Rural Planning and Zoning Adoption in the United States

Joanna Marie Paulson

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

Master of Urban and Regional Planning

C. Theodore Koebel, Committee Chair
Heike Mayer, Committee Member
Jesse Richardson, Committee Member

April 19, 2005
Blacksburg, Virginia

Keywords: Rural planning, comprehensive plan, zoning ordinance, process of adoption

Rural Planning and Zoning Adoption in the United States

Joanna Marie Paulson

ABSTRACT

Planning literature in the United States focuses heavily on urban centers. However, the 2000 Census considers one-fifth of America's population to be rural. To adequately plan for this portion of the American population requires an understanding of the strengths and barriers to planning in rural areas. Such an understanding is noticeably absent from current planning literature. Therefore, this thesis seeks to determine what factors influence the adoption of comprehensive plans and zoning ordinances in rural counties in the United States. Through an evaluation of variables pertaining to urban hierarchy, institutional factors and political processes, two independent variables stand out. For both comprehensive planning and zoning, legislation mandating adoption and higher median household incomes both encourage adoption and show statistical significance. The percentage of the county's work force that works within the county (versus commuting) also positively correlates with zoning ordinance adoption and is statistically significant. In addition to clarifying the processing of planning and zoning adoption in rural areas, this study also provides a review of state planning and zoning statutes and reports primary research on the frequency of land use planning tools in rural America. This study highlights the need for a better understanding of rural planning in general and in particular the political structures and processes in rural areas.

Table of Contents

Tables and Figures

Acknowledgements

I would like to thank my committee members for their guidance and support throughout this study. Your input has greatly improved my thesis and my understanding of both the research process and planning. Especially, I would like to thank Dr. Koebel not only for his guidance throughout the thesis process, but for his unwavering support and guidance over the past two years. My experience at the Center for Housing Research has greatly enhanced my graduate school experience and prepared me for my future studies. I cannot thank you enough for the opportunities you have granted to me.

I would also like to thank my family and my fiancé for their unending support of my goals and their faith in God's plan for my life.

1.0 Summary

This study seeks to determine the factors influencing the adoption of land use planning in rural counties in the United States. Land use planning is primarily evidenced by the adoption of comprehensive plans and their implementation through zoning ordinances. Consequently, this study examines the factors associated with the adoption of comprehensive plans and zoning ordinances. Using a defined set of criteria, 181 counties from 49 states were selected for study. Data deemed important by a review of academic literature was collected into a database and analyzed using SPSS. Generally, the academic literature delineates three systems through which comprehensive plan and zoning ordinance adoption occur: the urban hierarchy, institutional factors and political processes.

Urban hierarchy literature suggests that population centers and advanced economies tend to adopt planning and zoning at increased rates. Population size and the percentage of the population employed in agriculture, manufacturing and services (measuring economic complexity) measure the effects of the urban hierarchy. Institutional factors encompass primarily legal parameters—state statutes mandating, conditionally mandating, making optional or not enabling planning and zoning at the county level. Regionalism also falls into this system, though it is difficult to measure quantitatively. Micropolitan county status serves as a proxy for economic regionalism, and is expected to be positively correlated to comprehensive plan and zoning ordinance adoption. Several types of regionalism exist; however, types other than economic regionalism require qualitative measurement. Finally, political processes, meaning the influence of various social structures on the adoption of planning and zoning, form the

third section of the literature review. Four independent variables fall into the political processes section: proximity to an urban center, median household income, the percentage of the county's workforce employed in the home county (versus commuting to another county to work), and population size. Proximity to an urban center partially determines the type any given jurisdiction—urban, suburban, or rural. The literature depicts distinct political phenomena in each type of jurisdiction. Median household income measures the socioeconomic status of a jurisdiction, which is one of the major determinants of political power in rural areas. Where residents lack power in rural governments, corporations can control government. The percentage of workers employed in the home county measures the extent to which corporations inhabit the county. The same measure helps to distinguish various types of suburbs, as well. Population size also measures residents' political power, according to the literature. Urban proximity and population size both portend positive affects on adoption rates. Either increased median income or a larger percentage of workers employed in-county can positively influence plan and ordinance adoption rates. One scenario represents business elites demanding government support through planning, while resident workers with low incomes carry little political power. In the alternative scenario, wealthy homeowners in a residential (non-employer) county protect land values through interest group politics.

The research reported here partially supports the political structure and institutional factors hypotheses, but does not support the urban hierarchy hypothesis. Both median household income and mandatory adoption legislation consistently are positively correlated with comprehensive plan and zoning ordinance adoption. For the

first dependent variable, comprehensive plan adoption, both the institutional factors system and the political processes system show moderate statistical goodness-of-fit (R-square) values and contain variables with statistically significant coefficients (legislation mandating planning adoption and median household income). However, the current research fails to support the full expectations of the political processes model. Counties with higher incomes *and* higher within-county employment percentages brought increased adoption rates. For the second dependent variable, zoning ordinance adoption, only the political processes model shows moderate goodness-of-fit. Like the comprehensive plan analysis, political processes affecting zoning ordinance adoption in rural areas do not function as the urban planning literature theorizes.

These results highlight the disconnect between urban planning literature and rural planning processes. Clearly a better understanding of development and planning practice in rural areas is needed. The empirical results do not explain why population size is not a significant variable for adoption. Finding other measures of regionalism, and data to evaluate those variables, is also clearly needed for rural areas.

This study raises several questions regarding rural planning. Neither agricultural development nor urban planning adequately addresses the process of government-led planning for rural America. This study, rather than defining the process of planning in rural America, sets up the framework for further study that can uncover the relevant processes and trends in rural areas.

1.1 Introduction

Along the rural roads leading away from Asheville, North Carolina, signs clearly indicate to passersby the local perspective on planning and zoning. In bright red letters the signs read "NO ZONING!!" Planning history provides extensive theories explaining the process of comprehensive plan and zoning ordinance adoption in urban areas. However, the existing rural planning literature leaves the signs outside of Asheville unexplained. This study therefore seeks to determine the factors influencing the adoption of comprehensive plans and zoning ordinances in rural counties.

Originally this study considered only counties in Virginia and West Virginia. However, state planning and zoning legislation plays too large a role in the probability of adoption to consider only two states. Therefore, the study expanded to include a national sample. Using narrowly defined criteria, 181 counties from 49 states (all but Rhode Island) constitute the sample. These counties all represent populations at least 40% rural (as defined by the Census). The Census classifies nearly all of the 181 counties as not within metropolitan regions. The populations of these counties range from a few hundred people to slightly less than 200,000 residents. Although ultimately a small number of the counties could not be included in the analysis, the large number of counties considered provides both a large sample size and provides regional and state heterogeneity.

Chapter two provides a literature review of relevant academic work. Academic literature generally provides a theoretical framework for the process of planning and zoning adoption in urban areas. The literature discussing rural causes to adopt or reject planning and zoning provides mostly a list of qualitative variables that lie beyond the

scope of this project. Because this project includes only a quantitative analysis, theory from non-rural planning literature entered the review. Thus, to some extent, this study not only evaluates the factors influencing the adoption of planning and zoning, but also tests the applicability of suburban and urban theory to empirical trends in rural planning.

Generally, academic literature provides three systems through which the adoption of planning and zoning occurs in urban settings: the urban hierarchy, institutional factors and political processes or structures. In general, urban hierarchy literature suggests that urban centers and advanced economies tend to adopt planning and zoning at increased rates. Population and the percentage of the population employed in agriculture, manufacturing and services measure the effects of the urban hierarchy.

Institutional factors encompass primarily legal parameters—state statutes mandating, conditionally mandating, making optional or not enabling planning and zoning at the county level. Institutional regionalism also falls into this system, though it is difficult to measure quantitatively. Micropolitan county status serves as a proxy for economic regionalism, and is expected to be positively correlated to plan and zoning ordinance adoption.

Political processes includes proximity to an urban center, median household income, population and the percentage of the county's workforce employed in the home county (versus commuting to another county to work). Urban proximity and population are both expected to positively affect adoption rates. Either median income or the percentage of workers employed in-county can be positively correlated with plan and ordinance adoption rates. One scenario represents business elites demanding government support through planning, while resident workers with low incomes carry little political

power. In the alternative scenario, wealthy homeowners in a residential (non-employer) county protect land values through interest group politics.

Chapter three presents the methodology by which these academic theories are tested using empirical data for rural counties. This chapter includes the selection criteria for the counties, definitions of acceptable comprehensive plans and zoning ordinances and the data source for each of the independent variables discussed in Chapter two. All of the independent variable data is publicly available online. The majority comes from the 2000 Census. Legal parameter data, however, was compiled using American Planning Association publications and through an investigation of state statutes regarding planning and zoning laws. Most of the states required the latter method—manual investigation of state statutes. The dependent variable data, although legally available to the public, is not accessible to the public. All but about forty counties required telephone or email communication to collect the dependent variable data. This process is not only laborious, but introduces a human error term that is probably significantly higher than the error associated with Census data. Finally, although the research question demands a complete qualitative study including in-depth interviews with residents and political leaders in the rural counties, that work lies outside the scope of this paper.

Chapter four presents the results of the binary logistic regression analysis performed on the compiled data. Results are discussed independently for comprehensive planning adoption and zoning ordinance adoption and the three systems are broken out for each dependent variable. Overall, median household income and legislation mandating the adoption of comprehensive plans and zoning ordinances prove to be the

only consistently statistically significant variables. Chapter four concludes with a summary and questions for potential future research.

Appendix A presents the output from the binary logistic regression discussed in Chapter four. Appendix B provides the database compiled and used for analysis. The permissions from Sage Publication for the reproduction of Figure 1 appear in Appendix C. This document concludes with the investigator's curriculum vita, found on page 130.

2.0 Literature Review

*"It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For the reformer has enemies in all those who profit by the old order and only lukewarm defenders in all those who would benefit by the new order, this lukewarmness arising partly from fear of their adversaries, who have the laws in their fa*vor; *and partly from the incredulity of mankind, who do not truly believe in anything new until they have had actual experience of it." Niccolo Machiavelli*

As La Glory explains, "Ultimately, all changes in the physical and social structures of the city flow from human decisions. These decisions may be made by individuals responding to long-established traditions and customs or to social pressures to conform or seek profit, or they may be group decisions or the edicts of autocratic governments" (1981, p. 75). La Glory's statement generally reflects the much broader literature describing the process of comprehensive plan and zoning ordinance adoption in urban areas in the United States. La Glory, and the wider field of academics, generally delineates three systems through which adoption occurs: the urban hierarchy, institutional factors and political processes.

The plethora of growth theory in economic development literature brings forth the first category of factors, the urban hierarchy. Essentially, larger population centers demand a higher specialization of public services to accompany the specialized consumer services and industrial economy. In turn, these jurisdictions are more likely to adopt planning. Second, institutional factors including legislation and regionalism will be evaluated, finding that legislation plays an influential role in planning and zoning adoption while the literature on regionalism suggests a weaker but positive correlation between regionalism and implementation. Finally, political movements and political

climate influence planning adoption. The literature presents a systematic view of political environments and corresponding political structures in cities and suburbs.

The following literature review summarizes what is known and what is unknown about how these categorical factors relate to rural planning and zoning adoption, beginning with the urban hierarchy.

2.1 Urban Hierarchy

"Urban planners often claim that the geographical scale of a planning jurisdiction will correlate with its success." Paul G. Lewis

La Glory (1981) and Marx provide an economic explanation of government's role in planning in the urban hierarchy. Both La Glory (drawing from Adam Smith) and Marx (Sawers, 1984) observe that free market private enterprises supply the profitable aspects of urban development. The unprofitable but necessary aspects of urban development are left to the public sector. La Glory discusses this in terms of market failure, Marx in terms of socializing the costs of capitalism. Regardless of the nuances, the role of the public sector remains the same: provision of the factors of a high-order economy that the private sector cannot accommodate. A higher-order economy is one of two things: a large population center or a complex economy. The following section explores these two aspects of high-ordered places and the extent to which they demand government-led comprehensive planning and zoning.

Population Centers

Many urban planning theories position population centers at the center of innovation (Product Cycle Theory, Richard Florida's *The Rise of the Creative Class*

(2002)), growth (Growth Pole Theory, Unbalanced Growth Theory, the Theory of Cumulative Causation), higher-order consumer goods and services (Central Place Theory, hierarchy analyses), government services for industry (Growth Machine Theory, Marxism) and income generation (Product Cycle Theory, Theories of Flexible Production).

As it relates to the implementation of comprehensive planning and zoning, the relationship between population centers and the provision of higher-order government services begins with an analysis of Central Place Theory. Originally, central place theory attempted only to project a city-size distribution for nations based on a "rank-size rule". As the theory evolved (Palm 1981, Noyelle and Stanback 1984, Pred 1976), a better quantitative model and theoretical application developed. The theoretical side states that consumer goods widely demanded can be supplied to the smallest unit of population base. As per capita demand decreases, larger population centers are required to attract distribution of that good. Later, the theory shifted focus to service provision. Noyelle and Stanback (1984) defined "command and control" highest-order cities as places which provide all facets of producer, consumer and inner-regional to international trade services. Within this spectrum, local governments become more developed and more intertwined in the economy and in the creation of infrastructure. (Malizia and Feser, 1999) The statistical research on Central Place Theory says little about the correlation between central place and comprehensive planning or zoning in particular. The theory extends only to say that consumer goods and services and governments become more extensive in population centers.

In Central Place Theory, "each urban center is supported by a series of smaller places that provide resources (industries and raw materials) to the central place, which is more specialized and productive. These smaller places are in turn surrounded by even smaller places that supply and are markets for the larger places. The urban center contains specialized retail stores that serve the entire region." (Noyelle and Stanback, 1984, p. 7).

Throughout the 1970s and 1980s, Hierarchy Analysis was created using very similar theory of a hierarchy centering on urban areas and spreading down into surrounding rural areas. In this analysis, a locality's placement on a population spectrum defines its place along the Scale of Centrality. Figures 1 shows this type of analysis. The figure makes clear the hypothesized link between population size and the likely provision of government services. In this model, for example, Nob Hill's population size supports a youth recreation center and senior services, but does not support children services. Similarly, Fruitvale supports community organizing services, but North Beach does not. Notice that community organizing services exist only at the top of this hypothetical hierarchy.

Based on this and other hierarchy theories, population provides one of the independent variables in the quantitative model for this study. The theory provides that larger population centers are more likely to have higher order government services and consumer services. Although none of the urban hierarchy literature specifically mentions comprehensive planning and zoning, the pervasiveness of population size throughout planning theory and the literature on the provision of government services warrants its inclusion in this study. In the rural counties in this study, populations range from a few

hundred to nearly two hundred thousand. Therefore, this variable fails to reveal service levels among urban centers, but tests the population level at which planning and zoning become a standard part of county government.

	Fruitvale	*North Beach*	*Adams Point*	*Southside*	*Paradise Park*	*Dimond*	*Nob Hill*	*Russian Hill*	*Castlemont*	*Northeast I*	*Mosswood*	*Belding Woods*
Youth recreation center	1	1	0	1	1	1	1	0	0	0	0	0
Senior services	1	1	0	1	1	1	1	0	0	0	0	0
Children services (including day care)	1	1	0	1	1	0	0	0	0	0	1	0
Advocacy services	1	0	1	1	1	0	0	1	0	0	0	0
Youth services/ counseling	1	0	1	1	0	0	0	0	0	0	1	0
Adult education	1	1	1	0	0	0	0	1	0	0	0	0
Employment and training	1	1	1	0	0	0	0	0	0	1	1	0
Legal services	1	1	0	0	0	0	0	0	0	0	0	0
Mental health	1	1	0	0	1	0	0	0	0	0	0	0
Community health clinic	1	1	0	0	0	0	0	0	1	0	0	0
Community organizing services	1	0	0	0	0	0	0	0	0	0	0	0
Library	1	0	0	0	0	1	0	0	0	0	0	0
Food bank	1	0	0	0	1	0	0	0	0	0	0	0

Figure 1: Hierarchy Analysis
Reproduced with permission from *Planning Local Economic Development*, 3rd ed. Edward Blakely and Ted Bradshaw, 2002: p. 119.

Economic Complexity

While population size may influence service provision in rural areas, so may economic complexity, which can vary regardless of population. The term "economic

complexity" falsely implies a diverse industry base. Although a diverse industrial base provides one measure of economic complexity, three other measures also come forth. The first, the waves of economic development entail, briefly, (1) business attraction; (2) business attraction plus the retention and expansion of existing businesses and incubating new businesses; and (3) cluster development within regions. Typically, moving away from the first wave moves away from smokestack chasing. Movement to the third wave equates to moving towards the new economy—an economy highly dependent on knowledge, innovation and global markets. (Blakely and Bradshaw, 2000) Although judging a county's placement in the waves of economic development allows policy recommendation formation, its use as a quantitative variable in planning and zoning adoption is made difficult by data availability and standardized measurement techniques. Furthermore, the waves theory focuses on industrial recruitment rather than the composition of the economy or the structure or capacity of the government.

Second, occupational composition provides a measure of economic complexity in much the same perspective as the waves of development. By considering the transition from primary production to secondary products to professional and service occupations, occupational composition measures to some extent the industrial diversity of an area. More accurately, however, occupational composition measures the extent to which rural counties mirror post-industrial cities' economic structure.

