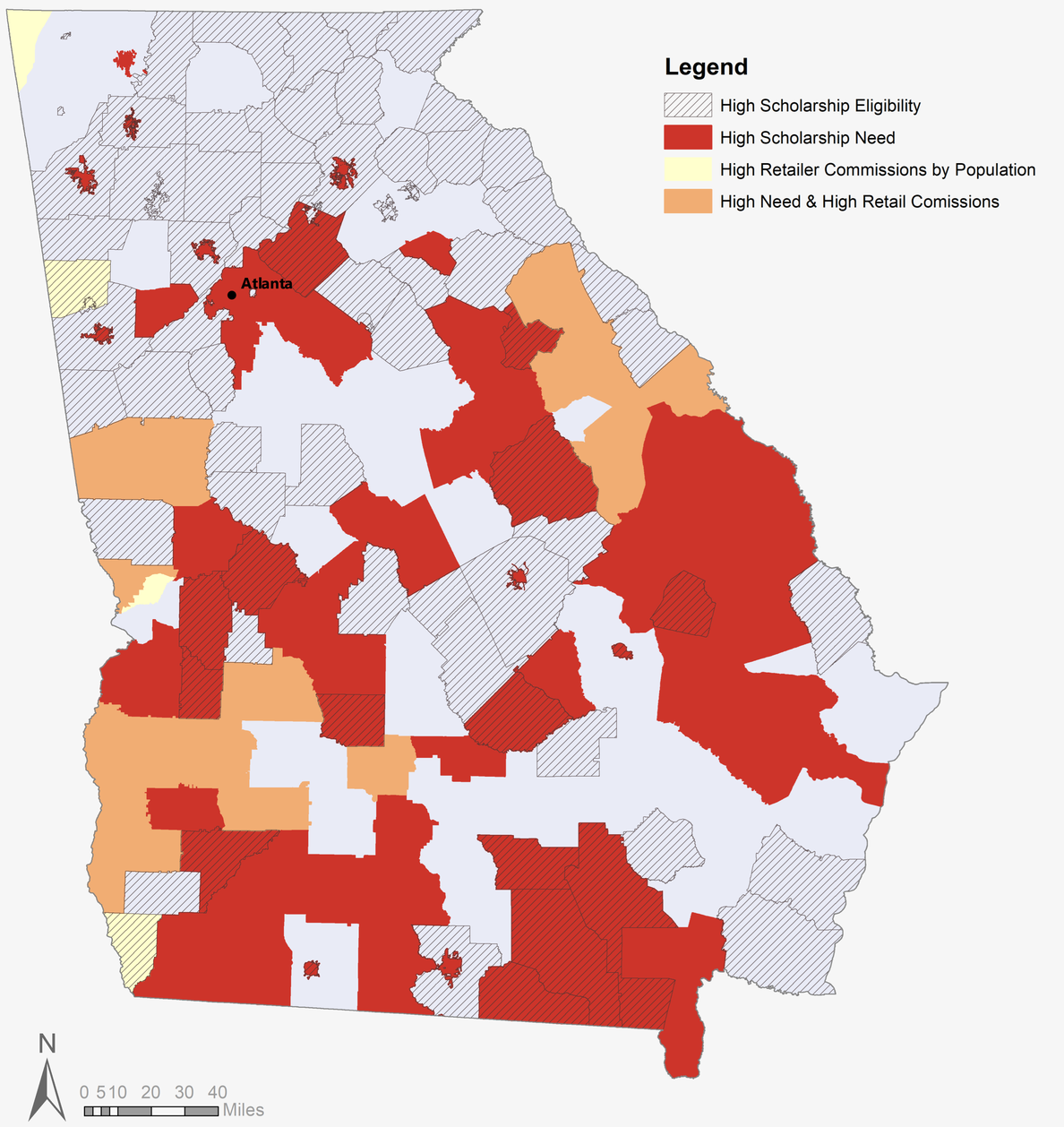
HOPE for Whom?:
A Spatial Analysis of Georgia's HOPE Scholarship

