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Hernando County Economic Development Study

Final Report, Part III
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Part III Community Indicators

Community indicators are sets of data used to measure the progress of an area over time. Indicators are, by definition, “simply measurements that reflect the status of larger systems” (Besleme and Mullin 1997, 47). These indicators can also be thought of as “something that helps you understand where you are, which way you are going and how far you are from where you want to be” (Livable Communities). Indicators provide a full and clear picture of the condition of the community by focusing in-depth on a wide variety of topics. An appropriate selection of indicators will provide enough information to evaluate the community and its trends in several dimensions. Indicators, if chosen correctly, can illustrate the links between economic, social and environmental concerns. In order to obtain useful indicators, a broad spectrum of the community must work together to agree on a common set of goals. Through such collaboration, community indicator projects (CIPs) can create visions and priorities for the future.

Hernando County has expressed an interest in devising and implementing an on-going economic development evaluation system. Community indicators are gaining popularity as a method of evaluating or benchmarking a community’s performance related to a variety of factors. This section of the study is divided into three major areas, the first of which is a review of community indicator projects. The second section provides a “stand alone” community indicators approach that can be utilized without integration into a geographic information system. It will use the information from the previous two parts of the overall study, as well as build a framework for evaluation by incorporating a variety of factors and data sources. The third provides a review of the community indicators system using the GIS interface – literally, a “visual” approach to aid in economic development decision-making regarding land use outcomes. All three sections are described in the following information:

1. Community Indicators Projects

What are community indicators, and why are they important to economic development? This section provides a review of information on community indicators, as well as references to additional sources. It is recommended that Hernando County Government fully incorporate the use of community indicators in its planning and governance activities, and use this information to serve as the foundation for accomplishing this.

2. Community Indicators Framework

This framework provides a method for benchmarking performance in a variety of areas related to economic development for Hernando County. It will

incorporate a historical context whenever data are available and help establish the target levels to achieve. It is anticipated that the framework should be calibrated and updated at yearly intervals, and will include methods for updating in the future. Indicators can be used to help in decision-making processes for communities, including justifying and allocating expenditures, and focusing resources for accomplishing desired benchmarks.

3. Community Indicators – GIS Interface

This section is provided via construction of a technical interface, using geographic information systems technologies, to create “layers” of data for community indicators. Visuals, in the form of land use maps, that clearly illustrate areas of Hernando County that are available for development, unavailable, at risk, or other development categories are presented. The use of this data and its representation should serve as an asset for economic development efforts within the County, as well as assist in decision-making in both the public and private sectors.

III-1. Overview of Community Indicators Projects

The social indicators movement of the 1960s and 1970s evolved from an understanding that “traditional economic indicators, especially the gross domestic product, did not accurately reflect the state of the nation” (Besleme and Mullin 1997, 44). One indicator is only indicative of one issue. In order to see the entire picture, all the pieces must be analyzed. The social indicators movement arose as an attempt to provide a broader scope of the national condition that would include social, as well as economic, indicators. Social indicators strove to define and collect social information for policy makers, to establish social goals and set targets, to institutionalize continuing social reports, and to structure information in “some form of social systems accounting model” (1997, 44). Two early examples of these social indicators projects include the *Scorecard Project* by the Fund for the City of New York (1973) and *Putting Social Indicators to Work: An Annotated Bibliography* by the state of California’s Office of Planning and Research (1977).

Essentially, community indicators are bits of information that when combined, provide a picture of what is happening in a local system. They provide insight into the direction of a community: improving or declining, forward or backwards, increasing or decreasing, staying the same. Indicators are gauges for a community, similar to the Dow Jones Industrial Average that indicates the health of the whole stock market although it only includes a small selection of stocks. Combining indicators provides a measuring system to provide clear and honest information about past trends, current realities, and future direction. It is most notably an aid to decision-making. Community indicators can also be thought of as a report card of community well-being. They are often an outcome of a community visioning process and represent the logical next step for setting goals.

CURRENT FRAMEWORKS

Presently, communities develop indicators within a variety of contexts. The most common frameworks are healthy communities, sustainability, quality of life and performance evaluation. Redefining Progress (<http://www.redefiningprogress.org>) has found from its database of over 200 CIPs that 41% operate in the quality of life framework, while 37% look toward sustainability, 12% focus on performance evaluation and 10% use the healthy communities model. Governments, non-government organizations, and universities all initiate CIPs. Redefining Progress has

further found that almost half of community indicators projects are begun by non-government organizations.

The nonprofit Jacksonville Community Council Inc. (JCCI), in Jacksonville, Florida, was the first to use quality of life indicators (<http://www.jcci.org>). In 1974, roughly 100 delegates representing a cross-section of the population came together at an Amelia Island Conference. These business professionals, public office holders, laborers and citizens put together goals for the City of Jacksonville and its relationship to regional growth. They chose nine indicator categories and assigned task forces to each. The categories were, and still are: education, economy, public safety, natural environment, health, social environment, government and politics, culture and recreation, and mobility. With support from the Jacksonville Chamber of Commerce and the United Way, and now with the aid of the local government, JCCI releases regular quality of life indexes. Redefining Progress reports that 36% of current CPIs base themselves on the JCCI model. JCCI sells a Quality of Life Project and Replication Kit, as well as a Community Agenda Reference document. Both are available from the JCCI website.

