for planners and decision makers. The Phoenix Area Social Survey (PASS) research project developed by an interdisciplinary team from Arizona State University examined issues in six neighborhoods chosen to represent a range of geographic locations and socioeconomic backgrounds. The survey measured attitudes on a variety of issues, ranging from feelings about the local and regional community, to perspectives on the environment and the urban landscape (Harlan 2003). Key results of the study by Harlan (2003) revealed that although the average Phoenix resident is relatively new to the City, a

strong sense of community still persists. In addition, physical elements such as lawn size and landscaping were shown to effect resident sense of community.

In addition to locally led programs to measure and increase sense of community, there are initiatives at the state level to mandate urban form, thus increasing sense of community. Several planning-progressive states promote the use of TND as a method of smart growth. The State of Wisconsin (1997) mandates that all communities add a TND component to their Comprehensive Plans. According to the state mandate, TND is defined as compact, mixed use neighborhoods where residential, commercial and civic buildings are within close proximity to each other (State of Wisconsin 1997). Local governments need to prepare comprehensive plans and other development policies that provide a context for TND's in order to implement principles that promote sense of community. In addition, implementation devices, such as zoning ordinances, need to be embraced as part of the planning process. Past development patterns and designs that have proven to be successful often provide a context for the specific standards.

Planners and architects have increasingly sought to create communities that have a greater sense of community through the manipulation of policies and community designs (Nelessen 1994). Nasar and Julian (1995) put forward a method to assist planners with measuring sense of community, consequently assisting in the formulation of planning policies that create better places to live by increasing sense of community. Their proposals have helped planners define community, whether we have too little or too much community, and perhaps most importantly, how planners can identify the effects of their plans and policies on resident practices and perceptions of community (Nasar and Julian 1995).

It is depressing to contemplate, asserts Barnett (1995), how much bad development has been caused by faulty public policies, but communities are beginning to realize that they can revise their codes and reassert control over their own future. Beyond the social aspects of sense of community, there is an increased concentration by planners on promoting physical expressions of the concept, including: a more compact pattern of development; mixed uses of land (residential and commercial); a strong pedestrian orientation; active civic and community life; closer links between public transit and land use; and higher housing densities (Duany 2005).

Increasingly, the role of city planners in constructing a socially conducive environment, one that purports to contribute to a positive sense of community, has become interwoven with the planning policies and physical constructs that shape urban form and community design. With the help of city officials, planners must move intrepidly beyond past community-building challenges, which have shaped the archetypical patterns of sprawl and urban form, and continue to embark on an effort to shape a vital social and built environment that contributes to a sense of community.

Although the main thrust of planning may not directly create a sense of collective identity and belonging, planning work can create the right conditions for social connections to be made and a sense of community to be fostered. Planners have the opportunity to play a role in building sense of community by creating conditions that inspire patterns of traditional urbanism. Ensuring that urban form promotes favorable conditions, such as access to public spaces and retail, goes a long way toward creating the conditions for vibrant social life.

In theory, zoning and community design regulations are intended to accomplish this. In many cases, the basic social network of "community" already exists in a given area, but ensuring a desirable and appropriate land use mix among open space and a vital public realm can have a profound impact on people's ability to make social connections and build a sense of community. Providing residents with spaces to walk, socialize, and shop will help these networks strengthen and develop. Planners are not, and should not be, social engineers; however, their work does impact and stimulate "community" in powerful ways.

### *HYPOTHESIS*

The overarching goal of this study is to determine whether certain development patterns, or urban forms, have the potential to positively impact residents' sense of community. Secondarily, assuming that sense of community is a desirable trait for neighborhood residents, the extent to which planners can positively impact the togetherness or belonging of community members through public policies and implementation devices is examined.

The ambiguity surrounding the definition and measurement of sense of community is apparent through an analysis of the literature. However, the extent to which planners have the ability to affect diverse dimensions of the built environment through policy implementation warrants clarification. Therefore, the sense of community definition used as

the basis for this study is *the social attachment and togetherness experienced by neighborhood residents influenced by the physical and social realms of the built environment.*

Using this definition as a basis, the research question this thesis seeks to answer is: do the physical and social characteristics of traditional urbanism, or neotraditional development, foster a greater sense of community than those of a conventional suburban development? It is hypothesized that *urban form, characterized by two distinct land development patterns, affects both the physical and social realms of sense of community for neighborhood residents.* In addition, *the residents' of the neighborhood characterized by elements of traditional urbanism will possess a greater sense of community than those in the neighborhood characterized by a conventional suburban development pattern.*

To explore this question, Brambleton a neighborhood built on the principles of traditional urbanism located in Loudoun County, Virginia, one of the country's fastest growing counties, and Stratford, a nearby conventional suburban neighborhood located in the Town of Leesburg, Virginia (also in Loudoun County) are examined and compared. To measure sense of community, a random sample of residents in these two communities were surveyed regarding their response to the neighborhood in which they live. The sample was provided with a survey that measures the social and physical dimensions of sense of community as it relates to their respective community's attributes.

## **CHAPTER III – RESEARCH METHODS**

### *INTRODUCTION OF THE RESEARCH*

Researching the link between the physical and social realms in relation to city planning practices has received little attention by academia. Practitioners of planning truly look to academe to inform planning decisions with sound research, but the two are often detached, seldom offering a panacea to cure the effect of poorly planned communities and neighborhoods or translating learned theory into good practice.

The major goal of this chapter is to present a study that will further link the physically-planned neighborhood with the social perceptions of its residents. This chapter explores the physical characteristics of two research sites, how the sites were selected, how the study of the neighborhoods was conducted and who participated. To measure the effect of urban form on sense of community, a random sample of residents in these two neighborhood sites were surveyed regarding their response to several community characteristics.

The research takes account of a correlational analysis of survey data from the two neighborhoods (Brambleton and Stratford) and a comparative case study. Residents were provided with a survey that measured the social and physical dimensions of sense of community as it relates to their respective neighborhoods. The research seeks to clarify the relationship patterns the neighborhoods by analyzing physical attributes of Brambleton and Stratford, as well as the residents' interaction and feelings regarding their built environment.

The chapter begins with an analysis of traditional urbanism in the Washington, DC region, particularly in the vicinity of the case study neighborhoods, to provide an understanding of recent development trends occurring around the surveyed sites. Next, a description of the case study neighborhoods is provided followed by an explanation of the survey instrument and survey procedures. Finally, data analysis methods are discussed to provide a foundation for the discussion of the survey results.

*TRADITIONAL URBANISM IN THE WASHINGTON, DC REGION*

There are a growing number of developments that are based upon the principles of traditional urbanism in the Washington, DC metropolitan statistical area. The region is home to a collection of some of the most significant planning projects of their era (Watkins 2003). Some early examples include the first cities of Virginia and Maryland, Alexandria and Annapolis, as well as Chevy Chase, MD.

Chevy Chase was one of the first suburbs to take advantage of the electric street car to allow residents to commute into the city in 1892. According to Watkins (2003), Chevy Chase was built upon a dualistic nature, including the formality of the City Beautiful movement and the informality and natural characteristics of the garden suburb. More recent examples include Greenbelt, MD, one of the earliest plans inspired by the greenbelt movement, and the 1960's planned communities of Reston, VA and Columbia, MD, both known for their village neighborhood units.

All of these pioneering trends in development espoused the elements of traditional urbanism, focusing heavily on the livability of the neighborhood unit; however, they all subsequently vary in their urban form. A more recent trend in development builds upon the elements of traditional urbanism and new urbanist principles, continuing to make the Washington region a classroom of cutting-edge development practices. Two recent examples of traditional urbanism include Kentlands (Gaithersburg, MD), one of the classic examples of a New Urbanist community, and nearby King Farm (Rockville, MD), one of the area's

premier mixed use neighborhoods. Similar trends have begun across the Potomac River in Northern Virginia.

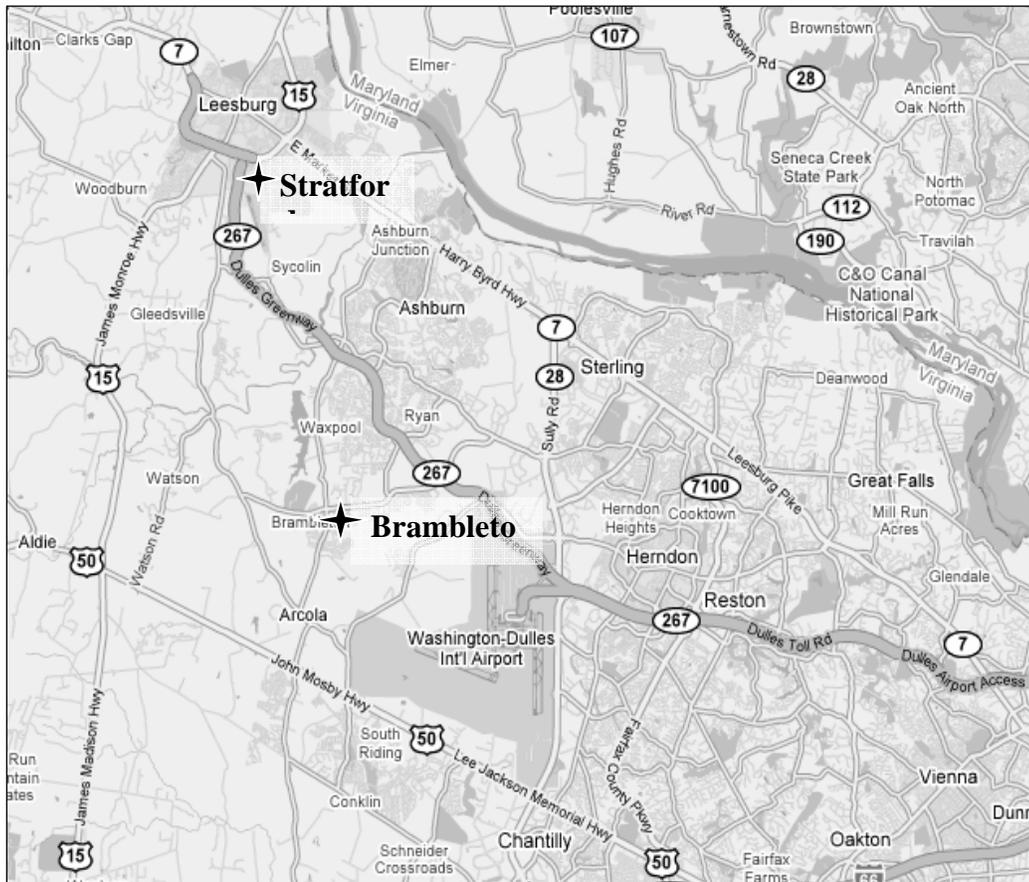
As the population in the Washington, DC region continues to grow, development has expanded quickly into Northern Virginia's counties; creating an ever-increasing demand for housing in environmentally sensitive areas. Loudoun County, Virginia is located approximately 20 miles northwest of Washington, DC and has been in the top 10 fastest growing counties in the country during the last 5 years ([www.cnnmoney.com](http://www.cnnmoney.com) 2007). Demand for housing in Loudoun County coupled with the scarce availability of land for high density residential development has led to an increase in traditional urban developments. Local examples include Belmont Forest, which was master planned by Duany, Plater-Zyberk & Company, Lansdowne Village Green and Belmont Greene, all in Loudoun County. Several others are in the conceptual stage.

### *CASE STUDY COMMUNITIES*

The case study sites used for this research are both located in Loudoun County. Brambleton, a neighborhood built on the principles of traditional urbanism, and Stratford, a nearby conventional suburban neighborhood are located within 10 miles of one another (Figure 3.1). They were chosen as a comparison due primarily to their representative physical characteristics, access to public facilities, and proximity to jobs within the

Washington, DC area. In addition, the author has immediate knowledge of the sites, having lived in both neighborhoods. An examination and comparison follows.

**Figure 3.1. Map of Northern Virginia & Case Study Sites**



www.googlemaps.com

### *BRAMBLETON IN LOUDOUN COUNTY, VIRGINIA*

Brambleton is a planned community consisting of neighborhoods designed upon the principles of traditional urbanism in rural Loudoun County, Virginia located 25 miles west of Washington, DC. It contains a mixture of single family homes, townhomes and

condominiums situated within walking distance of a developing 30 acre commercial town center (Figure 3.2). Brambleton was designed in 1999 by LandDesign and residential development began in 2001 on a Greenfield site. Development of the town center began in 2003 and offers residents close access to commercial land uses including a bank, grocery store, restaurants, as well as other service-oriented businesses.

**Figure 3.2. Brambleton Neighborhood Concept Plan**



Courtesy of Landesign

Brambleton is characterized by a mix of homes, retail, office and civic uses. Streets are narrow, compared to a typical suburban development, and feature a warped grid pattern and network of alleys. Homes are sited on small lots with narrow setbacks from the street.

Throughout Brambleton's neighborhoods there are plenty of sidewalks, walking trails, and open spaces (Figure 3.2).

