PRINCIPLES OF SUSTAINABLE DEVELOPMENT IN THE COMPREHENSIVE PLAN FOR GAINESVILLE, FLORIDA

By

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To me.

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LIST OF ABBREVIATIONS

ACSC	Area of critical state concern
APA	American Planning Association
CESD	Center of Excellence for Sustainable Development
CLT	Community land trust
DCA	Department of Community Affairs
DMT	Development management techniques
DOE	Department of Energy
DOT	Department of Transportation
DRI	Development of regional impact
DSM	Demand-side management
DUDA	Designated Urban Development Areas
EAR	Evaluation and Appraisal Report
ECSC	Alachua County Energy Conservation Strategies Commission
ELWMA	Environmental Land and Water Management Act
EPA	Environmental Protection Agency
FAC	Florida Administrative Code
F.S.	Florida Statute
GMA	Growth Management Act
GRU	Gainesville Regional Utilities
HOME	Home Improvement Partnerships Program
ICLEI	International Council for Local Environmental Initiatives
IUCN	International Union for the Conservation of Nature
LCIR	Florida Legislative Committee on Intergovernmental Relations
LEED	Leadership in Energy and Environmental Design

LOS	Level of Service
NIMBY	Not in my backyard
OPP	Operational Performance Principle
PCSD	President's Council on Sustainable Development
SAFETEA	Safe, Accountable, Flexible, Efficient Transportation Equity Act
SAC	Sustainable Alachua County
SCN	Smart Communities Network
SDCG	Sustainable Development Challenge Grants
SHIP	State Housing Initiatives Program
TCMA	Transportation Concurrency Management Area
TCRP	Transit Cooperative Research Program
TCSP	Transportation, Community, and System Preservation Program
UF	University of Florida
UNCED	United Nations Conference on Environment and Development
UNDSD	United Nations Division of Sustainable Development
UNEP	United Nations Environment Programme
UN	United Nations
USCM	United States Conference of Mayors

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Planning practices in the United States are being influenced by principles of sustainable development. Sustainable development and the field of urban planning originate from different schools of thought but have a naturally symbiotic connection. Both ideologies are concerned with the interaction of the economy, environment and equality as they pertain to society on a local, regional and global level. The literature suggests that in order to meet the demands of society—short of prohibiting growth altogether—sustainable development practices must be implemented at the local level.

Applying principles of sustainable development to comprehensive planning must be a coordinated effort at the local level, across all city departments and officials. Our case study evaluating Gainesville, Florida's comprehensive plan will provide context to examine the influence of sustainable development principles on local planning. The evaluation uses previously developed methodology to create indices based on the presence of principles for sustainable development in the policies of Gainesville's comprehensive plan. The methodology will also identify the occurrence of development management techniques used by each policy in supporting specific principles of sustainable development.

In general, Gainesville's comprehensive plan is similar to many plans that do not have an overarching framework of sustainability. Gainesville's comprehensive plan strongly promotes the physical form; in particular the 'Livable Built Environment', which can be described as the orientation, form, density, balance and quality of development interacting to enhance the human scale. Gainesville's approach to planning is similar to communities found in the research that are typically dominated and prescribed to address land use regulation. Although land use regulation contributes significantly to the pursuit of sustainable development, having such limited developmental techniques does not embrace the holistic interconnectedness of the environment, economy and social equality.

The theme of planning in Gainesville is characteristic among local governments throughout the United States in that principles associated with sustainable development have not been integrated in comprehensive planning. Gainesville does not have a single city department devoted to sustainability. Although the presence of organizations that are sustainability-related exist in Gainesville, this does not reflect commitment by the local government to principles of sustainable development. To effectively promote sustainable development in Gainesville the following recommendations are required: coordinated acceptance among city officials and departments instituted under a state mandate, the development of a new city department whose sole purpose is to address the principles of sustainability and a more dispersed promotion of all principles of sustainable development in the policies of the comprehensive plan.

CHAPTER 1
INTRODUCTION

The concept of sustainable development in planning literature is extensive. However, the research that evaluates the promotion of sustainability is scarce. Only recently have studies attempted to measure the degree to which sustainable development has influenced planning by local governments and cities (Berke and Conroy 2000, Conroy 2006, Jepson 2004, Portney 2003, Saha and Peterson 2008). According to Chapter 28 of Agenda 21 (UNDSD, 1993) and more recently Local Action 21 (ICLEI, 2008), sustainable development principles and practices are best implemented at the local level. This reason alone is enough to examine the prevalence of principles of sustainable development in local comprehensive planning.

We conducted a case study of the Comprehensive Plan for Gainesville, Florida, and more specifically the promotion of sustainable development principles in the plan. There are three reasons for performing an evaluation of Gainesville's comprehensive plan. First, Gainesville's Evaluation and Appraisal Report (EAR), which serves as the blueprint for comprehensive plans, was endorsed by the Department of Community Affairs (DCA), the State run oversight committee for Florida's local comprehensive planning, as a template for other municipal governments' EARs (Florida Department of Community Affairs, 1998). Second, when the current plan was adopted from the EAR, the drafters of the plan clearly stated the need to address societal, environmental and economic impacts, the essence of sustainable development. Lastly, there is little research exploring the presence of sustainable principles in local comprehensive planning.

Principles of sustainable development must be recognized as necessary tools for planners to integrate in everyday planning at the federal, state and local level. This thesis explores two questions concerning sustainable development: (1) To what extent does Gainesville's plan

encompass the principles of sustainable development and thus promote a balance of environmental, economic and socially equitable dimensions in its community?; and (2) What types of developmental management techniques (DMT), are being adopted by Gainesville in pursuit of sustainable development?

The literature review provides the background and context for sustainable development. It examines the origin and definitions of sustainable development as it pertains to this research. The promotions of policies by local governments in the United States that are considered sustainable are discussed to represent the current trends being adopted at the local level. The similarities between growth management and sustainable development are identified to establish the shared interests of these two planning philosophies. The attempt by the federal government to implement sustainability on a national level is also discussed. The concept of sprawl is examined as a contrast to sustainable development. The planning paradigm of smart growth is investigated and establishes the similar approaches this discipline shares with sustainable development. Statewide planning initiatives are analyzed to gauge state government's role in the overall shaping of Florida planning. A closer look at the local level investigates to what degree sustainable practices are executed in the Gainesville region. Finally, a variety of theories are reviewed in order to extrapolate the shared philosophies sustainable development has in common with prevailing theories of urban and regional planning.

A hybrid of qualitative and quantitative methodology is employed by this research to determine to what extent principles of sustainable development are promoted by Gainesville's comprehensive plan. A qualitative analysis was used to interpret the strength of policies in the comprehensive plan. The quantitative approach was chosen in order to measure the degree to which Gainesville's policies of the comprehensive plan promote sustainability. This allows the

researcher to measure whether a particular principle of sustainable development is weak or strong and to provide recommendations based on these findings.

The methodology is duplicated from a study done by Berke and Conroy (2000). This evaluation protocol was chosen for the study because it allows the researcher to pinpoint the strengths and weaknesses of a comprehensive plan in promoting sustainable development. The methodology was further analyzed to examine what particular DMTs are being implemented by the city of Gainesville. This portion of the methodology was added to examine findings in current literature that highlights local government's tendencies in promoting sustainable activities that are considered antiquated—techniques such as public participation or affordable housing—instead of cutting-edge techniques like green buildings or eco-villages (Conroy 2006, Saha & Paterson 2008).

The results contain a historical timeline representing the development of comprehensive planning in Gainesville. The historical context explains the direction Gainesville has taken in its approach to comprehensive planning, including responses to the Growth Management Act (GMA), in addition to the impacts of the EAR process. The results also investigate the incidence of sustainability in Gainesville's comprehensive plan as well as the application and examination of the protocol used in evaluating the plan. The findings from the methodology are discussed in the results and are compared to the results found in similar studies. The results will also score the comprehensive plan via the use of indices to determine what extent sustainable development is present in the Plan.

The discussion section addresses the results of the analysis and how they pertain to the City of Gainesville. The results show Gainesville's comprehensive plan is deficient in elements as they pertain to energy and the economy. Local planning in Florida is delegated by state

mandates that provide specific guidelines that communities must follow in drafting comprehensive plans. This section also identifies flaws in the Berke and Conroy methodology that were not taken into consideration when applied to the case study. Finally, this section identifies sources of local government funding that guide the implementation of planning department policies.

Chapter 6 concludes with recommendations for improving the incidence of sustainable development in the Gainesville Comprehensive Plan. Examples of particular policies are included based on the results section. The recommendations section offers a more holistic approach to planning through the use of sustainable development principles for the City of Gainesville. Finally, the recommendations section discusses ways in which the application of sustainability principles will impact urban planning in Florida as a whole.

CHAPTER 2
LITERATURE REVIEW

Origins of Sustainable Development

In the past 40 years, the environment, from local to global, has become a key focus of national and international law and institutions (Kates et al, 2005). The grand scale of war had diminished after World War II and as a result issues such as peace, freedom, development and the environment emerged (Kates et al, 2005). During the 1970s and 1980s global commissions formed and began having international conferences attempting "to link together the aspirations of humankind – demonstrating how the pursuit of one great value required the others" (Kates et al, 2005, p. 10).

The concept of sustainable development emerged from the first of these world conferences, the Stockholm Conference on the Human Environment, in 1972. The concept was further defined in 1980 by the World Conservation Strategy, a report published by the International Union for the Conservation of Nature (IUCN), the World Wildlife Fund and the United Nations Environment Programme (UNEP) (Vig, 1999). Even though the Stockholm Conference was concerned with conflicts between the environment and development and the IUCN "argued for…the sustainable development and utilization of species, ecosystems and resources," it was these organizations who first embraced the principles of sustainable development (Kates et al, 2005, p. 10). In 1982, international recognition prompted the General Assembly of the United Nations to initiate the World Commission on Environment and Development (Kates et al, 2005). *Our Common Future,* also referred to as the *Brundtland Report,* was the result of the World Commission on Environment and Development, the first major international meeting of its kind to address the notion of sustainable development as a means to achieving economic, environmental and social equality through political intervention (Krizek, 1996). *The Brundtland*

Report recognized that environmental problems existed on a global scale and determined it would be in the best interests of all nations to adopt polices for sustainable development (Brundtland Commission, 1987).

The adoption of the *Brundtland Report* during the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (also know as Earth-Summit) signaled the growing global acceptance of sustainable development principles. It was at this meeting that the United Nations' outline for environmental protection and economic development was created based upon the concept of sustainable development as stated in the *Brundtland Report* (Bryner, 1999). The concept of sustainable development is evident in Principal Three of the Rio Declaration: "the right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations" (United Nations Department of Economic and Social Affairs, 1992). Principle Eight gives further direction for the implementation of sustainable development: "to achieve sustainable development and a higher quality of life for all people, states should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies" (United Nations Department of Economic and Social Affairs, 1992).

The UNCED also took the time to "issue a declaration of principles, a detailed Agenda 21 of desired actions, international agreements on climate change and biodiversity, and a statement of principles on forests" (Kates et al, 2005, p. 10). The Earth Summit culminated with Agenda 21, an ambitious strategy aimed at achieving sustainability worldwide (Krizek, 1996). Although this document is global in perspective, local entities are given sustainability guidelines as evidenced in Chapter 28, Section One of Agenda 21:

> Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and cooperation of local authorities will be a

> determining factor in fulfilling its objectives. Local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and subnational environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development (UNDSD, 1993, p. 274).

The majority of those who attended the conference embraced the concept of sustainable development as stated in the *Brundtland Report* and agreed to establish these principles in their own policies. Even though there are no binding agreements for those who have signed the international declarations in Rio, there does exist a moral contract, upholding members to commit to sustainable development at the local level of government (Bryner, 1999). During 2002, ten years after Earth Summit, the World Summit on Sustainable Development met in Johannesburg, South Africa where commitment to sustainable development was reaffirmed (Kates et al, 2005).

The origins of sustainable development are the result of three principles as suggested by Edith Brown Weiss:

> Each generation should be required to conserve the diversity of the resource base so that it does not unduly restrict the options available to future generations; each generation should maintain the planet's overall quality so that it is bequeathed in no worse condition than received; and members of every generation should have comparable rights of access to the legacy of past generations and should conserve this access for future generations (Vig, 1999, p. 6).

The struggle between the common interest and the special interest was the subject of debate behind the published *Brundtland Report*. The report defined sustainability as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (Bruntland Commission, 1987, p. 43). Two central components of sustainable development emerged from the report: "the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given,

and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs" (Vig, 1999, p. 7).

The report was historically significant because it was the first of its kind to explain the interconnectedness of the economy, environment and equity (Vig, 1999). The commission's visioning was one of quality not quantity, however. Sustainable development should not be concerned solely with growth as a means to an end but the path to achievement should be laced with resource protection and social and economic equity (Krizek, 1996).

Defining Sustainable Development

Sustainable development is not without polemics over terminology and implementation. In fact, the term sustainable development has become a cliché term in the lexicon of society. This problem has led some people to perceive sustainable development as "an oxymoron: fundamentally contradictory and irreconcilable" (Kates et al, 2005, p. 20). It is from this ambiguity that the concept of sustainable development draws its strength (Kates et al, 2005). The various perspectives of sustainable development can be found in the vast array of definitions. For example, sustainable development has been defined as a "system [that] does not cause harm to other systems, both in space and time; the system maintains living standards at a level that does not cause physical discomfort or social discontent to the human component; in the system life-support ecological components are maintained at levels of current conditions or better" (Voinov & Smith, 1998). A more anthropocentric definition views sustainable development as "the complex of activities that can be expected to improve the human condition in such a manner that the improvement can be maintained" (Munro, 1995, p. 29). One definition for sustainable development in local government is "a dynamic process in which communities anticipate and accommodate the needs of current and future generations in ways that reproduce and balance local social, economic, and ecological systems, and link local actions to global concerns" (Berke

& Conroy, 2000, p. 23). However, the most common definition for sustainable development is that from the Bruntdland Report: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Bruntdland Commission, 1987, p. 43).

Simply put, sustainable development is “development that can be continued – either indefinitely or for the implicit time period of concern” (Lele, 1991, p. 608-609). A loose interpretation of sustainable development was intentional and the World Commission on Environment and Development believed a clear-cut definition would exclude significant members of society that the concept was intended to help (Vig, 1999). Be it simple or ambiguous, the underlying goal of sustainable development is for the betterment of life on Earth. The malleability of the term allows implementation to be open, dynamic and evolving, and enables applications of the term to adapt to a myriad of situations and contexts across space and time (Kates et al, 2005). Sustainable development practices can be administered from local to global scales, in and across areas of interest, be it government, business or society, each one is able to redefine and reinterpret the meaning to fit their own situation (Kates et al, 2005).

Policies of Sustainable Development

Pursuit of sustainable development principles at the local level is complicated by the myriad of definitions and ambiguity surrounding its practice (Beatley and Manning 1998, Chifos 2007, Conroy 2006, Goldschalk 2004, Jepson 2004, Portney 2003). Local governments need to implement and balance three goals: economic, environmental and social equity in order to properly promote policies of sustainability (Campbell, 1996). Planners need to combine social theory with an environmental perspective, as well as embrace conflict resolution as a way to address principles of sustainability (Campbell, 1996). Planners are integral in the role of mediating conflict over the environment, economy and social justice (Campbell, 1996).

