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Comprehensive planning in Louisiana

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COMPREHENSIVE PLANNING IN LOUISIANA

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ABSTRACT

This study explores the factors associated with the implementation of land use planning policies and tools among the parishes (counties) of Louisiana. There is an absence of statutory standards, strict guidelines, and other external drivers for planning in Louisiana and the extent to which local governments regulate land use varies widely among local jurisdictions. The purpose of this study is to provide an empirical model of intrinsic factors that might explain why some parishes have decided to intervene in land use by adopting a high number of planning policies and tools, and why others have failed to adopt few, if any. A planning score derived from the number of land use planning policies and tools that have been formally adopted is tested against variables for socio-economic, environmental pressure, and government administration conditions using an Ordinary Least Squares (OLS) Multivariate Analysis.

The empirical evidence indicates that the adoption of planning policies and tools is least associated with non-metropolitan parishes with police jury forms of government. Results also indicate that high median housing value is the factor most associated with a high planning score even after accounting for metro areas, where land values are proportionately higher. There is also a strong positive association between the planning score and the amount of surface water within a jurisdiction. These findings, and the fact that no relationship between planning and population, growth, or education was found, advances the theory that the impetus for planning at the local level in Louisiana is based on the protection of property and property values rather than growth. This theory suggests that a focus on floodplain protection and mitigation, water resource conservation and preservation, and water-dependent recreation and tourism could be the best method for encouraging planning policy adoption by local governments.

1. INTRODUCTION

In the early 20th Century, Louisiana was a leader in land use planning, being the first to establish a commission to protect historic properties and one of the first to adopt enabling legislation for local planning commissions. In 1926, Louisiana was one of 20 states to adopt the Standard State Zoning Enabling Act (the SZEA). In 1998, it was one of 24 that had failed to keep up with the rest of the nation in updating its statutes (Villavaso 1999). It is among the states least likely to intervene in private property decisions regarding development (American Planning Association [APA] 2002), and prior to Hurricanes Katrina and Rita in 2005, promulgated little legislation related to planning as an important public policy tool.

1.1 Variability of Planning Policy among Local Jurisdictions

Generally and with some reason, planning is treated as a local matter. Therefore, in the absence of statutory standards or guidelines, as is the case in Louisiana, the application of planning as a policy instrument tends to vary widely among local jurisdictions. While a number of places require no governmental permits for development of any kind, others have adopted ordinances that establish the use of planning tools such as building permits, subdivision review, and zoning, or some combination of these simple forms for regulating development.

The most aggressive local planning authorities attempt to regulate the location, timing, and impacts of new development by adopting comprehensive (master) plans that regulate not only what can be developed in an area, but also how that development looks and performs. The most "comprehensive" plans coordinate public and non-governmental resources to guide development along a path toward a set of goals and objectives devised through public input and visioning. The most effective of these plans involve the widest range of stakeholders possible (Burby 2003) and entail capital improvements programming to ensure implementation (Brody

and Highfield 2005). Other plans reach beyond the local geography to address regional concerns such as Smart Growth, watershed and airshed management, and transportation policies. Despite the lack of direction from the state government, local authorities in Louisiana were initiating planning at the comprehensive end of the spectrum at an increasing rate in the decade before the storms of 2005 (Villavaso 2002).

Because planning is an effective tool for resolving issues that arise from conflicts among land uses in close proximity, planning is embraced more readily by urban communities. In Louisiana, this pattern has held in Louisiana with large metropolitan areas more likely to adopt and enforce land use regulations, while smaller and less urban municipalities' utilization of planning tools is mixed. "Thus, a natural range of tools has evolved . . . (Villavaso 2002)." This heterogeneity of planning policy among Louisiana jurisdictions is also evident at the parish level. A tabulation of the tools and policies adopted by parish is provided in Appendix A.

1.2 Planning Policy after the Hurricane Season of 2005

Prior to the storms of 2005, there was a call for Louisiana to reform its planning statutes to "support current comprehensive planning efforts, . . . encourage marginal areas to consider these tools via a reward system and, . . . acknowledge, without penalizing, those communities who choose to wait until a demonstrated need arises (Villavaso 2002)." Subsequent to Hurricanes Katrina and Rita, many communities in Louisiana have recognized that need. Planning as a tool for damage reduction from flooding and major storm events has been promoted by the Louisiana Recovery Authority (LRA) and the infusion of recovery funds from the federal government and other sources has fortified the state's interest in planning reform. The legislature mandated the adoption of International Building Codes (I-Codes) in 2005 as a first measure to address the high risk of major storm events. Yet, despite the clear improvement

to public safety demonstrated by the same codes in hurricane-intense Florida, some parishes balked at this additional responsibility. The media has reported that they were supported by industries that rejected the additional costs (Alford 2007).

More recently, the Coastal Protection and Recovery Authority (CPRA) published a Comprehensive Master Plan for a Sustainable Coast (2007) that recommends improved land use planning, zoning, and permitting to address the risks related to development in the coastal zone. Careful phrasing by the leaders of the CPRA and the LRA regarding implementation of planning mandate demonstrates that they anticipate resistance from some quarters. Nowhere in the document does the word mandate or requirement appear in conjunction with planning.

1.3 Research Purpose

As a baseline for the upcoming state policy debate, it is worthwhile to consider whether there are any internal factors in a community that are associated with the variability of land use planning policies among local jurisdictions. This study uses multivariate analysis to consider a number of independent variables that might be associated with the extent of planning in the 64 Louisiana parishes. Each jurisdiction was assigned a planning score on the basis of how many of the planning tools it had initiated prior to the hurricane season of 2005. The analysis was then run with socio-economic factors, e.g. population growth, income, education, and housing values, the urban-rural context, governmental structure, and indicators of environmental pressures that arise from urbanization, population density, water features, and land uses that impact the natural environment.

This study does not pretend to evaluate the effectiveness of planning policies in the parishes. Rather, it investigates whether parish governments and their constituents have an inclination to intervene in land use in a regulated manner. If the policies and procedures counted

in the planning score are only titular and the process a rubber stamp, at the very least, the parishes with higher scores can be said to have recognized planning as a legitimate function of local government and have put vehicles in place for its implementation at a greater rate than those with lower scores.

There are very few theories and empirical studies that would explain local jurisdictions' decisions to intervene in land use in the absence of external drivers such as state or federal mandates. Therefore, this study is a first cut at an empirical analysis of factors that are associated with attitudes in Louisiana toward land use planning at the parish level. It is intended to provide enough data to direct future studies that will help craft an approach for the establishment of statewide planning standards and promote serious and effective land use policies at local levels.

2. LITERATURE REVIEW

2.1 Application of Planning Policy in Louisiana

Louisiana ranks at the bottom of almost every environmental and economic health indicator. The Wall Street Journal stated that for the last 15 years Louisiana has consistently been named by the research firm of Morgan Quitno as either America's Least Livable State or runner-up based on combined educational, economic, health, environmental, and crime statistics. (Dreher 2007). In the Forbes annual ranking of the best states for business, Louisiana came in 49th overall, placing in the bottom five in the categories of labor, regulatory environment, growth prospects, and quality of life (Badenhausen 2007).

The state level of educational attainment is low in comparison to other states and, in the 10 years before 2007, the unemployment rate remained above the national rate until hurricane recovery created a demand for workers (U.S. Department of Labor 2007). Prior to the hurricane season of 2005, neither economic nor environmental objectives were being met and, as illustrated by Katrina, disaster planning (preparedness, hazard mitigation, emergency response, and recovery) was catastrophically disorganized. Slow growth in the 1990s from chronic outmigration (Franklin 2003) that is a consequence of poor job growth and declining quality of life factors continued through 2006.

Despite the catastrophic losses of acres from coastal erosion, land for development is still plentiful in the state. Yet, many of the natural and quality of life resources provided by land are diminishing at an alarming rate, but no agreed-upon methodology for estimating the changes in these non-market values has yet been established (Cardoch and Day 2001). It appears that when it comes to land use decisions, Louisiana tends to discount the future at the market rate (8-10 percent) as opposed to a lower social discount rate (0.5-3 percent) endorsed by Turner et al.

(1996 as cited in Cardoch and Day 2001), the lower rate being considered reasonable when the goal is sustainable development. This means that the planning horizon for most Louisiana citizens is short and that planning as a future oriented discipline is not generally considered to be worth the investment of scarce local resources.

Yet in the first part of the century, Louisiana was a leader in planning and preservation initiatives. In 1921 Louisiana adopted a new State Constitution that included provisions for planning. Article 6 of the new Constitution further authorized local governmental subdivisions to:

> (1) adopt regulations for land use, zoning, and historic preservation, which authority is declared to be a public purpose
> (2) create commissions and districts to implement those regulations
> (3) review decisions by any such commission; and
> (4) adopt standards for use, construction, demolition and modification of areas and structures.

Pursuant to this Constitution, New Orleans established the French Quarter as a historic district and in a 1923 amendment, the Vieux Carré Commission was authorized to develop and implement a preservation plan to be enforced by the City Council. This was the first historic preservation commission created in the United States.

Louisiana's planning legislation predates the federal government's models, yet the state was interested enough to make improvements to the local use of planning through its adoption of the SZEA in 1926 and the City Planning Enabling Act (CPEA) in 1928. These model statutes were recommended to the states by Herbert Hoover as Secretary of Commerce and provided "as far as it is practicable to foresee, that proper zoning can be undertaken without injustice and without violating property rights." The models also established methods and procedures for planning and zoning commissions.

Current Louisiana statutes have not changed much since this time. The reformed Louisiana Constitution of 1974 retained the 50-year-old language for planning, but did little to fortify it. The gist of Louisiana planning law (R.S. 33:103-109) is that every parish and municipality *may* create a planning commission and appropriate funds to it. The law requires that, once created, the "planning commission shall make and adopt a master plan for the physical development of the community." Although 40 parishes have appointed planning commissions, the number of plans in the state is extremely low. Even among the jurisdictions with planning commissions, a zoning map is considered compliant with the statute (Villavaso 2002).

Despite the general lack of interest and the absence of federal and state incentives, some jurisdictions in Louisiana have undertaken comprehensive planning independently. Examples of ambitious initiatives can be found among the plans developed by New Orleans, Jefferson Parish, the City of Baton Rouge-Parish of East Baton Rouge, the Lafayette Consolidated Government, and Shreveport-Bossier. Even small municipalities have adopted Traditional Neighborhood Development ordinances (Thibodaux), passed Development Moratoria (Central and Zachary), and struggled to enforce comprehensive zoning (Slaughter) in order to organize their resources and ensure a future that is compatible with community values.

2.2 External Drivers to Planning Policy Adoption

In the first half of the 20th century, planning was a natural response to the ills of urban life. In the second half, it was a response to suburban development and the costs of sprawl. Feiock (2004) demonstrates that sprawl and its impacts on economic resources in the city and environmental resources in the country are addressed by second generation land-use regulation, defined as comprehensive planning and growth management instruments, which are driven by political operatives rather than voter preference. However, Feiock's research was undertaken in

Florida, where planning is mandated; therefore, the hope of political gain does not drive planning *per se*. It is the state mandate which requires that jurisdictions plan, but it is the political operatives who determine whether planning requirements will favor developers or environmentalists.

Bosselman and Callies (1971) and Rosenbaum (1976) posited that a major outside influence on planning was federal block grant funding payable to local agencies for specific activities. Certainly the availability of funding and assistance from the U.S. Economic Development Administration (EDA) and the Louisiana Department of Economic Development (LDED) would explain why a majority of communities in the state with no land use planning have Overall Economic Development Plans and/or Strategic Plans. Rosenbaum further asserts that innovative policies in land use such as mandatory local growth management, major facility siting, and critical areas protection are adopted by states as they compete regionally for economic growth (1976). In the southeast, the competition is generally based upon tax incentives for industry rather than quality of life or environmental issues (Scott 2006; Rawls 2007) and the states of Louisiana, Alabama, and Mississippi do not rank high in their pursuit of planning reforms (APA 1996 and 2002).

2.2.1 Environmental Degradation

Another external factor that prompts planning policy adoption is demonstrable natural resource degradation or depletion. Since it is economically dependent upon oil and gas, petrochemical, and other industries that generate large quantities of air emissions and other wastes, the state struggles to protect environmental quality. Despite the fact that, by the 1960s, many states were amending their planning tools "to focus less on the delegation of police power to local governments, and more on the need to protect local interests, various infrastructure

improvements, and sensitive-area protection (Villavaso 2002)," Louisiana continued to allow local governments to determine if, and to what degree, they would intervene in land use decisions.

Coastal erosion and land loss in coastal Louisiana has been a documented concern since the 1930s with serious studies commencing in the 1950s. By the 1970s, when environmental issues had earned national attention and intervention in land use for environmental protection was instituted in federal law and upheld by the courts, Louisiana adopted legislation to manage the coastal zone and protect critical habitat as required by the Coastal Zone Management Act (CZMA) and the Endangered Species Act (ESA). One would expect that a majority of the coastal parishes, witnessing the devastating effects of coastal erosion, land loss, and environmental pollution threatening not only the lifestyle, but also the livelihoods of residents would utilize land use regulations to guide development away from potential restoration sites and to act in concert with federal initiatives.

In fact, in 1996 the Barataria-Terrebonne National Estuary Program (BTNEP) did develop an ambitious Comprehensive Conservation and Management Plan (CCMP) for the jurisdictions covered by BTNEP. The territory includes the parishes west of the Mississippi River from Terrebonne and Plaquemines up to Pointe Coupee and West Baton Rouge. The CCMP established a series of Action Items designed to promote and preserve the Barataria and Terrebonne estuaries. These items are classified into four groups: Coordinated Planning and Implementation, Economic Growth, Sustained Recognition and Citizen Involvement, and Ecological Management.