Currently, there are over 2,000 residential dwellings units, 30 commercial businesses, 2 schools (1 elementary and 1 high school) and over 75 acres of public green space, parks and recreational facilities in Brambleton. The neighborhood studied in this research is closest to Brambleton Town Center, thus in close proximity to a mixture of uses and open space (Figure 3.3). By the time of its completion, Brambleton will have over 6,000 residential units, 60 commercial businesses, 3 schools, 100 acres of open space and an 18-hole golf course.

**Figure 3.3. Scenes from Brambleton**



*STATFORD IN LEESBURG, VIRGINIA*

Stratford is a conventional suburban development located in Leesburg, VA, approximately 10 miles northwest of Brambleton (in Loudoun County) and 30 miles northwest of Washington, DC. Stratford contains a mixture of single-family homes, townhomes, and condominiums – each in its own distinct area of the neighborhood. Development of Stratford began in 1995 and build out was completed in 2005.

Like many conventional suburban developments, Stratford is characterized by wide, curvilinear streets and numerous cul-de-sacs dominated by residential garages facing public streets. Houses are very similar in size and architectural design and are located on relatively small lots with narrow setbacks compared to other suburban neighborhoods. Stratford includes no local retail establishments, schools, or churches; however there are two clubhouses with recreational facilities located in the neighborhood (Figure 3.4). Although limited, open space in Stratford consists of a small lake, walking trails, a large drainage ditch that doubles as a playfield, and two tennis courts.

Although there are no retail establishments, Stratford has a wide-ranging mixture of residential dwellings. Out of a total of 443 residential dwellings units, 159 are detached single family homes, 110 are attached single family homes, 108 are townhomes and 66 are a combination of condominiums and apartments (Figure 3.5). There are approximately 10 acres of public green space throughout Stratford. Stratford is bordered by an undeveloped field, major arterial road, and 2 highways. The neighborhood is isolated from the remainder

of Leesburg and is not within close proximity ( $\frac{3}{4}$  mile) to everyday amenities, such as schools or retail establishments.

**Figure 3.4. Plan View of Stratford**



Google Earth

**Figure 3.5. Scenes from Stratford**



## *SURVEY OF THE NEIGHBORHOODS*

The survey instrument used in this research was designed to assess the role of the physical characteristics of the two neighborhoods (Brambleton and Stratford) as factors of the residents' sense of community. Although surveys included the same attributes, residents of Brambleton were asked questions that only pertained to the traditional urbanist neighborhood in which they reside.<sup>2</sup> The physical characteristics analyzed include aspects of architectural style (i.e. design quality of housing), site development (i.e. block size), circulation (i.e. street width), amenities (i.e. clubhouse), and site design (i.e. layout of the neighborhood).

The results of the survey focused on two primary series of questions pertaining to sense of community, which were adapted from extensive research on the topic by Kim (2001). The first, question series 7 asked residents directly about their feelings regarding sense of community and their built environment. Question series 8, the other principal series, gauged the importance of sense of community to residents by looking at a number of characteristics that are components within four sense of community domains: community attachment, social interaction, pedestrianism, and community identity.

Sense of community as it relates to neighborhood safety was also analyzed. The questions were phrased in terms of degree of agreement on a 5-point likert scale where 5 =

---

<sup>2</sup> For the sake of comparison, the additional attributes measured in Brambleton are not analyzed in the results and discussion section.

“strongly agree” and 1 = “strongly disagree”. Although not analyzed in this research, secondary questions regarding each sense of community domain, with the same attributes as Question series 8 were measured. The survey also included a common sense of community questionnaire used in the environmental psychology field (Appendix 5).

Finally, the survey included questions regarding the frequency of walking behaviors, the importance of certain factors in residents’ decisions to move to their neighborhood, and demographic questions. The questionnaire concluded with an open-ended question that asked for any additional comments regarding the neighborhoods.

### *SURVEY PROCEDURES*

The subject population for the research survey was chosen using a stratified random sample in which approximately 39 percent of households in each case study neighborhood were selected. Random selection, according to Elmes, Kantowitz and Roediger (1999), is an ideal that is rarely attained because it is extremely expensive and time consuming to try to sample an entire population. And because individuals vary in many ways, it can be assumed that the population of possible scores in a research project can vary in a random way (Elmes, Kantowitz and Roediger 1999).

Surveyed residents in each neighborhood received a letter of introduction discussing the survey and researchers, the survey instrument, and self addressed stamped envelope (see Appendix A-1 and A-2). Recipients were ensured that the results of the survey were

confidential in the letter of introduction and were asked to have one member of the household over eighteen years of age fill out the questionnaire.

The Brambleton neighborhood surveyed consisted of 701 households and surveys were sent to a total of 275 randomly selected recipients (stratified random sample). The Stratford neighborhood consisted of 443 households and a total of 175 surveys were sent to random residents. Residents completing the survey were asked to return it within 2 weeks of receipt. A number of the surveys received by the author were returned after the 2 week deadline, however still included in research analysis. Brambleton residents returned the survey at a higher rate than Stratford residents (Table 3.1).

**Table 3.1. - Survey Return Rate**

	Brambleton	Stratford
Surveys Mailed	275	175
Undeliverable	46	4
Returned/Completed	26	19
Total Delivered	249	171
Return Rate	12.81%	11.38%

Overall, a total of 450 surveys were mailed to residents in Brambleton and Stratford. Approximately 12% or 45 responses were received.<sup>3</sup> Although 12% appears to be a low return rate, it is held by many researchers that a sample of 30 is the minimum number of cases in order to use some form of statistical analysis on data (Cohen, Manion, and Morrison

---

<sup>3</sup> Out of the 450 surveys sent, 50 were returned undeliverable. This number was subtracted from the total sent for the return rate calculation.

2000). Therefore, a return of 45 surveys is sufficient for the analysis and cross tabulation in this research.<sup>4</sup>

Following the receipt of the surveys, data was entered into a number of demographic and contingency tables to facilitate analysis of the results. SPSS was used to cross tabulate the characteristics of the neighborhoods with chosen demographics and sense of community variables. The level of significance and relationship between the independent (neighborhood characteristics, socio-demographics) and the dependent (sense of community) variables was examined. The next section provides discussion and interpretation of the cross tabulation, including testing of the hypothesis.

---

<sup>4</sup> Efforts were made in the study to reach out to and work with neighborhood associations to disseminate the survey. A higher response rate would have been elicited had neighborhood or community groups chosen to participate and sponsored the research.

## **CHAPTER IV – RESULTS & DISCUSSION**

This chapter summarizes the results of the surveys returned by residents in Brambleton and Stratford. The comparison of the two neighborhoods begins with an analysis of demographic characteristics, including similarities and dissimilarities. Following an investigation of neighborhood demographics, a comparison of the two neighborhoods begins with an examination of the participants' responses to the survey questions that directly relate to sense of community. The chapter concludes with testing of the hypothesis and comments regarding the results of the research.

## *DESCRIPTION OF THE RESPONSES*

The main goal of this section is to analyze the demographic statistics that illustrate similarities and differences between the two neighborhoods.<sup>5</sup> The demographic section of the survey questionnaire consisted of 24 items (Q9 thru Q35) asking residents a variety of questions, including: gender, housing information, occupation, household income, household information, number and ages of children, work status and location, and plans for moving (Appendix A-4).

## *SIMILARITIES BETWEEN NEIGHBORHOODS*

Samples in Brambleton and Stratford are comparable with regard to a number of key demographics, as indicated by the demographic table (Table 4.1). For example, both samples have similar characteristics in terms of gender, average age, education, race, marital status, children, household size, work status, and home ownership status. In particular, both samples are very similar regarding gender, education, race, and household size. Generally, these demographic outcomes support the suitability of comparing these two neighborhood samples.

---

<sup>5</sup> High-level demographic comparison was not performed in this study due to the newness of the Brambleton neighborhood and lack of demographic data available.

Table 4.1. - Overall Demographic Comparison

Question		Brambleton		Stratford	
Gender	Male	8	30.8%	6	31.6%
	Female	18	69.2%	13	68.4%
	<b>Total</b>	<b>26</b>		<b>19</b>	
Average age	Under 20	0	0.0%	0	0.0%
	20-29	6	23.1%	1	5.3%
	30-39	11	42.3%	9	47.4%
	40-49	6	23.1%	5	26.3%
	50-59	1	3.8%	2	10.5%
	60-69	2	7.7%	2	10.5%
	70-79	0	0.0%	0	0.0%
	80+	0	0.0%	0	0.0%
Education	less than high school	0	0.0%	0	0.0%
	high school	1	3.8%	0	0.0%
	some college	3	11.5%	5	26.3%
	college degree	10	38.5%	6	31.6%
	advanced degree	12	46.2%	8	42.1%
Race	White/Caucasian	20	83.3%	15	75.0%
	Asian-American	1	4.2%	1	5.0%
	African-American	2	8.3%	2	10.0%
	Latino	1	4.2%	1	5.0%
	Other	0	0.0%	1	5.0%
Marital status	Married	22	84.6%	16	84.2%
	Single	4	15.4%	3	15.8%
Children	No	9	34.6%	8	42.1%
	Yes	17	65.4%	11	57.9%
Average # of people in household		2.84		2.84	
Internet service	Yes	25	100%	16	94.1%
	No	0	0.0%	1	5.9%
Work status	work full-time	20	66.7%	13	56.5%
	work part-time	2	6.7%	3	13.0%
	retired	0	0.0%	0	0.0%
	self-employed	2	6.7%	3	13.0%
	volunteer work	1	3.3%	0	0.0%
	student	0	0.0%	2	8.7%
	homemaker	1	3.3%	2	8.7%

Table 4.1. - (continued)

Question		Brambleton		Stratford	
Job location	home	3	11.1%	5	20.8%
	in Loudoun County	5	18.5%	10	41.7%
	elsewhere in DC area	18	66.7%	7	29.2%
	other	1	3.7%	2	8.3%
Method of transportation to work	walk	1	3.6%	0	0.0%
	car	21	75.0%	14	93.3%
	bus	4	14.3%	0	0.0%
	carpool	0	0.0%	0	0.0%
	other	2	7.1%	1	6.7%
Average household income	under \$40,000	0	0.0%	1	5.9%
	\$40k - \$59,999	1	4.2%	0	0.0%
	\$60k - \$79,999	2	8.3%	0	0.0%
	\$80k - \$99,999	3	12.5%	1	5.9%
	\$100k - \$149,999	6	25.0%	10	58.8%
	\$150k or more	12	50.0%	5	29.4%
How long in current residence		2 years 11 months		3 years 9 months	
How long to stay in neighborhood	Less than a year	1	3.8%	0	0.0%
	1 - 2 years	2	7.7%	3	15.8%
	3 - 5 years	5	19.2%	6	31.6%
	indefinitely	12	46.2%	5	26.3%
	don't know	6	23.1%	5	26.3%
Housing type	single family	9	34.6%	7	43.8%
	condominium	2	7.7%	1	6.3%
	apartment	0	0.0%	0	0.0%
	townhome	15	57.7%	8	50.0%
	other	0	0.0%	0	0.0%
Ownership status	own	26	100%	18	94.7%
	rent	0	0.0%	1	5.3%
Do you plan to move within neighborhood	yes	5	19.2%	0	0.0%
	no	16	61.5%	13	81.3%
	don't know	5	19.2%	6	37.5%
How often access community website	daily	4	15.4%	0	0.0%
	several times a week	5	19.2%	1	5.3%
	weekly	5	19.2%	0	0.0%
	monthly	5	19.2%	4	21.1%
	rarely	7	26.9%	9	47.4%
	never	0	0.0%	5	26.3%

*DIFFERENCES BETWEEN NEIGHBORHOODS*

A review of the demographic characteristics for Brambleton and Stratford also reveals several noteworthy differences between the neighborhoods. The following broadly grouped categories provide a closer examination of disparities that exist among the samples, including: age cohorts, method of transportation to work, income, length of residence, and community partiality items.

Although the average age within the two samples is somewhat similar, Brambleton included nearly 20% more of the neighborhood sample within the 20 – 29 years old cohort. A casual observation of the neighborhoods suggests that there are a higher number of young professionals living in Brambleton, as well as a significantly larger amount working elsewhere (not at home or in Loudoun County) in the Washington, DC region. These findings suggest the likelihood that the younger population in Brambleton is employed closer to jobs in Washington, DC or Fairfax County. These jobs are located closer to Brambleton (approximately 10 miles) and provide higher salaries. Also of interest within the age category is the fact that none of the respondents within either neighborhood were over the age of 70.

The method of transportation to work varies considerably between the neighborhoods. Of the fifteen responses received from the Stratford sample, all but one used their automobile to travel to work. Nearly 15% of the Brambleton residents traveled to work by bus, while one resident reported walking to work. These results are likely due to the fact that the

Brambleton neighborhood is closer to transit stops, as well as within relatively easy walking distance to retail establishments.