A better reflection of the modernization or urbanization of rural economies is shown through a measure of employment in agriculture, manufacturing and services. Malizia and Feser support this point: "the places of highest order are the centers of command and control, places some observers would associate with world-class

cities….Centers of production, distribution, and consumption follow in decreasing order of importance" (2000, p. 97-100; see also Noyelle and Stanback (1983)). This ranking of jurisdictions based on a hierarchy analysis again fails to hypothesize specifically on the adoption of planning and zoning. Instead, the economic complexity ranking sets up a hierarchy based on sector composition of employment rather than population size. Following Malizia and Feser's lead in demoting centers of production, distribution and consumption, this study employs the hypothesis that high percentages of employment in agriculture, manufacturing and service employment correlates to lower rates of comprehensive plan and zoning ordinance adoption. Using employment in agriculture, manufacturing and service sectors, each rural county in the study can be placed on a "rural hierarchy" modeled after urban hierarchy theory.

The following list summarizes the independent variables and hypotheses gathered from this portion of the literature:

- Population size: areas with larger populations will more frequently have comprehensive plans and zoning ordinances.
- Less economically complex counties, as measured by the percentage of employment in farming, manufacturing and services, will less frequently adoption comprehensive planning and zoning.

2.2 Institutional Factors

"One of the important traits of a state planning law is if it requires local governments to conduct land-use planning. If the legislation does not mandate planning, local communities can ignore the state's best intention to implement planning." Rodney L. Cobb, 1998, p. 23.

Literature on institutional factors spans primarily legal parameters and regionalism. Although local, state and federal governments provide little quantitative data on regionalism, it appears to be quite significant for the functioning of planning and zoning adoption.

Legal parameters constitute the majority of the institutional factors system. The most obvious parameter is the legal ability of county government to implement comprehensive planning and/or zoning. "It is generally held that local units of government have no power to enact zoning ordinances in the absence of express enabling authority. This authority may be delegated by (1) a provision in the state's constitution (rare); (2) an enabling statute; or (3) a provision in the municipal charter" (Wright and Gitelman, 1997, p. 796). A few cities began using planning and zoning early in the twentieth century. Most notably, New York City adopted a zoning ordinance in 1916 (New York City Department of City Planning). The Standard State Zoning Enabling Act (SZEA), the most common model used by counties to plan and zone, was introduced in 1921. This model has evolved since that time, though states have not adapted the updated legislation at equal rates (Cobb, 1998). Some states never adopted it at all.

Indeed, states present a large variation in enabling legislation. Some states not only permit jurisdictions to plan and zone, they require them to do so. Virginia, for example, requires comprehensive planning but not zoning. In bordering West Virginia, state statute requires neither planning nor zoning. In some states (most notably those in

New England), towns and cities, rather than counties, carry the responsibility to plan and zone. In other states, only counties or cities with populations over set thresholds are required to plan. Other states require counties to plan only when a planning commission has been voluntarily established. In states where counties have very little authority (New England and in Texas), counties can typically serve only an advisory role in the planning process and cannot act as a central management hub for planning within the county. Planning legislation provides the most clear cut determinant of whether a county will plan or not, in the cases where it is required or not permitted. Although it lies beyond the scope of this project, the factors influencing a state's likelihood to adopt planning and zoning legislation (mandatory, conditionally mandatory, etc.) may provide further insight. In cases where legislation enables but makes planning optional or conditionally mandatory, legislation may play a weaker role.

The institutional factors system also includes regionalism's contribution to planning and zoning adoption. According to planning theory, regionalism affects localities in specific ways. First, regionalism changes the political momentum of smaller jurisdictions. In a region, the median resident of the region dominates the political constituency, instead of the median resident of each town, which dominates smaller governments. In this perspective, regionalism weakens local voices. By forcing cooperation among jurisdictions (in an urban-suburban region), regionalism can more effectively protect central business districts and can plan residential development in a more organized, less haphazard way than politically fragmented areas achieve. (Lewis, 1996)

Regionalism comes in many forms, including councils of governments, regional development commissions, regional business associations, economic regionalism, regional tax sharing, regional fair share housing regimes and other forms of regionalism. All but one of these forms of regionalism require qualitative measurement or primary data collection. Publicly accessible data provides measurement of only economic regionalism. In this type of regionalism, geographic areas act as one market for labor or other resources. Micropolitan county status, as defined and provided by the U.S. Census Bureau, groups counties based on just those criteria—labor markets, economic and social integration.[1] Micropolitan county status provides an imperfect proxy for economic regionalism, as it indicates nothing about government relations, policy implications or community involvement in governance. However, at present, micropolitan county status provides a publicly accessible measure of economic regionalism. Theoretically, due to size, economy of scale, the strengthening of central business districts and other benefits, regionalism will positively influence adoption.

Literature provides hypotheses on the role of regional government and regional business associations, which could be included in future qualitative study. Regional government, as explained by Foster, fails in political accountability and participation, which, she also finds, work better in smaller jurisdictions. She also finds that areas reject regional government when it "jeopardizes local land use prerogatives" (2001, p. 1). On the other hand, regionalism can help rural areas by reducing service duplication between areas, sharing labor, capturing spillovers and realizing economies of scale. As it relates to rural comprehensive planning and zoning, where rural areas have accepted regional

[1] Micropolitan county classifications are given by the U.S. Census Bureau to be counties with population clusters of at least 10,000 people but not more than 50,000 people. More details can be obtained at http://www.census.gov/population/www/estimates/aboutmetro.html.

governments, it is likely that they will be able to implement planning and zoning more efficiently than rural counties without this type of collaboration.

Kanter looks at a second type of institutional regionalism—regional coalitions of business leaders. Kanter explains that "The role and contributions of business coalitions vary with regional circumstance; they are more important during times of industrial transformation or when other institutions, such as higher education, are weaker" (2000, p. 157). She claims that business coalitions form regional quasi-government, aiding economic competitiveness and other issues. Like regional government, regional business coalitions will increase the likelihood of planning and zoning implementation when certain criteria (i.e. low education attainment and industrial transformation periods) are met. As Kanter explains, these conditions lead to effective regional business coalitions because a need for leadership is created.

The following bullet points summarize the independent variables from the institutional factors literature:

- Economic regionalism, as measured by micropolitan county status, is expected to positively influence the adoption of planning and zoning.
- Legal parameters, measured by state statutes, are expected to strongly correlate to planning and zoning adoption.

2.3 Political Movements

"National surveys and focus groups indicate that for many people the public sector is associated with politics, and politics is the enemy of change." Rosabeth Moss Kanter, 2000, p. 169.

Political movements, also termed "political processes" and "political structures," in the context of this study means the influence of various social structures on the adoption of planning and zoning

As Sawers states, "Although 'public opinion' normally means the opinions of newspaper editors and politicians who are quoted by the news media, strongly felt positions of the working class *can occasionally affect the political process"* (emphasis added, 1984, p. 8). Sawers and others sharply contrast the ideology of grassroots political movements. Sawers' cynicism is applicable to all jurisdictions, however. As Beauregard states, "The particularities of place are patently obvious when one considers the role of community groups as agents mediating the formation and restructuring of the built environment" (1989, p. 265). The following sections review the role of public opinion and political processes in the implementation of planning and zoning. This section first considers local business and residential associations. These associations mirror the regional organizations discussed in section 2.2. However, local business and residential associations are, by definition, local and political, and therefore distinct from the regionalism and institutional factors discussion. Ultimately, local business and residential association information cannot be considered in this project due to the unavailability of quantitative data. The final portion of section 2.3 discusses political climate, its causes and its effects on rural planning and zoning implementation.

Local business associations

Anecdotal observations of one small Appalachian town highlight the political importance of local business associations. In this town, locals revere the old high school (now office space) as a permanent mark of victorious local athletics and the architectural gem of the downtown. The school stands at the head of the downtown, which fifteen years ago contained a Murphy's dime store, men's and women's clothing stores, a senior citizens' high rise, a shoe repair shop, several restaurants, several florists, several churches, two bookstores, a hotel, the public library, two banks, a drug store and several other establishments. Then in 1997 a Wal-Mart opened a few miles down the road, past but close to the city limits. In 1998, the old high school closed and the new school opened, just past the Wal-Mart. A new apartment complex opened next to the Wal-Mart. The old golf course next to the new apartment complex was purchased for conversion to large, single-family homes outside the city limits. Downtown shop owners had two choices at this point: form an association acting to preserve and revitalize the downtown, or move into the new business area with everyone else.

The first option relies on grassroots political organization. Gibbs, a national retail expert, writes on the characteristics of attractive store fronts, the needs of shoppers and the political necessities of retail revitalization. (Quoted in Fitzgerald and Leigh, 2002, p. 135) As Fitzgerald and Leigh report, "Strong grassroots support is emphasized by Gibbs and others as important to the retail revitalization strategy. The formation of a merchant's association can be one form of grassroots support" (2002, p. 135). A merchant's association must then persuade the city to provide incentives for growth in the downtown instead of on the fringes of town. While this town's merchants may belong to

the Chamber of Commerce, the relationships are not in place to persuade the city or other political actors to bring attention to the downtown.

The political effects a local business association may have on the implementation of comprehensive planning and zoning are, like regional business associations, a qualitative variable and a quantitative variable without available data. Therefore, the political effects of local business associations, as outlined above, will not become part of this study, although the literature suggests that local business associations probably have a positive correlation with planning and zoning implementation in a county or town.

The political actions of residential associations (homeowners and neighborhood associations) in rural areas stem from perspectives like the following: "'If I buy some land, I think I ought to be able to do what I want on it,'" which, as Fuguitt, Voss and Doherty explain, "no doubt reflects a widespread, well-known rural attitude. It is such attitudes that prevent implementation of planning in nonmetro areas" (1979, p. 78). For several reasons, in rural areas, residential associations are likely to form, but are unlikely to wage an effective campaign against development led by residential developers, industrial corporations or political figures. Residential associations, however, have countered planning implementation and may therefore play a substantial role in this study. Unfortunately, no publicly accessible data on residential associations exists. Residential associations, therefore, cannot be considered in the quantitative study.

The likelihood of residential associations to form, act and succeed is based on many factors, not least of which is the political structure of an area. Logan and Molotch, Wilson, and Beauregard set up these typologies and theories, as the rest of this section discusses. (See also Beauregard, 1989, p. 265-268)

Political climate and structures

The academic literature on political climate, as it relates to planning and zoning implementation provides the most detailed and quantifiable measures of political factors. The review of political climate begins with the differences between urban, suburban and rural areas, providing insight into how political factors affect planning in rural areas differently than in urban areas, from which most planning literature is drawn. The section closes with a list of development typologies contingent on place distinctions.

Sawers describes the historical role of planning in urban areas: "The first city planners in this century in the United States were not government officials but were in the employ of private capital….A group of downtown business interests had banded together to develop the legislation which would discourage industry and the workers it employed from encroaching on the prime real estate of the central business district" (1984, p. 11). Marx and Logan and Molotch have developed theories in line with this historical perspective. Logan and Molotch believe that urban change comes primarily, if not entirely, from the urging of the business elites, which constitute the "Growth Machine" (1987, p. 153) and that government does little to affect the urban form. Marx's perspective varies slightly, believing that the urban political arena is set by "the conflict of class interests associated with the contemporary mode of production" (Markusen, 1984, p. 92). Marx's view provides more space for the working class voice, but is still dominated by the power of higher classes. In both views, capitalism has always been the game and large developers have always mattered most. Despite the occasional powerful voice of grassroots politicizing and urban residential associations, capitalism drives the urban political climate literature. In this light, planning and zoning are likely to occur in

urban areas, but at the service of capitalism. For this study, this means that planning and zoning are more likely to occur in the more urbanized rural areas, where large developers and larger scale economies play significant roles.

Suburban areas are characterized in one of two ways: industrial/commercial suburbs or residential suburbs. Historically industrial and commercial suburbs came first. At the turn of the twentieth century, industrialists began moving to the periphery of cities. Up until this point, cities had successfully annexed this land when desired, but as industrialists saw that they could avoid urban fiscal responsibility and social reform, they actively aborted the lawful annexation of suburban rings. (Sawyers, 1984, p. 8). In the areas where industry still reigns in the suburbs, the corporate players continue to dominate the political arena. In residential suburbs, on the other hand, Lewis (1996) depicts an area dominated by a homeowners' refusal of dense development, backed by high incomes and a desire for little non-residential growth. These areas tend to be characterized less by civic organizations and more by homeowners economically equipped to oppose developers. Even Logan and Molotch agree with this view: "Expensive houses yield high tax revenues, and owners of such houses create effective organizations to protect their property. Political autonomy in this context thus becomes a useful tool for restricting development" (1987, p. 191-192). Because suburban areas come in two forms, this study includes quantitative measures (median household income and percent of residents who work in their home county) to identify these jurisdictions. Also, because "suburban" clearly indicates a geographic orientation relative to an urban area or population center, proximity to metropolitan statistical areas (as defined by the Census Bureau) enters the quantitative model.

Regarding the political climate of rural areas, Lewis (1996) explains that, in general, in small areas, the political climate is one in which fewer corporations and more residential and civic associations drive the political climate and local government. This political climate is less ruled by the elitist voice and ruled more by the majority's voice, which views personal property rights as highly contentious (Siegan, p. 7). Because property rights are viewed as contentious, and because the political climate literature does not provide a clear indication of whether residential associations will push for or against planning and zoning, in general, the reasons for contention must be considered as influential in rural politics. In rural areas, the form and power of residential groups changes according to a jurisdiction's socioeconomic status, size and location. (Lewis, 1996, p. 34) For that reason, measures of income, population size and proximity to urban areas are tested in the quantitative analysis in this study. The presence or absence of residential associations, however, cannot be measured quantitatively. The quantitative variables listed above (income, population and urban proximity) only indicate the ability to implement perspectives.

The following list exhausts the reasons found in the literature regarding why rural communities might welcome or oppose planning and zoning. Reasons to welcome planning and zoning in rural areas include: protection against sprawl, protection of human safety, keeping heavy industry from residential areas, historic preservation and the hope of excluding the poor (Siegan, 1976); to enforce a no-growth vision, protect farmland and control explosive growth (Fuguitt, Voss and Doherty 1979); stimulation of rural economies, increasing local tax revenue, providing recreation to visitors and creating (through second-home development) markets for marginally productive land

(American Society of Planning Officials, 1977). Reasons to oppose planning and zoning in rural areas include: distrust of politicians and planners, subjection of property to bureaucracy, empowerment of neighbors, increasing development cost, fear of restricting growth and fear of land use restrictions (Siegan, 1976); localities' inability to match state or federal funding for planning projects, localities' aversion of "red tape" from the federal government, lack of planning methods appropriate for rural areas, the autonomy of the landowner, the rigidity of planning, preference for participatory government, previous failure of federal projects, lack of annexation powers, lack of regional cooperation, a discrepancy between residents' and planning department goals, lack of staff, government lack of credibility to push for big change, local government's lack of voice in federal programs that fund planning measures, and fear of land speculation (Fuguitt, Voss and Doherty, 1979). Concerning planning for resort and second home communities, the American Society of Planning Officials list the threat to the environment, consumer victimization, high public service cost, the high dependence of successful development on the national economy, risk of permanent occupancy, fear of a change in the local political structure, the urbanizing effect on rural areas, increase in traffic, crime and noise and a decrease in access to local recreation (1977). The "cons" list interestingly reflects some stereotypical characteristics of rural places—industrial growth is seen as something external, unlikely and up to debate. Population growth produces changes feared in a very stable local political structure. Funding and staffing shortages along with questionable credibility of local governments prevent many projects from development.

These consensuses form the foundations for the strong feelings behind the signs in rural areas that read "NO ZONING!!" These strong feelings also prompt letters to the

editor proclaiming that the government should do something to control development and other negative externalities that planning and zoning can address. Even in collecting the quantitative data for this study (which was accomplished largely through telephone calls to county clerks' offices) some of these feelings were expressed. One county clerk's office said that if a resident wanted to build a chicken coop, it wasn't up to the county to tell the resident how to do it. In another county, the clerk's office said that their proactive approach to planning is a reaction to a new highway and the related explosive population growth.

Wilson provides a summary of the literature on political processes by geographic area (urban, suburban and rural) in the form of his political structures matrix. Wilson (1980) creates a matrix (shown below) of cost dispersion and benefit dispersion created by the political institutions of jurisdictions of varying sizes. He first provides two hypothetical forms of development for small jurisdictions—one based on interest group politics (i.e. homeowners associations) and one based on client-based politics (i.e. corporations). Interest group politics exists in strictly residential suburbs. Client-based politics exists in rural areas, where interest groups are weakened by socioeconomic status. In large jurisdictions, his political structures involve majoritarian politics (disposition of the public regarding planning issues, one reason industry moved to suburban areas) and entrepreneurial politics, which apply to cities and industrial/commercial suburbs controlled by industrial elites. The political climates of urban, suburban and rural areas, as dictated by size, location, institutions and socioeconomic status fit into points in this matrix. Wilson believes that the coordinates of those points decide the political structure of a place.