Coordinated Planning and Implementation Action Item CP-3: Sustainable Development Training for Public Officials (CP-3) describes the major issues that have led to incompatible land uses and land uses which are environmentally destructive to the estuaries as:

1. Lack of detail in the Louisiana Constitution to help local planners to perform their job in a consistent manner;
2. Lack of a definition of the term "comprehensive plan" allowing local planners to pick which components of a plan they will and will not address;
3. No mechanism to ensure that the mandated plan is adopted and implemented;
4. No requirement for assessment of impacts of a plan on adjoining communities;
5. No incentive for jurisdictional collaboration on plan development to ensure consistent infrastructure plans;
6. Lack of punitive measures for not planning allows long-term planning to be ignored;
7. No statutory requirements for concurrency between development and infrastructure; and
8. A strongly accepted philosophy of minimal government intervention in private property uses.

The CCMP developed a short- and medium-term action plan for CP-3 that called for development of a planning manual and a series of workshops to educate the community and secure legislative allies to support the effort for a major planning statute overhaul in recognition of the "urgency of adopting sustainable development practices to reduce further degradation of estuary resources."

BTNEP has clearly been influential in promoting ecological and environmental restoration in the estuary and has done excellent work in active outreach to citizens. Although there has been no demonstrable progress in producing the planning manual, probably due to the fact that resources are limited and the staff has focused on ecological issues, it is expected that implementation of the CCMP has had an affect on the level of planning in the parishes in their area, most of which are in the heart of the coastal zone.

2.2.2 Disasters in the Coastal Zone and the Federal Response

Hazard mitigation and natural disaster prevention should be a state-wide concern with land use controls as part of the toolkit. Louisiana clearly understood this concept when it established the Office of the State Fire Marshal over 100 years ago and provided the marshal with the power and resources to regulate buildings as well as open and process structures, i.e. oil refining, chemical processing plants, power plants, pulp and paper mills. Subsequently, use of the police power to promote safety was established in the 1921 Constitution and repeated in 1974 with fire safety a specific goal.

> [Building and zoning] regulations shall be made in accordance with a comprehensive plan and designed to lessen congestion in the public streets, secure safety from fire, promote health and the general welfare . . . (R.S. 33:4723)

Yet, Louisiana's response to the growing losses from hurricane and flood disasters has been counter-intuitive: development in Orleans and Jefferson Parishes exploded "into the swamps" (Lewis 2003 as cited in Burby 2006) after Hurricane Betsy in the 1960s. The promotion of development in these low-lying, high-hazards areas was facilitated primarily by federal government policies, which focused on minimizing the risks with structural and financial solutions, but ignored the local jurisdictions' lack of land use controls, code enforcement, and floodplain management, policies that could actually enhance the safety of their constituents. Only after the hurricane season of 2005 did the State Legislature add a mandate for building code enforcement related to "emergency wind and flood mitigation," but only in the coastal parishes (RS 40:1730.27).

The reluctance of the state to address the hazards of development in the flood-prone and storm-challenged coastal zone may be explained by the federal response to these issues. South Louisiana's ecosystems, shipping, industries, and fisheries are national resources and the state

has counted heavily on federal assistance in solving related problems. In 1850 congress finally responded to pleas from the lower Mississippi Delta states to address flooding with the Swamp Lands Act and a subsequent allocation of funds for flood and navigation studies. Ironically, the act allowed the sale of "useless" coastal wetlands by the state to fund flood control projects, specifically the river levee system. This began the state's dependence upon federal expertise and assistance. Over the century and a half since Captain Andrew A. Humphreys, Corps of Topographic Engineers, assisted by Lieutenant Henry L. Abbot, established the "levees only policy" (Wright 2000). Louisiana has made "an almost blind commitment to structural measures (e.g., levees, diversion, pumps, and canals)" rather than expand its authority to include plans, policies, and programs (Wilkins et al. 2007).

And federal policies to solve Louisiana's problems abound. None is more paradoxical than the National Flood Insurance Act of 1968, which was designed to provide subsidized flood insurance and to reduce long-term flood damage through the use of land use and control measures. Participation in the National Flood Insurance Program (NFIP) is conditional—local governments are required to adopt and enforce building codes that reduce the likelihood of newly constructed buildings being flooded. These standards require elevation and flood-proofing for construction in areas with a one percent annual risk of being flooded, commonly known as the 100-year flood. In addition, reforms of the original act in 1994 and 2004 provide a number of federal programs with incentives for planning that the local governments could utilize (Burby 2006; Wilkins et al. 2007).

However, it is well documented that, while local governments across the nation have adopted building codes and established flood plain management regulations, they have been slow to enforce, update, and encourage broader community understanding of and compliance with

these standards (Burby 2006; Chivers and Flores 2002; O'Shea 2005). Local governments in Louisiana appear even more short-sighted given the magnitude of damages from flooding in this century. A case in point is the subrogation lawsuit filed by the Federal Insurance Agency in the 1980s against Orleans, Jefferson, and St. Bernard Parishes for failure to maintain levees and enforce elevation requirements for new construction. An even more pointed example of local reliance on the federal government's response to disasters, the New Orleans 1999 Comprehensive Land Use Plan, surely a tool with the potential to promote serious hazard mitigation measures, ". . . made absolutely no mention of the extreme flood hazard facing the city [or] ways of mitigating the hazard through land use or building regulations . . . (Burby 2006)."

Given that hurricane protection projects are capital-, labor-, and time-intensive projects guided by powerful political considerations, Louisiana's deference to federal authorities for flood protection and natural hazard mitigation is rational. And given that there is no state mandate and that federal support for planning is fragmented across programs (Wilkins et al. 2007) with few funding vehicles for comprehensive planning, it is also not surprising that the local interest in land use planning in Louisiana is limited. What is surprising is that parish governments bother to utilize any planning tools at all.

2.3 Possible Internal Drivers for Planning Policy Adoption

Since the external influences of the state and the federal government on comprehensive planning are not forceful, it is possible to consider ideological and demographic factors as independent variables associated with communities that demand comprehensive planning and communities that do not. Are there socioeconomic, governmental, geographic, and

environmental factors that are associated with the pursuit of planning at one end of the spectrum and disregard for it at the other?

2.3.1 Environmental Pressures

2.3.1.1 Population Growth

Alabama and Louisiana are the only lower 48 coastal states and the only southern states that have not reformed their land use planning requirements since initial inception in the 1920s and have no apparent interest in doing so (APA 1996, 2002). Among the twelve states[1] identified as making substantial reforms, Oregon, Washington, Wisconsin, Florida, and Tennessee have invested heavily in planning programs and have all initiated policies related to growth management.

It was the environmental movement of the 1970s that spurred state legislatures to reform their planning statutes. The perceptible loss and degradation of land-based natural resources spurred many states to enact planning legislation. Over 500 studies of sprawl development were undertaken between 1970 and 1990 and most found that it was the lack of coordinated planning that accounted for the failure to protect critical areas from the pressures of rapid growth and intense development (APA 2002). By the late 1990s, planning advocates used data to demonstrate that comprehensive planning not only provided environmental protection but also yielded solid economic returns to the governments that adopted it. APA also mentions job growth, economic development, revitalization, and improved quality of life as other benefits of comprehensive planning policy (2002).

However, there is no claim that good planning will stimulate population growth where there is none. To date, the positive correlation between strong population growth and the

[1] Washington, Oregon, Wisconsin, Tennessee, Georgia, Florida, Vermont, Rhode Island, Pennsylvania, New Jersey, Delaware, and Maryland.

demand for planning has been viewed as being operational in only one direction, i.e. planning is driven by the need to manage growth. Therefore, Louisiana's low growth rate may explain why planning in the state is not vigorously pursued.

The selected data presented in Table 1 suggests that the association between population growth and the intensity of planning reform at the state level is not as complete an explanation as might be expected. Florida is the only state making moderate to substantial reforms to its planning statutes that is also in the top five in terms of population growth. The other super-growth states—Nevada, Arizona, Colorado, and Utah—are still in the first stages of planning statute reform or are attempting, but not necessarily succeeding, in instituting additional reforms (APA 2002). Notwithstanding the fact that its population has almost doubled in the last three decades, Colorado's planning reform and managed growth initiatives ". . . despite being at the top of the state's political agenda," according to APA ". . . have generated more debate than legislation (2002)."

Table 1 – Population Growth and the Status of Planning for Selected States

	Rate of Growth 1970-2000	Status of Planning Statutes
Louisiana	22.6%	Little or no reforms
Nevada	308.9%	Pursuing additional reforms
Arizona	189.0%	Pursuing additional reforms
Florida	135.3%	Moderate to substantial
Utah	110.8%	Pursuing additional reforms
Colorado	94.7%	Pursuing first reforms
Idaho	81.5%	Pursuing first reforms
Washington	72.7%	Moderate to substantial
California	69.6%	Pursuing additional reforms
Oregon	63.6%	Moderate to substantial
Tennessee	44.9%	Moderate to substantial
Alabama	29.1%	Little or no reforms
Wisconsin	21.4%	Moderate to substantial

Source: U.S. Census Bureau 1970; U.S Census Bureau 2000; APA 2002.

Conversely, Wisconsin and Tennessee have adopted aggressive land use controls and growth management incentives, but have not experienced robust population growth in the same 30-year period. Growth in Wisconsin, 21.9 percent, is on a par with Louisiana (22.6 percent) and less than Alabama (29.1 percent). Tennessee grew at twice Wisconsin's rate, but less than one-half the rates of Colorado and Utah, and less than one-third of the other three super-growth states.

Although a positive correlation between population growth and state planning initiatives does not always hold true, some believe that growth management is driving major metropolitan areas to take comprehensive planning seriously. The redistribution of population from the cities to the metropolitan suburbs is an economic zero sum game. As center cities lose their tax base and are unable to maintain existing infrastructure and services, the receiving suburban areas, after benefiting from the initial revenue growth, struggle to catch up with capital intensive infrastructure projects to meet the demands of rapidly growing populations of former city dwellers (Villavaso and Lundgren 2003). This downward spiral of sprawl is particularly damaging in light of the low growth of Louisiana in the last 25 years, which leaves the urban core and economically challenged neighborhoods blighted by abandoned development as metropolitan suburbs convert open space, agricultural lands, and sensitive ecosystems into roads, low density, single use residential neighborhoods, and commercial centers.

The second generation of sprawl, what Carlino and Mills (1987) call demetropolitanization, refers to the movement from metropolitan suburbs to nonmetropolitan areas. This movement has been observed in Louisiana where established older metropolitan suburbs are being abandoned for amenities such as "lower taxes, newer housing stock, better schools, and closer proximity to open space (Villavaso and Lundgren 2003)." Note that there is

no mention of employment, which Carlino and Mills found to follow population shifts and not the reverse. Their study considered a number of variables including Industrial Revenue Bonds, which were intended to grow jobs; climate; and interstate highways. The former did not significantly affect either population or employment, while the climate and highway variables did (1987).

Therefore, any posited association between the utilization of comprehensive planning as a tool for growth management must be considered in two contexts. When undertaken at the regional level, planning is an excellent tool for managing resources across jurisdictions (Villavaso 2002). When undertaken by individual jurisdictions, it can be a tool to sharpen the competition for scarce populations and the economic resources they will bring with them. However, the inverse of this concept is a more likely scenario in Louisiana and other low growth states, where development decisions are formulated in the private sector and confirmed by appreciative local authorities. In this case, less land use regulation would be preferable when competing for new development.

2.3.1.2 Population Density and Increasing Urbanization

The demand for planning appears particularly intense when land uses conflict and when preferred lifestyles are perceived to be threatened. The negative consequences of high population and crowded housing in the cities spurred the earliest planning reforms by the progressives, who improved conditions in the center cities even as they themselves moved uptown. After World War II, increasing wealth coupled with the growing availability of the automobile allowed for suburban development which provided economically able families the ability to replace the negative aspects of city life with the amenities of country living. However, as suburban communities demand more services, better roads, and more of the amenities

associated with the city, the landscape fills up with development and the negative amenities—congestion, pollution, crime, and high taxes—recur.

Many of the growing parishes of the second generation still have enough time and open space to dilute the negative effects of urbanization, it may be surmised that as urbanization continues, a tipping point in terms of population and housing density will be approached, encouraging non-metro areas to utilize planning as a means of maintaining the positive life-style amenities that so many of its residents prefer.

2.3.1.3 Other Environmental Pressures

With particularly sensitive eco-systems making up a large part of the coastal landscape and natural resources being the basis for its economy, it might be expected that coastal parishes would embrace planning as a means of regulating human impacts on the environment. In addition to BTNEP, which has included comprehensive planning by local jurisdictions in its program objectives, the coastal parishes are assisted in development review by other federal and state agencies. The Louisiana Department of Natural Resources (LDNR) through the Coastal Zone Management (CZM) Program, which permits activities in the coastal zone, also assists the parishes in establishing coastal zone management programs. LDNR, along with the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife, and the Louisiana Department of Wildlife and Fisheries, is also an advisor in the development process as the lead agency for wetlands permitting under Section 404 of the Clean Water Act in the coastal zone.

As discussed in Section 2.2.2, the NFIP and federal programs for hurricane and flood protection may have a counter effect on planning initiated by local governments, particularly in the coastal zone. But flooding occurs throughout Louisiana; therefore, the parishes with a large

percentage of the jurisdiction covered in surface water may have an association with planning, even if it is a negative correlation.