Many communities throughout the United States have adopted policies that are consistent and supportive of sustainable development (Jepson 2004, Saha and Peterson 2008). Researchers have examined to what extent sustainable concepts and principles are being adopted at the local level (Conroy 2006, Saha and Peterson 2008). Some researchers have developed sustainable indices to measure ways sustainable practices are being administered and managed (Portney, 2003) and yet others have conducted surveys to determine what policies and techniques are sustainable (Jepson, 2004). Policies considered to represent principles of sustainable development tend to promote typical planning protocol such as water conservation, open space zoning, public transit and neo-traditional planning (Jepson 2004, Portney 2003, Saha and Peterson 2008). Cutting-edge policies, such as eco-village projects, ecological footprint analysis, and innovative tax incentives exist, but are infrequent (Jepson 2004, Portney 2003, Saha and Peterson 2008).

Policies tend to exhibit piecemeal elements of sustainability instead of being organized under the heading of sustainable development (Conroy 2006, Saha and Peterson 2008). As sustainable elements infiltrate planning practices throughout the United States they tend to involve techniques associated with land development and land use planning (Jepson, 2004). Many communities develop sustainable activities in the antiquated stable planning paradigm (such as public participation and affordable housing), but are resistant to developing unique activities like green building programs or energy conservation (Conroy 2006, Saha and Peterson 2008).

Sustainable Growth

Sustainable development does not stop growth; it may, however, inhibit it. Growth management is also used as a means for communities to practice sustainable development (Fodor, 1999). Environmental protection, social equality and economic growth are

complimentary of one another under the guise of sustainable growth as shown in a study by the Institute for Southern Studies (Fodor, 1999). The study concluded that communities who protect their natural resources tend to develop strong economies including better employment opportunities and ultimately a higher quality of life for their citizens (Fodor, 1999).

Fodor (1999) suggest several development management techniques communities can implement to attain sustainable growth: inclusionary zoning, linkage, community land trusts (CLT) and flexible residential zoning. Inclusionary zoning "requires new residential development to include a percentage of houses that are low and moderate income, to ensure a good turnover/availability of affordable housing" (Fodor, 1999, p. 75). Local governments would only have to implement inclusionary zoning for a limited amount of time—about 10 – 15 years in order to allow the developer to turn a profit—as well as make affordable housing available to others (Fodor, 1999). Local governments can include density bonuses as an incentive to entice developers to take part in such an agreement (Fodor, 1999). Local governments that implement linkage "ensure that commercial developers provide housing that is affordable for the intended income of their future employees with close proximity to the new proposed commercial development" (Fodor, 1999, p. 74-75). Linkage makes commercial developers responsible for the residential future of their employees. CLTs are typically non-profit, charitable organizations that acquire open space or farmland, removes it from the market and thus "insulates the property from future price escalation" (Fodor, 1999, p. 75). The lands from the CLT can then be used to construct affordable housing by the organization or can be kept as open space (Fodor, 1999). Flexible residential zoning is typically mixed-use but with looser zoning restrictions. A local government might be able to offer affordable housing and stimulate the economy if they "allow a homeowner to have rental accommodations with the residences by loosing the restriction and

allowing the owner to have or install another kitchen or a separate entrance" (Fodor, 1999, p. 75).

Sustainable Development at the Federal Level

In 1993, the United States embraced the concept of sustainable development. Under the authority of President Clinton, the President's Council on Sustainable Development (PCSD) was created to construct a sustainable development framework for the United States (Lash, 1995). Even though the concept of sustainable development had negative connotations among lawmakers and had no legal authority of integration for U.S. policy, the PCSD pushed on. The intent of the Council was "to advise the president on key issues involving integrated economic, environmental, and social interests; to recommend long-term sustainable development goals; and to identify ways to measure progress toward achieving these goals" (Lash, 1995, p. 44). Next, task forces were established by the Council to address such issues as eco-efficiency, population and consumption, energy and transportation and sustainable agriculture (Blodgett, 2000). In 1996, after extensive hearings and public meetings, the Council submitted *Sustainable America*, a report that adopted the Brundtland definition of sustainable development (Blodgett, 2000). *Sustainable America* intended to "articulate the Council's broad concept of the benefits of sustainability to the Nation" (Blodgett, 2000). The objectives covered in this report were "ensuring a healthy and clean environment, economic prosperity, equity, conservation of nature, civic engagement, population stabilization, education and sustainable communities" (Blodgett, 2000). By 1996, a document titled *Public Technology Inc.* determined that there were approximately 1,450 sustainability initiatives occurring in 744 U.S. cities and counties (Chifos, 2007). In 1999, the Council published a second report titled *Towards a Sustainable America* (Blodgett, 2000). Included in this document were chapters addressing environmental management, climate change and metropolitan and rural strategies (Blodgett, 2000). This last

report highlights the issue of urban sprawl, one of the largest impediments to implementing sustainable development.

As a result of the federal push for sustainable practices, three major community programs emerged to address the issues: the Department of Energy's (DOE) Center of Excellence for Sustainable Development (CESD), the Environmental Protection Agency's (EPA) Sustainable Development Challenge Grants (SDCG) and the Department of Transportation (DOT) Transportation, Community, and System Preservation Program (TCSP) (Chifos, 2007). Recently, the CESD has become the Smart Communities Network (SCN) (Chifos, 2007). The SCN maintains a website that provides a vast amount of information as it pertains to sustainable development including green building and development, land use planning, transportation issues, rural development and resource efficiency (Chifos, 2007). The SDCG came into existence as the result of the twenty-five actions outlined in the Reinventing Environmental Regulation (RER) initiative, which existed under the larger initiative, the National Partnership for Reinventing Government (Clinton and Gore, 1995). The RER initiative addressed issues concerned with environmental justice, one theme of sustainable development (Clinton and Gore, 1995). The RER set out to achieve two goals through the implementation of twenty-five high priority actions (Clinton and Gore, 1995). The first goal was established to fix the problems associated with regulatory programs through collaboration and accountability, while the second goal focused on the development of innovative alternatives for the regulatory programs (Clinton and Gore, 1995). An important purpose of SDCG is to provide seed money for projects dedicated to a comprehensive interpretation of sustainable development (Chifos, 2007). Past projects funded by the grant include such topics as sustainable indicators, sustainable forestry, public awareness and capacity building, green business development, energy conservation, material reuse, community

revitalization, community and regional planning, resource management and restoration, and green buildings (Chifos, 2007). The Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA) has recently reauthorized the TCSP through 2009 (Chifos, 2007). TCSP applicants must use a holistic approach to harmonize regional transportation planning and community planning (Chifos, 2007).

Chifos (2007) demonstrates that the innovation of federal assistance is threefold. First, the expertise of the planning profession is realized and implemented allowing projects to focus on communities and the appropriate need of sustainable practices (Chifos, 2007). Second, the result of these projects is more effective planning practices because programs are managed with a holistic outlook, considering environmental, economic and social outcomes (Chifos, 2007). Lastly, these programs allow planners to work with various federal agencies instead of the typical Department of Housing and Urban Development, thus promoting a widespread integration of community development (Chifos, 2007).

The various conflicting worldviews concerning the merits of sustainable development have hindered the integration of sustainable development principles into policies at the federal level (Jepson, 2004). The institutional structures at the national level that are primarily influenced by economic growth are challenged by those principles of sustainable development that strive for limits to growth and adhere to an ecological theme (Jepson 2004). The obstacles to growth associated with implementing principles of sustainability create “political, organizational and behavioral roadblocks to sustainability at the federal level” (Chifos, 2007, p. 444). The national level and the supporting institutional structures need to reevaluate their interpretation of sustainable development by focusing on collaboration and the development of alternative innovations of regulatory programs.

Urban Sprawl

Urban sprawl, or simply just sprawl, also lacks a clear definition (Lopez and Hynes, 2003). Sprawl tends to be defined by characteristics or attributes that are identified through visual confirmation (Lopez and Hynes, 2003). Sprawl exists if one or more of the following attributes are present: "low-density development; separation of land uses; leapfrog development; strip retail development; automobile-dependent development; development at the periphery of an urban area at the expense of its core; employment decentralization; loss of peri-urban, rural agriculture and open space; and fragmented governmental responsibility and oversight" (Johnson 2001, Lopez and Hynes 2003). A simple way to define sprawl as it pertains to the urban environment is "excessive spatial growth of cities" (Brueckner, 2000).

It is important to mention the impact that urban sprawl has had on the growth and development in the United States over the past fifty years. Sprawl and suburban development can be almost interchangeable with 86 % of population growth since 1970 occurring in the suburbs (Gordon and Richardson, 2000). Sprawl can be described as, "low-density, leapfrog development that is characterized by unlimited outward expansion" (Burchell 2002, Pp. 2). Sprawl consists of low-density residential and non-residential development that takes place in the outlying areas of rural or undeveloped counties, usually on pristine lands (Burchell 2002). Sprawl has been blamed for increased automobile dependence, social segregation as a result of 'NIMBYism' (Not In My Backyard), environmental damage from greenhouse gas emissions and heat islands, health implications such as obesity and respiratory disease and economic effects caused by a declining infrastructure and oil dependency (Leinberger, 2008).

Beginning as suburban development after World War II, sprawl is not always seen as a negative urban form. Some of the positive consequences of sprawl are lower land and housing costs, stronger citizen participation and influence, personal pursuit for terrestrial affiliation,

privacy, ‘perceived’ safety, lower community taxes and improved public schools (Burchell, 2002, Leinberger, 2008). To further demonstrate the inefficiency associated with the automobile, many of these ‘benefits’ from sprawl are dependent on the notion of “drive until to you qualify.” The usefulness of this term is premised on the notion that land and real estate values become less expensive the farther away they are from a central city. Therefore, if one cannot afford housing in downtown Atlanta, for example, he or she will travel out as far as need be until they reach an area with affordable houses. It is in these supposed ‘benefits’ of sprawl that cause society to cling to such an antiquated form of development.

According to the study conducted by the Transit Cooperative Research Program (TCRP), sprawl, or uncontrolled growth, is responsible for an estimated 4.4 million acres of land platted residential and nonresidential development in the United States over the next twenty-five years (Burchell, 2002). Approximately a quarter of the 18.8 million acres of land needed for residential and nonresidential development will be inefficiently consumed as a result of sprawling development (Burchell, 2002). With an estimated 23.5 million new households being constructed from 2000 to 2025, 13.1 million will be established in sprawling conditions (Burchell, 2002). The conditions of sprawl will affect 56 % of all future household growth in the United States (Burchell, 2002).

To accommodate the water and sewer infrastructure of the aforementioned land conversion, developers and local governments in the United States are estimated to spend $190 billion (Burchell, 2002). Sprawl is responsible for $12.6 billion or 6.6 % of the estimated funds required for water and sewer infrastructure (Burchell, 2002). Sprawling growth patterns will cost an estimated $110 billion in road infrastructure inflating the price of 2 million lane-miles to a whooping $927 billion. With respect to the cost of an average residential house, the price for new

housing occupants is expected to rise by 7.8 % from $154,035 to $167,038 between 2000 and 2025 (Burchell, 2002). Sprawl is shown to inflate travel costs by an estimated $24.1 million in the United States (Burchell, 2002).

Smart Growth

The concept of smart growth was created to help mitigate the effects of urban sprawl. According to Fodor (1999) the role of the planner is not to moderate or stop growth, but to "accommodate growth" in the Smart Growth guidelines. Smart Growth is concerned with, "the preservation of open space; the protection of the quality of the environment; the promotion of infill development; the removal of barriers to compact, mixed-use development; and the importance of regionalism" (Talen & Knaap, 2003). Smart Growth emerged during the 1990s as a result of a nationwide trend in "statewide growth management legislation" which occurred throughout the 1970s and 1980s and is now endorsed by the American Planning Association (Edwards and Haines, 2007, p. 49). The state growth management programs were "promoted by a diverse coalition of interests groups" that consisted of "numerous programs that mandate a consistent set of goals and standards for local land use planning" (Edwards and Haines, 2007, p. 49). Communities need to steer away from unsustainable growth while maintaining a prosperous economy, equitable social welfare and ecological longevity. Local governments need to invest in their citizens through job training and job placement programs, including programs that give local applicants priority when filling local government jobs. Providing high-quality public schools as well as adequately funding higher education is imperative (Fodor, 1999). Local governments need to create strong, livable, safe environments with effective neighborhood organizations and adequate open space with accessible public amenities (Fodor, 1999). Today, many professional planners hoping to address the loss of natural resources and other problems

associated with sprawl, subscribe to the land use planning principles as outlined under smart growth guidelines (Edwards and Haines, 2007).

An assortment of current literature evaluates local comprehensive plans that address elements of smart growth in particular, the smart growth planning law of Wisconsin (Edwards and Haines, 2007) and the prevalence of local smart growth regulation in Illinois (Talen & Knaap, 2003). The case study from Illinois found that regulation of smart growth principles at the local level is "not well focused on implementation" (Talen & Knaap, 2003, p. 357). Many local plans address principles of smart growth through traditional development management techniques, such as planned urban developments and impact fees, that are typical of traditional planning practices of the 1970s and 1980s (Talen & Knaap, 2003). In Wisconsin, local plans "failed to embrace a comprehensive set of smart growth policies to actually implement these [smart growth] goals" (Edwards and Haines, 2007, p. 61). The Edwards and Haines (2007) research also found that a community's location—whether it is rural or urban—is critical in establishing appropriate smart growth policies. Their research also found that many smart growth policy statements are passive instead of action-oriented, making it less likely that the goals will be achieved. Finally, they found that a lot of the smart growth policies analyzed concentrated on the urban dimension of a community and neglected the more rural areas. Although Wisconsin requires smart growth for local governments who wish to receive state funding and Illinois has a statewide smart growth agenda the authors agree that smart growth is only being implemented as a form of lip service.

New-Urbanism

The early 1980s brought about a new approach to planning centered on a design-oriented methodology called new urbanism. Historically, the roots of new urbanism can be traced back to American city planning of the Progressive Era, the Garden Cities movement and the regionalism

ideas of Lewis Mumford (Knaap and Talen, 2005). New urbanism was developed mainly by architects and journalists, whose ideas Fainstein (2000) describes: “perhaps more ideology than theory, its message is carried not just by academics but by planning practitioners and a popular movement” (p. 461). Similar to the concept of Smart Growth, “new urbanists focus on physical form, arguing that changes in physical form is a necessary precondition for urban economic, social, and ecological change” (Knaap and Talen, 2005, p. 109). The scope of new urbanism is to “use spatial relations to create a close-knit social community that allows diverse elements to interact” (Fainstein, 2000, p. 461). A new urbanistic approach promotes the substance of a plan rather than the means of achieving them (Fainstein, 2000, p. 461).

Critics worry those subscribers to new urbanism purport to alleviate social inequality by merely changing the physical environment, while all the time they are simply establishing a new form of suburbia (Gordon and Richardson 2000, Harvey 2001, Talen 2000, Till 2001). To alleviate new urbanism’s neglect of social equality Fainstein (2000) suggests local governments implement publicly funded housing programs for social groups, which centers on “mixing differently priced housing with substantial subsidies for those of low-income” (p. 465). Skeptics also disagree with the strict design conformity inherent in new urbanism citing an inhibition of creativity developed from diversity and conflict (Harvey, 2001). Proponents of new urbanism stress the importance of compact, self-contained and dense developments (Calthrope 1993, Ganapati 2008, Kelbaugh 1997, Kunsler 1996) as a way to connect with a nostalgic hometown feel that so many people are searching for. The compactness of new urbanism also facilitates mixed-use land regulations (Ganapati, 2008), as well as transit-oriented development (Calthorpe, 2001).

The concept of place-spaced design, in particular compact mixed-use development, can be viewed as supporting principles of sustainable development. A mixed-use development allows the interaction of the community and the local economy by permitting direct spatial interaction between commercial and residential land uses. By applying a mixed-use land use classification, local governments could potentially direct future development of both commercial and residential in a centralized location. Clustering of the commercial and residential developments can also help communities save, or conserve, farmland and open space from development.