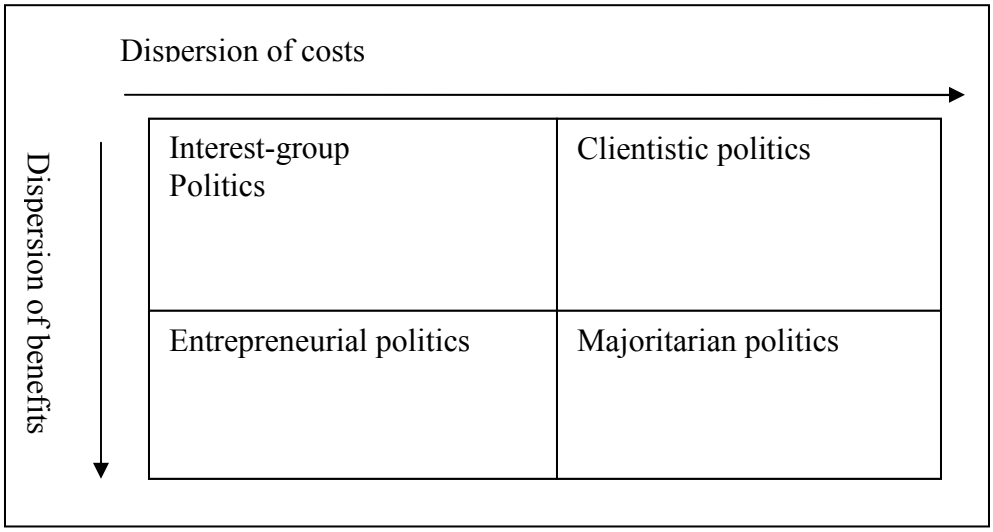

Figure 2: Wilson's political structures matrix
Source: Lewis, Paul G. "Shaping Suburbia."

This model reinforces the quantitative measures identified above for urban, suburban and rural areas. Not only does this model reinforce the other literature, but it provides a method of plotting counties within a matrix, to provide a visual analysis of the rural counties relative to one another. However, although the political processes model permits quantitative measurement with easily identifiable and accessible variables, the literature and theoretical hypotheses of development pertain mostly to urban and suburban settings. Rural areas must be treated as suburbs (residential or industrial) in Wilson's matrix, for lack of adequate measurements for client-based politics. Thus, the political processes part of the quantitative model will test not only the influence of political structures on planning and zoning adoption, but the applicability of suburban planning theory to rural areas.

The following list summarizes the independent variables and hypotheses stemming from the political processes and structures literature:

- Urban proximity—counties closer to urban centers will more frequently use comprehensive planning and zoning.
- Population size theoretically encourages planning and zoning adoption.
- When median household income is higher and the percent of the workforce working in-county lower, planning and zoning adoption is predicted. Alternatively, when median household income is lower and a larger percentage of the workforce works in-county, planning and zoning adoption is also expected.

2.4 Conclusion

This study evaluates several factors influencing the implementation of comprehensive planning and zoning in rural counties across the United States as suggested by the planning and development literature. The urban hierarchy literature suggests that population centers and more complex economies are more likely to institute comprehensive planning and zoning. The institutional factors literature includes the paramount significance of planning and zoning legislation, predicts a small positive correlation between regionalism (particularly economic) and planning and zoning implementation. Finally, the political structures literature relevant to the topic indicates that local business associations are likely to bring planning and zoning to an area, while the effects of residential associations hinge upon socioeconomic status and political structure. The political structures matrix suggest that areas that are more residential areas (those with fewer residents working in the home county, since in residential suburbs citizens work in the nearby urban area) will successfully plan to prevent business encroachment, while less residential areas and poorer areas more effectively cater to

business needs. Thus, both residential, high income counties and non-residential, low-income counties are theoretically expected to adopt comprehensive plans and zoning ordinances. The variable groupings and hypotheses are shown in Figure 3 and the following list of bullet points.

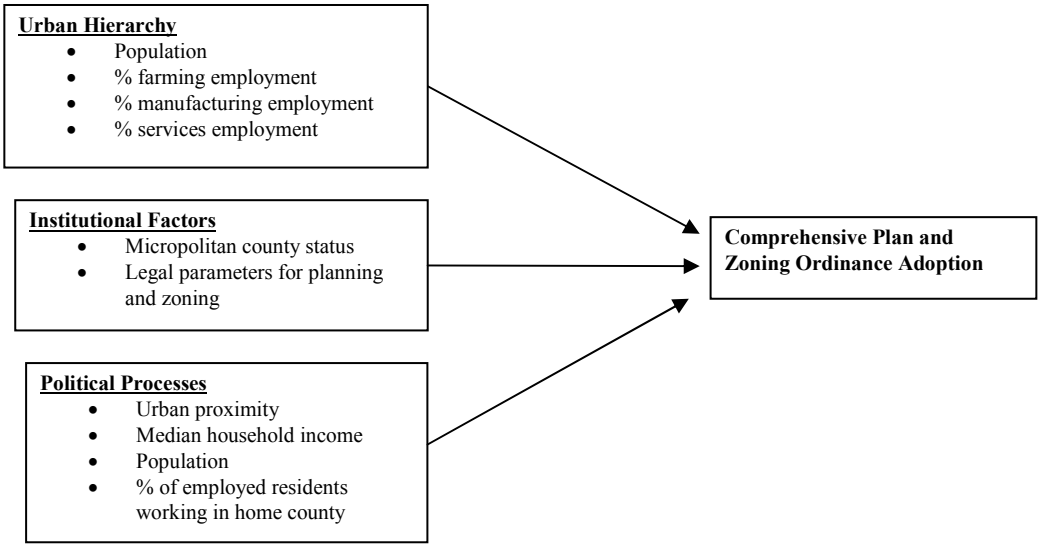

Figure 3: Variable groupings

Hypotheses

Urban Hierarchy:

- Population: areas with larger populations will more frequently have comprehensive plans and zoning ordinances.
- % farming, manufacturing and services: higher percentages of the population employed in these primary and secondary production and low-wage sectors will correlate with lower frequency of adoption of comprehensive plans and zoning ordinances.

Institutional Factors:

- Micropolitan county status: counties in micropolitan areas will tend to use comprehensive planning and zoning more frequently than the rural counties not in micropolitan areas.

- Legal parameters: Laws regarding the creation and adoption of comprehensive plans and zoning ordinances will have the highest correlation to the actual creation and adoption of plans and zoning ordinances.

Political Processes:

- Urban proximity: counties closer to urban centers will more frequently use comprehensive planning and zoning.
- Median household income and percent of county residents working in county: higher median household incomes will be positively correlated with comprehensive plan adoption and use of zoning ordinances in residential counties. Lower median household incomes will be positively correlated with comprehensive plan and zoning ordinance adoption in employer counties.
- Population: areas with larger populations will more frequently have comprehensive plans and zoning ordinances.

The next section, Methodology, describes the data source for each of the above listed variables and provides an explanation of the analytical approach used to statistically evaluate the data.

3.0 Methodology

This study employs only a quantitative methodological approach. The literature review identifies the relevant quantitative and qualitative variables. The methodology section defines the quantitative variables, identifies data sources and reviews the analysis techniques.

3.1 Quantitative Methodology

Dependent variable and geography definitions

A brief reading of a handful of city and county comprehensive plans yields a range of definitions of a "comprehensive plan". West Des Moines, Iowa says "At its most basic, a comprehensive plan is a statement of policy and intent. The plan provides guidance for the location, form and function of development and the maintenance of the community" (City of West Des Moines, 2005). Washington state says that "A comprehensive plan is a land use document that provides the framework and policy direction for land use decisions….the plans contain the following chapters: land use, transportation, housing, capital facilities, utilities, shorelines, and rural (for counties)" (Washington State Department of Community, Trade and Economic Development, 2005). Suffolk, Virginia states that a comprehensive plan is "a community based vision of mapping out how a community wants to grow and what it wants to become" (City of Suffolk, Virginia, Department of Planning, 2000-2004). In Woodbury, Minnesota, a comprehensive plan includes "policies, goals and calculations of land use needs for the city based upon growth projections for population, households and employment"

(Woodbury, Minnesota, Planning, Zoning & Inspections, no year given, accessed 12/29/2004).

Clearly, comprehensive plan definitions vary widely across the United States. Both because this study includes counties from 49 states and because each plan cannot be individually inspected, the broad definitions provided above are used to determine whether or not a county has a comprehensive plan. In other words, plans that meet one or all of the definitions given above were scored as "definitely yes" plans. Plans showing a reasonable fit for one of these definitions were scored as "probably yes" plans. Plans with dubious compatibility with the above definitions were coded as "probably no" plans. Finally, counties without any type of plan, or plans that were clearly not comprehensive given the above definitions were coded as "no plans".

For instance, Uintah County, Utah composed a document the county loosely refers to as a "comprehensive plan" but acknowledges that it was written "solely for the purpose of influencing Federal Agencies such as BLM and had very little to say about planning for the uses of private property." The document does not guide land use decisions. This was coded as a "probably no" plan. Also, in many areas in the Midwest, a comprehensive plan or zoning ordinance guides land use only immediately surrounding water bodies, which varies substantially from a comprehensive plan written in southwestern Virginia, where this study was written. These plans were also coded as "probably no" plans.

No publicly accessible database of county information regarding comprehensive plan adoption exists. In order to gather the dependent variable data, the investigator searched county websites (about 40 counties) and called county offices (about 140

counties). Typically, a county representative in a clerk's office, judge's office, assessor's office or planning commission supplied information regarding the county's land use planning tool adoption. The same method of data collection was implemented for the second dependent variable, zoning ordinance adoption.

The second dependent variable is the zoning ordinance. Subdivision ordinances, flood plain codes and septic ordinances do not qualify as zoning ordinances for this study. Significantly fewer rural counties adopt zoning ordinances than form comprehensive plans. Like the comprehensive plans, four categories encompass the range of zoning ordinance adoption, ranging from "yes ordinances" to "no ordinances". To be considered a "yes ordinance" a county's zoning ordinance must encompass the entire land mass of the county. Ordinances aimed solely at agricultural land or commercial development areas are not, therefore, considered valid zoning ordinances.

After establishing the research question (what factors influence the adoption of planning and zoning in rural counties) and defining the dependent variables, the next step was to select counties. Counties are stratified by state, then by the following criteria:

1. Using P3 data from the 2000 Census, the counties of each state were sorted by the percent rural population. This study used the two most rural counties from each state. If there was a tie, the two median counties as they are listed alphabetically were selected. I used 40% rural as an absolute cutoff. No counties below this value were selected.
2. Using the Census listing of metropolitan and micropolitan counties, the two micropolitan counties from each state with the highest percent rural population

were selected. This step provides a measure of economic regionalism (as an independent variable).

3. If overlap occurred between steps one and two, the counties in question counted for step two. The next most rural county or the county just above the median alphabetically listed (in the event of a tie) selected county substituted for the counties in step one. Using this method, a maximum of four counties were selected for each state.
4. Where there were no counties with more than 40% rural population (in the case of Rhode Island), no counties are listed. In other cases, only one, two or three counties met the selection criteria (as in New Jersey and other states). As long as the county meets the minimum 40% rural population criteria, it can be listed as a "metropolitan" county (central or outlying) according to the Census's MSA listings definitions.

The sorting of counties using these criteria resulted in the selection of 181 counties from 49 states. Populations range from 414 (Kenedy County, Texas) to 182,193 (Litchfield County, Connecticut). Of the 181 counties, the populations of 118 are 100% rural. Of the remaining 63 counties, 27 have more than two-thirds rural populations and all but seven have greater than 50% rural populations. The selected counties are listed in Appendix B. Data for each of these 181 counties was assembled for the quantitative model, described below.

Independent variables: definitions and sources

The definitions and data sources for the independent variables in the quantitative analysis section are presented here in the groupings given in the literature review: urban hierarchy, institutional factors and political movements.

Urban hierarchy literature suggests that larger population centers and more complex economies are more likely to institute comprehensive planning and zoning. The data sources for these variables are as follows:

- Population: The population of each county is gathered from the 2000 U.S. Census. This is 100% population count data. While more recent estimates are available, those numbers are estimates. To reduce the introduction of statistical error, and because almost all of the other data dates to 2000, the 100% count data from the Census was instead used.
- Economic complexity: The percent of each county's population working in agriculture and manufacturing (primary production) and services measure complexity. The definition of "services" comes from the U.S. Census 2000 technical documentation. This data comes from 2002 Bureau of Economic Analysis data, CA25N tables, available to the public at http://www.bea.gov/bea/regional/reis/.

Institutional factor data includes discussion of legal parameters and economic regionalism. This section of the literature highlights the utmost importance of legal parameters and hypothesizes a weak, positive relationship between economic regionalism and comprehensive planning and zoning implementation. Data sources are:

- Legal parameters: The American Planning Association's "Modernizing State Planning Statutes" (1998) and "Local Landslide Planning: A Survey of State Enabling Legislation" (2001) with "Home Rule in America: A 50-State Handbook" (Dale Krane, Planton Rigos and Melvin Hill, Jr, 2001.), supplied unquestionable legal parameters regarding comprehensive planning and zoning for about 15 states. Because the three secondary sources were published at different times and with different focuses, the remaining 35 states required inspection of state statutes. Jesse Richardson, a committee member and lawyer, helped in evaluating the more questionable legislation among the remaining states. Legal parameters differ from other independent variables in that the data is current. Whereas the majority of the independent data comes from the 2000 Census, the legal information comes from a current review of state statutes.
- Economic regionalism: Classification as micropolitan counties measures economic regionalism. As the United States Census Bureau explains, "The general concept of a metropolitan or micropolitan statistical area is that of a core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core" (http://www.census.gov/population/www/estimates/aboutmetro.html). For states in which four counties were chosen for this study, two are micropolitan counties. Where there are less counties selected, one or none are micropolitan counties, depending on if counties met the selection criteria.

Political structures literature discusses business associations, residential/homeowners associations, political climate and corresponding land use typologies.

- Political climate: Several sub-variables influence political climate, including population, proximity to an urban center, percent of residents working in the home county, income and rural perspectives. Population, as given above, comes from the 2000 Census. Proximity to an urban center also comes from the Census Bureau. Using 2002 definitions, the Census Bureau classifies counties as being central to metropolitan areas, outlying counties within the metropolitan area, or rural. The vast majority of the counties in the study qualify as rural by this definition. Percent of residents working in the home county comes from 2000 Census data, SF3 data, table P26. Median household income is drawn from the 2000 Census, SF3 data, table P53.

Data assessment

Using SPSS (Statistical Package for the Social Sciences), linear regression analysis of the data provided a preliminary perspective on the interplay of the variables. For several reasons discussed in the results section, this data cannot be used to form conclusive results. Binary logistic regression, a more appropriate form of quantitative analysis, provides more accurate and reliable output. Binary logistic regression required some recoding of data. Most importantly, the "probably yes" and "probably no" comprehensive plans and zoning ordinances must be dismissed from analysis. Dropping these cases, rather than assuming that the "probably yes" cases

are true "yes" cases reduces the error term for the overall model. Also, the counties that lack enabling legislation for comprehensive planning and zoning are not considered in the final model. The independent variable data in the non-enabled counties only worked to suppress the influence of the independent variables in the counties that could show variation in the dependent variables. Output from this software is included in Appendix A. Results and discussion are presented in the following sections.

3.2 Qualitative Methodology

To best understand and interpret the results of the quantitative study, a qualitative study should follow. Ideally, a qualitative study would rely on key informant interviews, primarily of residents and planners in the counties that the quantitative analysis fails to adequately describe. These interviews would lend insight into the relationships among the independent variables, offer suggestions of variables that should be included in the analysis and provide information on the variables identified in the literature review that cannot be measured quantitatively. Specifically, these interviews might investigate the several forms of regionalism, local business and residential associations and rural perspectives on planning and zoning. Unfortunately, time constraints limit the opportunity to include such interviews in this study.

4.0 Quantitative Results and Discussion

4.1 Preliminary Analysis

Linear regression models provide the first insight into the effect of each independent variable on the adoption of comprehensive plans and zoning ordinances. These results should not be construed as conclusive statistical analyses of the data, however. Using linear regression, for several reasons, only highlights the most significant variables rather than provide an accurate analysis of the model. Most importantly, linear regression treats the dependent variables as continuous, which is not appropriate in this instance. For instance, regarding comprehensive plan adoption, each county received a score of 1-4, where one indicates that no plan has been adopted; two indicates that probably no plan has been adopted; three represents the probable adoption of the plan and; four indicates that a plan has been adopted. This is categorical data, not continuous. Second, the linear regression analyses discussed below treat each of the independent variables as continuous variables, which is only sometimes accurate. The binary logistic models used for in-depth analysis use appropriately recoded data. Finally, the linear regression models include all counties selected for the study. This is inappropriate because not all counties are legally permitted to plan or zone. Including data from counties than cannot plan or zone biases the model, reducing its ability to determine what variables affect areas that can plan and zone. The non-enabled counties were dropped for the binary logistic analyses presented further below.

