Young Latino Access to Early Childhood Education In Houston, Texas

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Executive summary

The young Latino community in Houston is growing at a rapid pace and faces an extremely high teen pregnancy rate. Early Childhood Education (ECE) programs teach, allow parents to work and finish school, and help prepare children for school entry.

This analysis addresses the research question: Are the locations of existing Early Childhood Education accessible to the young Latino populations inside the 610 Loop in Houston, Texas? I first present the demographics of the inner-loop communities and identify concentrations of young Latino areas most in need of Early Childhood Education. Second, I investigate the locations of existing programs, and rank the accessibility of each to the young Latino population. Third, I identify possible locations for a new program.

The study concludes that areas most in need are concentrated in the Southeast, North, Northeast and Northwest 610 Loop region area. Few quality (NAEYC accredited) ECE programs exist throughout the inner-loop, and only two programs can be considered most accessible in young Latino areas most in need.

Policy makers should encourage the accreditation process in childcare programs, Latino demand for quality ECE programs, and further research to inform policies to expand ECE programs for young Latinos.
Introduction

As the Latino population in Houston grows, schools must ensure that they can successfully educate the children of young and disadvantaged Latino communities. Children from these communities often have had very little preparation for entering primary school; the limitations of young and inexperienced parents and their absence due to school or work can limit their children’s cognitive growth. Many lack monetary resources to purchase mentally stimulating educational materials, or the time to ensure their children participate in educational activities outside of the home. Other parents from low socioeconomic status are simply unaware of how to boost their child’s school preparedness, or the importance of cognitive stimulation. To ensure that Latino children are ready for school entry, quality early childhood education programs can offer what parents have not.

Young Latino Communities in Texas

37% of the total Texan population is Latino. One third of this Texan Latino population is under the age of 18, and half is younger than 26 years old. By 2025, one in every two teenagers in Texas will be Latino. The young Latino population’s rapid growth signals an urgent need for policy makers to provide services that directly address critical issues facing the Latino community today and in the future.

Young Latinos have the highest poverty rate among a demographic group in the nation: around 32% of the Latino population under the age of 18 lives in poverty. Young Latinos also face extremely high unemployment rates and high teen pregnancy rates. 98 per 1,000 Latinas in Texas age 15-19 give birth every year, compared with 63.1 per 1000 Texan women and 43 per 1000 US women in the same age category. The state of Texas has the third highest teen birth rate and the highest repeat teen birth rate in the US; one in four Latino teen births are repeat births. Compared with the general population, Latinas are less likely to use birth control or abort once pregnant. Mothers generally come from impoverished backgrounds, and lack the social fluidity required to change their socioeconomic status. Teen mothers also continue birthing more children outside of

1 Schillaci, “Lessons Learned: Using knowledge from existing parent intervention programs to counteract low socioeconomic status among the young Latino population in Houston.”
2 US Census Bureau, State and county quickfacts: Texas.
3 Hernandez et al., “Latino Teen Pregnancy in Texas.”
4 Vexler and Suellentrop, Bridging Two Worlds.
8 Schelar et al., Repeat teen childbearing.
marriage in their 20s at a higher rate than other women.9

Studies have long highlighted the need for academic improvement among Latino children, especially children of young Latinos. Teen mothers may be less verbal, sensitive, and responsive to their children than older mothers and provide a less-stimulating environment for their children.10 Children of young mothers have lower math and reading scores and are more likely to repeat grades in school,11 adding upon a pre-existing ethnic achievement gap between white and Latino children. For example, in the 1998 Early Childhood Longitudinal Study (ECLS-K), Hispanic children scored 10 and 7-8 points lower than white children on math and reading.12 Sociologists suggest that at least half of this ethnic achievement gap can be explained by socioeconomic status and conclude intervention programs targeting children are more likely to be successful than programs targeting the improvement of parents’ income or SES.13

Early Childhood Education Programs

Often, extended family or siblings are left in charge of children of young Latino parents who lack resources and materials until they enter primary school at 5 years old. Though less costly, children may not be sufficiently cognitively stimulated through this method of childcare. However, early childhood education (ECE) programs, which offer childcare with a significant educational curriculum, can boost children’s readiness for primary school entry while young parents are busy at work or school. Several programs have been linked to boosted educational attainment and achievement, as well as monetary benefits for the public. One commonly cited quality early childhood education program, the Abecedarian program, served minority African-American children in the 1970s. Longitudinal research on the lives of program participants suggests that the program was linked to higher educational attainment and achievement, and even higher job wages, than those of non-participants.14

Other analyses find that children in ECE Programs demonstrate higher IQ test results in the first year of the program, and that curricula structured programs always produce better results than simple nursery programs. Unfortunately, this effect seems to wear off by the third year after the end of the child’s enrollment. However, programs with a parental intervention component see the duration of positive effects on IQ last beyond three years.15 Programs also seem to be more successful at producing positive social and

9 Coley and Chase-Lansdale, “Adolescent pregnancy and parenthood.”
10 Culp et al., “Adolescent and older mothers.”
11 Levine, Pollack, and Comfort, “Academic and Behavioral Outcomes Among the Children of Young Mothers.”
12 Rock and Stenner, “Assessment issues in the testing of children at school entry.”
13 Duncan and Magnuson, “Can Family Socioeconomic Resources Account for Racial and Ethnic Test Score Gaps?”
14 Barnett and Masse, “Comparative benefit-cost analysis of the Abecedarian program and its policy implications.”
15 Bronfenbrenner, “Is early intervention effective?”
academic gains for children when the program is of moderate quality and teacher-child interactions are of high quality.\textsuperscript{16}

**Present Accessibility of ECE in Houston**

![Population of Children Under the Age of 5](image)