Planning in Florida

In 1972 Florida began the process of growth management by enacting Environmental Land and Water Management Act (ELWMA), Water Resources Act and the Land Conservation Act (Nicholas, 2001). The Acts were the result of negative impacts associated with development such as unchecked population growth and favoritism for developers by local governments (Dawson, 1996). It was therefore crucial that the State enact some form of growth management to deter the spread of negative development throughout the state. By creating a form of growth management, the State hoped to allow regions to control the location and timing of growth while providing the necessary services needed for these growing areas (Nicholas, 2002). A system of growth regulation was crucial because less than half of the land area in the state had land development regulations at that time (Nicholas, 2001). Under these three new statutes, the State, being the watchdog, began to create a system of land development planning and regulation (Nicholas, 2001).

The ELWMA was drafted to address two issues dealing with special regulation. The first principle created the Area of Critical State Concern (ACSC), which primarily dealt with special areas, such as the City of Apalachicola, the Florida Keys, the Green Swamp and the Big Cypress Swamp that lacked protection prior to the Act (Nicholas, 2001). Second, the Development of

Regional Impact (DRI) was issued to address large-scale development that would ultimately affect the well being of citizens in a multi-county jurisdiction (Nicholas, 2001). These designations set guidelines that mandated the State to oversee land development practices of local governments (Nicholas, 2001).

In three years, the State altered the growth management program to include the Local Government Comprehensive Planning Act of 1975 (LGCPA). This new act was an important step toward total State participation because it "required all local governments to develop, adopt and implement comprehensive plans" (Nicholas, 2001, p. 2140), and served as a tool to help local governments adopt future land use plans. Therefore, the act gave the State a three-pronged approach to controlling growth at the local level: the LGCPA mandated local comprehensive plans that adhered to State guidelines, the ACSCs functioned to protect critical environmental areas and DRIs regulated development of significant regional impacts (Nicholas, 2001).

Unfortunately, the time required reviewing development proposals and local plan amendments delayed projects and drove up development costs (Dawson, 1996). Many property owners and citizen groups became frustrated with the time consuming and costly review process. Moreover, they realized they had no legal precedence to challenge any of the local government decisions. Frustration was also felt at the state level because they lacked the regulatory power to approve or deny local planning decisions. It soon became apparent that State and regional planners could not effectively coordinate local efforts in creating effective growth-management policies in the state.

In response to the shortcomings of the LGCPA, the state legislature drafted the 1985 GMA requiring local governments to adopt detailed growth management plans by 1992 (Dawson, 1996). The GMA intended to accommodate growth and development through a environmentally

responsible way by requiring local plans to be consistent with the State's comprehensive plan (Nicholas, 2001). One notable change, intended to curb urban sprawl, was the creation of a Designated Urban Development Area (DUDA) by the local governments. The DUDA encapsulates the services offered by local governments such as water, sewer, solid waste, drainage, conservation, recreation and open space (Dawson, 1996). The restriction of services is intended to focus current and future development in the DUDA.

Under the GMA, local governments are now held accountable if they produce future land use plans that are inconsistent with state and regional plans. If a local government's plan is found to be inconsistent, the State can withhold grants and funding from them. The State may seek legal jurisprudence by seeking a court order requiring local governments to act in accordance with state mandates. Therefore, the citizens now have legal standing and can challenge the administrative process of local governments in the court system (Dawson, 1996).

In drafting the GMA, three major stakeholder groups had an influence in providing a balance to the Act's objectives: the developers, the environmentalists and the social interest groups. The GMA assured environmentalists that the conservation and preservation of areas of critical concern would be a major factor in conducting local planning. Developers were given a quicker review process, which decreased the developmental costs. To benefit low-income citizens, social interests groups were promised that issues of fair housing and accessible transportation would be addressed (Dawson, 1996).

It appears as if the GMA is not the silver bullet proponents of growth-management were looking for. Many concerns still exist. In particular, local officials are concerned about the backlash of taxpayers having to foot the bill for the time-consuming and expensive process of creating, adopting and then defending comprehensive plans (Dawson, 1996). In addition,

developers are still unhappy because they believe the new act did not speed up the permit process (Dawson, 1996). Finally, the social and environmental organizations are hesitant of the promises and expectation of the GMA and are concerned the public will be left out of the process (Dawson, 1996).

Many of the issues growth management is intended to alleviate are addressed under the practice of sustainable development. The main similarity between these two doctrines of planning is concerned with *where* implementation is to take place—in particular both doctrines focus on the local level. The local level enforcement of the statewide GMA as well as Agenda 21's focus on local level strategies, show the compatibility of the two sets of guidelines (UNDSD, 1993, p. 274). The concept of social equality is also stressed by both philosophies of planning. For instance, the GMA addresses the issues of affordable housing and accessible transportation where as policies of sustainable development implemented across the United States at the local level are primarily associated with the same issues (Dawson, 1996, Conroy 2006, Saha and Peterson 2008). Another significant relationship between the two planning doctrines is the concern of unnecessary development. The inclusion of DUDA in the GMA ensures development of services such as sewer, water and solid waste are accessible to all while at the same time resists encroaching upon lands deemed "off-limits" to development (Dawson, 1996). The same premise behind the application of the DUDA is suggested under Principle Eight of the Rio Declaration that declares "states should reduce and eliminate unsustainable patterns of production and consumption" (UN, 1992). Whereas the DUDA addresses the concern for unnecessary patterns of development in regards to the GMA, Principle Eight recognizes the need to inhibit inappropriate standards of production.

Growth Management, Smart Growth, New Urbanism and Sustainable Development

As highlighted above, growth management, smart growth, new urbanism and sustainable development share similar frameworks and are complimentary to each other. Implementation of growth management, smart growth, new urbanism and sustainable development are intended to take place on the local level. All four practices of planning share converging issues such as support for compact development in metropolitan growth, advocating diversity of housing types, promotion of mixed land use, support for "pedistrianism" and public transit, and reducing urban sprawl (Talen and Knaap, 2003). The environmental component is also addressed through activities aimed at land preservation (Burchell, Listokin and Galley, 2000). While all four planning practices are considered to be good planning principles for the purpose of this paper, the term "sustainable development" best encapsulates the interrelated ideologies of growth management, smart growth, new urbanism and sustainability. Albeit these disciplines of planning are independent in their own right, together they share commonalities for the betterment of society. It is in these overlapping similarities that this paper will draw on the ideology of the four planning practices in implementing principles of sustainable development.

Sustainable Practices in Gainesville, Florida

The comprehensive plan for Gainesville, Florida, does not use sustainable development as an organizing concept. This does not infer that concepts of sustainability are absent from the decision-making involved in the local government. In 1998, Gainesville joined the International Council for Local Environmental Initiatives (ICLEI). The ICLEI is a "worldwide movement of local governments to reduce greenhouse gas emissions, improve air quality and enhance urban sustainability" (City of Gainesville, 2008, p. 4). Gainesville, acting as the county seat for Alachua County has also been a member of the ICLEI since 1991 and became a full ICLEI member in 2008 (Alachua County Energy Conservation Strategies Commission, 2008). In

cooperation with Alachua County Greenhouse Gas Emission Reductions, the ICLEI participants have developed a county energy management program, an air quality commission, a sustainable operations team, the energy conservation strategies commission, and a greenhouse gas reduction plan. They also assisted in the construction of the new county courthouse (located in Gainesville) using Leadership in Energy and Environmental Design (LEED) standards (Alachua County Energy Conservation Strategies Commission, 2008). Since 2005, the City of Gainesville has also been a member of the United States Conference of Mayors' (USCM). Pegeen Hanrahan, the current Mayor of Gainesville, recently signed the Climate Protection Agreement issued by the USCM (City of Gainesville, 2008). Through this agreement, the City of Gainesville will "strive to meet or beat the Kyoto Protocol targets through actions ranging from anti-sprawl land use policies to urban forest restoration projects to public information campaigns" (City of Gainesville, 2008, p. 7).

Sustainable Alachua County (SAC) is a non-profit, public interest organization founded in 1996. Under the management of a board of directors and advisors, the SAC offers education and civic participation opportunities to enhance the sustainability and healthy functioning of the environment, social/culture and economic systems (SAC, 2008). Some of the projects coordinated by SAC include lecture series concerning case studies of Best Sustainability Practices and Green Building Practices, workshops on rural design and sustainable cities, creation of a report for the City of Gainesville highlighting indicators of sustainability for use in comprehensive planning, and sponsorship of Bike, Bus or Hike Week (SAC, 2008).

Another resource for sustainable practices is the Alachua County Energy Conservation Strategies Commission (ECSC). The ECSC tackles the challenges of rising energy costs, climate change and peak oil as they pertain to the residents of Alachua County. Comprised of twelve

energy conservation experts, the mission of the ECSC is “to draft a comprehensive report on energy use, its relationship to climate change and local socio-economic impacts, including actions that can be implemented by the Board of County Commissioners and the community at large” (Alachua County Energy Conservation Strategies Commission, 2008). The ECSC offers the following suggestion for local communities: “invest in weatherization & energy efficiency, create employment through new local business, develop sustainable mobility infrastructure, maximize local food production and maximize renewable energy production” (Alachua County Energy Conservation Strategies Commission, 2008).

Planning Processes

In order to understand the ideology of the sustainable development it is imperative to investigate relevant theories of planning. Planning theory helps craft prospective outcomes planners use to guide their actions (Fainstein 2000, Hoch 2007). The underlying pursuit behind planning theory “is the analysis of the possibility for attaining a better quality of human life in the context of a global capitalist political economy” (Fainstein, 2000, p. 470). Three philosophies of planning theory will be investigated. The three theories this research is concerned with are: rationalism, communicative and just-city. Even though these perspectives are not an exhaustive list of planning theories the following will identify their significance and relation regarding sustainable development.

Rationalism

Rationalism challenged the classic view of planning throughout the 1960s and 1970s (Berke, 2002). The classic view is concerned with land use regulations, building design practices and a spatial display of future patterns of physical development (Berke, 2002). The classic view of planning is focused on the product of planning and not concerned with the process and procedures of planning. The social upheavals that emerged during the 1960s and 1970s,

primarily the concentration of poverty, racism and financial inequality of inner cities, exposed the classic view of planning as being neglectful of certain members of society (Berke, 2002). Therefore, planners, citizens and elected officials began to question the classic view of planning and directed their attention towards rationalism.

The ideology of rationalism has been around for centuries and can be described as "the foundation of western thinking since the Greeks identified reason as the superior human characteristic, a worldview extended into the workings of regional comprehensive planning" (Lawrence, 2000, p. 608). A rationalistic approach to planning combines science and technology in the system of analysis. A model of rational planning would, "(1) clearly define goals, (2) set objectives that would specify measurable achievement of goals, (3) collect information on all possible alternatives and associated costs and benefits, and (4) select an alternative or mix of alternatives that provides maximal achievement of public goals at minimal costs" (Berke, 2002, p. 23).

The current process of decision-making falls heavily in the rationalistic model of planning as Lawrence points out: "Every action, ethic, and value involved in planning is logically consistent and systematic, with a clear basis for the justification of decision-making via the bureaucratic hierarchy" (2000, p. 608). Planners become specialists in the realm of planning because they believe they are more rational than other members involved in planning procedures (Berke, 2002). As a result, specializations in planning—such as highway engineering, environmental risk assessment and transportation modeling—begin to emerge (Berke, 2002).

Although rationalism has been effective in transportation planning, it is not the cure-all for the planning profession. One key feature rationalism has perpetuated is the negative influence on public decisions (Berke, 2002), which Lawrence describes as "often autocratic and technically

biased" which is weak in facilitating dialogue associated with the nature of planning (2000, p. 611). The rational model is also unable to account for the qualitative aspects of the relationships between nature and society, for example, the aesthetic value of walking along the beach in relation to social well-being.

Communicative Planning

The social upheavals associated with the concentrations of poverty, racism and economic inequality of inner cities throughout the 1960s and 1970s not only brought attention to deplorable conditions but also brought awareness and change. The Civil Rights movement identified the importance of local participation in a democratic society. The voice of the people took center stage, representing society and nature through communicative planning. With the emergence of communicative planning, "the planner's primary function is to listen to people's stories and assist in forging a consensus among differing viewpoints" (Fainstein, 2000, p. 453). Communicative planning turned away from the technocratic, scientific approach that was representative of rationalistic planning. A communicative planner became an "experiential learner" focused on providing information to the effected parties and "being sensitive to points of convergence" (Fainstein, 2000, p. 453). Planners took on the leadership role concerned not only with bringing stakeholders together, but ensuring an agreement was made that would not favor the interest of one stakeholder over another (Fainstein, 2000).

The school of thought on communicative planning is divided among planning realists and analysts. Planning analysts (Forester 1989, Healey 1997, Stein and Harper 2003, Hoch 2007) interpret what professional planners *do* while planning realists examine *how* planning is actually executed (Huxley and Yiftachel 2000, Fainstein 2000, Flyvberg 1998). Realists see communicative planning as all talk and no plan, a "gap between rhetoric and action" (Fainstein, 2000, p. 460). There is danger in that weak or diluted language in plans could result in

implementation of such a policy to never coming to fruition. Conversely, an analyst utilizes communicative planning as laying the foundation for various "practical modes of democratic inquiry" whereby a planner "can use to consider the consequences of joint deliberation" (Hoch, 2007, p. 281). Opponents of communicative planning point out the amount of time associated with the participatory process as an obstacle to overcome (Fainstein, 2000). The lengthy process involved in drafting an amendment via public participation tends to 'burnout' those involved. Unfortunately, this burnout casts a shadow of disillusion on local government, and may ultimately discourage them from participating in the planning process (Fainstein and Hirst 1996). Advocates of communicative theory recognize "tolerance, freedom and fairness" as preconditions for effective planning in a liberal democracy (Hoch, 2007 p. 281). A final flaw of communicative planning is centered on spatial boundaries. If only a small, socially homogenous group of citizens are taking part in the participatory process, NIMBYism tends to dominate the agenda (Fainstein, 2000, p. 460).

The "Just City"

Contesting the struggle between right and good, planners are fundamentally linked, and responsible for, ethical judgments (Campbell 2002, Campbell, 2006, Campbell and Marshall 1999, Harrison 2002, Upton 2002). Society expects planners to be fair and just, therefore, the last theory to be explored here speaks to the concept of equity and justice (Campbell, 2006). There is an entire subsection of planning theory and practice, such as the just-city theory, devoted to fairness and justice issues. Just-city theorists believe "creating a force for change requires selling a concept" (Fainstein, 2000, p. 467), therefore placing planners in the role of advocate. This advocacy role is not aimed at one particular group, rather an advocate for a program (Fainstein, 2000). There are two categories accredited to just-city theorists: "those who call for a revitalization of political economy, emphasizing social equity and justice in the distribution of

benefits and burdens; and radical democrats who see progressive urban change happening only through the exercise of power by citizens generally excluded from the decision-making process" (Fischer, 2003, p. 227).

Proponents of the just-city school of thought suggest communication of a global political economy to be not only critical in attaining a better quality of human life but also visionary in developing a model and investigating how to achieve a better quality of human life (Fainstein, 2006). Others extend this process beyond the limits of critique and emphasize evaluation (Campbell, 2006). Analysis of planning should move forward, beyond the simple task of deconstruction and delve deeper into the links of planning activities and their context (Campbell 2006, Forester 2004). The scale of justice is varied appearing differently in the spatial setting of local, regional, or global and across generations.

Sustainable Development

The essence of sustainability effectively synthesizes the communicative, rationalism and just-city theories. Sustainable development is focally balanced around principles of the environment, economy and equality (Campbell, 1996). In this struggle for balance, sustainable development ensures ethical judgments similar to the just-city theorists. As rationalists are focused on a scientific approach to decision-making, sustainable development also encompasses a cause and effect relationship of human development on the environment. Just as the role of a communicative planner is to listen to citizens and respond appropriately, sustainable development must consider goals, environmental, economic and social equality for ensuring equality among stakeholders.