Despite these shortcomings in the setup and data, linear regression points to the independent variables that should be more closely focused on in later analyses. In general, the linear regression approach shows that legal parameters account for the

majority of planning and zoning adoptions that the variables included in this study explain. Although neither the urban hierarchy model nor the political processes shows statistical relevance, the institutional factors model (for planning adoption) shows an R-square value of 0.202. Within the institutional factors model, planning legislation appears highly significant, while micropolitan county status is not a significant variable. In both the full effects (all independent variables included) model and the political processes model, median household income shows a positive correlation with planning implementation.

Among the independent variables in the full effects zoning ordinance adoption model, zoning legislation, population and median household income all show a statistically significant impact on zoning ordinance adoption. Zoning enabling (or mandating) legislation, increased population size and higher median incomes all correspond to a higher likelihood of zoning adoption. In other words, a county that is required to adopt zoning is more likely to use a zoning ordinance than is a county in which adoption is conditionally mandatory or optional. Again in the zoning models, neither the urban hierarchy model nor the political processes model show any influence on ordinance adoption worth mentioning, but the institutional factors model shows statistical significance. Like the institutional factors planning model, in the zoning model, legislative influence matters significantly, while micropolitan county status does not.

Again, these results are not to be interpreted as either highly accurate or reliable. Instead, the linear regression results serve as a check for and a hypothesis builder for the binary logistic regression, the results of which are presented below.

4.2 Binary Logistic Regression Analysis

Binary logistic regression provides an appropriate method of analysis for the data in this study. Multinomial logistic regression posed restrictive problems due to the highly uneven distribution of data between categories in the dependent variables. In order to use binary logistic regression, the data required minimal manipulation. Most importantly, the dependent variables (adoption of a comprehensive plan and adoption of a zoning ordinance) were changed from continuous variables into categorical variables.[2] Some of the remaining variables (legal parameters and urban proximity) were recoded as dummy variables. Also, the counties without enabling statutes for planning (16 counties) or zoning (25 counties) were dropped. For comprehensive planning, this meant dropping the counties in Connecticut, Maine, Massachusetts, Texas and Vermont. For the zoning models, Alaska, New Jersey and New York were added to the list of dropped states. Often, as in New England, counties are not enabled because planning is done at the township or village level. Therefore, including these counties in this study biased the data in two important ways: first, the data for these counties falsely indicated that because planning and zoning is not carried out in those areas at the county level that it is not carried out at all. Second, inclusion of those counties distorted the contribution of other independent variables to the non-adoption of planning and zoning in counties enabled to do so. The distortion complicated the regression results, making interpretation difficult if

[2] Initially, each dependent variable was coded using four categories: has a comprehensive plan/zoning ordinance, probably has a comprehensive plan/zoning ordinance, probably does not have a comprehensive plan/zoning ordinance and does not have a comprehensive plan/zoning ordinance. However, very few counties fell into the middle two categories and multinomial logistic regression provided significant problems for data analysis. Therefore, the dependent variables were recoded into "has a plan/ordinance" and "does not have a plan/ordinance". The counties that had been in the middle two categories (probably has/probably does not have) were dropped from the analysis.

not incomprehensible. Without these counties in the analysis, the "not enabled" dummy variable for legislation became obsolete (it no longer had any cases in the analysis). Legislation making adoption optional became the suppressed dummy variable.

A second subset of counties required omission from analysis—the few counties for which clear evidence regarding the adoption of a comprehensive plan or zoning ordinance could not be secured. This meant dropping 16 cases within the comprehensive plan model and 25 within the zoning ordinance model. All of the results presented below stem from the binary logistic regression analysis completed in SPSS. The output from these analyses appears in Appendix B.

The dependent variables (comprehensive plan adoption and zoning ordinance adoption) are treated separately. For each dependent variable, five regression models complete the statistical analysis—one testing urban hierarchy, one testing institutional factors, one testing political processes and a model to assess the combined effect of all independent variables on each dependent variable. The combined model was then reduced to a fifth model by the elimination of the statistically irrelevant variables. In this discussion, "statistical significance" indicates a significance value below 0.05. A "moderate" goodness of fit indicates a Cox and Snell R-square value (the logit equivalent of a linear regression R-square value) greater than 0.100. The first half of the analysis discusses the comprehensive planning adoption process while the latter half presents the models covering zoning ordinance adoption.

Comprehensive Planning Adoption Analysis

Urban hierarchy model analysis

Like the initial analysis, the binary logistic assessment of the contribution of the urban hierarchy on planning adoption yielded weak results. In this model, the Cox and Snell R-square value of just 0.048 indicates a poor goodness of fit and thus little explicative power of the model. None of the independent variables (population, percent of the population employed in manufacturing, farming or services) show statistical significance. The significance of population fluctuated between the planning and zoning models in the preliminary analysis, thus its role in the binary logistic analyses will be monitored particularly closely.

Institutional factors model analysis

The Institutional factors model shows statistical significance for comprehensive plan adoption. The Cox and Snell R-square value of this regression is 0.142. In this model, legislation that mandates comprehensive planning adoption unquestionably increases the likelihood that one will be adopted. However, legislation that conditionally mandates planning shows a less sure correlation. Finally, a county's micropolitan classification is not shown to affect the implementation of comprehensive planning in this model (significance of 0.749).

Political processes model analysis

Unlike its linear regression predecessor, the political processes model shows statistical significance. This model produces and Cox and Snell R-square value of 0.131. Median household income emerges as the sole statistically significant independent

variable within this model. With a significance value of 0.000, median household income shows a small, positive correlation to plan adoption. In other words, on average, counties with adopted comprehensive plans have slightly higher median household incomes than the counties without plans. Although the percentage of those working who do not leave the county for work fails to show statistical significance, its significance level is much lower (0.148) than that of population (0.849) or rural county status (0.999).

Full effects model

This model considers all independent variables constituting the urban hierarchy, institutional factors and political processes models. Additionally, this model includes the percentage of the county population that is considered rural. This variable is not part of any of the restricted models, but is a criteria used to select counties for this study. Percentage rural is included here to reveal any influence that a degree of rurality may enforce on planning adoption that is not captured by the other variables.

The Cox and Snell R-square value of 0.215 must be considered in light of the high number of independent variables considered in this model, as a large number of variables increases the R-square value without necessarily improving the quality of the model. Regardless, the value of 0.215 indicates a fair capturing of the process of comprehensive plan adoption. Even so, only two independent variables show clear statistical significance—median household income (0.037) and legislation mandating comprehensive planning (0.010). Both show a positive correlation to planning adoption. The rural percentage of the population shows a statistical significance level of 0.136, which is slightly above the level of acceptability. Were this variable to be considered, however, it would indicate that the more rural a population, the less likely it would be to

adopt a comprehensive plan. Among other variables, population and the percentage working in the home county show the next lowest significance values (0.229 and 0.245, respectively) while rural county classification (as opposed to counties in metropolitan statistical areas) shows no significance whatsoever (0.999). These results do not reflect the preliminary linear regression analysis.

Significant variables model

In this model, planning legislation mandating plan adoption, median household income, percentage of residents working in the home county and the rural percentage of the population are considered. This model shows a Cox and Snell R-square value of 0.198, which is significantly higher than any of the three systems models discussed above. Within this model, still only legislation mandating plan adoption and median household income maintain statistical significance. Neither the rural percentage of the population nor the percentage working in the county shows even moderate or poor to moderate statistical significance.

Summary of Quantitative results for comprehensive plan adoption

Table 1 presents the Cox and Snell R-Square values for the three systems, the levels of statistical significance for each of the independent variables, and the beta coefficients for each of the independent variables. This summary data supports the conclusions made from these tests.

Table 1: Quantitative results for comprehensive plan adoption

System/Variable	**System R-square value**	**Variable significance levels**	**Beta coefficients**
Urban Hierarchy	0.048		
Population		0.994	-7.0(10^-7)
% farming employment		0.443	0.020
% manufacturing employment		0.157	-0.033
% services employment		0.349	0.033
Institutional Factors	0.142		
Micropolitan county status		0.749	0.116
Legislation mandating planning		0.000	1.761
Legislation conditionally mandating planning		0.551	-0.254
Political Processes/Structures	0.131		
Urban proximity		0.999	-19.643
Median household income		0.001	1.2(10^-4)
Population		0.849	1.5(10^-6)
% employed in-county		0.148	0.014
Combined Effects	0.215		

Zoning Ordinance Adoption Analysis

Urban hierarchy model analysis

The urban hierarchy provides only a poor to moderate explanation of zoning ordinance adoption in rural counties. The Cox and Snell R-square value comes to 0.095 and no single independent variable in the model shows statistical significance. Among the independent variables (population, percentage of workers in farming, manufacturing or services), both the percentage of workers in manufacturing and the percentage of workers in services show significance levels below 0.150. The weak correlation of manufacturing to ordinance adoption is negative while service employment's weak correlation is positive. Neither population nor farming employment show even moderate significance levels (0.627 and 0.248, respectively).

Institutional factors model analysis

As a model, institutional factors fare roughly as well as urban hierarchy factors. In the institutional factors model, the Cox and Snell R-square value is 0.093. Within this model, however, one independent variable clearly stands out as statistically significant—legislation mandating zoning ordinance adoption (significance level of 0.003). Like its planning legislation counterpart, zoning legislation requiring adoption positively affects the likelihood that an ordinance will be adopted. The other variables in this model (micropolitan county classification and legislation conditionally mandating zoning) show far less reliable statistical significance (0.406 and 0.731).

Political processes model analysis

Unlike the linear regression pre-tests predicted, political processes may noticeably impact zoning ordinance adoption. In binary logistic regression, political processes carry and Cox and Snell R-square of 0.219. Within the model, both median household income and the percentage of workers remaining in-county for work show statistical significance (0.000 and 0.022, respectively). The latter variable was not highlighted as significant in the preliminary analyses. Both variables are positively correlated with zoning ordinance adoption. Also contrary to the preliminary analyses, this model shows that population is not statistically significant (0.992). Less surprising, however, is the insignificance associated with the rural county classification.

Full effects model analysis

This model shows the highest Cox and Snell R-Square value among the models to this point—0.283. In this model, again only median household income and legislation

mandating zoning ordinance adoption show statistical significance (0.001 and 0.023, respectively). Among the remaining independent variables (population, percentage employed in non-farm, manufacturing or services, median household income, percentage working in-county, rural county classification, conditionally mandatory zoning legislation, and rural percentage of the population) none show statistical significance.

Significant variables model analysis

This model considers the impact of legislation mandating zoning ordinance adoption, median household income, manufacturing employment and the percentage of workers staying in-county. This model shows a moderate fit, with a Cox and Snell R-square value of 0.125. Again in this model, only median household income and legislation mandating zoning show significance (0.023 and 0.010, respectively). Both the percentage of workers staying in–county and the percentage engaged in manufacturing show significance levels around 0.300 (0.317 and 0.300, respectively).

Summary of Quantitative results for zoning ordinance adoption

Table 2 presents the Cox and Snell R-Square values for the three systems, the levels of statistical significance for each of the independent variables, and the beta coefficients for each of the independent variables. This summary data supports the conclusions made from these tests.

Table 2: Quantitative results for zoning ordinance adoption

System/Variable	System R-square value	Variable significance levels	Variable Beta Coefficients
Urban Hierarchy	0.095		
Population		0.627	-6.0(10^-6)
% farming employment		0.248	0.035
% manufacturing employment		0.142	-0.034
% services employment		0.116	0.057
Institutional Factors	0.093		
Micropolitan county status		0.406	0.288
Legislation mandating planning		0.003	2.268
Legislation conditionally mandating planning		0.731	-0.398
Political Processes/Structures	0.219		
Urban proximity (rural status)		0.999	-19.737
Median household income		0.000	1.7(10^-4)
Population		0.992	-8.4(10^-8)
% employed in-county		0.022	0.024
Combined Effects	0.283		

Other analyses

Upon the recommendation of the committee, a few other variations of the data entered the analyses. First, the log of the population replaced the population for a round of testing. This change failed to produce any more conclusive results than did using the original population numbers. Therefore, using the log was abandoned and replaced with the original population numbers.

4.3 Discussion

This section strives to interpret the results from the statistical analysis presented above. The first section addresses the comprehensive planning results. The second discusses the results from the zoning ordinance adoption data.

Comprehensive Plan Adoption Results Discussion

Binary logistic regression fails to support the urban hierarchy literature. Binary logistic regression shows, however, that both the institutional factors and political processes systems alter the likelihood of comprehensive plan adoption in rural counties to statistically significant levels. However, the analyses also reveal that the broad scenarios built in the literature do not garner support from empirical data in rural areas. In other words, for example, empirical data fails to delineate Wilson's political structures matrix as clearly as does his matrix. Throughout all analyses of comprehensive planning adoption, two independent variables, without exception, prove statistically significant—legislation mandating planning adoption and median household income.

The statistical analysis provides no support for the urban hierarchy argument, no matter how strongly the literature projects its importance. Both the literature review and the preliminary analysis identified population as an essential ingredient for comprehensive planning adoption. However, the more accurate and more in-depth analysis fail to support that hypothesis. One reason for this result may be the study sample—this study includes only the most rural counties in each state. The most populous county included in the final analysis counted 156,638 residents in 2000 (Sussex County, Delaware). The urban hierarchy literature stems from years of experience in America's cities—New York City, Chicago and Los Angeles, among others. Those areas do not meet the selection criteria for this study. Thus it is possible that the counties included in this study do not meet the minimum threshold above which benefits of the urban hierarchy become apparent.

That the urban hierarchy analysis fails also to support the economic complexity data poses some questions. The clearest is whether or not the primary products and services occupations provide the best measure of economic complexity. Industrial recruitment methods, industry diversity or something akin to Richard Florida's Creativity Index may provide better measure of economic complexity. It is also possible, however, that measuring complexity by primary production and services supports what Product Cycle Theory theorizes—that rural areas, definitively, lag urban areas in secondary and tertiary production. Devising appropriate measures of economic complexity in rural areas may require input from agricultural economists, regional economic scientists or other related fields. The urban hierarchy testing shows that neither population nor economic complexity influence comprehensive plan adoption. The mismatch between urban planning literature and the rural scenario could cause the inconclusive results or better measures may be in order.

The second system, institutional factors, fairly well explains comprehensive plan adoption in rural areas. Only legislation mandating comprehensive plan adoption shows statistical significance. Among the legislative dummy variables (mandatory adoption, conditionally mandatory adoption and optional adoption), SPSS elected optional adoption as the comparative variable. Conditionally mandatory adoption failed to show statistical significance, posing several speculations. First, perhaps a significant number of counties fail to meet the conditions that would make planning mandatory under conditionally mandatory legislation. Determining if this hypothesis is true requires further research. Also, the compliance rate of rural counties should be investigated. A representative of one county in this study, for example, refused to provide information regarding the

county's comprehensive plan until the researcher revealed her identity and purpose. Later, it became clear that this county was out of compliance with state regulations. A lack of compliance could bias the legislative variables within the institutional factors system.

Finally, economic regionalism consistently provides definitely non-statistically significant results. Again, it is possible that another measure is needed—that micropolitan status provides only a weak measure of economic regionalism, despite the intent of the Census Bureau. Second, economic regionalism may not be important regardless of the measure. Potentially, economic regionalism, without associated political and governmental institutions, may mean only that a region shares a labor shed but lacks political will. Understanding these dynamics requires a qualitative study of local cultures, institutions and attitudes. Overall, institutional factors explain comprehensive plan adoption fairly well, but the interplay of variables within the model, and the causes for those relationships, remain largely unexplained. Only mandatory adoption legislation carries statistical significance.

Binary logistic regression also suggests that the political processes system provides a moderate goodness of fit, thus explaining with some statistical significance the process of comprehensive plan adoption in rural counties. Within the model, only median household income shows statistical significance. Although the political processes system shows moderate goodness of fit, its results fail to support Wilson's political structure matrix, which supports the literature on political processes in planning. Wilson's political structure matrix suggests that *either* residential (non-employer) counties with high incomes *or* worker counties with lower incomes typically adopt

comprehensive planning, each for different reasons. However, the statistical analysis shows that counties with higher incomes *and* higher rates of in-county employment more often adopt comprehensive plans than other counties. Empirical data fails to support theory probably because the theory stems from suburban research, not rural development research. The political system through which rural areas work varies from the urban-suburban experience. Population and metropolitan-suburban-rural status show no statistical significance in this model, probably for the same reason. These results clearly indicate that future research regarding the political process surrounding planning adoption in rural settings should follow. Without knowledge of that system, understanding the local context of adoption and rejection will prove very difficult. This requires qualitative study.

The fourth and fifth models, full effects and significant variables, point to essentially the same variables—legislation making planning adoption mandatory and median household incomes. The importance of median household income raises several questions, not the least of which is the role of education. Incomes and education traditionally show a high correlation, but are not direct proxies for one another. Exploring the role of education may prove useful. Second, perhaps higher incomes bring planning adoption for Wilson's reason—to protect residential interests with money. A rural political structure matrix might include "higher incomes with higher in-county employment". Settlement patterns and employment patterns in rural areas development and remain different than industrial suburbs; there is no reason the land use typologies should be identical for suburban areas and rural areas. Third, median household income

differentials could be reflecting unequal age distributions between counties. In turn, the preference to adopt a comprehensive plan could be age dependent.

