Building a Sustainable Community in Alachua County

Location of Suitable Sites for Three State-of-the-Art Women and Children Community Centers

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URP4273 - Survey of Planning Information Systems

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1 Main Goals

The main goals for this project are to:

- Identify areas within Alachua County where children are most likely to need a "safe haven" from various domestic issues.
- Analyze population concentrations to determine where a community center can positively affect the most people in need.
- Assess income distributions regionally to find areas where monetary support is the least probable.
- Provide locations for the three community centers.
- Visit locations to qualitatively assess the results from analysis.

2 Background

Alachua County, Florida, is home to over 50,000 residents living under the Federal Poverty Level (FPL). Additionally, roughly 1,200 of these residents are deemed homeless. Domestic disputes, sex offenders, and poverty plague neighborhoods across Alachua County.

Consequently, over 8,000 of the residents living below the FPL are children. Several of these children are living in homes with unsafe conditions due to domestic issues, while several others children are living without a permanent home at all. These children need a place to go to protect themselves from domestic issues and child neglect, especially when they have no money of their own and their parents cannot provide for them. Similar to libraries, they need a place where they can feel safe at and call home during times when otherwise they feel neglected.

Although libraries and schools are both considered "safe" zones from a government standard, children may have a poor sense of trust in these types of entities for several reasons. A community center has a greater sense of invitation, as it is a center not only for community food and shelter, but also for mentorship, art, play, knowledge, and several other features.

3 Scope and Area Characteristics

The area being analyzed is Alachua County, located within the State of Florida. Municipalities in this area include: Gainesville, Alachua, High Springs, Newberry, Hawthorne, Waldo, Lacrosse, Archer, and Micanopy. Gainesville is home to an overwhelming population when compared to the other municipalities. Additionally, several assisted and rental housing establishments exist across the county, especially near Gainesville.

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Alachua County is also home to the University of Florida. Located in the heart of Gainesville, this university covers several acres and is in attendance by over 50,000 students, many of whom only live within the city limits temporarily.

The demographics of this study is children aged between the years five and fourteen. This is because of the fact that census data splits children counts into categories up to 15 through 19. Because of the potential that this data set will include students at the University of Florida, it was removed from analysis.

Other

4 Objectives

Using ArcGIS, a software used to geographically analyze data sets, the following steps were administered during analysis:

- Use population sets and find areas where high child concentrations exist
- Create map showing general areas containing high numbers of domestic crimes
- Find existing "safe" zones currently available for children
- Select three general locations suitable for the site
- Select parcels designated as "vacant non-residential" within the general locations
- Use parcel area and cost data to designate a single site within each general location
- Visit specific sites and quantitatively analyze suitability of selected sites

Following these steps, the group able to identify locations situated across Alachua County that were suitable for the community centers.

5 Methodology

The methodology of this project is a step-by-step procedure using several data sets to create different maps. These maps were overlain on each other to find areas where either desirable qualities are met or undesired qualities are avoided.

The first map created is a crime density map. The crime density map serves to display areas where the potential for various family-oriented offenses can occur. It should be noted that this map is created from a data set containing several different types of crimes.

The next map created is an avoidances map. This map consists of ring buffers with a one mile radius surrounding schools, because schools are considered "safe" zones by governments. Essentially, the group feels that it would be unnecessary to situate a community center directly

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adjacent to a school. The school is a place for many of the ideas a community center seeks to offer, and it would be a waste of resources to set them close together. Additionally within the avoidances map is a density of registered sex offender data. The polygons created by the density function show a gradient of areas where there are high numbers of registered sex offenders. The group felt that, in an effort to make the community center as inviting as possible, it was necessary to select locations that are away from areas where several sex offenders live.

The next map is a density map for assisted and rental housing. The purpose of this map is to create an area where several rented and assisted housing places exist. The reason for this is that tenants of these housing places often times are in need of assistance that a community center can offer.

Overlaying the above-mentioned maps shows areas that can quantitatively be determined as feasible or unfeasible by the group's standards. The group found three general locations that they named by location in relation to the City of Gainesville.

Using a land use map specifically showing areas that are vacant non-residential use, three specific sites were chosen for each area, and then a single site was selected based on cost and size data.