Georgia & The HOPE Scholarship



Background

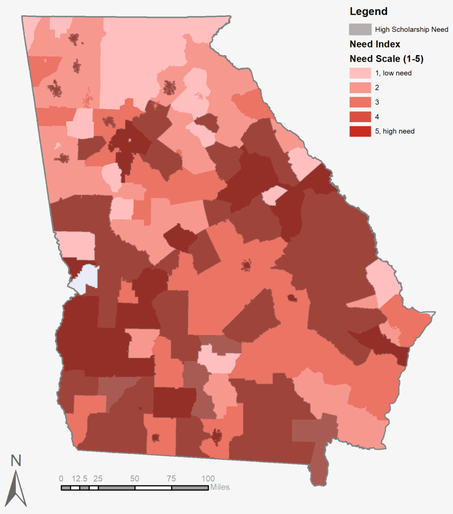
The HOPE Scholarship is awarded to Georgia residents who have "demonstrated academic achievement."[1] The Scholarship award requires meeting a minimum GPA in high school (3.0) or becoming eligible after a semester of college. HOPE provides money to reduce tuition costs for attending colleges or universities in Georgia. The receipt of the HOPE scholarship is based entirely on academic achievement under these particular standards. GPA is associated with income, so there is reason to believe the scholarship may be biased towards middle and upper income families.[2] The HOPE scholarship is funded by the Georgia Lottery, for which Black families spend a larger portion of their income than white families.[3] These disparities are important to consider when examining the impacts of the HOPE scholarship and who it is benefiting. The scholarship may be missing the very individuals who could benefit from it the most. This analysis investigates where in Georgia the greatest need for HOPE is, where the funding is coming from, and where recipients are located.

Data & Methodology

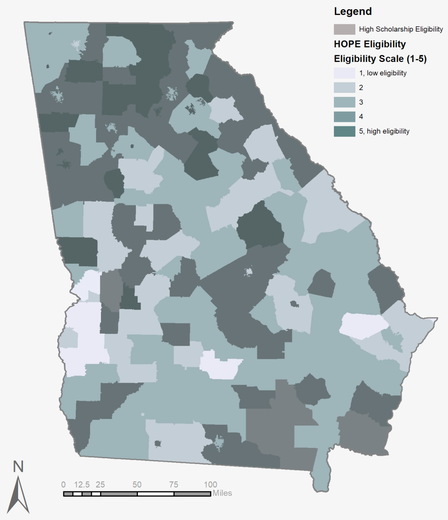
I used data from the U.S. Census Bureau, the Georgia Governor's Office of Student Achievement, and the Georgia Lottery website for my analysis. I downloaded data at the school district level (or county level for the GA Lottery) and performed data cleaning in Excel. I created a need index, identifying areas where HOPE could have the greatest benefit, averaging percentages by district for six factors that have been shown to be related to educational outcomes and resources: people of color, poverty level, mobility rate (between school districts), mobility rate (within school districts), educational attainment of the overall population, and limited proficiency in English. I coded the percentages so that higher values would represent higher levels of need, where the scholarship would have the highest potential impact, and low scores indicated low need and low potential impact.

I performed attribute joins of the school district shapefile to the need index and to the percent eligibility for the HOPE scholarship. I also performed an attribute join of the retail commissions by county population to a county shapefile to approximate lottery spending per county. I symbolized all of these levels accordingly. I classified the need scores, scholarship eligibility percentages, and retailer commissions each into a one to five scale. Then, I performed attribute selections on each of these three factors for the highest two categories (levels 4 and 5), to identify the high eligibility, high retailer commission, and high need areas, which are highlighted on the large map. Finally, to assess the relationship between eligibility and need, I returned to the raw scores and conducted a correlation. I also calculated local Moran's I to determine where there was high and low clustering in order to add depth to the analysis.

