

I. Problem and Setting

The Illinois State Board of Education reports that over two million students annually enroll in the hundreds of public school districts across the state, each funded largely through local property taxes. On average, public schools in Illinois garner 68% of their funding from these sources (ISBE^b, 2018). While some districts are well funded, enjoying robust residential and commercial tax revenues, others are less fortunate. A recent study by the Education Trust labeled Illinois the most regressive of our fifty states in terms of the funding gap between school districts serving the most and the fewest students in poverty (Morgan & Amerikaner, 2018). Current research suggests that existing income inequality among different districts precedes the economic imbalance manifest in their respective schools (Owens, 2017). Likewise, multiple studies (Frankenberg, Bischoff, et al.) confirm the correlation between school district boundaries and racial segregation.

Whereas previous scholarship focuses on socioeconomic divisions exacerbated by the multitude of independent school districts, the purpose of my proposed study is to examine the impact of school district fragmentation *within* a relatively homogenous community. I hope to contribute to existing literature by investigating the impact of one school district boundary that bisects a largely working-class Hispanic suburb of Chicago. This case study will consider two census tracts within the municipality of Northlake: tract 8118, located in Leyden Township High School District 212, and tract 8167, which is part of Proviso Township High School District 209.

The fiscal gulf between these two districts is profound. Proviso Township High School District 209 currently operates under a state-mandated Financial Oversight Panel. This distinction is shared by East Saint Louis School District 189 and other entities synonymous with poverty in Illinois (ISBE^a, 2018). Leyden Township High School District 212 stands in stark contrast, receiving the Illinois States Board of Education's highest financial rating under the Evidence-Based Funding Formula (ISBE^c, 2018). Nevertheless, while Northlake residents of District 209 and District 212 are partitioned access to school resources, the census tracts 8167 and 8118 are spatially separated by simple walk across North Avenue. This seemingly

innocuous distinction is fraught with profound consequences that are of interest to the fields of Geography and Environmental Studies.

Cognizant of the considerable contrasts that divide one community, I hope to conduct research to answer this question: *To what extent do students in Northlake, a Chicago suburb bisected by two high school districts yet defined by its relative cultural and socioeconomic homogeneity, recognize and react to the spatially-induced consequences of school district fragmentation?* My case study will open with a historical narrative, supported by academic literature, that traces the evolution of these disparate school districts relative to the municipality of Northlake. Drawing from Illinois State Board of Education as well as Census Bureau records I will then employ quantitative data to further clarify the unmistakable differences between these two school districts as well as illustrate the ethnic and socioeconomic attributes shared in common by the residents of Northlake. The essence of my study is a spatial analysis of this community on which this paper elaborates. The following terms are necessary for establishing my inquiry:

- The idea of *cultural* and *socioeconomic* homogeneity will be defined by the following census criteria: 1) *race and ethnicity*, 2) *educational attainment*, and 3) *employment by industry*.
- A school *funding* variable used to compare the two districts will comprise the following Illinois State Board of Education criteria: 1) *funding adequacy targets*, 2) *final resources* allocated to each district, 3) the *percent of revenue derived from local property taxes and other sources* of local funding as well as 4) revenue provided by the state and federal governments. Likewise, relative to local sources of financing (the prime source of school funding in Illinois), this study will compare tax revenues generated by industry and commerce within each tract.
- For the purposes of this study, *fragmentation* refers to the multiple independent units of school administration (i.e., *school districts*) common in the Chicago metropolitan area whose very existence and spatial boundaries are typically tied to township governments which were established in the early 19th century, long before current economic and social realities emerged in this region. As previously noted, my study will consider temporal and spatial processes that influenced this particular array of fragmented school districts and municipalities in which census tract 8167 resides.
- The term *spatial consequences* refers to the isolation of tract 8167 within Proviso Township. It is a residential enclave, separated from Leyden Township by North Avenue. Yet, it sits at the

north end of a major rail yard that limits travel between tract 8167 and Proviso Township schools (whose students from this community attend one of two schools.) Circumventing the rail yard, students commuting from tract 8167 to Proviso West cover nearly triple the distance than their tract 8118 counterparts who commute to West Leyden High School. For those attending the Proviso Math and Science Academy, the difference is four times greater.