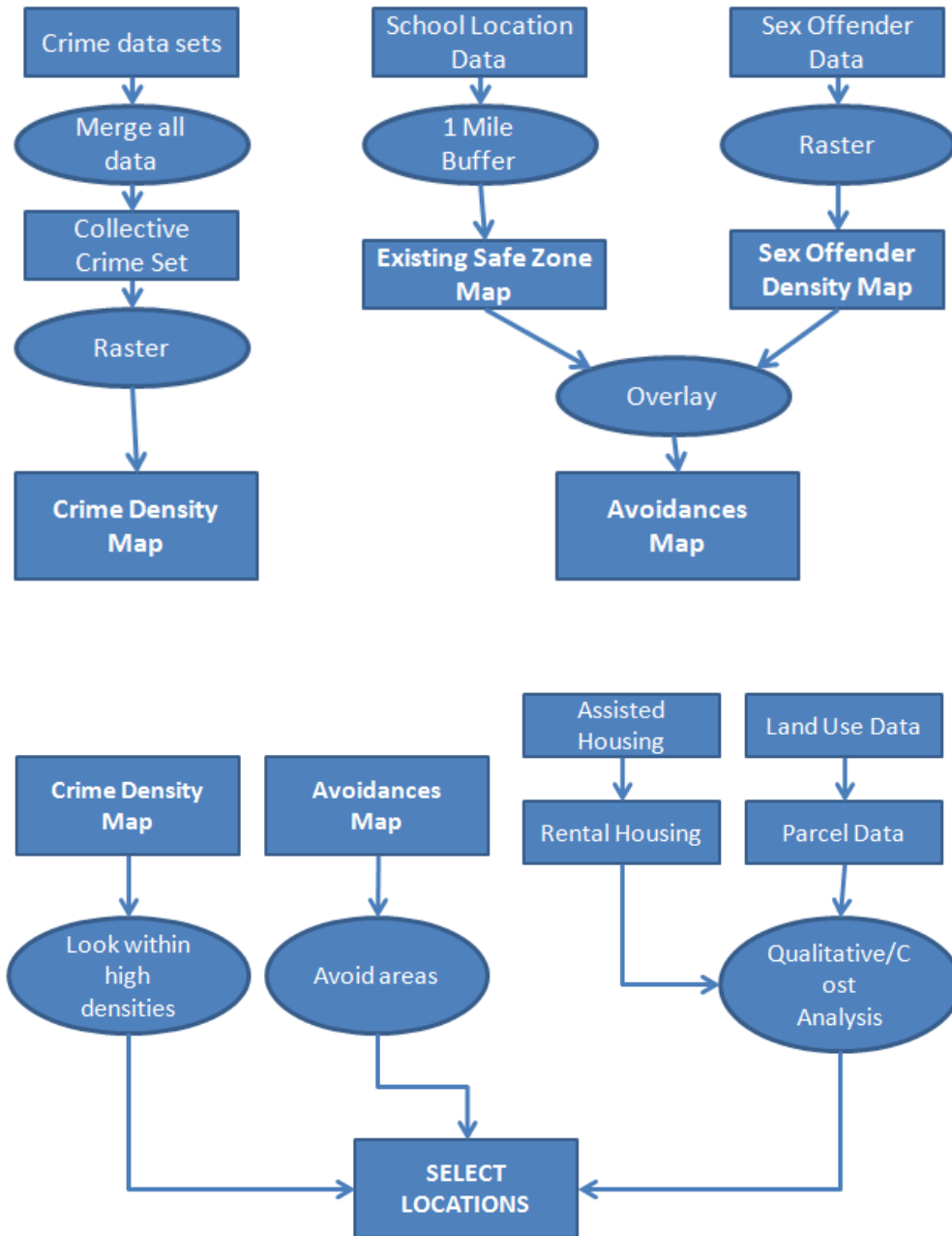A flowchart of the methodology is shown in Figure 1.

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Figure 1: Flowchart of Analysis Methodology

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6 Results and Discussion

6.1 Population Concentration

From the population concentration data, it was observed that the population concentration of children across the county was relatively uniform. Based on this observation, the group decided to remove distributions of children from its analysis. A sample map of the children distributions are shown in Figure 2.
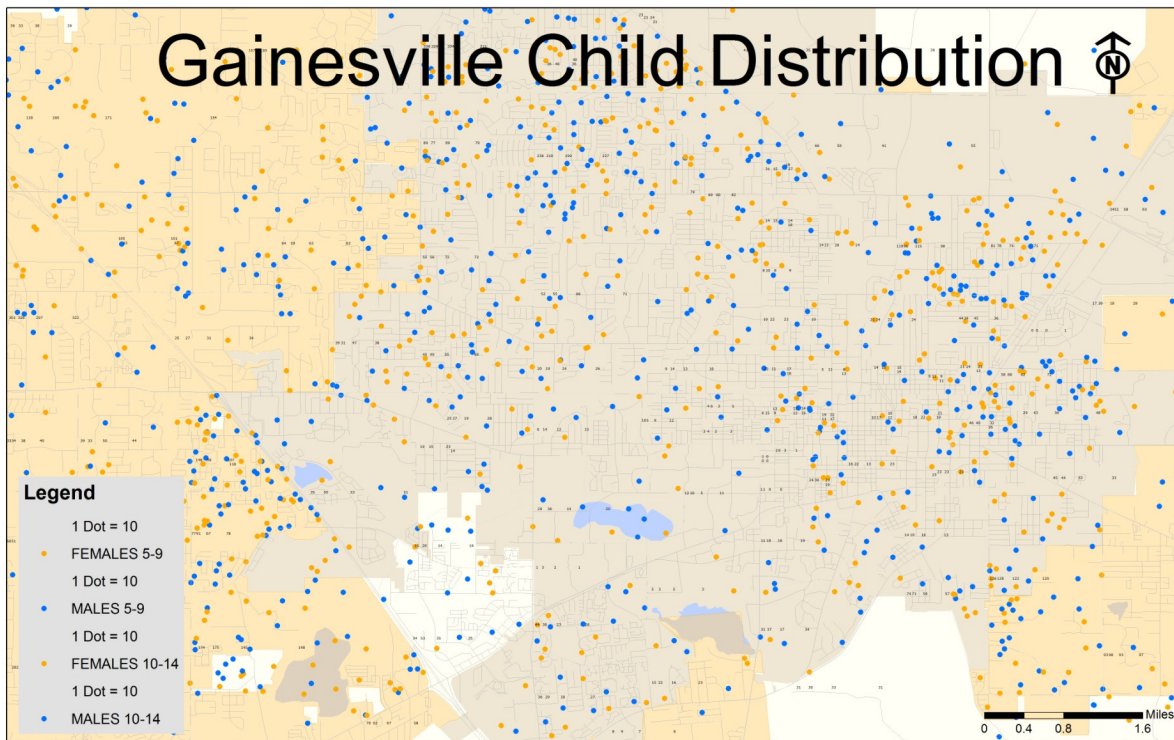