Not only are there similarities between the three aforementioned theories and sustainable development, but the concept of sustainable development could actually improve these theories. Just-city theorists attempting to explore theory beyond the limits of critique share the same goal

of scholars who are pursuing methods of evaluation in determining sustainable development principles and practices (Campbell 2006, Conroy 2006, Forester 2004, Jepson 2004, Portney 2003, Saha and Peterson 2008). A collaboration, or hybrid, of theories between rationalism and sustainable development could alleviate the qualitative failings associated with the rationalistic approach by balancing the relationship between nature and society. The lack of action, a weakness of communicative planning theory, could be resolved through the interconnectedness of short-term solutions and long term plans that sustainable development facilitates (Fainstein 2000, Leuenberger 2006).

There are many reasons why planning and sustainable development are harmoniously intertwined and meaningful to society. One critical link between these two disciplines is that the elements of sustainability are implemented at the local and regional level (Jepson 2001, Friedmann 1993). Implementation of sustainable development and planning at the local level is imperative because they allow communities to better manage global problems that tend to trickle down to the local level through political intervention (Jepson, 2001). Due in part to the high responsiveness of people directly and personally involved in policy formulation, sustainable development goals are most effective at the local level (Jepson, 2001). According to Local Agenda 21 and Local Action 21, principles and practices of sustainable development are best implemented at the local level. Challenging both planning and sustainable development is the integration among all relevant stakeholders such as citizens, city departments, city official, developers and business owners.

Establishing Sustainable Development

Sustainable development has been a viable form of planning since the 1980's but was not embraced in American culture until the 1990's. Skeptics of sustainable development consider the concept contradictory, while proponents defend the loose holistic approach as a win for the

environment, economy and equity. Although there is a plethora of federal sustainable development policy research present in planning literature, there are very few studies that examine sustainable development principles implemented at the local level (Conroy, 2006). Communities across the United States are embracing various forms of sustainable development, ranging from the place-based design approach of new urbanism, to the accommodating guidelines of Smart Growth. For this reason shedding light on ways local communities are implementing these strategies can go a long way in measuring global sustainability achievements.

Planning in the state of Florida is based upon growth management, not principles of sustainable development. Statewide mandates provide a general planning doctrine that is adopted and enforced by local governments. The success of sustainable development is dependent on the implementation at the local level (UNDSD, 1993). Although the local government of Gainesville, Florida does not directly endorse principles of sustainable development, other activities in the community centered on the concept of sustainability do exist.

Urban planning has evolved from many forms of planning. Sustainable development shares ideology with three planning theories: rationalism, communicative and just-city. Sustainable development and rationalism pursue planning principles based on a scientific understanding through the evaluation of measurable indicators. Communicative theory and sustainable development address conflict resolution between all concerned parties. The just-city theory and sustainable development challenge injustice and establish equality in planning. The next chapter introduces the methodology that will be used to evaluate the presence of principles of sustainable development in the comprehensive plan for Gainesville, Florida.

CHAPTER 3
METHODOLOGY

Several studies to date have explored research methods assessing the degree to which elements of sustainable development are being practiced by local governments (Conroy 2006, Jepson 2004, Portney 2003, Saha and Peterson 2008). The work done by scholars in appraising the extent of sustainable development in local governments has provided invaluable insight to the challenges associated with implementing sustainable development throughout the United States (Conroy 2006, Jepson 2004, Portney 2003, Saha and Peterson 2008). Furthermore, the need for evaluation, rather than analysis, of planning has proven to be a dominant paradigm (Campbell 2006, Forester 2004). In following along these conceptual and theoretical constructs, this chapter describes the method used to evaluate a local government's promotion of sustainable development principles in its comprehensive plan.

This chapter discusses the processes involved in evaluating sustainability at the local level. The literature developed in the previous chapter is used to analyze sustainable development at the local level, in particular in comprehensive planning. The City of Gainesville, Florida was chosen as a typical municipality administering comprehensive planning at the local level. Gainesville's current comprehensive plan addresses societal, economic and environmental impacts, a common theme in the sustainable development paradigm. Additionally, no other literature exists that explores sustainability in the contexts of Gainesville's Comprehensive Plan.

A quantitative analysis based on qualitative interpretation of language is used to measure how well Gainesville's comprehensive plan supports sustainable development practices. The hybrid methodology is based on the Berke and Conroy (2000) plan evaluation protocol. This protocol examines the goals and policies of 30 comprehensive plans throughout the United States to determine how well the plans support sustainable development principles. When the research

by Berke and Conroy was undertaken in 2000 only plans that were representative of contemporary planning were chosen for evaluation. Contemporary planning is defined as those communities who had plans that were adopted between 1985 and 1995.

To narrow the search, two groups of comprehensive plans were developed. The first group used sustainable development as an overarching concept, meaning the plans contained "core values of sustainability" such as environmental, economic and equity (Berke and Conroy, 2000, p. 24). The second group did not explicitly have sustainability as an overarching concept, but were still considered "high-quality" plans (Berke and Conroy, 2000, p. 24). A plan was labeled "high-quality" if they were American Planning Association (APA) award winners at either state or national level (Berke and Conroy, 2000, p. 23). The moniker of "high-quality" would also be bestowed upon a plan if they "were documented in agency reports or professional practice journals as commendable plans that tackle a range of substantive issues, including, for example, natural resource protection, inner-city redevelopment, growth management, urban design, and social justice" (Berke and Conroy, 2000, p. 24). The two groups of plans were chosen "through reports from U.S. federal agencies (i.e., Environmental Protection Agency and Housing and Urban Development), three newsletters of sustainable development organizations, sustainable community conference proceedings and one computer mail list server" (Berke and Conroy, 2000, p. 24).

Further refining their study areas, communities with a population less than 2,000 or over 1 million were eliminated resulting in 85 comprehensive plans from across the United States (Berke and Conroy, 2000). Of these 85 plans, 10 demonstrated an overarching sustainable development framework, and thus were placed in the first group. Of the 75 remaining plans that

did *not* integrate sustainable development, 20 were representative of "high-quality" plans and therefore placed in the second group.

Assessment of the plans involved evaluating the policies that promoted operational performance principles (OPP). Six OPPs were constructed to "retain an explicit connection to the location, shape, scale, and quality of human settlements" (Berke and Conroy, 2000, p. 23). The first four principles were developed to represent the "reproduction characteristic" of a community (Berke and Conroy, 2000, p. 23). A community promoting such principles could accommodate the long-term commitment of economic, environmental and equitable values. The last two principles connect the local concern to the global imperative. Ideally, a well-drafted comprehensive plan has a balance of all six principles present throughout. The six OPPs used to determine if a particular policy promotes concepts of sustainable development are contained in Table 3-1. Each of these six principles is used as an indicator to determine the presence of sustainable practices in each policy of the comprehensive plan. Policies from comprehensive plans were chosen for evaluation because they "are [the] part of the plan that guide day-to-day and long-range decision making about land use and urban form" (Berke and Conroy, 2000, p. 32). Policies of the comprehensive plan are in part governed by the objective and/or goal under which they are listed. In addition to policies sometimes the objective and/or goal is also evaluated to determine the OPPs.

If a policy was determined to mirror one of the aforementioned OPPs then the policy would be assigned a development management technique (DMT) otherwise the policy was eliminated from the evaluation. A DMT is a method of operation used to promote a policy and is supportive of an OPP. There are 27 DMT distributed under the headings of six categories. The six categorical headings and relevant DMT are listed in Table 3-2. The DMT support the OPP

promoted by a policy. The general category headings are common techniques used by local governments to administer planning. Associating a DMT with a particular policy enables the evaluation of the comprehensive plans to be consistent amongst all plans.

The next step of the methodology is to determine if the strength of the language in the policy is *suggested* (score = 1) or *required* (score = 2). Verbiage in a policy that is considered strong and requires action is: *will, must, assure, develop,* and *adapt*. Verbiage considered to be weak and suggestive is: *encourage, recommend, should, would, could, promote, improve,* and *investigate*. Table 3-3 shows examples of the plan evaluation protocol.

The next step involves assigning the elements of the comprehensive plan to one of the seven plan elements determined by Berke and Conroy (2000). The seven plan elements are: 1) housing, 2) transportation, 3) environment, 4) energy, 5) land use & design, 6) economic development and 7) public facilities. A comprehensive plan not containing one of these elements receives a score of zero for that particular element. None of the plans evaluated by Berke and Conroy (2000) contained any additional topics that could be represented by a stand-alone element.

A final step creates indices of each sustainable development principle for each of the seven elements using the items of information extracted for each individual policy. Indices are calculated based on two steps. The first step is "to sum the scores assigned to policies via each principle under each element" (Berke and Conroy, 2000 p. 26). "The second step is to standardize the indices by dividing the sum of scores by the maximum possible score and multiplying by ten" (Berke and Conroy, 2000 p. 26). The maximum possible score is 54 and is calculated by taking the sum of total possible DMTs, 27 for a principle under an element and

multiplying this number by 2, the highest score assigned to a *required* policy as determined through the use of strong verbs.

The methodology explained above represents a way to measure the meaning or action of policies. Policies are determined as either supporting OPPs or not. A policy that is supportive also contains a particular type of DMT. The DMT is influenced not only by the policy in which it is contained, but also by the objective and/or goal the policy is supporting. A DMT is ultimately governed by the strength of language, which dictates how the DMT will be enforced. The language of the policy can either be *weak, suggestive* or *strong, required*.

The methods used are intended to guide the discussion of the presence of sustainable development principles and DMTs in evaluating Gainesville's Comprehensive Plan. The next chapter describes a historical context of comprehensive planning in Gainesville, FL, followed by the application of the methodology as described in this chapter.

Table 3-1. Operational performance principles

Six operational performance principles	Description
Harmony with nature	Land use and development activities should modify the urban form to emulate the natural ecosystems
Livable built environments	Morphology of development that should center on people and the urban form creating a functional social dimension
Place-based economy	A local economy functioning in the limits of the natural system
Equity	Land use patterns that acknowledge and improve the conditions of low-income populations
Polluters pay	Ensure that parties responsible for adverse community impacts should be financially responsible for the cost of pollution and other harms
Responsible regionalism	Communities should take responsibility for their own actions and not harm other jurisdictions in the pursuit of their own objectives

Adapted from Berke and Conroy (2000) p. 23

Table 3-2. Policy categories of DMT

Land use regulation – Density – Permitted Use – Special study zone – Subdivision – Site review – Local environmental impact statement	Financial incentives – Impact fees – Reduced taxation – Bonus zoning – Exaction – Land trust funds
Property acquisition – Transfer of development rights – Acquisition of land – Acquisition of development rights – Land bank – Acquisition of development units	Building codes and standards – Standards for new buildings – Standards for retrofitting existing buildings
Capital facilities – Phased growth – Concurrency – Location of capital facilities – Urban service boundary – Annexation	Public education and awareness – Builder workshop – Public education program (job training) – Information mailing

Adapted from Berke and Conroy (2000) p. 25

Table 3-3. Examples of the plan policy evaluation

Elements of Gainesville's comprehensive plan	Policy	Operational performance principle	Development management techniques	Verbiage
Housing element	Policy 1.2.1 "The Department of Community Development through the First Step Program shall continue to assist private and non-profit housing developers in identifying sites for low income, very low-income and extremely low-income housing and manufactured housing" (City of Gainesville, 2002, p. 2).	Equity because the Plan intends to "make available conditions that encourage a sufficient supply of adequate, decent, safe, sanitary, healthy and cost-effective rental and owner-occupied housing for all income groups" (City of Gainesville, 2002, p. 1).	Land use regulation, specifically a site review	Required, assigned a score of 2 because of the phrase "…the First Step Program shall continue…" (City of Gainesville, 2002, p. 2)
Transportation element	Policy 1.1.1 "By 2010, the City shall modify University Avenue between downtown and UF (University of Florida) to enhance the connection between these two areas and promote transportation choices and livability" (City of Gainesville, 2002, p. B-2).	Livable Built Environment because the Plan "creates an environment that promotes transportation choices, compact development and a livable city" (City of Gainesville, 2002, p. B-2).	Capital facilities	Required, assigned a score of 2 because of the phrase"…the City shall modify…" (City of Gainesville, 2002, p. B-2).
Conservation, open space & groundwater recharge element	Policy 1.2.1 in the conservation, open space & groundwater recharge element states "The City shall seek to maximize the protection of environmentally sensitive lands through the nomination of properties for acquisition with Alachua County Forever and other relevant funds" (City of Gainesville, 2002, p. F-4).	Harmony with Nature because the Plan "establish and maintain an integrated and urban-defining open space network that protects and conserves key environmental features" (City of Gainesville, 2002, p. F-1).	Property acquisition	Suggested, assigned a score of 1 due to the phrase "the City shall seek…" (City of Gainesville, 2002, p. F-4).

CHAPTER 4
RESULTS

In this chapter, the Berke and Conroy methodology is applied to the current comprehensive plan for Gainesville, Florida. This chapter begins with a historic context of comprehensive planning for Gainesville. A historical context is relevant in the evaluation because inference can be established in regards to the dominant framework used in drafting the comprehensive plan. The historical brief will cover all relevant procedures implemented by local governments in Florida for drafting a comprehensive plan. The chapter will conclude with the evaluation of the data collected from the comprehensive plan.

Comprehensive Planning in Gainesville, Florida, a Historical Brief

Florida is a state governed by growth management and all local governments are required to practice comprehensive planning. In this context it is imperative to discuss the history of comprehensive planning that has taken place in Gainesville, Florida. A brief historical summary of comprehensive planning in Gainesville will establish the direction growth management has taken in the municipality over the years. The processes involved in drafting and amending comprehensive plans will be reviewed, in particular the EAR. A review of the EAR identifies the issues Gainesville has addressed over the years in preparing and drafting their comprehensive plan.

Origins of Comprehensive Planning

The City of Gainesville has been regulating land use since the early 1930s when the Florida Legislature issued the city a special act governing planning and zoning powers (City of Gainesville, 1979). However, due to the scope of this paper the timeline involving comprehensive planning in Gainesville will only cover planning from the 1980s to the present and land development regulations will not be reviewed. According to historical records,

Gainesville adopted a Comprehensive Plan in December of 1979. *The Gainesville Comprehensive Plan 1980 – 2000* replaced the city's 1970 *Comprehensive Development Plan for the Gainesville Urban Area* and was created to meet the requirements laid out by the Local Government Comprehensive Planning Act passed by the Florida Legislature in 1975 (City of Gainesville, 1979). Florida Statute 163.3161, or more commonly known as the Local Government Comprehensive Planning and Land Development Regulation Act, was an attempt to strengthen the Florida Environmental Land and Water Management Act of 1972 (State of Florida, Florida Senate, 2008a). The purpose of this act is to "utilize and strengthen the existing role, process, and powers of local governments in the establishment and implementation of comprehensive planning programs to guide and control future development" (State of Florida, Florida Senate, 2008a, (2)). Originally this act gave governments the legal authority and responsibility to follow and administer comprehensive planning based on local goals and objectives and on input from citizens.

Gainesville's 1979 plan was not intended to be "static" instead it was developed to adapt to the needs and challenges that are confronted by any municipality. Additionally, a review process was conducted every five years to ensure the plan was addressing the community's needs (City of Gainesville, 1979). According to 1979 records:

> The purpose of the Comprehensive Plan is to provide a comprehensive plan covering land use and related other resource elements of the plan for use as a mechanism to aid and guide the decision-making process to achieve desired development of land and resources in accordance with selective goals for sound managed growth in an orderly fashion (City of Gainesville, 1979, p. I-1).