Sustainable Seattle formed in 1990 from a group of volunteers from nonprofit, business and environmental organizations. Sustainable Seattle attempts to assess the progress of Seattle, Washington toward “long-term health and vitality” that is “cultural, economic, environmental and social” (Besleme and Mullin 1997, 47). In 1995, the organization published its full report on its indicators, grouped under five main headings. These indicator categories included: environment, population and resources, economy, youth and education, and health and community. Over half (54%) of the current CPIs look to Sustainable Seattle as a model for their own indicators processes (Redefining Progress).

Oregon Benchmarks is the third long-standing model to which many CPIs look. It is estimated that 46% of new indicators projects have made use of some of Oregon Benchmarks' approaches in their own development strategies (Redefining Progress). Oregon Benchmarks was begun by state government in 1989. It provides a set of goals that are used to determine how efficiently Oregon is producing a work force that can keep up with the demands of the global economy. Performance evaluation projects such as Oregon Benchmarks are unique in that they are initiated and developed by the government. Citizens may participate through public meetings, or the indicators are developed by elected and appointed officials. By linking indicators to performance, political leaders are put into the position of being held more accountable for their actions.

Healthy communities projects attempt to cultivate a “sense of shared responsibility for community health and well-being” (Besleme and Mullin 1997,43). They distinguish themselves from the above projects by incorporating an action plan. Healthy communities projects use indicators initially to identify priorities and later to evaluate the success of the action. These indicators redefine traditional measures of healthy conditions. The first integrated healthy communities project has been designed and implemented by the City of Hampton, Virginia with its Healthy Families Partnership.

They have found that focusing on social factors has prompted quality economic development as well. This has led to any other communities to adopting the Healthy Communities program.

EFFECTS OF INDICATORS

No matter the framework, the process of developing indicators “can bring many different sectors of the community together, foster new alliances and relationships, provide all citizens with a better compass for understanding community problems and assets, and be used to drive community change” (Redefining Progress). Indicator identification in itself “enables participants to recognize shared goals and visions, as well as the limitations of existing measures of well-being” (Besleme and Mullin 1997, 44). This process ultimately “provides meaning and credibility to information” in a manner that influences action (1997, 44). The action, however, is not always clearly identified. Indicators simply point to the direction the action should take. Marion Chambers, formerly of JCCI, states, “an indicator is nothing more than a signal. After you get the signal you have to dig deeper to see what it really means” (Andrews 1996, 15). Community indicators are best thought of as a process in which the indicators influence the course of action, which, in turn, moves the indicators. A representative of Sustainable Seattle best described the power of indicators with:

“The indicators a society chooses to report to itself are surprisingly powerful. They reflect collective values and inform collective decisions. A nation that keeps a watchful eye on its salmon runs or the safety of its streets makes different choices than does a nation that is only paying attention to its GNP. The idea of citizens choosing their own indicators is something new under the stars- - something intensely democratic”
Donella Meadows, 1995.

In addition to arousing people to action, indicators do have a few direct applications. Indicators reveal current trends and prioritize issues and spending. Sustainable Seattle has found that its indicators report has served as a useful instrument for questioning candidates during local elections. The report has been used to educate residents and officials in neighborhood planning, and to determine philanthropic priorities. Other communities have found the benefits of indicators projects to include increased awareness of needs within the community, for example, Martin County, Florida’s community indicators project focuses on those that measure the environmental “footprint” and sustainability of the County in direct relation to its resources. Indicators often inspire debate and are quick to alert their communities to developing or worsening problems.

Indicators are used to generate a variety of information, including annual reports to the citizens, website data, and other types of summaries. The City of Gainesville,

Florida in conjunction with Sustainable Alachua, a non-profit community group, issues intermittent reports that reflect the data collected in their indicators. It is presented in the context of sustainability and relation to the elements of the comprehensive plan. They also issue a different version, a report to the citizens that presents data differently in the context of the overall community. A copy of both these reports has been provided to Hernando County Government. In 1999, Alachua County, Florida issued its first indicators report. This was designed for general public consumption and was widely distributed via an insert in the local newspaper. This report was presented in the context of quality of life and included seven categories of indicators. A copy of this report, "Alachua County Quality of Life Indicators" has been provided to Hernando County Government for reference purposes.

TOOLS FOR COMMUNITY INDICATOR PROJECTS

Preparing for a community indicators project requires the use of tools to research, implement, and evaluate the project. Tools can be anything that has a useful application in the planning process. They are websites, kits, models, software applications, and reliable reports. It is important to survey what is available and choose what is most feasible for the current budget and situation. This study presents a framework for community indicators and includes a GIS interface for spatial elements. It is recommended that Hernando County integrate this evaluation system into its governance and planning activities. There are additional resources available as well from the sources described in this report; it may be desirable to expand the community indicators project to include additional activities.

Resources

Environment Canada (<http://www.ec.gc.ca>) has a Sustainable Community Indicators Program (SCIP) website, which bills itself as "an all-in-one starting point for creating, selecting, and analyzing reporting indicators." Environment Canada offers a software program to assist goal setting, indicator development, data collection and analysis, and documentation. SCIP has a set of core indicators that may be drawn on, or the users may choose indicators that are more applicable to the specific community. Each indicator has a detailed profile that includes potential data sources. Assistance for users is provided at each step of the process.

In Florida, the state's Department of Community Affairs' Sustainable Community Network (<http://sustainable.state.fl.us/>) provides a GIS-based program called INDEX. This software is available to local municipalities to measure community sustainability indicators. The template of twenty-six indicators is provided free to members of the

Florida Sustainable Community Network. The INDEX model calculates indicator scores based on existing conditions. It also serves a predictive function by providing indicator scores that would result from proposed plans. Unlike SCIP, INDEX requires knowledge of ArcView and Avenue software.