Figure 2: Gainesville Child Distribution

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However, using the municipalities data set, it can be shown that the municipality of Gainesville encompassed an overwhelming majority of the population of Alachua County. Because of this realization, the group chose to limit its analysis to in or adjacent to the City of Gainesville. A map of Alachua County and its municipalities is shown in Figure 3.
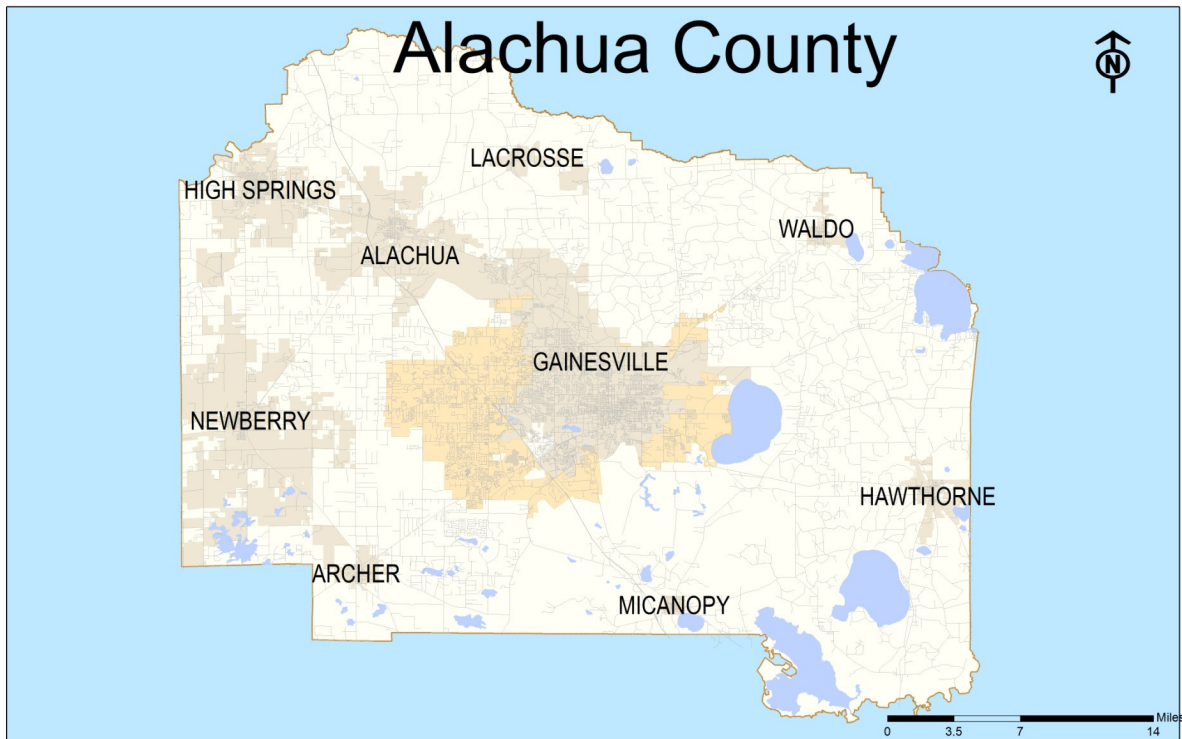

Figure 3: Alachua County Area Map

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6.2 Crime Density

As previously stated, separate studies have repeatedly shown that crimes such as domestic violence, child abuse, child neglect, and family offenses are all inter-connected. By this logic, it can be assumed that a single incident at a home is indicative of potential for another of a different type. Because of this, the group decided to merge all of its data on these crimes together as a single data set. Using this data set, a density map was created to show areas where high crimes exist across Alachua County. The crime density map is shown in Figure 4.
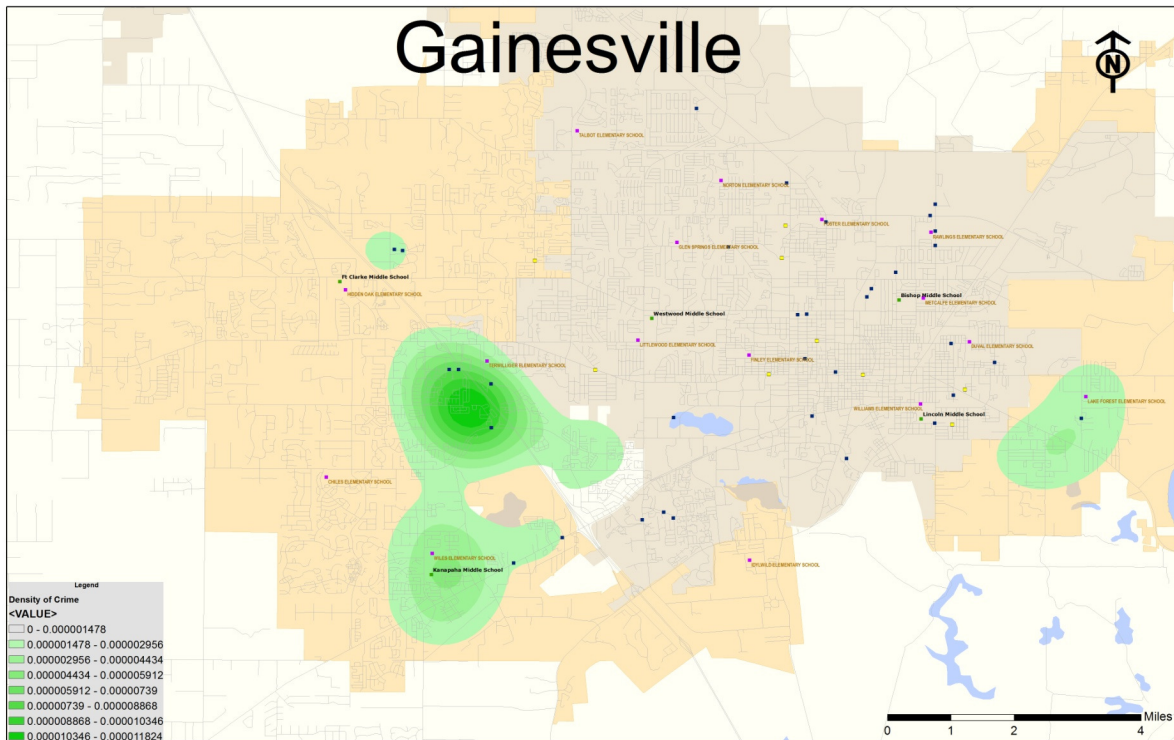