The planning board was divided into 12 subcommittees each responsible for a particular element of the plan. Drafts of the elements were prepared by staff members, through a series of workshops and input by interested citizens (City of Gainesville, 1979).

Under the Local Government Comprehensive Planning Act, ten elements are intended to be prepared in a local comprehensive plan. These ten elements are listed in Table 4-1. The act does not mandate that these elements be included in a comprehensive plan; instead, an interwoven basic agreement between the policies and proposals of the various elements were to be made apparent to the Florida Legislature (City of Gainesville, 1979). Gainesville adopted twelve elements composed of goals and objectives to fit the comprehensive framework of the community (Table 4-1) (City of Gainesville, 1979). Of the ten intended elements from the Local Government Comprehensive Planning Act, Gainesville adopted nine of these. The tenth intended element from the Local Government Comprehensive Planning Act, the airport element, was imbedded in the transportation element of Gainesville's 1980 – 2000 Comprehensive Plan (City of Gainesville, 1979). A standalone element, focused on solid waste, was included as an extra element (Table 4-1) (City of Gainesville, 1979). The other two independent elements adopted by the City of Gainesville addressed economic feasibility and historic preservation (Table 4-1).

Impact of the Growth Management Act

As stated in the literature review, the acceptance of the GMA of 1985 changed planning in local government significantly, most markedly with the requirement that local governments prepare a legally binding comprehensive plan by 1992. In keeping with accordance to this state law, comprehensive plans must follow the goals outlined in the state plan and continuity must be followed in terms of production, types of elements, and procedural review. Also, a strategy for future growth must be developed. The legal precedence for these requirements can be found in Rule 9J-5 of the Florida Administrative Code, adopted by the Department of Community Affairs in 1986. Rule 9J-5, referencing the GMA lists specific elements and goals that must be mentioned in local plans and outlines protocol local governments must follow when submitting plans (Table 4-2). As mandated by the Department of Community Affairs, Gainesville adopted a

new comprehensive plan in November 1991. The plan under the guidance of Rule 9J-5 (in accordance with the GMA) established a wide range of elements. Gainesville's comprehensive plan adopted fourteen elements, eleven of which are mandatory and three optional (Table 4-3). The optional elements included in Gainesville's comprehensive plan addressed historic preservation, cultural affairs and urban design (Table 4-3).

Evaluation and Appraisal Report

In 1998, revised legislation changed the requirements of Section 163.3191, Florida Statutes (Florida Department of Community Affairs, 1998). EARs are to be adopted once every seven years and are used in updating a local government's comprehensive plan as stated in Section 163.3191, Florida Statutes. This process determines how well a community's plan has been implemented and verifies that the plan is consistent with current conditions, trends and State legislation or policies (City of Gainesville, 1998). The report must also identify major issues impacting the jurisdiction and, if relevant, determine potential social, economic and environmental impacts (State of Florida, Florida Senate, 2008c). The new revision streamlined the EAR process, which was applied to all EARs adopted after October 1, 1998 (Florida Department of Community Affairs, 1998). In June 1998, a draft EAR was prepared by the City of Gainesville for the 1991 – 2001 Comprehensive Plan, which was subsequently adopted in September 1998. The draft EAR submitted by Gainesville to DCA was found to "thoroughly and succinctly address the EAR requirements in a well organized and user-friendly format" (Florida Department of Community Affairs, 1998, p. 5). In fact, Gainesville was the first city to submit an EAR under the streamline guidelines of revised Section 163.3191 and consequently was recommended by DCA to be used as a template for other communities' EARs (Florida Department of Community Affairs, 1998).

To gain an understanding of the overarching framework Gainesville has assumed in drafting the current comprehensive plan, it is imperative to examine the EAR of 1998. As mentioned in Section 163.3191 one of the intents of the EAR is "to identify major issues regarding the community's achievement of its goals" (State of Florida, Florida Senate, 2008c, (1a)). In this report, the City identified thirteen major issues to be addressed (Table 4-4) as well as how the City will pursue them. Although all thirteen major issues can be associated with principles of sustainable development, three in particular are of keen interest: residential density, urban design and infill and redevelopment (City of Gainesville, 1998).

The ways in which Gainesville addressed the major issues of the EAR will guide the direction of the current comprehensive plan. The first issue is related to urban sprawl's influence on the declining share of the Alachua County population (City of Gainesville, 1998). To curb the proliferation of sprawl, the Planning Board for the City of Gainesville made several suggestions including increasing residential densities in designated areas, encouraging redevelopment and infill of the city, continuation of annexation among contiguous urbanized areas and coordination with Alachua County on urban growth boundary issues (City of Gainesville, 1998).

When reviewing the intensity of development associated with large parcels of vacant land, infill and redevelopment was identified as a major concern (City of Gainesville, 1998). Specific locations in the city were noted as areas in vital need of redevelopment and urban sprawl was identified as a roadblock to this process (City of Gainesville, 1998) As a way to combat urban sprawl, the Planning Board made the following suggestions: 1) increase residential densities in designated areas, 2) amend transportation concurrency to allow infill/redevelopment, 3) amend applicability of the mixed use land categories, 4) implement urban design standards, 5) identify redevelopment areas on the Future Land Use Map, 6) add policies in the Future Land Use

Element that apply to infill/redevelopment and 7) target rehabilitation funds such as Community Development Block Grants, Home Improvement Partnerships Program (HOME) and State Housing Initiatives Program (SHIP) into designated areas for concentrated redevelopment (City of Gainesville, 1998).

The issue of density is related to urban sprawl and is also instrumental in achieving a viable mass transit program (City of Gainesville, 1998). The Planning Board surveyed the available land in the city limits and recognized a pattern of low-density development (City of Gainesville, 1998). Low-density development increases road congestion and dependence on single-occupant vehicles and is often blamed for causing isolated neighborhoods, inadequate public space, and urban sprawl (City of Gainesville, 1998). In addressing the issue of density as it relates to achieving viable public transportation, the Planning Board again made a series of suggestions: 1) reduce minimum densities for residential medium and high land use categories, 2) allow lots less than 0.5 acres to be exempt from minimum density requirements, 3) increase residential density in designated areas, 4) amend transportation concurrency to allow infill/redevelopment, 5) implement urban design standards and 6) explore accessory units as an allowable residential use in appropriate areas (City of Gainesville, 1998).

Although infill was occurring in the urban sector of Gainesville the majority of redevelopment was visually and aesthetically inconsistent (City of Gainesville, 1998). In an attempt to alleviate one of the major issues, infill and redevelopment the Planning Board was inadvertently adding to the proliferation of another issue, urban design. In order to create a more desirable, livable community the Planning board needed to address the issue of urban design through the addition of an urban design element in the Comprehensive Plan as well as amending

the future land use element to encourage traditional neighborhood development in several of the land use categories (City of Gainesville, 1998).

The concept of an activity center, which is intended, "to concentrate higher intensity development at compact locations to service the retail/employment needs of the surrounding population and consciously discourage strip-type development" (City of Gainesville, 1998, p. 11 – 12) has been part of Gainesville's comprehensive plan since the 1970s. Much of the development that has occurred in activity centers is antiquated because they were primarily built in the 1970s. To revitalize the declining activity centers the Planning Board suggested redeveloping the centers by implementing an urban design element and increasing the residential development around them (City of Gainesville, 1998).

In the Future Land Use element of the Comprehensive Plan, a category was created to encourage mixed-use development. During the EAR process, the Planning Board noted that the mixed-use categories were failing to produce the desired residential/non-residential integration. Part of this problem can be attributed to the location of the land use category being assigned to lands already developed as either commercial or residential. To address the lack of functioning mixed-use properties, the Planning Board decided to reexamine the mixed-use categories and encourage redevelopment in these areas (City of Gainesville, 1998). The Board also suggested that the recent trends involving Traditional Neighborhood Design and New Urbanism are still fresh and have not yet influenced community decision-making (City of Gainesville, 1998).

During the EAR process the number of viable transportation modes was recognized as another issue to address (City of Gainesville, 1998). The Planning Board recognized that the hardest problem to overcome is society's inclination to use personal automobiles as the primary means of travel (City of Gainesville, 1998). Problems identified with the existing bus mass

transit system were inadequate bus shelter, inaccessibility for the disadvantaged and an influx of ridership associated with student transportation (City of Gainesville, 1998). The Planning Board recommended the following actions so as to encourage more transportation choices: 1) evaluate the existing bus stops and shelters that need improvement, 2) increase connectivity between and among developments, 3) inventory the existing pedestrian-oriented sidewalks, 4) create policies concerning mass transit headways for the most productive routes and 5) develop standards for urban design (City of Gainesville, 1998).

The City was also faced with the issue of financing transportation infrastructure. The funds that were provided by Federal and State dollars were shown to be insufficient for needed roadway and multi-modal improvements in the metropolitan area (City of Gainesville, 1998). In order to address this deficiency, the Planning Board suggested: 1) identifying local funding sources 2) using funds from the University of Florida Campus Master Plan agreement, 3) allow the mass transit system to continue seeking funding opportunities from demonstration projects and 4) reconfigure University Avenue to better handle an influx of traffic (City of Gainesville, 1998).

Transportation concurrency has, and will, continue to be a problem for the City (City of Gainesville, 1998). The City has received some relief from the adoption of the Transportation Concurrency Management Area (TCMA), which promotes infill and/or redevelopment in a specified area of the city through the support of more efficient mobility alternatives (City of Gainesville, 1998). Unfortunately, the TCMA will not meet the needs of future growth, with zero chance of improvements for roads, including those having a level of service (LOS) rating of an "F." This lack of funding of course inhibits the potential for infill development. To help alleviate transportation concurrency, the Planning Board drafted these actions: 1) develop a Chapter 163

Agreement with the Department of Community Affairs concerning concurrency and 2) redirect infill/redevelopment to areas that have adequate LOS ratings (City of Gainesville, 1998).

Many citizens and members of the City Commission have asked the Planning Board to create specific language to encompass neighborhood-planning principles (City of Gainesville, 1998). Neighborhood planning is vital for a community because it creates the ideal conditions in defining a sense of place. In addressing this issue the Plan Board developed a neighborhood planning strategy and identified neighborhoods, which need detailed planning efforts, such as land use and housing, code enforcement, traffic and infrastructure, crime, recreation and beautification (City of Gainesville, 1998).

Another area of concern, recreation programs and facilities also warranted attention. It was determined that the recreation facilities and programs in the Gainesville area lack sufficient funding and many of the existing areas were considered underdeveloped (City of Gainesville, 1998). Voters denied funding for recreational facilities through an option tax in 1998, however. Therefore the Planning Board decided to investigate and discuss alternative proposals to improve recreational facilities in the City (City of Gainesville, 1998).

With Santa Fe Community College and the University of Florida being in the city limits, coordination with both entities is vital for appropriate development. The growth potential associated with these two institutions is tremendous and cannot be ignored. The Planning Board suggested amending the Intergovernmental Coordination Element so as to increase involvement of Santa Fe Community College in the local planning process. They also suggested amending the Comprehensive Plan to acknowledge the adoption of the University of Florida Campus Master Plan (City of Gainesville, 1998).

Affordable housing is the last major issue developed in the EAR. The development and allotment of affordable housing was of particular concern (City of Gainesville, 1998). The City attempted to address this issue by coordinating with Alachua County to develop a "fair share" ordinance that allows affordable housing to be located appropriately throughout the municipal boundaries (City of Gainesville, 1998).

During the 1998 EAR process Gainesville and Alachua County were exposed to the connection between race and urban sprawl via a presentation by David Rusk entitled *A Healthy City, Healthy Region*. Rusk identified sprawl and race as the two key factors that have shaped development in the United States (Rusk, 1997). In addressing the issue of sprawl, Rusk suggests creating Urban Growth Boundaries that would limit urban sprawl through annexation or consolidation (Rusk, 1997). Some of the characteristics of an Urban Growth Boundary is: to provide accommodation of 20 years of projected growth, development of clear land use designations, creation of specific plans for municipal infrastructure and facilitation of "speedy, controversy-free, local approvals" (Rusk, 1997, p. 4). To combat race inequities as it relates to affordable housing, Rusk suggested limiting urban sprawl by implementing effective growth management and "require 'fair share' of low- and moderate-income housing in all new construction throughout the Urban Service Area" (Rusk, 1997, p. 11).

The suggestions from the Rusk report influenced many of the issues of the EAR. The suggestions Rusk provided for sprawl can be found in the sections that address the declining share of the overall Alachua County population, infill and redevelopment and density. Racial opportunity, however, was only mentioned in the affordable housing portion of the EAR.

Many of the major issues from the EAR contain similar obstacles to each other. Common obstacles the City had to address were: urban sprawl, an abundance of low-density development,

lack of urban design, an ineffective mixed-use land regulation, absence of multi-modal choices and an obscure sense of place. After the EAR was praised by DCA for its "well-organized and user-friendly approach" the current comprehensive plan created. The 2000 – 2010 Comprehensive Plan was adopted by the City in 2000 and contained fourteen elements (Table 4-5). As stated in the EAR, an urban design element was drafted and adopted for the current comprehensive plan. The independent aviation element from the old plan was this time included in the transportation mobility element of the current plan.

Evaluating Gainesville's Comprehensive Plan for Sustainable Development

Although, the term "sustainable" is periodically used throughout Gainesville's Comprehensive Plan, the plan does not have an overarching framework of sustainable development. Perhaps since it is not explicitly mandated, the plan neglects using the term sustainable development in any of the elements. The concept of sustainable development as it pertains to the EAR process is mentioned in Florida Statute Section 163.3191 referencing the three "E's," economy, environment and equity, but pursuit of these values is merely encouraged, rather than mandated. As a result of these ambiguous guidelines, local officials and citizens must diligently encourage the inclusion of sustainable development principles in the EAR process so as to ensure a blueprint of sustainability in a comprehensive plan.

Incidence of Sustainability

Of the fourteen elements (Table 4-3) listed in the comprehensive plan for Gainesville, only three mentions a form of sustainability (City of Gainesville, 2000). The actual term *sustainable development* does not appear in the comprehensive plan but instead the term '*sustainable*' is used. *Sustainable* is easily defined as: capable of being sustained, and *sustained* can be thought of as: supportive, or able to be maintained. Given these definitions, the term *sustainable* in the context of Gainesville's comprehensive plan could be defined as capable of being maintained.

The plan is not clear as to whether the term *sustainable* is associated with *sustainable development*, thus highlighting the definitional problems of these terms.

The three elements that contain the term *sustainable* are the Future Land Use, Transportation and Recreation elements. The Future Land Use element contains both the term *sustainable* and *development* but as separate terms and not as one concept. Goal 1 of the Future Land Use element states to "Improve the quality of life and achieve a superior, *sustainable, development* pattern in the city by creating and maintaining choices in housing, offices, retail and workplaces and ensuring that a percentage of land uses are mixed and in walking distance of important destinations" (City of Gainesville, 2000, p. A-1). As the goal infers, there is no mention as to what *sustainable development* is or what the community should do in order to achieve it. This example is the only mention of the terms *sustainable* and *development* together throughout the entire comprehensive plan, but the term *sustainable* is implemented in other policies.

In Policy 6.1.8 of the Transportation Mobility element the term *sustainable* is inferred in the following manner "The City shall set aside at least one day each year as a designated and publicized *sustainable* transportation day to encourage citizens to switch from single-occupant car use to another commuting form of travel" (City of Gainesville, 2000, p. B-12). In this situation, *sustainable* can be interpreted as being able to maintain an alternative form of transportation, which is not the typical single-occupant car. This policy, however, does not perpetuate the concept of sustainability; instead it only encourages citizens to participate in multi-modal forms of transportation at least one day a year.