Funding

Funding for CIPs conducted by local governments and non-profit organizations can be obtained through foundation grants and through corporate funding programs. Redefining Progress lists websites that track research funding sources. These websites include those hosted by The Foundation Center, The Internet Prospector, The Council of Foundations, The Internet Nonprofit Center and The Philanthropy Journal. Redefining Progress also provides guidelines for grant applications.

III-2. Hernando County Community Indicators Framework

As stated previously, current frameworks for community indicators look to economic, social and environmental factors to determine the direction an area's growth and development is headed. The following sections of this report will address each of these factors and give examples of possible indicators in these areas. Along with each indicator are included likely data sources, recommendations of how frequently to update the data and justifications for the use of the indicators. Thus, it is recommended that Hernando County use a myriad of indicators in three major categories:

1. Economic Indicators
2. Social Indicators
3. Environmental Indicators

Determining Which Indicators to Use

There are hundreds of indicators to choose from when designing a community indicators project. It is up to the community itself to decide which ones will fit best with the development goals it is pursuing. Flagstaff, Arizona developed its indicators through direct citizen involvement. The Flagstaff 2020¹ community-visioning project was an eighteen-month program designed to involve thousands of Flagstaff citizens in a wide-ranging discussion about the city's future. Through public meetings, surveys, focus groups and other means of input, the community plotted its future course to the year 2020. Within this process, the indicators team surveyed individuals to determine the usefulness and range of proposed indicators. Using that information, the team chose the most widely accepted indicators and gathered data to calibrate the indicators.

When citizen input is not feasible (because of time or resource constraints) planners can use standard indicators applied in other communities. These include population, employment and unemployment (by industry), income, cost of living, and government revenue sources and growth rates. These are only a few of the standardized economic indicators available to communities. Several organizations also provide guidance on the selection of indicators. Redefining Progress and Sustainable Measures² are just two of the organizations that provide guidance concerning the

¹ Flagstaff 2020 at http://www.flagstaff.az.us/Flagstaff_2020/index.html

² Redefining Progress http://www.rprogress.org/progsum/cip/cip_main.html and Sustainable Measures <http://www.sustainablemeasures.com/Database/index.html>.

development of economic indicators. Counties can also use other communities as a guide in their selection of economic indicators. Hillsborough County has completed an excellent indicator analysis that is available over the Internet.³ Due to its proximity to Hernando County, it might provide a useful guide for indicator development.

Importance of Historical Analysis

In addition to developing indicators to gauge current and future success, communities must also conduct a historical economic analysis. Looking to the future is only useful when one has the historical context to compare it with. Flagstaff included such a plan in its indicators presentation. This particular portion of the current study did not research the economic history of Hernando County. Doing so might point to useful indicators and give residents a sense of where the area has been and the direction of its growth and development.

PROPOSED ECONOMIC INDICATORS

The health of a community's economy directly affects the individuals who live there. The ability to earn an adequate living is fundamental to one's quality of life. A robust economy also gives the community the resources it needs to provide services, facilities and amenities for its residents. Communities can use economic indicators to gauge the health of the local economy, and in turn ensure a better quality of life for their citizens.

Using information from other communities, the U.S. Bureau of the Census, and a variety of other sources, thirty-two economic indicators were developed for Hernando County. The economic indicators were divided into six areas:

1. County Revenue Sources
2. Population
3. Employment
4. Income
5. Poverty
6. Housing and Real Estate.

This is not an exhaustive list; instead it provides a basis for further indicator development and analysis. To facilitate a better understanding of the indicators, an organization matrix was developed, Table 1. The data source column explains where data on the indicator can be collected. We have included national, state, and local sources. In addition, the county itself can also collect this information, but with resources already available that route may be redundant. It is also important to know

³ http://www.hillsboroughcounty.org/com_stats/home.html. The site provides in depth information on economic and sustainability indicators, and explains why they were chosen.

how often the information is updated. Yearly data cannot be easily compared to quarterly or monthly data without extrapolation, so it is important to know distinctions between collection methods. Finally, the table presents the justification for the selection of each indicator. It is important to understand what the indicator is supposed to show to determine how that information can be used in the development process.

Table 1

Hernando County Economic Indicators:

	<u>Indicator</u>	<u>Data Source</u>	<u>Update</u>	<u>Reasons for use of Indicator</u>
<i><u>County Revenue Sources</u></i>	Property Tax (taxable real estate value)	county property appraiser	yearly	reveals the value of homes in the area, which indicates economic prosperity of residents
	Franchise Fees	budget office, or Accounting and Finance Department	yearly	reveals the types of companies operating in the area, and hence the diversity of the economic base.
	User Fees (Impact Fees) and Service Charges	budget office, or Accounting and Finance Department. Also Fl. Legs. Committee on Intergovernmental Relations Date Depository, http://fcn.state.fl.us/acir	varies	Reveals commercial waste production and service consumption.
	Utility Fees	most municipalities collect a Public Service tax for telecom, electric, and water services	monthly	this provides a link to sustainability, by revealing the usage rates (through taxes paid) of electricity and water. Reveals commercial energy consumption
<i><u>Population</u></i>	Incorporated and Unincorporated	Florida Office of Economic and Demographic Research, www.state.fl.us/edr/population/citypop2000.pdf . Also available at http://fcn.state.fl.us/lcir/databank/popdata.html	yearly	shows where the majority and minority of people live, and may determine allocation of services. Also establishes trend of growth and migration for the city. When linked to other indicators, can determine why population grew or not.
	By race, gender and age	www.state.fl.us/edr/population/citypop2000.pdf . Also available at http://fcn.state.fl.us/lcir/databank/popdata.html	yearly	determines level of diversity in community. Can link this to education, and social equity indicators.
	As percent of Florida population	http://fcn.state.fl.us/lcir/databank/popdata.html	yearly	reveals how Hernando compares to state average. Determines if Hernando is within the state trend or above or below it.
	In comparison to peer counties	http://fcn.state.fl.us/lcir/databank/popdata.html	yearly	reveals how Hernando compares to other communities in Florida similar to it. If falls above or below average, can begin to ask why there is a difference.