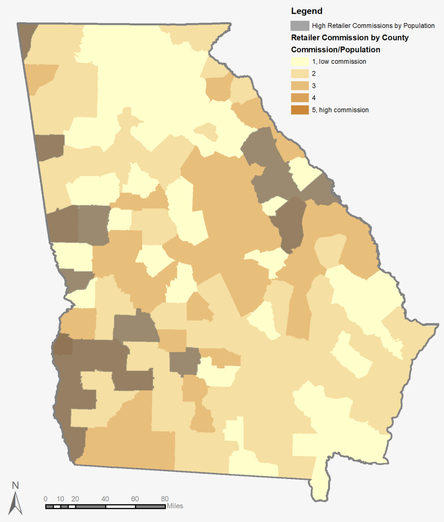
Input Maps



This map symbolizes the need index values, where the HOPE Scholarship can make the most difference, across Georgia by school district. Need was calculated using an index of six factors shown to be related to educational outcomes (see methods) and then symbolized using a 1-5 classification from low need to high need at the school district level. Areas of "high scholarship need" (4 or 5) are greyed in to represent the areas shown on the larger map under this classification.



This map symbolizes HOPE Scholarship eligibility by school district. Eligibility percentages were obtained from the Georgia Office of Student Achievement website and then symbolized using a 1-5 classification from low eligibility to high eligibility. Areas of "high scholarship eligibility" (4 or 5) are greyed in to represent the areas shown on the larger map under this classification.



This map symbolizes where retailer commissions are highest by county population. I compiled data from the GA Lottery website on commissions and divided by the population of the county (to approximate average spending proportion). I symbolized these values and gave them a 1-5 classification to show where funding is coming from. Areas of "high retailer commissions" (4 or 5) are greyed in to represent the areas shown on the larger map under this classification.

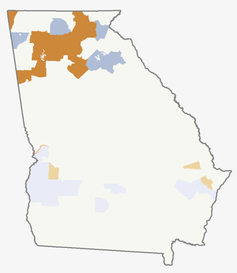
Discussion & Results

This analysis supports the argument that the HOPE scholarship does not support the people who could benefit from it the most. Areas of high eligibility do not match up with areas of high need. In addition, the areas that are paying the most proportionally for the scholarship, through lottery tickets (approximated using retailer commissions), are not reaping the benefits of the program. Scores on the Need Index are significantly negatively correlated with percent eligibility for the HOPE scholarship ($r = -.63$, $p < .001$). According to Anselin Local Moran's I, high levels of need are clustered in the South of the state and high levels of eligibility are clustered in the North. Each of these maps and calculations support the claim that the HOPE scholarship is distributed inequitably.

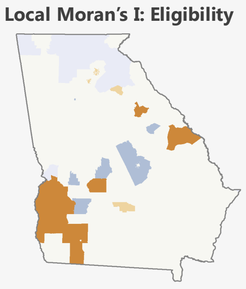
Percent of all School Districts in Each Classification

	High need	High eligibility	High retailer commission
High need	44%		
High eligibility	10%	44%	
High retailer commission*	17%	13%	31%

*Retailer commission data was collected at the county level, so school districts were calculated using intersects in Arcmap. The percent of districts that have high retailer commissions is lower than the high need or high eligibility because the classifications were calculated based on county levels.



Local Moran's I: Eligibility



Local Moran's I: Need

Info & Sources

Cartographer: Laurel Bliss
UEP 232: Intro to GIS, Fall 2019
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Projection: Lambert Conformal Conic

Literature Cited:

1."HOPE Scholarship | Georgia Student Finance Commission."

2. Heller, Donald E., and Patricia Marin. *State Merit Scholarship Programs and Racial Inequality*. Harvard Education Publishing Group, 8 Story Street, 1st Floor, Cambridge, MA 02138, 2004. https://eric.ed.gov/?id=ED489183.

3. Ibid.

4. "HOPE Scholarship | Georgia Student Finance Commission." Accessed November 18, 2019. https://www.gafutures.org/hope-state-aid-programs/hope-zell-miller-scholarships/hope-scholarship/.

Data Sources:

1. Georgia office of Student Achievement, 2018.
2. American Factfinder 2017 ACS 5-year Estimates: Need Index data.
3. Georgia Lottery: Benefitting Georgia, 2018.
4. Tufts M Drive.
5. TIGER/Line Shapefile, 2016, state, Georgia County Shapefile & 2017 School Districts.

Image:

1. "graduation silhouette." https://jloog.com/images/