- The *students* of Northlake are those from tract 8167 currently enrolled in Proviso Township high schools or recent graduates. The Census Bureau (2017) estimates that only 195 residents of this community are enrolled in public high schools. Expanding the subject pool to include recent graduates increases the likelihood that a more statistically significant number of subjects can be factored into my analysis. For the purposes of this study, *recent graduates* will include any student currently enrolled in Proviso Township high schools as of the approval date for my research.
- This study will consider a variety of ways in which people *react* to the aforementioned spatial disparities, such the perception of a what constitutes their neighborhood.

I believe that spatial discrepancies (between these two high school districts) constitute an objective reality that can be quantitatively measured and analyzed. Still, the issue of inequality is manifest in more than numbers. As such, I deem qualitative measures necessary to appreciate the input of individual students whose perspectives will enhance our understanding of the statistical data. While currently teaching in District 209 and a graduate of Proviso West High School, I am professionally and personally invested in my research subject. Thus, I must consciously avoid seeking and interpreting data solely to confirm my existing frustrations with the inequities of Illinois school systems.

This proposed study is relevant for two reasons, first as contribution to the broader discourse on inequitable access to school resources, which is especially poignant Illinois. While the state funding metric was recently revised to direct resources to less-advantaged districts, the new formula does not address the underlying predicament of geographically-disadvantaged students burdened by the externalities of attending schools that are spatially detached from their places of residence. My research seeks to understand how spatial inequities are exacerbated by school district fragmentation. Secondly, many studies that examine the relationship between school district fragmentation and continued patterns of segregation, whereas my proposed research will examine the impact of school district fragmentation within the confines of one

relatively homogenous community. Nonetheless, existing literature is essential for providing the context of this study as well as inspiring its methodology. The following section discusses a sampling of the scholarship that helped inform my prospective study.

II. Review of Literature

Existing scholarship is useful for affirming the educational inequities within the backdrop of American federalism. Working with the Public Elementary-Secondary Education Finance Data census collection, Morgan and Amerikaner (2018) study the relationship between state funding of school districts and the demographic profile within these jurisdictions. This study analyzes gaps in state funding for districts serving the most and fewest students of color as well as the most and fewest students in poverty. It then ranks the states on a five-part scale ranging from most *progressive* to most *regressive*. The authors carefully discuss their data selection process and methodology. For example, Morgan and Amerikaner explain that the *poverty rate* was chosen over *free and reduced lunch* status as the former indicator more closely aligns with existing literature whereas the latter can be skewed by district eligibility requirements (p. 5). Their analysis is significant for my proposed research. For context, it highlights the inequitable distribution of state funding in Illinois, which ranks most regressive in the category of poverty (p. 6) and forty-ninth of fifty when considering students of color (p. 11). For currency, their critical evaluation of statistical indicators is a reminder that my data selection should be appropriate to existing literature.

Whereas the Morgan and Amerikaner study considers inequities at the state level, my research will occur at a much smaller scale, with census tracts as the primary unit of study. Jonathan Sperling, a senior researcher at the Department of Housing and Urban Development, cautions against naively conflating the boundaries of a neighborhood with small-area data sets (p. 219). For instance, he dismisses the use of ZIP codes as proxy for neighborhood geography by reminding the reader that these are nothing more than convenient data sets developed by the Postal Service to facilitate the daily deliver of mail (p. 221). His “Tyranny of Census Geography” (2012) did give me pause when placing my proposed study in the scope of census tracts. Nevertheless, as tract 8167 is a separate and distinct entity within Proviso Township as well as Northlake, I am confident that this locality is appropriate.

Like census tract 8167, the school districts of Proviso Township and Leyden Township play a pivotal role in my proposed research. Cornell University sociologist Kendra Bischoff (2008) favors school districts as her unit of analysis for fragmentation because, unlike those living in a given census tract, residents of school districts are typically aware of accompanying boundaries and people conscientiously sort themselves according to school districts (pp. 188-89). She hypothesizes that racial segregation correlates with the proliferation of independent school districts in metropolitan areas (p. 191). In addition to confirming this hunch, her analysis concludes with a meaningful discussion of ensuing policy implications. For instance, she predicts the longevity of fragmentation and segregation, citing a string of court cases that favor local control of schools. Bischoff notes that “school districts are often the most fiercely protected of jurisdictional boundaries” (p. 208). She warns that fragmentation will stymie the regional planning process (p. 207). This paper is commendable for a variety of reasons, one of which is the social and political consequences of her research. Also, I appreciate her careful use of terminology. Bischoff moves beyond an assumed understanding of the term *fragmentation* to quantifying the term for use in her analysis. She formulaically describes it on a numeric spectrum, where 1.00 equals complete fragmentation (i.e., every child in the area under study attends a separate school) and 0.00 represents full incorporation (i.e., every child attends the same district school) in the metropolitan areas under study (p. 193). Bischoff provides a clear reminder that my research must be framed as a set of operationalized variables.