2.3.2 Socio-Economic Factors

Lacking the affluence and growth of other states, but an abundant supply of cheap (undeveloped) land, Louisiana formulates land use policy based on a market rate of discount (Cardoch and Day 2001). It is a private property state and there is a communal aversion to intervention in the rights of the landowner (BTNEP 1996). Most of its citizens do not think long-term when considering future land use and do not recognize a link between land, eco-system goods and services, safety, and quality of life. Land is valued according to its price as a commodity and is developed to extract the highest rents possible with less regard for the non-market values it also represents. With the exception of federal and state wildlife management areas and parks, there is very little acreage in Louisiana specifically set aside for long-term preservation as open or undeveloped greenspace.

A review of land trust data illustrates this point. According to the Land Trust Alliance (LTA), local and regional land trusts in the United States conserve open space and other sensitive lands primarily through the purchase or acceptance of donations of land or conservation easements from private landowners. In its 2000 National Land Trust Census, the LTA (2001) highlighted the fact that the South Central region, comprised of Arkansas, Louisiana, Oklahoma, and Texas, showed the most rapid growth in the number of land trusts of any region between 1990 and 2000. However, 22 of the 25 trusts in the South Central Region are in Texas and the total acreage protected in the region, 105,967 acres, was the smallest number of any region. In addition, while Arkansas, Louisiana, Oklahoma, and Texas make up 12.5 percent of the total

land area of the nation, the South Central trusts protect only 1.7 percent of the total acres in the Census.

The commitment to development of private property and an aversion to intervention in land use is also reflected in the strength of political pressure for economic development even in high-hazard areas (Burby and Dalton 1994; Burby 2006). Political capital relies on price increases and taxable development as proof of its beneficial policies, and any measure perceived to discourage development in order to protect non-monetary values is politically risky. It is rational, but perhaps short-sighted, for local governments to sacrifice environmental quality for jobs and a solid tax base (Fischel 2001). Rationing the use of private property for agriculture, habitat, storm and flood mitigation, and other natural resources and services through the long term comprehensive planning process requires a far-sighted political leadership and a knowledgeable constituency.

2.3.2.1 Education

Until people and local governments actually perceive the adverse effects of unfettered development, there is little reason for them to demand land use regulation. For example, most homeowners do not perceive the risks of low probability, high consequence events and therefore, are not willing to pay for the social costs of developing in flood risk areas. Despite compulsory insurance, which should force them to face those costs, property in flood risk areas is not discounted. Even if flood insurance were priced to cover all externalities of developing in the flood plain, which it is not, we would still expect market failure because "buyers do not have sufficiently complete information when negotiating a purchase . . . (Chivers and Flores 2002)." Requiring local governments to address this information gap, such as through a comprehensive plan that correctly prices flood plain development, is not a novel idea, but one that has little

political support, particularly among local governments with few economic and human resources. However, it is not unreasonable to consider that more educated individuals would demand better information in order to make more informed choices.

2.3.2.2 Income

The relationship between income and the demand for environmental quality has been aptly expressed by the environmental Kuznet's Curve (EKC), the inverted U that describes a theoretical condition where adverse environmental impacts increase proportionately with developing economies until the impacts are maximized and then reversed as incomes rise and capital is made available for investment in less damaging techniques and technologies (International Bank for Reconstruction and Development [IBRD] 1992 as cited in Stern 2004). More income should therefore increase the demand for environmental protection and other quality of life features. In land use terms, higher incomes would be expected to translate into a willingness to pay the costs of requiring property owners and developers to incorporate environmental sustainability.

Community wealth also allows governments to forego growth in property tax revenues from lands set aside for environmental management, hazard mitigation, or other communal objectives (Burby and Dalton 1994). Wealth also stimulates a demand for better information. This phenomenon may be enhanced in places where income tracks education, which may provide not only a public better able to understand the trade-offs between unfettered and planned land use, but also the experts needed by government to formulate the policies and measures to make planning effective.

2.3.2.3 Property Values

Property values are also an indicator of community wealth and highly correlate with incomes. The single-most important investment made by families in the U.S. is in their homes; it is sometimes the only real property that they will ever own. Therefore, they are particularly sensitive to policies that affect home values. According to Fischel (2001), homeowners are the dominant political faction in all but the largest of local governments; therefore, these governments would be expected to intervene in land use to maximize owner-occupied housing values. He states such a practice is economically and politically rational, if not always admirable. Maximization or, at least preservation, of property values is often cited as one of the primary reasons for local resistance to land use decisions related to the siting of public facilities. Local opposition may occur when the facility designed to provide public goods or social benefits—power plants, landfills, prisons, halfway houses—is perceived to unfairly concentrate the private costs (and risks) among a few property owners in the immediate area.

This kind of intervention, however, is reactionary rather than comprehensive. As Fischel observes (1999), a comprehensive plan is "a supervised arena for local policy- and decision-making where stakeholders can act as though shrouded in a 'veil of ignorance'" that allows them to balance an extensive mix of costs, benefits, goals and objectives of land use regulation without reference to their own self-interests until after the fact. When considered from this point of view, comprehensive planning may be the instrument that optimizes the values derived from land use, both in monetary and non-monetary terms, by spreading both costs and benefits among all stakeholders.

2.3.3 Local Autonomy and Administrative Structure

When considering the level of policy adoption by parish governments, it makes sense to consider the level of autonomy that local governments enjoy. The fact that local authorities are considered "creatures of the state" suggests that in the absence of an interest in planning at the state level, differing degrees of discretionary powers may help explain the variability in planning policy adoption. A common classification of autonomy uses Dillon's Rule and Home Rule. However, although Louisiana is considered a Dillon's Rule state, parishes in Louisiana ranked 8th nationally in terms of the degree of their discretionary powers (Richardson et al. 2003). This ranking is explained by the fact that in 1974 the Louisiana constitution granted broad home rule authority to parishes and municipalities and reversed the traditional concept of local government as possessing only authority expressly delegated by the state. After this date, parish governments were allowed to convert from a policy jury form of government to home rule upon a vote of its constituents. Without authority to determine its own structure and organization and because it is not protected from legislative interference in its powers and functions, a police jury is less autonomous than a home rule charter.

However, in practical terms, police juries are differentiated more by their administrative structure[2] than by autonomy. Almost two-thirds of the 64 parishes are organized as police juries. The other 23 parishes operate under various structures allowed by home rule charter, which include Council-President, Commission, Consolidated Government, and City-Parish. All of these jurisdictions have a centralized administrative structure and a single administrative officer.

[2] The parish governing authority is only one part of the total parish governmental structure. Many functions are vested by the state in independently appointed or elected officials such as the assessor, coroner, clerk of court, district attorney, and sheriff. These officials can be extremely powerful and may fragment the decision-making process, complicating the consideration of the form of government as an independent variable for planning policy adoption.

Caddo, which has the only Commission form of government, has an appointed Parish Administrator; all other home rule parish executive officers are elected.

A police jury operates much like a county board of commissioners and has no provisions for a strong chief executive officer. Both legislative and administrative functions are performed by the jurors, one elected official from each district. The president of the jury is then selected from the jurors. Besides being responsible for the budget, personnel, expenditures, contracts, and other administrative tasks, the jury also enacts ordinances, establishes programs, and sets policy.

Since the powers and functions of home rule charters may include the exercise of any power and performance of any function necessary, requisite, or proper for the management of its affairs, (as long as it is not denied by general law or inconsistent with the constitution), the decision to adopt a home rule charter suggests an ambitiousness and capacity for governance within the jurisdiction that would increase policy adoption.

Local governments with high rates of political competition and media scrutiny are associated with formulating stricter policies and with better records of statutory compliance (Fording et al. 2003). This association may be applied to the planning ordinances and lead to a hypothesis that home rule parishes would be more likely to have a higher planning score than police juries.

3. RESEARCH DESIGN

To assess the relationships between growth, environmental pressures, socio-economic factors, and administrative structure and the variability of Louisiana parishes' adoption of planning policies and tools, this study uses an Ordinary Least Squares (OLS) Multivariate Regression Model.

3.1 Dependent Variable

The dependent variable for this study is a planning score, which was constructed as a composite of the number of planning instruments or policies each parish has adopted. The histogram or frequency distribution of the scores by the number of parishes is illustrated in Figure 1.

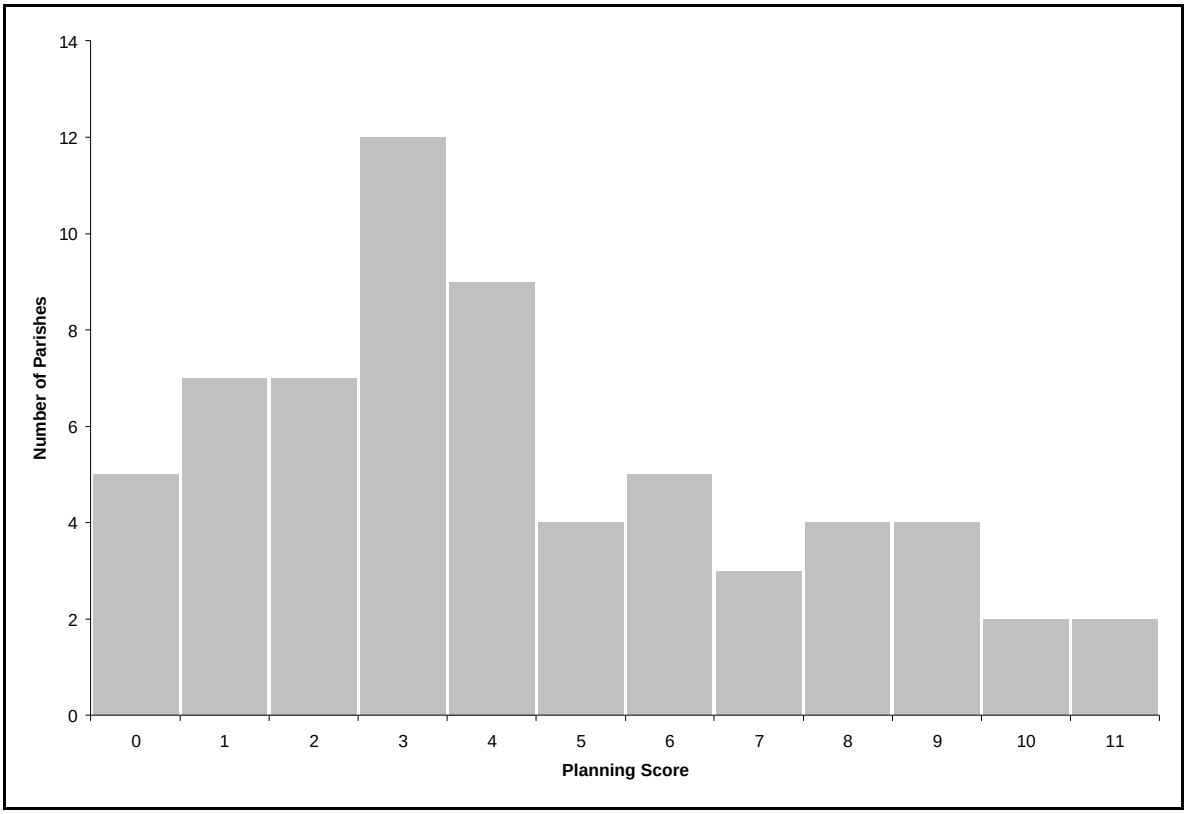

Figure 1 – Frequency Distribution of the Planning Score

The scores range from 0 to 11 as a measure of the degree of interest in planning that the parishes have demonstrated through the adoption or implementation of a "natural range" of tools at their disposal. The histogram for the 64 Louisiana (N=64) parishes reveals that the overall level of interest in planning at the parish level in Louisiana is relatively low. On a scale of 0 to 11, the median planning score is 4, the mean is 4.28 and the mode is 3. The standard deviation is 2.989.

Although technically this score is a discrete measure, it is orderable and its use in a multivariate regression analysis is consistent with the practice of social scientists to treat orderable discrete variables as continuous measures. The rationale is that the planning score is fundamentally a continuous property similar to a Likert scale, which measures strength of attitudes. Use of this kind of scale in a regression analysis has so far yielded "robust" results. (Knoke et al 2002).

Data was collected via the internet through a review of official parish websites and the municipal codes which are published online at http://municipalcodes.lexisnexis.com/ and www.municode.com/. Data for 35 parishes were collected or completed through email and telephone surveys with an employee of the jurisdiction.[3] A tabulation of the data by parish is provided in Appendix A and a copy of the survey form is provided in Appendix B. Figure 2 is a map of the parish planning scores.

3.1.1 A Natural Range of Planning Tools in Louisiana

Although the state has never mandated planning for local jurisdictions, it has enabled the use of planning by the local authority for the purpose of promoting health, safety, morals, or the general welfare of the community. Within the framework of the statutes, which are very general, each jurisdiction is free to design its own planning program. Choosing from a set of

[3] One parish official reached by telephone declined to respond to the survey and no other official of that parish returned the call. That parish received a zero on the planning score.

recommendations beginning with the model statutes of the SZEA and CPEA, which prescribed planning commissions, and ending with the most recent innovations in planning practice such as mixed use zoning districts, these planning policies and tools are idiosyncratic and defy direct comparisons. In the absence of specific standards, the tools themselves are highly individualized so that no two comprehensive plans or zoning ordinances look alike. Therefore, the assignment of each parish's policies and tools to a taxonomy of type is subjective and could be organized differently. However, as a measure of the overall strength of attitude, the planning score is reliable, because each additional tool represents an increase in the commitment of public resources to land use planning as a legitimate policy.