With an estimated population of 2.23 million,\textsuperscript{17} Houston has many nursery schools. However, most lack a significant educational or parental component. The National Association for the Education of Young Children (NAEYC) rates program quality and maintains an online database for finding accredited programs in certain cities\textsuperscript{18} (please see Map 7 analysis for a detailed description of accreditation criteria). A search for Houston area accredited programs pulls up a total of 30 programs. In comparison, a Houston search using the Collaborative for Children’s QualiFind Childcare Database for preschools and registered and licensed childcare homes and centers produced a list of 2606 total programs. Costs for ECE programs range from about $550 to $1200 a month, though rates vary for number of hours, days and, age of child. Some programs offer scholarships and federal assistance. Exceptional programs include a family involvement

\textsuperscript{16} Burchinal et al., “Threshold analysis of association between child care quality and child outcomes for low-income children in pre-kindergarten programs.”
\textsuperscript{17} “Houston Facts and Figures.”
\textsuperscript{18} “Accredited Program Search | National Association for the Education of Young Children | NAEYC.”
component, such as parenting classes. Head Start, the most recognized public ECE program, is administered through organizations such as Avance,\(^{19}\) with four locations, and Neighborhood Centers Inc., with one ECE location and 3 head start locations inside the 610 Loop.\(^{20}\) Though these programs are designed to be accessible to marginalized communities, Head Start Programs lack NAEYC accreditation and, thus, a measure of quality that can be used for comparison to other programs.

Research Questions and Hypothesis

Young Latinos are in need of accessible early childhood education programs to provide their children with educational care while they are at school and work, and to ensure that their children are sufficiently ready for entry into primary school. Though many early childhood education programs already exist, their quality and accessibility in terms of location, cost, and spoken Spanish are unclear. This study attempts to determine Latino access to quality early childhood education by answering the following questions:

Are the locations of existing Early Childhood Education accessible to the young Latino populations inside the 610 Loop in Houston, Texas?

1. What areas are most in need of accessible Early Childhood Education Programs?
2. Do quality ECE/Parent Intervention Programs exist within these areas? Are they accessible to the young Latino population?
3. Where is a suitable location for a new ECE/Parent Intervention Program?

Key definitions for this project are:

- **Young Latino Populations** - Latinos 21 and younger.
- **Early Childhood Education (ECE) Program** – Programs for children age 5 and younger that contain a significant educational curriculum.

I suspect that, for young Latino parents, many ECE programs are inaccessible due to cost. Other limitations, such as school-associated programs’ requirement of parents to be full-time students, programs’ hours of operation, and Spanish language accessibility, also discourage young Latino parents from enrolling their children.

Methodology

To determine the Latino communities most in need and rate early education programs’ accessibility to young Latinos in particular, I first had to design rating systems for areas most in need and programs based on several variables. For young Latino areas most in need, I decided to examine population percentages of Latino ethnicity, age, and income. I determined that areas with the most Latinos, youngest populations and lowest incomes are communities most in need of early childhood education services. For program

\(^{19}\) “Locations | AVANCE Houston.”

\(^{20}\) “Locations & Enrollment for Early Childhood Education Centers | Neighborhood Centers Inc..”
evaluation, I decided to look only at NAEYC accredited ECE programs, which have a strong educational component and have undergone the rigorous evaluation necessary to prepare children for entry into primary school. Each program would be evaluated based on accessibility and quality. By rating areas most in need, and programs based on certain attributes, I could then determine where the young Latino populations are located and compare them to the quality and accessibility of early education programs in their general areas.

Study Area

Though there are large populations of Latinos throughout Houston, this study will look specifically at Latino communities and programs within the confines of the 610 Loop. This central area is home a large urban Latino population and includes 23 zip codes:

<table>
<thead>
<tr>
<th>Zip Code 1</th>
<th>Zip Code 2</th>
<th>Zip Code 3</th>
<th>Zip Code 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>77002</td>
<td>77008</td>
<td>77020</td>
<td>77029</td>
</tr>
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<td>77010</td>
<td>77023</td>
<td>77046 (Data</td>
</tr>
<tr>
<td>77005</td>
<td>77011</td>
<td>77025</td>
<td>N/A</td>
</tr>
<tr>
<td>77006</td>
<td>77012</td>
<td>77026</td>
<td>77054</td>
</tr>
<tr>
<td>77007</td>
<td>77019</td>
<td>77027</td>
<td>77098</td>
</tr>
</tbody>
</table>

Data Collection

I acquired general area shape files, city and county boundaries, and a neighborhood shapefile from the City of Houston. I then downloaded US Census Block Group files and general demographic tables detailing age and ethnicity from the US Bureau of the Census on the ESRI GIS Data website. I obtained Median Income, Major Arteries, Local Parks, Public Schools, and Water Reservoirs shapefiles from the Houston-Galveston Area Council GIS Clearinghouse. I also received two files, 610 Region and Inner 610 Roads, by request from the GIS/Data Center at Rice University, and a Parcels shapefile with attached attribute table from a GIS course teaching assistant. Program Data was collected from the non-profit organization Collaboration for Children’s online “QualiFind Database,” a database that rates programs for consumers, and allows them to search for childcare with various qualities. I emailed a request explaining my project and requesting database information and I received a response with an excel file with 610 programs and their attributes (see appendix for program attributes requested and received). I based the program rating variables on the QualiFind-provided and rated Hours of Service, Family Involvement and Teacher Education and Training Fields (see appendix for Collaboration for Children’s Rating Criteria). I also decided that types of financial assistance offered and Spanish accessibility, which were not included in the program attribute file, were necessary to properly determine each program’s accessibility. To fill in missing data gaps, I called all NAEYC accredited ECE programs and asked for price, financial assistance, and the ability of their faculty and staff to speak Spanish (see appendix). I entered all data into a new spreadsheet, and performed calculations, such as rating and weighting of each variable within excel. Before I began working with the data, I defined and projected all shapefiles to Texas South Central State Plane (NAD83, survey feet).
Areas Most in Need