Another notable variation between the samples is average household income. According to the surveys, 50% of the Brambleton households had an average annual income over \$150,000, compared to just over 29% in Stratford. The income disparity may be due in part to a closer proximity to higher paying jobs for the Brambleton residents. Nevertheless, amongst all income cohorts a majority of annual household incomes between the two neighborhoods were in the \$100,000 - \$149,999 and \$150,000 or more brackets.

Average length of residence demonstrates another important difference between the samples. Stratford residents have lived in their households, on average, 10 months longer than Brambleton residents. Although Brambleton residents have resided in their homes for almost a year less, the Stratford neighborhood has existed for nearly 10 years longer since its inception. One could anticipate that this disparity should be even greater given the age of the homes sampled in Stratford. The review of literature had important findings regarding increased community attachment for residents with a longer tenure, which will be analyzed later in this chapter.

Community partiality items, or those items that exhibit a propensity for residents to be attached to their neighborhood, within the survey include: the length of time residents expect to stay in their neighborhood, whether they plan to move within the neighborhood, and the frequency with which they access their community's website. Regarding anticipated stay within the neighborhood, nearly 50% of the Brambleton residents expected to stay

“indefinitely”, while only 26% of the Stratford residents indicated the same. One-fifth of the Brambleton sample indicated that they planned to move within their neighborhood, while none of the Stratford residents expressed the willingness to do the same.

Finally, an analysis of community website access shows a marked difference between the two neighborhoods. Brambleton residents had a much greater frequency of accessing their site, with almost opposite results in Stratford. All in all, according to the demographic analysis of differences between the neighborhoods, Brambleton residents seemingly had a greater interest in sustaining and/or maintaining the physical and web-based connections that they have established in their neighborhoods.

## *ANALYSIS OF THE RESPONSES*

### *DEMOGRAPHIC VARIABLES & SENSE OF COMMUNITY*

Considering the demographic disparity between the two samples, statistical analysis correlating the independent variables to the dependent variable was performed to ensure any significant relationship was due solely to neighborhood characteristics and not demographic variability. Therefore, a cross tabulation assessing sense of community based on five key demographic variables was used to determine if a level of significance within the combined

neighborhoods existed.<sup>6</sup> The demographic variables that were analyzed included: gender, age, education, the presence of children, and income. The variables were cross tabulated with question series 7, which addressed two sub-questions relating to residents' sense of community. The first sub-question, "living in Brambleton (or Stratford) gives me a sense of community", tapped the overall sense of community of neighborhood residents (Table 4.2a). The second sub-question asked more specifically whether the physical characteristics of the neighborhoods gave the residents a sense of community (Table 4.2b).

A review of the table illustrates that the analyzed demographic variables were not significant. The absence of any significant relationship within the analysis ensured that any disparate levels of sense of community are due to variables other than demographic characteristics. Therefore, the null hypothesis that the any of the cross tabulated demographic variables had a significant effect on sense of community can be rejected.

**Table 4.2. - Select Demographic Characteristics and Sense of Community**

		Living in Brambleton (or Stratford) gives me a sense of community			Pearson Chi-Square		
		Agree	Neutral	Disagree	Value	df	Asymp. Sig.
Gender	Male	57.14%	28.57%	14.29%	4.386	2	0.112
	Female	83.30%	6.67%	10.00%			
Income	< \$100,000k / year	100.00%	0.00%	0.00%	2.463	2	0.292
	> \$100,000k / year	72.70%	18.20%	9.10%			
Presence of Children	Children	90.90%	0.00%	9.10%	2.447	2	0.294
	No Children	71.40%	19.00%	9.50%			
Age	< 40 years old	76.92%	15.38%	7.69%	0.928	2	0.629
	> 40 years old	72.22%	11.11%	16.67%			
Education	< high school education - college degree	66.67%	16.67%	16.67%	2.151	2	0.341
	Advanced degree	85.00%	10.00%	5.00%			

<sup>6</sup> Statistically significant results are indicated by Asymptotic Significance values below .05 in this research

Table 4.3. - Select Demographic Characteristics and Physical Sense of Community

		Physical Characteristics of Brambleton (or Stratford) give me a sense of community			Pearson Chi-Square		
		Agree	Neutral	Disagree	Value	df	Asymp. Sig.
Gender	Male	71.43%	14.29%	14.29%	0.043	2	0.979
	Female	70.00%	16.67%	13.33%			
Income	< \$100,000k / year	85.71%	14.29%	0.00%	1.268	2	0.531
	> \$100,000k / year	69.70%	15.15%	15.15%			
Presence of Children	Children	90.91%	0.00%	9.09%	2.447	2	0.294
	No Children	71.43%	19.05%	9.52%			
Age	< 40 years old	65.38%	23.08%	11.54%	2.49	2	0.288
	> 40 years old	77.78%	5.56%	16.67%			
Education	< high school education - college degree	62.50%	20.83%	16.67%	1.635	2	0.442
	Advanced degree	80.00%	10.00%	10.00%			

### *ANALYSIS OF SENSE OF COMMUNITY – QUESTION 7*

Question series 7, which was used to assess any potential demographic relationship to sense of community, was also used as one of the primary question series in the survey to analyze the sense of community level of neighborhood residents.<sup>7</sup> An analysis of table 4.3 provides a comparison of the responses by participants in Brambleton and Stratford to the direct question about their sense of community. Both sub-questions comprising sense of community displayed significant results and Brambleton residents rated the importance of the sub-questions to sense of community considerably higher than Stratford residents.<sup>8</sup>

<sup>7</sup> The focus of the survey was narrowed to include sense of community question series 7 and 8 for the overall sense of community analysis in the discussion section.

<sup>8</sup> Although available resources, or sample size, was an issue (see limitations of the study), chi-square tests were met in the research with significant results

When answering whether living in their respective neighborhoods gave them a sense of community, 92.30% of Brambleton respondents felt that it was important compared to 75.00% of Stratford respondents. When asked whether the physical characteristics of their neighborhood gave them a sense of community 88.50% of the residents in Brambleton rated it as important, while only 70.50% of those in Stratford felt the same.<sup>9</sup>

**Table 4.4. - Q7. Sense of Community Contingency Table & Significance**

	Brambleton			Stratford			Pearson Chi-Square		
	Important	Neutral	Not Important	Important	Neutral	Not Important	Value	df	Asymp. Sig.
Living in Brambleton (or Stratford) gives me a sense of community	92.30%	3.80%	3.80%	75.00%	13.60%	11.40%	10.166	2	0.006
Physical characteristics of Brambleton (or Stratford) give me a sense of community	88.50%	7.70%	3.80%	70.50%	15.90%	13.60%	10.089	2	0.006

#### *ANALYSIS OF SENSE OF COMMUNITY COMPONENTS – QUESTION 8*

The survey also included 14 components exploring the hypothesized components (characteristics) for the four major sense of community domains. Neighborhood residents were asked to indicate “how important these characteristics are to sense of community in your neighborhood.”<sup>10</sup> The same question series also included a number of physical characteristics of the neighborhoods, as well as an item regarding safety. An examination of Table 4.4 is arranged first by analyzing significant variables or characteristics, followed by an analysis of non-significant variables.

<sup>9</sup> Although the survey instrument used a 5-point Likert scale, cross tabulation of the results required a collapsed scale to assess 3 levels of significance: important, neutral, and not important.

<sup>10</sup> Although there is likely variability in the overall understanding of the sense of community concept amongst survey respondents, it is assumed that residents have a basic knowledge of the concept.

**Table 4.5. - Question 8. How important are these characteristics to your sense of community in your neighborhood?**

Sense of Community Components			Brambleton			Stratford			Pearson Chi-Square		
			Important	Neutral	Not Important	Important	Neutral	Not Important	Value	df	Asymp. Sig.
DOMAIN	Community Attachment	Satisfaction with overall quality of physical environment	88.50%	11.50%	0.00%	88.90%	5.60%	5.60%	1.863	2	0.394
		Feeling that Brambleton (or Stratford) is your home	100.00%	0.00%	0.00%	83.30%	11.10%	5.60%	4.65	2	0.098
		<b>Architectural features reflecting local character or tradition</b>	<b>84.60%</b>	<b>7.70%</b>	<b>7.70%</b>	<b>68.20%</b>	<b>20.50%</b>	<b>11.40%</b>	<b>8.332</b>	<b>2</b>	<b>0.016</b>
	Pedestrianism	Walkability of the environment	96.20%	3.80%	0.00%	93.20%	6.80%	0.00%	0.884	1	0.347
		<b>Community or local services within walking distance</b>	<b>92.30%</b>	<b>7.70%</b>	<b>0.00%</b>	<b>74.40%</b>	<b>9.30%</b>	<b>16.30%</b>	<b>13.717</b>	<b>2</b>	<b>0.001</b>
		<b>Public transit near Brambleton (or Stratford)</b>	<b>34.60%</b>	<b>11.50%</b>	<b>53.80%</b>	<b>0.00%</b>	<b>35.30%</b>	<b>64.70%</b>	<b>8.865</b>	<b>2</b>	<b>0.012</b>
	Social Interaction	Interaction with next-door neighbors	80.90%	15.40%	3.80%	70.60%	17.60%	11.80%	1.095	2	0.578
		Chance encounter with residents from other sections	69.20%	15.40%	15.40%	38.90%	38.90%	22.20%	4.347	2	0.114
		Caring of other residents	80.80%	11.50%	7.70%	50.00%	38.90%	11.10%	5.115	2	0.078
		<b>Participation in community activities</b>	<b>61.50%</b>	<b>23.10%</b>	<b>15.40%</b>	<b>22.20%</b>	<b>38.90%</b>	<b>38.90%</b>	<b>6.868</b>	<b>2</b>	<b>0.032</b>
	Community Identity	<b>Distinctive physical character of Brambleton (or Stratford)</b>	<b>84.60%</b>	<b>7.70%</b>	<b>7.70%</b>	<b>41.20%</b>	<b>23.50%</b>	<b>35.30%</b>	<b>8.993</b>	<b>2</b>	<b>0.011</b>
		<b>Feeling that a good fit exists between you and Brambleton (or Stratford)</b>	<b>92.30%</b>	<b>7.70%</b>	<b>0.00%</b>	<b>64.70%</b>	<b>11.80%</b>	<b>23.50%</b>	<b>7.263</b>	<b>2</b>	<b>0.026</b>
		<b>Sense of pride</b>	<b>84.60%</b>	<b>7.70%</b>	<b>7.70%</b>	<b>47.10%</b>	<b>2.40%</b>	<b>23.50%</b>	<b>6.904</b>	<b>2</b>	<b>0.032</b>
		A cohesive, homogenous, and intimate place	73.10%	19.20%	7.70%	47.10%	17.60%	35.30%	5.331	2	0.070
	Safety	Safety	92.30%	3.80%	3.80%	88.20%	5.90%	5.90%	0.202	2	0.904
	Physical Features	Block size	38.50%	30.80%	30.80%	52.90%	29.40%	17.60%	1.186	2	0.553
		Overall size of Brambleton (or Stratford)	53.80%	38.50%	7.70%	64.70%	29.40%	5.90%	0.498	2	0.780
		Mixture of housing types	61.50%	23.10%	15.40%	35.30%	35.30%	29.40%	2.900	2	0.235
		Street layout	57.70%	19.20%	23.10%	58.80%	29.40%	11.80%	1.167	2	0.558
		Porches	50.00%	26.90%	23.10%	41.20%	17.60%	41.20%	1.666	2	0.435

Bold = significant variable

*SIGNIFICANT CHARACTERISTICS*

Each of the four sense of community domains (community attachment, pedestrianism, social interaction and community identity) contains several sub-components, of which, at least one in each domain was found to be significant according to a cross tabulation of the data. A finding of significance for the components on the contingency table is necessary prior to rejecting the null hypothesis and using the neighborhood responses to support the hypothesis (Table 4.4). The following discussion analyzes each significant component as they relate to each sense of community domain, as well as safety and five distinct physical characteristics.

Of the three components included in the community attachment domain only one was found to be significant. Architectural features reflecting local character or tradition (or continuity) was the lone significant variable. While 84.60% of Brambleton respondents ranked the component as important to their sense of community, only 68.20% did the same in Stratford, reflecting the importance of architectural features to community attachment in Brambleton.

The pedestrianism sense of community domain also included three components, two of which were found to be significant. “Community or local services within walking distance” was found to be important to 92.30% of Brambleton respondents, while only 74.40% of the Stratford sample found it to be important. This score was among the more highly rated items in Brambleton, signifying its overall importance of local services within walking distance to the neighborhood.

The next significant variable within pedestrianism, “public transit near the neighborhood”, showed a marked difference of importance between the two neighborhoods. While only 34.60% of the Brambleton respondents found this component important, 0.00% of the Stratford sample felt that it was important to their sense of community. Public transit, by far, was the lowest ranked component on the contingency table, indicating that this is least important to residents’ sense of community and it is likely that residents in both neighborhoods use transit minimally. This is despite the fact that public transit (bus, commuter bus, and rail) is readily accessible from both sites.