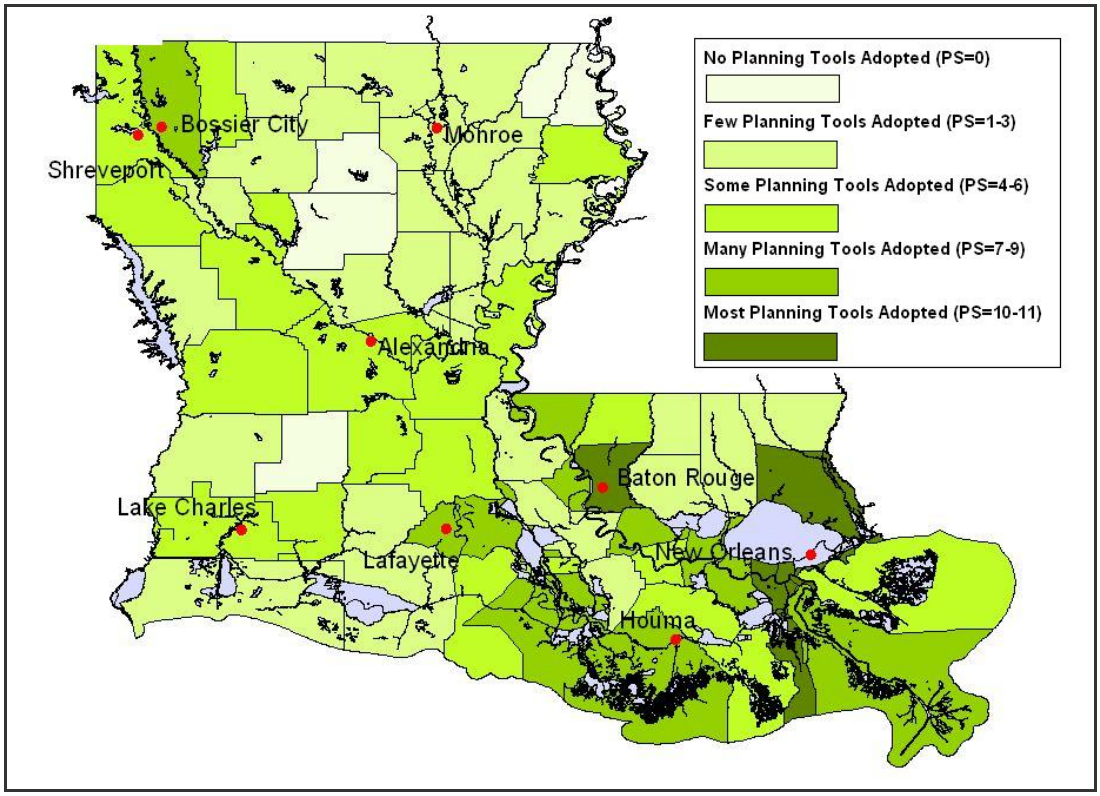

Figure 2 – Map of Parish Planning Scores

"Democracies change their policies almost entirely through incremental adjustments. Policy does not move in leaps and bounds. (Lindblom 1959)." Because the norm in government is not to rescind, but to amend, regulations, it is possible to trace the transformation of planning

policy over time by looking at the trail of ordinances. Through the planning score, this study captures the parish government's preference for planning as indicated by the adoption of progressively complex planning tools. As the jurisdiction "muddles through", traveling along the spectrum from building permits to a more comprehensive approach to land use, there is something of a layering effect, each tool adding an incremental fix that requires an additional commitment of resources. By adding up the layers, the planning score is a proxy for a statement of what the jurisdiction is willing to pay for the outcomes promised by land use planning.

However, as discussed in Section 1.3, the score is not a representation of the efficacy of the planning program in Louisiana parishes. The planning score, as a measure of incremental change, would not depict sweeping reforms that we may suggest is called for in Louisiana given the failures of planning dramatically illustrated in August and September of 2005.

A fundamental policy change in planning could be signaled by a reduction in the number of operational planning tools, if those tools were of the comprehensive variety. As will be discussed, the layering effect may actually subvert good planning practice by complicating and fragmenting the decision-making process. When viewed as a framework, or constitution, for land use decisions, a mandate of a comprehensive plan could actually subsume the "lesser" tools—permits, codes, subdivision review, historic ordinances—into a single policy instrument.

3.1.2 Components of the Planning Score

The list of planning tools and policies that comprise the planning score is illustrated in Figure 3 by the frequency of adoption. There are 5 parishes that have not adopted any form of planning, while most parishes issue building permits and approve subdivision plats.

Some of the parishes with low scores may avail themselves of planning tools by way of regional planning organizations also known as metropolitan planning organizations (MPO),

which act as advisors and service providers. The MPOs receive federal transportation and economic development dollars and were established to address core urban areas. They are headquartered in the main cities of the region. As seen on the planning score map (Figure 2), there is some correlation between higher planning scores and the central cities, but not enough to be definitive.

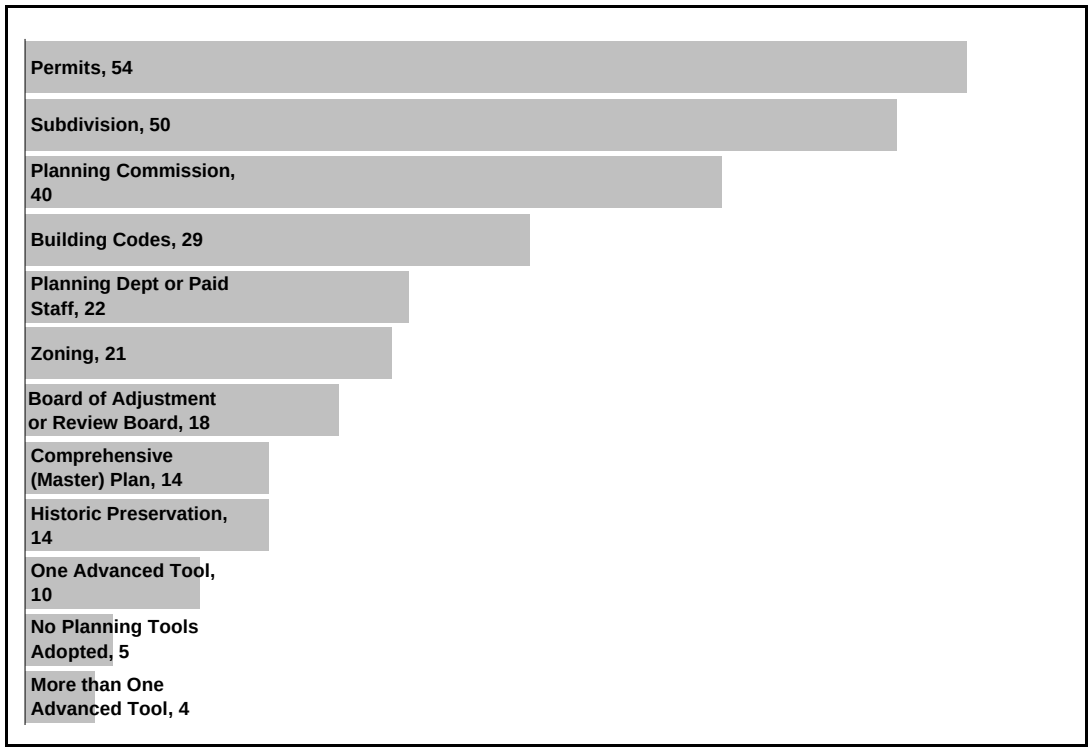

Figure 3 – Number of Parishes that have Adopted Planning Policies and Tools by Type

Some state and federal planning assistance has also been provided through "Main Street" programs, transportation enhancement grants, participation in the NFIP Community Rating System, and other programs focused on particular aspects of planning. Although parishes that are assisted in this manner should be considered in an analysis of the overall state of planning in Louisiana, the planning score is a measure of each parish's attitude towards planning as exemplified by an active expression of interest and a demonstrated willingness to invest in it. Therefore, services provided by an entity outside the jurisdiction are not counted in the planning

score, except in the case where the regional planning commission has been appointed as a review board any review adds a layer to the local process.

3.1.2.1 Advanced Tools

At the other end of the spectrum are the most advanced tools. Advanced tools include flexible forms of zoning that look beyond the single lot and attempt to promote other goals and objectives such as environmental quality, community health, and the jobs/housing balance. These tools include Smart Growth concepts such as planned unit developments (PUD) also known as mixed use districts, cluster subdivisions, traditional neighborhood design (TND), and growth boundaries. These concepts are relatively new to planners, and have only been fully developed as planning theories since the 1990s. Well-crafted and conscientiously implemented comprehensive plans also address Smart Growth and should incorporate these ideas; however, this study does not include a review of the plans themselves. Therefore, only the 10 parishes that have adopted one of these tools as a separate ordinance received one point and the 4 parishes that have adopted more than one received 2 points. Discussion of the weighting of comprehensive plans follows in Section 3.1.2.7.

3.1.2.2 Building Permits

The most common land use controls in use by Louisiana parishes, although not necessarily the least important in terms of life and property protection, are building permits. If a jurisdiction requires building permits, the statutes have required that they be enforced by a local authority. The authority may be the Parish Engineer, a licensed consulting engineer, or a certified building inspector. Because the state licenses and regulates building contractors, residential building construction in areas or municipalities that have a permitting procedure are supposed to use a state licensed contractor; if the jurisdiction does not issue building permits,

persons performing residential construction are excepted from the licensing provisions (RS 37:2170).

3.1.2.3 Subdivision Review

Another relatively common practice among the parish governments, and one step up along the continuum of intervention in land use, is subdivision review. This review focuses primarily on compliance with public health and safety standards such as storm drainage, street widths and pavements for emergency vehicle access, and sanitary sewer systems. In some parishes, subdivision review is handled by elected parish officials, the police jury, or the parish council, often with the assistance of a paid clerk, who also administrates the permits process. The ability of the same personnel to review permits and subdivision plats may explain why subdivision review is the most adopted planning policy after permits.

3.1.2.4 Planning Commissions

The third most commonly utilized planning tool is the planning commission. Being appointed, planning commissions are theoretically removed from the politics of special interests. This theory holds that citizen-planners are more likely to be genuinely invested in overall community goals and objectives that the land use policies have been developed to achieve. Properly educated, they will even-handedly apply the rules and standards without fear of political reprisals. Because most decisions made by planning commissions are reviewed by the local government council anyway, the establishment of a planning commission adds a step in the process, it provides additional time and opportunity for public input, it requires more energy and resources to operate, and it adds a democratic dimension to the process that other governmental functions do not have.

It is interesting to note that parishes with planning commissions outnumber those with paid personnel two-to-one. Commissioners may be less politically predictable, because they are independent agents and only accountable to the individuals that appoint them. They are certainly less professionally prepared for the work. Yet, the use of planning commissions still remains a well-accepted decision-making tool. This fact is likely an artifact of the institutionalization of the recommendations of the SZEA and CPEA in the 1920s. It may also be a product of the simple fact that planning commissioners are generally unpaid or at least paid at a minimum.

3.1.2.5 Building Codes

Prior to the amendment of R.S. 33:4773(D) by Act 12 of the 1st Extraordinary Session of the 2005 Louisiana Legislature, it was suggested that building permits be granted according to a set of uniform rules or codes, but the "performance of any enforcement procedure in connection with any building code" was discretionary. The type of rules or codes was also discretionary. Ordinances adopting building codes relied upon a range of guidelines including good engineering practices or State Building Codes (presumably those used for public buildings).

A review of parish ordinances published online also reveals that some parishes have adopted what would be considered the most rigorous standards, the International Building Codes (I-Codes) created by the International Code Council (ICC). Established in 1994 as a nonprofit organization dedicated to developing a single set of comprehensive and coordinated national model construction codes, the ICC updates them through a code development process that cycles annually (ICC 2007). Some Louisiana parishes adopted I-Codes after the first cycle in 2000; others adopted the 2003 codes. Act 12, signed by the governor of Louisiana on November 29, 2005, adopted the I-Codes as the state uniform codes that would be mandated for enforcement by all parishes not later than January 2007 (R.S. 40:1730.23).

Certainly, it would make sense to credit a parish that adopted I-Codes prior to the Act 12 mandate with a higher planning score than those parishes that relied upon a generic set of guidelines; however, this study is not concerned with the effectiveness of the policy, but with the attitude towards it. Therefore, parishes in this study that adopted building codes prior to 2006 received one point on the planning score no matter the type of code adopted. Because it was not always possible to ascertain from the ordinances when codes were adopted or if the adoption of I-Codes was an update of a former type of building code, only parishes with no building codes or with I-Codes dated 2006 scored a zero in this category. Some parishes, who have adopted I-Codes, failed to specify the date of the edition adopted. These parishes were given the point anyway.

In subsequent amendments, the law mandating building codes has become more stringent, addressing not only the type of codes to be enforced but also the qualifications of the enforcement official. Title 40 Section 1730.23(A) of the revised statute specifies that

> . . . all municipalities and parishes in this state shall enforce only the construction codes provided for in this Part. All municipalities and parishes shall use building code enforcement officers or certified third-party providers contracted by the municipality, parish, or regional planning commission to act in the capacity of a building code enforcement officer to enforce the provisions of this Part. Enforcement procedures by code enforcement officers or third-party providers acting in the capacity of a code enforcement officer shall include examination or review of plans, drawings, or specifications; the conducting of inspections; and the issuance, denial, or revocation of permits.

This issue had become contentious among some parish officials who have likened the requirement for a certified inspector to an unfunded mandate, citing the lack of available inspectors, the high costs of inspections, and the costs of tests such as soil borings (Hasten 2007). Therefore, it is not surprising that as of August 2007, only 29 parishes had adopted building

codes. One official responding to the telephone survey indicated that the parish had actually rescinded its building code ordinance after the Act 12 mandate.