To rate census block groups most in need, I created a series of maps displaying Latino ethnicity, age and median income. I began my analysis by joining US Census demographic tables, with calculations and ratings for ethnicity and age, to the census block group shapefile. I then exported data to save the shapefile with demographic attributes, eliminating the need to rejoin the tables for every map in the series. In the first map, I used the demographic census block group shapefile to rate parcels according to Latino population percentage of total population for each census block group in Harris County. The second map provides a close-up view of Latino demographics inside the 610 loop only. For this map, I clipped the census block group shapefile to the 610 Loop region. For the third map, I used the same shapefile to display the percentage of the population under the age of 21 in the same area. Median income was not included in the census demographic table, so I added a new median income by census block group shapefile to the fourth map to symbolize the variable, and clipped this shapefile to the 610 loop region. I exported the median income attribute table to my data folder to calculate ratings and then joined it to the demographic census block group shapefile. I then added a field to the attribute table and used the field calculator to assign each census block group ratings for each variable, weighted and unweighted. The final ratings of each census block group within the 610 Loop are symbolized in the fifth map.

Program Accessibility

To rate program accessibility to the Latino population, I again focused on the 610 Loop region. I imported an inner 610 roads shapefile to Arc GIS, which I could then use to create an Address Locator Manager. I also added an excel table including all programs and ratings. I used the address locator to geocode the batch of program addresses and rematched as necessary. The first map symbolizes the programs by location. For the second map, I selected by attribute all NAEYC accredited programs. I exported the selection to create a new shapefile. The second map displays all NAEYC accredited programs only. Some of these programs were ineligible for the analysis. I selected eligible programs by location and exported the data to a new shapefile. The third map displays eligible, accredited programs only. The fourth map symbolizes eligible programs by parental involvement component, the fifth symbolizes eligible programs by cost, the sixth by hours of operations, the seventh by Spanish accessibility, and the eighth by teacher training and education. The final two maps symbolize programs’ ratings by weighted and non-weighted variables.

Suitable Parcels for new Early Childhood Education Programs

To find and map suitable parcels for new Early Childhood Education Programs, I first had to determine what general areas would best house such a program. I decided that areas around schools and parks would be best. I first created a new shapefile by selecting areas most in need by attribute in the 610 census block groups shapefile and exporting the data into a new areas in need shapefile. I then clipped the parcels shapefile by the new
areas in need shapefile. I imported streets, parcels, schools, and parks, and also clipped all of these to the areas in need shapefile. I then used the buffer tool to create quarter mile buffers around schools and parks. I used the intersect tool to create a new shapefile from the intersections of these buffers. I then clipped the parcel shapefile to the buffer intersect. From these eligible parcels, I then selected vacant exempt, or civic, parcels. These are represented in four maps of areas in need.

Findings

Young Latino Areas Most in Need of Early Childhood Education Programs

1. Harris County Latino Population
2. Latino Population in the 610 Loop
3. Age in the 610 Loop
4. Median Income in the 610 Loop
5. Areas Most in Need by Census Block Group

ECE Programs: Quality and Accessibility to the Young Latino Population

6. All Childcare Programs in the 610 Loop
7a. NAEYC Early Childhood Education Programs
7b. Eligible Early Childhood Education Programs
8. Early Childhood Education Programs: Parental Involvement
9. Early Childhood Education Programs: Cost
10. Early Childhood Education Programs: Hours Open
11. Early Childhood Education Programs: Accessibility to Spanish Speakers
12. Early Childhood Education Programs: Teacher Training and Education
13. Early Childhood Education Programs: Accessibility Rating (Weighted)
14. Early Childhood Education Programs: Accessibility Rating (Not Weighted)

Suitable Parcels for New Programs

15a. Suitable Parcels for new Early Childhood Education Programs
15b. Suitable Parcels for new Early Childhood Education Programs
15c. Suitable Parcels for new Early Childhood Education Programs
15d. Suitable Parcels for new Early Childhood Education Programs
Young Latino Access to Early Childhood Education in Houston, Texas

Harris County Latino Population

Percentage of Latino Population by Census Block Group, 2000

81% - 100%
61% - 80%
41% - 60%
21% - 40%
0 - 20%

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010. Sources: City of Houston, ESRI, Houston-Galveston Area Council, and The US Census. Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Latino Population in the 610 Loop

Percentage of Latino Population by Census Block Group, 2000

- 81% - 100%
- 61% - 80%
- 41% - 60%
- 21% - 40%
- 0 - 20%

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010. Sources: City of Houston, ESRI, Houston-Galveston Area Council, and The US Census. Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Age in the 610 Loop

Percentage of Population Under 21 by Census Block Group, 2000

- 42% and Up
- 36% - 41%
- 29% - 35%
- 19% - 28%
- 0 - 18%

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010.
Sources: City of Houston, ESRI, Houston-Galveston Area Council, and The US Census. Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
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Median Income in the 610 Loop

Median Income by Census Block Group, 2000

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010. Sources: City of Houston, ESRI, Houston-Galveston Area Council, and The US Census. Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Areas Most in Need of Early Childhood Education Centers

Ratings of Areas by Census Block Group, 2000

To determine areas most in need, census block groups are rated based on Latino population, age, and median income. Census block groups with a rating of 4 are most in need of ECE centers.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010
Sources: City of Houston, ESRI, Houston-Galveston Area Council, and The US Census.
Map Projection: Texas South Central State Plane (NAD83, Survey Feet)

Sections 9, 11, 17, 12, 18, 8, 14, 4, 10, 16, 2, 6, 15, 5, 13, 7, 3, 1.
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All Childcare Programs in the 610 Loop

All childcare centers listed in the Collaborative for Children’s Qualifind Database are mapped above. These centers include all NAEYC programs, daycares, and home nursery centers. Some centers and nurseries that have not self-reported may be excluded.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010

Sources: City of Houston, ESRI, Houston-Galveston Area Council, The US Census, and The Collaborative for Children’s Qualifind Database.
Young Latino Access to Early Childhood Education in Houston, Texas