To summarize, both institutional factors and political processes show moderate goodness of fit for the comprehensive plan adoption data. Within these models, a few variables raise questions about marginal contributions (percent of the population that is rural, manufacturing employment) while some variables heavily emphasized in the literature show no contribution (population, economic regionalism). More than any other quantitative variables, mandatory plan adoption legislation and median household income contribute to the adoption of a comprehensive plan in a rural county. These results raise many questions for further quantitative and qualitative research. Perhaps the most significant result is the development of questions for a qualitative research agenda.

Zoning Ordinance Adoption Results Discussion

The results of the variables influencing zoning ordinance adoption in rural counties closely parallel the results of comprehensive plan adoption, presented above. Overall, the political processes system shows moderate goodness of fit, while the urban hierarchy and institutional factors systems do not. Within those systems, legislation mandating zoning ordinance adoption and median household incomes prove most significant for adoption in rural counties. The zoning models present a few key differences from the comprehensive planning models. First, the institutional factors system fails to show moderate goodness of fit. Second, the percentage of local labor force participants working in-county is statistically significant in the political processes model.

As in the comprehensive planning analysis, no evidence was found to support the role of the urban hierarchy in zoning ordinance adoption. None of the independent variables within the urban hierarchy model nor the model itself show statistical reliability. This is surprising for two reasons. First, the planning literature points unequivocally to the importance of population size. Second, the preliminary analysis indicated that population might be important to zoning adoption. Ultimately, however, the importance of population size is discounted by more accurate and appropriate statistical analysis. Again, population may be insignificant in the zoning urban hierarchy model due to the rural nature of the study. Perhaps the studied counties fail to exceed a population threshold above which benefits of the urban hierarchy become observable. The tandem insignificance of economic complexity raises the same questions that it raised in the planning model. Is primary production/services the appropriate measure? Is economic complexity not important to zoning adoption?

The institutional factors system, surprisingly, failed to show moderate statistical significance for zoning adoption. Both the literature review and the preliminary quantitative analysis predicted significance for this model, making this finding notable. One potential explanation stands out: county non-conformance with zoning legislation is higher than it is for comprehensive planning legislation. Some evidence that this is the case emerged during the data gathering of the dependent variables. However, further research should follow. In some states, legislation requiring zoning (or conditionally requiring zoning) permits a time span of a few years during which a county writes a comprehensive plan, submits it (usually to the state) for compliance, then drafts and adopts a zoning ordinance based on the comprehensive plan. The time lag permitted in

legislation mandating or conditionally mandating zoning ordinance adoption may lead to a weaker R-square value for this model. The insignificance of economic regionalism poses the same questions asked in the planning model. Rather than conclude that regionalism fails to contribute, the findings indicate that qualitative studies should research other forms of regionalism and the local response to regional institutions.

Finally, the political processes system rounds out the systems models for zoning ordinance adoption. Not surprisingly, the political processes system shows moderate goodness of fit for zoning ordinance adoption. The political processes system for zoning more strongly counters Wilson's political structure matrix than did the comprehensive planning data. For zoning, the percentage of the local workforce employed within the county shows statistical significance. Therefore, with statistical significance for both models, counties with higher median household incomes *and* higher in-county employment rates more frequently adopt zoning ordinances. Again, this result clearly points out the mistaken understanding in the literature of political process in rural counties. To understand the process of zoning ordinance adoption in rural counties, qualitative studies must clarify the rural political experience better than urban and suburban literature currently does. The role of increased incomes indicates a potential correlation between zoning and education and age structure.

A few explanations could account for the statistical significance of in-county employment. First, the residents of worker counties (as opposed to residential counties) could feel a stronger tie to the county than residents who do not work in the home county. A stronger dedication to the community could lead to greater involvement in the physical development of the place. Second, worker counties may have a greater need for zoning

because industry and residents cohabitate. Third, the business elites within the higher paying industries could demand zoning more frequently than business elites in lower paying industries. This would pair high incomes with in-county employment. All three of these theories require further research.

In the fourth and fifth models, full effects and significant variables, respectively, again two variables emerged as statistically significant independent of the three systems: legislation mandating zoning ordinance adoption and median household income. Legislation mandating zoning and median household income carry the systems and carry the analysis as a whole. The only exception in zoning is the percentage of workers employed in the home county.

4.4 Conclusions

The preliminary analysis accurately pinpointed the two most significant independent variables for the adoption of both comprehensive plans and zoning ordinances in rural counties. However, further analysis delineates other relationships.

For both comprehensive plan and zoning ordinance adoption, median household income and legislation making adoption mandatory stand alone as the consistently statistically significant independent variables. Both are positively correlated to adoption. The urban hierarchy model showed little reliability for either comprehensive plan adoption or zoning ordinance adoption. Institutional factors, as a model is significant only for comprehensive plan adoption, while political processes show moderate goodness of fit for both plan and zoning ordinance adoption. However, in both planning and zoning, the political processes model did not yield the expected results. The political

processes and climate in rural areas certainly differs from the widely documented urban and suburban experiences. Further research in this area is needed to clarify the political environment surrounding planning and zoning. Statistical significance also accrued to the percentage of in-county employment for county residents in the zoning model.

The results of this study can serve planners and academics in a few notable ways. For planners, this study points out that rural population centers are not necessarily rural planning activity centers. Focusing attention on smaller rural communities may bear as much fruit as focusing on larger rural settlements, in terms of creating visioning for the future and implementing physical development plans. Second, this study points out to planners that an area's employment mix does not preclude the area from a willingness to accept planning and zoning. In general, the characteristics associated most the degree of rurality of a place bear no influence on planning and zoning adoption. Knowing this allows planners to focus on the more legitimate barriers to planning in rural areas.

For academics, this study points to a clear need for a better understanding of the rural political experience, and, more broadly, the rural experience as a whole. Overwhelmingly, urban planning literature fails to substitute for rural planning literature. This literature gap leaves about one of every five Americans without adequate planning tools, knowledge or effective implementation techniques. The body of planning literature leaves more than one-fifth of America unaccounted for.

Several research questions and observations stem from these conclusions. In brief, those are:

- Overall, the applicability of urban planning literature to rural planning trends comes into question. The relationships upon which hypotheses regarding

planning in urban areas form are not necessarily relationships observed in rural areas. For example, urban hierarchy effects are not observed in rural areas. The land use typologies found in rural counties present a different set of theories than Wilson's matrix supplies. There is a clear need for research on the processes surrounding successful planning and zoning adoption in rural counties.

- Why is population not a significant variable in explaining comprehensive plan and zoning ordinance adoption?
- What are the marginal contributions of manufacturing employment to zoning adoption and rural percentage of the population to comprehensive plan adoption? By what mechanism might these variables influence the respective dependent variables?
- Would other measures of economic complexity pick up on a link between economic structure and planning and zoning adoption that primary production and services did not? If so, how could that measure be incorporated into a qualitative framework?
- Why is conditionally mandatory planning and zoning legislation statistically insignificant for adoption?
- How significant is the level of non-compliance with planning and zoning legislation? Non-compliance in counties required to plan and zone can be fairly easily measured, but counties conditionally obligated to plan and zone pose a more difficult monitoring system. Factoring this source of error into the model could help to better specify the models, leading to a better understanding of the processes of adoption for planning and zoning.

- What factors influence a state's adoption of legislation mandating comprehensive planning and zoning adoption?
- What other measures of institutional regionalism might better capture any effects that micropolitan county status did not pick up on? Could qualitative study observe regionalism consistently between places, or would a high error term bias the study? In other words, is it feasible to study regionalism?
- Why do higher rural incomes and a higher percentage of workers employed in-county correspond with higher adoption rates of comprehensive plans and zoning ordinances (particularly zoning)? Education, age structure, rural income-residence patterns or interest group politics could be at play. Further studies delineating these relationships could clarify the applicability of Wilson's political structure matrix to rural America. This question of the political process in rural counties is perhaps the largest question for future research, and will require qualitative study.
- Why is the percent of workforce participants employed in-county significant for zoning adoption but not statistically significant for planning adoption? What relationship exists between employer areas, incomes and planning or zoning adoption? Again, this question demands a better understanding of political processes in rural America.

Bibliography:

American Planning Association. *Modernizing State Planning Statutes*. Washington, D.C.: American Planning Association, 1998.

American Planning Association. "Local Landslide Planning: A Survey of State Enabling Legislation." August 2001. Available online at http://www.planning.org/landslides/docs/SummaryStateStatutes.pdf. Accessed January 2005.

American Society of Planning Officials. *Subdividing Rural America*. Washington, D.C.: U.S. Government Printing Office, 1976.

Ashton, Patrick J. "Urbanization and the Dynamics of Suburban Development Under Capitalism." In *Marxism and the Metropolis*, edited by William Tabb and Larry Sawers, 54-81. New York: Oxford University Press, 1984.

Beauregard, Robert A. "Urban Restructuring in Comparative Perspective." In *Atop the Urban Hierarchy*, edited by Robert A Beauregard, 239-273. Totowa: Rowman & Littlefield, 1989.

Beauregard, Robert A. "Postwar Spatial Transformations." In *Atop the Urban Hierarchy*, edited by Robert A Beauregard, 1-44. Totowa: Rowman & Littlefield, 1989.

Blakely, Edward J. and Ted K. Bradshaw. *Planning Local Economic Development*: *Theory and Practice*. Thousand Oaks: Sage Publications, 2002.

City of Suffolk, Virginia, Department of Planning. "2018 Comprehensive Plan: What is a Comprehensive Plan?" Available online: http://www.suffolk.va.us/planning/comp-plan/faq_1.html. Accessed 12/29/2004. 2000-2004.

City of West Des Moines, Community Development and Building. "Question: What is a Comprehensive Plan?" Available online: http://www.wdm-ia.com/asp/faq/faq_details.asp?faqid=116&deptid=2. Accessed 12/29/2004. 2005.

Cobb, Rodney L. *Toward Modern Statutes: A Survey of State laws on Local Land-Use Planning*. "Modernizing State Planning Statutes, vol. 2." American Planning Association, Washington, DC: 1998. P. 21-38.

Fitzgerald, Joan and Nancey Green Leigh. *Economic Revitalization: Cases and Strategies for City and Suburb*. Thousand Oaks: Sage Publications, 2002.

Foster, Kathryn A. *Regionalism on Purpose*. Cambridge: Lincoln Institute of Land Policy, 2001.

Florida, Richard. *The Rise of the Creative Class…and how it's transforming work, leisure, community & everyday life."* New York: Basic Books, 2002.

Fuguitt, Glenn V., Paul R. Voss and J.C. Doherty. *Growth and Change in Rural America.* Washington, D.C.: The Urban Land Institute, 1979.

Kanter, Rosabeth Moss. "Business Coalitions as a Force for Regionalism." In *Reflections on Regionalism*, edited by Bruce J. Katz, 154-181. Washington, D.C.: Brookings Institution, 1999.

Krane, Dale, Planton Rigos and Melvin Hill, Jr. *Home Rule in America: A 50-State Handbook.* Washington, D.C.: Congressional Quarterly, Inc., 2001.

La Glory, Mark and John Pipkin. *Urban Social Space*. Belmont: Wadsworth Publishing Company, 1981.

Lewis, Paul G. *Shaping Suburbia: How Political Institutions Organize Urban Development*. Pittsburgh: University of Pittsburgh, 1996.

Logan, John R. and Harvey L. Molotch. *Urban Fortunes: The Political Economy of Place*. Berkeley: University of California Press, 1987.

Malizia, Emil E. and Edward J. Feser. *Understanding Local Economic Development*. New Brunswick: Center for Urban Policy Research, 2000.

Markusen, Ann R. "Class and Urban Social Expenditure: A Marxist Theory of Metropolitan Government." In *Marxism and the Metropolis*, edited by William Tabb and Larry Sawers, 82-100. New York: Oxford University Press, 1984.

New York City, Department of City Planning. "New York City Zoning: Zoning History." Available online: http://www.nyc.gov/html/dcp/html/zone/zonehis.html. Accessed 04/2005.

Noyelle, Thierry J. and Thomas M. Stanback, Jr. *The Economic Transformation of American Cities*. Totown: Rowman & Allanheld, 1983.

Siegan, Bernard. *Other People's Property*. Lexington: Lexington Books, 1976.

Sawers, Larry. "New Perspectives on the Urban Political Economy." In *Marxism and the Metropolis*, edited by William Tabb and Larry Sawers, 3-20. New York: Oxford University Press, 1984.

Von Bargen, Patrick, Doris Freedman and Erik Pages. "The Rise of the Entrepreneurial Society." In *Economic Development Quarterly* vol. 17, no. 4 (2003): 315-324.

Washington State Community, Trade and Economic Development. "What Is a Comprehensive Plan?" Available online: http://qa.cted.wa.gov/_CTED/documents?ID_916_Publications.pdf. Accessed 12/29/2004. 2005.

Woodbury, Minnesota Planning Zoning & Inspections. "What is a Comprehensive Plan?" Available online: http://www.ci.woodbury.mn.us/planning/cpwhatis.html. Accessed 12/29/2004. No year given.

Wright, Robert R. and Morton Gitelman. *Cases and Materials on Land Use, Fifth Ed.* Saint Paul: West Publishing Company, 1997.

Appendix A: Statistical Analysis Output

Comprehensive Planning, Institutional Factors

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	149	82.3
	Missing Cases	16	8.8
	Total	165	91.2
Unselected Cases		16	8.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

Observed			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage Correct	Comp plan(12/04-1/05)		Percentage Correct
			No	Yes		No	Yes	
Step 0	Comp plan(12/04-1/05)	No	0	59	.0	0	15	.0
		Yes	0	90	100.0	0	0	.
	Overall Percentage				60.4			.0

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.422	.168	6.355	1	.012	1.525

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	Micro1203	.092	1	.761
		mand	20.649	1	.000
		condmand	5.888	1	.015
		optional	5.439	1	.020

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	22.832	3	.000
	Block	22.832	3	.000
	Model	22.832	3	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	177.229[a]	.142	.192

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[d]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage	Comp plan(12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 1	Comp plan(12/04-1/05)	No	36	23	61.0	8	7	53.3
		Yes	30	60	66.7	0	0	.
	Overall Percentage				64.4			53.3

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Micro1203	.116	.362	.102	1	.749	1.123
	mand	1.761	.462	14.565	1	.000	5.820
	condmand	-.254	.427	.355	1	.551	.775
	Constant	-.090	.312	.083	1	.774	.914

a. Variable(s) entered on step 1: Micro1203, mand, condmand.

Comprehensive Planning, Urban Hierarchy

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	116	64.1
	Missing Cases	49	27.1
	Total	165	91.2
Unselected Cases		16	8.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

Observed			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage Correct	Comp plan(12/04-1/05)		Percentage Correct
			No	Yes		No	Yes	
Step 0	Comp plan(12/04-1/05)	No	0	43	.0	0	12	.0
		Yes	0	73	100.0	0	0	.
	Overall Percentage				62.9			.0

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.529	.192	7.580	1	.006	1.698

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	Popn2000	.915	1	.339
		NonFarm2002	1.228	1	.268
		Manufacturing2002	2.572	1	.109
		Services2002	3.370	1	.066
	Overall Statistics		5.646	4	.227

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	5.754	4	.218
	Block	5.754	4	.218
	Model	5.754	4	.218

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	147.208[a]	.048	.066

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[d]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage	Comp plan(12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 1	Comp plan(12/04-1/05)	No	6	37	14.0	1	11	8.3
		Yes	6	67	91.8	0	0	.
	Overall Percentage				62.9			8.3

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Popn2000	.000	.000	.005	1	.944	1.000
	NonFarm2002	.020	.026	.588	1	.443	1.020
	Manufacturing2002	-.033	.023	2.001	1	.157	.967
	Services2002	.033	.035	.878	1	.349	1.033
	Constant	-1.444	2.142	.454	1	.500	.236

a. Variable(s) entered on step 1: Popn2000, NonFarm2002, Manufacturing2002, Services2002.

Comprehensive Planning, Political Processes

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	149	82.3
	Missing Cases	16	8.8
	Total	165	91.2
Unselected Cases		16	8.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

Observed			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage Correct	Comp plan(12/04-1/05)		Percentage Correct
			No	Yes		No	Yes	
Step 0	Comp plan(12/04-1/05)	No	0	59	.0	0	15	.0
		Yes	0	90	100.0	0	0	.
	Overall Percentage				60.4			.0

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.422	.168	6.355	1	.012	1.525

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	Popn2000	2.845	1	.092
		workincounty	3.754	1	.053
		medhhincome	15.274	1	.000
		rural	1.329	1	.249

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	20.850	4	.000
	Block	20.850	4	.000
	Model	20.850	4	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	179.211[a]	.131	.177

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Classification Table[d]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage	Comp plan(12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 1	Comp plan(12/04-1/05)	No	30	29	50.8	2	13	13.3
		Yes	15	75	83.3	0	0	.
	Overall Percentage				70.5			13.3

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Popn2000	.000	.000	.036	1	.849	1.000
	workincounty	.014	.010	2.095	1	.148	1.015
	medhhincome	.000	.000	10.976	1	.001	1.000
	rural	-19.643	27491.269	.000	1	.999	.000
	Constant	15.255	27491.269	.000	1	1.000	4220443

a. Variable(s) entered on step 1: Popn2000, workincounty, medhhincome, rural.