3.1.2.6 Planning Department or Paid Staff

Parishes with an executive department or paid staff with planning administration responsibilities suggests that the jurisdiction perceives a need to keep up with its planning tasks. To the extent possible, this study tries to distinguish between planning staff and those employees assigned to implement the permitting procedures or building code enforcement. A parish with a recording secretary for the planning commission meetings does not rate a point; a parish with a planning director, who may also act as the recording secretary, does.

3.1.2.7 Zoning versus Comprehensive (Master) Planning

For purposes of this study, zoning and comprehensive land use planning are clearly distinguished. "Properly, planning should precede zoning, since zoning and other regulatory ordinances merely amount to the execution of the planning process (Wright 1994)." That zoning has generally been instituted without the benefit of a comprehensive plan is an artifact of the judicial decisions that legitimized them, and consequent to the push by early planning advocates toward zoning, primarily because it was legally defensible (Rosenbaum 1976). Land was treated by the Supreme Court, reflecting the 19th century economic paradigm, as a commodity whose value could be diminished by regulation taken too far (*Pennsylvania Coal Co v Mahon 1922*) or protected by properly applied controls (*Euclid v Ambler 1926*).

With these decisions, regulation of land development was firmly established as a legitimate exercise of the police power of local governments. But intervention was limited primarily to conflicts between adjacent uses that might reduce the value of one man's land over another's (Bosselman and Callies 1971; Wright 1994). And the tool of choice was the

classification of land into discrete districts or zones with a list of permissible uses attached to each district.

As seen on Figure 4, the number of municipalities with comprehensive plans grew steadily after the first National Planning Conference in 1909. After the *Euclid v. Ambler* decision and the issue of the SZEA, the number of municipalities with zoning ordinances doubled as comprehensive planning initiatives leveled off.

The difference between comprehensive planning and zoning is scope and intent. A comprehensive plan includes an official, adopted legal document with maps, explanatory text, drawings, illustrations, and tables that could also be described as a "comprehensive" zoning plan.

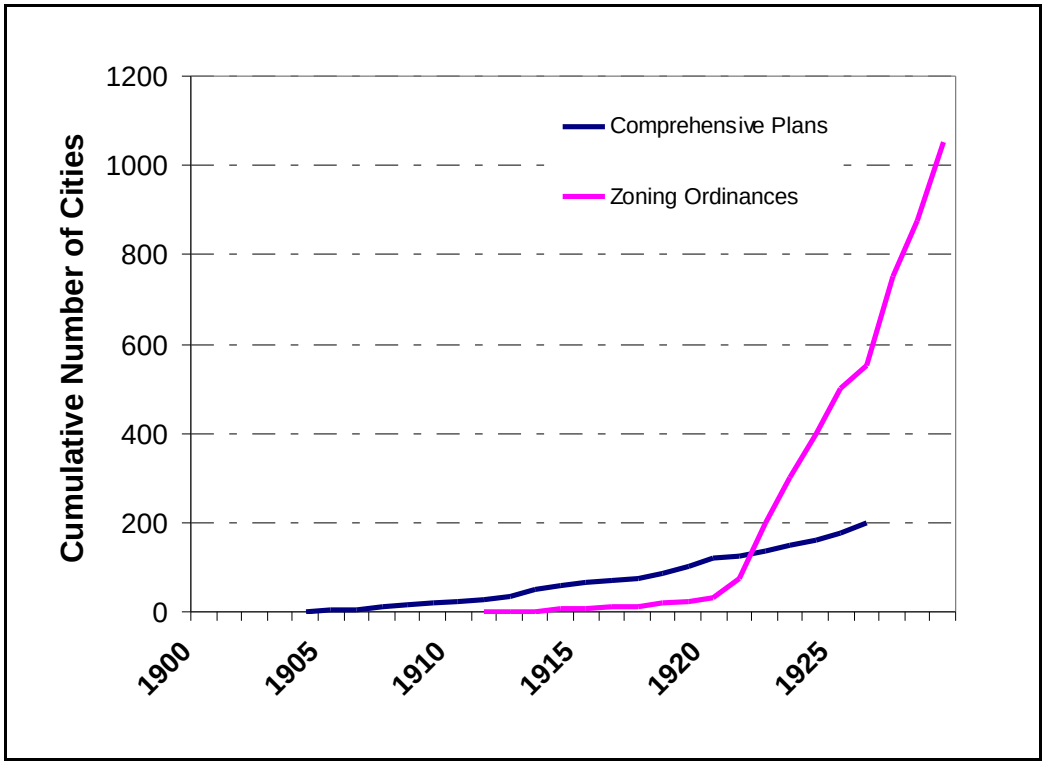

Figure 4 – Adoption of Municipal Comprehensive Plans and Zoning Ordinances
Source: Krueckeberg 1983

But zoning is more static than dynamic; it generally maps the "what is now" and proscribes future physical development according to the juxtaposition of properties. Changes

occur parcel by parcel, either within the range of permissible uses that do not require further review, or upon request by the individual user to the planning authority. Thus, when re-zoning is common, changes occur incrementally and at an almost imperceptible scale, until the changes reach critical mass and awaken the community's interest.

Sometimes, the point of perceptibility is also the point of no return. Therefore, comprehensive planning assumes that change will occur and tries to stay ahead of it. Good comprehensive planning includes a 'visioning' process, then uses the common vision to formulate future goals and objectives that are meant to sustain the elements that its citizens value and to prevent a future that they would eschew.

Comprehensive planning is constitutional. It creates a framework for decision-making that sets forth the principles and values that are the bedrock of the community vision. The process is procedurally democratic; it operates in an open forum with many stakeholders as decision-makers. It is educational, putting participants back in touch with the philosophy of self-interest rightly understood, where "an enlightened regard for themselves constantly prompts [Americans] to assist one another and inclines them willingly to sacrifice a portion of their time and property to the welfare of the state. (De Tocqueville 1835)."

Comprehensive planning is dynamic, it is complex and can be contentious, and it requires commitment on the part of the local government as well as its citizens. A comprehensive plan is never finished; it is a continuous and vigilant process. "Finally, a comprehensive plan discusses a process for implementing, monitoring, and revising the plan through time and as circumstances warrant (Emmer 2006)."

There are 21 parishes with expressed zoning ordinances. Only 14 have adopted comprehensive plans. Given the historic and legal preference for zoning, it is not surprising that

the number of parishes with zoning policies exceeds the number with comprehensive plans. Another explanation for why zoning has been preferred to planning by more jurisdictions could be that the intensity of the comprehensive planning process. Also, because the master plan description provided in R.S. 33:106 does not distinguish between zoning and comprehensive planning, it might be expected that that statutory compliance would be 100 percent. However, the numbers do not add up. There are 40 parishes with planning commissions, but only 23 with some form of zoning, a comprehensive plan, or both. This fact underscores the general premise that the state does not seriously enforce the planning statutes and that local jurisdictions do not regard the statutory recommendations as worthy.

Because comprehensive planning generally requires greater inputs of community resources than zoning ordinances, it would be reasonable for a study investigating the degree of interest in planning would give greater weight to comprehensive planning than zoning. And giving two points to parishes with adopted plans was considered. However, without investigation of the comprehensiveness of the plan vs. the zoning program, it cannot be determined whether the actual level of effort can be differentiated from an ostensible one. Therefore, zoning and planning are weighted equally when they are expressly and separately adopted.

In practice, there is a concern that having both a comprehensive plan and a comprehensive zoning ordinance may cause a deficit effect in land use regulation. A comprehensive plan can be undermined by its own zoning ordinances, which make rulings by the planning commission and/or elected officials unnecessarily complicated. If this study were about the effectiveness of parish planning policies, it might be appropriate to deduct a point for the cases where zoning takes precedence over planning. But this study interprets the layering

effect as worth two points because it demonstrates an interest in using a full array of the available planning tools at the disposal of the jurisdiction.

Appendix A provides a tabulation of the results of the planning score by parish. Noted in the tabulation are 6 parishes with comprehensive plans dated after 2005. These parishes did not receive a point in the planning score and are not counted in the histogram in Figure 1, because they were adopted or initiated after the hurricane season of 2005. The data are provided to demonstrate that there is a change in planning activity at the parish level post-Katrina and Rita. It is likely that the driver for these new planning initiatives is a response to the devastating impacts of Hurricanes Katrina and Rita as well as the concerted efforts of CPEX and the LRA to provide planning assistance to areas that have indicated an interest.

3.1.2.8 Boards of Adjustment or Zoning Review Boards

A Board of Adjustment or Planning and Zoning Review Board is another planning tool that demonstrates a serious interest in planning. These boards are established to appeal the decisions made by the council or police jury, the planning commission, or both. Having an appeal board not only adds steps and resources to the land use intervention process, it also suggests that the decisions being made are not always popular, which could mean that the decision was influenced more by regulation than the appellant's economic status or social/political connections.

3.1.2.9 Historic Preservation Districts or Ordinances

Since Article 6 of the 1921 Louisiana State Constitution legitimized historic preservation as one of the public purposes for intervention in private property, local jurisdictions have had the opportunity to establish historic commissions and districts. With over 80 years to implement this tool, it is not surprising to see that at least 14 parishes have made use of it.

3.2 Independent Variables and Hypothetical Relationships

Most of the independent variables for this study were compiled from the U.S. Census Bureau Census of Population and Housing. These are units of analysis for the Louisiana parishes (not as individuals but collectivities) that are commonly utilized as continuous variables (Knoke et al 2002). Amount of toxic releases were collected from the Toxic Release Inventory (TRI) published by the U.S. Environmental Protection Agency (USEPA). Coastal zone designations are provided by the Louisiana Department of Natural Resources (LDNR). The form of government was provided by the Louisiana Police Jury Association (LPJA).

After Carlino and Mills (1987), metropolitan and non-metropolitan categorical variables were created. The metropolitan status of the parish was determined using data from the Census 2000 designation of Metropolitan Areas and their Geographic Components from the Redistricting Data (P.L. 94-171) Summary File. Parishes containing central cities were identified by the 2000 Census Metropolitan Statistical Area (MSA) 2000 and are designated as metropolitan. The other parishes that make up the MSA, but do not contain a central city, are designated as suburban. The remaining parishes are considered non-metropolitan. The base case in the regression model is the metropolitan parishes. A table derived from the Louisiana Metropolitan Area designations that identifies the central city parishes and the suburban parishes used in the analysis is provided in Appendix C.

Population growth was calculated as an annualized rate of growth for the periods 1970-1980, 1980-1990, 1990-2000, and 2000-2005 (which is an estimated rate of growth based on a model as opposed to the other rates of growth based upon the Census count data). An alternative growth rate from 1970-2000 was also considered although not in the same OLS regression model.

The hypothetical relationships between the planning score and the independent variables are summarized in Table 2. As noted in the table, the relationships were tested for statistical significance using a *t* test. In most cases the relational hypotheses are directional and allow for a one-tailed test.

Table 2 – Summary of Hypothetical Relationships

Category	Variable	Relational Hypothesis	*t* test
Growth	Metropolitan Status (Categorical Variable)	Metropolitan Areas are more associated with planning than Suburban and Non-Metropolitan Areas.	Two-tail
	Population Growth (Annual rate of growth)	Annual growth is positively related to the planning score.	One-tail
Environ-mental Pressures	Housing Density (Number of Houses per Square Mile)	The number of houses per square mile is positively related to the planning score.	One-tail
	Amount of Toxic Releases (Number of Pounds Released Annually)	The number of waste generators and toxic waste sites is positively related to the planning score.	One-tail
	Flood Hazard (Percentage of Total Land Area that is Water)	The percentage of water within the jurisdiction is positively related to the planning score.	One-tail
	Coastal Zone (Categorical Variable)	Coastal zone parishes are more related to planning than non-coastal zone parishes.	Two-tail
Socio-Economic Factors	Educational Attainment (Percent of Population 25 Years and Older with a High School Degree or Higher	The percent of the population with a High School degree or higher is positively related to the planning score.	One-tail
	Property Values (Median Owner-Occupied House Value)	Median Owner-Occupied Housing is positively related to the planning score.	One-tail
	Income (Median Household Income)	Median Household Income is positively related to the planning score	One-tail
Adminis-trative Structure	Form of Government (Categorical Variable)	Home rule parishes are more positively related to the planning score than police juries.	Two-tail

4. RESULTS AND DISCUSSION

A correlations matrix was run for the variables used in the model and the results are provided in Appendix D. As recommended by Knoke et al (2002), the matrix was inspected to avoid problems with multicollinearity, and variables with high correlations (Pearson Correlation of 0.800 or higher) were eliminated. For this reason, population per square mile and housing units per square mile were not both used in the model. Housing units per square mile was chosen to represent density on the theory that housing units would reach a perceptible density more quickly than population.

The matrix illustrates that the relationship between median household income and median value of owner-occupied housing is highly correlated at 0.885. Median income is highly correlated with the planning score (0.649), but even more highly correlated with two population growth variables (0.705 and 0.756); therefore median housing value was chosen as the economic variable in the regression and median household income was eliminated from the model.

A number of different education variables were tested for correlation: percent of the population 25 years and older with less than a 9^{th} grade education, percent with high school or higher, and percent with bachelor's degree or higher. Not surprisingly, the inverse correlation between the 9^{th} grade and high school variables violates the recommended threshold at 0.878. There was a statistically significant correlation at the $p<0.01$ level between median housing value and the high school variable at 0.342; however, the relationship between median housing value and the percent of the population with a bachelor's degree (0.263) was only significant at the $p<0.05$ level. None of the correlations between income and the education variables were significant at the $p<0.01$ level. None of the education variables correlate with the planning

score; the high school variable was chosen arbitrarily to represent educational attainment in the model.