The term *sustainable* is also utilized by Policy 7.2.2 of the Transportation Mobility element, which states "The City will encourage the use of more *sustainable* forms of travel, more

transportation choice, and a better retail environment to reduce the level of traffic congestion in order to improve the city's transportation level of service" (City of Gainesville, 2000, p. B-14). In this policy, *sustainable* is used as a cliché because the policy does not provide any explicit examples of "sustainable forms of travel" (City of Gainesville, 2000, p. B-14). Again this policy is only suggestive and avoids requiring any permanent forms of sustainable travel.

As stated in the Recreation element Objective 1.8 infers "The City shall strive to provide funding to maintain or exceed the minimum level of service standards and create a *sustainable* economic base for recreation by the year 2010" (City of Gainesville, 2000, p. 6). *Sustainable* in this context can be interpreted as creating an economic base that is capable of maintaining the current recreational requirements. This policy does not mention *sustainable* in relation to the environment, social equality or to an explicit example of an "economic base." This policy, as well as the others that contain the term *sustainable*, is weak in the sense that the verbiage is suggestive and not mandated.

The examples provided illustrates how the comprehensive plan uses certain terminologies in association with the word *sustainable* in order to imply a 'capacity of being maintained' and elude to only a vague concept of sustainability. These findings are consistent with municipalities across the country (Conroy, 2006 and Saha and Peterson, 2008); despite the familiarity with the term of *sustainability* the overarching framework guiding city policy is not sustainable development.

Application of the Protocol

In evaluating the Plan according to Berke and Conroy's (2000) methodology, there are two preparatory steps that have to be followed. First, many of the elements in the comprehensive plan are laid-out in the following state-mandated blueprint: there is an overall goal broadly defining the purpose of the element. Then there are objectives that establish how features of the goal will

be achieved. Then each objective has policies, which outlines specific actions to achieve that objective. This general format of Gainesville's comprehensive plan follows the structure of formats from the Berke and Conroy (2000) methodology, and therefore the adopted protocol is applicable.

The second preparatory step involves assigning elements of Gainesville's comprehensive plan with the seven elements described in Berke and Conroy's (2000) research. As stated prior, the seven plan elements devised by Berke and Conroy (2000) were created to represent the various elements covered by the comprehensive plans they evaluated. Gainesville's comprehensive plan, as stated in the literature review, contains fourteen elements. Categorizing the elements from Gainesville's comprehensive plan to the seven plan elements created in the Berke and Conroy (2000) methodology was relatively straightforward with some exceptions (See Table 4-6). As shown in Table 4-6, Gainesville does *not* contain a stand-alone energy and economic development element, nor was either of these elements embedded in any of the stand-alone elements, thus these categories received a score of zero. Absent from Table 4-6 is Gainesville's Cultural Affairs element which could not be placed in one of the seven Berke and Conroy plan elements. The goal of the Cultural Affairs element is to "expand the role of the city to meet the need for services, coordination, leadership and funding for the cultural growth of the community" (City of Gainesville, 2000, p. O-1). Clearly the goal of the Cultural Affairs element centered around "cultural growth of the community" does not fit in one of seven generalized plan elements developed by Berke and Conroy (2000) and for this reason is excluded from the evaluation. The Concurrency Management element centers on transportation, as evidenced by the goal of the element which aims to "establish a *transportation* concurrency exception area" (City of Gainesville, 2000, C-1), and thus is assigned to the Transportation element. Similarly, he

Intergovernmental Coordination element deals with infrastructure as is stated in the goal "to promote effective, efficient comprehensive planning and provision of *urban services*, and to mitigate potential conflicts between jurisdictions" (City of Gainesville, 2000, M-1), and therefore is categorized as a Public Facility element.

Examination of the Protocol

Of the thirteen elements from the Gainesville Plan, 729 policies were evaluated for principles of sustainable development. Of the 729 policies evaluated, 53 %—or 388 policies—were determined to promote one of the seven principles of sustainable development. From the 388 policies that promote sustainable development, more than half of those require action as opposed to merely suggesting the policy be implemented (Table 4-7 & 4-8).

The 'Livable Built Environment' had the highest index, 72.2, which accounted for 60 % of the total scores for promoting sustainable development principles (Table 4-9). Furthermore, the majority of 'Livable Built Environment' scores—92 %—are attributed to the Transportation and Land Use elements, with index values of 22.4 and 44.1 respectively (Table 4-9). The Land Use element has 46 % of the policies implementing land use regulation and 28 % utilizing building codes and standards (Table 4-10). Of the total categorical DMTs, 44 % of all land use regulations and 45 % of all capital facilities are contained in the Land Use element (Table 4-11). The Transportation element utilizes an even distribution of DMTs that address land use regulation, building codes and standards and capital facilities (Table 4-10). Of the total categorical DMTs, 32 % of all capital facilities and 29 % of building codes and standards are contained in the Transportation element (Table 4-11).

The 'Harmony with Nature' principle had the second highest index of 26.9, with22 % of the total scores promoting sustainable development principles (Table 4-9). A little less than half, 47 %, of the 'Harmony with Nature' index scores came from the Environment element while the

Public Facilities element contributed approximately 37 % to the index (Table 4-9). The Environment element has 68 % of its policies implementing land use regulations (Table 4-10). Even though almost a quarter of all property acquisition techniques are contained in the Environment element, this only accounts for 4 policies (Table 4-11).

'Equity' and 'Responsible Regionalism' both constituted 7 % of the total scores for promoting sustainable development principles with index values of 8.7 and 8.1 respectively (Table 4-9). The principle of 'Equity' can attribute 89 % of the index score to the Housing element, while 77 % of the 'Responsible Regionalism' index score is attributed to the Public Facilities element (Table 4-9). Additionally, the Housing element has 52 % of its policies implementing land use regulations (Table 4-10). Although there are only 12 policies addressing financial incentives in the evaluated portion of the comprehensive plan, five of them, or 42 %, occur in the housing element (Table 4-11). The Public Facilities element has 39 % of its policies implementing land use regulations (Table 4-10). Seventeen of these policies were identified as exercising a form of property acquisition in regards to the particular type of DMT. Of these seventeen policies using property acquisition as an action, 9 policies or 53 %, were associated with the Public Facilities element (Table 4-11).

The 'Polluters Pay' principle has an index value of 4.4 that contributes to 3 % of the total scores for promoting sustainable development principles (Table 4-9). Approximately 80 %, or a 4.1 index score for 'Polluters Pay', was derived from the Public Facilities element (Table 4-9). The principle that contributed the least, making up only 1 % of the total scores for promoting sustainable development principles, is the 'Place-Based Economy' (Table 4-9). The Housing and Public Facilities elements attributed approximate scores of 0.7 and 0.6 respectively that gave the 'Place-Based Economy' principle the lowest index value of 1.3 (Table 4-9).

Findings from Gainesville's Comprehensive Plan

Findings from the evaluation of Gainesville's comprehensive plan indicate that the Plan does not support an appropriate distribution of sustainable development principles. Although addressing issues involving the environment, economy and social equity are suggested by DCA in drafting a comprehensive plan, Gainesville's plan strongly favors the sustainable development principle of the 'Livable-Built Environment' in lieu of the remaining five principles. Support of the 'Livable-Built Environment' principle is the result of policies based mainly on land use regulations. Of the policies found to contain principles of sustainable development, more than half of these policies require a form of action to be undertaken by potential developers and business owners.

Gainesville's comprehensive plan does not promote a balance of sustainable development principles (Table 4-9). The importance of a balance between economic, environment and equity is crucial in supporting sustainable development (Campbell, 1996). Promoting an imbalance of sustainable development is typical among cities that do not have sustainability as an overarching framework (Berke and Conroy, 2000). The results from this evaluation are consistent with the results from the Berke and Conroy (2000) evaluation in which the 'Livable Built Environment' was the most heavily influenced of all the sustainable development principles (2000). The majority of the policies that can be categorized as supporting the principle of the 'Livable Built Environment' are implemented through the DMT regarding land use regulations (Table 4-10 & Table 4-11). Techniques associated with land development and land use planning are the tools most heavily influenced by, and used, in implementing sustainable practices (Jepson, 2004). By ignoring a more holistic approach to planning, the Gainesville Plan is following an unsustainable approach to planning, which, unfortunately is the norm taken by local governments in the United States (Berke and Conroy, 2000).

The higher rated 'Livable Built Environment' principle can attribute the high index score to the urban design element present in the Gainesville Plan. As stated earlier, Urban Design is one of three elements from the Gainesville plan used to represent, Berke & Conroy's Land Use element. In fact, the Urban Design element contributes over half of the total score towards the Land Use element. The Urban Design element is relatively new to the comprehensive plan. The element was included during the 1998EAR process so as to address the problems of infill, redevelopment, and density associated with sprawl.

Evidence from the research, points to the plan heavily favoring the 'Livable Built Environment' (Table 4-9). Such strong support for the 'Livable Built Environment' is similar to the design-oriented approach of new urbanism (Duany, 2003). The elements that are supportive of the 'Livable Built Environment', Land Use and Transportation, contain the types of DMTs praised by proponents of new urbanism (Calthorpe 2001, Duany 2003, Ganapati 2008).

The types of DMTs that are representative of each policy from Gainesville's Plan are consistent with the research which shows techniques associated with land use regulation, capital facilities and building codes and standards are typical of cities trying to promote sustainable practices (Jepson 2004, Portney 2003, Saha and Peterson 2008).

Sustainable Development and Gainesville's Comprehensive Plan

Gainesville's promotion of comprehensive planning is consistent with guidelines listed under the GMA. Although Gainesville does not use sustainable development as an overarching framework for their comprehensive plan, the concept of the 'Livable Built Environment' is well represented in the Transportation and Land Use elements. Unfortunately, Gainesville does not significantly support any other principles of sustainable development as much as the 'Livable Built Environment'. Policies considered sustainable are governed by land use regulation and

building codes and standards. The absence Energy and Economic elements severely affected the outcome of this case study.

The analysis used in this chapter is intended to direct the discussion of sustainable development in the local government of Gainesville, Florida. The results from the analysis allow for extrapolation of the strengths and weaknesses for the case study. The next chapter investigates the shortfalls associated with the case study's lack of meaningful sustainable development principles in the comprehensive plan.

Table 4-1. Elements intended for adoption by the Local Government Comprehensive Plan Act and elements adopted by Gainesville's comprehensive plan 1980-2000

Intended elements of the Local Government Comprehensive Plan Act	Adopted elements of Gainesville's Comprehensive Plan 1980 – 2000
Land use	Land use
Transportation	Transportation
Airport	
Mass transit	Mass transit
Recreation and open space	Recreation and open space
Conservation	Conservation
Housing	Housing
Sanitary sewer, solid waste, drainage and potable water	Wastewater and drainage Solid waste
Intergovernmental coordination	Intergovernmental coordination
Electrical utilities	Energy
	Economic feasibility
	Historic conservation-preservation

Adapted from Gainesville's Comprehensive Plan 1980 – 2000 (1979)

Table 4-2. Mandatory and optional elements for Local Comprehensive Plans as stated in the Growth Management Act

Mandatory elements	Optional elements
Capital improvements	Historic preservation
Future land use	Arts and culture
Transportation	Economic development
Sanitary sewer	Public education
Solid waste	Community design
Drainage	
Potable water and natural resources	
Conservation of natural resources	
Recreation and open space	
Housing	
Coastal management	
Inter-governmental coordination	

Adapted from Florida Statute 163.3177

Table 4-3. Mandatory and optional elements of Gainesville's Comprehensive Plan 2000-2010

Mandatory Elements	Optional Elements
Capital improvements	Historic preservation
Future land use	Cultural affairs
Transportation mobility	Urban design
Concurrency management element	
Solid waste	
Stormwater management	
Potable-water & wastewater	
Conservation, open space & groundwater	
Recharge	
Recreation	
Housing	
Intergovernmental coordination	

Adapted from City of Gainesville Comprehensive Plan 2000-2010 (2000)

Table 4-4. Major issues identified by the City of Gainesville during the Evaluation and Appraisal Report for the Comprehensive Plan 2000-2010

Major Issues
Declining share of the overall Alachua County population
Infill and redevelopment
Density
Urban design
Revisions to the Activity Center concept
Failure of the mixed use categories to produce residential/non-residential mixes
Providing more transportation choices
Financing transportation infrastructure
Transportation concurrency
Neighborhood planning
Enhancement of recreation facilities and programs
Coordination with Santa Fe community College and the University of Florida Campus Master Plan
Intergovernmental coordination concerning the dispersal of affordable housing units

Adapted from Gainesville's EAR 1991 – 2001 (1998)

Table 4-5. Elements from Gainesville's Comprehensive Plan 2000-2010

Elements
Housing
Transportation mobility
Concurrency management
Conservation, open space & groundwater recharge
Future land use
Urban design
Historic preservation
Capital improvements
Recreation
Potable-water & wastewater
Solid waste
Stormwater management
Intergovernmental coordination

Adapted from Gainesville's comprehensive plan 2000 – 2010 (2000)

Table 4-6. Association of Gainesville's comprehensive plan elements with the Berke and Conroy seven plan elements

Berke and Conroy seven plan elements	City of Gainesville Comprehensive Elements
Housing	Housing
Transportation	Transportation mobility
	Concurrency management
Environment	Conservation, open space & groundwater recharge
Energy	No element
Land use & design	Future land use
	Urban design
	Historic preservation
Economic development	No element
Public facilities	Capital improvements
	Recreation
	Potable-water & wastewater
	Solid waste
	Stormwater management
	Intergovernmental coordination

Adapted from Berke and Conroy (2000) p. 26

Table 4-7. Presence of suggested verbiage as interpreted from the policies of Gainesville's Comprehensive Plan

Plan element	Land Use regulation	Property acquisition	Capital facilities	Financial incentives	Building codes & standards	Public education & awareness
Housing	6	0	0	2	0	0
Transportation	10	1	11	1	6	0
Environment	5	2	0	0	2	0
Energy	0	0	0	0	0	0
Land Use	30	1	13	1	27	1
Economic development	0	0	0	0	0	0
Public facilities	4	2	1	1	0	0
Principle totals	55	6	25	5	35	1

Table 4-8. Presence of required verbiage as interpreted from the policies of Gainesville's Comprehensive Plan

Plan Element	Land Use regulation	Property acquisition	Capital facilities	Financial incentives	Building codes & standards	Public education & awareness
Housing	10	1	2	3	2	5
Transportation	17	1	13	1	19	0
Environment	23	2	1	0	4	2
Energy	0	0	0	0	0	0
Land Use	46	0	21	1	19	7
Economic development	0	0	0	0	0	0
Public facilities	23	7	13	2	6	10
Principle totals	119	11	50	7	50	24

Table 4-9. Scores for promoting operational performance principles

Plan Element	Harmony with nature	Livable built environment	Place-based economy	Equity	Polluters pay	Responsible regionalism
Housing	0.6	1.7	0.7	7.8	0.0	0.0
Transportation	0.0	22.4	0.0	0.0	0.0	1.9
Environment	12.8	0.0	0.0	0.0	0.7	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Land use	3.7	44.1	0.0	0.6	0.0	0.0
Economic development	0.0	0.0	0.0	0.0	0.0	0.0
Public facilities	9.8	4.1	0.6	0.4	3.3	6.3
Principle totals	26.9	72.2	1.3	8.7	4.1	8.1
Percentage of principle totals %	22	60	1	7	3	7

Table 4-10. Distribution of total categorical DMT and percentage per plan element

	DMT totals per plan element	Land use regulation %	Property acquisition %	Capital facilities %	Financial incentives %	Building codes & standards %	Public education & awareness %
Housing	31	52	3	6	16	6	16
Transportation	80	34	3	30	3	31	0
Environment	41	68	10	2	0	15	5
Energy	0	0	0	0	0	0	0
Land use	167	46	1	20	1	28	5
Economic development	0	0	0	0	0	0	0
Public facilities	69	39	13	20	4	9	14

Table 4-11. Distribution of total categorical DMT and percentage per categorical DMT

	Land Use regulation	Property acquisition	Capital facilities	Financial incentives	Building codes & standards	Public education & awareness
DMT Totals	174	17	75	12	85	25
Housing %	9	6	3	42	2	20
Transportation %	16	12	32	17	29	0
Environment %	16	24	1	0	7	8
Energy %	0	0	0	0	0	0
Land use %	44	6	45	17	54	32
Economic development %	0	0	0	0	0	0
Public facilities %	16	53	19	25	7	40

CHAPTER 5
DISCUSSION

Results of the analysis clearly show that Gainesville does not promote a balance of the OPP in its comprehensive plan. The lack of support for sustainable development is not strictly the result of the local government's inability to incorporate principles of sustainability but is attributed to planning mandates established at the state-level. The Berke and Conroy methodology adopted for this study ignores other practices of sustainability, which occur on the local level and are not contained in a comprehensive plan by only evaluating the comprehensive plan. The strict guidelines required of the Berke and Conroy methodology further limit evaluation of local comprehensive planning. Not only do state mandates influence local government planning via local governments' taxes, a state operated system also inhibits the development techniques required for sustainable development through strict guidelines.