<u>Employment</u>	total employment and total number of jobs	Hernando has 1995 numbers www.webcoast.com/dhernand.htm Current information available at Bureau of Labor Statistics. http://stats.bls.gov/news.release/cpi.toc.htm	yr/qrt.	strong indicator of economic health of a community
	County employment by industry	US Dept. of Commerce, Bureau of Economic Analysis (Hernando has 1995 info)	yearly	Determine rate of economic diversity
	Unemployment rate		yearly	could be broken down by race and age. This would indicate if there are any social inequities in the market by job type.
	Unemployment claims as % Florida	Bureau of Labor Statistics, http://stats.bls.gov/news.release/cpi.toc.htm	yearly	reveals how Hernando compares to the rest of Florida. If above or below the average, can look at other indicators (such as education levels, and business type) to determine why trend occurs. Can also look at fluctuation in employment and compare to national
	# of Business License	from Hernando Code enforcement	monthly	reveals diversity of economic base, as well type of jobs available.
	Full vs. Part time employment	Chamber of Commerce might keep this information	yearly	a strong part time work force, could suggest an unstable market. Full time employment indicates a strong economy, and greater local consumer spending power.
	Quarterly Employment and Wages	Agency for Workforce Innovation, through U.S. Department of Labor, Bureau of Labor Statistics.	quarterly	reveal what industry most jobs are in, and how much those industry workers are making. This indicates economic diversity and spending capacity. Using this information can determine the number of service to manufacturing jobs. Could also determine average

<u>Income</u>	Median, household, personal Income	Florida Research Economic Database, http://fred.labormarketinfo.com/ . Also BLS http://stats.bls.gov/blshome.htm	yearly	indicator of economic health of community.
	Income Growth Rates	Florida Research Economic Database, http://fred.labormarketinfo.com/ . Also BLS http://stats.bls.gov/blshome.htm	yearly	indicates progress. If incomes remain stagnant over several years, could indicate lack of economic development capacity.
	Per Capita Personal Income	Florida Research Economic Database, http://fred.labormarketinfo.com/ . Also BLS http://stats.bls.gov/blshome.htm	yearly	
	Personal Income as % of Florida	Florida Research Economic Database, http://fred.labormarketinfo.com/ . Also BLS http://stats.bls.gov/blshome.htm	yearly	helps to determine how Hernando compares to state averages.
	Per Capita Personal Income Growth % of Fl.	Florida Research Economic Database, http://fred.labormarketinfo.com/ . Also BLS http://stats.bls.gov/blshome.htm	yearly	helps to determine how Hernando compares to state averages.
	Florida Price Index	Florida Research Economic Database, http://fred.labormarketinfo.com/ . Also BLS http://stats.bls.gov/blshome.htm	yearly	suggests where Hernando falls in its personal spending capabilities in Florida
	Consumer Price Index	Bureau of Labor Statistics, http://stats.bls.gov/news.release/cpi.to c.htm	yearly	suggests where Hernando falls in its personal spending capabilities as compared to the rest of the country.

<u>Poverty</u>	Poverty compared to peer counties	U.S. Census		determine where Hernando falls in comparison to similar counties.
	Poverty by age and race	U.S. Census		indicate which residents are the most hard hit, can then target services to these groups.
	% of pop on public assistance	U.S. Census		if large amount on public assistance may indicate a lack of jobs, or declining economic base.
	Number of residents living below federal poverty levels, and by ethnicity	U.S. Census		if large amount on public assistance may indicate a lack of jobs, or declining economic base.
	Number of welfare and length of time on welfare			indicates the presence of a welfare base economy. This is not a sign of strong economic situation.

<u>Housing & Real Estate</u>	total number of housing units (low income, single family)	Local Builders Association	yearly	
	# of low income homes as % of total home:	Housing Division, Habitat for Humanity, Local Builders Association,	yearly	identifies the number of residents who live in certain types of housing.
	Percent owner v. percent renter	Property Appraiser's Office	yearly	increased levels of home ownership suggest the presence of a more stable tax base. This translates into stability of public services (education)
	Building Permits Issued for new Construction	County Code Enforcement. For revenues assessed from these contact	monthly	indicates growth and economic vitality. Increased construction suggests more people are buying new homes, also indicates increase of revenue for county, through ad valorem taxes.
	Housing Sales and Rental Affordability	Local Builder's Association	yearly	determines what type of income levels can purchase and rent homes in Hernando County.

