Zoning Barriers to the Implementation of New Urbanist Land Use Principles in Lincoln, Nebraska

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ZONING BARRIERS TO THE IMPLEMENTATION OF NEW URBANIST LAND USE PRINCIPLES IN LINCOLN, NEBRASKA

by

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Euclidean land use regulations that segregate different kinds of uses from one another can present significant barriers to achieving the land use-related principles of New Urbanism on a foundational level. This research evaluated the zoning ordinance of the city of Lincoln, Nebraska, with a special focus on the Community Unit Plan and Planned Unit Development processes, in order to determine its openness to mixed housing and mixed uses, using a combination of policy analysis and Geographic Information Systems (GIS). It was found that a number of Lincoln’s zoning districts as well as a significant amount of land are restricted in creating mixed uses and/or housing within the zones. The Community Unit Plans and Planned Unit Developments have produced some developments with a mix of land uses, but because the regulations for the processes are extremely flexible, they have not consistently produced high levels of land use diversity. Based on the specific zoning barriers to land use mix that were identified, a phased set of changes were recommended that were thought to be particularly suitable for Lincoln.
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This thesis is dedicated to my parents for their support.

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CHAPTER 1: INTRODUCTION

Over the past two decades, New Urbanism has come to the forefront of the planning stage. New Urbanism is a comprehensive paradigm whose approach is fundamentally different in many ways from what has been the dominant planning approach of the second half of the 20th century, modernism. New Urbanism challenges many of the modernist features of the built environment that have become ubiquitous today, such as the separation of uses, large tracts of suburban housing, the prevalence of the single-family home, and the reliance on the automobile for transit.

But, because New Urbanism adds such different purposes and functions to the built environment than does modernism, to achieve New Urbanism on a large scale in ordinary communities all over the United States faces a significant challenge, even as New Urbanism gains momentum and popularity among professionals. One major challenge for New Urbanism is the struggle to implement its approach using older existing planning tools and processes. The goals that New Urbanism has for the built environment are different enough from most existing built environments and planning practices that some reinvention and adjustment of the tools of planning, including zoning, will likely need to occur in many locales (Duany et al. 2010; Grant 2006, 3).

New Urbanism seeks to enhance the sense of community, vibrancy, and social equity in the neighborhood through specific principles for the design of the built environment. It advocates a return to the kinds of walkable, grid-based neighborhoods that were once the norm prior to the 1950s. One component of New Urbanism is the
desire to increase the degree of equity in housing opportunities that are available by offering a range and mix of housing types in each neighborhood, reacting to the tendency toward social and economic exclusivity in modern suburbs. The suburbs, as monotonous, sprawling, and exclusionary, are the favorite target of New Urbanism. Another related component of New Urbanism is the mixing of uses within the neighborhood, offering commercial, civic, and housing uses within walking distance (Congress for the New Urbanism 2001; Congress for the New Urbanism, Learn About New Urbanism; Duany et al. 2010; Grant 2006, 51). And so, two important features of land use under New Urbanism are that the neighborhood would include a mix of housing types, and that housing would not be in large mono-zones containing only housing, but would be located in close proximity to other daily uses.

Zoning for mixed uses is a crucial and foundational challenge in American urban planning. It is especially visible in the Midwest, where an abundance of surrounding greenfields into which growth can occur combines with a conservative attitude toward strict land use regulation. Many American cities still have Euclidean, or use-based, zoning, which assigns a single category of uses to each zone and thereby prevents a mix of uses within reasonable walking distance. Euclidean zoning is a very longstanding method of regulating land use. One of the strongest movements against this kind of segregated built environment has come from New Urbanism. New Urbanism has pushed for zoning reform through form-based, rather than use-based, coding. The form of the physical environment itself is regulated when form-based codes are used, so that different kinds of uses can work together compatibly in the same area. Zoning reform is truly critical to any reform of the built environment towards mixed uses.
In order to achieve New Urbanist principles in housing, the regulatory barriers that stand in the way must first be identified. The present study will offer an assessment of standard zoning regulation in Lincoln, Nebraska to identify any barriers that may hold planning back from entering a new phase. It will also evaluate the Community Unit Plan and Planned Unit Development regulations, which are mechanisms meant to encourage creative development designs through departure from the underlying zoning. The results of this study will help to identify ways in which Lincoln may build a better foundation through zoning for the social equity, variety and intermixture of use that are promised by New Urbanist ideas on land use and the makeup of the neighborhood.

**Research Question**

Does Lincoln, Nebraska, exhibit regulatory barriers in zoning that hinder the implementation of the following two New Urbanist land use principles: 1) Heterogeneity, or a mix, in housing type; and 2) Placing other uses within walking distance of housing, including mixed use? The results of the study are the identification of barriers in zoning in Lincoln and, lastly, there is a discussion of recommendations based on the zoning patterns that are discovered.

**Definitions**

The definition of implementation that is meant for the purposes of this study is the encouragement and realization of New Urbanist thoughts on land use as far as possible via the scope of planning. A main way that implementation can be
accomplished is by clearing the way of regulatory obstacles that pose direct or indirect restriction on the achievement of land use mix through planning and development. Implementation as it is used here basically refers to facilitation: the creation of a successful policy climate in which New Urbanist principles can more readily occur or be enforced.

According to the Zoning Ordinance of the City of Lincoln, the purpose of the Community Unit Plan (CUP) is to “permit and to encourage the creative design of new living areas, as distinguished from subdivisions of standard lot sizes and standard street systems, and in order to permit such creative design in buildings, open space, and their interrelationship while protecting the health, safety, and general welfare of existing and future residents of surrounding neighborhoods… The plan may propose a modification of height and area regulations of the district in which the community unit plan is located” (City of Lincoln, Community Unit Plan).

According to the Zoning Ordinance of the City of Lincoln, the purpose of the Planned Unit Development (PUD) is to “provide a mechanism to permit flexibility in private or public development or redevelopment of areas throughout the city in the form of an overlay zone used in combination with one or more of the city’s existing zoning districts… Planned unit development districts are intended to promote the public convenience and necessity; protect the health, safety, and welfare, to implement the goals and policies of the Comprehensive Plan and are to be used when it is necessary or appropriate to:

(a) Permit flexibility in the regulation of land development;
(b) Encourage innovation in land use, variety in design, layout, and type of construction;

(c) Encourage the economy and efficiency in land use, natural resources, the provision of public services and utilities and the preservation of open space”

(City of Lincoln, Planned Unit Development District).

The term neighborhood has two distinct meanings as it is used here. It is used in its ordinary meaning as an area of a community that is understood to be separate and cohesive. In addition, the term “neighborhood” is also a GIS term referring to the surrounding environment of each raster cell from which its assigned value is derived when using Focal Statistics (the tool will be described in more depth in the Methods section). When used in the context of discussing the operation of the Focal Statistics, it will be specified by the term “focal neighborhood,” referring to the technical definition.

A single-family dwelling “shall mean a dwelling having accommodations for and occupied by one family.” A multiple dwelling “shall mean a dwelling having accommodations for and occupied by more than two families.” A two-family dwelling “shall mean a dwelling having accommodations for and occupied by two families.” Finally, a townhouse “shall mean one of a group or row of not less than three nor more than twelve attached, single-family dwellings designed and built as a single structure facing upon a street in which the individual townhouse may or may not be owned separately” (City of Lincoln, General Definitions).

The term variety is used interchangeably here with diversity and mix. Variety is a GIS term that refers to the analysis tool used in the methodology, but this tool
essentially measures land use diversity within an area, hence causing the terms have essentially the same meaning for the purposes of this research.

**Methods**

*The Study Area*

Lincoln, Nebraska is the state capital and is home to the University of Nebraska-Lincoln’s two campuses, Nebraska Wesleyan University, and a community college. As of the 2010 census, Lincoln had a population of 258,379 and grew in population by 14.5% from 2000 to 2010. It has a land area of 89.11 square miles, which amounts to approximately 2,899.4 persons per square mile. From 2000 to 2010, Lincoln’s land area grew by 19.4%. In 2010, there were 110,546 housing units in Lincoln, an increase of 16.1% since 2000 (United States Census Bureau, 2004; United States Census Bureau, QuickFacts).

The boundary for the zoning data was the zoning jurisdiction for Lincoln, which includes zoning within the city limits as well as a three-mile extra-territorial jurisdiction beyond the city limits. Not every zone in this jurisdiction was used in the data analysis, but no zones outside of this boundary were used. Land use was available at the county level and was used as such, as this did not have significant impact for visual comparisons or for analysis within specific zones.
FIG 1. Study Area Boundary (Source: City of Lincoln and Lancaster County).
Data Collection

To address the research question, the case study of Lincoln was tested for the presence of zoning-related barriers to the New Urbanist housing principles. Three aspects of zoning were examined. The first aspect is the zoning ordinance of the City of Lincoln as it pertains to the standard zones. Contained within the zoning ordinance are regulations for the second and third aspects, which are the Community Unit Plan (CUP) and the Planned Unit Development (PUD). These are two special paths to development that allow some changes to the underlying zoning. These three aspects were chosen as research focus areas because they comprise the most relevant areas of zoning regulation for the topic of New Urbanist principles. It should be emphasized that the Community Unit Plan and the Planned Unit Development are part of the zoning ordinance, but are given special focus and attention in this study and are separated into their own sections.

All data used was available online. Zoning code regulations and the regulations for the Community Unit Plan and Planned Unit Development were found on the website for the city of Lincoln under the Lincoln Municipal Code Book. The zoning map data was drawn from the Lincoln City-Lancaster County GIS Map Shop (City of Lincoln and Lancaster County; City of Lincoln, Community Unit Plan, Planned Unit Development District, and Zoning Ordinance of the City of Lincoln).

The zoning regulations contained within the code and map portions of the ordinance, apart from the two special processes of the CUP and PUD, are the source for standard zoning requirements for as-of-right permitted uses, permitted conditional uses, and permitted special uses. The zoning ordinance is the source of zoning regulation in Lincoln, and so while it primarily provides the standard regulations for the zones, it also
provides for the CUP and PUD development processes, which have particular relevance for potential New Urbanist developments in Lincoln. The CUP and PUD differ from one another, but they both allow developments for larger land areas to be designed as a unit, and to depart from their underlying zoning regulations to varying degrees. I will refer to them as alternative zoning processes because they allow departure from the zoning ordinance to different degrees. These two processes would be the main ways in which New Urbanist neighborhoods could be designed in Lincoln when an area is planned as a unit by one developer, since a cohesive plan for New Urbanist building form and use could be potentially implemented across the development. The CUP and PUD are sufficiently distinctive parts of the zoning ordinance and sufficiently relevant for New Urbanist developments in particular, to merit their own special discussion and analysis.

In order to gain a more complete understanding of how well zoning processes and documents in Lincoln are supportive of New Urbanist housing, it is necessary to look at both the zoning ordinance and the regulations for the CUP and PUD. The zoning ordinance itself is illustrative of how “user-friendly” basic permitted zoning and special/conditional permitted uses are for New Urbanism across the city as a whole. The CUP and PUD processes on the other hand, are more indicative of the degree to which Lincoln is supportive of developers wishing to construct entire New Urbanist-style developments and neighborhoods that deviate from the zoning norm.

The 2007 study *Zoning as a Barrier to Multifamily Housing Development* (Knaap et al. 2007) and the 2007 article entitled *McMansions: The Extent and Regulation of Super-sized Houses* (Nasar et al. 2007) served as models for the zoning ordinance portion of the methodology. The study by Knaap et al. had similar goals to the goals of the
present study, and some of the methodology has been used as a model for the present study. Knaap et al. sought to find barriers to multifamily housing that existed in zoning for several cities, and the current study has a similar but broader goal of identifying zoning barriers to mixed housing and mixed uses. However, Knaap et al.’s study was motivated by a similar interest in the creation of better social equity through housing opportunity and choice. In particular, Knaap et al.’s analysis of the zoning ordinances of six American metropolitan areas provided several key barrier indicators that are also part of the methodology used here, but with respect to the housing mix of this study rather than solely focusing on multifamily housing. These indicators were: “restrictions on land zoned for multifamily use; restrictions on manufactured housing or mobile homes; minimum lot-size requirements; ...minimum lot-width requirements,” “How much land is zoned for high-density or multifamily housing?; How zoning patterns vary across metropolitan areas?” (Knaap et al. 2007, 6-7). Their use of GIS visualization for many of these methods has been instrumental in developing my study.

The study by Nasar et al. also impacted the design of the study in a more general way. Nasar et al. identified key relevant documents for the regulation of McMansion houses in 103 American cities. Their goal was to understand the ways in which these houses are or are not regulated by municipalities. Nasar et al.’s analysis of the impact of key regulations’ impact on a particular kind of housing helped to provide a template for this study. Finally, Talen’s study of the connections between social diversity and land use diversity was the inspiration for measuring land use diversity with the Spatial Analyst Focal Statistics tool (Talen 2005, 221).
Data Analysis Method

The methods included a combination of GIS analysis, quantitative analysis including the use of tables and graphs, and qualitative, descriptive text analysis.

To help assess current conditions for zoning and land use mix, the GIS Focal Statistics tool was used. First, zoning and land use data was rasterized with a cell size of 2500 square feet, or 50 feet on each side. Dimensions for the desired focal neighborhood, or the environment around each raster cell from which data is drawn, were then chosen. The function performed for the Focal Statistics is called “variety.” Each raster cell was assigned a value by the Focal Statistics tool for the number of different values, either land use codes or zones, that were encountered within its surrounding environment, or focal neighborhood. For this study, the focal neighborhood size was .25 square miles, or a half-mile on each side. Darker areas on the Focal Statistics maps in this study indicate that raster cells in those areas had focal neighborhoods that contained a higher number of different values.
The detailed methodology for the analysis of the three zoning aspects is as follows:

1. **The Zoning Ordinance of the City of Lincoln:** a series of indicators was used to assess the ordinance. Each indicator was chosen because of its contribution to answering the research question. Each indicator is related to the way in which typical New Urbanist housing and neighborhoods are designed. The indicators point to the openness of the zones to mixed uses and a variety of housing types and lot sizes.
   a) Proximity and intermixture of zones and land uses. Spatial distribution of diversity in zones as well as land use was calculated using the Focal Statistics variety tool in ArcMap, for residential zones and land uses only and for all zones and all land uses. The choice to exclude certain zones and land uses were based on a determination that those zones or land uses would be unlikely to contribute to the creation of daily destinations and uses; for example, industrial, agricultural, or...
natural environmental areas were excluded, among others. For residential zones, zones R-1 through R-T were used; for residential land uses, land use codes 11-14 and 17 were used; for all zones, zones I-1 and AG were excluded; for all land uses, land use codes 23-24, 32-35, 61-65, 71-72, and 81-84 were excluded. Land use diversity was also compared with the ordinance zoning map in order to determine which zones have resulted in higher land use and housing diversity.

b) Allowance as-of-right or through special or conditional permit in each zone of:
   i. Two-family, townhouse, and multifamily dwellings, mobile homes, and accessory dwelling units in all zones.
   ii. Other uses besides housing in residential zones.
   iii. Residential uses in commercial and office zones.

c) Total area of each residential zone across Lincoln, and resulting indications of preferential zoning treatment toward housing type.

d) Relative size of zoning blocs, examined visually in conjunction with their exclusivity, in order to determine the degree of potential land use diversity.

e) Average lot width and minimum lot area requirements in residential zones.

f) Maximum permitted residential density in residential zones.