The social interaction domain is covered by four components, one of which was found to be significant. “Participation in community activities” was the lone significant variable within its domain even though it received the lowest rating of importance. An interpretation of the contingency table shows that Brambleton respondents found this characteristic of their neighborhood important at nearly three times the rate of the Stratford sample (61.50% versus 22.20%). This score reflects the nature of the neighborhoods, in that Brambleton offers many more community activities, thus creating an environment for social interaction and the development of sense of community.

The final sense of community domain is community identity. This domain is represented by four components, three of which were found to be significant. Consistently, Brambleton respondents rated the components as important to their sense of community. The first component, “distinctive physical character of the neighborhood”, was nearly twice as important to Brambleton respondents as those in Stratford. Likewise, “sense of pride” was shown to be highly important to a vast majority of Brambleton respondents compared to

Stratford. The highest ranking component within both neighborhoods pertained to fit. The component, “feeling that a good fit exists between you and your neighborhood”, was again ranked considerably higher in Brambleton than in Stratford. This score was among the more highly rated items in Brambleton, signifying its overall importance to the residents’ sense of community.

The survey also attempted to tap safety and a series of physical features as they relate to sense of community in addition to the analyzed domains. However, none of the components within these areas was found to be significant. Therefore, there was no basis (finding of significance) that allowed a subsequent analysis of the contingency table results. These results will be discussed further in the non-significant variables section.

#### *NON-SIGNIFICANT CHARACTERISTICS*

Thus far, the analysis of survey results has focused on characteristics that were found to be significant amongst the neighborhoods. However, the fact that certain variables were not significant may also have bearing on the interpretation of this research. The following discussion focuses on key non-significant characteristics that were otherwise supported by the review of literature.

Prior to the results of the survey it was anticipated that a number of important domain components would provide significant results, thus the ability to analyze the results on the contingency table; however, this was not the case. Foremost among these variables was “walkability of the environment”. One of the underlying principles of a traditional urbanist

community such as Brambleton is the ability of residents to walk between a mix of land uses, as well as within the numerous and accessible open spaces. Although Brambleton residents ranked the importance of this variable higher than those in Stratford, no relationship was found between walkability and residents sense of community.

Another characteristic that the cross tabulation confirmed to be non-significant fell within the community attachment domain. “Satisfaction with the overall quality of the physical environment” showed no correlation to residents’ sense of community. A major difference between a conventional suburban development, such as Stratford, and a traditional urban neighborhood like Brambleton pertains to the inherent physical characteristics of the built environment. Physical characteristics of traditional urban communities, according to New Urbanist’s, are meant to promote sense of community; however no relationship was found in this study (Congress for the New Urbanism 2000).

Similarly, none of the five physical features analyzed in the cross tabulation were found to be significant. Again, these are some of the key features found in traditional urban developments: favorable block sizes, mixture of housing, street layout and porches. The finding of no significant relationships was surprising considering the review of literature and the seemingly favorable benefit to sense of community that these characteristics provide.

## *TESTING OF THE HYPOTHESIS*

All in all, several of the research findings were shown to support the hypothesis that *urban form, characterized by two distinct land development patterns, affects both the physical and social realms of sense of community for neighborhood residents and the residents' of the neighborhood characterized by elements of traditional urbanism possess a greater sense of community than those in the neighborhood characterized by a conventional suburban development pattern.* The following discussion analyzes the focused upon sense of community questions that were proven to support the hypothesis.

According to the results found in question series 7, which directly assessed residents' sense of community, Brambleton residents perceived their neighborhood as contributing to a greater sense of community than Stratford residents. Respondents in both neighborhoods ranked "living" in their neighborhood higher than "physical characteristics" as a contributing factor to sense of community. However, Brambleton respondents consistently considered the characteristics of their neighborhood as important by nearly a 20 percentage point margin over the Stratford respondents. Therefore, both of the findings in question 7 support the hypothesis that the elements of a traditional neighborhood (Brambleton) contribute to a greater resident sense of community than the conventional suburban development (Stratford).

The other key question series used to assess neighborhood residents' sense of community question series 8, which analyzed sense of community as a series of domains and subcomponents. 7 of the 14 domain subcomponents were shown to have a significant relationship to sense of community and respondents in Brambleton rated all significant items

more highly than participants in Stratford as demonstrated on the contingency table. The significant differences suggest that each of the domains of sense of community is perceived as more salient in Brambleton.

The two significant variables ranked the highest amongst other subcomponents were in the pedestrianism and community identity domains. “Community or local services within walking distance” (pedestrianism domain) was found to be important to nearly all respondents in Brambleton, and far exceeded the level of importance to the Stratford neighborhood. This relationship was anticipated due to the close proximity of services to the residents of the traditional urbanist neighborhood (Brambleton).

The “feeling that a good fit exists between you and your neighborhood” (community identity domain) was also highly rated by Brambleton residents and exceeded the importance to Stratford residents by nearly a 30 percentage points. According to the reviewed literature, fit with a neighborhood can be characterized by either a social or physical connection. A positive relationship between fit, or community identity, and sense of community provides support for question series 8 and the hypothesis.

The hypothesis was also supported by the community attachment and social interaction domains. Although the importance of the subcomponents were not ranked as highly within these domains, the ones that were found to have a significant relationship to residents’ sense of community were consistently ranked higher in Brambleton than in Stratford.

Although the physical characteristics within the contingency table were not shown to have a level of significance, many of the socially-oriented variables that were rated as highly important to Brambleton residents are directly affected by the physically built environment. For example, “community or local services within walking distance” was a significant variable pointing to the importance of the subcomponent to Brambleton residents, but “block size” was not significant. However, “community or local services within walking distance” is a manifestation of the physical subcomponent of “block size”. Therefore, it appears as if residents are more responsive to the manifestation of physical components (services with walking distance) than the physical component (block size) itself. Certain methods of neighborhood development provide favorable conditions for social interaction, which through the review of literature and on the contingency table, are found to contribute to sense of community.

## *DISCUSSION*

In sum, analysis of the research provided significant results for the comparison of Brambleton and Stratford. Cross tabulating independent variables, which represent a range of social and physical characteristics for both neighborhoods, with the dependent sense of community variable revealed support for the hypothesized relationship.

Question series 7 examined the direct sense of community residents' felt from living in and experiencing the physical attributes of their neighborhood. Both sub-questions within the series produced highly significant results. Brambleton residents exhibited a greater sense of community than Stratford residents by a significant margin. As a direct assessment of resident sense of community, question series 7 strongly supports the hypothesis in this research.

Question series 8 also observed the relationship between urban form and sense of community. Subcomponents of the question more closely analyzed the physical and social characteristics of the neighborhoods, contributing to a more thorough examination than question series 7. As seen in the analysis, a number of significant relationships across the four domains provide support for the hypothesized benefits of traditional urbanism. Brambleton respondents consistently ranked vital components of their neighborhood as more important to their sense of community than Stratford respondents.

As hypothesized, the overall analysis of the research data supports the assumption that urban form affects both the physical and social realms of sense of community for neighborhood residents. Moreover, the residents' of the neighborhood characterized by elements of traditional urbanism (Brambleton) were found to possess a greater sense of community than those in the neighborhood characterized by a conventional suburban development pattern (Stratford).

## **CHAPTER V – CONCLUSIONS**

The primary purpose of this chapter is to summarize the major findings of the research, and to discuss certain limitations of the study, planning and community design recommendations, and future research and applications. Section 1 provides a summation of the major research findings. In section 2, the limits of this study are reviewed. Finally, section 3 addresses recommendations, including: future research topics, applications, lessons for planners and those responsible for community building, and concluding comments.

## *SUMMARY OF THE RESEARCH*

### *RESEARCH GOALS & METHODS*

The study of urban form and TND has gained increasing attention due to increased consideration given to the shortfalls of past development trends. Nevertheless, there has been little empirical effort made to assess the ability of TND to foster a greater sense of community over conventional suburban development. This study helps to fill the void by making a comparison of Brambleton, a TND, and Stratford, a conventional suburban development; both developments are located in Loudoun County, Virginia.

Based on an extensive review of the literature, a normative urban form was presented. The normative standard is based on principles of development supported in New Urbanism and planning techniques used in traditional urban developments (i.e. traditional neighborhood development, transit oriented development). In addition to urban form, the review of literature also examined sense of community, culminating in the advancement of a normative standard. The normative sense of community standard was based upon four domains, including: community identity, pedestrianism, community attachment, and social interaction.

The sense of community domains established the foundation for the survey and measurement used in the research. The survey instrument was used to analyze similar

characteristics in two neighborhoods, characterized by distinct urban forms, to assess how aspects of community design contribute to each sense of community domain. Data was received from a total of 45 residents.

### *KEY DEMOGRAPHICS & PHYSICAL CHARACTERISTICS*

The respondent groups from Brambleton and Stratford were found to be similar in terms of several key demographics, including: gender, average age, education, race, marital status, children, household size, work status, and home ownership status. Notable differences between the neighborhoods included: distribution amongst age cohorts, method of transportation to work, income, length of residence, and community partiality items.

In addition to demographic features, the neighborhoods also share similarities and differences regarding physical attributes. The neighborhood studied in Brambleton has a mixture of single family homes, townhomes, institutional and commercial uses. Although Stratford has a wider range of residential uses, including attached and detached single family, townhomes and condominiums, there are no commercial uses. In addition, land uses within Brambleton are dispersed throughout the neighborhood, whereas Stratford's residential uses are isolated in single-use pods, isolated from one another.

In Brambleton, streets are arranged on a warped grid pattern with a number of common green spaces, parks, and trails spread throughout the neighborhood. Blocks also include a number of alleyways with garages setback behind homes. By contrast, Stratford's

layout is based upon a few superblocks with a limited amount of usable open space. A typical streetscape is characterized by garages facing streets, limited housing styles with very few porches, and several cul-de-sacs.

### *SURVEY OUTCOMES*

Overall, Brambleton residents displayed a significantly higher sense of community level than Stratford residents. Question series 7, which directly ascertained whether the physical characteristics or living in the two neighborhoods provided a sense of community, provided significant results. Brambleton respondents overwhelmingly exhibited that the traditional urban neighborhood in which they reside was more important to their sense of community by nearly a 20 percentage point margin over Stratford respondents.

Question series 8 also provided a number of significant results that demonstrated the advantages of the Brambleton neighborhood. 7 of the 14 domain subcomponents surveyed were proven to have a significant relationship to resident sense of community. Respondents in Brambleton repeatedly rated all significant items more highly than participants in Stratford. The significant differences suggest that each of the sense of community domains is perceived as more salient in Brambleton. Subcomponents (and domains) contributing to a higher sense of community level in Brambleton included: architectural features reflecting local character (community attachment), community or local services within walking distance (pedestrianism), access to public transit (pedestrianism), participation in community activities (social interaction), distinctive physical character of the neighborhood (community

identity), feeling that a good fit exists between you and your neighborhood (community identity), and sense of pride (community identity).

In addition to the 14 key subcomponents, Question series 8 also surveyed residents regarding 5 physical characteristics of their neighborhoods, as well as safety. None of these additional variables were found to be significant through a cross tabulation of the data, therefore little discussion regarding their impact on sense of community was included. Due to disparate demographic levels between the neighborhoods, other key components of the survey analyzed resident sense of community in relation to 5 demographic elements and their potential intervening impact. Once again, no significance was found to exist between sense of community and gender, income, presence of children, age, and education. Therefore, sense of community within the research was attributed solely to the findings exhibited in question series 7 and 8 of the survey.

### *LIMITATIONS OF THE RESEARCH*

Although the outcome of the research exhibited a number of significant results, pointing to the advantages of traditional urbanism to foster sense of community, potential limitations of the research exist. The following discussion focuses on those limitations.

*SIZE OF THE SAMPLE*

The overall response to the surveys received an unexpectedly low return rate considering that 450 residents between Brambleton and Stratford were included in the mailing. Subtracting surveys that were returned to the author undeliverable (45 surveys) only 12% of the surveys were completed and sent back by recipients. A larger return size would have yielded greater representativeness of the survey.

In addition to the lack of overall sample size, there was a large disparity between the number of male versus female respondents. Nearly 70% of the surveys were returned by females, which is clearly unrepresentative of the overall demographic characteristics of the neighborhoods sampled. The research could have used additional mechanisms as an attempt to attract a greater number of male respondents, thus gaining a greater level of demographic representativeness.

Although the return rate was low, it is held by many researchers that a sample of 30 is the minimum number of cases in order to use some form of statistical analysis on data (Cohen, Manion, and Morrison 2000). Therefore, a large enough representation was received to allow for adequate analysis of the data. While the amount of residents sampled was sufficient to obtain a representative sample, perhaps a greater level of significance and significant variables would have been obtained with an increase in the number of surveys returned. Additional studies could benefit from more contact with community residents, including follow-up surveys in the mail, interviews, and perhaps online surveys.