The correlation between the percent of jurisdiction that is water is with the coastal zone dummy variable is high at 0.736 (p<0.01); however, the correlation did not exceed the 0.800 threshold and was maintained as a control variable to distinguish between flood hazard issues in the coastal parishes and non-coastal parishes.

The growth rate variables correlate between 0.560 and 0.680 at the p<0.01 level and did not violate the threshold for exclusion from the model. However, the correlation of these variables with the planning score was much less, which suggested that they might not be particularly explanatory.

The analysis was run as nested regression models, successively adding independent variables to observe changes in their relationship with the planning score. Table 3 provides the results of four regressions. The equation derived from OLS regression model (1) makes a simple comparison about the metropolitanization effect using categorical variables. The intercept equals 6.886, which is the mean planning score for metropolitan parishes with a center city ($\hat{Y}_m$). There is little difference between the mean planning score of metropolitan suburban parishes ($\hat{Y}_s$) and $\hat{Y}_m$ and the difference it is not statistically significant. However, the difference of means between $\hat{Y}_m$ and non-metropolitan parishes ($\hat{Y}_{nm}$) is significant at the p<0.001 level.

Where the base case is metropolitan parishes with center cities, and suburban is $X_{1i} = 0$ and non-metropolitan is $X_{2i} = 1$, the equation for $\hat{Y}_{nm}$ is

$$\hat{Y}_{nm} = b_0 + b_1 X_{1i} + b_2 X_{2i} = 6.886 - 4.158 = 2.728,$$

which is lower than the mean planning score for all parishes at 4.28.

Table 3 – Nested Multiple Regression Models for the Planning Score

Independent Variables	(1)	(2)	(3)	(4)
Intercept (Constant)	6.886[a] (0.556)[c]***	7.663 (0.727)***	-42.047 (15.647)*	-44.139 (20.543)*
Suburban	-0.024[a] -0.004[b] (0.695)[c]	-0.566 -0.081 (0.655)	-0.264 -0.039 (0.565)	-0.044 -0.007 (0.658)
Non-Metro	-4.158 -0.679 (0.622)***	-2.717 -0.444 (0.695)***	-1.66 -0.271 (0.645)*	-1.807 -0.298 (0.729)*
Police Jury		-2.487 -0.402 (0.788)**	-1.477 -0.239 (0.687)*	-1.596 -0.262 (0.763)*
Coastal Zone		0.163 0.025 (0.693)	-1.838 -0.283 (0.752)*	-1.856 -0.294 (0.868)*
House per Sq Mi (log)			0.017 0.006 (0.271)	-0.068 -0.026 (0.327)
Median House Value (log)			5.738 0.520 (1.222)***	5.915 0.527 (1.728)***
High School Education (log)			-3.706 -0.129 (2.466)	-3.637 -0.129 (3.050)
Pct Water (log)			0.539 0.280 (0.204)**	0.548 0.287 (0.269)*
Estimated Growth 2000-05				-55.342 -0.201 (48.606)
Growth 1970-1980				5.004 0.025 (29.827)
Growth 1980-1990				3.776 0.012 (47.773)
Growth 1990-2000				9.294 0.027 (49.658)
Total Pounds of Disposal				$5.94E^{-008}$ 0.090 (0.000)
N	64	64	64	55
R^2	0.677	0.558	0.717	0.717
Adjusted R^2	0.441	0.528	0.676	0.627

[a]Unstandardized regression coefficient
[b]Standardized regression coefficient
[c]Standard error
For *t* ratios: **p*<.05 ***p*<.01 ****p*<.001
Note: All *F* tests for the regressions were significant a *p*<0.001

The unstandardized coefficients from model (2) show that almost half the difference in means between metropolitan and non-metropolitan parishes is associated with the form of government. The mean planning score for non-metropolitan parishes that have a home rule form of government ($X_{3i} = 0$) and are not in the coastal zone ($X_{4i} = 0$) is

$$\hat{Y} = b_0 + b_2 = 7.663 - 2.717 = 4.946,$$

which is above the mean for all parishes. The mean for non-coastal, non-metropolitan parishes run by police juries is

$$\hat{Y} = b_0 + b_2 + b_3 = 7.663 - 2.717 - 2.487 = 2.459,$$

which is below the mean for all parishes as well as all non-metropolitan parishes.

The positive association between planning and coastal zone parishes is not statistically significant in model (2), but it is in model (3). In this model, the addition of the variable for water, which is positively correlated with the planning score at $p<0.01$, changes the relationship between planning and the coastal zone parishes to a statistically significant negative one ($p<0.05$).

Unit issues require reference to the standardized coefficients or beta weights (β) for comparisons of the relative ability of variables in model (3) to predict the planning score. The beta weight (β_4= -0.283) for coastal parishes is almost equal to the beta weight for water (β_4= 0.280), but in the opposite direction. Therefore, parishes with more acres of water within their boundaries will be associated with higher planning scores, except in the coastal zone, where the effect would be reduced.

Although there are no empirical studies about location in the coastal zone or the amount of surface water within the jurisdiction being a driver for comprehensive planning at the local level, there is evidence that mandated comprehensive planning is associated with a reduction in

the number of per capita NFIP claims and payments (Burby 2006). The number of claims from coastal residents and the dollar value of insurance payment between 1978 and 2000 were one per one thousand (1/1000) residents and $71 per capita in Florida, where comprehensive planning requirements include hazard mitigation. In Texas, which does not mandate local land use regulations, Burby found that the number of claims was 21 for every one thousand (21/1000) residents and the average amount of the payout was $325. It is interesting to note that mandated building code enforcement was not statistically significant in Burby's model when other factors affecting the likelihood of suffering flood damages were added as control variables.

Burby's findings are interesting when considered in light of the results of this study, which demonstrates that the positive relationship between planning and the amount of water within a jurisdiction is less pronounced in the coastal zone. If the coastal parishes were previously convinced that the federal government was eliminating the risks of flood and storm hazards with structural measures, the NFIP, and disaster recovery response, the creation of the LRA and the Louisiana Speaks movement after Hurricanes Katrina and Rita indicates that these measures are no longer deemed, on their own, to be sufficient for hazard mitigation.

In Section 2.2.1, it was hypothesized that BTNEP and the Coastal Zone Management Programs would have had a positive effect on planning within the coastal parishes. The results of this study suggest the contrary. While these programs do exert a positive influence on planning education and community outreach, they may actually contribute to a lower rate of land use planning policy adoption in the coastal zone by relieving the parishes of this responsibility.

According to model (3), the planning scores of non-metro police juries in the coastal zone would be expected to be low if the median housing values were also low. The effect of housing values on the planning score is notably strong and the most statistically significant of all the

variables. The planning score would be expected to vary in a positive direction with a rise in median housing values almost twice as much as with an increase in the percent of water. And higher housing values would offset the negative correlation with a non-metro police jury outside the coastal zone or a non-metro home charter parish in the coastal zone. As seen in Table 3, the adjusted coefficient of determination (adjusted R^2) value for model (3) is 0.676 and the *F* test showed that it was statistically significant at $p<0.001$.

The addition of the demographic variables in model (3) improved the explanatory value of the regressions by almost 15 percentage points, but educational attainment and housing densities were not statistically significant.

It is likely that housing densities do not affect the planning score because Louisiana has never reached a critical mass at the parish level. It is possible to surmise that this factor would better relate to planning at the municipal level, where land for development is scarcer. Similarly, it may be posited that the effects of waste generating facilities are diluted by the vast areas of land still undeveloped within most parishes, which buffers most of the population from the negative by-products.

Educational attainment not being related to planning would be surprising in areas where income and education are highly correlated. As shown in Appendix D, although household income is positively correlated with the percent of the population 25 years or older with a high school degree or higher, the correlation is low at 0.318. It is even lower for the percent of the population with a bachelor's degree or higher, but not statistically significant. It appears that while incomes may not vary much within parish jurisdictions, educational attainment does. This may be attributed to the fact that mobility is tied to income, but education is not highly correlated with income so should not be a factor in individual's ability to move around.

The addition of growth and disposal variables in model (4), however, did not increase the adjusted R^2 value and none of the relationships between the planning score and the new factors were statistically significant.

The lack of relationship between planning and growth is possibly explained by the fact that growth was never perceived as an issue, or if it was, it was not perceived as an issue that could be addressed locally. From 1980 to 2005, the only metropolitan parish to lose population in absolute terms was Orleans. While other metro parishes, such as East Baton Rouge and Caddo, lost ground to surrounding suburban parishes in terms of their share of the MSA population, they still grew, albeit at modest rates. The recipient parishes have generally welcomed unplanned growth, even when the costs borne by the governments have exceeded the benefits (Villavaso and Lundgren 2003). In the 1970s and 1980s, depopulating cities and counties turned to economic development plans and strategic marketing campaigns to stop flight to the suburbs. More recently, the focus has been on regional planning solutions. Land use to manage local growth, until recently, was a tool used only sparingly in order not to discourage private developers.

The other significant factors, metropolitanization, form of government, coastal zone, median housing values, and the percent of water held as factors associated with the level of planning in Louisiana parishes. The number of cases dropped (N=55) in model (4), because 9 parishes were missing on the TRI.

Clearly, median housing value is the best predictor variable of the planning score. Although there is no evidence to separate the cause from the effect, the relationships are strong enough to propose a few possibilities. Fischel's assertion that homeowners, as the dominant political faction in all but the largest of local governments, drive these governments to act to

maximize owner-occupied housing values (2001) may be at play. This theory would suggest that planning policy adoption is reactive, i.e. housing values (and income) were established first and planning policies were adopted to protect them. The water variable may represent a recreational or real estate amenity that commands a higher price, or it may be a proxy for flood hazards that require planning in the form of flood plain management and building codes for property protection.

As theorized in Section 2.3.2.2, it also may represent an environmental or recreational feature that residents with high incomes are interested in protecting, whether in recognition of the fact that it increases the price of land or for the existence value alone. Although further study is required to clarify this concept, the fact that the data point towards the use of planning as an expression of an increased demand for environmental protection and other quality of life features is a powerful argument for planning reform in Louisiana.

The idea that strong planning initiatives create high housing values is provocative, but less easily supported. Although homes in middle- and upscale subdivisions are in demand in Louisiana, the lack of standardization among subdivision regulations makes it less plausible that this kind of intervention improves property values. There are not enough parishes practicing comprehensive planning to provide empirical evidence that a well-implemented plan impacts housing values. Individually planned, new urban villages, such as River Ranch in Lafayette, have shown that good planning creates high property values; however, the development of River Ranch required over 200 zoning ordinance and design standard waivers before it could be permitted. Therefore, the values were created by the private sector and in spite of the planning policies of the parish, not necessarily in concert with them.

Model (3) was used to develop Table 4, which illustrates expected planning scores for coastal and non-coastal parishes by metropolitanization, water, and housing values.

Table 4 – Expected Planning Scores for Selected Types of Parishes

Coastal Zone	Low Housing Values	Intermediate Housing Values	High Housing Values	
Metropolitan Home Rule	1	4	9	High Water
Metropolitan Police Jury	1	3	8	
Non-Metropolitan Home Rule	0	2	7	
Non-Metropolitan Police Jury	0	1	5	
Metropolitan Home Rule	0	3	7	Medium Water
Metropolitan Police Jury	0	2	5	
Non-Metropolitan Home Rule	0	2	5	
Non-Metropolitan Police Jury	0	1	4	
Not in Coastal Zone				
Metropolitan Home Rule	1	5	11	Medium Water
Metropolitan Police Jury	1	4	9	
Non-Metropolitan Home Rule	1	3	8	
Non-Metropolitan Police Jury	0	2	6	
Metropolitan Home Rule	0	2	6	Low Water
Metropolitan Police Jury	0	2	5	
Non-Metropolitan Home Rule	0	1	4	
Non-Metropolitan Police Jury	0	1	3	

Coastal zone parishes have medium to high percentages of water within their jurisdictions and non-coastal zone parishes have medium to low percentages; therefore, predicted scores for "low water" was not calculated for parishes not in the coastal zone and "high water" scores were not calculated for coastal zone parishes.

The minimum of the median housing value, $35,900, was used to represent low housing values; the intermediate value was taken from the average of the median values, $70,650. The maximum of the medians, $123,900, was used to represent high housing values. In this manner, the numbers in Table 5 express the range of predicted scores from the lowest to the highest. Suburban parishes are not included in Table 4 because, as seen in Figure 5, the difference between metropolitan parishes (parishes in the MSA with a center city) and suburban parishes (parishes in the MSA without a center city) is minimal.