Absence of Energy and Economic Plan Elements

The lack of energy and economic elements greatly reduces Gainesville's score in promoting a balance of sustainable development principles. The lack of these stand-alone elements in the comprehensive plan contributed zero scores for the promotion of sustainable development in all seven operational performance principles (Table 4-9).

Although the comprehensive plan does not support sustainable development as it relates to energy and economics, Gainesville's local government addresses these issues through specific city departments and activities. First, the City of Gainesville's Department of Economic Development solely exists so as to meet the needs of economic growth for the prosperity of the citizens and the city (City of Gainesville's Economic Development Department, 2008a). However, the City of Gainesville's Department of Economic Development is not alone in this endeavor and work in coordination with the Gainesville Area Chamber of Commerce as well as

the Council for Economic Outreach. Next, the City wholly owns and operates Gainesville Regional Utilities (GRU), a company that is responsible for electrical power production, transmission and distribution for the entire incorporated area as well as surrounding urban area (GRU, 2008). Both of these programs are discussed in more detail below.

One of the primary tasks of Gainesville's Department of Economic Development is to investigate and mediate fair settlements for the private sector in the city government system (City of Gainesville's Economic Development Department, 2008b). The Department has their own guidelines to direct the growth and expansion of private business, provide information on business support programs and to help business owners in achieving economic success for themselves and the community (City of Gainesville's Economic Development Department, 2008b). Current and potential business owners in the City can also receive support from the Gainesville Area Chamber of Commerce and the Council for Economic Outreach. The Gainesville Area Chamber of Commerce allows members the opportunity to improve their business and the community by aiming for a common goal of promoting and supporting businesses in the Gainesville Area (City of Gainesville's Planning Department, 2008). The Council for Economic Outreach is a non-profit economic development organization who seeks to diversify the economic structure of Gainesville and Alachua County through the expansion of the existing industrial sector and by attracting new business and investment opportunities (City of Gainesville's Economic Development Department, 2008c). All three of the economic development organizations are concerned with promoting a viable economic environment for current and future business while at the same time supporting the community's needs.

The Strategic Planning Department in GRU also contributes to the overall sustainability of the City, specifically as it relates to energy. This department is dedicated to specific guidelines

for forecasting Gainesville's electrical energy and demand requirements (GRU, 2008). Demand-Side Management (DSM) programs, designed to effectively reduce and control the growth rates of electric consumption for residential, commercial and industrial sectors and are offered by GRU (GRU, 2008). In the pursuit of energy reduction and efficiency, residential customers are also offered rebates and financial incentives such as energy efficiency low-interest loans, green building practices in multi-family dwellings, Energy Star building practices, solar water heating and solar photovoltaic systems (GRU, 2008). Non-residential customers are offered energy audits to address lighting efficiency and lighting maintenance services (GRU, 2008). Some of the rebates offered to non-residential customers include the promotion of solar water heating, solar photovoltaic, vending machine motion sensors and energy efficiency retrofits (GRU, 2008). These programs exist despite the fact that Gainesville's comprehensive plan does not explicitly establish or promote energy guidelines that GRU's Strategic Planning Department addresses.

In sum, the presence of an Economic Development Department and the Strategic Planning Department of GRU helps offset the lack of stand-alone economic and energy elements in the comprehensive plan. In addition, the economic development organizations in the City are also concerned with promoting a local economy that supports the needs of the community. Although neither of the objectives of the Economic Development Department or GRU's Strategic Planning Department are established in the comprehensive plan, they do foster sustainable development principles for Gainesville as they relate to the economy and energy.

Requirements of State Mandates

Gainesville's absence of energy and economic elements in its comprehensive plan is due, in part, to state mandates. The strength of the language contained in the goals, objectives and policies are also associated with the guidelines of the state mandates. As stated in the Results section, the GMA listed mandatory, as well as optional, elements local governments needed to

adopt in their comprehensive plans (Table 4-2). The Florida Administrative Code Rule 9J-5 enforces the GMA's Local Government Comprehensive Planning and Land Development Regulation Act, by providing the legal authority of the state over local governments. Rule 9J-5 "establishes minimum criteria for the preparation, review, and determination of compliance of comprehensive plans" local governments are required to adhere to (State of Florida, Department of State, 2008). The rule contains specific requirements for the goals, objectives and policies of a comprehensive plan. The scores used in determining the presence of sustainable development principles are derived directly from the language used in a given policy. The language of the mandates in Rule 9J-5 are analyzed and then classified as either *required* or *suggested* language, as shown previously in Tables 4-7 and 4-8. Specifically, Rule 9J-5 uses the words "ensured" which is classified as *required,* and "encouraged," which is classified as *suggested* (Table 5-1). Although the strength of the language was determined directly from the policies, the objectives provide the framework for supporting an operational performance principle. In keeping with conformity, Gainesville is required to adopt certain language in their comprehensive plan that is not conducive for promoting sustainable development as a result of state mandates (Table 5-1).

In accordance with the State mandates, Gainesville adopted the twelve mandatory elements from the GMA, as well as Historic Preservation and Cultural Affairs, which are classified as optional elements (Table 4-3). The Economic element is optional under the GMA, as evidenced by Gainesville's exclusion of this element from their comprehensive plan. If municipalities want to include an Economic element in their comprehensive plans, the State suggests they establish guidelines for commercial and industrial development, as well as for employment and personal utilization (State of Florida, Florida Senate, 2008b). The State also suggests the element address the type of economic base the local government wishes to pursue

and to correlate the economic needs of the community with the other elements of the comprehensive plan (State of Florida, Florida Senate, 2008b).

Although the Local Comprehensive Plan Act did not mandate the adoption of specific energy elements in the early 1980s, Gainesville took the initiative to include an energy element in their 1980 comprehensive plan (City of Gainesville, 1979). Today the GMA still does not require or suggest that local governments adopt an Energy element in their comprehensive plans (Table 4-2). The GMA does state, however, that a local government can adopt elements that may address unique needs of the community in question but should be supported by the recommendation of the local planning agency (State of Florida, Florida Senate, 2008b).

The elements contained in Gainesville's comprehensive plan follow the strict guidelines as stated in the GMA and follow the minimum criteria described in Rule 9J-5. The GMA and Rule 9J-5 require local governments direct specific concurrent planning procedures throughout the state and demand that municipalities be compliant with its guidelines. The absence of an Economic element, although considered an optional element under the GMA is not included in the comprehensive plan possibly because of the presence of Gainesville's Economic Development Department. An energy element is also lacking in the comprehensive plan partly because it is not mentioned under the GMA. The local planning department can create an energy element if they establish the need as unique and necessary for planning in Gainesville.

Importance of the Cultural Affairs Element

The cultural affairs element was not included in the evaluation of Gainesville's comprehensive plan because the element could not be identified with one of the seven plan elements stated in the Berke and Conroy adapted methodology (Table 4-6). Even though the Cultural Affairs element was not evaluated in the methodology, the element does support a 'Place-Based Economy'. The element stresses the importance of establishing the cultural growth

of the community through public art shows, festivals and cultural events (City of Gainesville, 2002). Festivals and cultural events also contribute to the local economy by providing revenue to local businesses in which these activities take place. Although the element did not contribute to the evaluation of Gainesville's sustainability, the overall theme of the element is for the betterment of the community, which is ultimately the objective of sustainable development.

Critique of the Berke and Conroy Methodology

The incompatibility in the Berke and Conroy methodology contributed to the poor results of the Gainesville case study. The methodology was created as a generalized evaluation for comprehensive plans throughout the United States. Not all planning in the United States is concurrent. The state planning mandates imposed on Florida's local governments require all comprehensive plans to be in compliance with the state plan. As stated earlier, local governments in Florida must meet the minimum requirements of the GMA and force local governments to concentrate on particular elements regarding comprehensive planning.

A comprehensive plan does not cover all the activities of local government. A comprehensive plan is intended to reflect the needs and desires of a community by determining the most appropriate way of resolving existing problems and addressing the future needs of the community (Florida Department of Community Affairs, 2006). The Berke and Conroy methodology does not take into consideration other activities a local government might utilize in promoting sustainable development that are not covered in a comprehensive plan. For instance, Gainesville does not address the issues of energy and economy in stand-alone elements because the appropriate individual departments—the Economic Development Department and the Strategic Planning Division of GRU—are responsible for addressing existing problems and future needs.

The Berke and Conroy methodology also utilize a static list of seven plan elements to represent the presence of sustainable development principles in comprehensive planning (Table 4-6). As shown in Gainesville's comprehensive plan, the cultural affairs element could not be categorized under any of the Berke and Conroy seven plan elements, ultimately denying a true representation of sustainable development policies promoted by Gainesville. Albeit the Berke and Conroy methodology was developed to generalize comprehensive plans across the United States, not one of the cities evaluated contained a plan element associated with cultural affairs.

Finally, the Berke and Conroy evaluation protocol is based on an individual's interpretation of the language contained in the goals, objectives and/or policies of a comprehensive plan. The Berke and Conroy study utilized inter-rater reliability that accounts for homogeneity among the interpretations given by the evaluators. The practice of inter-rater reliability was not utilized in this case study and only one individual was responsible for evaluation of the comprehensive plan. Many policies of Gainesville's comprehensive plan are written in a particular way to allow for loose interpretation. As a result, uncertain interpretation of policies, concerning the various forms of action responsible for supporting the operational performance principles were encountered as a possible source of error (Table 5-2).

Occurrence of DMT and Local Government Funding

Approximately 45 % of all evaluated policies in Gainesville's comprehensive plan utilize land use regulation as the preferred DMT (Table 4-11). Of the 388 policies that support sustainable development principles, the DMTs of property acquisition are used by 17 policies, or approximately 4 % of the total DMT, while financial incentives make up around 3 % with 12 policies implemented (Table 4-11). The lack of policy action based on property acquisition and financial incentives is associated to the way in which Gainesville collects revenue to fund local government.

Florida is considered a low tax state because of its low 6 % sales tax coupled with its lack of state income tax. Local governments levy ad valorem taxes to cover many governmental expenditures and services. Gainesville has a limited source of revenue that can be collected from ad valorem taxes because of a high incidence of property in city limits that is exempt from ad valorem taxes (Figure 5-1). Certain governmental properties, such as The University of Florida, GRU, city operated airport, as well as religious organizations are exempt from ad valorem taxes. Such exempt property makes up approximately 28 % of the land in city limits (Figure 5-1). The Public Facilities element has the highest incidence of property acquisition as a DMT due to the need of governments to acquire private property so as to adequately supply potable water, sewer accommodations and other public services.

Although most local government funding comes from property taxes, municipalities also receive a fair-share of revenue from sales and fuel taxes. With such low revenue, local governments are restricted in their opportunities to pursue financial incentives as a way of implementing DMT in their policies. Many of the tax programs that are available to local governments, such as the Local Option Fuel Tax have implicitly stated authorized uses (Table 5-3). The small amount of financial incentives that do exist in Gainesville's comprehensive plan are found in the Housing element (Table 4-10). SHIP, which provides housing assistance plans for local governments, as well as assists in security and utility deposits for eligible citizens, makes up the majority of these financial incentives (Table 5-3). The lack of financial incentives regarding DMT in Gainesville's comprehensive plan can be attributed to unique expenditure limitations placed upon levied taxes and an inadequate amount of initiated tax programs.

Discrepancies Concerning the Environment

Although the OPP 'Harmony with Nature' was the second highest contributing principle for sustainable development, the Environmental Planning element is weak as compared with the

other five elements (Table 4-9). Like the Housing element, only one element from Gainesville's comprehensive plan is used to support the Environment element used in the methodology. The Environment element from Gainesville's plan shows little support for the OPP 'Polluter's Pay' and completely neglects the OPPs of 'Responsible Regionalism' and 'Place-Based Economy'.

Gainesville should not only be concerned with poor representation of the environment, but also discrepancies concerning environmental regulation on the county level. Alachua County specifically identifies the concept of sustainable development as critical for planning practices. Sustainable development is described by Alachua County as a process to integrate the intention of economic development and the protection of the natural environment through mutually shared goals achieved by long range environmental planning and codes enforcement (Alachua County Board of County Commissioners, 2008). Unlike Gainesville, Alachua County uses sustainable development as an overarching framework for their comprehensive plan. Alachua County also has an Environmental Protection Department that works in conjunction with the Department of Growth Management and the Department of Public Works on reviewing potential comprehensive amendments (Alachua County Board of County Commissioners, 2008). Gainesville on the other hand, does not have a separate department devoted solely to issues involving environmental regulations. The Planning Department is responsible for environmental evaluations of potential amendments. Gainesville does, however, have a citizen review board that consists of a City Plan Board, Board of Adjustments, Development Review Board and a Historic Preservation Board, but no environment review board (City of Gainesville's Planning Department, 2008).

The discrepancies concerning environmental regulations that exist between Alachua County and Gainesville are counterproductive. For example, property surrounding Gainesville's

city limits are subject to regulations administered on the county level, and thus more stringent environmental rules than their in-town neighbors. Similarly, proposed plan amendments receive no environmental review process in Gainesville and therefore are not held accountable to the same environmental regulations neighboring county lands receive.