### *SELF-SELECTION BIAS*

It is difficult to ascertain, without further analysis, whether participants were attracted to their given neighborhood due to a bias for that type of development. For example, people who look for a neighborhood that offers community activities may prefer to live in Brambleton. This raises the subject of potentially non-comparable respondent groups. Therefore, it may limit the possibility that either of the responses to question series 7 or 8 have an effect on residents' sense of community.

While it is important to consider the comparability of the respondent groups, this research does not present definitive analysis regarding residents feelings prior to *and* after moving to the neighborhoods. However, resident responses regarding social interaction, for example, do demonstrate that even participants in Stratford desire some interaction and are not completely devoid of the need for this attribute in their neighborhood. Additionally, question series 5, which surveyed respondents regarding the importance of various subcomponents to their decision to move to their neighborhood, could have provided insight into the self-selection question. Further analysis should have focused on question series 5 to potentially enlighten this research limitation.

### *ADEQUATE SAMPLING OF SIMILAR NEIGHBORHOODS*

The study of urban form and sense of community, as shown in the review of literature, is rather limited. Due to the fact that only two neighborhoods are sampled in the research, one can argue that a narrow comparison is not rigorous enough to provide an adequate

examination of the preeminence of traditional urban neighborhoods over conventional suburban developments.

Sampling additional traditional urban and conventional suburban neighborhoods within close proximity to the study sites would advance the generality of the research results and provide a clearer picture of the actual impact of urban form on sense of community. Loudoun County would be a particularly good area to draw from considering the relatively large amount of traditional urban neighborhoods available to survey. Moreover, research analyzing sense of community and the built environment has been limited to a relatively confined arena to the author's knowledge. Perhaps an examination of study sites outside of the Washington, DC region would provide insight not thought of to date – potentially influenced by variables uncommon to the region.

Finally, current development adjacent to Stratford will soon provide commercial uses within relatively easy walking distance to residents. An examination of the impact of this development on sense of community would provide a longitudinal look at the varying effects of proximity, regardless of urban form. Longitudinal studies examining urban form and sense of community do not exist to the knowledge of the author. In addition to the aforementioned constraints, it would be time consuming and expensive to conduct multiple case studies, even with the presence of additional communities.

## *RECOMMENDATIONS*

### *FUTURE RESEARCH & SENSE OF COMMUNITY APPLICATION*

The benefits of sense of community and its influencers are apparent in the literature. However, increased research on the concept can only lend to a more empirically-sound application of its principles. Future measures should be pursued in additional traditional urban neighborhoods, as well as other varied urban forms, to support the claims of current research. In addition, sense of community studies have been confined to a narrow geographic spectrum, a more global approach should be taken to reinforce the concept across cultures and community design philosophies.

The sense of community model used in this research is based upon a cross-disciplinary and thorough analysis of literature, but analyzing the potential shortfalls and additions or changes to the model may offer a more accurate measure. Inadequacies or deficiencies should be considered, and peer review of the methodology should provide adequate scrutiny prior to the acceptance of any ubiquitously held normative standard. This includes a thorough consideration of the domains and subcomponents in the model.

In addition to the sense of community model, the variables that are analyzed in research on urban form and the built environment should be thoughtfully considered. Varying the measured elements of neighborhoods may yield unanticipated results, opening a

line of thought previously unconsidered. Nonetheless, as studies on sense of community and its relation to urban form matures, so should the variables and model used for its measure.

Future research suggestions aside, the study of urban form, measured by resident sense of community, can play an important role by informing planners about the direct impact of their decisions and recommendations. Often, but not always, the impacts relate to the policies and implementation devices that city planner's author or advocate. The American Institute of Certified Planners Professional Practice Manual states that it is incumbent upon planners to serve the community first (Solin 1997). In doing so, planners must strive to create communities that are safe, provide for the common welfare, and promote public health for residents.

There is ongoing debate about the ability of community design to fulfill the goal of promoting common welfare and a sense of community. However, as has been demonstrated in literature and in practice, sense of community is influenced by urban form and benefits neighborhood residents' for a number of qualitative and quantitative reasons. Measuring sense of community, therefore, is a valid method of analyzing the overall quality of the built environment and urban form.

In the past, a preponderance of the academic research on sense of community was conducted within the social science disciplines, but design disciplines, with a central concern for the physical environment, have taken notice of the role that sense of community can play in shaping and sustaining the built environment and urban form. If the discipline of city planning is going to contribute strongly to healthy and livable communities, the physical and

social realms of community design and urban form would benefit greatly by using sense of community as a measurement to guide planning decisions.

For example, since planner's author and use a number of devices, such as zoning ordinances and design guidelines, to implement their vision, perhaps the embedded policies and guidelines that mandate development can be measured against a sense of community rating. Assuming that the benefits espoused in the literature regarding sense of community are empirically sound, and assuming that planners and community leaders favor citizen input into their decisions, a sense of community measurement can be used to directly ascertain the level of citizen satisfaction with planning decisions via implementation and policy devices. The sense of community measurement can be put to good use as a means of influencing planning documents that range from master plans and comprehensive plans, to zoning ordinances and other implementation devices.

#### *RECOMMENDATIONS FOR URBAN FORM & PHYSICAL PLANNING*

Academia, informed by planning practice, needs to maintain a focus on the research of the social ramifications of physically built environment, including development at all scales. From neighborhoods to regions, the benefits of development practices (health, infrastructure costs) need to be further examined and promulgated at all levels of government. Best practices should then be commonly accepted and implemented by devices that enable their use.

A number of states have begun to assist with planning at the local government level by providing the tools necessary to implement traditional urbanism; however under the guise of smart growth. The State of Wisconsin (1997) has been progressive in its mandate for smart growth strongly encouraging the use of TND at the statute level. Although the use of state statutes are limited, state planning associations should work hard to lobby for legislation that enables, encourages, and provides incentive for local governments that adopt responsible planning methodologies.

With the assistance of policy guides drafted by the American Planning Association and a volunteer legislative committee, the Virginia Chapter of the American Planning Association hired a lobbyist to purport responsible practices to state legislators. As a result, the guiding principles of New Urbanism were written into a recent senate bill (SB 3202) that guides future development to urban development areas with adequate services. The bill also encourages mixed-use development with a relatively dense concentration of residential land uses. Concerted effort can have an impact. Considering that Virginia follows “Dillon’s Rule”, the additional flexibility given to local governments was a major step in reforming city planning practices in the Commonwealth.

Although adequate state enabling legislation should be pursued by the planning field, there are a number of developments that purport to demonstrate principles of smart growth and traditional urbanism without the prodding and direction of city planners. As seen in Northern Virginia, as well as other areas throughout the Washington, DC region, it is not entirely necessary to mandate high-quality development, but this train of thought relies heavily on the development community to act responsibly. Nonetheless, developer-driven

prototypes are often better than the alternative conventional suburban development, although they do require some flexibility by local governments who are not traditionally prepared to handle such proposals.

Additional attention should be given to educating land developers regarding good city form to encourage the perpetuity of responsible development practices. The Urban Land Institute has begun an awards program for developers that apply principles of smart growth and traditional urbanism. The American Planning Association, including its chapters and divisions, should actively pursue positive relationships with allied professions aimed at promoting traditional urbanism.

In addition to educating state legislators in relation to enabling legislation and developers concerning good city form, the planning profession needs to ensure that it educates itself regarding physical planning. Over the last several decades, as planning programs have increasingly integrated social science education into curricula, a focus on the physical elements of planning have begun to fade away. Although the social sciences should remain as a complimentary element in planning education, an emphasis on urban design and form should receive more significant attention in academia.

A high level of attention in academe is placed on the education of educators and receiving a doctorate degree is a typical requirement to be a teacher of planning. In deference to current planning faculty that specialize in socio-demographics and research, planning programs could benefit greatly by creating more positions for planners that not only have a physical planning education, but have also practiced urban design; practitioners that

have put solutions on the ground. Planning needs to reclaim the task of physically and spatially arranging communities since it has been relegated to developers and allied professions whose specialties rest in areas other than planning and urban design.

### *CONCLUSION*

An analysis of the history and development of city building and urban form provides a deeper understanding of how far city planners have diverged from successful past practices, as well as how far-off planners are from reclaiming the traditions that have defined their profession. The prevailing philosophy of development continues to support community building methods propagated during the last several decades, with a penchant towards accommodating an ever shifting, automobile-oriented population, and a separation of land uses. Regulatory forces and governmental policies, from local zoning codes to federal automobile subsidies, have played a major role in promoting a flawed built environment, but they also have the ability to aid in its recovery.

There are signs that urban form is beginning to make a critical shift back to community design ideologies reminiscent of pre- World War II norms, bringing with it an increasing emphasis on the principles of traditional urbanism. As a response, the education, role, and practice of planning should have a renewed emphasis on three-dimensional physical planning and a well articulated theory and measure of good city form. Insofar as planners have the ability to shape urban form, they also have the ability to promote an increased sense of community (Talen 2001).

**Community planning paradigms should continue their evolution of emphasizing design principles that accommodate pedestrian-friendly environments, compact and mixed land uses, and public transit. Principally, however, planning should endeavor to preserve the symbiotic relationship of the physically advantageous built environment and its inherent social connections.**

**APPENDIX A-1****LETTER OF INTRODUCTION**

**Title of Study:** How Urban Form Effects Sense of Community: A Comparative Case Study of a Neotraditional and a Conventional Suburban Development in the Washington, DC Area

**Investigators:** Jason Beske  
Timothy Borich, PhD

Dear Resident:

This is a research study being conducted by project investigators at Iowa State University in the Department of Community and Regional Planning. Please take your time in deciding if you would like to participate and feel free to contact the researchers at any time with questions.

The purpose of this study is to understand residents' perceptions of their physical surroundings and the role the built environment plays in their lives. You are being invited to participate in this study because your neighborhood is being studied as one of two distinctive and recent residential developments in the Washington, DC region.

If you agree to participate in this study, your participation will simply last as long as it takes to finish the enclosed survey, which, on average, takes approximately 15 minutes to complete. After completing the questionnaire please return it to the researchers in the self addressed stamped envelope. You may skip any question that you do not wish to answer or that may make you feel uncomfortable. There are no foreseeable risks at this time from participating in this study. Participants must be 18 years and older to participate. Please only complete one survey per household.

If you decide to participate in this study there will be no direct benefit to you, however, it is hoped that the information gained in this study will benefit society by helping city planners

and city officials make informed decisions and implement responsible policies regarding urban form and community design.

You will not have any costs and you will not be compensated for participating in this study. Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

### ***Confidentiality***

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. Surveys will be assigned a unique code which will be used in the study instead of names. Identification codes will only be used for data entry and follow-up if the initial survey is not returned after 2 weeks. The project investigators will be the only individuals who have access to the returned survey data, which will be safely stored on a password-protected computer. Following data entry and interpretation, all identifiers and data will be destroyed. The data entry process will be completed and data destroyed within 1 year after the survey is returned to the project investigators.

You are encouraged to ask questions at any time during this study. For further information about the study contact either Jason Beske, the primary project investigator, at (571) 271-3206, or Timothy Borich, major professor, at (515) 294-8707. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, [austingr@iastate.edu](mailto:austingr@iastate.edu), or Diane Ament, Director, Office of Research Assurances (515) 294-3115, [dament@iastate.edu](mailto:dament@iastate.edu).

I would appreciate the prompt return of the questionnaire and am asking that you please return the completed survey in the enclosed envelope within 2 weeks of receiving it. Thank you for providing assistance with the study of your neighborhood, your cooperation is greatly appreciated.