PROPOSED SOCIAL INDICATORS

The social indicators in the following matrix, Table 2, are sorted by issues of interest to the citizens of Hernando County and are divided into six categories:

1. Education
2. Crime
3. Health and Wellness
4. Transportation
5. Organizations
6. Government

These particular indicators were selected because they appear to have the potential to address the critical issues expressed in Hernando County. They were also chosen in part because most of the data is easily accessible within the county itself, or from commonly available sources. The items selected are understandable to the community and should provide output that is usable by anyone who wants use it. The social indicators attempt to determine how the community is changing socially. It seeks to answer questions such as:

- *Is there more or less crime?*
- *Are people more or less willing to volunteer?*
- *Are more or fewer people running for public office or working for community boards?*

For example, by measuring many of the items listed under education indicators, Hernando County can help determine where it stands with regards to the quality of schooling provided to its children and young adults. The results of the data obtained can be compared to other communities to show Hernando's strengths and weaknesses. With the population growing at such a rapid pace, maintaining a high quality education system will be an ongoing challenge.

The crime indicators will reveal the levels of domestic violence and other crimes and suggest areas that might be impacted by criminal activity. In order to better understand the changes in crime rates and domestic violence patterns, it is important that the data collected be compared with those in other parts of Florida and perhaps with the United States. The crime indicator is important because it also measures the levels of juvenile delinquency.

The health and wellness indicators will measure the relative health of the community compared to that in other communities. It will look at common measures of health and the quality of health care, including infant mortality and life expectancy. If this

data is collected, kept updated, and monitored over time, the residents can see if their collective health is improving, declining or staying about the same. For any changes in the data over time, the community can investigate to determine what variables are affecting the health and what those correlations are.

The transportation indicators will help the community identify the need for improved or additional roads and other elements of the transportation system. Including data on the need and desire for mass transit and para-transit is an important community element that can be a part of transportation or under a separate *quality of life* indicators group.

The organization indicators will give information on how new and old residents join together in common causes. It will help identify major affiliations in the community and what the dominant community interests are.

The government indicators will give a measure of the relative involvement and attitudes citizens have with their local political institutions and government bureaucracies.

Table 2

Hernando County Social Indicators:				
	Indicator	Data Source	Update	Reasons for use of Indicator
	School population	School Board/Local Government	yearly	Student population data helps to determine
<i>Education</i>	Student-teacher ratio	School Board/Local Government	yearly	if overcrowding is an issue. This data also
	Number of students per class	School Board/Local Government	semester	helps in comparing Hernando County with
	Percent of high school seniors graduating	School Board/Local Government	yearly	other counties in Florida and throughout
	Teacher salaries	School Board/Local Government	yearly	the United States. Hernando County can
	Drop out rates	School Board/Local Government	semester	determine where it stands and perhaps
	Percent of adults with college degrees	School Board/Local Government	yearly	recognize some reasons for its successes
	Degrees awarded from county colleges	School Board/Local Government	yearly	and determine areas that need some
	Secondary students in advanced programs	School Board/Local Government	semester	additional attention.
	Teacher qualifications	School Board/Local Government	yearly	
	Test scores	Princeton Education Testing Services	yearly	
	College admissions	School Board/Local Government	yearly	
	Dollars spent per student	School Board/Local Government	yearly	
	Availability of libraries	School Board/Local Government	yearly	
	After school programs	School Board/Local Government	yearly	
	Availability of parks	Department of parks and recreation		
	Pre-school and day care	School Board/Chamber of commerce	yearly	
	Cultural opportunities			
	Discrimination complaints	EEO Office	Yearly	
	Homelessness	Police department	Yearly	
<i>Crime</i>	Number of violent crimes reported	Police Department/Census Data	yearly	This will help determine if crime fighting
	Number of unsolved crimes	Police Department/Census Data	yearly	resources are keeping pace with the rapid
	Incarceration rate	Police Department/Census Data	yearly	rate of population growth. This will also
	Dollars spent on security measures	Police Department/Census Data	yearly	assist in monitoring what changes are
	Number of police officers per resident	Police Department/Census Data	yearly	occurring with regards to the absolute
	Salary of police officers	Police Department/Census Data	yearly	numbers of crime. Additionally this will
	Rehabilitation programs	Police Department/Census Data	yearly	help track the effectiveness of the criminal
	Number of drug related arrests	Police Department/Census Data	yearly	justice system
	Efficiency of court systems	Police Department/Census Data	yearly	
	Detention facilities	Police Department/Census Data	yearly	
	Effectiveness of parole system	Police Department/Census Data	yearly	
<i>Health and Wellness</i>	Number of hospitals	Local Government	yearly	A key element in the quality of life for any
	Number of hospital beds	Local Government	yearly	community is the quality of available health
	Per capita amount spent on healthcare	Local Government	yearly	care. These indicators will give some idea
	Rates of occurrence of various diseases	Local Government	yearly	of how Hernando County ranks with other
	Death rates for major diseases (cancer, etc.)	Local Government/Census Data	yearly	localities with regards to health care. This
	Infant mortality rate	Local Government/Census Data	yearly	will also help determine whether there is
	Life expectancy	U.S. Census	yearly	sufficient health care capacity to provide
	Number of still-born births	Local Government/Census Data	yearly	high quality service to the citizens of the
	Available of emergency rescue services	Local Fire Department/Paramedics	yearly	county. Finally, these indicators point out
	Availability of regional medical centers	Survey	yearly	the effectiveness of emergency services.
	Availability of medical specialists	Local Hospitals	yearly	
	Emergency call response time	Emergency services providers	yearly	
	Number of fires reported	Local Fire Department/Paramedics	yearly	