2. **The Community Unit Plan**: a document analysis for the CUP regulations contained within the zoning ordinance and the Lincoln Design Standards was evaluated for several criteria that would further New Urbanist housing goals. The presence of the following criteria were considered to be positive influences on the achievement of the land use principles:
a. Allowing other uses besides housing.

b. Allowing deviations from the underlying zoning resulting in:
   i. A higher maximum density, or the establishment of alternative
density requirements more specific to New Urbanism than
measurement by units per acre, such as minimum densities or some
other method of encouraging or, preferably, requiring higher
densities.
   ii. Height and area restrictions that allow for denser housing
development.
   iii. Other types of housing not allowed in underlying zoning, including
accessory dwelling units.

c. Emphasizing form over use in coding.

In addition, the nature of housing in existing CUP developments in Lincoln in the
form of land use was evaluated relative to the New Urbanist principles and the
success with which they have been accomplished with the CUP process. This success
was determined by performing Focal Statistics residential land use variety analysis on
residential land use within CUP boundaries. Only residential land use was used
because the CUP is meant for residential development and redevelopment. Field
surveys were conducted at some of the most land-use diverse CUPs to verify land use
findings from the GIS analysis. Field surveying was conducted as follows:

a. Field surveys were conducted for several CUPs that had high residential
land use diversity scores based on the Focal Statistics calculation.
b. Field surveys of CUPs examined the following topics:

- Is land use as mixed as it appears on from the Focal Statistics?
- Where are the various uses located spatially within the development and relative to one another?
- What other aspects of New Urbanism are present?

3. **The Planned Unit Development**: similar evaluation processes described for the CUP regulations and existing developments were used for evaluation of the PUD. The document analysis for the PUD regulations contained within the zoning ordinance was the text that was analyzed. The criteria for document evaluation had the same criteria as for the CUP.

The Focal Statistics land use information for all land uses provided the Focal Statistics analysis for land use mix within the PUDs. All land uses were used for the PUDs because the PUD allows for the creation of both residential and non-residential uses. Field surveying was conducted as follows:

a. Field surveys were conducted for several PUDs that had high overall land use diversity scores based on the Focal Statistics calculation.

b. Field surveys of PUDs examined the following topics in addition to the topics listed for the CUPs:

- Are the commercial uses daily popular destination uses or are they uses that will be unlikely to generate foot traffic from the neighborhood or add to its ambiance?
• Do the uses indeed appear to be within walking distance?

Finally, there will be a qualitative discussion and analysis of both the quantitative and qualitative results from the three zoning aspects. The level at which zoning barriers to the land use principles exist was then determined based upon the identification of patterns in the data, and links between the data, including patterns and links across the three aspects. Each piece of information on its own could not determine whether zoning barriers exist; instead, all of the data from all three aspects was examined as a whole.

Assumptions

It is understood that planning for more intermixed housing and uses cannot occur in isolation without other supportive systems in place. The success of such mixed developments would depend on having suitable designs for public transit, walkability and compactness, and the like. The appeal of New Urbanism comes from its cohesive approach combining many planning elements. However, for purposes of this research, it is believed that a good contribution may also be made by narrowing the focus to take a detailed look at the provision of land use mix to give that subject the attention it deserves. In addition, one critical component to New Urbanist thought on housing is the availability of affordable housing in addition to a mix of housing types within an area. While the status of affordable housing in Lincoln is beyond the scope of this particular study, with any discussion of New Urbanism and housing, it must be kept in mind that New
Urbanists believe that a good mix of housing is defined in terms of cost as well as in terms of type.

**Importance of Research**

This topic is quite crucial to the future of planning. New Urbanism is a major theoretical paradigm designed to increase equity and quality of life through adjustments in the built environment. Because New Urbanism is clearly defined and covers many sub-areas in planning, it is likely that the future “good” community as it is understood by planners in a conceptual sense will move fairly strongly towards that proposed under New Urbanism (Grant 2006, 3). Land use is a fundamental part of planning, and, as it is addressed by New Urbanism thinking, promises to fundamentally change both the social and physical landscapes, as well as the way in which we live our daily lives. Housing is a particularly socially-oriented aspect of planning that is also strongly related to physical design, zoning, and land use (von Hoffman 2009, 239).

Planners should understand the challenges faced by existing policy and practices that, while longstanding, may prevent the kinds of reforms of which newer planning trends are in support. If we aim to reform our regulations to correct what we believe to have been faults and failures of previous planning paradigms, planners must know how to change, and be prepared to change, the current systems that are in place so that they do not pose a hindrance to the new purposes, whatever those might be. In the case of the current research, the purpose under study is New Urbanism.
The sub-topic of housing mix was chosen first, because housing is a key building block of the urban environment, and second, because housing type and locationality, while not deterministic of social life, can tell a great deal about the social climate of an area, and may even have an influence on the social climate itself. Since the foremost goal of planning is the creation of functional environments for people, housing will continue to be critical when moving in a New Urbanist planning direction.

A main reason why having good housing diversity throughout a community and its subareas is so important is to prevent spatial mismatch for jobs. In other words, people ought to have the choice to live close to where they work. Suburbs are a major culprit for housing uniformity. Residents of the city who do not live in the outer suburbs have long become increasingly separated from job opportunities as jobs move outward to new developments on the fringe. This phenomenon, known as spatial mismatch, creates a job barrier for inner-city residents because finding transportation to take them to jobs in the suburbs can be a substantial problem. The lack of a personal car compounded with the typically sparse public transportation to and within sprawling areas effectively separates job-seekers/workers and jobs (Benfield et al. 1999, 124-126).

Suburbs have largely failed to provide a variety of housing types and costs in favor of large tracts of single-family homes whose expanses are only infrequently relieved by other land uses. A healthier approach to city planning would facilitate the ability of residents to choose where they want to live by providing a range of housing types within each neighborhood to suit the lifestyle choices of a broader range of people. Such even interspersing of a variety of housing is touted by New Urbanism as helping to
increase social equity through ensuring locational equity in housing choice within each neighborhood.

Not only is a mix of housing types important for social equity reasons, but a mix of uses in a neighborhood is important for livability. The other sub-topic of land use mix was chosen because daily needs located within walking distance of the home has the potential to positively affect everything from an individual’s health, sense of place, and social interaction, to decreased environmental pollution and infrastructure needs caused by a lessened dependence on the automobile. Also, as pointed out by Jane Jacobs, having other uses near housing keeps an area vibrant and maintains “eyes on the street,” i.e., a level of watchfulness and safety, throughout the day and evening (Jacobs 1961, 34-35).

Lincoln should examine its zoning ordinance for ways that it can be further opened to New Urbanist-style land uses because New Urbanist ideals have such potential to transform neighborhoods, notably suburbs, into more equitable and livable environments. The momentum gained by New Urbanism in recent years has meant that there is a large body of literature, successful case studies, and even templates for writing regulation from which cities like Lincoln can draw. During the years to come, Lincoln’s economic growth and population will continue to increase, and its suburban neighborhoods will age and eventually become ripe for the insertion of new planning strategies. Lincoln can meet these opportunities and challenges if it has a good guiding foundation for policy. New Urbanism as a guide for policy would ensure that neighborhoods stay vibrant, relevant, and engaging, and Lincoln remains an attractive location for development, research, and business interests, and is still highly functional for its residents.
CHAPTER 2: EVOLVING CONCEPTUALIZATIONS OF LAND USE REGULATION

Housing and New Urbanism in Historical Context

The history of conceptualizing housing in planning parallels the evolution of social reform in the field. The political popularity of providing low-income public housing as well as planning for proper housing for all income levels has waxed and waned over time, but in recent decades have become a more integral part of planning. Housing reform movements have historically encountered major challenges, as it is difficult to effectively translate sweeping reform-minded ideas from the top of government into actual practice without stepping on the toes of local and state governments. In addition, growing grassroots-level support for housing reform can be difficult in the face of oftentimes oppositional forces from the industries related to housing. Grassroots movements have also been hindered by a strong public support of home ownership and property rights (von Hoffman 2009).

The early 20th century witnessed large-scale rebuilding of overcrowded slums. The early designers and landscape architects had grand visions for the remaking of cities, but their plans often failed to notice and protect the subtleties of the existing built environment. These plans frequently caused disruption and harm to the residents whose lives they were meant to improve by focusing too strongly on demolition instead of piecemeal redevelopment. Although at this period, there was a strong counter-effort by social reformers on actually helping the poor through housing planning to escape slums.
and unsanitary living and working conditions, ultimately, the more powerful and renowned designers succeeded in silencing the proponents of housing reform, and planning became a narrowly-defined, conservative, and technical profession (von Hoffman 2009, 232-233).

During the first few decades of the 20th century, zoning was adopted from Germany to the United States. Zoning became a widely-used method of separating undesirable and industrial uses from living areas. Zoning promised great benefits for the creation of safe neighborhoods located at a distance from dangerous factories and the like, but its “separating” qualities were taken to the extreme in many cases as ways to also segregate races and classes (von Hoffman 2009, 232-233):

…Crossing the Atlantic transformed European zoning from a progressive measure to a naked weapon of local property, class, and race interests… In the 1910s, as Veiller’s National Housing Association and professional city planners supported exclusively single family districts, property owners quickly apprehended that zoning could exclude anything they considered undesirable. (von Hoffman 2009, 233)

The Great Depression and New Deal eras ushered in a newly-created public housing program. Although the high hopes of reformers were dashed when the program was forced to delegate its power to local jurisdictions, exposing the projects to the influence of politicians, it was a major step toward increased support for government-sponsored housing projects. The New Deal political climate was quite favorable to “regional planning efforts,” at least at the federal level. At the local level, however, support was not so strong, and this related directly to local politics that were heavily biased in favor of pro-development business. The housing market at this time was on the cusp of realizing its strength as a lucrative industry that would benefit from fewer
government controls. The housing industry could make profit-driven decisions rather than needing to consider social equity in the process. The American free-market ideology rose up to block the path of federally-led reform, because the reforms had to gain the difficult approval of local politicians and constituencies. And so, with a foothold in the door in terms of having a governmental presence, housing reformers steeled themselves for a long battle with the real estate industries (von Hoffman 2009, 234-235).

One result of the post-World War II boom in housing was the expansion of suburban housing fueled by loans provided by the Federal Housing Administration. For the most part, planners worked with housing industry leaders and sympathetic politicians rather than against them. Slum areas, a major focus for housing reformists, were not high on the planning agenda, which instead turned its attention to “inefficient street patterns, poor transportation, and outdated business districts and factories.” The public housing projects that were built were largely located in the inner city and not in the suburbs (von Hoffman 2009, 235-240).

In the 1960s, writer Jane Jacobs would prove instrumental in turning planning into a more socially-conscious profession that was sensitive to the nuances of daily living. Although not a planner herself, and although her stinging criticisms of the planners of her day caused them to ridicule her ideas in return, many of Jacobs’ ideas on increased housing density and variety in building types remained talking points and continue to be relevant today, serving as touchstones for anti-suburban movements. Current planning has developed the now-integral components of public participation, encouragement of diversity, and implementation of more open and sensitive development processes. These are all favorable toward housing reform, housing diversity, and low-
income housing, and the federal government has formed more effective partnerships with local governments in this respect. However, some private and governmental actors continue to pose a challenge. The housing market is still very much on a suburban, profit-oriented track in many parts of the United States today. Homeowners also tend to be concerned about potential negative impacts on housing values caused by increased housing heterogeneity in their neighborhoods (von Hoffman 2009, 235-240).

**New Urbanism and Housing**

New Urbanism is one of the most well-known current paradigms in the field of planning today. New Urbanism is a broad theoretical framework that provides guidelines on many aspects of planning, including environmental preservation, development patterns, transit, civic space, green space, historic preservation, urban design, and housing. Because it is most inspired by an architectural and urban design perspective, visual and physical cohesion in an area or neighborhood are highly valued and are thought to exert a positive influence on the smoothness with which daily activity can be conducted within the various uses of the built environment as well as on the social harmony between people. But although design codes and aesthetics are prominent features of many New Urbanist developments, New Urbanism is set apart from previous aesthetically-focused approaches because it supports many socially and environmentally responsible planning positions, such as growth control, thoughtful relationships between uses and proximity of uses to one another, and social diversity. New Urbanism strives toward social inclusion and social and physical balance in a neighborhood, whereas
previous approaches tended toward extremes of vision that did not reflect workable living conditions. New Urbanist ideas represent the most cohesively linked, cutting-edge thoughts in current planning, and although there are some who take exception to New Urbanism itself, the sub-principles upon which it is built have a great deal of support in terms of general goals for the future of the profession (Congress for the New Urbanism 2001; Duany et al. 2010, 11; Fainstein 2003, 181-185; Grant 2006, 180-201).

New Urbanism as it is defined by the Congress of the New Urbanism is the result of a conscious effort begun in the 1990s to reconcile and join the ideas of several “new urban” movements in North America under “a unified name.” These movements were Traditional Neighborhood Design (TND), Transit-Oriented Development (TOD), and the Urban Villages movement. Traditional Neighborhood Design is also known as the neo-traditional town movement, and it promotes a mix of uses in the center of each neighborhood, higher housing densities, and a mix of housing types. Transit-Oriented Development also promotes a mix of uses and housing types in the areas surrounding transit nodes. Finally, the Urban Villages movement promotes mixed housing and mixed use in a dense form, resulting in coherent, defined neighborhoods that are generators of job growth and give a clear sense of place. New Urbanism is not strongly policy-oriented but instead intends to increase “affordability and social diversity, …social interaction and integration” through design of the neighborhood (Grant 2006, 51-63).

New Urbanism is primarily a reaction to the dilemmas, extremes of built environment, and general ills caused by the urban sprawl and suburban expanses that have become ubiquitous in the United States since World War II. This makes New Urbanism the perfect theoretical framework upon which to build a study of the process of
changing the urban sprawl environment. Because of its high concentration of residential uses, the typical suburban neighborhood will play a significant role in the current study.