Figure 4: Gainesville Crime Density Map

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6.3 Avoidances Map

The avoidances map was created from sex offender data and from school data. The black rings are the buffers surrounding school zones and the red areas are a result of the density function of sex offender data. The ring buffers appear to be relatively large, however they are only a one mile radius each. This assumes that a child is willing to walk approximately one mile to a community center. Very few areas within Gainesville do not fall within the one mile buffer, so it was difficult to find an area completely outside of the buffers. The avoidances map is shown in Figure 5.
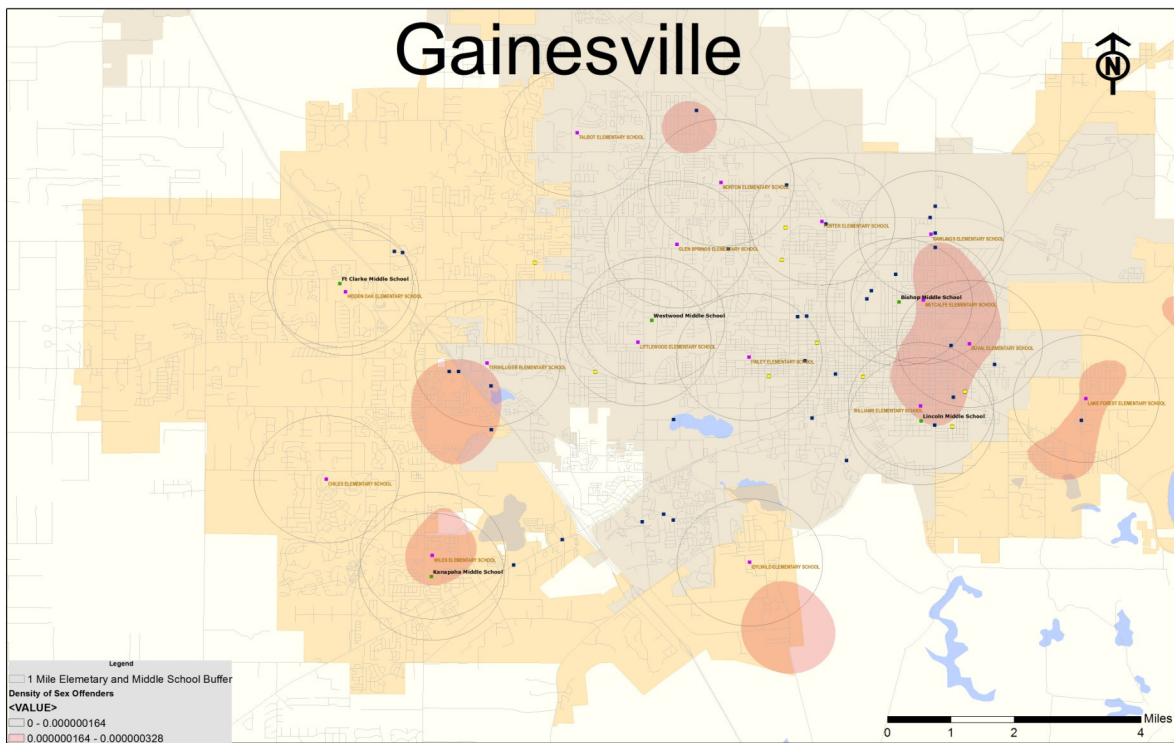

Figure 5: Avoidances Map

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6.4 Assisted and Rental Housing

By creating a density map from the assisted and rental housing data, it was shown that there are areas with a high concentration of these types of housing establishments. The map gave the group a good understanding of areas where there is a lot of need for a community center. This data also served as a good substitute for actual population distributions, which are very difficult to analyze. The assisted and rental housing map is shown in Figure 6.
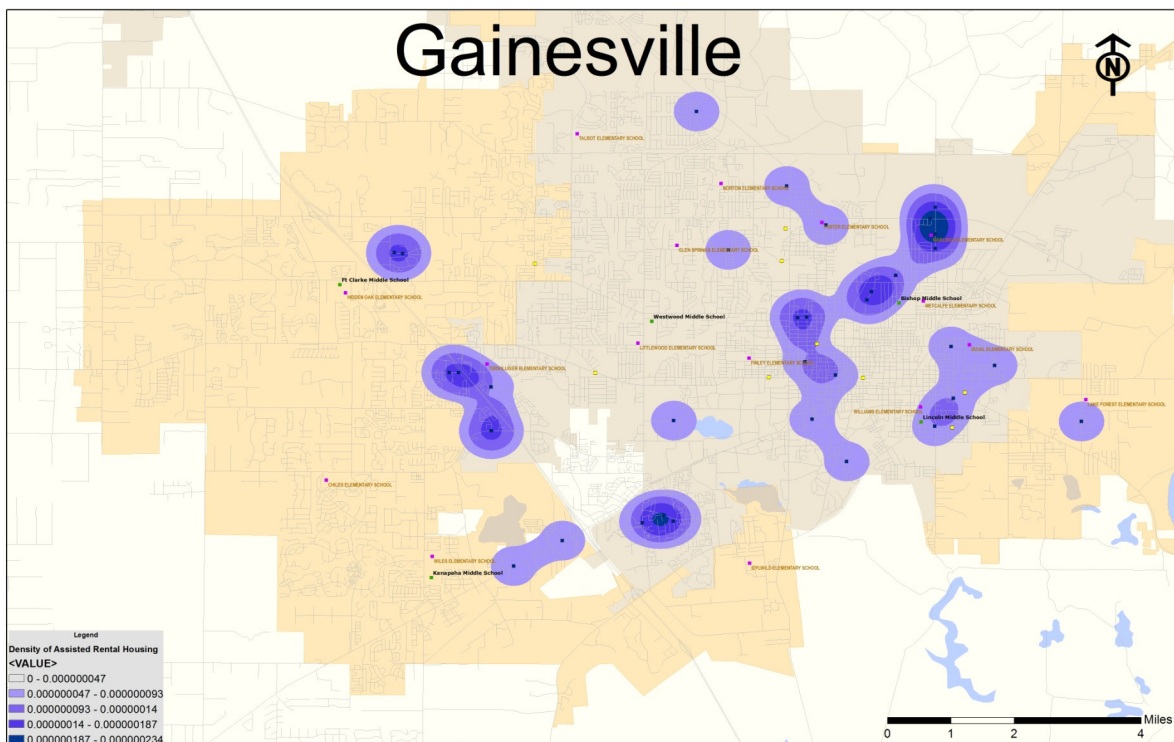

