Mapping Poverty in Alachua County

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URP 4273

To begin, the main goal of our project in order to map poverty in Alachua County was to show the distribution of the population in poverty to identify who they are and what services, if any, they may receive. The purpose of the project is to define and locate areas of poverty in Alachua County. However, defining poverty is not an easy task. There are many meanings that are and can be applied to the term, as well as many factors that go into determining how poverty should be defined. For our purposes, poverty was first defined on the basis of poverty status of families in 1999. Once poverty status was established, it was then used to create a geospatial distribution to highlight areas with high concentrations of families living in poverty so that demographic information and accessibility to services could then be displayed in those areas.

Some basic facts regarding the Alachua County area based on the year 2000's Census Reports are: the area equals 969.12 square miles, 9.8% of which is water; population was about 217,955; population density was 249.31 per square mile; average family size was 2.94; and is currently home to the oldest and largest University in the State of Florida. However, the most important of the facts to note was that Alachua County reported a poverty rate of about 22.8% which was almost twice as large as the poverty rate in the State of Florida, which had a poverty rate of 12.5% (The 2000 U.S. Consensus Report).

The objectives of the project were to identify three different poverty indicators: Economic, Socio-Demographic, and Vulnerability. The first objective, the Economic indicator, was to identify where the poor are geospatially. The first set of criteria used for this objective was the Poverty Status of Families in 1999. This table was used to determine the percent of the total family population in Alachua County that was below the poverty level in 1999. Because the poverty status data was in the format of Block Groups, the table was joined with the Census

Block Group data in order to properly display the poverty data. The join was based on the FID field of the Census Block Group attribute table and the OID field of the Poverty Status table. Our group concluded that this was an appropriate join as the BGGRP_DISV (blockgroup dissolve) field matched the last 10 digits of the GEO_ID (geography identifier) field of the Poverty Status table. Once the tables were joined, integer fields were manually created for the total families and families with incomes in 1999 below poverty level to accurately display the areas with the highest percent of poverty. The resulting map display shows the highest concentration of families in 1999 below the poverty level in Eastern Gainesville and what seem to be areas in and around the University of Florida. These areas have a concentration between 55% and 69% of families below poverty levels. However, it has been concluded that this data around the University may be skewed due to the high student population in these areas.

The second step in determining the Economic indicator was to examine the housing conditions of the areas with the highest concentrations of poverty. The criteria used for this step was based from the Substandard Housing layer. The areas containing low, medium and high levels of substandard housing were chosen to be displayed. Suspected substandard housing units were excluded from the map in order to emphasize the actual substandard housing units. A layer was then created from this data and was positioned over the poverty status map. The resulting map displays the majority of housing to be substandard low or medium in the areas with high poverty rates, with a larger area of high substandard housing in Eastern Gainesville. This map helps to demonstrate where the poor are as far as types of housing conditions they may occupy.

The third step to determining where the poor are was to identify the areas with schools which have the highest percentage of students receiving free and reduced lunches. The criterion used in this step was based on the Lunch Aid layer. A selection by attribute application was used

to identify the schools in which 80% or more of the students are receiving free and reduced lunches. This information helps to emphasize the areas with low income and impoverished families. The resulting map displays Lake Forest Elementary School as having a high amount of students receiving lunch aid which emphasizes the higher levels of poverty in Eastern Gainesville.

After examining the geographic distribution of poverty based on the 1999 Federal Poverty Line, we decided to investigate the racial and demographic distribution across Alachua County to determine the Socio-Demographic indicator. This sort of analysis allowed us to make a rough determination of which races, age groups, and household types were correlated with poverty in our study area.

According to our study, African Americans tend to live in eastern parts of Gainesville as well as in the Pleasant Street/5th Avenue area, where they have historically been a majority. These areas also contain the census blocks which we identified as having some of the highest concentrations of poverty in the metropolitan area. The county's fairly small Hispanic population also appears to live in the same areas as the African American communities, although in smaller numbers. Hispanic populations could also be found in some of the more rural portions of the study area. Meanwhile, whites in Alachua County constitute the majority in much of western Gainesville as well as in unincorporated areas such as Haile Plantation, just west of Interstate-75. By analyzing overall minority distribution relative to the distribution of the white population, one can conclude that minority status is, to a certain degree, correlated with poverty.

We also considered the distribution of the elderly and the very young, to determine if local poverty was related to older age or high birth rates. While the correlations did not appear

as strong, there were higher proportions of residents above retirement age as well as residents below the age of 18 in poorer areas. This, however, may be confounded by the location of retirement communities or by the residential nature of suburban neighborhoods.

Understanding that single mothers frequently face poverty (if only transitory), our group also decided to map the distribution of female-headed households with children. A certain degree of correlation was found between this demographic group and poverty as well.

Analysis of who the impoverished are in Alachua County was also determined by using renter numbers in relation to students. Many residents suffering in poverty are renters or homeless. Our maps showed that the highest density of renters were in the city of Gainesville, in the areas directly around the University of Florida. The student population was overlaid and it became apparent that students were skewing the rental population numbers significantly. With Alachua County claiming close to 23% of the population being impoverished, we looked to determine how many students would meet the poverty requirements based on the income threshold. Since students usually do not bring in significant income and rely heavily on other means of income such as parental support, loans, and scholarships, approximately 86% of these student renters were found to meet the poverty guidelines. After removing this student population from our numbers Alachua Counties Poverty statistics dropped to around 13.9% which was much closer to the national average of around 12.5%. These observations brought a few questions to the forefront of our research. First, we debated if these students who meet the poverty guidelines should indeed be included in these numbers. Second, we wondered if the University of Florida was a potential source or a solution to the poverty problem in Alachua County. The University provides an extremely large economic base to the community. High rates of money and jobs are brought into the area from the school alone. However, many of

these jobs and opportunities are being taken up by students who are willing to work for less money and without benefits.