The quantitative nature of school geographies is articulated in other scholarly articles. Stroub (2017) argues that irregularly-shapes attendance zones (those sub-regions drawn up within a multi-unit school district) perpetuate school segregation, a subject familiar in the discussion of public education (pp. 68-69). Her earlier analysis complements existing literature by quantifying these irregularities as Richards and Stroub (2015) drew data from the School Attendance Zone Boundary Information System (SABINS) to collect a sample of nearly 24,000 attendance zones within 1,721 school districts (p. 11). Various mathematical models were employed to measure the degree of compactness, indentation, and dispersion evident in the shape of attendance boundaries within school districts. For example, boundary indentation is measured by the Polsby-Popper approach in which the area of a perfect circle is compared the perimeter of an equal area school district boundary (p. 8). The resulting pairs were vastly disproportionate in size. Richards and Stroub then examined the correlation between the irregularity of attendance zone shapes and the demographics of these catchments areas. Among many conclusions, their

study concludes that boundaries are more likely to be gerrymandered in predominantly white districts with an influx of non-white residents and less likely to be gerrymandered in the urban core of metropolitan areas (p. 22).

However, the Richards and Stroub study devotes minimal attention to passive factors that misshape the geometry of boundary lines. For example, physical barriers such as industrial tracts or transportation corridors may logically define a seemingly-odd boundary line. This matters in the context of my prospective study as attendance boundaries are complicated by a large rail yard. Also, I question the use of “gerrymandering” for a study of district borders. Does it unfairly conflate a legally-controversially political maneuver with the necessity of redrawing school attendance boundaries in the face of ever-changing demographics? Ironically, Richards (2017) employs the term “affirmative gerrymandering” to identify redistricting practices aimed at increasing diversity (p. 69). Studying the socioeconomic implications of school attendance boundaries is undoubtedly valuable. Nevertheless, the works of Richards and Stroub caution me to avoid sensational language, selecting instead more objective terminology that is less burdened by fluid connotation.

Inspiration for my proposed methodology comes from Burdick-Will (2018), who examines how social interactions and sense of place are affected by the distances people travel between home and school. Her data come from *Making Connections*, a multifaceted national survey of low-income neighborhoods developed by the National Opinion Research Center at the University of Chicago. The NORC survey includes home addresses and corresponding school locations as well as digitized maps on which respondents draw what they perceive to be the boundaries of their neighborhood. Other relevant data include the degree to which these respondents agree that they live in a “close-knit neighborhood” (p. 422). Burdick-Will hypothesizes that social bonds will be stronger among residents whose children attend nearby schools and that perceived neighborhood boundaries are influenced by the direction of the school attended by each respondent (p. 421). Her analysis confirms the positive correlation between strong communal bonds and proximity to oft-attended social institutions like schools.

This study is rightfully rooted in a broad swath of resident input. Her sample set consists of 2,503 households with school-age (5-17) children. However, Burdick-Will acknowledges the challenges of this vast data set. For instance, parents may have multiple children attending different schools (p.431). In turn, this complicates the mental mapping exercise as respondents typically include schools in their conceptualized neighborhood. As the aggregate number of

public high schools is inherently less than the amount of elementary and middle schools in any given community, the study may have been simplified by considering only households with secondary students. Likewise, 15.5% of her respondents “failed to draw digitizable neighborhood boundaries and could not be included in the analysis” and their data were excluded from the analysis (p. 425). Do these omitted surveys indicate a lack of spatial awareness or familiarity with the very neighborhood under study? If indeed the exclusion stems from incognizance, this sizable omission of the sample population may skew the conclusion of her study. Nonetheless, the Burdick-Will study provides a model for studying the spatial relationship between people and community institutions. The perceptual mapping exercise seems ideally suited to my proposed study of the geographic divide between the Leyden and Proviso township high school districts. My survey instrument and interview protocol were similarly inspired by Wood and Lemley (2015), whose mapping activity prompts respondents to mark places of exclusion and discuss the nature of their personally-defined boundaries (p. 3).