NAEYC Early Childhood Education Programs

Only NAEYC Programs are mapped above. NAEYC Accreditation is voluntary, and the rigorous process ensures that the program offers quality early childhood education.
Latino Access to Early Childhood Education in Houston, Texas

Eligible Early Childhood Education Programs

This analysis excludes eight NAEYC accredited programs for reasons such as cost, rigorous application and enrollment requirements, and targeted populations. Remaining, eligible programs are mapped above.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010.
Sources: City of Houston, ESRI, Houston-Galveston Area Council, The US Census, and The Collaborative for Children’s Qualifind Database.
Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Early Childhood Education Programs
Parental Involvement

Family Involvement is rated according to the Collaborative for Children’s Qualifind Database. In the Database, programs are rated as having minimal, good, or excellent family involvement. None of the programs in the analysis had a minimal rating.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010.
Sources: City of Houston, ESRI, Houston-Galveston Area Council, The US Census, and The Collaborative for Children’s Qualifind Database.
Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Early Childhood Education Programs
Cost

Cost was determined based on financial assistance available. Programs ranked as offering scholarships were not asked about the amount or number of scholarships available, therefore their programs may deserve a lower rating.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010.
Sources: City of Houston, ESRI, Houston-Galveston Area Council, The US Census, and The Collaborative for Children’s Qualifind Database.
Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Early Childhood Education Programs
Hours Open

This map represents the number of hours each early childhood education program is open per day. The longer the program's doors are open, the easier it is for young Latino parents of enrolled children to go to school and work.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010.
Sources: City of Houston, ESRI, Houston-Galveston Area Council, The US Census, and The Collaborative for Children's Qualitfind Database.
Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Early Childhood Education Programs
Accessibility to Spanish-Speakers

This map portrays the ability of each program to serve Spanish-speaking only populations.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010.
Sources: City of Houston, ESRI, Houston-Galveston Area Council, The US Census, and The Collaborative for Children’s Qualifind Database.
Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Early Childhood Education Programs
Teacher Training and Education

Teacher Training and Education is rated according to the Collaborative for Children’s Qualifind Database. In the Database, programs are rated as having minimal, good, or excellent teacher training and education. None of the NAEYC accredited programs in the analysis has a minimal rating.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010.
Sources: City of Houston, ESRI, Houston-Galveston Area Council, The US Census, and The Collaborative for Children’s Qualifind Database.
Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Early Childhood Education Programs
Accessibility Rating (Weighted)

This map rates programs according to cost, parental involvement, teacher training, hours of operations, and Spanish service ability. Each variable is weighted according to its importance to the young Latino community. Programs with a rating of 2 are most accessible.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010.
Sources: City of Houston, ESRI, Houston-Galveston Area Council, The US Census, and The Collaborative for Children’s Qualifyfind Database.
Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Early Childhood Education Programs
Accessibility Rating (Not Weighted)

This map rates programs according to cost, parental involvement, teacher training, open hours, and Spanish service ability. Variables are not weighted. Programs with a rating of 19 - 20 are most accessible to the young Latino communities.

Map Created By Valerie Schillaci, LBJ School, UT Austin 2010.
Sources: City of Houston, ESRI, Houston-Galveston Area Council, The US Census, and The Collaborative for Children’s Qualifind Database.
Map Projection: Texas South Central State Plane (NAD83, Survey Feet)
Young Latino Access to Early Childhood Education in Houston, Texas

Suitable Parcels for New Early Childhood Education Programs

This map highlights suitable parcels for new early childhood education programs. Parcels that are labeled as Vacant Exempt (Civic) Land by the Harris County Appraisal District (2008) and are within 0.25 miles of both a park and school are considered suitable. Vacant Exempt Land Parcels already labeled as Park or School territory by the Houston-Galveston Area Council are excluded.

Young Latino Access to Early Childhood Education in Houston, Texas

Suitable Parcels for New Early Childhood Education Programs

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Young Latino Access to Early Childhood Education in Houston, Texas

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Map Created By Valerie Schillaci, LBJ School, UT Austin 2010. Sources: City of Houston, ESRI, Houston-Galveston Area Council, HCAD, The US Census, and The Collaborative for Children's Qualfind Database, Projection: Texas South Central State Plane (NAD83, Survey Feet)
Analysis

Young Latino Areas Most in Need of Early Childhood Education Programs

Outside the 610 Loop, Latino populations are concentrated in the north between I-59 and I-45 and in the southeast areas below I-610 and I-10. Inside the Loop, Latinos are concentrated in the Southeast, with smaller communities to the north, northwest, and northeast. Census block groups with the highest percentages of populations under 21 seem to lie in the same general areas, but are less concentrated. There are also a few block groups outside of the main Latino concentration in the Southeast that have a large population under 21 to the south and southwest. Lowest median incomes lie in the general eastern areas of the loop, while concentrations of high earners are to the west and southwest. Rating criteria of areas most in need of Early Education/Parent Intervention Programs were determined by these three proxy variables, weighted for their importance:

<table>
<thead>
<tr>
<th>Proxy Variable and Criteria</th>
<th>Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latino Percentage of Population</td>
<td>Weighted at 50%</td>
</tr>
<tr>
<td>81% - 100%</td>
<td>4</td>
</tr>
<tr>
<td>61% – 80%</td>
<td>3</td>
</tr>
<tr>
<td>41% – 60%</td>
<td>2</td>
</tr>
<tr>
<td>21% – 40%</td>
<td>1</td>
</tr>
<tr>
<td>0% – 20%</td>
<td>0</td>
</tr>
</tbody>
</table>

Latinos are the focus of this study, and therefore the most important variable. To ensure that needy areas were Latino areas, I weighted this variable at 50%. Areas with populations more than 80% Latino are significantly Latino.