Table 5-1. Required objectives as stated in Rule 9J-5, Florida Administrative Code

Elements of a comprehensive plan	Requirements for goals, objectives and policies	Objective	Strength of language
Future land use	Rule 9J-5.006 "The element shall contain one or more specific objectives for each goal statement which address the requirements of Paragraph 163.3177(6)(a), Florida Statutes"	(3) "*Encourage* the elimination or reduction of uses inconsistent with the community's character and future land uses" (4) "Ensure the protection of natural resources and historic resources"	'Suggestive' - *Encourage* 'Required' - Ensure
Conservation	Rule 9J-5.011 "The element shall contain one or more specific objectives for each goal statement for each of the facilities or resources addressed in the element which address the requirements of Paragraph 163.3177(6)(c), Florida Statutes"	(4) "Address conserving potable water resources" (5) "Address protecting the functions of natural groundwater recharge areas and natural drainage features. High recharge and prime recharge areas shall receive a level of protection commensurate with their significance to natural systems or their status as current or future sources of potable water"	'Required' - Shall

Adapted from State of Florida, Department of State (2008) 3(b) and 9J-5.011 (1999) 2(b)

Table 5-2. Examples of interpretational uncertainty for the plan policy evaluation

Elements of Gainesville's comprehensive plan	Policy	Objective	Potential operational performance principles
Conservation, open space & groundwater recharge element	Policy 4.2.5 "The City shall coordinate with Alachua County Environmental Protection Department and other governmental entities in identifying pollution problems and providing documentation and other relevant assistance as appropriate and feasible towards the mitigation and remediation of pollution problems, including assistance as necessary in cases where *sanctions may be imposed for violations of applicable environmental regulations*"	The objective guiding this policy states: Objective 4.2 "*The City shall identify pollution problems and parties responsible*, and establish strategies to mitigate, remediate, or assist in the mitigation or remediation of these problems in all watersheds in Gainesville's city limits. In **consideration of the importance of water quality of the creeks in our community**, priority shall be given to improving the quality of water entering Sweetwater Branch, Tumblin Creek and Hogtown Creek"	▪ **Harmony with nature** ▪ *Polluters pay* ▪ Responsible regionalism
Future land use element	Policy 2.1.5 "The City shall strive to **implement certain land use-related elements** of Plan East Gainesville, including but not limited to: …(b) *Coordinating with Alachua County* in its development of a strategy for the Alachua County fairgrounds for creation of a mixed-use employment center; and (c) *Coordinating with Alachua County and the Tourist Development Council* to evaluate the site east of Fred Cone Park as a potential cultural or recreational center to be compatible with the existing uses at Cone Park."	The objective guiding this policy states: Objective 2.1 "**Redevelopment should be encouraged to promote compact**, **vibrant urbanism**, improve the condition of blighted areas, *discourage urban sprawl*, and **foster compact development patterns that promote transportation choice**"	▪ **Livable built environment** ▪ *Responsible regionalism* ▪ Equity

Adapted from City of Gainesville Comprehensive Plan 2000-2010 (2000)

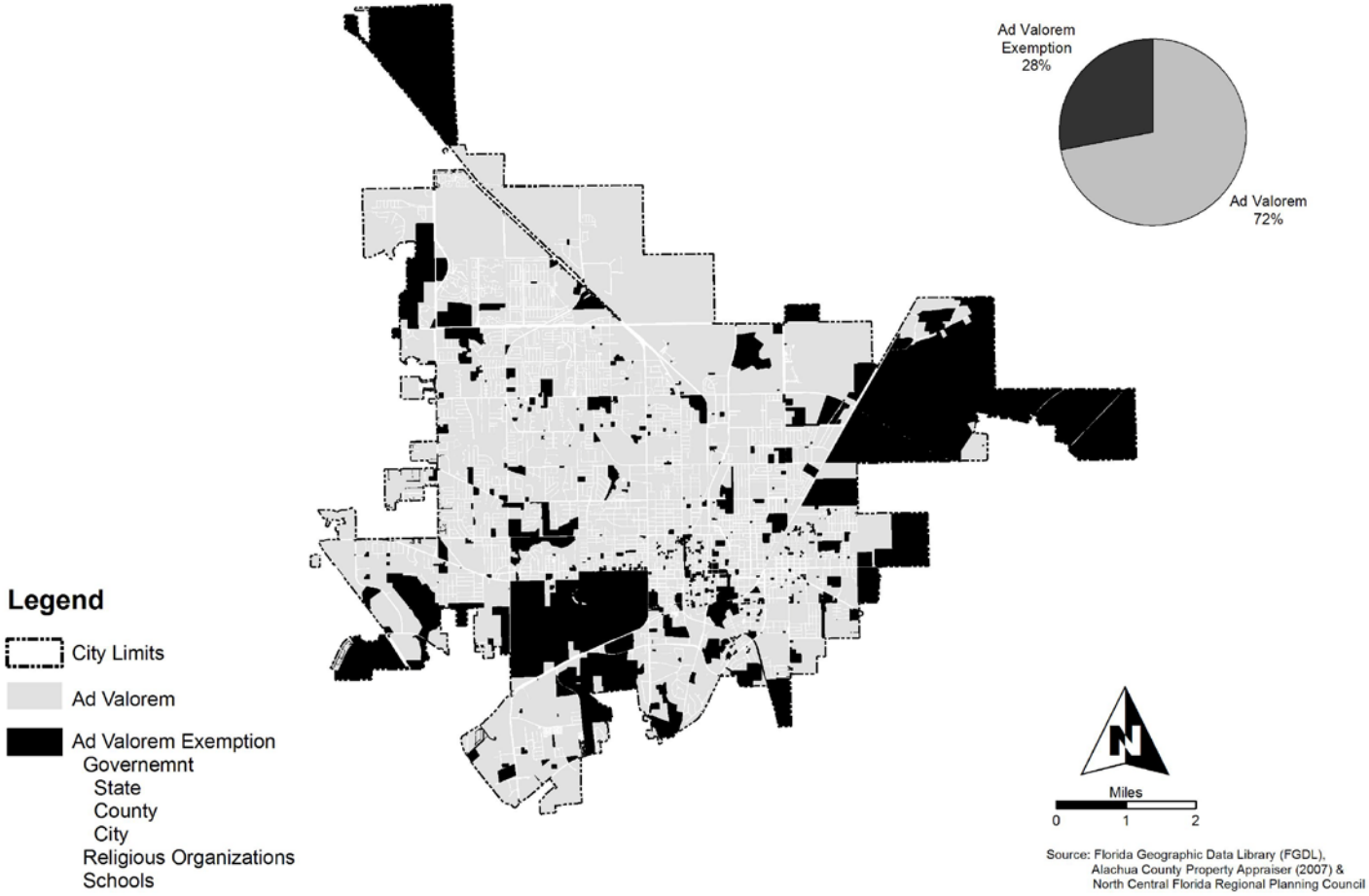

Figure 5-1. The Percentage of property in Gainesville's city limits subject to property tax

Table 5-3. Gainesville's local government financial information

Tax programs	Authorized uses
Local Government Half-Cent Sales Tax Program	Municipal-wide programs or for municipal-wide property tax or municipal utility tax relief
Municipal Revenue Sharing Program	Derived from municipal fuel tax can only be used for transportation projects Derived from non-fuel tax source can be set aside as a trust for the payment of principal or interest on bonds, tax anticipation certificates or any other form of indebtedness
State Housing Initiatives Partnership Program	Proceeds used to implement a local housing assistance plan and security and utility deposit assistance
Voter-Approved Indigent Care Surtax	Proceeds are to be used to fund health care services for the medically poor
Local Option Fuel Tax	Proceeds are used to fund transportation expenditures

Adapted from LCIR, 2008.

CHAPTER 6
RECOMMENDATIONS AND CONCLUSION

Recommendations

Gainesville's Comprehensive Plan primarily promotes practices of sustainable development in the "Livable Built Environment' while comparatively ignoring the other principles (Table 4-9). The strong occurrence of principles supporting the 'Livable Built Environment' suggests that Gainesville is primarily concerned with urban design. The high score for the 'Livable Built Environment' is mainly associated with the Urban Design Element that was created in response to the last EAR. This element alone had the highest score of sustainable indicators of all the elements in the plan. In order to achieve a more balanced approach as recommended by the literature, Gainesville needs to develop policies that are cognizant of the three values of sustainable development: the economy, environment and social equity.

Gainesville should adopt elements that recognize the importance of the economy, in particular the needs and aspirations for the local residents in an economic element. The lack of an economic element—in particular one that is developed under the framework of sustainability—presents an obstacle for the city of Gainesville if they wish to achieve a true level of sustainable development. Policies in an economic element could cover many of the principles of sustainable development. An example of a policy that recognizes principles of 'Equity' and 'Place-Based Economy' is one in which local citizens are given priority for job placement in the local government. Another example of an economic policy that envelops the holistic approach of sustainable development is an enactment of "green fees" on waste management that can "give residents incentives to reduce their household waste generation by charging for garbage collection by weight" (Beatley, 1995, p. 391). The plan might also seek to facilitate the

establishment of environmentally friendly businesses by way of public investment and loan dispersal, so to establish a sustainable economic base for the community (Beatley, 1995).

The absence of an energy element is an obvious disadvantage for Gainesville's comprehensive plan if it is to be considered sustainable. An energy element can support sustainable development principles such as 'Polluters Pay' and 'Responsible Regionalism'. Suggested policies should address the reduction of greenhouse gases by offering citizens more choices in modes of transportation, having commercial facilities implement energy efficient operating procedures and support the use of alternative fuels in the industrial sector. The City should also consider supporting a more efficient spatial organization of land use, reducing the amount of energy associated with the automotive dependent community. By reducing the consumption of automotive fuels through a more walkable environment Gainesville could reduce the amount of CO_2 emissions.

The lack of sustainable principles in the elements of the plan has shown to produce a plan that does not represent the concept of sustainable development. A possible solution in assuring sustainable plans in Florida could be achieved by updating the EAR process to include sustainable development as an overarching framework in the drafting of comprehensive plans. Mandating an overarching sustainable framework can be initiated at the state level by the DCA. Research shows that incidence of state planning mandates strongly influence content, quality and implementation of local plans. A state mandated approach for integrating sustainable development as an overarching framework throughout Florida's comprehensive plans would be more effective (Berke and French, 1994 and Berke and Conroy, 2000). Planners tend to be influenced by sate mandates that are more complementary and/or feature planning mandates that build commitment (Dalton and Burby, 1994). Ensuring a state sponsored mandate for sustainable

development would create sustainable planning throughout the region eliminating the potential for a piece-meal approach to sustainable planning. Incorporating sustainable development in the state mandated EAR process would provide the opportunity to improve the quality of local plans by adopting strong development management programs that would utilize land use controls, site design requirements and other techniques (Dalton and Burby, 1994). The single-purpose state mandated Ear process would also be more effective at the local level as opposed to a general planning mandate (Dalton and Burby, 1994).

The Gainesville Comprehensive Plan can also use more types of DMT to achieve a balanced approach to sustainable development. Incorporating more financial incentives in the comprehensive plan will be challenging for the planning department because of the revenue source which funds local governments in Florida. The City will have to consider levying a tax program to generate a new source of revenue for financial incentives. The Environment element can achieve a more balanced approach if Gainesville's environmental regulations mirrored Alachua County's policies. By sharing similar development regulations imposed by environmental constraints, annexation of county land into Gainesville city limits would be discouraged since land owners could no longer avoid the stricter county review process.

Implementing sustainable development at the local level has shown to be successful when there are coordinated efforts across all city departments (Saha and Paterson, 2008). If Gainesville is committed to achieving sustainable development, the city should consider creating a department for addressing sustainability issues. Simply having influential sustainable development organizations such as the ICLEI, USCM and SAC in the greater Gainesville area does not imply the local government has a deeper commitment to sustainability (Saha and Paterson, 2008). This is why, if Gainesville wants to seriously adopt sustainability in their

current planning paradigm, city officials must work together, preferably with guidance from a city department that exists solely for addressing sustainable development issues.

Much work remains in evaluating principles of sustainable development in the case study. The complex nature of sustainability cannot be narrowly analyzed through one process of evaluation. A proper assessment of this nature is more meaningful if it can be compared longitudinally. A follow-up study examining the results of the next EAR process and ultimately the next comprehensive plan would be particularly beneficial in tracking the regulatory changes. Another way to increase the practicality of this study would be to make cross-sectional comparisons. A method such as this, or similar, would establish the prevalence of sustainable development throughout the state of Florida.

Conclusion

The presence of sustainable development principles in Gainesville's Comprehensive Plan is consistent with mainstream planning. Gainesville's Planning Department created a comprehensive plan that is concerned primarily with the 'Livable Built Environment'. Although the principles of sustainable development are similar with new urbanism, a comprehensive plan should also equally address the environment, equity and economy. It is evident that Gainesville lacks the strong environmental perspective necessary in addressing the 'Harmony with Nature' principle. Gainesville also ignores the promotion of the other principles of sustainable development. The City of Gainesville is primarily concerned with replicating a designed community, thus creating an imbalance in its attempt to achieve sustainable development. Such a narrow comprehensive plan does not encourage sustainable development because issues involving natural capital, social injustice and the local to global link are largely ignored. In pursuing the designed community Gainesville's policy are centered on action-oriented statements such as land use regulations, capital facilities and building codes and standards. In conclusion,

Gainesville fails to embrace a comprehensive set of DMTs in promoting sustainable development.

Recent literature concerning sustainable development is still reminiscent of times past and implies a harmonious balance of values concerned with the economy, environment and equity for the betterment of today and tomorrow. Even though this goal might not be easily achieved, the role of the planner can only aid in this endeavor. The main concept to be derived from sustainable development is not just the protection of the environment, the assurance of economically sound society or a true equal opportunity commitment; it is the interconnectedness of all these aspects. The linkages between the values of sustainability expose a symbiotic relationship that is integral for the prosperity of the individual values as well as overall goal of a community. City planning staffs should not be concerned only with land use regulations but should broaden their work by establishing unique departments committed to achieving sustainable development goals. Only through constant interaction of governmental departments can planners begin to understand the effects planning paradigms such as housing and transportation have on one another. Oversight under an overarching framework of sustainable development would assure that all the governmental agencies involved in the planning process were equally represented and accounted.

Gainesville could possibly be ahead of the curve when it comes to incorporating principles of sustainable development in the comprehensive plan. As stated in the literature review, the City and the citizens have a multitude of programs that promote local sustainability. Efforts to increase energy efficiency are the main strategy used by the community and by organizations such as the ICLEI, USCM and ECSC, for achieving sustainability. Community members and the aforementioned organizations are not alone in the pursuit for sustainable development. In fact, as

recently as July 1, 2008, DCA made legislative changes to Chapter 163, Part II, of the Florida Statutes, included in House Bill 697 and codified in the Laws of Florida Chapter 2008-191, concerning the EAR and the adoption of comprehensive plans. In Section 163.3177(6) (a), F.S. a future land use element in a local comprehensive plan must include greenhouse gas reduction strategies, discourage urban sprawl, and be based upon energy-efficient land use patterns that account for future electrical power generation and transmission systems. Section 163.3177(6) (b), F.S. now requires that the Traffic Circulation element of the comprehensive plan incorporate strategies to address the reduction of greenhouse gas emissions from the transportation sector. Section 163.3177(6) (d), F.S. now requires that the Conservation element address energy conservation and that the land use map series identify and depict energy conservation. Section 163.3177(6) (f), F.S. requires the Housing element to contain standards, plans and principles, as it pertains to energy efficiency, that must be followed in the design and construction of new housing.

All of these new changes will significantly affect local government comprehensive planning. These changes by DCA might encourage communities to adopt an energy element in their comprehensive plans or promote a more piecemeal approach. Gainesville needs to include the new revisions as stated above in their new EAR and comprehensive plan, which the city, as of November 2008, is currently working on. A piecemeal approach might not be the most effective and efficient method for achieving sustainable development; it is at least one step of many local governments must take to ensure the needs of today's society without depriving future generations from their own.

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BIOGRAPHICAL SKETCH

Michael DePalma was born and raised in the idealistic suburbs of Long Island, New York. During his late teen years he sought a new beginning and traveled to the greater Orlando metropolitan area of Florida where he graduated from Lake Brantley High School. Later on he found himself living in Gainesville, Florida, working as a line-cook in the hospitality industry. In pursuit for the meaning of life he ventured the path of higher education. Although not the cheapest path to enlightenment he managed to pay his way through school thanks to his confident cooking skills. His first attempt at intellectual liberation granted him a Bachelor of Science in environmental science from the University of Florida. His insatiable hunger for knowledge drove him to again enroll in the University of Florida this time with the department of urban and regional planning. His quest for education has finally been appeased thanks in part to the conclusion of this thesis.