Youth Crime, Restorative Justice, and GIS - Lee County, Florida

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Abstract

The Lee County Department of Human Services (DHS) is using GIS to analyze underlying geographic relationships of *youth crime*, to monitor *recidivism*, and to design more effective youth crime *prevention* programs. DHS is a leader in *restorative justice* programs which restore victims as well as perpetrators utilizing community-based accountability boards. DHS is going beyond recording and mapping crime by Uniform Crime Reporting (UCR) category and incident location. DHS GIS Projects display the socioeconomic settings and patterns of activity of the offenders themselves. This local focus is a natural complement to national efforts such as the *"maps"* website and juvenile justice programs of the Department of Justice. The success of DHS community-based youth programs depends on cooperation of many organizations including 11 separate law enforcement agencies. Department GIS Map Projects of Offender Demographics and Youth Crime Patterns and Recidivism are unique and valued tools supporting multi-agency collaboration.

GIS Preface

The Department of Human Services (DHS) of Lee County Florida is working with collaborators on a major study of Youth Crime programs. GIS is one of several research and presentation tools utilized in the study. This paper refers to one segment of the larger study. In this segment, DHS and the Florida Department of Juvenile Justice are using GIS to geographically relate data from the records of numerous participating law enforcement agencies to background demographic data maintained by the Department.

The Lee County GIS system operates under licenses for ESRI ArcGIS, ArcIMS, and numerous extensions. County staffs access a well-established GIS system with over 350 active feature layers. DHS has previously released a 2004 paper (*Human Services Delivery with GIS, Initial Steps*) showing GIS collaborations with Health, Public Safety and Housing agencies and a 2005 paper (*Disaster Preparedness for Human Services, A GIS Vulnerability Index*) showing GIS Disaster Recovery planning.

(*Human Services Delivery with GIS, 2004*)

Background: The Youth Crime Study and Restorative Justice
The Department of Human Services (DHS) is collaborating in a multi-year study (Study) of programs responding to Youth Crime. This study is being conducted by researchers at a local college working with support and data from a consortium, the Juvenile Assessment Council, of concerned agencies. Council agencies include the Lee County Sheriff, local police departments, the Fort Myers Juvenile Assessment Center, the Florida Department of Juvenile Justice, as well as DHS and Southwest Florida Addiction Services Inc. The *Study* objective is the identification of the impact and relative effectiveness of youth jail diversion programs and the overall *Council* goal is effective Youth Crime Prevention and reduced Recidivism of youth offenders.

Restorative Justice programs focus on the harm done to victims, on repairing the harm, and on assigning responsibility for the repair to the offender. *Accountability Boards* bring the *community* into the process. Boards bring together neighborhood stakeholders, the juvenile offender and parent(s), and the victim(s) to develop a Case Plan to repair the harm through community service and/or financial restitution. Lee County Department of Human Services staff administers these boards in Lee, Collier, and Charlotte counties.
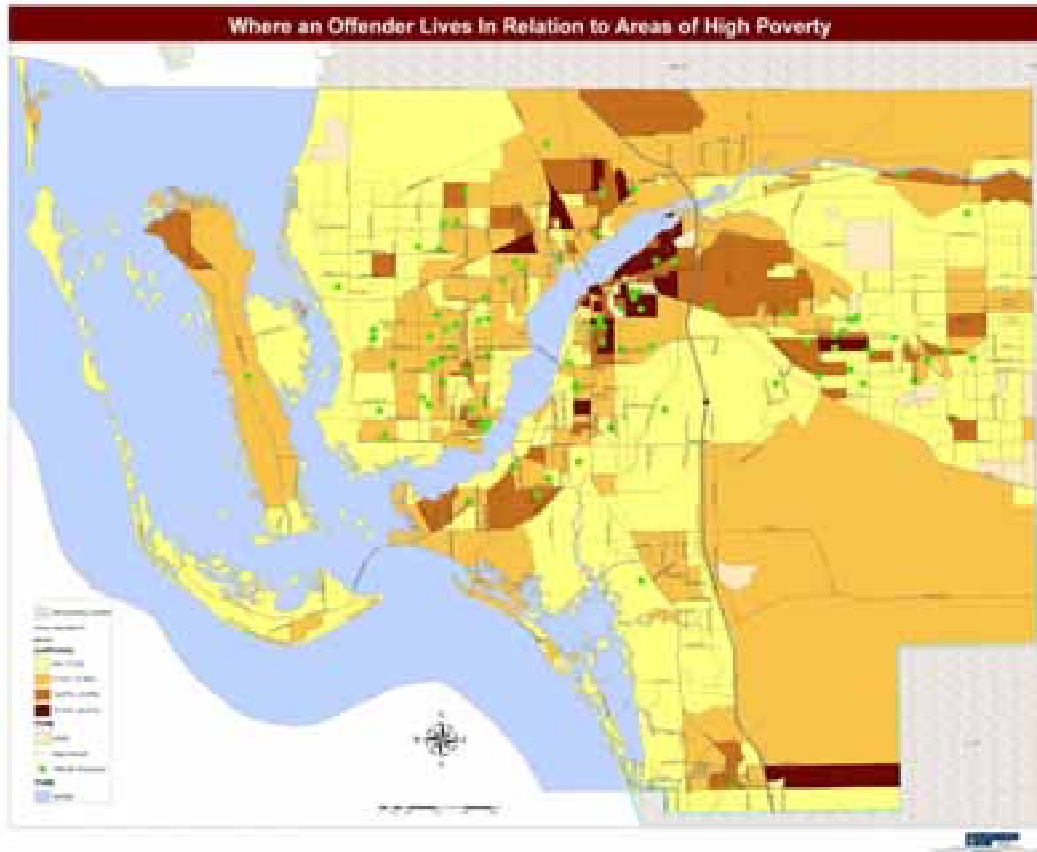
GIS and Lee County Restorative Justice Programs for Youth.
Initial GIS activities are accessing the databases of the partnering agencies and generating Map Projects to provide a common base of understanding for researchers and program designers. Maps display countywide conditions and suggest areas for in-depth study. GIS will be used in later stages for analysis and display of specific study themes.