New Urbanists believe that the built environment has an impact on the social environment. According to New Urbanists, if the built environment is designed to encourage equity, walking and bicycling, and a sense of community, then a more harmonious, environmentally-conscious society will likely be the result. New Urbanism has been criticized as trending toward the same spatial determinism as the older modernist movement of which it is critical (Fainstein 2003, 182-184). However, it is well-established in planning and related fields that our environment can have an influence on behavior and quality of life (Benfield et al. 1999, 124-126; Frumkin 2002, 207, 2094; Frumkin et al. 2004, 139, 143-144, 161, 165, 171-173; Ittleson et al. 1974; Peponis and Wineman 2002; Proshansky 1971; Proshansky et al. 1983). There is less agreement on the specific kind of environment that would create certain behaviors and a good quality of life. The idea that our spatial environment influences our social environment is recognized and utilized by New Urbanists. This idea was also supported by the writer and activist Jane Jacobs. Jacobs’ notation of the ties between bustling street life and livability were undoubtedly influential for New Urbanism (Jacobs 1961; von Hoffman 2009, 239-240).

In essence, homogeneity and sameness of use and type are deplored under New Urbanism, and this applies to housing, too. That is the reason why suburbs and sprawl are the biggest targets of New Urbanist reform. Urban sprawl has promoted segregation of uses, producing large tracts of land devoted to a single use (Congress for the New Urbanism 2001; Duany et al. 2010). One example would be a shopping mall and
associated strip malls covering a large area with only commercial uses. When this large tract is instead covered with only single-family houses and townhomes, it is often referred to as a suburban neighborhood or subdivision, and this sea of houses is one of the most vivid mental images conjured by discussions of suburbia and urban sprawl.

Segregation of uses, low residential density, and the convenience of automobile transportation are longstanding planning trends. An adoption of New Urbanism in a modernist planning world would bring about enormous changes in the built environment and would represent dramatic alterations to how we experience our cities and regions (Beauregard 2003, 117; von Hoffman 2009, 236, 238):

The new urbanism involves new ways of thinking about urban form and development. Drawing on historic lessons from the most beautiful and successful cities, new urban approaches affirm the appeal of compact, mixed use, walkable, and relatively self-contained communities. …New urbanism argues for traditional architecture and building patterns that facilitate walking and that create strong urban identities. In sum, in an era when modernism has profoundly affected the shape of the city, new urbanism presents a new image of the good community. (Grant 2006, 3)

New Urbanism, then, has a formidable task before it, for there are many policy-, process-, and culture-related obstacles that have prevented a dramatic shift to building New Urbanist neighborhoods in most places in the United States.

**Social Diversity and the Built Environment**

Emily Talen has published extensively on the ability of land use regulation and neighborhood design to impact social diversity. Talen has emphasized that planners seeking to encourage socially diverse and mixed neighborhoods ought to look to existing
neighborhoods with high social diversity in order to accurately pinpoint the land use patterns associated with diversity. Talen asserts that diversity is replacing its antithesis, separation, as the new planning paradigm as we move into the 21st century (Talen 2006a, 1).

According to Talen, two of the most fundamental ways to influence the social environment through the physical environment are through a mix in housing unit type and a mix of uses. These two concepts will be integral to this study. The idea that a mix of housing types will aid the representation of social diversity is not new. In fact, it has its origins in the 19th century social reform movement. The Garden City movement also supported the location of various housing types together in the same region. Later, designers such as Clarence Stein espoused the need to disguise multiple-unit dwellings to look like single-unit houses for a more cohesive neighborhood appearance. Urban infill, adaptive reuse of existing structures, and new planned communities can all achieve a housing mix within a neighborhood. Various regulatory strategies having to do with lot size, setbacks, allowed density, and building codes may be undertaken to further foster an improved housing mix (Talen 2006a, 2-3).

The second method noted by Talen for altering the potential for social diversity via the built environment is mixed use. Commercial sections of a neighborhood or open space, for example, act as “social seams” that form natural but soft boundaries between sections of housing. They also act as meeting points and common areas. Thus, these other uses help to ground and stabilize the neighborhood, bring together its parts, giving a common focus. Zoning regulations must allow these other uses in the area in order for
mixed use to occur. In addition, urban design regulations and guidelines ensure that the other uses will fit into the neighborhood character (Talen 2006a, 3-4).

Talen has also evaluated the interrelatedness of land use, density, and socioeconomic diversity. Her 2005 article studied correlations between land use and social diversity in Urbana and Champaign, Illinois. In that study, Talen found that the two had little correlation in a general sense. The only related factors were between “diverse residential zoning and income diversity,” with the definition of diverse residential zoning meaning diversity in housing type; and between “race/ethnicity” and “mixed zoning,” with mixed zoning taken to mean mixed-use zoning. In fact, higher density was not associated with social diversity, and zoning diversity was not associated with an increase in the number of unit types present (Talen 2005, 214, 218-219, 227).

However, in a 2006 study of the Chicago area, Talen’s findings more conclusively found that the inner-ring suburbs, where there was a range of housing types and prices and choice between renting and owning, were associated with higher social diversity. The most and least dense areas, however, did not support as much diversity. In addition, Talen found an “association between income diversity and mixed housing values, owner-occupied and rental housing, and ages of housing” (Talen 2006b, 431, 441-445).

It is clear from Talen’s body of research that the built environment is sometimes associated with the social diversity, but that often the factors associated with diversity are not easily discovered, and may also be of a different nature in different locales. Finally, some factors can be more easily influenced by the planner, while others are farther outside of his or her sphere. Zoning for diverse land uses and housing types is only the
first step toward fostering real social diversity. This sort of zoning does not always produce the desired results, and so planners must learn to understand and work with other tools of planning in combination with land use regulation (Talen 2006b; Talen 2005).

Livability and the Built Environment

In current planning theory, mixed uses have become a popular ideal as planners look critically at the sprawl created by Euclidean zoning and an automobile-centric transportation system. Mixed use has become one of the most widely-accepted goals for future planning. A reaction against sprawling residential suburbs containing little use variety has also grown over recent decades. The connections between sprawl and social ills are not universally supported by evidence in the literature, although the environmental implications are more well-established and accepted. Overall, the environments created by Euclidean and exclusionary zoning are thought to have had vast implications for lifestyle and quality of life for both inhabitants of both suburbs and the inner city. New Urbanists hope that mixed-use environments will help to bring about a broad change in lifestyle and quality of life (Hall 2007; Grant 2006, 62-63).

Several elements of livability are potential beneficiaries of denser New Urbanist mixed developments. First, social interaction opportunities may increase with denser, walkable mixed developments. It has been alleged that sprawl contributes to social isolation. Among the factors in creating a sense of isolation are a lack of common public areas in suburban neighborhoods, an inability to walk as a mode of transportation, and little street life. This leads to doing more solitary activities and risks loneliness,
depression, and anxiety due to a loss of a sense of support and community from the neighborhood. The very reason for suburbs’ existence – privacy and space between houses – is potentially a detriment for the social well-being of some people. The hardest-hit social groups are women, for whom social networking is usually very important, children, and the elderly, who are even further confined to their homes (Gardner 2006, 252-253).

The peace and quiet along with the extra space and more access to trees and wildlife in the suburbs provide some mental health benefit. In fact, sprawling development was initially a reaction to overcrowding. However, there are negative aspects to living in the spacious suburbs as well, one of which is commuting. Driving and commuting causes stress that manifests itself physically and even causes road rage. The time spent in the car also takes away from the creation of social capital in the form of time spent with family and neighbors (Frumkin 2002, 207, 209; Frumkin 2004, 139, 143-144). Another threat to building strong social networks comes from the fact that “…polling data and voting records have demonstrated that suburban residents prefer more individualized, less collective solutions to social problems relative to rural, small town, and urban voters, with the possible exception of schools” (Frumkin 2002, 209).

The concept of social capital is a qualitative measure of quality of life in a neighborhood. It encompasses a sense of community, belonging, and integration with others. Assuming that one’s surroundings influence one’s mental state and one’s ability or tendency to socialize, how might living in a sprawling suburb influence social capital? There is little consensus on the issue. It is difficult to measure social capital, and much
depends on speculation of cause-and-effect of likely influencers. One researcher studying Levittown, New Jersey in the booming suburban post-war years found that participation of suburbanites in neighborhood organizations of all kinds exploded as people formed small groups for all kinds of socializing. Suburbs were advertised as places where people could get to know one another as in a small town, versus the “lonely big city” (Frumkin 2004, 161, 165, 171-172). But, in general, social capital is believed to have declined with the advent of suburbanization. Frumkin identifies five reasons sprawl contributes to a dearth of social capital. They are: a drain on time and energy for socialization caused by long car commutes to and from work; providing few places in the neighborhood to mingle such as shops, cafes, and bars; having a suburban population who generally places priority on things like privacy and individualism, more so than an urban-dweller might; the reduced interaction with people of other races, ethnicities, and classes within the neighborhood; and a sameness of home types within the neighborhood that prevent aging in place (Frumkin 2004, 172-173).

Sprawling neighborhood developments usually comprise housing of a single price range, creating economic segregation between suburban areas (Frumkin 2002, 209). Furthermore, there tends to be demographic segregation between suburbs and the central urban core (Rusk 2006, 91; Blackwell and Fox 2006, 407). Minorities and poorer people tend to remain in the core of cities whereas whites more frequently move out to the suburbs. Considerations of social justice arise when the urban core is allowed to decay when development interests favor locating in the suburbs, i.e., “When jobs, stores, good schools, and other resources migrate outward from the core city” (Frumkin 2002, 209; Blackwell and Fox 2006, 408).
In a 2010 study, air quality levels were not completely condemning for sprawling areas. While the automobile use associated with sprawl certainly contributed a great deal of pollution, fine particulate exposure in sprawling built environments was not significantly different than in compact environments when weighted for population, and was sometimes worse in compact environments. This challenges the assumption of some previous approaches to air quality that assumes “a significant portion of what is emitted in the region remains in the region” (Schweitzer and Zhou 2010, 363-366). However, ozone exposure did improve with more compactness. The fact that particulate exposure does not improve in more compact areas also corresponded to a higher exposure for “communities of color and impoverished communities,” since minorities tend to more frequently live in compact neighborhoods. The elderly poor also had very high exposure in compact areas. This brings environmental justice issues to the forefront when certain populations have higher exposure to dangerous pollutants (Schweitzer and Zhou 2010, 367-368). This study shows that “compact development, particularly when it is achieved through infill, is not necessarily a good strategy for public health in all cases, because even though concentrations and emissions go down with compactness, residential exposures seem to go up.” The context for compact development matters because development in areas that tend to already have lower levels of pollutants for reasons such as climate, topography, and motor vehicle use will not hurt the residential dwellers who move in. The simple fact of the development being compact will not necessarily decrease exposure. Instead, locations should be chosen whose spatial distribution of pollution is lower (Schweitzer and Zhou 2010, 368-369).
Health problems related to urbanization also often disproportionately affect minorities. Minorities are more likely to have asthma, a condition that is aggravated by air pollution, and to live in places with poor air quality. Also, “one heat wave study considered transportation as a risk factor and found that poor access to transportation – a correlate of poverty and non-white race – was associated with a 70% higher rate of heat-related death” (Frumkin 2002, 209-210). Putting together minorities’ excess exposure, higher risk of asthma, and tendency to live in the inner city, it is apparent that sprawl has created a concerning situation in the form of the health of the poor and minorities (Frumkin 2002, 209-210).

The lifestyles caused by low-density non-diverse development have well-established negative environmental impacts. Sprawl contributes greatly to pollution of the water supply. Impervious surfaces like roads, roofs, and parking lots increase runoff of water because they are not absorbent like soil. The kinds of pollutants that accumulate on impervious surfaces run into the water system undiluted. These represent “nonpoint source” pollution. “Point source” pollution in the water supply has been better-controlled in recent years, leaving nonpoint pollution as the most problematic. Although larger lots and lawns will help absorb runoff, they do not offset the associated increased runoff from asphalt from extra roads and parking that are needed in an auto-centric suburb, and thus the overall runoff is still increased by sprawl. Agricultural chemicals play an enormous role in water pollution. In urban areas, the main runoff pollutants are from trash, car oil, septic systems, and lawn chemicals (pesticides, herbicides, and fertilizer). All of the latter pollutants increase with increased sprawl. Besides creating a larger impervious surface footprint, sprawl also contributes to water pollution by destroying and developing
wetlands, which act as natural water filters. Water pollution harms humans by contributing to conditions such as cancer (Frumkin 2002, 206; Gardner 2006, 246-248).

The health issues of air and water quality affect both wildlife and humans. “Contaminated runoff from lawns, driveways, parking lots, and roads is the leading cause of water pollution. Suburban development also leads to increased automobile use, a leading source of air pollution” (Gardner 2006, 241). Carbon dioxide, ozone, carbon monoxide, hydrocarbons, and nitrous oxides are among the hazardous pollutants caused by car use. Smog in the air is linked to increased likelihood of asthma, especially in children, as well as the aggravation of bronchitis, emphysema, chronic obstructive pulmonary disease, and lung disease. Particulates floating in the air as dust, ash, smoke, or vapor also cause health problems. Particulate matter comes mostly from diesel fuel combustion in vehicles (Frumkin 2002, 202; Gardner 2006, 244, 251). The wind can carry pollution, making it a problem not only in the city of its origin but in an entire region even if the source city is relatively unaffected (Frumkin 2002, 202).

Sprawl and the automobile are inextricable, and the more sprawl, the longer the commute time and the more time spent in the car in general. The design of the sprawling built environment also discourages pedestrian and bicycle activity because of its low density. Getting around by car is easy, but pedestrian activity is deterred by shopping center designs catering to cars, long walking distances, and poor sidewalk design. Commercial centers tend to “leapfrog” farther and farther outward instead of being clustered together in a neighborhood for easy access. The difficulty of walking or biking to destinations is thought to contribute to the obesity problem, but the research is as yet
unable to establish solid links between weight and sprawl due to the difficulty of isolating sprawl from a number of other risk factors for obesity (Frumkin 2002, 205; Gardner 2006, 242-243, 251). A study in the American Journal of Public Health found that sprawl was “associated with an increased risk for being overweight or obese among adults” “when individual variables were controlled.” Most likely “sprawl interacts with other obesity risk factors” (Lopez 2004, 1576-1578).

Neighborhoods where residents can walk to daily destinations may have another less obvious benefit besides fitness and the social capital built by getting people out of the isolating personal vehicle. An increased use of vehicles carries with it an increase in crashes: “In general, denser cities with more extensive public transportation systems have lower automobile fatality rates than more sprawling cities.” Cities such as Los Angeles, Phoenix, Houston, and Dallas have double or sometimes triple the fatality rate of cities such as Portland, New York City, and San Francisco. A “primary prevention would consist of decreasing exposure” in combination with secondary solutions like safer cars, traffic lights, etc. (Frumkin 2002, 204). Pedestrian fatalities, too, suffer at the hands of sprawl. This is because in most sprawling areas, roads are not designed with the pedestrian in mind, forcing the pedestrian to cross at dangerous intersections, or, where intersections are scarce, to cross a road in a stretch with no crosswalks or lights. “The most dangerous stretches of road were those built in the style that typifies sprawl: multiple lanes, high speeds, no sidewalks, long distances between intersections or crosswalks, and roadways lined with large commercial establishments and apartment
blocks.” Pedestrian deaths have also been found to be lower in denser cities (Frumkin 2002, 204).