	Access to air transportation	Survey proximity of airports	yearly	These indicators help determine how freely residents and businesses are able to move about within the county. They will help determine the adequacy of the existing transportation infrastructure and help point to some possible areas for improvement. For example, commute times can be tracked to determine if total commute time increases as the population increases. To achieve or maintain acceptable commuting times additional roads might be suggested the feasibility of a public transportation system might be studied.
<u>Transportation</u>	Interstate access	Department of Transportation	yearly	
	Time spent commuting	Survey of residents	yearly	
	Access to other commercial transportation	DOT/Chamber of Commerce	yearly	
	Quality of existing roads	DOT	yearly	
	Dollars budgeted for road construction/rep.	County Commissioners	yearly	
	Number of auto accidents	Police Department	yearly	
	Deaths caused by autos	Police Department/hospitals	yearly	
	Auto insurance costs	Survey residents/insurance cos.	yearly	
	Number of autos per capita	Census data/surveys	yearly	
	Estimated construction costs of roads	DOT	yearly	
	Regional transportation links	DOT/Chamber of Commerce	yearly	
	Demand for public transit	Surveys	yearly	
	Number of persons per passenger car	Surveys	yearly	
	Active volunteer organizations	Survey/Chamber of Commerce	Yearly	This will provide information on how active citizens are in their community. This will also give some evidence as to the amount of disposable income available and the types of activities on which residents choose to spend their free time.
<u>Organizations</u>	Rate of volunteerism	Survey	Yearly	
	Contributions to charitable organizations	Survey	Yearly	
	Charitable fund raising events	Survey	Yearly	
	Types of social gatherings	Survey	Yearly	
	Religious institutions	Survey	Yearly	
	Number of registered voters	Board of Elections	Yearly	These indicators will provide a view of how involved citizens are with their government institutions and processes.
<u>Government</u>	Percent of voter turnout	Board of Elections	election years	
	Community attendance at public meetings	Survey	Yearly	
	Number of people running for public office	Survey	election years	

PROPOSED ENVIRONMENTAL INDICATORS

Environmental indicators are a vital and necessary component of an overall community evaluation system. Too often, environmental factors are pushed to the forefront after an issue reaches crisis status. It is a better approach for communities to integrate monitoring of their environmental health, resources, and status into overall planning efforts, rather than waiting until an issue has to be addressed.

Four categories of indicators have been selected for use in the community indicators framework for Hernando County. These reflect “benchmarks” for gauging the impact on the environment of the rate and type of growth. The four categories of water, solid waste, air, and land cover several measures within each and when combined, provide a comprehensive picture of the state of the environment and use of resources in the area.

Water supply and quality is of utmost importance to the citizens of Hernando County, as well as a resource that directly affects future growth and development outcomes. Four indicators are needed to fully gauge the impacts on water supply and quality. These are:

1. Water use

This could easily be measured by comparing the total water usage in Hernando County semi-annually or annually (corresponding to the overall indicators schedule). This data could be obtained from the local utility providers and is typically measured in thousands of gallons; additional useful information would be to provide a breakdown of residential compared to all other categories of users (public, commercial, industrial).

2. Total number of water customers in Hernando County

It is also crucial to consider the total number of customers along a time continuum to see the impact of an increasing population on water consumption. Again, it would be valuable to sort the data by user type, if the utilities can provide these data.

3. Water quality measures

The regional water management district routinely measures the quality of surface water, usually by testing for the volume of fecal coliform. One reason that this test is conducted frequently (sometimes as often as monthly) is that surface water is a strong indicator of the quality of well/drinking water.

4. Wastewater disposal

As growth continues in the county, it is likely that the sewage treatment system will continue to expand and thus it is important to gauge the amount and effectiveness of wastewater disposal. Yet it is not only future growth that is impacted – the effectiveness of wastewater disposal also directly affects the quality of water in Hernando County. These data can be obtained from the oversight utility organization. This indicator is also interfaced with the GIS system in order to provide visual information.

Solid waste is also an important indicator for gauging the current and future growth outcomes of Hernando County. Essentially this is measured by the tons of waste shipped to land fills or other disposal areas. It also indicates the degree to which recycling is emphasized, as well as indicates the capacity of solid waste facilities related to future growth. Hazardous waste is a special category of waste disposal given its potential implications. Both solid waste and hazardous waste facilities are interfaced with the GIS system.

Air is considered a separate environmental indicator category because of its unique attributes. Larger cities are finding that air quality is a major issue as growth accelerates and they are no longer able to meet federal air quality standards (Atlanta is the often cited example of this situation). Air quality for Hernando County could be measured via two indicators: 1. Average daily vehicle miles traveled, and 2. Average levels of air pollution. The first category of data can be obtained from the Florida Department of Transportation while the second is more difficult to gather. Baseline emissions, such as carbon monoxide, sulfur dioxide, nitrogen dioxide, ground level ozone, and total suspended particulates can be measured; some communities have access to engineering reports or regional planning organizations' reports that provide these data. Also, the U.S. EPA has an emissions and generation resource integrated database.

Land as a category includes a variety of factors. Both major water bodies and wetlands are provided in the GIS interface – it is important to routinely assess the environmental health of these bodies of water as both inherent natural resources and as water recharge zones. Additionally, sinkholes and storm surge areas represent indicators as well (both imply that development should not be allowed in the immediate vicinity). Another indicator is the number of acres of parks and preserved lands. Hernando County has a high percentage of open space, conservation lands, recreation and other “undeveloped” spaces. The GIS interface provides insight into the amounts of these type lands via the existing/future/land use by types categories.