Figure 6: Assisted and Rental Housing Map

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6.5 Land Use/Parcel Data

The existing land use data showed an extremely wide range of land uses across Alachua County. With the group's prior knowledge of the development review system of Alachua County, we decided that the best land use to build a community center on would be vacant non-residential. We decided on this land use for several reasons:

- No cost for demolition of an existing building
- Will not be building on a person's personal property and therefore will not need to begin the eminent domain procedure
- Ease of altering land use to a mixed-use if necessary
- Typically cheaper land than what is already developed on

The existing land use map, which only displays parcels that are vacant non-residential, is shown in Figure 7.
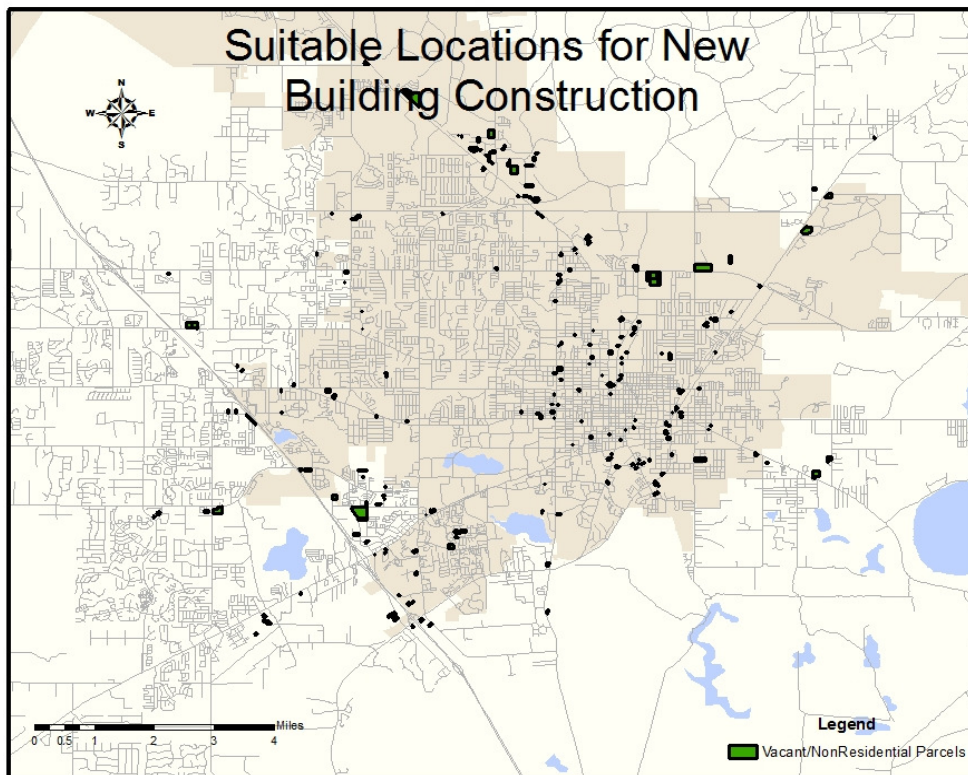

Figure 7: Existing Land Use Map

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6.6 Site Selection

When each map is overlain into a single map, several different areas are shown. By looking within desired areas and outside of the avoidances, general areas can be selected. With this map, three general areas were chosen and named based on their location in accordance to Gainesville. They are known as the northeast (NE), southeast (SE), and southwest (SW) locations. A map showing each previous map overlain is shown in Figure 8.
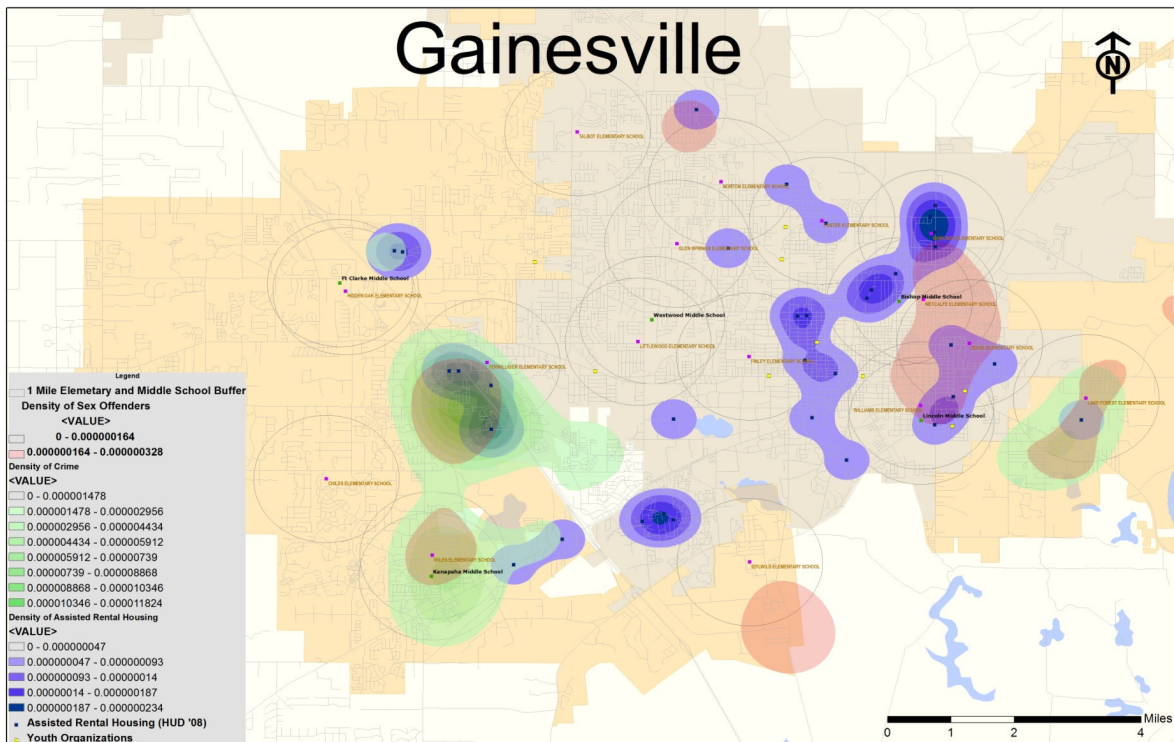

Figure 8: Overlain Layers Map

6.7 Selection of Specific Sites

Each location had a single site chosen for the site of a community center. The minimum necessary size for the location was determined to be approximately 0.75 acres, which corresponds to over 30,000 square feet. This amount of area will allow for a good-sized two-story community center with a small parking lot for employees. Additionally, each site was visited to determine its feasibility quantitatively.