- **Jane Jacobs: An Early Defender of Diversity & Density in the Built Environment**

  Writing from her own life experiences resulting from keen observation of the daily functioning of people in cities, community activist Jane Jacobs made many arguments for improving the vitality of cities through thoughtful, common-sense-based planning. Her seminal work, *The Death and Life of Great American Cities*, was published in 1961. Several decades later, the tenets of the New Urbanism movement would be strongly reminiscent of Jacobs’ writing and the counteroffensives she launched against the heavy-handed, modernist, urban renewal-style planning of her day. It is no coincidence that New Urbanism drew upon the writing of Jane Jacobs because they were fighting a similar enemy. The planning style that Jacobs argued so passionately against was still largely in operation all over the United States by the time that the leaders of New Urbanism were advocating a return to Traditional Neighborhood Design in the 1990s. Both Jacobs and the leaders of New Urbanism were in support of a better kind of neighborhood that functioned well for daily needs and facilitated a sense of community (Duany et al. 2010; Grant 2006, 51-63; Jacobs 1961).

  Jacobs was a great believer in planning based upon the reality of people’s everyday lives and the insight this could bring to the planning process. She thought that planners had become out-of-touch with the real purposes of planning
and were caught up in grand designs that trampled their own community assets. Diversity and variety, not single-use districts, were the key to prosperous longevity and livability of the neighborhood. Cities generate many kinds of diversity and creativity, on physical, economic and social levels. The fine-grained, nuanced nature of successful neighborhoods was being destroyed by the wrong kinds of development, according to Jacobs (Jacobs 1961).

Two of the four conditions Jacobs listed as generators of diversity were “mixed primary uses” within the district and “sufficiently dense concentration of people” living in the neighborhood and supporting its shops. To begin with the mix of primary uses, Jacobs justifies this need by pointing out that a mix of uses within an area results in a more even level of human activity on the streets throughout the day and night. A mix of uses will draw a mix of people throughout the day (Jacobs 1961, 151-177). A residential population combined with the visiting workday population utilizing commercial and office uses, along with other visitors drawn in by the neighborhood’s appeal, will make a neighborhood vibrant and will discourage “stagnation, decay, vacancies and vestigial industries” (Jacobs 1961, 155). A residential population without an additional population present during the workday is not sufficient to create a vibrant neighborhood because it will be vacant during the workday. Importantly, Jacobs targets city planners by concluding, “It should go without saying that streets or districts which do have good primary mixtures and are successful at generating city diversity should be treasured, rather than despised for their mixture and destroyed by attempts to sort out their components from one another”
Districts that Jacobs terms “border vacuums” comprising a single use and surrounding vibrant areas create chasms of sameness that prevent connections between the different parts of the city (Jacobs 1961, 257-269).

Jacobs believes that the mindset must be changed that sees mixed uses as ugly and chaotic. Throughout *The Death and Life of Great American Cities*, she recommends that planning gain an improved level of comfort with the spontaneity of city life, small neighborhood shops, and organic creative reuse of spaces and buildings. “Visual order” has its place in the design of cities, but valuing “art” above the necessities of living is a mistake. “A city cannot be a work of art.” In other words, planners should mostly concern themselves with the function of a city, not their own personal visions for its physical appearance (Jacobs 1961, 222-223, 372-373). Adaptive reuse of older buildings and diversity of use in the built environment are directly hindered by over-engineered new construction across large city areas, according to Jacobs. If there is too much restriction over the uses allowed, the area will have a sense of sameness and stagnation. Vitality and visual interest will be harmed, not to mention a dearth of “eyes on the street” will develop during the times of day when the primary use of the zone is not active and populated (Jacobs 1961, 34-35, 187-199).

Jacobs’ second condition for diversity is the presence of a higher population density. A higher residential density produces economies of scale in terms of living within convenient distance of life’s daily destinations, and having nearby access more destinations overall. Cultural destinations, shops, and open space all benefit from experiencing more foot traffic. Jacobs places her
recommended density at approximately 100 dwelling units per acre or above (Jacobs 1961, 200-221). Jacobs’ conditions for generating diversity support and explain the reasoning behind New Urbanist principles by describing the lifestyle benefits that may accrue to people living in dense, mixed neighborhoods.

The New Urbanist Principles

The two principles for land use under New Urbanism that will be examined here have been developed based on the Charter of the Congress of the New Urbanism. The development of two new principles specific to this study rather than utilization of the Congress of the New Urbanism’s principles outright was chosen for ease of discussion and to highlight the specific parts of the charter relating to land use that will be examined here. The CNU’s principles are longer and broader than those developed for this study. They also reference many different needs within each principle, and so I have developed my own based on both the spirit of the CNU’s principles as they refer to housing and also based on the specific research question of this study. The present study will be based upon the following two principles:

1) Heterogeneity, or a mix, in housing type; and
2) Placing other uses within walking distance of housing, including mixed-use. (Congress for the New Urbanism 2001)

According to New Urbanism, the importance of having a variety of housing types and income levels within a neighborhood, including mixed-use housing, stems from a
need for better social equity in our neighborhoods. Suburbs have a tendency to segregate housing by income level in what can be termed “clusters.” Clusters contain housing within a certain price range, and are designed and placed in order to essentially separate the living environments of different classes of people. While income segregation within and between neighborhoods is certainly nothing new, it is rather alarming to consider the degree to which this segregation seen in our suburbs has been so widely put in place and codified. Affordably-priced housing also tends to be rather scarce in the suburbs. New Urbanism aims to prevent this phenomenon from continuing to shape our lives. There is a great deal of fear about the result of allowing a mix of housing in a neighborhood because of the desire to be away from what are considered undesirable people and also to protect one’s housing value investment. Unfortunately, suburban planning methods have institutionalized and essentially condoned this disdain for being near to the housing of “the other.” So, it follows that proponents of New Urbanism feel that more mixed neighborhoods will aid in the social de-segregation of a place (Congress for the New Urbanism 2001; Duany et al. 2010, 43-49; Grant 2006, 32-33).

According to New Urbanism, the importance of mixing housing with other uses nearby, rather than having large areas with only housing, has to do with the provision of several benefits. First, having daily shopping and other needs nearby means that each neighborhood will have increased walkability and therefore increased amenity and ease of lifestyle. The use of a car is not a necessity and long commutes isolated shopping malls are avoided. Second, having assets and amenities within a neighborhood contributes to its sense of community and the frequency of encounters with one’s
neighbors. A neighborhood would then be more likely to turn inward in the creation of an identity rather than simply act as a bedroom community (Congress for the New Urbanism, Learn About New Urbanism; Grant 2006, 32-33, 52-53).

At its heart, New Urbanism advocates a return to traditional city design on a variety of levels. The “traditional urban structure and vernacular designs” of New Urbanism are meant to re-create the kinds of built environments “of the early automobile, or even the pre-automobile, period” (Forsyth and Crewe 2009, 417). The Charter for the Congress of the New Urbanism, a promotional organization for New Urbanism, outlines twenty-seven principles “to guide public policy, development practice, urban planning, and design.” The two relevant principles from the Charter for the Congress of the New Urbanism that have inspired the principles for the focus of this study are principles 11 and 13 (underline added):

11) Neighborhoods should be compact, pedestrian friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighborhood design when possible…

13) Within neighborhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community. (Congress for the New Urbanism 2001)

Regarding principle 11, according to Andres Duany and Elizabeth Plater-Zyberk, the neighborhood is a unit that ideally would function as a spatially-oriented social system. It would contain a variety of housing and a variety of other uses, allowing it to provide for a range of daily activities for its residents. The district is a different kind of unit that is defined based on its functional provision of a certain kind of activity, such as a theater district, a university campus, an airport district, or a tourist district. A district may
contain residential uses but does not have to. Districts may be quite homogenous in terms of use variety or may be more heterogeneous and contain related supporting functions, but “they are not the rigorously single activity zones of suburbia: the office parks, housing subdivisions, or shopping centers” (Duany and Plater-Zyberk 1994, xvii-xx). The focus of this study will be on the neighborhood because it is the main sphere of daily living.

**Euclidean Zoning: Presenting a Challenge to a Mix of Uses and Housing Types**

Zoning has been an important component of planning in the United States since it was adopted from Germany around the turn of the century. Zoning grew out of the unsafe and unsanitary urban conditions of the Industrialization era, and became a useful tool in improving the health, safety, and well-being of people by separating living uses from dirty and dangerous industrial uses. Euclidean zoning emphasizes a separation of uses, and this has been an important and to a certain degree, necessary, concept to develop in planning (Hall 2007, 916; von Hoffman 2009, 232).

Euclidean zoning is named for the 1926 United States Supreme Court case *Village of Euclid et al. v. Ambler Realty Co.*, which asserted that a separation of uses from one another was desirable for safety and quality-of-life reasons (*Village of Euclid et al. v. Ambler Realty Company* 1926). *Euclid* also “sanctioned single family zones as a legitimate way for property owners to defend themselves against injury from ‘parasite’ apartment buildings and the blight, demoralization, and declining property values it claimed accompanied them” (von Hoffman 2009, 233-234). In its opinion, the Supreme
Court wrote that apartment buildings had no place in single-family housing neighborhoods because they were noxious and disruptive to the quiet atmosphere (Village of Euclid et al. v. Ambler Realty Company 1926).

Zoning continued to grow in scope. According to New Urbanist thinking, it was taken rather too far. Segregating uses was no longer only for protecting people from clearly dangerous and unsightly uses, but became the primary tool in the creation of escapist suburban communities where lower-priced properties and multifamily housing, along with certain kinds of people who typically inhabited them, were kept out. Following from this discriminatory trend, known as exclusionary zoning, a main motivation for continuing Euclidean-style zoning has been the protection of property values (Duany et al. 2010, 9-12; Durschlag 2001, 645-647; Hall 2007, 916; Porter 2004, 212-214; Schuetz 2008, 555, 561; von Hoffman 2009, 233-234).

Euclidean zoning, as it was described in its namesake court case, strives to prevent the close location of commercial, industrial, and apartment uses to single-family housing. At the time of Euclid v. Ambler, separating industrial uses from residential ones was already an established precedent. Euclid is notable because it established zoning as a form of nuisance control and “police power.” In the opinion of the court, the description of the reasoning behind the decision set a precedent for using zoning to create residential districts of single-family homes that simply contained no other uses at all, such as commercial, industrial and apartments. The opinion veered dangerously in the direction of outright social discrimination through zoning. It has been argued that the court majority likely was influenced in their decision by the discriminatory sentiment towards an influx of southern and eastern European immigrants who were becoming a major
demographic group of apartment-dwellers in the Cleveland area near Euclid during the 1920s. *Euclid* had strong exclusionary undertones, both strictly in terms of use and in terms of implied desire to keep out certain segments of society from single-family neighborhoods (Wolf 2008, 108-109, 138-141).

Separation of uses through Euclidean zoning has arguably created a wide range of urban problems. Euclidean zoning has caused greater physical segregation of socioeconomic groups. It has contributed to low-density, single-use sprawling development that has consumed farmland, and has made driving rather than walking the most feasible mode of transport in many cities because daily destinations are not located near to our houses. The necessary infrastructure for supporting segregated low-density zoning has placed pressure on municipal budgets. The sheer scale of influence that Euclidean zoning has had on our urban environments has also created significant “legal obstacles to effective urban rehabilitation” (Hall 2007, 916-917). Separation of uses through the “police power” justification has been stretched to the point where there is often no good way to distinguish what is a justifiable use of police power through zoning from what is not. “…With some exceptions, when it comes to zoning the police power is more or less whatever the local legislature says it is” (Hall 2007, 919). The regulations of Euclidean zoning have failed communities in many ways. Worst, such zoning has been used to discriminate against people. “This is not a mere theoretical possibility, but a statement of how zoning has been used in the ninety years since its inception” (Hall 2007, 919).

Prevailing zoning practices have often created separate zones for different housing types in addition to separating housing from other uses. “Residential zones are
usually written as a continuum based on density (i.e., number of families per lot, lot size, and building type)” (Congress for the New Urbanism 2004, 4). Zoning is often Euclidian, or segregating, and exclusionary, or discriminatory. Each zoning ordinance is made up of a map showing the location of zones and a code describing what is allowable in each zone. Many zoning codes have become quite rigid. Even the mapping component of zoning has worked against New Urbanism and Traditional Neighborhood Design: “A desire to make zoning maps demonstrably objective has led to a presumption in favor of large districts,” whose “mindless” creation works “against a mix of smaller districts that include only one or a few property owners” (Congress for the New Urbanism 2004, 3).

In some cities, zoning can pose a barrier to multifamily housing (Knaap et al., 2007; Schuetz, 2008). Zoning can restrict “the area on which multifamily structures can be built by creating few zone types where multifamily housing is allowed” (Schuetz 2008, 559). On its own, this indicator should be compared with other housing indicators like prices and production, and may or may not actually present a significant barrier (Knaap et al. 2007, 69). Dimensional requirements for multifamily housing can serve the same purpose of restricting the scope of the development through “minimum lot sizes, setbacks from streets or neighboring lots, frontage widths and limitations on building height” (Schuetz 2008, 561; von Hoffman 2009, 240). Where multifamily housing is allowed but as a special permitted use rather than an as-of-right permitted use in a zone, the governing body typically has more oversight, and more opportunity to place limitations on such regulations as the size or density of the multifamily housing (Schuetz 2008, 560).
Exclusionary Zoning: Presenting a Challenge to a Mix of Housing Types

As the above sections have shown, when it comes to a mix of housing types, New Urbanism equates the equal opportunity for a variety of housing opportunities with better opportunities for equality between people. If many different kinds of housing are present in a neighborhood, then perhaps so are different kinds of people, notably those with lower income as well as those of racial or ethnic minority groups. A discussion of zoning barriers that prevent a mix of land uses and housing types ought to address the topic of exclusionary zoning in detail, since the built environment has implications for the creation of social environments, too.

At the present time, exclusionary outcomes are of the more implicit variety, or the indirect result of “other motivations for zoning restrictions” (Clingermayer 2004, 378). These outcomes may be intentional or unintentional. Exclusionary zoning, by restricting land uses in certain ways, either knowingly or unintentionally, restricts the types of people who may inhabit such neighborhoods. Exclusionary zoning is a complex topic, but knowledge of its operation is of great importance for planners seeking to foster functional, inclusive communities. Zoning, though it regulates land use, nonetheless has great power to impact people’s welfare.