Table 3. Hernando County Environmental Indicators Matrix

	<u>Indicator</u>	<u>Data Source</u>	<u>Update</u>	<u>Reasons for use of Indicator</u>
<u>Water</u>	Water Use	Utility organizations	yearly	reveals the usage over time
	Total number of customers	Utility organizations	yearly	reveals the usage over time
	Water quality measures	Utility organizations	yearly	indicates needed protection measures
	Wastewater disposal	Utility organizations	yearly	indicates needs versus capacity and effectiveness
<u>Solid/Hazardous Waste</u>	Tons of waste	Landfill records	yearly	reveals the amount of solid waste and whether recycling is influential, etc.
	Hazardous waste	Landfill records	yearly	gauges the level and types of hazardous waste, correlate with overall environmental quality
<u>Air</u>	Average daily vehicle miles traveled	Transportation department records	yearly	measure of road use and relates to emissions
	Average levels of air pollution	Pollutant studies	yearly	measures common pollutants and reveals changes in air quality over time
<u>Land</u>	Major bodies of water	Local maps	yearly	protect from pollution
	Wetlands	Local maps	yearly	protect from pollution
	Sinkholes	Local maps	yearly	protect from pollution/consider development

III-3. Hernando County Community Indicators-GIS Interface

The Hernando County Community Indicators project is a powerful tool that planners and citizens alike may use to create a comprehensive vision for the future of the community. This vision will be all the more compelling when accompanied by clear, concise maps. The Hernando County GIS system is designed to be easy to use and highly customizable, so that the user may combine any number of factors into a single map. The GIS system consists of a series of layers based on spatial datasets. Some features, such as parcels and land use types, stand alone. Others, such as roads, hazards, and conservation areas, are buffered with priority zones in 100- or 1000-foot increments. The user may overlay as many layers as needed, and use the combined layers to narrow down desired regions where development is optimal. For example, a business owner in search of an appropriate site to relocate may combine the buffered roads layer (for visibility and proximity to traffic) with the airport and its vicinity (for importing materials), then intersect this layer with the layer containing vacant commercial parcels. These parcels may then be color-coded based on their proximity to *both* roads and the airport, and the resulting map will show only the parcels in which the business owner is interested.

On a larger scale, the system may be used by county planners to determine future land use designations, special districts, and other planning priorities. Another important feature of the system is its flexibility. Any spatial dataset in ArcView format may be imported into the system and included in the analysis. This allows the users to customize the system, and include the most up-to-date information.

AVAILABLE DATA

The data available in the system is the most recent available from the Hernando County Planning Department. Whenever possible, the data in the GIS system matches the community indicators described above; however, the indicators are not always available as spatial datasets that may be displayed in ArcView.

Table 4. Hernando County GIS Indicators Matrix

Data View	Data Locations		Buffers/Assigned Values
	Original shapefile: R:\public\	Shapefile with buffer: R:\plan\uf_project data\shapefiles\	
Amenities			
Churches	county\churches.shp	church_buff.shp	1000-foot buffer zones
Post Offices	county\postal.shp	post_buff.shp	1000-foot buffer zones
Law Enforcement	county\lawenf.shp	lawenf_buff.shp	1000-foot buffer zones
Schools	county\schools.shp	school_buff.shp	1000-foot buffer zones
Parks	county\parks.shp	park_buff.shp	1000-foot buffer zones
Libraries	county\library.shp	library_buff.shp	1000-foot buffer zones
Golf Courses	county\golf.shp	golf_buff.shp	1000-foot buffer zones
Census Tracts			
Census Tracts	census\cen.shp	N/A	
Hazards			
Landfills	env\wrap\landfills.shp		100-foot buffer zones
Hazardous Waste	env\wrap\hazwaste.shp		100-foot buffer zones
Wastewater	env\wrap\dwwf.shp AND env\wrap\iwwf.shp	wastewat_buff.shp	100-foot buffer zones
Sinkholes	env\wrap\solpoint.shp	sinkhole_buff.shp	100-foot buffer zones
Land Use			
Future Land Use	landuse\allflu.shp	N/A	
Existing Land Use	landuse\elu.shp	N/A	
Land Uses by type	landuse\[all].shp	N/A	
SWFWMD Land Use	landuse\swfwmd\hcfluccs	N/A	
Zoning	R:\plan\zoning\entzon	N/A	
Natural Resources			
Major Water Bodies	water\majwater.shp	water_buff2.shp	100-foot buffer zones
Wetlands	water\wetlands\hcwet	wetland_buff.shp	100-foot buffer zones
Parcels			
Prop. Appr. Parcels	parcels\county\county.shp	N/A	
Transportation			
FDOT Major Roads	trans\roads.shp	roads_buff	100-foot buffer zones

Rail lines	trans\rr.shp	rr_buff	1000-foot buffer zones
Truck Routes	trans\truckrte.shp	truck_buff	1000-foot buffer zones
Airport Boundary	projects\airport\bound_airport.shp	airport_buff	1000-foot buffer zones
Utilities			
Gas Lines	util\gaslines.shp	gasline_buff	100-foot buffer zones
Landfill	env\wrap\landfill.shp	landfill_buff	100-foot buffer zones
Powerlines	county\plines.shp	N/A	

TECHNICAL NOTES

The GIS system for the Hernando County Economic Assessment is intended to help planners, developers, and business owners make development decisions based on selected development priorities. The system consists of spatial data layers which represent physical features, land uses, and community indicators. These may be mixed in any desired configuration to help determine best locations for commercial, residential, and industrial development, as well as conservation and recreation. The system displays primarily physical features, which may be used to determine suitable districts for development. Once these districts have been determined, the economic and other non-spatial indicators for these areas will help to further narrow down potential development sites. In addition to the data currently available, the system may be expanded in the future by adding data as it becomes available in ArcView format.

