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Final GIS certificate Project: Single Parent Housing Issues and Solutions through King County Service Data

The theoretical foundation of my project is based on the long term issues associated with single parents and housing. The purpose is based on three elements for positive child development; satisfied intrinsic needs such as shelter, food¹ and effective parenting. To develop the purpose of this project, I will expand on the parent, child and community development benefits to single parent housing in Seattle and the White Center area, with close proximity to social services. To do so I will elaborate the planning process in developing my map, with results intermixed within the purpose of the project and the planning process. In finishing this portion of the project, my critical analysis will include further research required for grant writing and detailed representation.

Steven Matthews, James Detwiler, and Linda Burton asked a pertinent question in their analysis of ethnographic methods in Urban Research. "How do we measure neighborhood or context?"² My response to that question is, 'through the demand of services and supplying housing in proximity to those services for almost 1/3 of the households in King County'.³ The shape of current housing issues is the social and physical force behind using GIS to spatially capture solutions.⁴ I targeted single parents as a group that are in need and will respond positively to the benefit of stable housing.⁵ The context is established by the growing numbers of children raised in material deficiency through housing and health needs with long term consequences. Mixing methods of quantitative infrastructure and services with

¹ (Berger, Heintze, Naidich, & Meyers, 2008) Subsidized Housing and Household Hardship Among Low-Income Single Mother Households

² (Matthews, Detwiler, & Burton) Geo-Ethnography; Coupling Geographic Information Analysis Techniques with Ethnographic Methods in Urban Research

³ (Chrisman) More than Just Social Implications of GIS

⁴ (Chrisman) (Sheppard) Knowledge Production through Critical GIS: Genealogy and Prospects

⁵ (Townley, Kloos, & Wright, 2009) pp527 Understanding the Experience of Place; Expanding Methods to Conceptualize and Measure Community Integration of Persons With Serious Mental Illness

qualitative purposes, so that a more “fluid human world can be represented and better understood.”⁶
This is preventative planning for our future generations with the use of GIS.

Gathered census data of King County show that 27.9 percent of households contain children of single parents.⁷ Often single parents are younger and have a limited education,⁸ creating a lower income in employment. The largest factors in parenting hardship is the ability to pay rent on a lower income, maintain a healthy living standard and still provide the necessity of healthcare, food and activity for children. This is considered a material disadvantage⁹ and “[L]one parenting is associated with risk of health, educational problems, antisocial behavior and poor educational outcomes.”¹⁰ These factors contribute to a lower quality of parenting.¹¹ Housing specific to single parent needs can quite possibly create a material advantage for children, breaking a cycle that is associated to physical, emotional and structural need. Through housing subsidized specifically for single parents, time and income can better serve the child. This increases the possibilities for a more positive outcome for both child and parent.

In using social capital as a framework for provisions in finding optimal housing, subsidized shelter is in close proximity to direct support for emotional, physical, social, and educational means. In proven studies social capital is shown to provide better chances at a higher education for both parent and child.¹² Academic studies show a child’s health is directly related to material disadvantage.¹³ In supplying housing for single parents near social services, organizations can ease the rent burden for single parents; increasing effective parenting, alleviate unstable housing issues and provide necessary

⁶ (Pavlovskaya, 2006) Theorizing GIS: a tool for critical Geographies

⁷ (Government, 2000)

⁸ (Muslow & Murry, 1996) Parenting on Edge; Economically Stressed, Single African American Adolescent Mothers.

⁹ (Schwartz, 2008) pp2 *Housing Policy in The United States: An Introduction*

¹⁰ (Hawkins, 2010) pp152 Fickle Families and the Kindness of Strangers: Social Capital in the Lives of Low-Income Single Mothers

¹¹ (Muslow & Murry, 1996)

¹² (Muslow & Murry, 1996) (Spencer, 2005)

¹³ (Spencer, 2005) pp156

services such as daycares, schools, community centers and bus stops in life space for busy and strained single parents.

Community benefits include sustainability efforts in using existing facilities and housing stock that would otherwise remain empty or unfinished.¹⁴ Li Zhang, using theories from Harvey, Watts, and Massey, state “Social space is not merely a passive locus or “container” of human activities and social relations; rather it is deeply implicated in all social processes.”¹⁵ In creating single parent housing with proximity to areas of mean income and higher density of services and children, the incorporated residence reduces concentrated poverty and increases physical and psychological integration which have important relationships with positive mental outcomes.¹⁶ The process of placing single parents into housing that already exists uses the established infrastructure and places families in housing, not take them out of a shelter for renovation and then possible displacement.¹⁷ It also places families in a social environment where children can thrive.