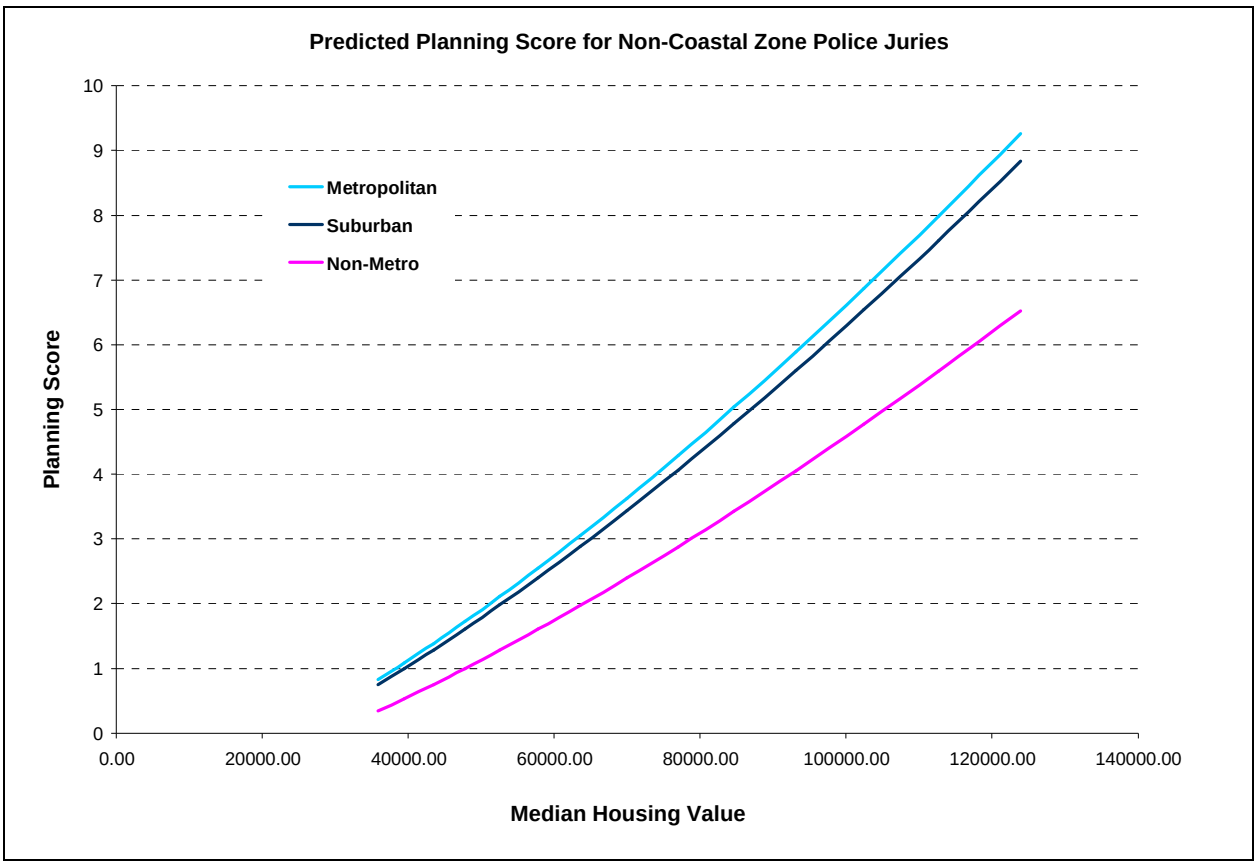

Figure 5 – The Association between Housing Values and Planning by Metropolitan Status

As illustrated, it is expected that non-metropolitan parishes (those outside the MSAs) will have lower planning scores. By virtue of the fact that land use planning was in the beginning a city phenomenon, it is not surprising that non-metropolitan parishes use planning tools less than the metropolitan parishes. And it may be surmised that urbanites brought planning tools with them as they moved out into the neighboring areas, which would explain the close relationship between metropolitan and suburban planning scores.

The relationship between the lower planning scores at the non-metropolitan level is also explained in part by the fact that most of these parishes have a police jury form of government. Out of 40 non-metropolitan parishes, 35 are police juries. As discussed in Section 2.3.3, these

governments may have less capacity and fewer pressures to adopt planning measures than home rule parishes.

In addition, the need for land use intervention may not be apparent in areas where there are large acres of undeveloped land and where large tract landowners are politically active. Anecdotal evidence regarding the refusal of some parishes to adopt and enforce building codes as mandated by the state points towards lack of funding and human resources as key factors. Resistance to government intervention in any form may also be a general principle that guides policy adoption in jurisdictions with low levels of political competition and a low media presence (Fording et al. 2003).

Figure 5 illustrates the relationships between the planning score and median values of owner occupied housing by metropolitan, suburban, and non-metropolitan parishes for non-coastal police jury parishes. Holding the percent of water and other variables constant, Figure 5 demonstrates that even taking metropolitan status of the parishes into account, the model still predicts a strong relationship between the planning score and median housing values. Calculating the slopes of the linear relationships, it can be said that the planning score is expected to increase by approximately one point for every $10,000 increase in housing values, even in the non-metropolitan parishes, where housing values are located at the lower end of the range.

5. CONCLUSION

Louisiana parishes do not implement the full range of planning tools available to them. The use of planning is low among the parishes and the tools most in use represent the simple end of the spectrum. As this study demonstrates, there is no significant relationship between the planning score and growth. The level of planning tools in rural, police jury parishes is very low. However, the strongest association between planning and housing values and the percent of water within the jurisdiction holds even among non-metropolitan parishes, although less so in coastal parishes.

It is less likely that planning causes high property values than planning is instituted at the local level as a means of protecting high values. The water variable may represent a higher level of natural hazard or a property value amenity that is worth protecting. Either way, it appears that Louisiana parishes are more likely to plan for protection than for growth.

The two issues that currently dominate the dialogue about planning in Louisiana are growth management and disaster recovery. As discussed, growth management related to population shifts from metropolitan to non-metropolitan areas is a regional issue and one best attended to by the state and regional planning authorities. Growth within parishes, once the federal and state interests in infrastructure funding and resource protection are considered, is a local matter. Until parishes and municipalities reach a tipping point or face a triggering event caused by growth issues, voluntary allocation of local resources for planning for growth management will not be compelling.

If coastal zone protections were successfully implemented, we would expect to see the relationship between the planning score and the coastal zone parishes normalize to the non-coastal zone levels. We would also expect to see the difference between police juries and home

rule parishes to approach zero if funding and expertise were made available to the parishes. The metro and non-metro differences might not change much, because the lack of development pressures in rural areas allows for less strict guidelines, except in parishes where surface water is prominent and the risk of flood hazards high. Generally, we would expect the mean planning score for all parishes to rise. In this way, the planning score may be a useful benchmark to measure the success of the LRA and others in getting Louisiana parishes to improve their planning policies.

However, the planning score is a construct that is an interim gauge at best, because the number of planning tools and policies does not reflect the efficacy of these efforts. Local land use planning would be best structured with a comprehensive plan that acts as an umbrella policy for all the other tools including zoning. Therefore, if comprehensive plans were required of all jurisdictions with responsibility for land use decisions, hazard mitigation, environmental and cultural resource protection, and economic development, the mean planning score for all parishes and municipalities could be as low as one, but still provide the benefits of good planning practices.

6. RECOMMENDATIONS

Since 2005, the calls for strengthening planning standards have been taken seriously. Driven by recovery in the coastal parishes, the LRA has most recently adopted ten priority goals (2007). All of the goals are related to land use planning and development, and some could have an enormous effect on the adoption of planning policies and tools at the parish level.

Specific items related to this study's planning score will bear watching. The first priority is to establish an Office of State Planning. Besides being the coordinating agency for regional planning (where growth management issues properly reside), this office could be responsible for promoting effective planning at the local level by establishing and enforcing good standards and practices, facilitating access to education and resources, and providing incentives and financial assistance for planning initiatives, particularly among the police jury parishes that lack a strong executive.

Priority 4 on the LRA list responds to the standards and practice issue by creating model development and zoning codes, an activity reminiscent of the SZEA and the CPEA exercises of the 1920s. Priority 6 addresses the issues of sprawl by focusing public investment in developed areas and clearing obstacles to infill development. And Priority 8 is to establish a trust fund to acquire high-risk or environmentally sensitive lands presumably to prevent the private market from making unsustainable decisions about their use. Other items address facility sitings, both the wanted and unwanted kinds, transportation infrastructure, community and neighborhood revitalization, and recovery initiatives such as Road Home and Louisiana Speaks.

A persuasive argument for planning in Louisiana would focus on protection. As many scholars have demonstrated through empirical and analytical research, the development of comprehensive land use plans by local governments reduces the risk of natural hazards being

transformed into natural disasters by identifying and responding to the vulnerabilities of the built environment. By rethinking land use patterns and building and rebuilding better and stronger, communities will spare themselves the social, political, and economic costs of events like Hurricanes Katrina and Rita. There is no jurisdiction in the state of Louisiana that is not at risk for some form of natural disaster. As shown in this study, water is a factor in planning even outside the coastal zone and it already encourages local intervention in land use through the NFIP. Strengthening local participation in programs like these through a required comprehensive planning process would be the best approach to getting Louisiana to embrace planning as an effective and necessary policy.

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APPENDIX A

TABULATION OF THE PLANNING SCORE BY PARISH

			Ordinances					Commissions and Districts				Advanced Tools	
Source: W, M, S	Jurisdiction	Planning Score	Permits	Adopted Building Codes Prior to Act 12 Mandate	Subdivision	Zoning	Historic Preservation	Planning Commission	Board of Adjustment or Zoning Review Board	Comprehensive (Master) Plan	Planning Dept or Paid Staff		
WM	Acadia Parish	3	x		x			1959					
S	Allen Parish	0											
WM	Ascension Parish	8	x	x	x	x		1977	x	2004	x		
W	Assumption Parish	2	x		x								
S	Avoyelles Parish	6	x		x			before 1999	x	2005	x		
WS	Beauregard Parish	3	x		x		x						
S	Bienville Parish	1	x										
WM	Bossier Parish	7	x	x	x	x	x	1975		2002			
WM	Caddo Parish	6	x	x	x	x			MPC review		MPC staff		
WM	Calcasieu Parish	6	x	x	x	x		1969		2007	x		
S	Caldwell Parish	3	x	x	x								
WM	Cameron Parish	1						1957					
S	Catahoula Parish	1							Rapides PC				
WS	Claiborne Parish	1	x							2007			
WS	Concordia Parish	4	x	x	x			1975					
S	De Soto Parish	4	x	x	x			x					
WM	East Baton Rouge Parish	11	x	x	x	x	x	1949	x	1992	x	TND	DDO
S	East Carroll Parish	0											
WS	East Feliciana Parish	4	x	x	x			1986					
S	Evangeline Parish	4	x	x	x			1995					
S	Franklin Parish	1	x										

			Ordinances					Commissions and Districts				Advanced Tools	
Source: W, M, S	Jurisdiction	Planning Score	Permits	Adopted Building Codes Prior to Act 12 Mandate	Subdivision	Zoning	Historic Preservation	Planning Commission	Board of Adjustment or Zoning Review Board	Comprehensive (Master) Plan	Planning Dept or Paid Staff		
S	Grant Parish	3	x		x			x					
WS	Iberia Parish	6	x	x	x			2000		2007	x	TND	
WM	Iberville Parish	3	x					x	x	2006			
WS	Jackson Parish	0											
S	Jefferson Davis Parish	4	x	x	x	x							
WM	Jefferson Parish	10	x	x	x	x	x	x	x	2003	x	Urban Growth Limit Line	
S	La Salle Parish	2	x				x						
WM	Lafayette Parish	9	x	x	x	x	x	1992	x	2000	x		
WM	Lafourche Parish	4	x		x			1981			x		
WS	Lincoln Parish	1			x								
WM	Livingston Parish	3	x		x						x		
S	Madison Parish	5	x	x	x	x		x					
S	Morehouse Parish	3	x	x			x						
WM	Natchitoches Parish	5	x		x	x		1964			x		
WM	Ouachita Parish	4	x	x	x				OCOG				
WM	Orleans Parish	11	x	x	x	x	x	x	1999	x	x	PUD	DDO
WS	Plaquemines Parish	8	x	x	x	x	x	Dev Board		1975	x		
WS	Pointe Coupee Parish	3	x		x			2000		2007			
WM	Rapides Parish	5	x	x	x			1968			x		
S	Red River Parish	3	x		x	x							
S	Richland Parish	2	x		x								
S	Sabine Parish	2			x			1969					
WM	St. Bernard Parish	6	x		x	x	x	1960	x	x			
WM	St. Charles Parish	8	x	x	x	x		1970	x	1990	x		
WM	St. Helena Parish	3	x		x			1976					
WS	St. James Parish	5	x	x	x			1979			x		

			Ordinances					Commissions and Districts				Advanced Tools	
Source: W, M, S	Jurisdiction	Planning Score	Permits	Adopted Building Codes Prior to Act 12 Mandate	Subdivision	Zoning	Historic Preservation	Planning Commission	Board of Adjustment or Zoning Review Board	Comprehensive (Master) Plan	Planning Dept or Paid Staff		
WS	St. John the Baptist Parish	9	x	x	x	x		c1980	x	1971	x	PUD	
WM	St. Landry Parish	4	x	x	x			1968					
WM	St. Martin Parish	7	x		x	x		1966	x		x	PUD	
WM	St. Mary Parish	8	x	x	x	x		2002	x	2002	x		
WM	St. Tammany Parish	10	x	x	x	x	x	2004		2005	x	PUD	Growth Mgt
WM	Tangipahoa Parish	3	x		x			1978					
S	Tensas Parish	1			x								
WM	Terrebonne Parish	9	x	x	x		x	1992	x	2003	x	PUD	
S	Union Parish	2	x		x								
WS	Vermilion Parish	2	x		x								
M	Vernon Parish	4	x	x	x			1971					
WS	Washington Parish	2	x					2005		2008			
WM	Webster Parish	4	x		x			1966	x				
WM	West Baton Rouge Parish	9	x	x	x	x	x	1961	x			Cluster	TND
S	West Carroll Parish	0											
WS	West Feliciana Parish	7	x	x	x	x	x	1994		2008	x		
S	Winn Parish	0											

APPENDIX B

SURVEY FORM

Louisiana Parish Government Planning Survey

September 17, 2007

Dear Parish Government Official:

I am a graduate student at LSU completing my thesis on Planning in Louisiana. I am also the Vice President for Membership of the Louisiana Chapter of the American Planning Association (LA-APA). I am compiling data for my thesis and also for LA-APA's program for assisting the parishes in planning. Please take a minute to answer the questions below and return to me at lmalon1@lsu.edu. You may also fax it to me at 225-334-0888. I will be calling to follow up next week. Thank you in advance for your assistance.