<table>
<thead>
<tr>
<th>Percentage of Population under the age of 21</th>
<th>Weighted at 25%</th>
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<tbody>
<tr>
<td>42% and Up</td>
<td>4</td>
</tr>
<tr>
<td>36% – 41%</td>
<td>3</td>
</tr>
<tr>
<td>29% – 35%</td>
<td>2</td>
</tr>
<tr>
<td>19% – 28%</td>
<td>1</td>
</tr>
<tr>
<td>0% – 18%</td>
<td>0</td>
</tr>
</tbody>
</table>

Concentration of young populations, or parents under the age of 21 and children under the age of 5, are the targeted age groups of the study. I weighted areas with populations under 21 at 25%. Ratings were assigned according to 5 natural breaks in the data determined within ArcGIS. Therefore, the top fifth of census block groups, with 42% of the population or more under the age of 21, is given the highest rating.
Median income is weighted at 25% because young Latino populations with the lowest median income levels are most likely to need to work or go to school to help provide for their families and broaden their economic opportunities. I manually chose the breaks. Earners under the 25k mark were the most in need; I felt that any salary under 25k was extremely low for a family of 2 or more. Groups with a median income of 35k and above begin to edge into professional salaries, so I rated these income groups 2 and under. This variable also serves as a proxy for populations with low socioeconomic status, in which children may benefit more from the effects of quality early childhood education.

Median Income (by household) | Weighted at 25%
--- | ---
0 – 25k | 4
26k – 35k | 3
36k – 45k | 2
46 – 60k | 1
61k and Up | 0

Source: Google Maps
Not surprisingly, areas most in need, with a rating of 4, tend to overlap with high Latino concentrations, with a few exceptions to the North and Southeast. However, population percentages are taken from the 2000 census. Due to the rapid growth in the Latino population, population figures represented here are underestimates and the Latino population is likely much larger than portrayed here. Also, economic fluctuation and gentrification over the past 10 years have undoubtedly altered the median incomes and ages within many census block groups.

ECE Programs: Quality and Accessibility to the Young Latino Population

The non-profit Collaboration for Children’s QualiFind Database lists 153 Childcare Programs inside the 610 Loop. Large gaps in childcare centers exist to the immediate southeast and west of the central 610 Region, as well as along the southernmost parts of I-45. However, mapped QualiFind Database programs are limited to those that were easily found and rated by the Collaboration for Children, or those that have self-reported to the organization. Also, 10 of these locations were mapped approximately, due to a lack of streets in the address locator. Therefore, the representation of childcare programs in the map may lack some existing programs, and locations for about 10 are off by a few blocks. The childcare center gaps may be due to a lack of centers or a high number of unreported, unregistered, and informal childcare centers. Also, relatives may be more likely to care for children than childcare centers, especially in Latino areas.

Though several rigorous academic studies of early childhood education programs exist, such as the National Center for Early Development and Learning’s (NCEDL) Multi-State Study of Pre-Kindergarten and the NCEDL – NIEER State Wide Early Education Programs Study (SWEEP Study), 21 this information is not readily available or easily accessible for consumers. The National Association of Early Childhood Education (NAEYC) Quality Early Childhood Education Accreditation System follows its own quality rating and improvement of systems (QRIS) criteria to rate the quality of programs and grant accreditation. I used the status of NAEYC accreditation as a proxy variable for educational quality and rigor. (See appendix for NAEYC accreditation standards and criteria). Programs must undergo four steps (enrollment, application, candidacy, and an on-site visit) and achieve 80% of 400 criteria to receive a 5-year accreditation term. Surprisingly, after filtering for NAEYC accreditation the number of programs fall to 19 in the 610 Loop Region.

This small number, compared to 153 total programs, may be due to childcare centers’ lack of knowledge about accreditation, though the NAEYC has been operating this accreditation program since 1985 and recently updated its accreditation process in 2006. Cost of accreditation may be another prohibiting factor. The total process runs from $1275 to $2350, depending on the number of children enrolled in the program. Programs who fail to apply to or complete the process because they do not meet the accreditation standards may be another and the most discouraging reason for the lack of accredited

 childcare. However, ECE programs that are not NAEYC accredited are not necessarily lacking in quality. However, I had no method by which to compare the quality of non-accredited programs.

Several programs were ineligible for the analysis due to service restrictions. For example, some programs were part of a corporate subscription service, served as back-up care for a limit of 30 days, served primarily homeless families, or had extremely rigorous application processes and high costs (see appendix for details of program elimination). Two of these programs were co-ops, requiring parents to work a full day in a given time period, which would be difficult for a young Latino to do. Some were only open for half days or four days a week. Only eleven programs were considered eligible programs and only three are located in the young Latino areas most in need.

Of the two programs in the southeast area, Magnolia Child Development Center (MCDC) and His Place, neither has an excellent rating for parental involvement. His Place has scholarships while MCDC has adjusted pricing. Both are open more than 8 hours and have excellent teacher education and training ratings. In the North, Small Steps Nurturing Center has excellent parental involvement, is a free program, and has excellent teacher education training, but is open less than 8 hours. No NAEYC accredited programs are located in the northeast and northwest areas most in need. The closest program to areas most in need is Kids at Work – CCLC. Unfortunately, this program never answered or returned phone calls and messages for program information, so I assumed the lowest rating for Spanish Accessibility and Cost.

To determine whether or not early childhood education programs were accessible to young Latino populations or not, I rated the programs using the above proxy variables for accessibility:

<table>
<thead>
<tr>
<th>Parental Involvement Component</th>
<th>Weighted at 30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>2</td>
</tr>
<tr>
<td>Good</td>
<td>1</td>
</tr>
<tr>
<td>Minimal</td>
<td>0</td>
</tr>
</tbody>
</table>

Parental involvement in childcare programs can improve parenting and add to the positive effects of quality ECE. Parental involvement is the best way to elongate these effects, so it is weighted at 30%.