Specific databases initially being accumulated are: *Youth Crime Locations, Youth Crime Arrestee Residence Location,* and *Youth Crime Recidivist Residence Location*, along with agency *Jurisdiction Geography* shapefiles. Acquisition of comparable data from the several agencies is a major task and data acquisition is not complete at this time. Some map projects from initial data available have been assembled and are discussed here. Initial projects show countywide data – usually at the census *block group* level.

Initial GIS Analysis 1: Youth Crime and Background Demographics
One initial study is the analysis of the locations of youth *offender residence locations* against the background of known demographic factors.

Offenders and Poverty[1]

Analysis 1 - Initial Findings
Early indications are that the relationship of offender residence with geographic concentrations of poverty is not as direct as expected. A possible hypothesis is that working poor have a relatively greater risk of children slipping into crime.

[1]*(The maps of this paper are generated from the actual Map Projects in use. Offender residence privacy is not required in most cases; however, the map illustrations of this paper mask specific residence location.)*

Initial GIS Analysis 2:   Distribution of Youth Crime and Offender Neighborhoods

One of the areas of particular interest to the researchers is the potential relationship between youth *offender residence* locations and the *locations of the crimes*.   The following map begins this investigation and shows a simple array of offender residence locales and crime locales.

Youth Crime Locations and Neighborhood of Offender

Analysis 2 - Initial Findings

This map reinforces the geographic diversity of locations shown in the previous illustration. The geographic spread of locations derived from an early dataset of random cases may well maintain when the final larger set of data is mapped. If so, this will highlight the challenge of effective resource allocation over a large area. An obvious progression from this display is the analysis of any correlation between individual crime incidents and the associated offender's residential location. A sample of such an analysis follows.

Initial GIS Analysis 3: Crime and Proximity to Residence – Sample Case
An analysis was done of the residence locations of multiple youth offenders who had committed crimes at a single site, a Retail Mall. The preliminary display from this analysis is illustrated below. Note again that the Map Project at this point utilizes a limited dataset of case records. The final broader universe of cases will add to the picture.

Residence Proximity to Crime Location – Mall Case

Analysis 3 - Initial Findings.
Early indications are that offender residence proximity to the crime site does not appear to be a factor in the case of crimes in retail centers. While this is was not unexpected, the GIS analysis helps authenticate and illustrate the finding. GIS analysis of crimes committed in residential settings is expected to show a correlation with residential proximity. This latter analysis awaits compilation of the final dataset from records of all participating agencies.

Future Developments
As noted, GIS work is in an initial phase concentrating on generating baseline information for Study researchers and collaborators. Later GIS work will support in-depth studies into specific programmatic approaches and their impact. Readers interested in further information on the GIS processes or the Justice Program findings of the Study, as finally published, are welcome to contact the authors (see below) to be placed on the distribution list for the final document.

Acknowledgements and References
The Lee County Board of Commissioners, County Administration, and Karen Hawes, Human Services Director, have given unqualified support for research and planning in GIS for human services delivery. Amy Hoyt and Hunter Wynne serve Lee County as GIS Administrators and their ongoing assistance is acknowledged and appreciated. Data for the initial map projects illustrated comes primarily from case records maintained by the Department and demographic layers previously developed from Census data.

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