As noted by Clingermayer, “in a very real and obvious sense, all zoning is exclusionary, for it prohibits certain kinds of activities or structures in certain places” (Clingermayer 2004, 378). But the term exclusionary zoning refers to a more particular zoning method that impacts social welfare:
What has become known as exclusionary zoning… can be thought of as zoning that has substantial impacts upon certain categories of people, not just upon particular sorts of buildings and uses of real estate. Those excluded are virtually always poor and quite often non-White… The rationale for these regulations can often be cast in terms of preventing negative externalities, providing public goods or restricting access to services to only those who contribute substantially in taxes toward their supply. (Clingermayer 2004, 378)

Exclusionary zoning is difficult to identify and measure, and to isolate from other issues. Depending on the structure of local decision-making processes, zoning decisions can be strongly influenced by local politics and interest groups. These groups’ rhetoric can create an inhospitable climate for developments that stray from the single-family middle-class neighborhood environment. Further complicating matters, exclusionary zoning can masquerade as the protection of property values. The protection of property values often has a great deal of support from well-organized homeowners and voters in general. Homeowners are concerned about maintaining “the value of their largest asset.” This economics-driven sentiment influences the way in which homeowners vote and motivates them to vote more in the first place. When they “perceive that they have more of a stake in neighborhood preservation,” the more likely it is that the homeowners will find exclusionary zoning acceptable. Protecting property values is often viewed as a positive goal within the governmental system itself (Clingermayer 2004, 379).

So strong is the motivation to protect single-family homes, it has been written that “zoning is best understood as an alternative to currently nonexistent home-value insurance” (Fischel 2004, 318). Zoning can greatly maintain property value by controlling the surrounding environment, and could allow developers to sell homes protected by zoning for more money because the home is a surer investment. Single-
family homeowners are often seen as having the most need for the protections that zoning can offer. Fischel argues that homeowners and developers together were the driving forces behind the popularity of zoning, and that they were historically and are still currently motivated by fiscal concerns (Fischel 2004, 317-318).

Clingermayer identifies several of the ways in which exclusivity can be created by a zoning ordinance. The language of the text itself might be biased; the zoning and rezoning process might make it harder for multifamily or affordable housing development proposals, for example, to be approved in comparison to single-family developments; or the comprehensive plan that a zoning ordinance is required to follow might not make clear the need for alternative kinds of housing. Accurately anticipating the outcomes of zoning rules and regulations may not always be possible, and exclusionary effects can result from even the most neutral-seeming legislation (Clingermayer 2004, 380-382).

Seeking to discover the motives behind exclusionary land use regulations, Ihlanfedlt has classified land use regulations into four categories. The first category contains regulations “that are designed to mitigate negative externality effects by, for example, physically separating incompatible land uses or preventing the over-intensive development of individual sites” (Ihlanfedlt 2004, 262). The second category of regulations is concerned with minimizing government spending on public services. The third category ensures that land uses are compatible with the character of the community. Ihlanfedlt contends that the first category poses no exclusionary threat, but that the second and third may cause unintentional or de facto exclusion. The fourth category, however, contains regulations whose exclusionary motivation is intentional. Although
Ihlanfedlt encountered great difficulty in finding solid evidence that would point to the motivations behind such regulations, strong possibilities included class-based and racial prejudice, fears that lower-income and minority people would not maintain their dwellings, fear of a decrease in “neighborhood quality,” negative effects on property values, and fear of crime (Ihlanfedlt 2004, 262-263, 275).

As previously mentioned, zoning can discriminate against certain kinds of housing. A 2007 study by Knaap et al. of six American cities sought to identify zoning barriers to multifamily housing. The researchers used GIS and zoning documents to calculate the maximum number of housing units that were possible under zoning for each city. In Boston, clear evidence of zoning exclusion of multifamily housing was found. Exclusion was manifest in the small amount of land zoned for multifamily housing and in the zoning codes of many of the local towns comprising the Boston area. The towns with the lowest-zoned densities (the highest barriers) tended to be farther from central Boston. These same towns also tended to have higher median home prices, with some major exceptions (Knaap et al. 2007, 20-23, 66). In this case, high home prices, zoning exclusion of multifamily dwellings, and suburban character tended to intersect. Based on the results of the study, these Boston sub-areas appeared to be at high risk for exclusionary zoning because entire towns had almost no land zoned for multifamily use.

By restricting the possibilities for the built environment, zoning may thereby restrict the social environment. This connection is evidenced in a 2000 study by Pendall of 1,510 local American jurisdictions that found that low-density zoning was associated with exclusion of Black and Hispanic residents. By excluding denser forms of housing, the regulations tended to exclude minorities. Both Pendall and Knaap et al. note,
however, that denser housing does not always mean more affordable or more inclusionary housing. Exclusionary zoning can also occur in gentrified high-density areas. And, low-density housing can be affordable (Knaap et al 2007, 67; Pendall 2000, 125-126, 130, 135). Both housing density and price are can be indicative factors for identifying exclusionary zoning. Although the price component is not a part of this research study, both price and availability of denser housing options are likewise emphasized by the Congress of the New Urbanism (Congress for the New Urbanism 2001).

- **Mount Laurel I and II: Mandating Regional Housing Equity**

The 1975 and 1983 *Mount Laurel* rulings in the New Jersey Supreme Court, also known as *Mount Laurel I* and *II*, were landmark cases that set a precedent nationwide for housing equity (*Southern Burlington County N.A.A.C.P. v. Township of Mount Laurel* 1975; *Southern Burlington County N.A.A.C.P. v. Township of Mount Laurel* 1983). In both rulings, the decisions upheld that inclusionary zoning was a region-wide necessity and responsibility. The zoning policies of Mount Laurel Township, New Jersey were declared unconstitutional because they were exclusionary toward low-income people. Prior to *Mount Laurel I*, the only type of housing allowed by Mount Laurel’s zoning ordinance was the single-family dwelling. The only way in which multifamily housing could be built was through a planned unit development, but such housing was still typically far too expensive for low-income people. Lot and building size requirements for single-family housing were also so large as to prevent lower-priced homes. This
exclusion of other housing types through zoning was deemed unacceptable by the court (Hughes and Vandoren 1990, 97; Ashman 1975, 975).

In addition, in an act of support for the equal spatial representation of affordable housing, “the court insisted that the state’s municipalities have an affirmative obligation to redistribute low- and moderate-income households more evenly across the state” (Hughes and Vandoren 1990, 97). This responsibility of the municipalities to provide adequate affordably-priced housing became known as the “fair share” principle. Affordable housing was defined as housing cost representing no more than 28% of household income. The New Jersey municipalities could accomplish this by zoning for higher-density housing as well as providing financial incentives to encourage the construction of affordable housing. In general, the intent of the court’s decisions was to spread affordable housing throughout the New Jersey area in order to ensure regional housing equity for the poor, so that they were not excluded from living in certain municipalities. Suburbs, especially, would need to be more inclusive. The court also struck down the notion that the police power invested in zoning by the 1926 Euclid. V. Ambler case could be used for exclusionary purposes toward a certain group. Such exclusion with regard to the fundamental need of housing was an abuse in violation of the general welfare. A municipality such as Mount Laurel Township needed to consider not just its own residents, but the larger role it played in conjunction with adjacent communities, and the availability of affordable housing across the larger geographical system (Hughes and Vandoren 1990, 99-100).

Mount Laurel I and II first declared and then affirmed, respectively, that it was the responsibility of the municipality to ensure that an appropriate proportion of affordable
housing was in place. The rulings also affirmed that exclusionary zoning allowing only single-family housing was incompatible with zoning as a police power. This opened up zoning ordinances favoring single-family housing across the country to potential claims of discrimination. The New Urbanist discussion focuses on housing equity at the neighborhood level, but the *Mount Laurel* decisions highlighted the fact that exclusion may even be present at the scale of the municipality or region.

In 1985, two years after the *Mount Laurel II* decision, the Council on Affordable Housing (COAH), a New Jersey state agency, was created in response to outcry by municipalities over the court’s fair share housing requirements and determination processes that were established by the New Jersey Supreme Court in the *Mount Laurel II* decision. The local towns had the option of participating in the program. The affordable housing requirements established by the COAH were much less ambitious than those of the court. One of the COAH’s alternative options was to allow a town to pay another town to take “up to half of their required units,” thereby lessening the strict requirement that each town be responsible for providing its full share of affordable housing. This measure in particular, along with others of the COAH, have proved controversial. Many towns have accepted offers to receive transferred housing units from other towns because they desperately need the money. From 1985 to 2005, 9,792 units were transferred for a total of $200 million dollars spread among 175 transfers, which are known as contribution agreements. However, the use of contribution agreements has been accused of letting towns shirk their fair share responsibility, and of allowing exclusion and segregation to continue (Chambers 2005; ‘Fair Share’ Housing Rules 2007).
Form-Based Codes: Deemphasizing Use

Form-based zoning codes are a newer method of zoning that differs from the older Euclidean system. Form-based codes vary in type and extent, but generally place less emphasis on use as the basis for the code, and greater emphasis on building form and the relationships between buildings (Talen 2009, 144-146). According to the Form-Based Codes Institute, they “foster predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code” (Form-Based Codes Institute 2010-2011). The use of form-based codes allows various types of uses to be located near one another, but in a way that ensures they will work well together and maintain the desired community character.

Just as with use-based zoning, the form-based code is regulatory, that is, it is binding and not simply a set of guidelines. Form-based codes have emerged as a major tool for accomplishing New Urbanism because they allow regulation over not just use, but the actual form and aesthetics of the area, potentially allowing for a mix of uses in an area that is designed to be attractive and walkable. Form-based codes are a way to create a cohesive and predictable neighborhood appearance, such as for Traditional Neighborhood Design. Form-based coding’s ability to create “visual harmony in the public realm,” “continuous urban frontage to ensure a degree of uniformity” and control over spatial relationships between elements of the built environment makes it a useful tool for regulating New Urbanist areas (Form-Based Codes Institute 2010-2011; Talen 2009, 155-156).
The Planned Community: Fostering Innovative Development

Zoning can act as a basic barrier to achievement of New Urbanism, but the design of the neighborhood itself must also display a commitment to New Urbanist principles. Depending upon the regulatory system, planners may not always have direct control over the types of housing or uses that are built in a new or existing neighborhood, but planning can still have an indirect impact on the creation of land use mix. If the regulatory mechanisms tend to restrict development in such a way that only a few uses are possible, it is clear that New Urbanist ideals are not a priority. Regulations that act as limiters or outright blockades to a broad range of uses within the same neighborhood may be considered barriers to New Urbanist housing development.

Many communities have ways in which alternative neighborhood designs may be fostered and cultivated apart from the standard regulations. Planned Unit Developments (PUDs) are a common tool provided for accomplishing this. A Planned Unit Development is “a development project a municipality considers comprehensively at one time, usually in the zoning process employed to approve a development plan” (Mandelker 2007, 2). PUDs were meant to be a tool that both developers and municipalities could use to implement different kinds of development styles that included amenities like open space. PUDs are not required to comply with subdivision or zoning regulations, but their designs are instead approved based on the discretion of the municipality (Mandelker 2007, 2-3). Referring to one city’s definition of the PUD, it has been written that “The definition does not state that PUDs must be better than what might be obtained through traditional zoning, but it is implied” (Mandelker 2007, 4).
Lincoln provides for this kind of innovative development design through its own Planned Unit Development district. Lincoln also has a second option called the Community Unit Plan (CUP) that is similar in theme to the PUD but is less flexible in the uses allowed and the degree to which development may depart from the underlying zoning district (City of Lincoln, Community Unit Plan and Planned Unit Development District).
CHAPTER 3: RESULTS

The Zoning Ordinance

The Zoning Code

An examination of the cross-mixing of allowable uses in each zone displays mixed results (Table 1). Residential zones do allow some non-housing uses, but these uses are almost universally limited to such types as parks, libraries, churches, garden centers, recreation facilities, and childcare facilities. Permitted (as-of-right) uses are limited to public uses, such as parks and libraries. The other uses are classified as conditional permitted or special permitted uses. These kinds of uses are would certainly be a valuable contribution to any neighborhood. Non-residential uses in the residential zones were likely limited to these because they were thought to have little potential for disturbance of quiet neighborhoods. However, there would be no possibility for creation of other key daily need destinations such as grocery stores, drugstores, shopping, or workplaces within the standard R-1 through R-8 zones. The exception to this pattern is the R-T zone, which permits many kinds of commercial and office uses as-of-right. All residential zones except R-T permit outdoor seasonal sales through special permit, which could add availability of some foods and shopping depending upon the nature of the sale.
### TABLE 1. Allowable Uses under Each Zone (Lincoln Jurisdiction zones excepting I-1 and AG: Source: City of Lincoln, Zoning Ordinance of the City of Lincoln)

<table>
<thead>
<tr>
<th>Zone</th>
<th>Land Area (square miles)</th>
<th>Percent of Total Land Area</th>
<th>Single-Family</th>
<th>Two-Family</th>
<th>Townhouse</th>
<th>Multifamily</th>
<th>Accessory Dwelling Units (those not restricted to domestic workers or the handicapped)</th>
<th>Mobile Homes</th>
<th>Outdoor Seasonal Sales</th>
<th>CUPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGR</td>
<td>12.383781</td>
<td>13.08%</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>B-1</td>
<td>0.610691</td>
<td>0.64%</td>
<td>Dwellings above first story (C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>B-2</td>
<td>2.344346</td>
<td>2.48%</td>
<td>Dwellings above first story (C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-3</td>
<td>0.527745</td>
<td>0.56%</td>
<td>Dwellings above first story (C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B-4</td>
<td>0.590872</td>
<td>0.62%</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>B-5</td>
<td>1.105984</td>
<td>1.17%</td>
<td>Dwellings (P)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>H-1</td>
<td>0.117078</td>
<td>0.12%</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>H-2</td>
<td>0.451453</td>
<td>0.48%</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>H-3</td>
<td>1.941203</td>
<td>2.05%</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>H-4</td>
<td>1.362599</td>
<td>1.44%</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>I-2</td>
<td>3.192094</td>
<td>3.37%</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>I-3</td>
<td>0.458033</td>
<td>0.48%</td>
<td></td>
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</tr>
<tr>
<td>O-1</td>
<td>0.066224</td>
<td>0.07%</td>
<td>Dwellings (P)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O-2</td>
<td>0.122977</td>
<td>0.13%</td>
<td>Dwellings above first story (C)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>O-3</td>
<td>1.779666</td>
<td>1.88%</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>P</td>
<td>18.385325</td>
<td>19.41%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>R-1</td>
<td>8.681531</td>
<td>9.17%</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>R-2</td>
<td>16.482477</td>
<td>17.40%</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-3</td>
<td>18.290853</td>
<td>19.31%</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-4</td>
<td>3.520832</td>
<td>3.72%</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>R-5</td>
<td>1.002063</td>
<td>1.06%</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
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<td>R-6</td>
<td>1.03472</td>
<td>1.09%</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>R-7</td>
<td>0.19147</td>
<td>0.20%</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>R-8</td>
<td>0.028208</td>
<td>0.03%</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-T</td>
<td>0.036041</td>
<td>0.04%</td>
<td>P</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

CUP=Community Unit Plan  
P=Permitted Use  
S=Special Permitted Use  
C=Conditional Permitted Use  
Blank=not allowed in any way

* Even if there are accessory units allowed for domestic employees or handicapped, these were not noted because there is still an inability to create them for the general population.
* Zones I-1 and AG were omitted because they were not included in the Focal Statistics overall land use calculations.
In terms of the housing mix allowed under the zoning code, all residential zones permit single-family and two-family dwellings as-of-right. Zones R-5 through R-8 also permit townhomes and multifamily dwellings. Therefore, the greater potential residential density offered by townhomes and multifamily units are not universal, and the R-1 through R-4 zones clearly are meant for low-density housing only. Mobile homes are special permitted uses in the R-1 through R-4 zones, but are otherwise not permitted in any way in any other zones in Lincoln. The AGR zone permits only single-family dwellings.