Methods and implementation included social service data from both King County and Seattle through the WAGDA website. The planning process is focused on King county services and parcels in proximity to these services. King County was too large a spatial area to initially work with. Seattle than became a better urban setting to sift information. Using data from social services to make points of reference for Public Health, Public Schools, Community Centers, Parks, Libraries, Colleges, Food Banks, WIC retailers, WIC grocery stores (only), Daycares Centers (only), and Bus Stops.

I ran network analysis on ‘ideal walk times’ of 2, 4, and 6 minutes. ‘Ideal walk time’ best represented needs of a single parent with little time. Walking long distances for services could possibly

¹⁴ (Lupton & Fuller, 2009) *Mixed Communities: A new Approach to Spatially Concentrated Poverty in England*

¹⁵ (Li Zhang) *Strangers in the City* (Stanford California: Stanford University Press, 2001), 7 (Zhang, 2001)

¹⁶ (Townley, Kloos, & Wright, 2009)

¹⁷ (Hanlon, 2010) *Success by Design; HOPE VI, new Urbanism, and the Neoliberal transformation of public housing in the United States*

prevent using the service and or take time away from other important needs such as working, parenting and household issues. I also chose a 'not ideal walk time' of 5,7,10 minute intervals. This was to have variables to work with the 'ideal walk time' to be sure I could retrieve available parcels. I also ran 'drive time Ideal', 2, 4, 6, and 'drive time not ideal', 5, 7, 10. 'Drive time ideal' overlapped many areas, and for most services encompassed the whole area of Seattle/ White Center. Assuming some low income parents are without a vehicle, I inferred that 'ideal walk time' to services would be enough to run an analysis. This would be the most preferential in finding housing for single parents.

In running 'ideal walk time' to services, I found that the bus stops and public schools extended beyond Seattle. I decided to add White Center and North Seattle to extend my income variation, and extend my parcel options. I did this through the block group shapefile downloaded from the census website, overlaying the reach of 'ideal walk time' bus and public schools, and selecting block groups that fit overlaid with my network analysis. By extending the Seattle base map to include White Center, I also provided variation in parcel real estate value. For King County data, White Center had service area points. For Seattle data, points for community centers and libraries did not extend into South Seattle and the White Center area. I then needed to geocode addresses and join them to Seattle points by creating a feature class. Related service data such as public health centers and WIC centers from the Department of Health website encompassed all King County and was clipped to Seattle, and then clipped again once my area grew.

School information for all of King County included both private and public schools, I chose only public schools in the south end and joined that information to the public school information already established for Seattle. I related my own inference that single parents cannot afford to pay for private school. I geocoded addresses for food bank locations throughout the Seattle and the White Center area. Daycare information for King County was clipped to my new base map. Licensed Daycares were over six

hundred in the Seattle and White Center area, including daycares in homes. I then selected daycare by center only for a more balanced result when running raster analysis.

WIC outlets also included minimarts. I chose to select only WIC grocery stores from the point data. Grocery store's provide a healthier food selection and also are easier to establish in a walking route of a parent. In placing daycare center points and WIC outlets (grocery store only) I noticed that they tend to congregate near each other on the map, which would provide easier access for a single parent to walk or bus to, after and before work. Colleges and Parks, I extracted values to points to better run a network analysis.

The next step to the process was establishing best parcels in close proximity to these services. These parcels will then be researched to find vacant homes, unfinished construction or homes in foreclosure, to pursue purchase and development. From the points I ran a network analysis, creating rasters that I then calculated to find best locations of parcels. I chose to weight bus stops at the highest weight. My reasoning was that parent access to transportation provides accessibility to all services. I then chose public health centers, public schools and food banks, as next highest weight. Academic research linked child well being to issues with health, education and food. WIC retailer and grocery store, libraries, and daycare centers were next in calculated weight, and last was community centers, parks and colleges. My inference was that the services chosen were necessary and it was difficult to weight any of them, as they are all important services for any parent. I then changed the calculated raster back to a polygon and clipped Seattle parcels to the calculated data to isolate those areas for analysis.