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6.7.1 Northeast Site

The northeast site is a large area with approximately 18 acres. However, its value is estimated at merely $272,000, which could serve as a good investment in the future. This large plot of land can be subdivided and what is unused can be sold for commercial suit to promote building around the community center. This site is located along State Road 222/39th Avenue. A zoomed-in view of the site is shown in Figure 9, an aerial view of the lot is shown in Figure 10, and a street view of the site from the adjacent street is shown in Figure 11.
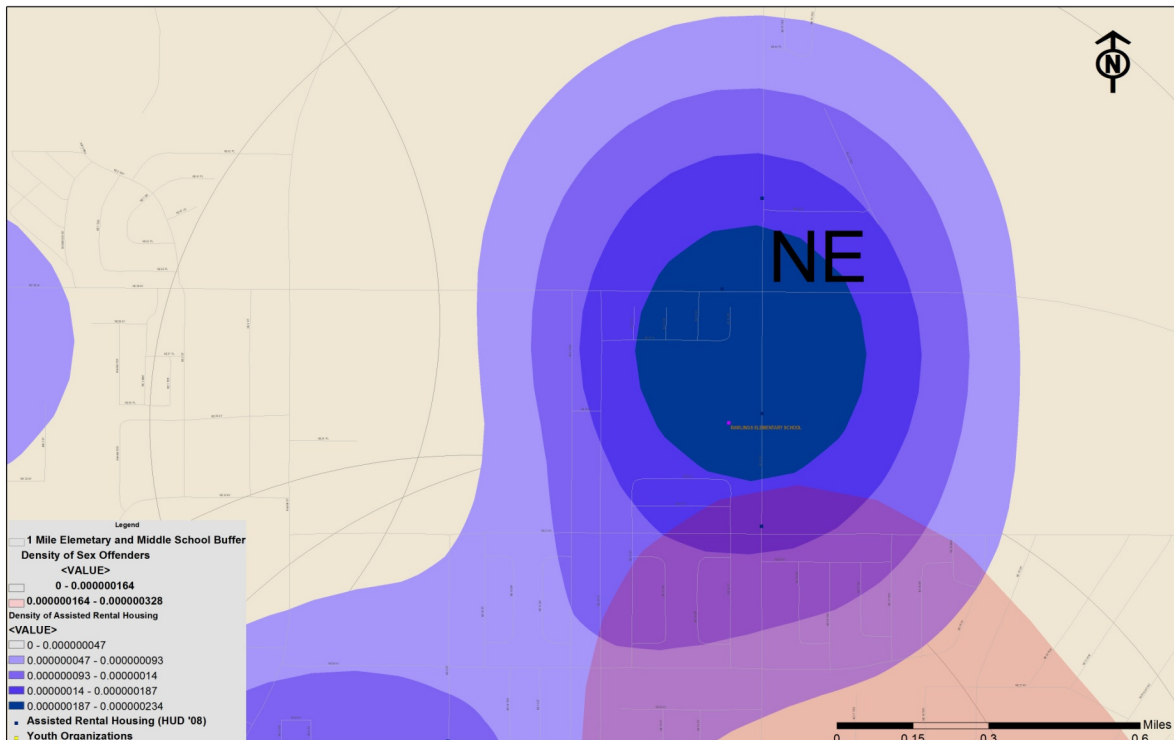

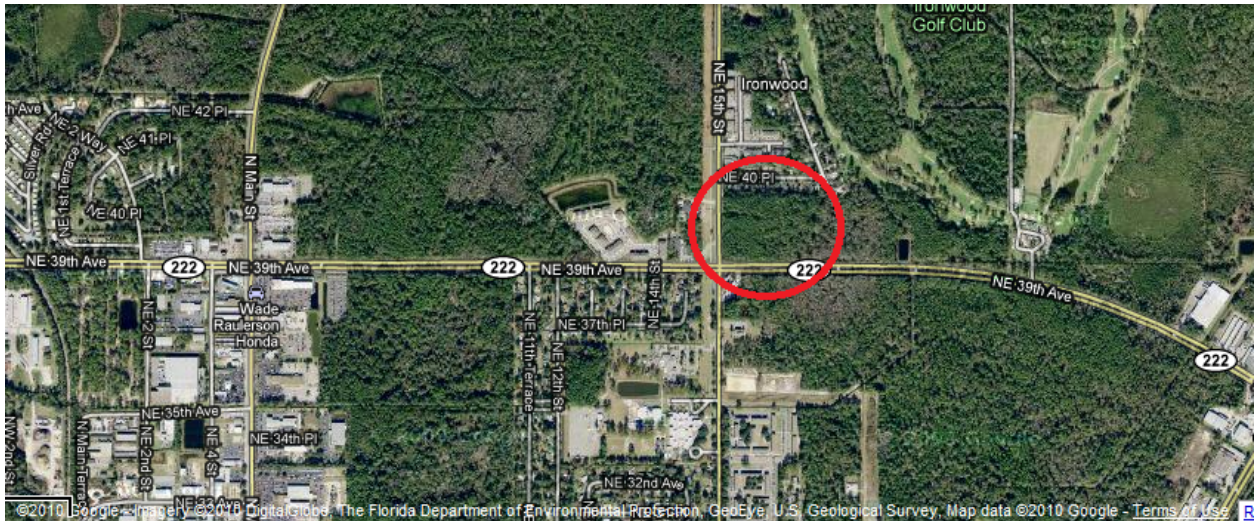**Figure 9: Northeast Location – Analysis View**