Although the residential zones do not permit many non-residential uses, the commercial and office zones generally do a better job of permitting residential uses. All B (Business) zones permit dwellings of some kind either as-of-right or through conditional permit. Zones B-1 through B-3 allow dwellings through conditional permit as long as they are above the first floor and non-accessory. B-4 permits single-family and two-family dwellings. And B-5 permits any kind of dwelling. All O (Office) zones permit either all types of dwellings as-of-right or non-accessory dwellings above the first floor with a conditional use permit. H (Highway Commercial) zones and I (Industrial) zones, though, are the exception, as they do not permit dwellings in any way.

Accessory dwelling units that are not strictly for either domestic or other workers or for the handicapped are nonexistent in the standard zones, although accessory dwellings units for any person would be possible through a Planned Unit Development or through acquisition of a special permit for historic preservation (Brandon Garrett, May 14, 2012, e-mail message to author).
The Zoning Map

In examining the zoning map, it becomes apparent that the size of the zone districts are relatively large, especially the residential zones (Figure 3). In addition, when grouped as residential, public, office, and business/commercial, the zone types create blocs that vary in size across the city following certain patterns (Figure 4). The more central areas of Lincoln tend to have small areas of business/commercial and public zoning interspersed among residential zones, with the major exception of O Street. However, in the south, west, and northwest, the other zone types are less often interspersed among the residential zones, thus being more isolated from residential zones, and the business/commercial zones tend to be a great deal larger, relatively. Examples include the area south of Old Cheney Road, West O Street, and North 27th Street. Across Lincoln, business/commercial and office zones across the city tend to be located overwhelmingly along major road corridors and intersections. There is considerably less foray of non-residential zones into the side streets in most of Lincoln. Public uses tend to be interspersed fairly evenly, but there are still some parts of Lincoln that have fewer small-scale public areas, notably south of Pioneers Boulevard.

Zone variety for all zones (which actually excluded several zones that would not be contributors to neighborhood life) calculated for the ¼ square mile focal neighborhood showed that there were high numbers of zones present in focal neighborhoods in the Downtown and Near South, along O Street, in the northeast, near 56th Street and Highway 2, near 27th Street and Pine Lake Road, and near Union College (Figure 5). The central swath from the Downtown/Near South extending northwest along the south
side of Cornhusker Highway is a major area of residential zone diversity. Parts of the northwest and west are also fairly diverse, as is the Union College area.

The residential zones create a clear pattern of rings moving outward to the northwest and southeast from the Downtown (Figure 6). Zones R-4 through R-8 are located centrally for the most part, extending from the downtown along the south side of Cornhusker Highway. Following the same plane, R-2 zoning is the next surrounding ring, followed by R-1, and lastly by R-3 at the edges of Lincoln. R-T zones are very small and few and are located across the city. In general, the higher the residential zone designation number (i.e., 1, 2, etc.) the more central the zone to the Downtown core, with the exception of R-2. Residential zone variety calculated for the ¼ square mile focal neighborhood showed a very similar pattern to overall zone variety (Figure 7). The central swath from the Downtown/Near South extending northwest along the south side of Cornhusker Highway is a major area of residential zone diversity. Parts of the northwest and west are also fairly diverse, as is the Union College area.

Zones R-1, R-2, and R-3 together comprise about 88.2% of the residential zoning in Lincoln’s jurisdiction, or about 43.5 square miles (Figure 8 and Table 2). These zones represent three of the four numbered residential zones that allow only single-family and two-family housing types as-of-right, the fourth zone being the R-4 zone. While R-4 represents significantly less area than the first three zones, it is still the fourth-largest zone, covering 7.1% of the total residentially-zoned land area. With around 2% or less each of the land area, zones R-5, R-6, R-7, R-8, and R-T are the least common residential zones appearing in Lincoln in terms of area. In general, the lower the residential zone designation number, the more land area that zone covers. Conversely, zones with larger
designation numbers appear far less frequently in Lincoln. Zone R-8 is the least common numbered residential zone, covering only .03 square miles, or approximately a tenth of a percent of the total residentially-zoned land area; in fact, there is only one R-8 zone in Lincoln.

Based on the above figures, there is a clear dominance by R-1 through R-3 zoning, and to a lesser degree, R-4 zoning. The regulations for zones R-1 through R-4 have several characteristics in common that create a natural kind of break between this group and the R-5 through R-8 group. The former group allows only single-family and two-family housing types as-of-right. The latter group additionally allows townhouses and multiple dwellings as-of right. Also, as the zoning designation number increases, there is a corresponding decrease in the required minimum lot sizes and average lot widths (Table 3). Zone R-T permits only low-density, large-lot residential uses, but has less impact on the city than zones R-1 through R-3 because it covers such a small amount of land area. Zone R-4 is the fulcrum for the shift for what is available as an as-of-right housing use, which essentially corresponds to potential residential density. Zone R-4 may be called a fulcrum because it has a minimum lot area for single-family housing that is more mid-range between the extremes of the R-1 and R-8 zones, but it is similar to the R-5 through R-8 group in its requirements for two-family minimum lot area and two-family average lot width. In general, the R-1 through R-3 group, which also cover the most land area, and to a lesser extent R-4, will produce less dense housing environments through as-of-right uses.

Calculations for maximum residential density in each zone based solely on as-of-right permitted uses show that zones R-5 through R-8 have the highest maximum
possible residential densities due to their allowance of multifamily housing (*Table 4*). Moving through the zones beginning with R-1, more dense housing types transition from not being permitted to being permitted, and minimum lot sizes also get smaller. For example, the R-5 zone, though quite dense comparably, would still, at its maximum potential, be somewhat less dense than the R-8 zone because the minimum lot size per unit for R-8 is smaller than for R-5. Zone R-T may be most easily grouped with zones R-1 through R-4 due to its lower maximum density and larger minimum lot area requirement for the two-family home, its densest permitted housing type.
FIG 3. Lincoln Zoning Map (Lincoln Jurisdiction zones; Source: City of Lincoln and Lancaster County).
FIG 4. Zones Grouped by Type (Lincoln Jurisdiction zones; Source: City of Lincoln and Lancaster County).
FIG 5. Focal Results – All Zones (for Lincoln Jurisdiction zones excepting I-1 and AG; Source for input data: Source: City of Lincoln and Lancaster County).
FIG 6. Residential Zones (Lincoln Jurisdiction zones; Source: City of Lincoln and Lancaster County).
FIG 7. Focal Results – Residential Zones (Lincoln Jurisdiction zones; Source for input data: Source: City of Lincoln and Lancaster County).
FIG 8. Percentages of Residential Zones by Area (Lincoln Jurisdiction; Source: City of Lincoln and Lancaster County).
**TABLE 2.** Areas and Percentages of Residential Zones (Lincoln Jurisdiction; Source: City of Lincoln and Lancaster County).

<table>
<thead>
<tr>
<th>Zone</th>
<th>Area (square miles)</th>
<th>Percent of Total Residentially-Zoned Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>8.68153</td>
<td>17.6%</td>
</tr>
<tr>
<td>R-2</td>
<td>16.482479</td>
<td>33.5%</td>
</tr>
<tr>
<td>R-3</td>
<td>18.290854</td>
<td>37.1%</td>
</tr>
<tr>
<td>R-4</td>
<td>3.520832</td>
<td>7.1%</td>
</tr>
<tr>
<td>R-5</td>
<td>1.002065</td>
<td>2.0%</td>
</tr>
<tr>
<td>R-6</td>
<td>1.034721</td>
<td>2.1%</td>
</tr>
<tr>
<td>R-7</td>
<td>0.191471</td>
<td>0.4%</td>
</tr>
<tr>
<td>R-8</td>
<td>0.028208</td>
<td>0.1%</td>
</tr>
<tr>
<td>R-T</td>
<td>0.036041</td>
<td>0.1%</td>
</tr>
</tbody>
</table>
### TABLE 3. Lot Regulations for Residential Zones (Lincoln Jurisdiction; Source: City of Lincoln, Zoning Ordinance of the City of Lincoln)

<table>
<thead>
<tr>
<th>Zone</th>
<th>Single-Family</th>
<th>Two-Family per family</th>
<th>Townhouse per family</th>
<th>Multiple Dwelling per unit</th>
<th>Average Lot Width (feet)</th>
<th>Townhouse per family</th>
<th>Multiple Dwelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-1</td>
<td>60</td>
<td>48</td>
<td>48</td>
<td></td>
<td>25</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>R-2</td>
<td>50</td>
<td>40</td>
<td>40</td>
<td></td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>R-3</td>
<td>50</td>
<td>40</td>
<td>25</td>
<td></td>
<td>25</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>R-4</td>
<td>50</td>
<td>25</td>
<td>25</td>
<td></td>
<td>25</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>R-5</td>
<td>50</td>
<td>25</td>
<td>25</td>
<td></td>
<td>25</td>
<td>25</td>
<td>50</td>
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<td>R-6</td>
<td>40</td>
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<td>20</td>
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<td>R-7</td>
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<td>20</td>
<td></td>
<td>20</td>
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<td>50</td>
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<tr>
<td>R-8</td>
<td>40</td>
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<td>20</td>
<td></td>
<td>20</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>R-T</td>
<td>40</td>
<td>20</td>
<td>20</td>
<td></td>
<td>20</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>Zone</td>
<td>Maximum Units per Acre</td>
<td>Maximum Possible Residential Density per Acre Based on Permitted Uses</td>
<td>Associated Minimum Lot Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------------------------</td>
<td>---------------------------------------------------------------</td>
<td>-----------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-1</td>
<td>6.05</td>
<td>Two-Family</td>
<td>7200 sq. ft. per family</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-2</td>
<td>8.71</td>
<td>Two-Family</td>
<td>5000 sq. ft. per family</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-3</td>
<td>8.71</td>
<td>Two-Family</td>
<td>5000 sq. ft. per family</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-4</td>
<td>17.42</td>
<td>Two-Family</td>
<td>2500 sq. ft. per family</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-5</td>
<td>20.04</td>
<td>Multiple Dwellings</td>
<td>1500 sq. ft. per unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-6</td>
<td>39.60</td>
<td>Multiple Dwellings</td>
<td>1100 sq. ft. per unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-7</td>
<td>62.23</td>
<td>Multiple Dwellings</td>
<td>700 sq. ft. per unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-8</td>
<td>79.20</td>
<td>Multiple Dwellings</td>
<td>550 sq. ft. (2000 sq. ft. per family)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-T</td>
<td>21.78</td>
<td>Two-Family</td>
<td>4000 sq. ft. (2000 sq. ft. per family)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 4.** Maximum Possible Residential Density for Residential Zones (Lincoln Jurisdiction; Source: City of Lincoln, Zoning Ordinance of the City of Lincoln)
Land Use

Land use variety calculated for all land uses shows a higher number of uses per focal neighborhood in several parts of the city: the northwest, west, Near South, Clinton, University Place, Bethany, West O, and West A, West Lincoln, Belmont, and several areas along South 48th Street (Figure 9). Zones in which the highest scores for number of overall land uses per focal neighborhood occurred tended to be zones of B-3 and B-4, R-2 through R-6, and P zones. Some of these high-scoring areas are either CUPs or PUDs and thus may deviate from the actual underlying zoning, although this particular calculation included uses adjacent to and outside the boundaries of the CUPs and PUDs, and is not necessarily descriptive of the land use the CUPs and PUDs have created; CUP and PUD land use variety will be addressed later.

When the zone variety for all zones described above is examined against all land use variety, the two have very similar patterns of variety hotspots (higher scores are seen as darker). The only areas with high land use diversity values that do not also appear to have a significant match in zone diversity are Capitol Beach, along Capitol Parkway/Normal Boulevard, and approaching O Street along South 48th Street.

For residential land use variety, the maximum number of uses (the highest score) found in any focal neighborhood was five, the maximum (Figure 10 and Table 5). Very few focal neighborhoods had five uses, but R-2 and R-4 zones had the highest percentage of 5-use focal neighborhoods. Zones R-2, R-4, and R-6 had the highest percentage of 4-use focal neighborhoods. Overall, neighborhoods in zones R-2, R-4, and R-6 appeared to most consistently score the highest on residential land use diversity. Most residential zones produce a large percentage of 3-use focal neighborhoods.
Residential zone diversity has a weaker relationship with residential land use diversity, as there appear to be many areas with high use diversity that do not have strong counterparts in zoning diversity. Certainly, the most obvious swath of residential zone diversity that runs from the Downtown northeast underneath of Cornhusker Highway only corresponds to medium levels of housing land use diversity. The north and west, the clearest areas of housing land use diversity high scores, do not have stronger zoning diversity than many other areas of Lincoln.
FIG 9. Focal Results – All Land Use Codes (Source for input data: City of Lincoln and Lancaster County).
FIG 10. Focal Results – Residential Land Use Codes (Source for input data: City of Lincoln and Lancaster County).
The Community Unit Plan

The Community Unit Plan provides for several regulations that could further a mix of New Urbanist housing types beyond that which is provided for in the zoning ordinance. The R-7 and R-8 zones cannot have CUPs developed within them, but zones R-1 through R-6 can. First, all major types of dwellings are allowed (single-family, two-family, townhouses, and multiple dwellings). Any other uses and accessory uses allowed in the underlying zoning are also allowed. Thus, the potential mix in housing is increased because there is freedom of choice for developers to create all five of these types of housing. The overall land use mix, however, is unlikely to be affected beyond that allowed in the underlying zoning.
A second aspect of the CUP is that because of its flexibility on housing type, it can result in higher housing densities than would its underlying zoning district. Also, higher densities than allowed under the code are permitted. In comparing the figures calculated here for maximum potential density without considering the space needed for roads, parks, or other non-developed space, with the maximum density for the R-1 through R-6 zones under the CUP Design Standards section 1.1 B (which essentially refers to the developed area of the CUP) it is clear that the CUP allows significant increases in dwelling units per acre beyond what is allowed in the code in all six districts. Increases range from about a third more to nearly three times the densities allowed under the code. These increases would actually be slightly higher because non-developed space, as just mentioned, was not factored into the calculations for maximum density under the code.