Sincerely,



Jason Beske  
Project Investigator

## APPENDIX A-2

### Brambleton Study

#### 1. How Important are these features to your *feeling of attachment* to Brambleton?

(circle one answer for each feature)

FEATURES of BRAMBLETON	very important	moderately Important	somewhat	minimally important	not at all
Residential density	[5]	[4]	[3]	[2]	[1]
Public parks, lake, tot lots, footpaths	[5]	[4]	[3]	[2]	[1]
Distances between sidewalks & houses	[5]	[4]	[3]	[2]	[1]
Architectural style	[5]	[4]	[3]	[2]	[1]
Block size	[5]	[4]	[3]	[2]	[1]
Club House - Recreation Complex	[5]	[4]	[3]	[2]	[1]
Overall layout of Brambleton	[5]	[4]	[3]	[2]	[1]
Street trees and other landscaping	[5]	[4]	[3]	[2]	[1]
Overall size of Brambleton	[5]	[4]	[3]	[2]	[1]
Arrangement of houses on the block	[5]	[4]	[3]	[2]	[1]
Street width	[5]	[4]	[3]	[2]	[1]
Garage location	[5]	[4]	[3]	[2]	[1]
On street parking	[5]	[4]	[3]	[2]	[1]
Lot size	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]
Overall design quality of housing	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Mixed uses (retail, services, & housing)	[5]	[4]	[3]	[2]	[1]
Schools	[5]	[4]	[3]	[2]	[1]
Alleys	[5]	[4]	[3]	[2]	[1]
Community activities	[5]	[4]	[3]	[2]	[1]
Recreational amenities	[5]	[4]	[3]	[2]	[1]
Brambleton Town Center	[5]	[4]	[3]	[2]	[1]
Brambleton intranet	[5]	[4]	[3]	[2]	[1]
Fences	[5]	[4]	[3]	[2]	[1]
Porches	[5]	[4]	[3]	[2]	[1]

#### 2. How important is each feature in your decision to *walk* in Brambleton?

(circle one answer for each feature)

FEATURES of BRAMBLETON	very important	moderately Important	somewhat	minimally important	not at all
Residential density	[5]	[4]	[3]	[2]	[1]
Public parks, lake, tot lots, footpaths	[5]	[4]	[3]	[2]	[1]
Distances between sidewalks & houses	[5]	[4]	[3]	[2]	[1]
Architectural style	[5]	[4]	[3]	[2]	[1]
Block size	[5]	[4]	[3]	[2]	[1]
Club House	[5]	[4]	[3]	[2]	[1]
Overall layout of Brambleton	[5]	[4]	[3]	[2]	[1]
Street trees and other landscaping	[5]	[4]	[3]	[2]	[1]
Overall size of Brambleton	[5]	[4]	[3]	[2]	[1]
Arrangement of houses on the block	[5]	[4]	[3]	[2]	[1]
Street width	[5]	[4]	[3]	[2]	[1]
Garage location	[5]	[4]	[3]	[2]	[1]
On street parking	[5]	[4]	[3]	[2]	[1]
Lot size	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]

Overall design quality of housing	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Mixed uses (retail, services, & housing)	[5]	[4]	[3]	[2]	[1]
Schools	[5]	[4]	[3]	[2]	[1]
Alleys	[5]	[4]	[3]	[2]	[1]
Brambleton Town Center	[5]	[4]	[3]	[2]	[1]
Brambleton intranet	[5]	[4]	[3]	[2]	[1]
Fences	[5]	[4]	[3]	[2]	[1]
Porches	[5]	[4]	[3]	[2]	[1]
Recreational amenities	[5]	[4]	[3]	[2]	[1]

### 3. How often do you typically walk within Brambleton?

(circle one answer for each question)

	less than once a week	a few times a week	daily	several times a day	not applicable
For pleasure	[5]	[4]	[3]	[2]	[1]
To make a purchase	[5]	[4]	[3]	[2]	[1]
To go to the Clubhouse	[5]	[4]	[3]	[2]	[1]
To visit someone	[5]	[4]	[3]	[2]	[1]
To use recreational amenities	[5]	[4]	[3]	[2]	[1]

### 4. How important are these features in enabling you to interact with residents in Brambleton?

(circle one answer for each feature)

FEATURES of BRAMBLETON	very important	moderately Important	somewhat	minimally important	not at all
Residential density	[5]	[4]	[3]	[2]	[1]
Public parks, lake, tot lots, footpaths	[5]	[4]	[3]	[2]	[1]
Distances between sidewalks & houses	[5]	[4]	[3]	[2]	[1]
Architectural style	[5]	[4]	[3]	[2]	[1]
Block size	[5]	[4]	[3]	[2]	[1]
Club House	[5]	[4]	[3]	[2]	[1]
Overall layout of Brambleton	[5]	[4]	[3]	[2]	[1]
Street trees and other street landscaping	[5]	[4]	[3]	[2]	[1]
Overall size of Brambleton	[5]	[4]	[3]	[2]	[1]
Arrangement of houses on the block	[5]	[4]	[3]	[2]	[1]
Street width	[5]	[4]	[3]	[2]	[1]
Garage location	[5]	[4]	[3]	[2]	[1]
On street parking	[5]	[4]	[3]	[2]	[1]
Lot size	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]
Overall design quality of housing	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Mixed uses (retail, services, & housing)	[5]	[4]	[3]	[2]	[1]
Schools	[5]	[4]	[3]	[2]	[1]
Alleys	[5]	[4]	[3]	[2]	[1]
Brambleton Town Center	[5]	[4]	[3]	[2]	[1]
Brambleton intranet	[5]	[4]	[3]	[2]	[1]
Porches	[5]	[4]	[3]	[2]	[1]
Recreational amenities	[5]	[4]	[3]	[2]	[1]
Community activities	[5]	[4]	[3]	[2]	[1]

### 5. How important were each of these factors in your decision to move to Brambleton?

(circle one answer for each question)

	very important	moderately Important	somewhat	minimally important	not at all
Better housing	[5]	[4]	[3]	[2]	[1]
Needed smaller home	[5]	[4]	[3]	[2]	[1]
Needed larger home	[5]	[4]	[3]	[2]	[1]
Traditional neighborhood concept	[5]	[4]	[3]	[2]	[1]
Sense of community	[5]	[4]	[3]	[2]	[1]
To retire	[5]	[4]	[3]	[2]	[1]
Good school district	[5]	[4]	[3]	[2]	[1]
Investment	[5]	[4]	[3]	[2]	[1]
Amenities	[5]	[4]	[3]	[2]	[1]
Proximity to Washington D.C.	[5]	[4]	[3]	[2]	[1]
Proximity to place of work	[5]	[4]	[3]	[2]	[1]
Brambleton is similar to places where I grew up	[5]	[4]	[3]	[2]	[1]

### 6. How important are these features in contributing to the distinctive character of Brambleton?

(circle one answer for each feature)

FEATURES of BRAMBLETON	very important	moderately Important	somewhat	minimally important	not at all
Residential density	[5]	[4]	[3]	[2]	[1]
Public parks, lake, tot lots, footpaths	[5]	[4]	[3]	[2]	[1]
Distances between sidewalks & houses	[5]	[4]	[3]	[2]	[1]
Architectural style	[5]	[4]	[3]	[2]	[1]
Block size	[5]	[4]	[3]	[2]	[1]
Club House	[5]	[4]	[3]	[2]	[1]
Overall layout of Brambleton	[5]	[4]	[3]	[2]	[1]
Street trees and other street landscaping	[5]	[4]	[3]	[2]	[1]
Overall size of Brambleton	[5]	[4]	[3]	[2]	[1]
Arrangement of houses on the block	[5]	[4]	[3]	[2]	[1]
Street width	[5]	[4]	[3]	[2]	[1]
Garage location	[5]	[4]	[3]	[2]	[1]
On street parking	[5]	[4]	[3]	[2]	[1]
Lot size	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]
Overall design quality of housing	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Mixed uses (retail, services, & housing)	[5]	[4]	[3]	[2]	[1]
Schools	[5]	[4]	[3]	[2]	[1]
High school	[5]	[4]	[3]	[2]	[1]
Brambleton Town Center	[5]	[4]	[3]	[2]	[1]
Wireless internet in Brambleton	[5]	[4]	[3]	[2]	[1]
Brambleton intranet	[5]	[4]	[3]	[2]	[1]
Porches	[5]	[4]	[3]	[2]	[1]
Alleys	[5]	[4]	[3]	[2]	[1]

**7. Do you agree or disagree with the following statements about Brambleton?**

(circle one answer for each question)

	strongly agree	somewhat agree	neutral	somewhat disagree	strongly disagree
Living in Brambleton gives me a sense of community	[5]	[4]	[3]	[2]	[1]
Physical characteristics of Brambleton give me a sense of community	[5]	[4]	[3]	[2]	[1]

**8. How important are these features or characteristics to your sense of community in Brambleton?**

(circle one answer for each feature)

FEATURES of BRAMBLETON	very important	moderately Important	somewhat	minimally important	not at all
Walkability of the environment	[5]	[4]	[3]	[2]	[1]
Community or local service within Brambleton	[5]	[4]	[3]	[2]	[1]
Public transit services near Brambleton	[5]	[4]	[3]	[2]	[1]
Satisfaction with overall quality of physical environment	[5]	[4]	[3]	[2]	[1]
Architectural features reflecting local character or tradition	[5]	[4]	[3]	[2]	[1]
Feeling that Brambleton is your home	[5]	[4]	[3]	[2]	[1]
Interaction with next-door neighbors	[5]	[4]	[3]	[2]	[1]
Chance encounter with residents from other sections	[5]	[4]	[3]	[2]	[1]
Participation in community activities	[5]	[4]	[3]	[2]	[1]
Caring of other residents	[5]	[4]	[3]	[2]	[1]
Distinctive physical character of Brambleton	[5]	[4]	[3]	[2]	[1]
Sense of pride	[5]	[4]	[3]	[2]	[1]
A cohesive, homogenous, and intimate place	[5]	[4]	[3]	[2]	[1]
Safety	[5]	[4]	[3]	[2]	[1]
Felling that a good fit exists between you and Brambleton	[5]	[4]	[3]	[2]	[1]

#8 continued on next page

**8. continued - How important are these features or characteristics to your sense of community in Brambleton?**

(circle one answer for each feature)

FEATURES of BRAMBLETON	very important	moderately Important	somewhat	minimally important	not at all
Distance between sidewalks and houses	[5]	[4]	[3]	[2]	[1]
Block size	[5]	[4]	[3]	[2]	[1]
Overall size of Brambleton	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Mixed uses (retail, services, housing)	[5]	[4]	[3]	[2]	[1]
Alleys	[5]	[4]	[3]	[2]	[1]
Brambleton Intranet	[5]	[4]	[3]	[2]	[1]
Porches	[5]	[4]	[3]	[2]	[1]

## APPENDIX A-3

### Stratford Study

#### 1. How Important are these features to your feeling of attachment to Stratford?

(circle one answer for each feature)

FEATURES of STRATFORD	very important	moderately Important	somewhat	minimally important	not at all
Residential density	[5]	[4]	[3]	[2]	[1]
Public parks, lake, tot lots, footpaths	[5]	[4]	[3]	[2]	[1]
Distances between sidewalks & houses	[5]	[4]	[3]	[2]	[1]
Architectural style	[5]	[4]	[3]	[2]	[1]
Block size	[5]	[4]	[3]	[2]	[1]
Club House - Recreation Complex	[5]	[4]	[3]	[2]	[1]
Overall layout of Stratford	[5]	[4]	[3]	[2]	[1]
Street trees and other street landscaping	[5]	[4]	[3]	[2]	[1]
Overall size of Stratford	[5]	[4]	[3]	[2]	[1]
Arrangement of houses on the block	[5]	[4]	[3]	[2]	[1]
Street width	[5]	[4]	[3]	[2]	[1]
Garage location	[5]	[4]	[3]	[2]	[1]
On street parking	[5]	[4]	[3]	[2]	[1]
Lot size	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]
Overall design quality of housing	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Schools	[5]	[4]	[3]	[2]	[1]
Alleys	[5]	[4]	[3]	[2]	[1]
Recreational amenities	[5]	[4]	[3]	[2]	[1]
Community activities	[5]	[4]	[3]	[2]	[1]

#### 2. How important is each feature in your decision to walk in Stratford?

(circle one answer for each feature)

FEATURES of STRATFORD	very important	moderately Important	somewhat	minimally important	not at all
Residential density	[5]	[4]	[3]	[2]	[1]
Public parks, lake, tot lots, footpaths	[5]	[4]	[3]	[2]	[1]
Distances between sidewalks & houses	[5]	[4]	[3]	[2]	[1]
Architectural style	[5]	[4]	[3]	[2]	[1]
Block size	[5]	[4]	[3]	[2]	[1]
Club House	[5]	[4]	[3]	[2]	[1]
Overall layout of Stratford	[5]	[4]	[3]	[2]	[1]
Street trees and other street landscaping	[5]	[4]	[3]	[2]	[1]
Overall size of Stratford	[5]	[4]	[3]	[2]	[1]
Arrangement of houses on the block	[5]	[4]	[3]	[2]	[1]
Street width	[5]	[4]	[3]	[2]	[1]
Garage location	[5]	[4]	[3]	[2]	[1]
On street parking	[5]	[4]	[3]	[2]	[1]
Lot size	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]
Overall design quality of housing	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Fences	[5]	[4]	[3]	[2]	[1]
Porches	[5]	[4]	[3]	[2]	[1]
Recreational amenities	[5]	[4]	[3]	[2]	[1]

**3. How often do you typically walk within Stratford?**

(circle one answer for each feature)

	less than once a week	a few times a week	daily	several times a day	not applicable
For pleasure	[5]	[4]	[3]	[2]	[1]
To make a purchase	[5]	[4]	[3]	[2]	[1]
To go to the Clubhouse	[5]	[4]	[3]	[2]	[1]
To visit someone	[5]	[4]	[3]	[2]	[1]
To get to a bus stop	[5]	[4]	[3]	[2]	[1]
To use recreational amenities	[5]	[4]	[3]	[2]	[1]