<table>
<thead>
<tr>
<th>Cost</th>
<th>Weighted at 30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsidized/Sliding Scale/Free</td>
<td>2</td>
</tr>
<tr>
<td>Scholarships Available</td>
<td>1</td>
</tr>
<tr>
<td>No Assistance</td>
<td>0</td>
</tr>
</tbody>
</table>
Young Latinos will not enroll their children in an ECE program if they cannot afford it, and they can only afford an ECE program if it is free, subsidized, or provides payment options on a sliding scale. Therefore, cost is rated according to financial assistance available, and weighted at 30%. Though programs are rated 1 if they offer scholarships, the amount of the scholarship and number of scholarships available was not considered. Therefore these programs may be represented as more accessible than they really are.

<table>
<thead>
<tr>
<th>Hours of Service</th>
<th>Weighted at 20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 or More</td>
<td>2</td>
</tr>
<tr>
<td>8 – 10</td>
<td>1</td>
</tr>
<tr>
<td>8 or Less</td>
<td>0</td>
</tr>
</tbody>
</table>

Hours of service per day must be long enough so parents can work or go to school while children are in childcare. This variable is more flexible, because there may be relatives that can drop off or pick up children, so it is weighted at 20%.

<table>
<thead>
<tr>
<th>Teacher Education and Training</th>
<th>Weighted at 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>2</td>
</tr>
<tr>
<td>Good</td>
<td>1</td>
</tr>
<tr>
<td>Minimal</td>
<td>0</td>
</tr>
</tbody>
</table>

Teacher Education and Training are weighted the least because accredited programs should already have quality teaching methods and teachers. All but one program was rated excellent in this category.

<table>
<thead>
<tr>
<th>Spanish Spoken</th>
<th>Weighted at 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>2</td>
</tr>
<tr>
<td>Good</td>
<td>1</td>
</tr>
<tr>
<td>Minimal</td>
<td>0</td>
</tr>
</tbody>
</table>

With the exception of the one program for which I could not collect data, all programs claimed they had staff or faculty that could serve Spanish-speaking only parents and children. Since programs will most likely claim the ability to serve Spanish speaking families whether this is true or not, and Spanish-speaking employees are so common in Houston, the variable is weighted at 10%

Of the programs located in the Areas of Most Need, only the Magnolia Child Development Center and the Small Steps Nurturing Center are rated as most accessible to the young Latino population in the weighted analysis. However, in the unweighted
analysis, only the Magnolia Child Development Center is considered most accessible to the young Latino population.

Suitable Parcels for New Programs

Further research is required to clarify which parcels may be suitable for the construction of new ECE programs in areas of most need. Some, despite being labeled as vacant parcels, may be occupied by school facilities or parks. Parcels may also already be occupied since data is from 2008.

Conclusion and Recommendations

The 610 Loop Region is lacking in Quality (NAEYC Accredited) ECE Programs. Of 153 total programs, only 19 are NAEYC accredited. Around 7 of these are inaccessible to young Latinos for various reasons and only 3 programs are located in young Latino areas most in need. Of these 3, only 2 can be considered as truly accessible to the young Latino population. To encourage ECE growth and positive effects among the young Latino Communities, policy makers and non-profit organizations should consider the following recommendations:

Concerning ECE Childcare Centers

- Educate Existing ECE programs on the characteristics and benefits of quality early childhood education and the process of NAEYC Accreditation.
- Encourage existing ECE programs to apply for NAEYC Accreditation, or develop an accessible alternative accreditation process.
- Establish a program to transform existing programs into quality ECE programs that would be eligible for NAEYC Accreditation
- Subsidize NAEYC Accreditation in areas most in need.
- Offer incentives to programs for completing the accreditation process.
- Develop parenting programs to work in conjunction with ECE programs, schools, or on their own.

Concerning Young Latino Communities

- Educate communities, through public service campaigns, community outreach, school workshops and organizations, and governmental and non-profit services about the benefits of early childhood education and existing quality ECE programs.
- Subsidize existing programs for young Latinos who meet certain criteria.
- Develop new program to specifically serve the young Latino population throughout Houston, perhaps in conjunction with public and charter schools.
- Offer incentives to parents for enrolling their children in accredited programs.

Future Research to Assist in the Spread of Quality ECE

- How do capacity limitations and program applications affect parents’ attempts to enroll their children in certain programs?
o How do young Latino parents find childcare? What criteria do they look for in a program? How can Latinos access childcare information more easily?

o What are the benefits and negative effects of the use of relatives as the primary source of childcare?

o Can a young Latino ECE co-op program work?

o A comprehensive literature review of head start programs and services, accessibility, and success rates will allow policy makers to decide if this is a possible avenue through which to expand quality ECE.
Data sources


References


Young Latino Access to Early Childhood Education in Houston, Texas

Valerie Schillaci
Fall 2010

The LBJ School

1 (Spring 2005): 35-54.

“HCC Central College - Child Development Lab School,” n.d.

http://digitalcommons.library.tmc.edu/childrenatrisk/vol1/iss1/5.

“Houston Facts and Figures,” n.d.


“La Branch Child Development Center | Childrens’ Creative Learning Centers,” n.d.


“Locations | AVANCE Houston,” n.d. http://www.avancehouston.org/location-results?distance%5Bpostal_code%5D=77004&distance%5Bsearch_distance%5D=6&distance%5Bsearch_units%5D=mile.

http://www.collabforchildren.org/cc_org_info/mission_goals_and_history.

“QualiFind Criteria - Collaborative for Children,” n.d.
http://www.collabforchildren.org/finding_child_care/qualifind_criteria.


Schillaci, Valerie. “Lessons Learned: Using knowledge from existing parent intervention programs to counteract low socioeconomic status among the young Latino population in Houston.” LAS 381 Sociology of Education: The University of Texas at Austin, 2010.


“St. Paul's School ~ CLC Overview,” n.d.


“University of Houston Child Care Center | Home of the Little Cougars,” n.d.
http://www.uh.edu/clc/.