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Figure 10: Northeast Location – Aerial View

Figure 11: Northeast Location – Street View

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6.7.2 Southeast Site

The southeast site is approximately 1.1 acres. Its value is estimated at approximately $74,000. This site is located directly adjacent to the Alachua County Sheriff's Office, which can provide an extra sense of safety and accessibility for children who seek refuge at the community center. This location is situated along State Road 20/Hawthorne Road. It also is nearby several residential communities. The analysis view, aerial view, and street view are shown in Figures 12, 13, and 14, respectively.
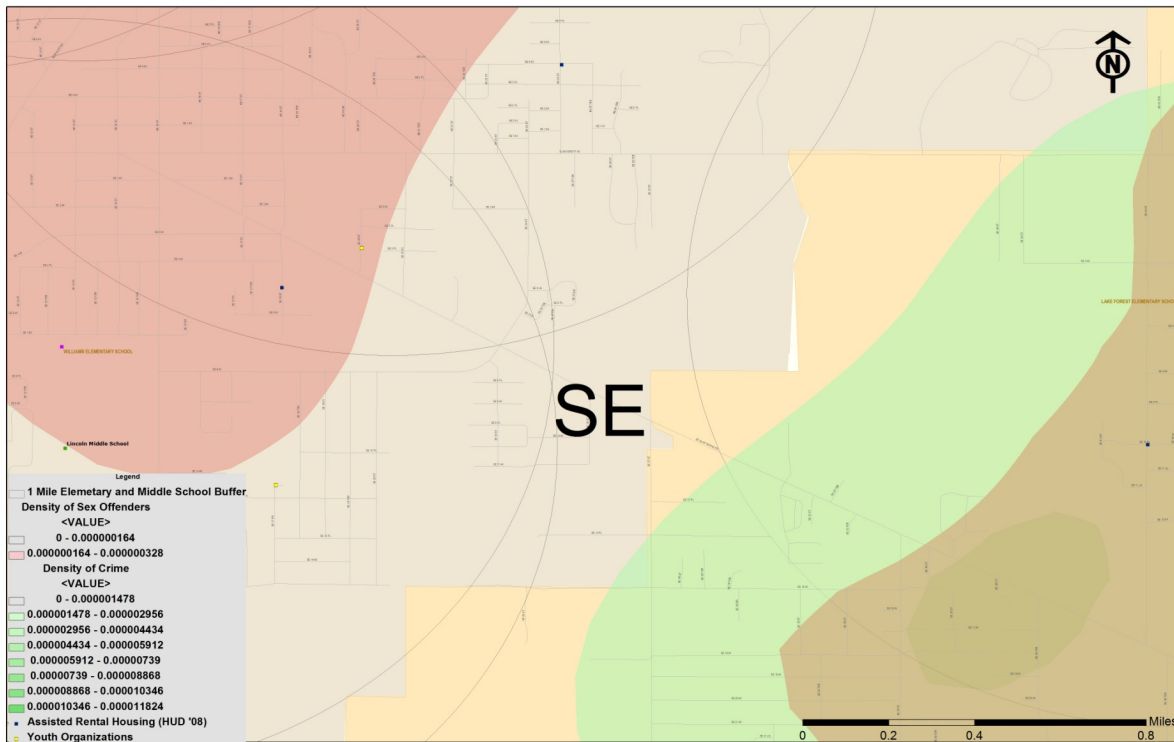

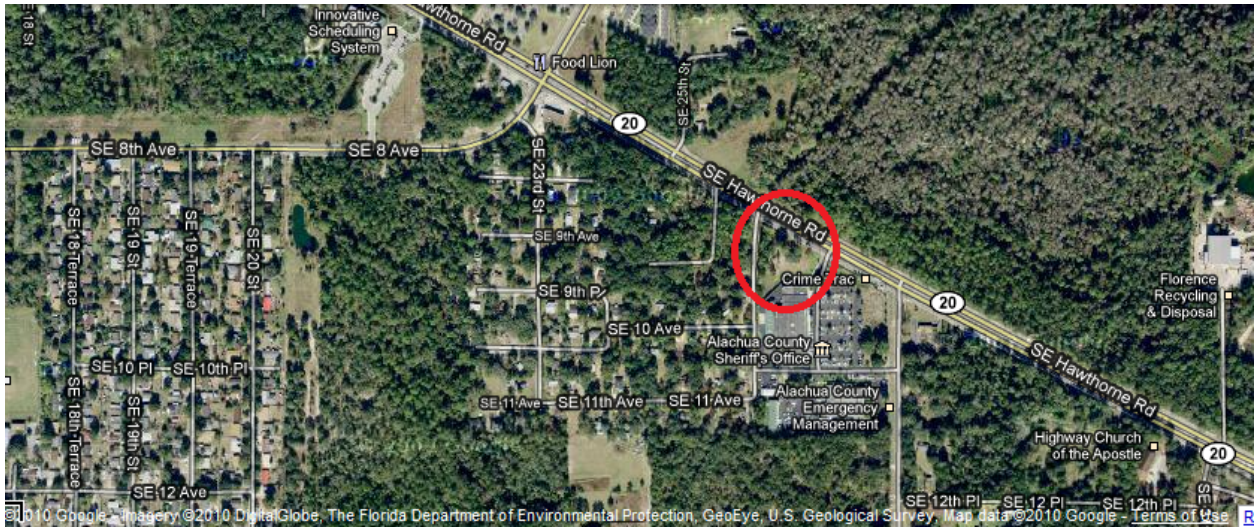**Figure 12: Southeast Location – Analysis View**

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Figure 13: Southeast Location – Aerial View