Thirdly, CUPs that comply with certain energy conservation standards or that supply subsidized low-income housing may receive dwelling unit bonuses. However, the lot area restrictions for the CUP do not allow smaller lot sizes than the underlying zoning. In addition, the nature of the CUP density requirements are still determined in terms of maximum density, not minimum density, which does not establish a commitment to density, and the regulations do not address the location of higher density housing beyond the relationship between different densities of housing to one another and to open space. For example, there is no discussion of locating higher density housing near to commercial uses or to higher-traffic streets. The CUP does not emphasize form over use as might be seen with a commitment to creating New Urbanist developments.
Current land use in previously-developed CUPs was examined using the same land use diversity tool used above, this time for only housing uses, since the main aim of the CUP is to create housing developments (Figure 11). When overlaid with focal housing diversity for all of Lincoln, it is clear that the CUPs are responsible for a significant portion of Lincoln’s high housing diversity scores (Figure 12). This is unsurprising due to the openness of the CUP to many housing types compared to many of the standard zones. CUPs tended to be most frequently located within the R-1 through R-4 and AG zones. Many of the CUPs contained very high scores, while others had very low scores, along with some with mid-level scores. There was not a consistent level of residential land use variety achieved across the board. The high-scorers do not appear to have a particular tendency to locate in certain zones.

Four CUP sites with high residential land use diversity based on the GIS analysis were visited for field observation. These sites had the CUPPUD numbers (a numbering designation from the Planning Department file) of 152, 56, 134, and 215. The Focal Statistics tool appeared to be accurate based on these samples, but when sites were small, nearby land uses outside the boundaries could heavily influence results (see Appendix II for site photographs).

1) Site 152 (West A and 11th Streets) (Figure 13): this was the only site to receive the highest housing diversity score of 5. This development, though quite small, is one of the most New Urbanist of the field sites, but not in terms of housing mix. Its high score is not due to the development itself offering many land uses, but due to its surroundings within the half-
mile distance encompassing several other types of housing. The development itself has only single-family housing and private open space uses. The housing is laid out on a rectangular street system, an important criteria for New Urbanism. Though it contains only single-family housing, it is next to both multifamily and two-family housing. The development has common areas and is adjacent to a neighborhood park. The housing is constructed on small lots, is built very close to the sidewalk in many cases, many houses have front porches, and the streets are narrow and very walkable.

2) **Site 56 (North 1st Street) (Figure 14):** this CUP offers four types of housing (mobile home, townhome, duplex, and detached single-family) and private open space. But, it appears that two-family homes are classified both as duplexes and townhomes here, causing there to be less variety in actuality. Many two-family homes were present, but they had garage frontage covering the entire front of the homes, with the door off to the side and no porches. They were therefore not New Urbanist in design. Some of the single-family homes were typically suburban, but many others were on smaller lots with smaller setbacks and front porches, and would probably encourage interaction between neighbors. However, the street system was winding and non-connective and had several circles.

3) **Site 134 (near 70th and A Streets) (Figure 15):** was typically suburban in most ways and displayed few New Urbanist features. Homes were rather large and were on large lots with large setbacks. Most housing was single-
family, but there were a number of townhomes and duplexes as well as multifamily and private open space. Similarly, two-family was classified as both duplex and townhome. Housing types were very segregated from one another. The street system was not as winding as in some suburbs, but was not a clear grid system either. Displaying a medium mix of housing types was the only New Urbanist dimension to this CUP.

4) Site 215 (27th Street and Old Cheney Road) *(Figure 16)*: there were a number of different housing types, including two-family, apartments, and single-family. These were segregated from one another in this large CUP, with the exception of duplexes being located next to single-family in many cases. Lots were somewhat smaller, but setbacks were typically still rather large. There was no significant daily-use commercial nearby except a CVS, but there are several neighborhood parks in and around the development. The street layout was decidedly not New Urbanist; it was extremely winding and non-connective.
FIG 11. Focal Results – Residential Land Uses within Community Unit Plans (Source for input data: City of Lincoln and Lancaster County Planning Department).
FIG 12. Overlay of Community Unit Plan Boundaries with Residential Land Use Focal Results for all of Lincoln (Source for input data: City of Lincoln and Lancaster County; City of Lincoln and Lancaster County Planning Department).
FIG 13. Community Unit Plan CUPPUD #152 (Source: City of Lincoln and Lancaster County Planning Department).
FIG 14. Community Unit Plan CUPPUD #56 (Source: City of Lincoln and Lancaster County Planning Department).
FIG 15. Community Unit Plan CUPPUD #134 (Source: City of Lincoln and Lancaster County Planning Department).
FIG 16. Community Unit Plan CUPUDP #215 (Source: City of Lincoln and Lancaster County Planning Department).
The Planned Unit Development

The Planned Unit Development has multiple positive aspects that could further a mix of New Urbanist housing and land uses. First, it may be created within any zone except the AG and AGR zones. Second, any use within the zoning code, whether permitted, special permitted, or conditional permitted, can be implemented with approval from the Planning Commission and City Council without needing to acquire a special permit or use permit. Third, the PUD may depart from the underlying zoning regulations in terms of area, height, and setbacks, again, pending approval (Brandon Garrett, May 16, 2012, e-mail message to author).

PUDs follow the same regulations for maximum residential density as does the CUP, found in the Design Standards for Community Unit Plans, and may receive density bonuses according to the requirements set out in the Design Standards. Once again, the nature of the density requirements are determined in terms of maximum density, not minimum density. Also, the PUD does not emphasize form over use as might be seen with a commitment to creating New Urbanist developments.

The PUDs for which land use data was available to the public were fairly successful at creating diversity, but they do not have the same kind of important role across Lincoln in creating use diversity as did the CUP for housing because there are fewer PUDs and those for which land use data is available tend to be smaller in size (Figures 17 and 18). There was not consistent creation of land use diversity across most PUDs. Some had very high-scoring focal neighborhoods, and others had very low scores. PUDs tended to be most frequently currently located within the B-2 and B-3, R-3, and O-
3 zones. Neither the CUPs nor the PUDs are responsible for creating very much of the diversity in older, central parts of Lincoln because they tend to be located farther afield.

Four PUD sites with high overall land use variety scores based on the GIS analysis were visited for field observation. These sites were Antelope Valley PUD (CUPPUD number 327), University Place PUD (66), Village Gardens PUD (269), and Van Dorn Acres PUD (186) (see Appendix II for site photographs).

1) **Antelope Valley PUD (22nd to 24th Streets between P and R Streets)**

*Figure 19*: this PUD appears to be a work in progress. Currently, there are some commercial uses such as a car dealership, a community organization, and several kinds of housing. Land uses from the Planning Department land use file encompass single-family, duplex, multifamily, group quarters, commercial NEC, and light industrial. Two-family houses are currently under construction across one block, and they are being built fairly close to the sidewalk. From signage, they are the result of collaboration between NeighborWorks and Sinclair-Hille. This PUD is located very close to the Antelope Valley project so there will be further redevelopment nearby in the future, and the area will benefit from the open space and other associated development taking place along Antelope Creek. Though many uses are indeed present, the PUD also benefits from being in the downtown area with several other additional uses located within a half-mile. The Antelope Valley Redevelopment Plan shows the future land use of the area as mixed use, which appears to mean a variety
of land uses potentially also including mixed-use buildings and housing (City of Lincoln and City Urban Development Department 2004, 54, 57).

2) **University Place PUD (North 48th Street)** (*Figure 20*): there were a variety of land uses, mostly stores, offices, and studios within the boundaries of this PUD. Many of the commercial uses were daily needs or could act as neighborhood gathering places, including a church and coffee shops. Uses were within walking distance of a great deal of housing that is outside the boundaries, and had many New Urbanist features, such as buildings located right next to the sidewalk, small public spaces and places to sit, and an open lot for community functions. This PUD does not include very much housing, but it clearly is meant to encompass the historic-looking commercial section along North 48th Street. The PUD is also surrounded by housing to the north, east and west. Land uses present are single-family, duplex, group quarters, commercial NEC, light industrial, commercial with residential above, public/semi-public, and public park land. This PUD represents a highly successful land use mix.

3) **Village Gardens PUD (56th Street and Pine Lake Road)** (*Figure 21*): this development has quite a few New Urbanist features scattered throughout, but not uniformly applied. A church and a set of commercial uses are nearby. There are some daily commercial uses, including a coffee shop, bank, nail salon, and a culinary/art studio that offers classes. Most housing is single-family. Many of the single-family is on larger lots with larger setbacks, but some were quite close to the sidewalk with prominent
front porches, garages in the back of the house, alleyways behind, and small setbacks. These are all desirable features according to New Urbanism. Some housing even was clustered together to share a small common area in front. There were also stretches of townhome housing. Overall, many New Urbanist features were present and the neighborhood had a good balance of housing and its own commercial district within walking distance.

4) Van Dorn Acres PUD (84th and Van Dorn Streets) *(Figure 22)*: had mostly single-family with a fair number of two-family and some multifamily dwellings. A church was within the PUD in addition to a school. In most ways, this PUD was a typical suburb in terms of housing, displaying large lots, large setbacks, and garage frontages. Some houses were quite large. Land use mix was fairly segregated, though not along East Pointe Road and High Street. Commercial uses were present in one area along 84th Street and had food establishments.
FIG 17. Focal Results – All Land Uses within Planned Unit Developments (Source for input data: City of Lincoln and Lancaster County Planning Department).
FIG 18. Overlay of Planned Unit Development Boundaries with All Land Use Focal Results for all of Lincoln (Source for input data: City of Lincoln and Lancaster County; City of Lincoln and Lancaster County Planning Department).
FIG 19. Antelope Valley Planned Unit Development (Source: City of Lincoln and Lancaster County Planning Department).
FIG 20. University Place Planned Unit Development (Source: City of Lincoln and Lancaster County Planning Department).
FIG 21. Village Gardens Planned Unit Development (Source: City of Lincoln and Lancaster County Planning Department).
FIG 22. Van Dorn Acres Planned Unit Development (Source: City of Lincoln and Lancaster County Planning Department).
CHAPTER 4: CONCLUSIONS & DISCUSSION

The zoning analysis has revealed that although some aspects of zoning in Lincoln are supportive of mixed uses, there are some barriers to both of the New Urbanist land use principles:

1) Heterogeneity, or a mix, in housing type: the main barriers to housing mix stem from the size and codes for residential zones R-1 through R-3.

2) Placing other uses within walking distance of housing, including mixed use: the main barriers to an overall mix of uses within the neighborhood stem from residential zones that do not permit a broad range of daily uses, and from the housing-only Community Unit Plan.

Specifically, the following barriers have derived from analysis of the results.

1) A great deal of overall land use diversity can be said through visual comparison to be within a half-mile distance of areas of high zone diversity (the meeting of zones), leading to the conclusion that with current Lincoln zoning codes, one of the best ways to achieve a land use mix is to have small-sized zones and a patchwork of different kinds of zones meeting together. The especially large-sized residential zones that dominate the south and east have less relative land use diversity, also supporting this claim. Therefore, a great deal of the overall land use diversity in Lincoln is more a *de facto* result and not the result of the code language itself.
2) Residential land use diversity is not as easily explained in this fashion. Some areas of housing diversity can be explained with zone diversity, but the Downtown is a notable exception, having high zone diversity but only mid-level housing diversity. The swath extending southwest-to-northeast along mid-to-lower Lincoln is also somewhat of an exception; the Community Unit Plan seems to be the main source of housing diversity in that portion.

3) The minimum dimensions for lot sizes and average lot widths do not appear to present significant barriers, other than the fact that minimums and not maximums are used. Maximum rather than minimum lot sizes and widths would better emphasize smaller-lot, denser housing, and would display a greater commitment to traditional neighborhood designs. Larger suburban-style lots are always a possibility when minimum dimensions are used because there is no way to prevent the uncompressed residential densities resulting from larger housing lots.

4) Office and business zones, but not the highway or industrial zones, allow some type of housing as-of-right or by conditional permit, and frequently more than one type. Residential zones, however, allow only a limited spectrum of commercial and public uses, and do not allow mixed-use buildings or accessory dwelling units. Thus, residential zones rather than commercial present the biggest obstacle in terms of excluding a potential mix of overall uses.

5) The R-1 through R-3 zones are problematic because they only allow single- and two-family homes, have larger minimum lot areas and average lot widths, and they cover the vast majority of residentially-zoned land. The only way in which they redeem themselves is through allowing the mobile home by special permit. These zones tend
to be located outward from central Lincoln, where zone sizes are larger. Such marrying of the pivotal factors of exclusion, representation of a large percentage of land area, and the large sizes of the contiguous districts of these zones unfortunately could lend itself to exclusionary zoning situations.

6) The Community Unit Plan is generally successful in creating housing mix. It is responsible for the creation of a great deal of Lincoln’s housing diversity, although some CUPs had low diversity scores. In most cases, the CUP also allows for significantly higher densities than the underlying zoning. However, it cannot create truly mixed-use New Urbanist neighborhoods beyond the limited commercial and public uses already allowed in the zoning code for the zones in which a CUP may be located. In other words, though it is open to many housing types, the CUP still has limited potential for creating New Urbanist neighborhoods.

7) The Planned Unit Development has far more potential for creating true mixed use neighborhoods, but it has not been as widely implemented as the Community Unit Plan. An extremely wide range of uses is available with the PUD. However, a drawback is that the Planned Unit Development density requirements do not depart from those of the CUP and do not go any further in establishing higher maximum densities or more New Urbanist-friendly measurements such as minimum densities or mandated land use mix. The Planned Unit Development, like the Community Unit Plan, still emphasizes the traditional measurements of units per acre and use over form.

8) The Community Unit Plan and the Planned Unit Development have not produced consistently high-scoring diversity ratings across the board, but there have been some
successes. This inconsistency is probably because the provisions, while quite flexible, are not strict, and would be reliant upon the zeal and commitment of the developer to New Urbanism and mixed land uses. Very low-diversity development is clearly just as possible under these flexible processes as high-diversity development.

Current zoning codes function well in creating land use diversity where zones are small and placed in a small-scale “patchwork” pattern. But in areas of the city where there are primarily large residential zones and a resulting lack of a foundational zoning patchwork, notably south and east of the Downtown/Near South, land use diversity seems to suffer. On the other hand, while neither the zoning code nor the CUP consistently favor high diversity of residential uses, housing diversity, mixed-use housing, and dense housing have still managed to succeed in many areas.