“Workforce Solutions - Capital Area,” n.d.
Appendix
Data Acquisition and Preparation

All shapefiles were downloaded from the given FTP listed in the references section EXCEPT:

610 Roads
I acquired this shapefile from:

Jean Niswonger
GIS Support Specialist
Rice Fondren Library GIS/Data Center
(713) 348-2595
gisdata@rice.edu

Parcels
I acquired this shapefile from:

Karen Banks
Introduction to Geographic Information Systems Teaching Assistant
karenobanks@hotmail.com

Collaborative for Children’s QualiFind Early Childhood Education File
I acquired this excel file via email:

Kathy Butler
kbutler@collabforchildren.org

The QualiFind Excel file of Early Childhood Programs was limited to programs inside the 610 Loop and contained 153 inner-loop programs, including NAEYC Accredited programs. Attributes requested and received are detailed below:

<table>
<thead>
<tr>
<th>Program Attributes</th>
<th>Requested</th>
<th>Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Phone Number</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>English and Spanish Spoken</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Hours of Service</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Accreditation</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Cost</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Ages Served</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Family Involvement</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Teacher Education and Training</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Teacher Tenure</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
Descriptions of QualiFind Rating Criteria taken directly from the Collaborative for Children’s QualiFind website are below:

**Teacher Education and Training**

**Excellent** - To receive an Excellent QualiFind ranking for Teacher Education and Training a center must meet one of the following two criteria: 1) All lead teachers must have a Child Development Associate credential or higher; or 2) 25% of lead teachers must have an Associate or Baccalaureate degree in Early Childhood Education or Child Development.

**Good** - To receive a Good QualiFind ranking for Teacher Education and Training a center must meet the following criteria: 50% of the lead teachers have at least a Child Development Associate credential or 12 credit hours in Early Childhood or Child Development.

**Minimal** - A Minimal QualiFind ranking for Teacher Education and Training indicates that all teachers in the center meet the qualifications required by the Minimum Standards (currently high school diploma or equivalent and eight hours of pre-service training).

**Accreditation**

**Excellent** - Accreditation means that the center voluntarily meets higher quality standards, established by a national accrediting organization, that exceed the Texas Minimum Standard Rules for Licensed Child Care Centers. The quality standards include a safe and healthy environment, teacher education and training, teacher-to-child ratios and group sizes and programming and activities planned according to the child's developmental level.

**Family Involvement**

**Excellent** - To receive an Excellent QualiFind ranking for Family Involvement, a center must offer seven or more of the following: family friendly policies; parent advisory boards; parent education; volunteer opportunities; parent meetings; family events; parent communication tools; newsletter; parent conferences.

**Good** - To receive a Good QualiFind ranking for Family Involvement, a center must offer four to six of the following: family friendly policies; parent advisory boards; parent education; volunteer opportunities; parent meetings; family events; parent communication tools; newsletter; parent conferences.

**Minimal** - A Minimal QualiFind ranking for Family Involvement indicates that a center offers three or fewer of the following: family friendly policies; parent advisory boards;
parent education; volunteer opportunities; parent meetings; family events; parent communication tools; newsletter; parent conferences.

Programs classified as ineligible for the analysis and justification for their exclusion are below:

<table>
<thead>
<tr>
<th>Name, Business</th>
<th>Reason for ineligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bright Horizons Houston</td>
<td>Employer-Sponsored Childcare: This service is only available through corporate membership.</td>
</tr>
<tr>
<td>JP Morgan Chase Back-Up</td>
<td>This service is only for back-up care, or a period of around 30 days.</td>
</tr>
<tr>
<td>Becker Early Childhood Center</td>
<td>Rigorous application process for three and up, and tuition costs of over a thousand dollars a month</td>
</tr>
<tr>
<td>Beehive Parent-Child Center</td>
<td>This program is a co-op. Due to the requirement of parents to work at the center this program is ineligible.</td>
</tr>
<tr>
<td>House of Tiny Treasures</td>
<td>Non-Profit for people working in shelters, job searching, working at Salvation Army, or just starting a job.</td>
</tr>
<tr>
<td>St Luke's UMC Weekday Ministries</td>
<td>Only serves 3-4 year olds for 3 days a week.</td>
</tr>
<tr>
<td>Poe Nursery School</td>
<td>Co-Op. Parents must work in the classroom. The extended day (full day) program is only available 4 days a week.</td>
</tr>
<tr>
<td>University Houston CCC</td>
<td>Only children of students/faculty/employees may enroll.</td>
</tr>
</tbody>
</table>
### NAEYC Accreditation Standards and Criteria

<table>
<thead>
<tr>
<th>Standards</th>
<th>Criteria Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relationships</strong></td>
<td>Teacher – Family, Teacher – Child, Encouraging Friendships, Classroom Environment, Addressing Challenging Behaviors, Promoting Self-Regulation</td>
</tr>
<tr>
<td><strong>Curriculum</strong></td>
<td>Physical, Social – Emotional, and Language Development, Early Literacy and Mathematics, Science, Technology, Art Appreciation, Health and Safety, Social Studies</td>
</tr>
<tr>
<td><strong>Teaching</strong></td>
<td>Learning Environment Design, Caring Communities, Supervising, Strategy to Achieve Learning Goals, Responding to Children’s Interests and Need, Meaningful Learning, Deepen Child Understanding</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Creating Assessment Plans, Appropriate Methods, Identifying Needs, Adapting Curriculum, Communicating and Involving Families</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td>Protecting Health, Ensuring Nutritional Well-being, Healthy Environment</td>
</tr>
<tr>
<td><strong>Teachers</strong></td>
<td>Teaching Staff Quality, Teacher Disposition and Personal Commitment</td>
</tr>
<tr>
<td><strong>Families</strong></td>
<td>Understanding Program’s Families, Sharing Information, Nurturing Families</td>
</tr>
<tr>
<td><strong>Community Relationships</strong></td>
<td>Linking with the Community, Accessing Resources, Acting as a Citizen</td>
</tr>
<tr>
<td><strong>Physical Environment</strong></td>
<td>Equipment, Outdoor design, Building and Physical Design, Environmental Health</td>
</tr>
</tbody>
</table>

Source: NAEYC

All shapefiles, with the exception of Census Blocks from ESRI, were already defined and projected to the NADS 1983 State Plane South Central FIPS (Feet) geographic coordinate system.