Figure 14: Southeast Location – Street View

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6.7.3 Southwest Site

The southwest site is possibly the most critical site found by this analysis. It is the smallest area at 0.76 acres, and it is valued at approximately $115,000. This area, as shown by the figure below, is within the largest density of both crimes and of assisted and rental housing, making it the most critical by the group's analysis. This site is adjacent to commercial areas, however it is across the street from several residential communities. It is located on West University Avenue. This location also currently is serviced by a Regional Transit System (RTS) bus route. The analysis view, aerial view, and street view are shown in Figures 15, 16, and 17, respectively.
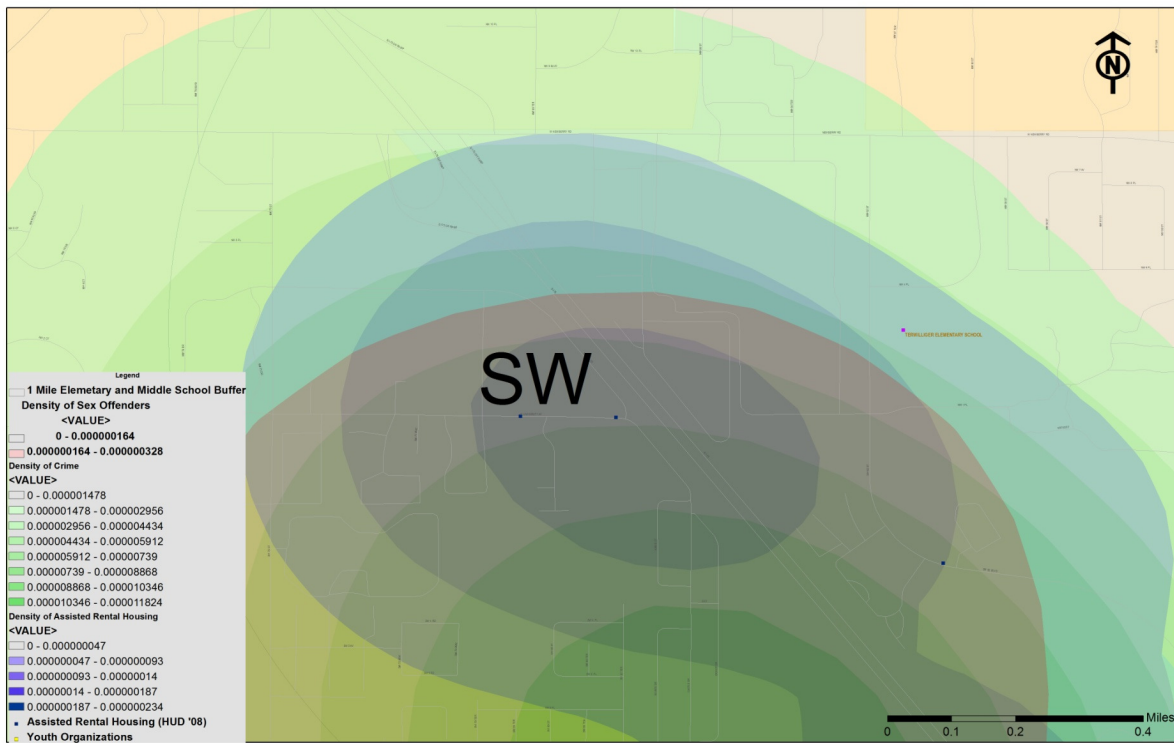

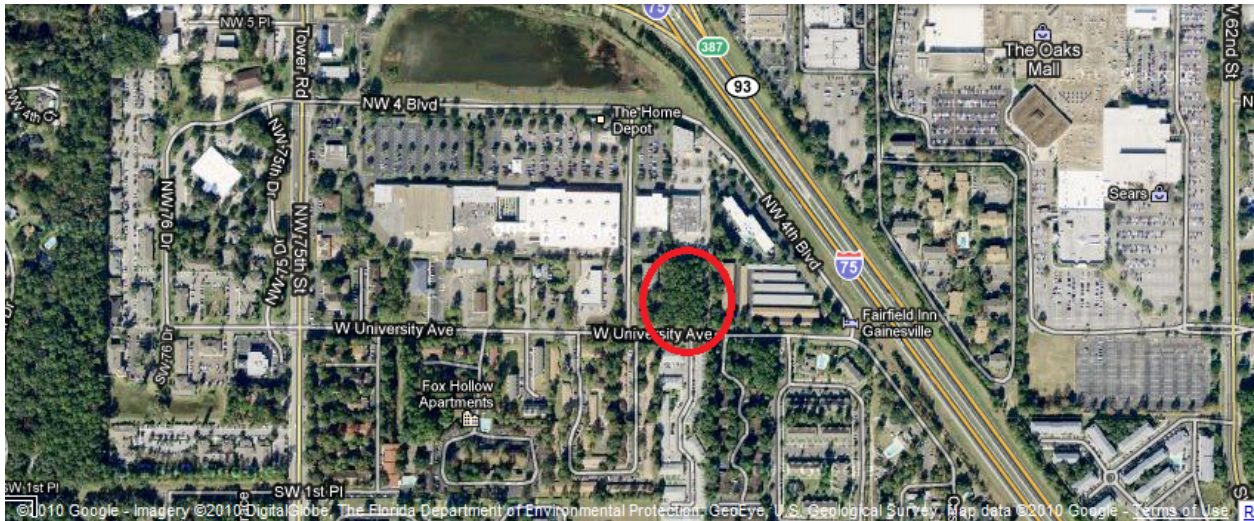**Figure 15: Southwest Location – Analysis View**

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Figure 16: Southwest Location – Aerial View

Figure 17: Southwest Location – Street View

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7 Conclusion

The three sites for community centers for women and children, as previously described, are vital to the general public and will ensure the general well-being of the City of Gainesville and Alachua County. These sites are cost-effective, and also will serve as an excellent "safe haven" for children seeking refuge from their home life. The assisted and rental housing data served as a very good substitute for actual child distribution data and also for income distribution data. Each site is accessible by a large number of women and children.

Continuous funding and exposure is important to the success and prosperity of these community centers. Without knowledge of these places, women and children will not become aware that there actually are places they can go where they can feel safe and secure. Also, public knowledge is important to continue good funding into the community centers and the services they provide.