Sifting through parcel fields I found attributes to further select residential and multi residential parcels. I selected housing parcels with addresses only and through the taxpayer field selected out all municipal, religious or already established non-profit organization parcels. Although these vacant

parcels may be outdated it gives an analysis of possibilities. I concurred that further research needs to be done on the current King County parcel website. I also need to research information on foreclosed homes and houses with an active real estate listing for over 6 months. I can then geocode those addresses and find locations on or near the isolated parcels that are best suited for ideal walking locations.

The results of the mapping analysis are clear correlations between services and medium incomes. In working with 'ideal walking time' as distance I was surprised to find over 80 possibilities for vacant single residential parcels, and over 800 multi residential parcels (vacant and not vacant). Both parcel outcomes were non-government or organization affiliated. Other conclusions were that portions of White Center are unincorporated King County, and even with a Seattle address are not included in Seattle data. Also White Center has a medium income average in comparison to the rest of King County yet it yields a higher portion of children. This would back up the assumption that higher portions of households with children tend to have lower incomes and concentrations of poverty.

The critical analysis is that this project is not done yet. The ground work is laid for further research. I would like to see documented long term effects in children raised in single parent households that are provided proper housing at a decent rent and services available, compared to children in single parent households that are not. This product is also limited by dated data from both King County and Census websites. Implying vacant lots and houses as possible single parent housing on dated parcel information will require further research into current parcel documentation. I can also run buffers around the raster calculated parcels and geocode homes for sale in the vicinity to find active listings over 6 months. Demographic data has changed for both income and child density information in the last ten years. Updating this data would provide alternate results. Visual representations of the

parcel areas should also be analyzed for feasibility. Vacant lots could be corner parcels without development possibilities.

Various influences, other than my own, will change the direction and shape of the project and final product. My own passions can blind me from seeing other alternatives to space and use for single parents.¹⁸ This analysis is done without local participation and government input, which could benefit or alter the final outcome.¹⁹ Local single parent participation would change the life space needs for services, and the supplemental housing locations will then change.²⁰ In saying that, I am led to connect the social ills in the urban setting with the housing issues for low and medium income families, not single parents alone. Finding correlations may change municipal attentions to focus on the need for proper housing on a more equalized basis for everyone and not focused on the capital output of development for housing.

De-concentrating poverty, or providing subsidized housing for single parents in close proximity to social services does not solve poverty or low income issues.²¹ The success of this project is not based on a capital output nor is it profit motivated, as some GIS projects tend to be.²² It is based on a social sustainable output; by breaking a cycle through preventative action and creating housing based on services to meet the needs of material disadvantaged children and vulnerable parents. The area where one lives with the proximity to schools, shopping and services are important elements to housing and self.²³ Defining single parents to pockets of poverty or concentrated housing establishes place for

¹⁸ (Chrisman)

¹⁹ (Robbins, 2003) Beyond Knowledge Truth: GIS and the Environmental Knowledge of Herders, Professional Foresters, and Other Traditional Communities

²⁰ (Dennis, 2006) Prospects for Qualitative GIS at the Intersection of Youth Development and Participatory Urban Planning

²¹ (Hanlon, 2010)

²² (O'Sullivan, 2006) O'Sullivan, D. (2006). Geographical Information Science: Critical GIS. *Progress in Human Geography*, 783-791.

²³ (Schwartz, 2008)

children. This creates a cycle of material disadvantage that is then passed to further generations. If a team is defined by the weakest player, a community is developed by their most vulnerable citizens.

The purpose of this project is to spatially identify parcels that would provide ideal housing for single parents in ideal proximity to social services. The process involved mapping of services in the Seattle and White Center area. I then ran network analysis and demographic data to isolate parcels for ideal subsidized housing. The product produces isolated parcels with housing data information, inclusive of parcel owner, use, and vacancy. This data is dated, but through further research can be updated to current conditions. Most information gleaned correlated high concentrations of single parents with high density of children in the south side of Seattle. West Seattle and White Center were ideal locations for parcels, as were East Downtown and small sections to the north. Further research needs to be done regarding parcel information, housing availability through sale, unfinished construction and foreclosure. Also updated information on parcel data, research on grant requirements, further network analysis and raster calculations will be run to increase parcel options, as more information is gathered.

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