For the Calculation of Ratings for Areas Most in Need US Census Demographic Data:

- Download Harris County Demographic Information Excel File
  - Within Excel File, Use Sum tool to add all male and female populations under 25 in new field.
  - Add new fields for % of Latino Ethnicity, % of Population under 21, % of Population under 21 Rating
  - Code according following calculation:
    - Rating = Variable/Total Population
  - Add new field for rate and calculate according to the following equation:
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Valerie Schillaci
Fall 2010

The LBJ School

Rating = 0.50*(% of Latino Ethnicity) + 0.25*(% of Population under 21) 
+ 0.25*(% of Population under 21 Rating)

- Replace any blocks with 0 residents with zeros for populations.
- Open Median Income Excel File
- Code ratings corresponding with median income

For the Calculation of Ratings for Early Childhood Education Programs:

- Delete all non-NAEYC accredited programs
- Phone Programs and ask the following questions:
  1. What is the price for a child under the age of 5 to attend your program for 
     5 days a week for a month?
  2. Is there any financial assistance available?
  3. Can your organization cater to Spanish-speaking only populations?
- Add fields to excel file and populate with answers
- Code fields numerically according to answers
- Add new field and calculate according to the following equation:
  
  Rating = 0.3*(Parental involvement component) + 0.3 * (Cost) + 
  0.2*(Hours of Service) + 0.1*(Teacher Education and Training) + 
  0.1*(Spanish Spoken)

Construction of Maps

Initial Steps:
Download Census Demography Data from US Bureau of the Census
Download Census Blocks, Neighborhoods from City of Houston
Download City Limits, Major Arteries, Local Parks, Public Schools from HGAC
Upload Data — ArcCatalog
Define and Project all Data — NADS 1983 State Plane South Central FIPS (Feet)

Areas Most in Need of Early Childhood Education Programs

1. Latino Communities throughout Houston
   - Select by Attribute — 610 Loop, I-45, I-10, Highway 59
   - Export Data to Create new Shapefile from Selection (Major Freeways)
   - Delete original Major Arteries
   - Import Census Demographic Table
   - Join — Census Block Group Shapefile + Census Demographic Data Table
   - Export Data to create new Shapefile (Block Grps Demog)
   - Symbology by Category — % of Latino Population

2. Latino Population Concentrations within the 610 Loop
   - Import Major Freeways
   - Select by Attribute — 610 Loop
3. Age Percentages within the 610 Loop
   o Import 610 Loop Blocks
   o Symbology by Category -> Age

4. Median Income within the 610 Loop
   o Import 610 Loop Blocks
   o Import Median Income Shapefile
   o Use Tool -> Clip -> Median Income to 610 Loop
   o Export Median Income attributes table to excel
   o Populate new field with income ratings
   o Symbology by Category -> Median Income

5. Areas Most in Need of Early Childhood Education Programs
   o Import 610 Loop Blocks
   o Import Median Income attributes table with ratings
   o Join -> Median Income attributes table with rating + Census Block Group Shapefile
   o Open 610 Loop Census Blocks Attribute Table
   o Editor -> Start Editing
   o Add field -> Use Field Calculator -> Populate field with Census Block Ratings
   o Stop editing
   o Symbology by Category -> Census Block Ratings

Early Childhood Education Programs

6. Program Locations within the 610 Loop
   o Import 610 Loop
   o Import Inner 610 Roads
   o Create New Address Locator -> US Streets with Zone
   o Specify Roads Shapefile
   o Use Tool -> Address Locator Manager -> In project data file
   o Import ECE Program Database
   o Geocode Addresses -> ECE Program Table (creating Shapefile)
   o Use Tool -> Review/Rematch Addresses -> Rematch Addresses as necessary

7a. NAEYC Early Childhood Education Programs
   o Select by Attributes -> Accredited Programs
7b. Eligible Early Childhood Education Programs
   o Import Accredited Programs
   o Select by Attribute -> Name
   o Create new Shapefile from Selection -> Eligible Accredited Programs

8. Early Childhood Education Programs: Parental Involvement
   o Symbology by Category -> Family Involvement Rating

9. Early Childhood Education Programs: Cost
   o Symbology by Category -> Program Cost

10. Early Childhood Education Programs: Hours Open
    o Symbology by Category -> Hours Rating

11. Early Childhood Education Programs: Accessibility to Spanish Speakers
    o Symbology by Category -> Spanish Speaking Rating

12. Early Childhood Education Programs: Teacher Training and Education
    o Symbology by Category -> Teacher Training and Education Ratings

13. Early Childhood Education Programs: Accessibility Rating (Weighted)
    o Symbology by Category -> Program Accessibility Ratings

14. Early Childhood Education Programs: Accessibility Rating (Not Weighted)
    o Symbology by Category -> Program Accessibility Ratings

Proposed Location for New Program – Suitability Analysis

15(a-d). Suitable Parcels for new Early Childhood Education Programs
   o Import -> 610 Census Blocks
   o Select by attribute -> Block Groups Most in Need
   o Create New Layer from Selection -> (Areas in Need)
   o Import Street and Parcel shape files
   o Use Tool -> Clip -> Streets and Parcels to Areas in Need (Streets and Parcels Clip 1)
   o Use Tool -> Clip -> Schools and Parks to Areas in Need (Schools and Parks Clip 1)
   o Use Tool -> Buffer -> Areas within 0.25 miles of both schools and parks
   o Use Tool -> Intersect -> Intersect school and park buffers
   o Export Intersection to make new Shapefile (Intersection)
   o Use Tool -> Clip -> Streets, Parcels, Schools, Parks to Intersection (Clip 2)
Parcels Clip 2 → Select by Attribute: Vacant Civic Parcels
Create new layer from selection (eligible parcels), excluding parcels in parks
Symbology: eligible parcels