Comprehensive Planning, Combined Effects

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	116	64.1
	Missing Cases	49	27.1
	Total	165	91.2
Unselected Cases		16	8.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

Observed			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage Correct	Comp plan(12/04-1/05)		Percentage Correct
			No	Yes		No	Yes	
Step 0	Comp plan(12/04-1/05)	No	0	43	.0	0	12	.0
		Yes	0	73	100.0	0	0	.
	Overall Percentage				62.9			.0

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.529	.192	7.580	1	.006	1.698

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	Popn2000	.915	1	.339
		workincounty	.656	1	.418
		medhhincome	8.152	1	.004
		rural	1.199	1	.274
		Micro1203	.143	1	.705
		NonFarm2002	1.228	1	.268
		Manufacturing2002	2.572	1	.109
		Services2002	3.370	1	.066
		mand	11.748	1	.001
		condmand	6.376	1	.012
		optional	1.342	1	.247

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	25.553	10	.004
	Block	25.553	10	.004
	Model	25.553	10	.004

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	127.410[a]	.198	.270

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Classification Table[d]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage	Comp plan(12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 1	Comp plan(12/04-1/05)	No	21	22	48.8	3	9	25.0
		Yes	15	58	79.5	0	0	.
	Overall Percentage				68.1			25.0

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Popn2000	.000	.000	.118	1	.731	1.000
	workincounty	-.010	.014	.509	1	.476	.990
	medhhincome	.000	.000	4.363	1	.037	1.000
	rural	-18.388	27602.569	.000	1	.999	.000
	Micro1203	.115	.485	.056	1	.812	1.122
	NonFarm2002	.011	.029	.133	1	.715	1.011
	Manufacturing2002	-.029	.027	1.118	1	.290	.972
	Services2002	.035	.041	.725	1	.394	1.036
	mand	1.486	.560	7.050	1	.008	4.421
	condmand	-.423	.543	.607	1	.436	.655
	Constant	14.862	27602.569	.000	1	1.000	2848878

a. Variable(s) entered on step 1: Popn2000, workincounty, medhhincome, rural, Micro1203, NonFarm2002, Manufacturing2002, Services2002, mand, condmand.

Comprehensive Planning, Combined Effects + Percent Rural

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	116	64.1
	Missing Cases	49	27.1
	Total	165	91.2
Unselected Cases		16	8.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage Correct	Comp plan(12/04-1/05)		Percentage Correct
	Observed		No	Yes		No	Yes	
Step 0	Comp plan(12/04-1/05)	No	0	43	.0	0	12	.0
		Yes	0	73	100.0	0	0	.
	Overall Percentage				62.9			.0

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.529	.192	7.580	1	.006	1.698

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	Popn2000	.915	1	.339
		workincounty	.656	1	.418
		medhhincome	8.152	1	.004
		rural	1.199	1	.274
		Micro1203	.143	1	.705
		NonFarm2002	1.228	1	.268
		Manufacturing2002	2.572	1	.109
		Services2002	3.370	1	.066
		mand	11.748	1	.001
		condmand	6.376	1	.012
		optional	1.342	1	.247
		rural2000	2.751	1	.097

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	28.078	11	.003
	Block	28.078	11	.003
	Model	28.078	11	.003

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	124.884[a]	.215	.293

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Classification Table[d]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Comp plan(12/04-1/05)		Percentage	Comp plan(12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 1	Comp plan(12/04-1/05)	No	19	24	44.2	4	8	33.3
		Yes	12	61	83.6	0	0	.
	Overall Percentage				69.0			33.3

a. Selected cases Planning legislation NE 4

b. Unselected cases Planning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Popn2000	.000	.000	1.445	1	.229	1.000
	workincounty	-.018	.015	1.350	1	.245	.983
	medhhincome	.000	.000	4.361	1	.037	1.000
	rural	-19.138	26538.289	.000	1	.999	.000
	Micro1203	-.263	.549	.230	1	.631	.768
	NonFarm2002	.004	.029	.020	1	.886	1.004
	Manufacturing2002	-.026	.028	.858	1	.354	.975
	Services2002	.034	.041	.688	1	.407	1.035
	mand	1.450	.566	6.569	1	.010	4.262
	condmand	-.529	.553	.917	1	.338	.589
	rural2000	-4.155	2.712	2.347	1	.126	.016
	Constant	20.794	26538.290	.000	1	.999	1E+009

a. Variable(s) entered on step 1: Popn2000, workincounty, medhhincome, rural, Micro1203, NonFarm2002, Manufacturing2002, Services2002, mand, condmand, rural2000.

Comprehensive Planning, Rural Characteristics

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	164	90.6
	Missing Cases	17	9.4
	Total	181	100.0
Unselected Cases		0	.0
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[a,b]

			Predicted		
			Comp plan(12/04-1/05)		Percentage Correct
	Observed		No	Yes	
Step 0	Comp plan(12/04-1/05)	No	0	74	.0
		Yes	0	90	100.0
	Overall Percentage				54.9

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.196	.157	1.556	1	.212	1.216

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	rural2000	1.855	1	.173
		Popn2000	.253	1	.615
		medhhincome	6.078	1	.014

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	8.354	3	.039
	Block	8.354	3	.039
	Model	8.354	3	.039

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	217.435[a]	.050	.066

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			Comp plan(12/04-1/05)		Percentage Correct
	Observed		No	Yes	
Step 1	Comp plan(12/04-1/05)	No	37	37	50.0
		Yes	22	68	75.6
	Overall Percentage				64.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	rural2000	-1.938	1.483	1.706	1	.191	.144
	Popn2000	.000	.000	1.689	1	.194	1.000
	medhhincome	.000	.000	5.385	1	.020	1.000
	Constant	.069	1.731	.002	1	.968	1.071

a. Variable(s) entered on step 1: rural2000, Popn2000, medhhincome.

Comprehensive Planning, Urban Hierarchy with Population Log

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	128	70.7
	Missing Cases	53	29.3
	Total	181	100.0
Unselected Cases		0	.0
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			Comp plan(12/04-1/05)		Percentage Correct
			No	Yes	
Step 0	Comp plan(12/04-1/05)	No	0	55	.0
		Yes	0	73	100.0
	Overall Percentage				57.0

a. Constant is included in the model.

b. The cut value is .500

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	NonFarm2002	.093	1	.760
		Manufacturing2002	2.687	1	.101
		Services2002	.511	1	.475
		LogPopn	.057	1	.811
	Overall Statistics		3.564	4	.468

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.283	.179	2.514	1	.113	1.327

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	3.589	4	.464
	Block	3.589	4	.464
	Model	3.589	4	.464

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	171.317[a]	.028	.037

a. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			Comp plan(12/04-1/05)		Percentage
	Observed		No	Yes	Correct
Step 1	Comp plan(12/04-1/05)	No	10	45	18.2
		Yes	10	63	86.3
	Overall Percentage				57.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	NonFarm2002	.018	.027	.481	1	.488	1.019
	Manufacturing2002	-.032	.023	1.939	1	.164	.969
	Services2002	.016	.032	.249	1	.618	1.016
	LogPopn	-.186	.274	.459	1	.498	.830
	Constant	.467	2.434	.037	1	.848	1.595

a. Variable(s) entered on step 1: NonFarm2002, Manufacturing2002, Services2002, LogPopn.

Comprehensive Planning, Population Log only

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	164	90.6
	Missing Cases	17	9.4
	Total	181	100.0
Unselected Cases		0	.0
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			Comp plan(12/04-1/05)		Percentage Correct
			No	Yes	
Step 0	Comp plan(12/04-1/05)	No	0	74	.0
		Yes	0	90	100.0
	Overall Percentage				54.9

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.196	.157	1.556	1	.212	1.216

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	LogPopn	.000	1	.995
	Overall Statistics		.000	1	.995

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	.000	1	.995
	Block	.000	1	.995
	Model	.000	1	.995

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	225.789[a]	.000	.000

a. Estimation terminated at iteration number 2 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			Comp plan(12/04-1/05)		Percentage Correct
	Observed		No	Yes	
Step 1	Comp plan(12/04-1/05)	No	0	74	.0
		Yes	0	90	100.0
	Overall Percentage				54.9

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	LogPopn	.001	.134	.000	1	.995	1.001
	Constant	.187	1.279	.021	1	.884	1.206

a. Variable(s) entered on step 1: LogPopn.

Comprehensive Planning, Significant Variables Only

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	164	90.6
	Missing Cases	17	9.4
	Total	181	100.0
Unselected Cases		0	.0
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[a,b]

Observed			Predicted		
			Comp plan(12/04-1/05)		Percentage Correct
			No	Yes	
Step 0	Comp plan(12/04-1/05)	No	0	74	.0
		Yes	0	90	100.0
	Overall Percentage				54.9

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.196	.157	1.556	1	.212	1.216

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	medhhincome	6.078	1	.014
		rural2000	1.855	1	.173
		mand	28.514	1	.000
		workincounty	2.966	1	.085

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	36.239	4	.000
	Block	36.239	4	.000
	Model	36.239	4	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	189.550[a]	.198	.265

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted		
			Comp plan(12/04-1/05)		Percentage Correct
			No	Yes	
Step 1	Comp plan(12/04-1/05)	No	55	19	74.3
		Yes	37	53	58.9
	Overall Percentage				65.9

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	medhhincome	.000	.000	4.240	1	.039	1.000
	rural2000	.353	1.196	.087	1	.768	1.424
	mand	2.065	.442	21.790	1	.000	7.886
	workincounty	.005	.010	.279	1	.597	1.005
	Constant	-3.017	2.003	2.268	1	.132	.049

a. Variable(s) entered on step 1: medhhincome, rural2000, mand, workincounty.

```
>Error # 2085
>The temporary period for running SPSS for Windows without a license has
>expired.  Use the License Authorization Wizard to contact SPSS for a
>license code.
>This command not executed.

>Specific symptom number: 37


End of job:  0 command lines  1 errors  0 warnings  2 seconds
```

Zoning Ordinances, Institutional Factors

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	146	80.7
	Missing Cases	10	5.5
	Total	156	86.2
Unselected Cases		25	13.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

Observed			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Zone Ord (12/04-1/05)		Percentage Correct	Zone Ord (12/04-1/05)		Percentage Correct
			No	Yes		No	Yes	
Step 0	Zone Ord (12/04-1/05)	No	75	0	100.0	23	0	100.0
		Yes	71	0	.0	1	0	.0
	Overall Percentage				51.4			95.8

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.055	.166	.110	1	.741	.947

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	Micro1203	.701	1	.402
		zonemand	12.081	1	.001
		zonecondmand	.420	1	.517
		zoneopt	6.595	1	.010

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	14.203	3	.003
	Block	14.203	3	.003
	Model	14.203	3	.003

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	188.086[a]	.093	.124

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table[d]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Zone Ord (12/04-1/05)		Percentage	Zone Ord (12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 1	Zone Ord (12/04-1/05)	No	73	2	97.3	23	0	100.0
		Yes	56	15	21.1	1	0	.0
	Overall Percentage				60.3			95.8

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Micro1203	.288	.347	.689	1	.406	1.334
	zonemand	2.268	.776	8.549	1	.003	9.664
	zonecondmand	-.259	.755	.118	1	.731	.772
	Constant	-.398	.258	2.384	1	.123	.672

a. Variable(s) entered on step 1: Micro1203, zonemand, zonecondmand.

Zoning Ordinances, Political Processes

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	146	80.7
	Missing Cases	10	5.5
	Total	156	86.2
Unselected Cases		25	13.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Zone Ord (12/04-1/05)		Percentage	Zone Ord (12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 0	Zone Ord (12/04-1/05)	No	75	0	100.0	23	0	100.0
		Yes	71	0	.0	1	0	.0
	Overall Percentage				51.4			95.8

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.055	.166	.110	1	.741	.947

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	Popn2000	3.895	1	.048
		medhhincome	25.376	1	.000
		workincounty	7.159	1	.007
		rural	2.142	1	.143

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	36.114	4	.000
	Block	36.114	4	.000
	Model	36.114	4	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	166.175[a]	.219	.292

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Classification Table[d]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Zone Ord (12/04-1/05)		Percentage	Zone Ord (12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 1	Zone Ord (12/04-1/05)	No	55	20	73.3	4	19	17.4
		Yes	26	45	63.4	0	1	100.0
	Overall Percentage				68.5			20.8

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Popn2000	.000	.000	.000	1	.992	1.000
	medhhincome	.000	.000	18.037	1	.000	1.000
	workincounty	.024	.011	5.272	1	.022	1.025
	rural	-19.737	26838.316	.000	1	.999	.000
	Constant	12.635	26838.316	.000	1	1.000	307108.8

a. Variable(s) entered on step 1: Popn2000, medhhincome, workincounty, rural.

Zoning Ordinances, Urban Hierarchy

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	113	62.4
	Missing Cases	43	23.8
	Total	156	86.2
Unselected Cases		25	13.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

Observed			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Zone Ord (12/04-1/05)		Percentage Correct	Zone Ord (12/04-1/05)		Percentage Correct
			No	Yes		No	Yes	
Step 0	Zone Ord (12/04-1/05)	No	58	0	100.0	20	0	100.0
		Yes	55	0	.0	1	0	.0
	Overall Percentage				51.3			95.2

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.053	.188	.080	1	.778	.948

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	Popn2000	1.804	1	.179
		NonFarm2002	3.617	1	.057
		Manufacturing2002	2.964	1	.085
		Services2002	7.873	1	.005
	Overall Statistics		10.700	4	.030

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	11.231	4	.024
	Block	11.231	4	.024
	Model	11.231	4	.024

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	145.340[a]	.095	.126

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[d]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Zone Ord (12/04-1/05)		Percentage	Zone Ord (12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 1	Zone Ord (12/04-1/05)	No	39	19	67.2	7	13	35.0
		Yes	23	32	58.2	0	1	100.0
	Overall Percentage				62.8			38.1

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Popn2000	.000	.000	.236	1	.627	1.000
	NonFarm2002	.035	.030	1.334	1	.248	1.035
	Manufacturing2002	-.034	.023	2.152	1	.142	.967
	Services2002	.057	.036	2.470	1	.116	1.058
	Constant	-3.569	2.414	2.187	1	.139	.028

a. Variable(s) entered on step 1: Popn2000, NonFarm2002, Manufacturing2002, Services2002.

Zoning Ordinances, Full Effects

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	113	62.4
	Missing Cases	43	23.8
	Total	156	86.2
Unselected Cases		25	13.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Zone Ord (12/04-1/05)		Percentage	Zone Ord (12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 0	Zone Ord (12/04-1/05)	No	58	0	100.0	20	0	100.0
		Yes	55	0	.0	1	0	.0
	Overall Percentage				51.3			95.2

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.053	.188	.080	1	.778	.948

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	Popn2000	1.804	1	.179
		NonFarm2002	3.617	1	.057
		Manufacturing2002	2.964	1	.085
		Services2002	7.873	1	.005
		medhhincome	18.070	1	.000
		workincounty	3.380	1	.066
		rural	2.147	1	.143
		zonemand	6.456	1	.011
		zonecondmand	1.207	1	.272
		zoneopt	1.918	1	.166

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	36.748	9	.000
	Block	36.748	9	.000
	Model	36.748	9	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	119.824[a]	.278	.370

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Classification Table[d]

Observed			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Zone Ord (12/04-1/05)		Percentage Correct	Zone Ord (12/04-1/05)		Percentage Correct
			No	Yes		No	Yes	
Step 1	Zone Ord (12/04-1/05)	No	42	16	72.4	4	16	20.0
		Yes	18	37	67.3	0	1	100.0
	Overall Percentage				69.9			23.8

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Popn2000	.000	.000	.167	1	.682	1.000
	NonFarm2002	.021	.034	.380	1	.538	1.021
	Manufacturing2002	-.037	.028	1.761	1	.185	.963
	Services2002	.033	.043	.579	1	.447	1.033
	medhhincome	.000	.000	11.289	1	.001	1.000
	workincounty	.007	.014	.244	1	.621	1.007
	rural	-19.555	26482.450	.000	1	.999	.000
	zonemand	2.017	.861	5.483	1	.019	7.514
	zonecondmand	-.679	1.003	.458	1	.499	.507
	Constant	11.430	26482.450	.000	1	1.000	92008.573

a. Variable(s) entered on step 1: Popn2000, NonFarm2002, Manufacturing2002, Services2002, medhhincome, workincounty, rural, zonemand, zonecondmand.