**4. How important are these features in enabling you to *interact with residents* in Stratford?**

(circle one answer for each feature)

FEATURES of STRATFORD	very important	moderately Important	somewhat	minimally important	not at all
Residential density	[5]	[4]	[3]	[2]	[1]
Public park, lake, tot lots, footpaths	[5]	[4]	[3]	[2]	[1]
Distances between sidewalks & houses	[5]	[4]	[3]	[2]	[1]
Architectural style	[5]	[4]	[3]	[2]	[1]
Block size	[5]	[4]	[3]	[2]	[1]
Club House	[5]	[4]	[3]	[2]	[1]
Overall layout of Stratford	[5]	[4]	[3]	[2]	[1]
Street trees and other street landscaping	[5]	[4]	[3]	[2]	[1]
Overall size of Stratford	[5]	[4]	[3]	[2]	[1]
Arrangement of houses on the block	[5]	[4]	[3]	[2]	[1]
Street width	[5]	[4]	[3]	[2]	[1]
Garage location	[5]	[4]	[3]	[2]	[1]
On street parking	[5]	[4]	[3]	[2]	[1]
Lot size	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]
Overall design quality of housing	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Porches	[5]	[4]	[3]	[2]	[1]
Recreational amenities	[5]	[4]	[3]	[2]	[1]
Community activities	[5]	[4]	[3]	[2]	[1]

**5. How important were each of these factors in your decision to move to Stratford?**

(circle one answer for each question)

	very important	moderately Important	somewhat	minimally important	not at all
Better housing	[5]	[4]	[3]	[2]	[1]
Needed smaller home	[5]	[4]	[3]	[2]	[1]
Needed larger home	[5]	[4]	[3]	[2]	[1]
Suburban neighborhood concept	[5]	[4]	[3]	[2]	[1]
Sense of community	[5]	[4]	[3]	[2]	[1]
To retire	[5]	[4]	[3]	[2]	[1]
Good school district	[5]	[4]	[3]	[2]	[1]
Investment	[5]	[4]	[3]	[2]	[1]
Amenities	[5]	[4]	[3]	[2]	[1]
Proximity to Washington D.C.	[5]	[4]	[3]	[2]	[1]
Proximity to place of work	[5]	[4]	[3]	[2]	[1]
Stratford is similar to places where I grew up	[5]	[4]	[3]	[2]	[1]

**6. How important are these features in contributing to the distinctive character of Stratford?**

(please circle one answer for each feature)

FEATURES of STRATFORD	very important	moderately Important	somewhat	minimally important	not at all
Residential density	[5]	[4]	[3]	[2]	[1]
Public Parks, lake, tot lots, footpaths	[5]	[4]	[3]	[2]	[1]
Distances between sidewalks & houses	[5]	[4]	[3]	[2]	[1]
Architectural style	[5]	[4]	[3]	[2]	[1]
Block size	[5]	[4]	[3]	[2]	[1]
Club House	[5]	[4]	[3]	[2]	[1]
Overall layout of Stratford	[5]	[4]	[3]	[2]	[1]
Street trees and other street landscaping	[5]	[4]	[3]	[2]	[1]
Overall size of Stratford	[5]	[4]	[3]	[2]	[1]
Arrangement of houses on the block	[5]	[4]	[3]	[2]	[1]
Street width	[5]	[4]	[3]	[2]	[1]
Garage location	[5]	[4]	[3]	[2]	[1]
On street parking	[5]	[4]	[3]	[2]	[1]
Lot size	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]
Overall design quality of housing	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Fences	[5]	[4]	[3]	[2]	[1]
Porches	[5]	[4]	[3]	[2]	[1]
Recreational amenities	[5]	[4]	[3]	[2]	[1]

**7. Do you agree or disagree with the following statements about Stratford?**

(please circle one answer for each question)

	strongly agree	somewhat agree	neutral	somewhat disagree	strongly disagree
Living in Stratford gives me a sense of community	[5]	[4]	[3]	[2]	[1]
Physical characteristics of Stratford give me a sense of community	[5]	[4]	[3]	[2]	[1]

**8. How important are these features or characteristics to your sense of community in Stratford?**

(circle one answer for each feature)

FEATURES of STRATFORD	very important	moderately Important	somewhat	minimally important	not at all
Walkability of the environment	[5]	[4]	[3]	[2]	[1]
Community or local service within Stratford	[5]	[4]	[3]	[2]	[1]
Public transit services near Stratford	[5]	[4]	[3]	[2]	[1]
Satisfaction with overall quality of physical environment	[5]	[4]	[3]	[2]	[1]
Architectural features reflecting local character or tradition	[5]	[4]	[3]	[2]	[1]
Feeling that Stratford is your home	[5]	[4]	[3]	[2]	[1]
Interaction with next-door neighbors	[5]	[4]	[3]	[2]	[1]
Chance encounter with residents from other sections	[5]	[4]	[3]	[2]	[1]
Participation in community activities	[5]	[4]	[3]	[2]	[1]
Caring of other residents	[5]	[4]	[3]	[2]	[1]
Distinctive physical character of Stratford Farm	[5]	[4]	[3]	[2]	[1]
Sense of pride	[5]	[4]	[3]	[2]	[1]
A cohesive, homogenous, and intimate place	[5]	[4]	[3]	[2]	[1]
Safety	[5]	[4]	[3]	[2]	[1]
Felling that a good fit exists between you and Stratford	[5]	[4]	[3]	[2]	[1]

#8 continued on next page

**8. continued - How important are these features or characteristics to your sense of community in Stratford?**

(circle one answer for each feature)

FEATURES of STRATFORD	very important	moderately Important	somewhat	minimally important	not at all
Block size	[5]	[4]	[3]	[2]	[1]
Overall size of Stratford	[5]	[4]	[3]	[2]	[1]
Mixture of housing types	[5]	[4]	[3]	[2]	[1]
Street layout	[5]	[4]	[3]	[2]	[1]
Porches	[5]	[4]	[3]	[2]	[1]

**APPENDIX A-4**

- 9 Your gender: (check one)  
 Male  Female
- 10 Age: (check one)  
 under 20  50 - 59  
 20 - 29  60 - 69  
 30 - 39  70 - 79  
 40 - 49  80+
- 11 Highest level of education: (check one)  
 less than high school  
 high school  
 technical degree  
 some college  
 college degree  
 advanced degree
- 12 Are you: (check all that apply)  
 White/Caucasian  
 Asian-American  
 African-American/Black  
 Latino/Chicano/Hispanic  
 Other: specify \_\_\_\_\_
- 13 Marital Status: (check one)  
 married or living with partner  
 single (divorced, widowed, or never married)
- 14 Do you have children: (check one)  
 no  
 yes
- 15 If yes: How many live at home with you? \_\_\_\_\_
- 16 Please list their ages in appropriate cells below:  
 before preschool  high  
 preschool  college  
 elementary  other  
 middle

- 17 Total number of people in your household: \_\_\_\_\_
- 18 How would you describe your household? (check one)
- \_\_\_\_\_ more than 1 person where all are related  
 \_\_\_\_\_ more than 1 person, some related, some not  
 \_\_\_\_\_ more than 1 person, all unrelated  
 \_\_\_\_\_ 1 person living alone
- 19 Do you have an internet service at home? (check one)
- \_\_\_\_\_ yes  
 \_\_\_\_\_ no
- 20 What is your work status? (please check as many as apply)
- \_\_\_\_\_ work full-time                      \_\_\_\_\_ volunteer work  
 \_\_\_\_\_ work part-time                      \_\_\_\_\_ student  
 \_\_\_\_\_ retired                                      \_\_\_\_\_ homemaker  
 \_\_\_\_\_ self-employed
- 21 Where is your job/place of work located? (check all that apply)
- \_\_\_\_\_ your home  
 \_\_\_\_\_ elsewhere in Loudoun County  
 \_\_\_\_\_ elsewhere in the Washington, DC area  
 \_\_\_\_\_ other
- 22 How do you typically get to work? (check all that apply)
- \_\_\_\_\_ walk                                      \_\_\_\_\_ carpool  
 \_\_\_\_\_ car    \_\_\_\_\_ other  
 \_\_\_\_\_ bus
- 23 How long does it take you to get to work?  
 \_\_\_\_\_ minutes
- 24 What was your total household income last year before taxes? (check one)
- \_\_\_\_\_ under \$40,000                      \_\_\_\_\_ \$80,000-\$99,000  
 \_\_\_\_\_ \$40,000-\$59,000                      \_\_\_\_\_ \$100,000-\$149,000  
 \_\_\_\_\_ \$60,000-\$79,000                      \_\_\_\_\_ \$150,000 or more
- 25 How long have you lived in your current residence?
- \_\_\_\_\_ Years                                      \_\_\_\_\_ Month

26 How long do you think you might live in your neighborhood? (check one)

less than a year       indefinitely  
 1-2 years       don't know  
 3-5 years

27 What type of housing do you currently live in? (check one)

single family       townhome  
 condominium       other  
 apartment

28 Do you own this home or do you rent? (check one)

own home  
 rent

29 Do you plan to move to a new home in your neighborhood? (check one)

yes  
 no  
 don't know

30 If yes, housing type desired? (check one)

single family       townhome  
 condominium       other  
 apartment

31 How often do you access the community website? (check one)

daily       monthly  
 several times a week       rarely  
 weekly       never

**APPENDIX A-5**

For each of the following how do you feel about your neighborhood? (circle one answer for each item)

	Item	Strongly Agree	Agree	Don't Agree or Disagree	Disagree	Strongly Disagree
32	I think my neighborhood is a good place for me to live	1	2	3	4	5
33	People in this neighborhood do not share the same values	1	2	3	4	5
34	My neighbors and I want the same thing from this neighborhood	1	2	3	4	5
35	I feel at home in this neighborhood	1	2	3	4	5
36	Very few of my neighbors know me	1	2	3	4	5
37	I care about what my neighbors think of my actions	1	2	3	4	5
38	I have almost no influence over what this neighborhood is like	1	2	3	4	5
39	If there is a problem in this neighborhood people who live here can get it solved	1	2	3	4	5
40	It is important to me to live in this particular neighborhood	1	2	3	4	5
41	People in this neighborhood get along with each other	1	2	3	4	5
42	Is there anything else you would like to tell us about your neighborhood?					

Please enclose the questionnaire in the enclosed envelope and return within 2 weeks of receipt

Please DO NOT write your name anywhere on this questionnaire

Thank you for your participation!

## BIBLIOGRAPHY

- Ahlbrant, R. S., and J.V. Cunningham. 1979. *A new public policy for neighborhood preservation*. New York: Praeger.
- Alexander, Christopher. 1977. *A pattern language*. Oxford: Oxford University Press.
- American Planning Association. 2002. Policy guide on smart growth. Adopted by the Chapter Delegate Assembly, April 14, 2002. Chicago, IL.
- Bachrach, Kenneth, and Alex Zautra. 1985. Coping with a community stressor: the threat of a hazardous waste facility. *Journal of Health and Social Behavior* 26: 127–141.
- Balaoing, Jacqueline, Jacqueline McCroskey, and Cecilia M. Sandoval. 1995. *Defining “communities” in planning services for children, youth, and families*. Los Angeles: The Los Angeles County Children’s Planning Council.
- Barnett, Jonathan. 1995. *The Fractured Metropolis*. New York: HarperCollins Publishers.
- \_\_\_\_\_. 2003. *Redesigning cities: principles, practice, implementation*. Chicago: APA Planners Press.
- Brodsky, Anne. 1996. Resilient single mothers in risky neighborhoods: negative psychological sense of community. *Journal of Community Psychology* 24(4): 347-363.
- Brown, Barbara B. and Vivian L. Cropper. 2001. New urban and standard suburban subdivisions: evaluating psychological and social goals. *Journal of the American Planning Association* 67(4): 402-419.
- Buckner, John. 1988. The development of an instrument to measure neighborhood cohesion. *American Journal of Community Psychology* 16(6): 771-791.
- Chavis, David M., James H. Hogge, David W. McMillan, and Abraham Wandersman. 1986. Sense of community through Brunswik’s lens: a first look. *Journal of Community Psychology* 14: 24 -40.
- Chavis, David M., and Grace Pretty. 1999. Sense of community: advances in measurement and application. *Journal of Community Psychology* 27(6): 635-642.
- Cohen, Louis, Lawrence Manion, and Keith Morrison. 2000. *Research methods in education 5<sup>th</sup> Edition*. New York:Routledge