Lynn A. Maloney

1. Does the parish regulate subdivisions? Yes _____ No _____

2. Has the parish adopted zoning regulations? Y_____ N_____ Airport only_____

3. Does the parish have an ordinance for historic preservation? Y_____ N_____

4. Has the parish adopted building codes and are building permits required? Y____N_____

5. Has the parish adopted International Building Codes and if so, what year _____

6. Does the parish have its own Planning Commission? Y_____N_____

7. If the parish has a Planning Commission, what year was it established? _____

8. Does the parish work with a Regional Planning Commission? Y_____N_____

9. Does the parish have a Board of Adjustment or Planning Review Board? Y_____N_____

10. Has the parish adopted a Comprehensive (Master) Plan? Y_____N_____

11. If so, what year was the plan adopted?_____

12. Has the parish adopted any other planning tools, such as Traditional Neighborhood Development (TND) Ordinance, Cluster Subdivisions, Planned Unit Developments, Design District Overlays or other? Y_____ N_____

    If yes, please describe_____

    Parish Name:_____

    Title of Official Responding to Survey_____

APPENDIX C

GEOGRAPHIC COMPONENTS OF THE METROPOLITAN PARISHES

Metropolitan Parishes and their Suburbs

MSA/ CMSA Code	FIPS State/ County Code	Area
0220		Alexandria, LA MSA
0220	22079	Rapides Parish (Metropolitan)
0760		Baton Rouge, LA MSA
0760	22005	Ascension Parish
0760	22033	East Baton Rouge Parish (Metropolitan)
0760	22063	Livingston Parish
0760	22121	West Baton Rouge Parish
3350		Houma, LA MSA
3350	22057	Lafourche Parish
3350	22109	Terrebonne Parish (Metropolitan)
3880		Lafayette, LA MSA
3880	22001	Acadia Parish
3880	22055	Lafayette Parish (Metropolitan)
3880	22097	St. Landry Parish
3880	22099	St. Martin Parish
3960		Lake Charles, LA MSA
3960	22019	Calcasieu Parish
5200		Monroe, LA MSA
5200	22073	Ouachita Parish (Metropolitan)
5560		New Orleans, LA MSA
5560	22051	Jefferson Parish
5560	22071	Orleans Parish (Metropolitan)
5560	22075	Plaquemines Parish
5560	22087	St. Bernard Parish
5560	22089	St. Charles Parish
5560	22093	St. James Parish
5560	22095	St. John the Baptist Parish
5560	22103	St. Tammany Parish
7680		Shreveport--Bossier City, LA MSA
7680	22015	Bossier Parish (Metropolitan)
7680	22017	Caddo Parish (Metropolitan)
7680	22119	Webster Parish

Source: U.S. Census Bureau, Census 2000 Redistricting Data (P.L. 94-171) Summary File
Internet Release date: April 2, 2001

APPENDIX D

CORRELATIONS MATRIX

		Planning Score	Pop Growth 1970-1980	Pop Growth 1980-1990	Pop Growth 1990-2000	Population per Sq Mile	Housing Units per Sq Mile	Median Household Income in 1999	Median Value Owner-Occ House	Pct of Pop 25 Yrs and Older with Less than 9th Grade Education	Pct of Pop 25 Yrs and Older with High School or Higher	Pct of Pop 25 Yrs and Older with Bachelor Degree or Higher	Percent of Area that is Water	In Coastal Zone?	Total Pounds of Disposal	Is Govt a Police Jury?	Is Non-Metro (Not in MSA)	Is MetroCenter (in MSA with CC)?	Is Suburban (in MSA no CC)?
Planning Score	Pearson Correlation	1	.423(**)	.426(**)	.309(*)	.543(**)	.526(**)	.649(**)	.754(**)	-.081	.171	.117	.500(**)	.423(**)	.332(*)	-.665(**)	-.677(**)	.410(**)	.249(*)
	Sig. (2-tailed)		.001	.000	.013	.000	.000	.000	.000	.525	.178	.357	.000	.001	.013	.000	.000	.001	.047
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Pop Growth 1970-1980	Pearson Correlation	.423(**)	1	.645(**)	.680(**)	.090	.070	.705(**)	.610(**)	-.201	.288(*)	.176	.187	.357(**)	.244	-.401(**)	-.460(**)	.099	.234
	Sig. (2-tailed)	.001		.000	.000	.478	.583	.000	.000	.110	.021	.165	.139	.004	.073	.001	.000	.438	.063
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Pop Growth 1980-1990	Pearson Correlation	.426(**)	.645(**)	1	.560(**)	.024	.005	.756(**)	.678(**)	-.118	.211	-.012	.169	.403(**)	.234	-.440(**)	-.452(**)	.044	.317(*)
	Sig. (2-tailed)	.000	.000		.000	.852	.967	.000	.000	.352	.094	.926	.182	.001	.086	.000	.000	.730	.011
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Pop Growth 1990-2000	Pearson Correlation	.309(*)	.680(**)	.560(**)	1	-.007	-.021	.594(**)	.552(**)	-.225	.219	.059	-.038	.195	.191	-.333(**)	-.319(*)	-.021	.283(*)
	Sig. (2-tailed)	.013	.000	.000		.959	.872	.000	.000	.074	.082	.645	.768	.122	.162	.007	.010	.870	.023
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Population per Sq Mile	Pearson Correlation	.543(**)	.090	.024	-.007	1	.999(**)	.189	.378(**)	-.135	.125	.150	.369(**)	.265(*)	.206	-.383(**)	-.393(**)	.474(**)	.055
	Sig. (2-tailed)	.000	.478	.852	.959		.000	.135	.002	.287	.326	.238	.003	.034	.132	.002	.001	.000	.666
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Housing Units per Sq Mile	Pearson Correlation	.526(**)	.070	.005	-.021	.999(**)	1	.166	.357(**)	-.128	.113	.138	.363(**)	.258(*)	.185	-.366(**)	-.377(**)	.471(**)	.043
	Sig. (2-tailed)	.000	.583	.967	.872	.000		.189	.004	.313	.373	.277	.003	.040	.176	.003	.002	.000	.737
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64

		Planning Score	Pop Growth 1970-1980	Pop Growth 1980-1990	Pop Growth 1990-2000	Population per Sq Mile	Housing Units per Sq Mile	Median Household Income in 1999	Median Value Owner-Occ House	Pct of Pop 25 Yrs and Older with Less than 9th Grade Education	Pct of Pop 25 Yrs and Older with High School or Higher	Pct of Pop 25 Yrs and Older with Bachelor Degree or Higher	Percent of Area that is Water	In Coastal Zone?	Total Pounds of Disposal	Is Govt a Police Jury?	Is Non-Metro (Not in MSA)	Is MetroCenter (in MSA with CC)?	Is Suburban (in MSA no CC)?
Median Household Income in 1999	Pearson Correlation	.649(**)	.705(**)	.756(**)	.594(**)	.189	.166	1	.885(**)	-.264(*)	.318(*)	.115	.399(**)	.511(**)	.461(**)	-.549(**)	-.644(**)	.180	.308(*)
	Sig. (2-tailed)	.000	.000	.000	.000	.135	.189		.000	.035	.010	.364	.001	.000	.000	.000	.000	.154	.013
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Median Value Owner-Occ House	Pearson Correlation	.754(**)	.610(**)	.678(**)	.552(**)	.378(**)	.357(**)	.885(**)	1	-.243	.342(**)	.263(*)	.443(**)	.513(**)	.373(**)	-.635(**)	-.637(**)	.274(*)	.317(*)
	Sig. (2-tailed)	.000	.000	.000	.000	.002	.004	.000		.053	.006	.036	.000	.000	.005	.000	.000	.028	.011
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Pct of Pop 25 Yrs and Older with Less than 9th Grade Education	Pearson Correlation	-.081	-.201	-.118	-.225	-.135	-.128	-.264(*)	-.243	1	-.878(**)	-.626(**)	-.019	.011	-.348(**)	.205	.253(*)	-.090	-.201
	Sig. (2-tailed)	.525	.110	.352	.074	.287	.313	.035	.053		.000	.000	.879	.931	.009	.104	.044	.477	.111
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Pct of Pop 25 Yrs and Older with High School or Higher	Pearson Correlation	.171	.288(*)	.211	.219	.125	.113	.318(*)	.342(**)	-.878(**)	1	.701(**)	.029	.051	.377(**)	-.264(*)	-.295(*)	.137	.316(*)
	Sig. (2-tailed)	.178	.021	.094	.082	.326	.373	.010	.006	.000		.000	.821	.687	.005	.035	.018	.282	.011
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Pct of Pop 25 Yrs and Older with Bachelors Degree or Higher	Pearson Correlation	.117	.176	-.012	.059	.150	.138	.115	.263(*)	-.626(**)	.701(**)	1	-.020	-.050	.227	-.128	-.183	.319(*)	.032
	Sig. (2-tailed)	.357	.165	.926	.645	.238	.277	.364	.036	.000	.000		.874	.696	.096	.312	.148	.010	.800
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Percent of Area Within Jurisdiction that is Water	Pearson Correlation	.500(**)	.187	.169	-.038	.369(**)	.363(**)	.399(**)	.443(**)	-.019	.029	-.020	1	.736(**)	.060	-.542(**)	-.357(**)	.047	.118
	Sig. (2-tailed)	.000	.139	.182	.768	.003	.003	.001	.000	.879	.821	.874		.000	.663	.000	.004	.712	.353
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64

		Planning Score	Pop Growth 1970-1980	Pop Growth 1980-1990	Pop Growth 1990-2000	Population per Sq Mile	Housing Units per Sq Mile	Median Household Income in 1999	Median Value Owner-Occ House	Pct of Pop 25 Yrs and Older with Less than 9th Grade Education	Pct of Pop 25 Yrs and Older with High School or Higher	Pct of Pop 25 Yrs and Older with Bachelor Degree or Higher	Percent of Area that is Water	In Coastal Zone?	Total Pounds of Disposal	Is Govt a Police Jury?	Is Non-Metro (Not in MSA)	Is MetroCenter (in MSA with CC)?	Is Suburban (in MSA no CC)?
Is Jurisdiction in Coastal Zone?	Pearson Correlation	.423(**)	.357(**)	.403(**)	.195	.265(*)	.258(*)	.511(**)	.513(**)	.011	.051	-.050	.736(**)	1	.117	-.582(**)	-.415(**)	.065	.257(*)
	Sig. (2-tailed)	.001	.004	.001	.122	.034	.040	.000	.000	.931	.687	.696	.000		.394	.000	.001	.612	.041
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Total Pounds of Disposal	Pearson Correlation	.332(*)	.244	.234	.191	.206	.185	.461(**)	.373(**)	-.348(**)	.377(**)	.227	.060	.117	1	-.210	-.345(**)	.204	.190
	Sig. (2-tailed)	.013	.073	.086	.162	.132	.176	.000	.005	.009	.005	.096	.663	.394		.124	.010	.135	.165
	N	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55	55
Is Govt a Police Jury?	Pearson Correlation	-.665(**)	-.401(**)	-.440(**)	-.333(**)	-.383(**)	-.366(**)	-.549(**)	-.635(**)	.205	-.264(*)	-.128	-.542(**)	-.582(**)	-.210	1	.631(**)	-.209	-.395(**)
	Sig. (2-tailed)	.000	.001	.000	.007	.002	.003	.000	.000	.104	.035	.312	.000	.000	.124		.000	.097	.001
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Is Non-Metro (Not in MSA)	Pearson Correlation	-.677(**)	-.460(**)	-.452(**)	-.319(*)	-.393(**)	-.377(**)	-.644(**)	-.637(**)	.253(*)	-.295(*)	-.183	-.357(**)	-.415(**)	-.345(**)	.631(**)	1	-.488(**)	-.373(**)
	Sig. (2-tailed)	.000	.000	.000	.010	.001	.002	.000	.000	.044	.018	.148	.004	.001	.010	.000		.000	.002
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Is MetroCenter (in MSA with CC)?	Pearson Correlation	.410(**)	.099	.044	-.021	.474(**)	.471(**)	.180	.274(*)	-.090	.137	.319(*)	.047	.065	.204	-.209	-.488(**)	1	-.218
	Sig. (2-tailed)	.001	.438	.730	.870	.000	.000	.154	.028	.477	.282	.010	.712	.612	.135	.097	.000		.083
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64
Is Suburban (in MSA no CC)?	Pearson Correlation	.249(*)	.234	.317(*)	.283(*)	.055	.043	.308(*)	.317(*)	-.201	.316(*)	.032	.118	.257(*)	.190	-.395(**)	-.373(**)	-.218	1
	Sig. (2-tailed)	.047	.063	.011	.023	.666	.737	.013	.011	.111	.011	.800	.353	.041	.165	.001	.002	.083	
	N	64	64	64	64	64	64	64	64	64	64	64	64	64	55	64	64	64	64

VITA

Ms. Maloney-Mújica is a professional planner and project scientist working on National Environmental Policy Act and community planning projects for an international environmental consulting firm. She received her planning certification from the American Institute of Certified Planners (AICP) in 2005 and serves on the board of the Louisiana Chapter of the American Planning Association (APA) as Vice-President, Membership. A native of Baton Rouge, she earned an undergraduate degree from Kenyon College in Gambier, Ohio and began her graduate studies at the University of Puerto Rico, Graduate School of Planning in San Juan, where she worked as a bi-lingual consultant and commodities trader. She will earn the degree of Master of Science at the May 2008 commencement.