Data structure of the system

All original GIS data used in the Hernando GIS system originated in **R:\plan** and **R:\public**. The shapefiles developed for this system reside in **R:\plan\uf_project\data\shapefiles**.

How to use the system

There are three types of layers found in the project:

- 1. *Original features*. These are the shapefiles provided by the county Planning office.
- 2. *Buffered features*. These were developed by creating buffers around key features such as components of the transportation network, conservation areas, hazards, and amenities. There are five concentric buffer zones around each feature, and each has a development priority value ranging from 1 through 5, where 1 is low priority (represented in the view in red) and 5 is high priority (represented in green). In some cases, such as roads, the highest priority zone is near the feature. In other cases, such as conservation areas or hazards, the lowest priority is near the feature, and the development value increases further away. Note: Editing the table for the shapefile, if desired, may change these values. Buffers are either 100 or 1000 feet wide, depending on the type of feature. For example, roads were buffered with 100-foot zones because it was assumed that proximity to the road would increase visibility and attract shoppers in automobiles. Truck routes, railroads,

and the airport were buffered with 1000-foot zones, assuming that visibility is not an issue, but proximity to shipping options is very important.

- 3. *Land use areas and parcels.* Hernando County's existing and future land use maps are presented as both aggregate maps and broken down by land use type. In some cases, the land use type is buffered – for example, areas close to existing Commercial land uses are valued as high priority for business development.

Within a single view, the user may select desired development priorities and display them as overlapping layers. One suggested strategy for determining sites for future development would be to gather in one view window all the developer's priorities; for example, roads, schools, parks, and existing residential areas. These are in shapefile format and may be unioned if desired (see instructions below). This unioned data may then be intersected with the future residential land use map, in order to narrow down potential building sites for the developer.

Data Preparation Instructions

The following processes are described below:

- Viewing and comparing layers
- Extracting single land uses from a shapefile containing multiple types
- Buffering, Unioning, and Intersecting features

Viewing and comparing layers

The data views in the project are:

- *Transportation.* Contains the buffered features for truck routes, major roads, railroads, and the airport.
- *Land use.* Contains all existing and future land use shapefiles.
- *Amenities.* Contains buffered schools, churches, parks, post offices, law enforcement offices, libraries, and golf courses.
- *Parcels.* Contains parcels data from the county Property Appraiser's office.

- *Hazards*. Contains landfills, sinkholes, the FEMA floodplain, and hazardous waste facilities.
- *Utilities*. Contains gaslines, powerlines, and electric companies.
- *Zoning*. Contains county-wide zoning map and enterprise zones.
- *Natural Resources*. Contains all conservation lands (based on the Existing Land Use map), water bodies, and wetlands.

The following views are intended as workspaces:

- *Residential Development*. Contains existing and future residential, recreational, and educational land uses.
- *Business Development*. Contains existing and future commercial land uses.
- *Industrial Development*. Contains existing and future industrial and extractive land uses.

The user may add more views if desired, and may also cut, copy, paste, and delete layers using the options under the **Edit** pulldown menu.

Extracting selected features from a shapefile containing multiple types

Existing and future land uses have already been broken down into separate shapefiles for each land use, and may be found in the **Land Use** view. This step may be most useful in extracting vacant commercial parcels from the most recent parcels data.

To replicate, perform the following steps:

- a. In the view window, click on the desired theme (i.e. flu.shp) to make it the active theme.
- b. Open the table for the shapefile.
- c. Click on the Map Query icon on the button bar.
- d. Select the **Update Fields** option in the Map Query window.
- e. To select all residential land uses, double click on [luc] in the top left window, then on the '=' sign in the top center, then "Residential" in the top right window. The query phrase ([luc] = "Residential") will appear in the bottom window.
- f. Click **New Set**. All records with residential land use are now selected.
- g. Return to the view window, and select **Theme > Convert to Shapefile...**
- h. Save the new shapefile as desired, and select **'Yes'** to add the new shapefile to the view. The shapefile may also be pasted into other views.

Buffering, Unioning, and Intersecting Features

Buffers are user-specified zones around a feature, which allow analysis based on proximity. To create a buffer, select **Theme > Create Buffers** and follow the directions in the wizard.

The Geoprocessing extension is a user-friendly wizard that offers several options for manipulating data. The two used most frequently for the Community Indicators project are union and intersect.

When two polygon shapefiles are unioned, the resulting shapefile contains all features and attributes of the original shapefiles. The intersect function is similar to the union command in that it combines two polygon shapefiles. However, the resulting shapefile will display only the features that are shared between the two input shapefiles. For example, the input theme could be a land use, and the overlay theme the parcels layer. The resulting theme will contain only the parcels that fall within that one land use.

To use Geoprocessing, click **View > GeoProcessing Wizard**, then select the type of process you wish to perform and follow the directions. Each option includes a graphical interpretation of the final product.

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