Zoning Ordinances, Full Effects + Percent Rural

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	113	62.4
	Missing Cases	43	23.8
	Total	156	86.2
Unselected Cases		25	13.8
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[d,e]

			Predicted					
			Selected Cases[a]			Unselected Cases[b,c]		
			Zone Ord (12/04-1/05)		Percentage	Zone Ord (12/04-1/05)		Percentage
	Observed		No	Yes	Correct	No	Yes	Correct
Step 0	Zone Ord (12/04-1/05)	No	58	0	100.0	20	0	100.0
		Yes	55	0	.0	1	0	.0
	Overall Percentage				51.3			95.2

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. Constant is included in the model.

e. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.053	.188	.080	1	.778	.948

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	Popn2000	1.804	1	.179
		NonFarm2002	3.617	1	.057
		Manufacturing2002	2.964	1	.085
		Services2002	7.873	1	.005
		medhhincome	18.070	1	.000
		workincounty	3.380	1	.066
		rural	2.147	1	.143
		zonemand	6.456	1	.011
		zonecondmand	1.207	1	.272
		zoneopt	1.918	1	.166
		rural2000	4.104	1	.043

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	37.630	10	.000
	Block	37.630	10	.000
	Model	37.630	10	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	118.941[a]	.283	.378

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Classification Table[d]

Observed		Predicted					
		Selected Cases[a]			Unselected Cases[b,c]		
		Zone Ord (12/04-1/05)		Percentage Correct	Zone Ord (12/04-1/05)		Percentage Correct
		No	Yes		No	Yes	
Step 1	Zone Ord (12/04-1/05) No	42	16	72.4	4	16	20.0
	Yes	17	38	69.1	0	1	100.0
	Overall Percentage			70.8			23.8

a. Selected cases Zoning legislation NE 4

b. Unselected cases Zoning legislation EQ 4

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Popn2000	.000	.000	.708	1	.400	1.000
	NonFarm2002	.015	.035	.179	1	.672	1.015
	Manufacturing2002	-.036	.029	1.613	1	.204	.964
	Services2002	.030	.043	.483	1	.487	1.030
	medhhincome	.000	.000	11.294	1	.001	1.000
	workincounty	.002	.015	.027	1	.869	1.002
	rural	-19.977	26113.014	.000	1	.999	.000
	zonemand	1.984	.870	5.198	1	.023	7.275
	zonecondmand	-.924	1.050	.774	1	.379	.397
	rural2000	-2.134	2.290	.869	1	.351	.118
	Constant	14.801	26113.014	.000	1	1.000	2679353

a. Variable(s) entered on step 1: Popn2000, NonFarm2002, Manufacturing2002, Services2002, medhhincome, workincounty, rural, zonemand, zonecondmand, rural2000.

Zoning Ordinance, Significant Variables

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	137	75.7
	Missing Cases	44	24.3
	Total	181	100.0
Unselected Cases		0	.0
Total		181	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

Block 0: Beginning Block

Classification Table[a,b]

			Predicted		
			Zone Ord (12/04-1/05)		Percentage
	Observed		No	Yes	Correct
Step 0	Zone Ord (12/04-1/05)	No	80	0	100.0
		Yes	57	0	.0
	Overall Percentage				58.4

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.339	.173	3.825	1	.051	.713

Variables not in the Equation[a]

			Score	df	Sig.
Step 0	Variables	medhhincome	4.362	1	.037
		workincounty	2.664	1	.103
		zonemand	9.426	1	.002
		Manufacturing2002	2.941	1	.086

a. Residual Chi-Squares are not computed because of redundancies.

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	18.353	4	.001
	Block	18.353	4	.001
	Model	18.353	4	.001

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	167.690[a]	.125	.169

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted		
			Zone Ord (12/04-1/05)		Percentage Correct
			No	Yes	
Step 1	Zone Ord (12/04-1/05)	No	72	8	90.0
		Yes	38	19	33.3
	Overall Percentage				66.4

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	medhhincome	.000	.000	5.139	1	.023	1.000
	workincounty	.010	.010	.999	1	.317	1.010
	zonemand	2.108	.815	6.688	1	.010	8.235
	Manufacturing2002	-.022	.022	1.074	1	.300	.978
	Constant	-2.948	1.142	6.663	1	.010	.052

a. Variable(s) entered on step 1: medhhincome, workincounty, zonemand, Manufacturing2002.

Appendix B: Data

State	County Name	Planning legislation	Zoning legislation	Popn (2000)	Micro (12/03)	Comp plan(12/04-1/05)	Zone Ord (12/04-1/05)	% rural (2000)	metroprox (2002)	Non-Farm (2002)	Manufacturing (2002)	Services (2002)	med hh income	work in county
Alabama	DeKalb County	2	3	64452	1	1	1	88.3%	3	92.69	35.05	19.03	30,137	74.89
Alabama	Greene County	2	3	9974	0	1	1	100.0%	3	87.66	10.18	10.70	19,819	48.30
Alabama	Henry County	2	3	16310	0	1	1	100.0%	3	91.85	20.50	(D)	30,353	46.29
Alabama	Jackson County	2	3	53926	1	1	1	76.3%	3	92.97	26.25	13.53	32,020	68.22
Alaska	Lake and Peninsula Borough	1	4	1823	0	1	1	100.0%	3	100.00	11.10	1.06	36,442	96.80
Alaska	Prince of Wales-Outer Ketchikan Census Area	3	4	6146	0	1	1	100.0%	3	100.00	3.62	14.74	40,636	95.67
Arizona	Apache County	1	3	69423	0	4	4	76.1%	3	98.72	(D)	11.38	23,344	78.00
Arizona	Graham County	1	3	33489	1	4	4	55.7%	3	95.01	2.64	25.57	29,668	78.09
Arizona	Greenlee County	1	3	8547	1	1	2	49.4%	3	96.20	(D)	(D)	39,384	93.65
Arizona	Navajo County	1	3	97470	0	4	4	58.0%	3	98.61	2.74	21.42	28,569	90.06
Arkansas	Calhoun County	3	3	5744	1	1	1	100.0%	3	96.96	54.01	5.35	28,438	47.74
Arkansas	Montgomery County	3	3	9245	0	1	1	100.0%	3	86.04	7.84	9.07	28,421	57.89

Arkansas	Newton County	3	3	8608	1	1	1	100.0%	3	79.14	4.69	(D)	24,756	43.35
Arkansas	Perry County	3	3	10209	0	1	1	100.0%	3	83.36	3.24	19.24	31,083	29.27
California	Lassen County	1	3	33828	1	4	4	58.8%	3	94.56	(D)	19.21	36,310	89.79
California	Mariposa County	1	3	17130	0	4	4	100.0%	3	96.37	1.38	13.30	34,626	72.37
California	Sierra County	1	3	3555	0	4	4	100.0%	3	95.27	3.84	9.76	35,827	60.65
California	Tuolumne County	1	3	54501	1	4	4	46.6%	3	98.08	4.10	28.68	38,725	83.00
Colorado	Jackson County	2	2	1577	0	4	4	100.0%	3	82.06	(D)	9.88	31,821	92.99
Colorado	Kiowa County	2	2	1622	0	4	1	100.0%	3	57.01	2.80	2.72	30,494	85.21
Colorado	La Plata County	2	2	43941	1	4	4	64.7%	3	97.28	2.25	24.73	40,159	94.36
Colorado	Montrose County	2	2	33432	1	4	4	53.1%	3	93.37	6.92	24.22	35,234	85.32
Connecticut	Litchfield County	4	4	182193	1	1	1	43.9%	2	98.79	13.92	26.49	56,273	54.83
Connecticut	Windham County	4	4	109091	1	1	1	49.0%	2	98.54	16.19	27.65	45,115	57.04
Delaware	Sussex County	1	1	156638	1	4	4	53.5%	3	97.48	(D)	19.37	39,208	76.44
Florida	Columbia County	1	1	56513	1	4	4	67.8%	3	96.70	5.25	25.52	30,881	74.60
Florida	Lafayette County	1	1	7022	0	1	1	100.0%	3	80.80	3.62	4.00	30,651	63.31
Florida	Levy County	1	1	34450	0	4	4	100.0%	3	92.39	2.20	20.13	26,959	53.58
Florida	Putam County	1	1	70423	1	4	4	54.4%	3	96.01	13.04	21.34	28,180	67.25
Georgia	Atkinson County	1	3	7609	1	4	1	100.0%	3	83.36	27.74	8.41	26,470	57.09

Georgia	Johnson County	1	3	8560	1	4	1	100.0 %	3	86.63	15.22	15.29	23,848	44.59
Georgia	Pike County	1	3	13688	0	4	4	100.0 %	3	91.18	10.49	11.08	44,370	24.44
Georgia	Rabun County	1	3	15050	0	4	4	100.0 %	3	97.02	19.83	17.65	33,899	81.89
Hawaii	Hawaii County	1		148677	1	4	4	41.5%	3	93.71	2.18	33.01	39,805	97.98
Idaho	Clark County	1	1	1,022	0	4	4	100.0 %	3	74.09	(D)	2.14	31,576	79.01
Idaho	Custer County	1	1	4,342	0	4	1	100.0 %	3	87.00	1.28	11.57	32,174	83.73
Idaho	Fremont County	1	1	11,819	1	4	4	72.2%	3	84.71	2.12	10.12	33,424	52.50
Idaho	Teton County	1	1	5,999	1	4	4	100.0 %	3	85.66	4.07	16.84	41,968	59.29
Illinois	Cumberland County	3	3	11,253	1	1	1	100.0 %	3	86.86	8.03	12.23	36,149	33.97
Illinois	Hardin County	3	3	4,800	0	1	1	100.0 %	3	90.95	(D)	28.20	27,693	64.25
Illinois	Pope County	3	3	4,413	0	1	1	100.0 %	3	77.44	(D)	5.91	30,048	40.05
Illinois	Putnam County	3	3	6,086	1	4	4	100.0 %	3	83.55	16.33	15.97	45,492	40.01
Indiana	Noble County	2	3	46,275	1	4	4	66.4%	3	95.48	40.33	19.63	42,700	61.57
Indiana	Ohio County	2	3	5,623	0	4	4	100.0 %	3	88.94	(D)	13.15	41,348	33.72
Indiana	Owen County	2	3	21,786	0	4	4	100.0 %	3	90.69	21.26	14.56	36,529	37.96
Indiana	Steuben County	2	3	33,214	1	3	4	68.5%	3	96.42	31.06	16.01	44,089	70.86
Iowa	Ida County	3	3	7,837	0	1	4	100.0 %	3	86.44	20.24	9.09	34,805	80.26
Iowa	Iowa	3	3	15,671	0	1	1	100.0	3	91.83	30.55	14.36	41,222	68.91

	County							%						
Iowa	Louisa County	3	3	12,183	1	4	4	100.0 %	3	87.76	27.50	16.57	39,086	46.82
Iowa	Worth County	3	3	7,909	1	3	1	100.0 %	3	79.08	11.23	18.15	36,444	45.41
Kansas	Chase County	3	3	3,030	1	1	1	100.0 %	3	87.87	(D)	11.72	32,656	53.85
Kansas	Lincoln County	3	3	3,578	0	1	1	100.0 %	3	75.88	1.52	8.10	30,893	73.69
Kansas	Linn County	3	3	9,570	0	4	4	100.0 %	3	78.99	2.70	13.48	35,906	48.51
Kansas	Ottawa County*	3	3	6,163	1	4	1	100.0 %	3	77.82	6.65	18.26	38,009	49.64
Kentucky	Bath County	2	3	11,085	1	1	1	100.0 %	3	74.54	12.74	13.64	26,018	41.41
Kentucky	Lee County	2	3	7,916	0	1	1	100.0 %	3	93.36	(D)	8.96	18,544	58.50
Kentucky	Leslie County	2	3	12,401	0	1	1	100.0 %	3	99.37	(D)	7.31	18,546	59.61
Kentucky	Lewis County	2	3	14,092	1	2	1	100.0 %	3	75.21	6.25	7.89	22,208	42.53
Louisiana	Beauregard Parish	2	2	32,986	1	1	1	70.5%	3	93.24	8.97	12.44	32,582	57.90
Louisiana	Grant Parish	2	2	18,698	0	1	1	100.0 %	3	94.97	11.18	16.09	29,622	34.26
Louisiana	Jackson Parish	2	2	15,397	1	1	1	67.9%	3	95.70	16.80	19.48	28,352	48.95
Louisiana	St. Helena Parish	2	2	10,525	0	1	1	100.0 %	3	85.88	5.16	11.28	24,970	32.89
Maine	Kennebec County	4	4	1.2E5	1	1	1	61.2%	3	98.84	4.99	29.32	36,498	80.36
Maine	Knox County	4	4	39,618	1	1	1	61.6%	3	99.12	6.85	23.28	36,774	86.07
Maine	Lincoln	4	4	33,616	0	1	1	100.0	3	98.51	6.19	30.56	38,686	64.82

	County							%						
Maine	Piscatiquis County	4	4	17,235	0	1	1	100.0%	3	97.61	17.54	12.91	28,250	75.43
Maryland	Caroline County	3	3	29,772	0	4	4	78.6%	3	93.68	12.84	12.55	38,832	44.13
Maryland	Garrett County	3	3	29,846	0	4	1	83.3%	3	95.69	5.01	14.24	32,238	72.83
Maryland	St. Mary's County	3	3	86,211	1	4	4	61.8%	3	98.39	1.15	21.93	54,706	74.27
Maryland	Talbot County	3	3	33,812	1	4	4	63.3%	3	98.71	9.32	34.24	43,532	76.07
Massachusetts	Dukes County	4	4	14,987	0	1	1	62.7%	3	99.25	(D)	29.97	45,559	95.56
Massachusetts	Franklin County	4	4	71,535	0	1	1	54.6%	2	97.54	15.12	24.90	40,768	62.53
Michigan	Benzie County	2	3	15,998	1	4	4	100.0%	3	97.61	7.73	24.74	37,350	51.84
Michigan	Keneenaw County	2	3	2,301	1	4	4	100.0%	3	100.00	4.14	6.90	28,140	38.70
Michigan	Lake County	2	3	11,333	0	4	3	100.0%	3	95.91	3.28	16.04	26,622	42.66
Michigan	Montmorency County	2	3	10,315	0	4	3	100.0%	3	96.73	10.70	14.35	30,005	64.96
Minnesota	Cass County	3	3	27,150	1	4	4	100.0%	3	96.24	3.97	20.92	34,332	60.12
Minnesota	Lake of the Woods County	3	3	4,522	0	4	4	100.0%	3	91.03	(D)	27.15	32,861	81.25
Minnesota	Lincoln County	3	3	6,429	0	4	4	100.0%	3	74.53	0.91	5.83	31,607	63.31
Minnesota	Otter Tail County	3	3	57,159	1	1	1	77.2%	3	89.53	11.05	27.22	35,395	81.22
Mississip	Carroll	3	3	10,769	1	1	1	100.0	3	75.12	(D)	6.48	28,878	23.97

pi	County							%						
Mississippi	Clarke County	3	3	17,955	1	1	1	100.0%	3	92.84	14.16	14.97	26,610	56.34
Mississippi	Greene County	3	3	13,299	0	1	1	100.0%	3	88.28	(D)	15.45	28,336	37.41
Mississippi	Issaquena County	3	3	2,274	0	1	1	100.0%	3	63.57	(D)	2.61	19,936	33.43
Missouri	Clark County	3	3	7,416	1	1	1	100.0%	3	77.94	4.92	13.36	29,457	48.73
Missouri	Lewis County	3	3	10,494	1	1	1	100.0%	3	81.28	6.14	7.35	30,651	56.83
Missouri	Mercer County	3	3	3,757	0	1	1	100.0%	3	44.79	(D)	9.35	29,640	68.52
Missouri	Monroe County	3	3	9,311	0	4	4	100.0%	3	78.99	16.31	17.58	30,871	54.22
Montana	Flathead County	3	3	74,471	1	4	4	52.6%	3	97.79	6.55	29.57	34,466	96.80
Montana	Jefferson County	3	3	10,049	1	4	3	100.0%	3	93.22	4.01	13.48	41,506	38.81
Montana	Madison County	3	3	6,851	0	4	1	100.0%	3	83.54	3.20	14.43	30,233	82.02
Montana	Meagher County	3	3	1,932	0	4	1	100.0%	3	79.28	(D)	5.05	29,375	88.89
Nebraska	Gosper County	1	1	2,143	1	4	4	100.0%	3	66.16	(D)	2.21	36,827	48.42
Nebraska	Hayes County	1	1	1,068	0	4	4	100.0%	3	41.50	(D)	(D)	26,667	73.70
Nebraska	Hitchcock County	1	1	3,111	0	4	4	100.0%	3	75.35	2.99	4.38	28,287	61.10
Nebraska	Howard County	1	1	6,567	1	4	4	100.0%	3	73.57	0.60	12.82	33,305	52.49
Nevada	Douglas County	1	3	41,259	1	4	4	100.0%	3	99.10	6.31	43.13	51,849	65.68
Nevada	Esmeralda County	1	3	971	0	4	1	100.0%	3	85.53	(D)	(D)	33,203	70.40
Nevada	Lincoln	1	3	4,165	0	4	4	100.0	3	93.08	(D)	5.32	31,979	89.68