The next item researched was the density of family units in Alachua County. It is common for minorities to have larger families and many of them are considered to be impoverished. Our maps showed the highest density family units were located on the outskirts of the city of Gainesville. The areas of Hawthorne, East Gainesville, Alachua, and High Springs showed the highest number of people per family units. Based on this data, it was assumed that dorm living and the higher density units of students around the University were not included. These areas affected were consistent with other maps and research we looked into.

Furthermore, the State Housing Initiative Program (S.H.I.P.) was researched and analyzed through GIS. S.H.I.P. is a program through which the state of Florida channels funds to counties and municipalities across the state for the purpose of enabling increased numbers of eligible individuals and families to enjoy homeownership. Basically, the S.H.I.P. program is a down payment assistance program that allows people a certain amount of money based on an income guideline table. Participants are allowed to purchase old or new homes and even some that require rehabilitation. Since this program does not only help people who are impoverished it was a debatable layer to look into but we found that the highest numbers of citizens who were helped by this program happened to be in the same areas where we were finding the poor based on other criteria.

The next step in the project was to determine the Vulnerability indicator which displays the assistance and amenities the poor have access to. In this portion of the project we had already figured out where the poor are located and who they are. It was important for us to find

out what services were available to these people and, more significantly, what kind of assistance were they in close proximity to?

One point to consider while looking at this information is why these assistance services are located where they are. Is it because the poor are in these areas or possibly have the poor moved to these areas because of the services available? When looking at the poor's access to assistance services, the key layers in GIS chosen to observe this information included Assisted Rental Housing, Assisted Food Services, Medicaid providers, and Bus Routes.

The goal of the first map was to create a simple diagram of Alachua County that contained the Municipalities layer and some other basic layers such as Major Roads and Lakes. This map gives the audience a feel for where the major cities in Alachua are located. By doing this it becomes apparent that Gainesville is the largest municipality, but some other smaller ones exist such as Newberry, High Springs, Alachua, Archer, and Waldo.

The next step in this portion of the project involved showing where the key GIS layers listed above were located. This was done by selecting each of the Assisted Rental Housing, Assisted Food Services, Medicaid providers, and Bus Routes layers one at a time and making selections for each of them. Multiple layers were used to base selections on, but the tax parcels layer worked out the best due to its amount of detail and small area selections. Selections based on location from the tax parcels layer were then made. Any tax parcel that was located within one mile of the assistance services layers mentioned above was selected. The one mile buffer was chosen because it seemed like the maximum reasonable distance that a person would walk to access one of these services. Once all of the individual maps were created that showed the

assistance services available, they were overlaid into one map that showed the densest areas of services available to the poor.

These maps indicated that Gainesville had most of the services available to the poor and was the only municipality that had access to bus routes. The other major municipalities had access to at least some of the other services except for the RTS bus routes. When overlaying the assisted services layers with the poverty status layer, it became apparent that the poor do have access to assistance services. The poorest areas are in Gainesville and the most services available are in Gainesville as well. The only thing that is not certain is if the poor are in Gainesville because of the assistance available or if the assistance is there because of the poor. To answer this question would require more time and data.

Furthermore, when looking at amenities, certain factors had to be considered when selecting what data to use in the project. These factors consisted of cost, necessity, benefits, and morale. For cost, the issue was whether the amenities were free or cheap. For morale, the issue was whether the amenities would enhance the morale of the person using them. After looking through the available data, the selected amenities consisted of public libraries, parks, lakes, public swimming pools, trails, religious centers, the RTS bus service, and thrift stores. The free amenities consisted of parks, lakes, trails, libraries and religious centers. The cheap amenities consisted of the RTS bus service, public swimming pools, and thrift stores. There were special selections made from the parks, libraries, and swimming pool data. The libraries selection has the local University libraries removed. The park selection consists of the publicly accessible parks. The swimming pool data eliminated all of the apartment complexes with swimming pools to show just the Alachua County YMCA centers with swimming pools.

In order to use this data, it was important to compare where the amenities are in comparison to where the poor are. This was used to determine how accessible the amenities are to the impoverished population of Alachua County. After simply looking at the maps of amenities, it can be seen that, aside from the city of Gainesville, there are scattered religious centers, libraries, parks, lakes, trails, and even fewer thrift stores. After zooming in to the city of Gainesville, it can be seen that the amenities are more plentiful then the rest of Alachua County. More importantly, Gainesville is the only city in Alachua County with a bus service. It is the bus service that enhances the accessibility of nearly every amenity in the city.

The RTS bus service drives along numerous routes that weave throughout the city. Although a transfer or two may be necessary to get from one place to another, it is possible to get from one end of the city to the other with the possibility of some walking time. When looking at the Gainesville amenities map, if one did not care to walk very far, there are amenities located all along bus routes. With the ideal locations of these amenities in Gainesville partnered with the bus service, the Gainesville poor do in fact have accessible amenities.

The implications of this project are far more reaching than just Gainesville. With the bus service and high volume of amenities and services available to the poor, the rest of Alachua County is missing out. It is necessary to look at the growth trends of the Gainesville poor as well as when certain amenities were founded. Then, using this information as a source, it should be determined if Gainesville's impoverished population is growing. If so, are poor from other areas moving to Gainesville because of the local services? Is the poor population growing for other reasons? Is more money being used for the Gainesville poor and therefore, leaving the rest of the county's poor in a more difficult economic situation? These are all questions that should be

answered in order to understand not only where and who the poor are but why they are there and

how to better assist them.