Therefore, residential land use diversity is less of a problem in Lincoln than achieving overall land use diversity. However, the rigid R-1 through R-3 zones are also a serious hurdle to the first New Urbanist land use principle, mixed housing. Overall land use diversity within a Lincoln neighborhood is heavily dependent upon the patchwork of zones in order for different types of uses to be within walkable distance. Therefore, there needs to be more of a commitment to either a consistently smaller zoning patchwork that includes a variety of zones, or commitment to opening up all zones (especially the residential zones) to a variety of overall uses as-of-right, if the second New Urbanist land use principle of a mix of uses within the neighborhood is to be achieved.

Lincoln has some problematic areas and regulations, but they are not all problematic, suggesting Lincoln should choose a successful suite of strategies, commit to making them
forceful either across Lincoln or over certain areas of Lincoln, and put both incentives and regulation behind them. Lincoln has a tendency to lapse and deviate from enforcing mixed land uses in some geographic and regulatory instances, whereas in others, mixed land uses are supported. Lincoln could either 1) enforce New Urbanist land use mix across the city and across the zoning code, or 2) commit to using it over certain areas of the city that are already successful or borderline-successful in order to protect them from change in the future.

Currently Lincoln may be described as having multiple personalities, whereby the north, west, and older “streetcar suburbs” have different zone sizes than the rest of Lincoln. In a similar vein, the residential zones are not open to other uses to the degree that the business and office zones are. And the CUP and PUD processes are in place in order that new kinds of development can occur through them, but they do not have strong regulation behind them to ensure that they will consistently create neighborhoods that are not only mixed use, but walkable, equitable, functional, and vibrant, and sufficiently dense.

To summarize, the zoning barriers that have been identified are:

1) Large areas of Lincoln covered by relatively large zones, especially residential zones, combined with

2) A narrow range of commercial and office uses allowed to be created within the residential zones, and
3) Favoring the single- and two-family home in the R-1 through R-3 zones, with no caps on lot size, as well as a lack of support for accessory dwelling units in general;

4) Inconsistent land use mix results from the CUP and PUD processes resulting from softness and lack of New Urbanist presence in their regulations;

5) Presenting a choice between the CUP and PUD allows for development through the CUP that is housing-only rather than a complete neighborhood with a range of different uses.

**Recommendations**

The use of a phasing system would allow for the gathering of public and developer interaction and input for the zoning changes. Phasing would also allow changes to take place over time, gain momentum and popularity, and for change not to be overly abrupt.

The American Planning Association Report, “Codifying New Urbanism,” has an excellent summation of the many possibilities for reforming zoning regulation in terms of New Urbanism (Congress for the New Urbanism 2004). Many of the ideas here were inspired by that report and were chosen because those measures appeared suitable for Lincoln.
Phase 1 (0 to 10 years):

- Hold a number of public hearings about incorporating a commitment to New Urbanism and to form-based codes into key documents in order to gauge the opinions of the public and developers.
- Begin to incorporate New Urbanist language in the Comprehensive Plan and other key documents such as subdivision regulations and the Design Standards to provide a basis and guide for changes to the zoning ordinance.
- Open residential zones to the broadest range of commercial and office uses, excluding only harmful industrial and similarly unsuitable commercial uses that are not a normal daily use, and also open the residential zones to all housing types including accessory dwelling units, as-of-right. Establish maximums for housing lot width and area.
- Open all zones in groups B and O to all housing types, including mixed-use housing, i.e., housing above the first floor, as-of-right.
- Consider consolidating redundant zones within the zone groupings for a more streamlined code as well as for clarity of purpose.
- Maintain the CUP and PUD, but place greater incentives behind the PUD. One incentive could be to implement a fast-track processing time. For both processes, establish special regulations specific to each that require minimum residential densities and maximum lot sizes. Also, require a mix of uses in the PUD in some way, perhaps based on required ratios for housing, commercial, and public space, in consideration of the land uses of existing surrounding development.
Phase 2 (10 to 20 years):

- Transition to using form-based codes either across Lincoln or in certain parts of the city. These codes would regulate both densities and the design of the built environment through bulk provisions, such as setbacks, height, and floor area as well as use, rather than strictly through use. Minimum residential densities can be established along certain types of streets, such as those classified as being more central thoroughfares. For Phase 2, a partial undertaking in which form-based and explicitly New Urbanist codes were used only in some zones would probably work well in Lincoln because it would produce successful case studies that would help to eventually promote New Urbanism as the basis for the entirety of Lincoln’s planning and zoning during Phase 3. Successful case studies would likely be critical talking points for convincing those who are reluctant to support a New Urbanist overhaul.

- Two transitional ideas for implementing form-based coding have been identified for this study. First, a hybrid zoning code similar to that of Flagstaff, Arizona, may be a good option for Lincoln. Flagstaff’s zoning code combines “both form-based components and conventional Euclidean elements” (Eastman et al. 2012, 25). Areas of Flagstaff that are already walkable and urban utilize form-based codes in order to protect them from future devolution caused by Euclidean zoning. Suburban areas of Flagstaff suited more for automobile transportation still continue to use Euclidean zoning. The adoption of a hybrid code in Flagstaff resulted from a growing need to protect the character of the older neighborhoods,
create developments that were more consistent with the city’s general plan, streamline the code, and make the code easier to understand (Eastman et al. 2012, 25-27). A hybrid code may be quite appropriate for Lincoln because it, too, has suburbs that are distinctly different from its older core neighborhoods. Having different regulations for the two would serve the same purposes in Lincoln as it has in Flagstaff. Having a dual zoning code would also serve as more of a transitional middle step to someday increasing the scope of form-based codes across the city. A second similar way to affect zoning change of a less drastic nature would be to utilize the transect classification system as seen in the SmartCode designed by Duany Plater-Zyberk and Company. The rural-to-urban transect system defines varying regulations depending on and made to suit an area’s classification as one of six transects ranging from the very urban to the very rural (New Urbanism 2004, 36-37). In this way, the very suburban character of many of Lincoln’s outer neighborhoods could be preserved to avoid public or development resistance, and the more urban areas would be protected through having their own special set of guidelines as well. In Flagstaff, the transect system was actually used as the model, with some modifications, when designing the form-based coding portion of the code (Eastman et al. 2012, 28).

Phase 3 (20 to 30 years):

- Eliminate the CUP, but maintain the PUD. This way, a mix of overall uses will be prioritized over a mix of housing. While the CUP does provide the valuable housing mix potential, eliminating it in favor of the PUD will further demonstrate...
commitment to true New Urbanist mixed-use neighborhoods. Establish a variety of regulations specific to New Urbanism in addition to a mix of uses in order to ensure a consistently New Urbanist result and prevent developments from straying from the desired result. Allow some flexibility and creativity, but ensure that the most important New Urbanist elements are requirements. Allow the PUD to be a residential-only development under certain conditions, such as where there is a great need for more housing in the area or maintenance of housing to balance a large existing amount of commercial where more stores and offices would not be needed.

- Implement form-based codes across all of Lincoln. Advocate New Urbanism as the guiding principle for planning in Lincoln. Commit to facilitating a mix of uses and housing types within every Lincoln neighborhood. Develop strong regulations and incentives to ensure that development takes place in a New Urbanist fashion, especially as piecemeal redevelopment of the outer suburbs begins to occur.

Lincoln’s ability to attract and generate economic growth is partially reliant upon the city being a vibrant, interesting place where people want to work and visit. Lincoln will not increase its “destination” appeal and set itself apart from other typical American cities if it has segregated uses and deserted sidewalks, or if it allows the vibrant areas that do exist to become activity deserts because of poor land use policies. Lincoln’s smaller size and the draws of its status as the state capital and especially as a college town mean that it
is more than ready for the commitment to offering mixed-use New Urbanist developments in many of its areas, and that those areas will likely be quite successful.

**Further Research**

Directions for further research would first include expanding the study to not only examine housing type, but housing price, which constitutes another kind of housing diversity measure. Affordable housing is a major component of the New Urbanist neighborhood, and cannot be estimated based on housing type alone.

Another valuable direction in studying the relationship between land use policy and the potential for New Urbanist development would be the analysis of other relevant policy documents in addition to the zoning ordinance, including subdivision regulations and the comprehensive plan. In particular, it would be interesting to see how land use mix goals are articulated in the comprehensive plan, to what degree land use mix is promoted in the comprehensive plan, and whether current planning policy supports those stated goals.

**Contribution**

The contribution of this research has been an evaluation of zoning in Lincoln and the identification of barriers in zoning regulation to the facilitation of New Urbanist land use principles. Identifying these barriers has allowed for targeted changes to be recommended that will encourage a better mix of housing types and more closely located
commercial, public, and housing uses. Lincoln is overdue for a comprehensive reevaluation of its zoning ordinance, so that the entire city, not just certain areas such as the Downtown, has the opportunity to become more livable and equitable. Lincoln needs to commit to zoning for the quality of life of its residents and take the lead on larger-scale progressive planning instead of thinking narrowly and allowing developers too much freedom to determine what the city will look like. This study provides an example of how policy analysis and GIS can be used in tandem to gain a picture of how land use policy is impacting the built environment. This paper has demonstrated how zoning regulation can further New Urbanist goals for land use, and how New Urbanist theory can be applied through policy.
References


City of Lincoln and Lancaster County Planning Department. Planning Department. Shapefile for Community Unit Plans and Planned Unit Developments. Received via email (April 11, 2012).


Garrett, Brandon. 2012. E-mail messages to author. May 14 and May 16.


APPENDIX I: EXISTING LAND USE INVENTORY CODING

CONVENTIONS

Existing Land Use Inventory Coding Conventions

<table>
<thead>
<tr>
<th>CODE</th>
<th>SUB</th>
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<tbody>
<tr>
<td>11</td>
<td>Detached Single Family</td>
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<tr>
<td>12</td>
<td>Duplex</td>
</tr>
<tr>
<td>13</td>
<td>Attached Single Family (Townhouse)</td>
</tr>
<tr>
<td>14</td>
<td>Apartments / Multi-Family (w/ #units)</td>
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<tr>
<td>15</td>
<td>Group Quarters</td>
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<tr>
<td>16</td>
<td>Special Housing</td>
</tr>
<tr>
<td>21</td>
<td>Commercial NEC</td>
</tr>
<tr>
<td>22</td>
<td>Commercial w/ Residential Unit(s) Above</td>
</tr>
<tr>
<td>23</td>
<td>Parking Lot (PL)</td>
</tr>
<tr>
<td>24</td>
<td>Parking Garage (PG)</td>
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<tr>
<td>31</td>
<td>Light Industrial</td>
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<tr>
<td>32</td>
<td>Heavy Industrial</td>
</tr>
<tr>
<td>33</td>
<td>Utility Facility (e.g., communication tower, sub-station)</td>
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<tr>
<td>34</td>
<td>Railroad</td>
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<tr>
<td>35</td>
<td>Airport</td>
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<tr>
<td>41</td>
<td>Public and Semi-Public NEC (e.g., YMCA, cemetery)</td>
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<tr>
<td>42</td>
<td>Educational Institution</td>
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<tr>
<td>43</td>
<td>Church / Synagogue / Temple</td>
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<td>44</td>
<td>Hospital</td>
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## Existing Land Use Inventory Coding Conventions

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**Parks and Open Space**

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<tr>
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<td>Park Land</td>
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<tr>
<td>52</td>
<td>Open Space</td>
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<tr>
<td>53</td>
<td>Golf Course</td>
</tr>
</tbody>
</table>

- **51** Park Land
  - 1 Public
  - 2 Private
- **52** Open Space
  - 1 Public
  - 2 Private
- **53** Golf Course
  - 1 Public
  - 2 Private

**Environmental and Natural Areas**

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<tr>
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<td>Lake</td>
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<tr>
<td>62</td>
<td>Stream / Creek</td>
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<tr>
<td>63</td>
<td>Wetland (land not in other active use)</td>
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<tr>
<td>64</td>
<td>Environmental Preserve (e.g., Nine Mile Prarie, Audobon)</td>
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<tr>
<td>65</td>
<td>Forest / Woodland</td>
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**Right of Way**

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<tr>
<td>71</td>
<td>Public Right-of-way</td>
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<tr>
<td>72</td>
<td>Vacated ROW (retained by public entity)</td>
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**Agricultural**

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<tr>
<td>81</td>
<td>Agricultural Production: Crops / Tree Farm</td>
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<tr>
<td>82</td>
<td>Agricultural Production: Livestock / Animal / Feed Lot</td>
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<tr>
<td>83</td>
<td>Mining and Extraction</td>
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<tr>
<td>84</td>
<td>Pasture / Grassland</td>
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**Undeveloped Land**

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<th>SUB</th>
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<tbody>
<tr>
<td>90</td>
<td>Vacant Land</td>
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APPENDIX II: SITE VISIT PHOTOGRAPHS

Community Unit Plans

Site 152 (West A and 11th Streets)

1. Smaller setbacks

2. Smaller setbacks; front porches
3. Smaller lots and setbacks; recessed garages

4. Communal green space located behind housing
5. Communal outdoor space located behind housing

6. Trail connectivity through center of neighborhood
Site 56 (North 1st Street)

7. Mobile home area

8. Two-family housing with prominent garages
9. Two-family housing, again, with pronounced garage frontages

10. Single-family housing
Site 134 (near 70th and A Streets)

11. Single-family housing; large lots and setbacks

12. Two-family housing
13. Single-family housing; large lots and setbacks
Site 215 (27th Street and Old Cheney Road)

14. Multifamily housing

15. Two-family housing
16. Single-family housing; somewhat smaller lots and setbacks
Planned Unit Developments

Antelope Valley Planned Unit Development (22\textsuperscript{nd} to 24\textsuperscript{th} Streets between P and R Streets)

17. Commercial uses along Q Street

18. New housing development in progress at 24\textsuperscript{th} and P Streets
University Place Planned Unit Development (North 48th Street)

19. Commercial uses

20. Public seating space
21. Neighborhood communal space (location of farmer’s market)

22. Small setbacks; housing above commercial uses
23. Alleys behind buildings
24. Grocery store (example of a daily destination)

25. Neighborhood school
Village Gardens Planned Unit Development (56th Street and Pine Lake Road)

26. Single-family housing; small setbacks and prominent front porches

27. Single-family housing facing a communal green space
28. Small setbacks and lots

29. Alleyway network behind housing
30. Townhomes

31. Townhomes
32. Community garden
Van Dorn Acres PUD (84th and Van Dorn Streets)

33. Good Shepherd Presbyterian Church

34. Neighborhood school
35. Single-family housing

36. Single-family housing
37. Two-family housing