	County							%						
Nevada	Nye County	1	3	32,485	1	4	4	100.0 %	2	98.10	1.35	20.91	36,024	75.88
New Hampshire	Carroll County	2	3	43,666	0	1	1	100.0 %	3	99.18	4.86	33.51	39,990	76.09
New Hampshire	Cheshire County	2	3	73,825	1	1	1	66.2%	3	98.71	13.42	19.66	42,382	76.84
New Hampshire	Coos County	2	3	33,111	1	1	1	65.6%	3	98.59	10.22	29.78	33,593	82.67
New Hampshire	Grafton County	2	3	81,743	1	1	1	64.8%	3	99.20	9.74	29.39	41,962	81.95
New Jersey	Hunterdon County	2	4	1.2E5	0	3	1	53.1%	3	97.57	5.62	17.40	79,888	41.31
New Jersey	Warren County	2	4	1.0E5	0	4	1	42.9%	3	97.90	14.85	25.97	56,100	41.77
New Mexico	Cibola County	2	3	25,595	1	4	1	59.8%	3	98.01	5.53	16.53	27,774	77.93
New Mexico	De Baca County	2	3	2,240	0	1	1	100.0 %	3	70.26	(D)	6.71	25,441	87.91
New Mexico	Harding County	2	3	810	0	4	1	100.0 %	3	65.09	(D)	1.63	26,111	86.67
New Mexico	McKinley County	2	3	74,798	1	4	1	60.7%	3	99.09	3.49	26.73	25,005	85.44
New York	Columbia County	3	4	63,094	1	2	1	70.6%	3	95.82	7.50	27.42	41,915	63.21
New York	Hamilton County	3	4	5,379	0	1	1	100.0 %	3	100.00	1.57	22.29	32,287	68.36
New York	Lewis County	3	4	26,944	0	1	1	87.4%	3	91.08	12.58	12.52	34,361	66.50
New York	Otsego County	3	4	61,676	1	1	1	74.0%	3	95.42	4.99	32.97	33,444	76.86
North	Graham	3	3	7,993	0	1	1	100.0	3	96.50	(D)	22.43	26,645	75.65

Carolina	County							%						
North Carolina	Greene County	3	3	18,974	0	4	4	100.0 %	3	85.06	6.50	24.35	32,074	35.87
North Carolina	Jones County	3	3	10,381	1	1	1	100.0 %	3	88.80	2.29	21.73	30,882	27.54
North Carolina	Pamlico County	3	3	12,934	1	4	1	100.0 %	3	96.66	4.47	18.47	34,084	51.91
North Dakota	LaMoure County	3	3	4,701	0	4	4	100.0 %	3	70.26	3.36	5.58	29,707	78.93
North Dakota	Logan County	3	3	2,308	0	4	2	100.0 %	3	70.40	0.72	23.86	27,986	81.20
North Dakota	McHenry County	3	3	5,987	1	4	4	100.0 %	3	64.38	4.05	11.51	27,274	59.91
North Dakota	Renville County	3	3	2,610	1	3	2	100.0 %	3	72.67	(D)	12.14	30,746	70.22
Ohio	Champaign County	3	3	28,241	1	2	1	70.2%	3	93.16	21.77	15.00	43,139	46.91
Ohio	Gallia County	3	3	31,069	1	3	2	77.1%	3	94.30	6.43	15.42	30,191	74.76
Ohio	Monroe County	3	3	15,180	0	1	1	97.8%	3	89.69	27.42	7.41	30,467	61.53
Ohio	Vinton County	3	3	12,806	0	4	1	92.7%	3	93.53	14.02	7.91	29,465	40.25
Oklahoma	Cherokee County	1	3	42,521	1	1	1	59.9%	3	88.62	1.10	19.11	26,536	72.23
Oklahoma	Ellis County	1	3	4,075	0	1	1	100.0 %	3	64.12	1.15	12.59	27,951	68.62
Oklahoma	Grant County	1	3	5,144	0	1	1	100.0 %	3	66.91	0.84	11.54	28,977	66.46
Oklahoma	Love County	1	3	8,831	1	1	1	100.0 %	3	79.14	13.21	16.04	32,558	51.28
Oregon	Curry County	1	1	21,137	1	4	4	53.1%	3	96.78	7.71	24.49	30,117	91.04
Oregon	Grant County	1	1	7,935	0	4	4	100.0 %	3	86.77	6.66	11.73	32,560	94.15

Oregon	Hood River County	1	1	20,411	1	4	4	57.4%	3	87.90	9.27	23.06	38,326	83.75
Oregon	Sherman County	1	1	1,934	0	4	4	100.0 %	3	75.51	(D)	(D)	35,142	74.91
Pennsylvania	Bradford County	1	3	62,761	1	4	4	72.2%	3	93.32	19.21	25.63	35,038	76.31
Pennsylvania	Fulton County	1	3	14,261	0	4	1	100.0 %	3	90.36	24.30	7.57	34,882	54.62
Pennsylvania	Potter County	1	3	18,080	0	4	1	100.0 %	3	95.41	9.28	9.45	32,253	74.08
Pennsylvania	Snyder County	1	3	37,546	1	4	1	71.3%	3	95.01	26.31	11.61	35,981	68.69
South Carolina	Calhoun County	3	3	15,185	0	4	1	100.0 %	3	92.90	19.90	12.81	32,736	32.12
South Carolina	Colleton County	3	3	38,264	1	4	4	73.8%	3	96.19	10.68	21.88	29,733	65.02
South Carolina	Jasper County	3	3	20,678	1	4	4	82.5%	3	97.00	6.44	22.24	30,727	43.91
South Carolina	McCormick County	3	3	9,958	0	4	2	100.0 %	3	95.66	11.77	15.88	31,577	47.84
South Dakota	Edmonds County	3	3	4,367	1	1	4	100.0 %	3	75.82	(D)	12.59	32,205	68.24
South Dakota	Hanson County	3	3	3,139	1	4	4	100.0 %	3	70.58	4.08	(D)	33,049	40.84
South Dakota	Harding County	3	3	1,353	0	3	4	100.0 %	3	65.09	(D)	6.90	25,000	89.82
South Dakota	Hutcinson County	3	3	8,075	0	3	4	100.0 %	3	78.65	5.30	3.42	30,026	76.99
Tennessee	Hickman County	2	3	22,295	0	1	1	100.0 %	3	86.64	11.23	22.33	31,013	40.36
Tennessee	Houston County	2	3	8,088	0	1	1	100.0 %	3	86.75	8.48	3.51	29,968	41.99
Tennessee	Jackson County	2	3	10,984	1	1	1	100.0 %	3	87.89	11.87	5.73	26,502	43.53

Tennessee	Overton County	2	3	20,118	1	1	1	84.3%	3	86.21	17.25	9.69	26,915	53.20
Texas	Kenedy County	4	4	414	1	2	2	100.0%	3	64.11	(D)	3.16	25,000	69.52
Texas	Kinney County	4	4	3,379	0	1	1	100.0%	3	81.16	(D)	6.89	28,320	72.15
Texas	Knox County	4	4	4,253	0	1	1	100.0%	3	76.84	1.47	5.74	25,453	82.19
Texas	Roberts County	4	4	887	1	1	1	100.0%	3	67.63	(D)	(D)	44,792	46.26
Utah	Garfield County	1	3	4,735	0	4	4	100.0%	3	88.46	3.13	30.39	35,180	89.56
Utah	Morgan County	1	3	7,129	0	4	4	100.0%	3	89.21	8.17	10.69	50,273	38.42
Utah	Uintah County	1	3	25,224	1	2	4	54.3%	3	93.37	1.97	21.59	34,518	87.83
Vermont	Essex County	4	4	6,459	1	1	1	100.0%	3	94.48	30.31	13.74	30,490	41.29
Vermont	Grand Isle County	4	4	6,901	0	1	1	100.0%	2	91.56	3.30	14.11	43,033	31.82
Vermont	Lamoille County	4	4	23,233	0	1	1	100.0%	3	97.25	6.00	40.36	39,356	71.40
Vermont	Orange County	4	4	28,226	1	1	1	97.7%	3	94.29	7.67	27.12	39,855	46.69
Virginia	Augusta County	1	3	65,615	1	4	4	78.0%	3	96.18	(D)	14.94	43,045	49.51
Virginia	Henry County	1	3	57,930	1	4	4	64.5%	3	98.91	26.67	16.64	31,816	64.77
Virginia	King and Queen County	1	3	6,630	0	4	4	100.0%	3	92.07	10.51	13.36	35,941	24.44
Virginia	King George County	1	3	16,803	0	4	4	100.0%	2	98.68	1.11	15.08	49,882	54.01
Washingt	Lewis	1	3	68,600	1	4	4	64.1%	3	94.77	9.20	25.79	35,511	79.85

on	County													
Washington	Lincoln County	1	3	10,184	0	4	4	100.0%	3	80.21	2.32	10.26	35,255	72.32
Washington	Mason County	1	3	49,405	1	4	4	74.7%	3	98.09	10.24	18.56	39,586	56.74
Washington	Pend Oreille County	1	3	11,732	0	1	1	100.0%	3	92.28	12.13	7.92	31,677	62.04
West Virginia	Doddridge County	3	3	7,403	1	1	1	100.0%	3	86.10	(D)	20.11	26,744	31.14
West Virginia	Hardy County	3	3	12,669	0	3	1	100.0%	3	91.09	43.54	3.91	31,846	69.03
West Virginia	Lincoln County	3	3	22,108	0	3	1	100.0%	3	93.95	0.89	21.09	22,662	32.91
West Virginia	Mason County	3	3	25,957	1	1	1	70.9%	3	89.24	7.14	22.08	27,134	52.95
Wisconsin	Florence County	3	3	5,088	1	4	4	100.0%	3	93.50	16.23	6.06	34,750	37.89
Wisconsin	Forest County	3	3	10,024	0	1	2	100.0%	3	96.78	8.27	12.20	32,023	75.13
Wisconsin	Grant County	3	3	49,597	1	1	1	65.5%	3	87.42	11.61	14.58	36,268	70.07
Wisconsin	Lafayette County	3	3	16,137	0	2	2	100.0%	3	74.28	7.80	14.49	37,220	53.65
Wyoming	Crook County	3	3	5,587	0	3	1	100.0%	3	83.68	5.06	11.37	35,601	72.29
Wyoming	Fremont County	3	3	35,804	1	2	1	52.4%	3	94.59	2.44	13.28	32,503	95.19
Wyoming	Niobrara County	3	3	2,407	0	4	4	100.0%	3	79.40	(D)	13.10	29,701	93.03
Wyoming	Teton County	3	3	18,251	1	4	4	43.9%	3	99.36	1.16	35.37	54,614	96.52
COLUMN D: 1=REQUIRED FOR COUNTIES; 2=CONDITIONALLY REQUIRED FOR COUNTIES; 3=OPTIONAL FOR COUNTIES; 4=COUNTIES NOT AUTHORIZED/NEVER DONE BY COUNTY														

COLUMN E: 1=REQUIRED FOR COUNTIES; 2=CONDITIONALLY REQUIRED FOR COUNTIES; 3=OPTIONAL FOR COUNTIES; 4=COUNTIES NOT AUTHORIZED/NEVER DONE BY COUNTY													
COLUMN G: 1=YES, 0=NO													
COLUMN H: 1=NO, 2=PROBABLY NOT, 3=PROBABLY YES, 4=YES													
COLUMN I: 1=NO, 2=PROBABLY NOT, 3=PROBABLY YES, 4=YES													
COLUMN K: 1=CENTRAL TO MSA, 2=OUTLYING METROPOLITAN COUNTY, 3=EXURBAN COUNTY													
COLUMNS M AND N: (D) SIGNIFIES NUMBERS TOO SMALL TO REPORT. COUNTED AS ZERO IN THE QUANTITATIVE MODEL													

Appendix C: Permissions

From: Clifford, Anna [Anna.Clifford@sagepub.com] on behalf of permissions [permissions@sagepub.com]
Sent: Friday, April 01, 2005 10:53 AM
To: jpaulson@vt.edu
Subject: RE: Permissions

Dear Joanna,

Please consider this written permission to use the material detailed below for your dissertation/thesis.

Please let me know if you need anything further.

Sincerely,

Anna Clifford
Permissions & Translations Administrator
Sage Publications
2455 Teller Road
Thousand Oaks, CA 91320
805-499-0721, ext. 7713
805-376-9562 fax
anna.clifford@sagepub.com

-----Original Message-----
From: jpaulson@vt.edu [mailto:jpaulson@vt.edu]
Sent: Monday, March 28, 2005 11:43 AM
To: permissions
Subject: Permissions

Email: jpaulson@vt.edu

-

Name: Joanna Paulson
Affliation: Virginia Tech
Address: 707 Appalachian Drive #11
City: Blacksburg
State: VA
Zip: 24060
Phone: 540-922-2167
Reference Code:
Title_of_publication: Planning Local Economic Development
Type_of_publication: Book
Type_of_Pub_Other:
Isbn_issn: 0-76190245802
Pub Date: 2002
Volume_Issue:
Title_of_Material: Figure 5.3. Neighborhood Scale of Solidarity
Authors_of_Material: Edward Blakely and Ted Bradshaw
Portion_of_material: 1 table/figure
Page_Range: page 119
Type_of_use: republish in a thesis/dissertation
Type_of_use_Other:
Purpose_of_use: Academic
Distribution_qty: <20

Title_of_your_publication: Rural Planning and Zoning in America
Requestor_type_of_publication: Masters thesis
Author_Editor_your_publication: Joanna Paulson
your_publisher_distributor: Virginia Tech Graduate School
Estimated_pub_date: 05/01/05
Entire Publication:
Other_Use_of_Material:
Comments:

Joanna Paulson

Curriculum Vita

707 Appalachian Drive #11
Blacksburg, VA 24060
E-mail: jpaulson@vt.edu

Education

Master of Urban and Regional Planning (economic development focus) anticipated May 2005 (GPA 3.88/4.0)
Virginia Polytechnic Institute and State University

BS in Environmental Resource Management with Distinction and with Honors (GPA 3.64/4.0), May 2003, with minors in Environmental Engineering, French, and International Studies
The Pennsylvania State University, Schreyer Honors College

Theses

"Rural Planning and Zoning Adoption in the United States." Graduate thesis, to be completed Spring 2005. Virginia Polytechnic Institute and State University.

"Developing a sustainable land use management plan for the agricultural, mountainous regions of the European Union." Undergraduate thesis, Spring 2003. The Pennsylvania State University.

Publications

"Homeownership Affordability in Virginia." 2004. Virginia Association of Realtors and Virginia Tech Center for Housing Research. Blacksburg, VA.

"Down on the Pharm," Summer 2002. *Prospectus*. Center for Strategic and International Studies, Washington, DC.

Presentations

"Housing in Appalachia." March 2005. Appalachian Studies Conference, Radford University.

"The Condition of Appalachia." August 2004. Appalachian Housing Summit, Kingsport, TN.

"Housing Analysis and Western Greenbrier Co-Generation Impact Assessment." March 2004 and May 2004. Presented to the Greenbrier Housing Authority on behalf of the Virginia Tech Center for Housing Research, Lewisburg, WV.

Research Experience

Graduate research assistant (20 hours/week), Virginia Tech Center for Housing Research, Fall 2003-present (including summer). Includes extensive quantitative research, ArcView GIS mapping, writing and public speaking. Co-authored research reports include "Housing Analysis and Western Greenbrier Co-Gen Impact Assessment for Rainelle, West Virginia," "Housing Affordability in Virginia" (published 2004), "The Condition of Appalachia" (presented at the 2004 Appalachian Housing Summit), forthcoming "Housing Assessment for Augusta County, Virginia," "Housing Assessment for Virginia Beach,

Virginia," and the forthcoming "Housing in Appalachia" (to be presented at the 2005 Appalachian Studies Conference). Listing of other work available upon request.

Teaching assistant, Water and Wastewater Treatment, Department of Civil Engineering, The Pennsylvania State University, Spring 2003

Intern, The Center for Strategic and International Studies, Washington, DC, Summer 2002. Biotechnology and Public Policy group

Research assistant to Prof. David Mortensen (invasive weed ecology), Department of Agronomy ,The Pennsylvania State University, Fall 2001

Intern, The National Park Service, Arizona State Parks, State Historic Preservation Office, Phoenix, AZ, Summer 2001.

Intern, The Mountain Institute, Spruce Knob Mountain Center, WV, Summer 2000. Staff for 2000 West Virginia Scholar Academy.

Reader for C. Edgar McDonald, (then) president of the National Federation of the Blind of WV, Keyser, WV. May 1995-August 1999

Scholarships and Honors

Graduate student for service to the program, presented by the Virginia Citizens Planning Association and the Urban Affairs and Planning Department, Virginia Tech, April 2005

Outstanding First-Year Graduate Student Award/Fellowship, presented by the Virginia Citizens Planning Association and the Urban Affairs and Planning Department, Virginia Tech, April 2004

Awarded full assistantship both years of graduate school (20-hour positions are normally reserved for second-year students)

Gamma Sigma Delta agriculture honor society, inducted Spring 2002

Coaly Society, Penn State's agricultural honors organization, inducted Fall 2000

National Society of Collegiate Scholars, inducted Fall 2000

Extra-Curricular Activities

Graduate Urban Affairs and Planning Association (GUAPA), August 2003- present; Co-president 2003-2005.

American Planning Association, memberships in Virginia and West Virginia chapters. Spring 2004-present.

Sigma Alpha, the national, professional, agricultural sorority, Fall 2000-present; professional chair Fall 2001; alumni involvement in Virginia Tech chapter Fall 2003-present.

World Summit on Sustainable Development, Johannesburg, South Africa. Participated in pre-conference meetings, August 14-26, 2002.

Study abroad, IES, Paris, Spring 2002. Courses taught in French.