- Congress for the New Urbanism. 2000. *Charter of the new urbanism*. New York: McGraw-Hill.
- Crawford, J.H. 2005. A brief history of urban form: street layout through the ages. <http://www.carfree.com>
- Cross, Jennifer E. 2001. What is sense of place? In a paper prepared for the 12<sup>th</sup> Headwaters Conference: Western State College.
- Davidson, William, and Patrick Cotter. 1991. Measurement of sense of community within the sphere of city. *Journal of Applied Social Psychology* 16: 608-619.
- Dill, Jennifer. 2004. Travel behavior and attitudes: new urbanist vs. traditional suburban neighborhoods. Presented at the 2004 annual meeting of the Transportation Research Board: Washington, D.C.
- Doolittle, Robert J., and Donald MacDonald. 1978. Communication and a sense of community in a metropolitan neighborhood: a factor analytic examination. *Communication Quarterly* 26: 2-7.
- Duany, Andres. 2005. Online blog on sprawl. <http://www.plannersweb.com>
- Duany, Andres, and Elizabeth Plater-Zyberk. 1992. The second coming of the American small town. *Wilson Quarterly*.
- Duany, Andres, Elizabeth Plater-Zyberk, and J. Speck. 2000. *Suburban nation: the rise of sprawl and the decline of the American dream*. New York: North Point Press.
- Druker, Colin. 2006. *Five steps towards a new suburbia*. The Planning Center: Costa Mesa, CA.
- Eisner, Simon, Arthur Gallion, and Stanley Eisner. 1993. *The urban pattern*. New York: Van Nostrand Reinhold.
- Ellis, Cliff. 2002. The new urbanism: critiques and rebuttals. *Journal of Urban Design* 7 (3): 261-291.
- \_\_\_\_\_. 2005a. Planning methods and good city form. *Journal of Architectural and Planning Research* 22 (2): 138-147.
- \_\_\_\_\_. 2005b. History of cities and city planning. From the Sim City software manual.
- Elmes, David, Barry H. Kantowitz, and Henry L. Roediger III. 1999. Research methods in psychology. Belmont, CA: Wadsworth Publishing

- Etzioni, Amitai. 1988. I & we: the case for the responsive community. *Social Justice Research* 2(2): 81-94
- \_\_\_\_\_. 1995a. The responsive community: a communitarian perspective. Presidential address, American Sociological Association, August 20, 1995.
- \_\_\_\_\_. 1995b. The attack on community: the grooved debate. *Society* 32(5): 12-17.
- Ewing, Reid. 1997. Is Los Angeles-style sprawl desirable? *Journal of the American Planning Association* (63) 107-126.
- Fishman, Robert. 2005. The fifth migration. *Journal of the American Planning Association* 71(3): 357-366.
- Florin, Paul, and Abraham Wandersman. 1984. Cognitive social learning and participation in community development. *American Journal of Community Psychology* 12: 689–708.
- Freeman, Lance. 2001. The effects of sprawl on neighborhood social ties: an explanatory analysis. *Journal of the American Planning Association* 67(1): 69-77.
- Garreau, Joel. 1991). *Edge city*. New York: Doubleday Publishing Company.
- Gillham, Oliver. 2002. *The limitless city: a primer on the urban sprawl debate*. Island Press: Washington, DC.
- Glynn, Thomas. 1981. Psychological sense of community: measurement and application. *Human Relations* 34: 789–818.
- \_\_\_\_\_. 1986. Neighborhood and sense of community. *Journal of Community Psychology* 14: 341-352.
- Grant, Jill. 2003. Exploring the influence of new urbanism in community planning practice. *Journal of Architectural and Planning Research* 20 (3): 234-253.
- Harlan, Sharon. 2003. *The Phoenix area social survey: community and environment in a desert metropolis*. Arizona State University pilot study.
- Heid, James. 1999. *Greenfield development without sprawl*. Washington, DC. Urban Land Institute.
- Herek, Gregory M., and Erik K. Glunt. 1995. Identity and community among gay and bisexual men in the AIDS era: preliminary findings from a Sacramento men's health study," in G. M. Herek and B. Greene, eds., *AIDS, identity, and community: the HIV epidemic and lesbians and gay men*. Beverly Hills: Sage Publications.

- Hunter, Albert. 1975. The loss of community: an empirical test through replication. *American Sociological Review* 40(5): 537-552.
- Jackson, John B. 1994. *A sense of place, a sense of time*. New Haven: Yale University Press.
- Jacobs, Allan, and Donald Appleyard. 1987. Toward an urban design manifesto. *Journal of the American Planning* 53: 112-120.
- Jacobs, Jane. 1961. *The death and life of great American cities*. New York: Vintage Books.
- Joranko, Dan. 1998. The sense of community on a racially integrated residential block in Lansing, Michigan. Paper submitted to the meeting of the Michigan Sociological Association.
- Kasarda, John D., and Morris Janowitz. 1974. Community attachment in mass society. *American Sociological Review* 39(3): 328-339.
- Katz, Peter. 1994. *The new urbanism*. New York: McGraw-Hill.
- Khattak, Asad J., and Daniel Rodriguez. 2005. Travel behavior in neo-traditional neighborhood developments: A case study in the USA. *Transportation Research* (39): 481-500.
- Kim, Joongsub. 2001. Sense of community in neotraditional and conventional suburban developments: a comparative case study of Kentlands and Orchard Village. Ph.D. diss., University of Michigan.
- Kim, Joongsub, and Rachel Kaplan. 2004. Physical and psychological factors in sense of community: new urbanist Kentlands and Orchard Village. *Environment and Behavior* 36(3): 313-340.
- Kingston, Sharon, Robert E. Mitchell, Paul Florin, and John Stevenson. 1999. Sense of community in neighborhoods as a multi-level construct. *Journal of Community Psychology* 27(6): 681-694.
- Korte, Charles. 1988. Increasing help exchange in an urban neighborhood: the effects of a neighborhood directory. *Journal of Applied Social Psychology* 18(3): 228-251.
- Knack, Ruth. 1995. Master planned lite. *Planning* (61)10: 4-9.
- Kostof, Spiro. 1991. *The city shaped: urban patterns and meanings through history*. London: Bulfinch Press.
- Lang, Robert, Edward Blakely, and Meghan Gough. 2005. Keys to the new metropolis. *Journal of the American Planning Association* 71(4): 381-391.

- Leinberger, Christopher. 2003. Building for the long term. *Urban Land* November/December.
- Lynch, Kevin. 1981. *Good city form*. Cambridge: The MIT Press.
- Lyon, Larry. 1987. *The community in urban society*. Chicago: Dorsey Press.
- McCann, Barbara and Reid Ewing. 2003. Measuring the health effects of sprawl: a national analysis of physical activity, obesity and chronic disease. Smart Growth America. Surface Transportation Policy Project.
- McMillan, David. 1996. Sense of community. *Journal of Community Psychology* 24(4): 315-325.
- McMillan, David, and David M. Chavis. 1986. Sense of community: a definition and theory. *Journal of Community Psychology* 14: 6-23.
- Mumford, Lewis. 1925. The fourth migration. *The Survey, Graphic* 54(3): 130-133.
- Nasar, Jack. 2003. Does neotraditional development build community? *Journal of Planning Education and Research*. 23: 58-68.
- Nasar, Julian. 1994. Urban design aesthetics: the evaluative qualities of building exteriors. *Environment and Behavior* 26(3): 377-401.
- \_\_\_\_\_. 2003. Does neo-traditional development build community? *Journal of Planning Education and Research* 23: 58-68.
- Nasar, Julian, and David A. Julian. 1995. The psychological sense of community in the neighborhood. *Journal of American Planning Association* 61(2): 178-184.
- Nelessen, Anton. 1994. *Visions for a new American dream: process, principles, and an ordinance to plan and design small communities*. Chicago: American Planning Association.
- Obst, Patricia, Lucy Zinkiewicz, and Sandy Smith. 2002a. Sense of community in science fiction fandom, part 1: understanding sense of community in an international community of interest. *Journal of Community Psychology* 30(1): 87-103.
- \_\_\_\_\_. 2002b. Sense of community in science fiction fandom, part 2: comparing neighborhood and interest group sense of community. *Journal of Community Psychology* 30(1): 105-117.

- \_\_\_\_. 2002c. Sense of community in science fiction fandom, Part 3: dimensions and predictors of psychological sense of community in geographical communities. *Journal of Community Psychology* 30(1): 119-133.
- Perry, Clarence. 1929. *The neighborhood unit: a scheme of arrangement for the family-life community*. New York: Regional Plan of New York and its Environs.
- Plas, Jeanne, and Susan Lewis. 1996. Environmental factors and sense of community in a planned town. *Journal of Community Psychology* 24(1): 109-144.
- Putnam, Robert. 2000. *Bowling alone: the collapse and revival of American community*. New York: Simon and Schuster.
- Riger, Stephanie, and Paul J. Lavrakas. 1981. Community ties: patterns of attachment and social interaction in urban neighborhoods. *American Journal of Community Psychology* 9: 55-66.
- Sarason, Seymour B. 1974. *The psychological sense of community: perspectives for community psychology*. San Francisco: Jossey-Bass.
- Schweitzer, John. 1996. A description of the sense of community in Lansing neighborhoods Project. Paper presented at the defining community, reinforcing society conference: University of Michigan.
- Solin, Les. 1997. *American Institute of Certified Planners professional practice manual*. Washington, DC: American Planning Association
- Southworth, Michael, and Eran Ben-Joseph. 1995. Street standards and the shaping of suburbia. *Journal of the American Planning Association* 61(1): 65-81.
- State of Wisconsin. 1997. Model traditional neighborhood development ordinance. State Code.
- Sustainable Calgary. 2001. State of the city project prepared for Dover Community Association. <http://www.sustainablecalgary.ca>
- Talen, Emily. 1999. Sense of community and neighborhood form: an assessment of the social doctrine of new urbanism. *Urban Studies* 36(8): 1361-1379.
- \_\_\_\_. 2001. Traditional urbanism meets residential affluence: an analysis of the variability of suburban preference. *Journal of the American Planning Association* 67 (2): 199-216.
- Talen, Emily, and Cliff Ellis. 2001. Beyond relativism: reclaiming the search for good city form. *Journal of Planning Education and Research* 22: 36-49.

- The Sense of Community Project. 2007. Michigan State University. Lansing, MI.  
<http://www.msu.edu/user/socomm>
- Töennies, Ferdinand. 1887. *Gemeinschaft and gessellschaft*. Translated by Charles C. Loomis as community and society. East Lansing, MI: Michigan State University Press 1957.
- Unger, Donald G., and Abraham Wandersman. 1985. The importance of neighbors: the social, cognitive, and affective components of neighboring. *American Journal of Community Psychology* 13: 139–169.
- Van Laar, Colette. 1999. Increasing sense of community in the military: the role of personnel support programs. Pittsburgh: RAND Corporation.
- Wandersman, Abraham, and Gary A. Giamartino. 1980. Community and individual difference characteristics as influences of an initial participation. *American Journal of Community Psychology* 8: 217–228.
- Watkins, Mike. 2003. *New and old urbanism in the Baltimore / Washington region*. A guidebook distributed at Congress for the New Urbanism XI.
- Watson, Donald, Alan Plattus, and Robert Shibley. 2003. *Time-saver standards for urban design*. New York: McGraw-Hill.
- Weisenfeld, Esther. 1996. The concept of “we”: a community social psychology myth? *Journal of Community Psychology* 24(4): 337-346.
- Wilkinson, Ken P. 1991. *The community in rural America*. Westport, CT: Greenwood Press.
- Wilson, Georjeanne, and Mark Baldassare. 1996. Overall sense of community in a suburban region: the effects of localism, privacy, and urbanization. *Environment and Behavior* 28(1): 27-42.

## ACKNOWLEDGEMENTS

First and foremost I would like to thank Stephanie - my encourager, best friend, and wife. Your love, support and patience sustained me. You are a great example of a student and a wonderful mother. You always had faith in me.

Thanks to my son Sam (born April 17, 2007); you breathed new life into me. Your smiles and laughter are the greatest joy in my life. I look forward to the day you can read this thesis and wonder what the heck I was talking about.

I would like to thank my major advisor Dr. Timothy Borich. You have helped me to gain new insights and level of *profundity*. I will always cherish the opportunity I had to share Freedom Plaza in Washington, DC with you. It's been an honor being your student and I look forward to someday being a colleague.

Thanks to Dr. Francis Owusu. Your instruction throughout my planning education has been challenging and thought-provoking. I will always remember sitting in your class on September 12, 2001...it was a difficult time for everyone, but you handled it well. That day, everyone in class realized planning was a fleeting thought as we discussed much bigger issues in the world.

Thank you to Michael Martin. I will always remember and appreciate the stimulating conversations we had while I was a research and teaching assistant and we were developing and testing new design theory curriculum for the College of Design.

I greatly appreciate the research assistance of Nora Ladjahasan. I would have been lost without your statistical expertise and willingness to help. Thanks Nora.

Thank you to Phil & Karen. I would still be stuffing and licking envelopes if it wasn't for your assistance. Thank you also for your encouragement and belief in me.

I thank God for the people and gifts with which I've been blessed.

Finally, I would like to thank my beloved father Gary Beske (1946 – 1993). You taught me patience, kindness, and above all, perseverance. You showed me that it is never too late to pursue a dream. See you there.