Along with perceptual consequences, my study aims to understand the more concrete and quantifiable ramifications of school district fragmentation. As such, part of my methodology is influenced by Ewing and Cervero (2010), who examine preceding literature on the built environment and its relationship to means of transportation. Their analysis considers the link between vehicle mile traveled and a host of outcomes ranging from energy consumption to climate change and the social cost of automobile dependence (p. 2). Their academic footprint is evident in my survey instrument, which asks students to identify the factor that most influences their commute to school by motor vehicle. This approach is inspired by various factors in the built environment that Ewing and Cervero suggest influence automobile use, such as the design of street networks and distance to transit (p. 3). While the Ewing and Cervero study is the purview urban planners, they discuss applications directly relevant to my research, such as the environmental impact of vehicle travel as well as the relationship between our built environment and the likelihood of pedestrian commutes (p. 13). Davison, Werder and Lawson (2008) are also instrumental to my proposed study. Their research, gleaned from an analyses of medical and transportation fields, identifies predictors of active student commuting, such as demographic and community factors as well as school characteristics (pp. 3-5). Each study was essential in developing my survey instrument, which accounts for various influences on the means of student commutes and the question set developed for my interview process.

Lastly, for historical context, I examined a variety of literature suggesting that the dilemma of school district boundaries has been an ongoing topic of scholarly discourse for nearly a century. One article from a 1924 volume of *The Elementary School Journal* discussed the legal consequences of school district boundary change, detailing the ensuing litigation arising from shifting tax levies, school debt, and changes to school real estate deeds (Edwards, p. 518). Decades later, the American Council on Education wrote in the aptly-titled “School District Crazy Quilt” (1948) of the roughly one-hundred thousand public school districts throughout the United States, eleven-thousand of which were in Illinois alone (Chambers, p. 268). Successive generations continued a discussion of the incongruous design of public school districts. Writing for the *Annals of American Geographers*, Donald Maxfield (1972) suggested that one solution to the asymmetrical bonds between pupils and their assigned schools was to determine attendance based on “the total distance of routing from student homes to school” (p. 583).

Recently scholarship, citing case studies from the past decade, highlights the current climate of shifting school boundaries. For instance, Martin and Levy (2018) discuss the efficacy of anticipatory measures by which school districts can adjust for imbalanced enrollment. While focused on total student enrollment within a given district, their study notes that some policies allow for students to transfer from their assigned building to an out-of-district school (p. 26). This is one of many current articles to consider a fresh assessment of ill-suited or anachronistic school district boundaries. Swannstrom et al. (2013) examine the impact of suburban fragmentation on political engagement at the local level, arguing that schools and other public institutions are essential to developing what they call “civic capacity” (p. 39). From a host of related articles, I selected these for my research proposal as the former suggests that sensible change is possible whereas the latter is a firm reminder that my study is more than a critique of mapped lines. Grasping the social consequences of school district fragmentation is just as relevant.

III. Treatment of Data and Methodology

A. Determination of Homogeneity

As it is fundamental to the premise of this research proposal, I have already confirmed the ethnic homogeneity that exists in my selected unit of study. To determine ethnic composition, the following data were gathered for both tract 8188 and tract 8167: 1) *percent*

Hispanic, of any race, 2) percent white, non-Hispanic, 3) percent African-American, and 4) percent Asian. While other racial and ethnic indicators exist, these are the four most common in the region under study. These data are available from the Census Bureau *American Fact Finder*. Once gathered, data from the two census tracts were aggregated into one composite geographic unit, which comprises the area of Northlake bisected by two school districts that is the fundamental unit of this study. The percentage of each demographic indicator was then calculated. The resulting figures were then processed using a modified Herfindahl-Hirschman Index¹, first squaring then summing the four-category demographic data for the composite census tract and other geographies. This statistical approach is rooted in the following principles: the more ethnically diverse populations are indicated by a lower score whereas higher numbers reveal relative homogeneity. To confirm that the community in question is indeed relatively homogenous, these two aggregated Northlake census tracts were measured against the following geographies: Proviso Township High School District 209, Leyden Township High School District 212, the Chicago Metropolitan Statistical Area, the States of Illinois, and the United States as a whole. As indicated by the resulting figures (see chart), this segment of Northlake is indeed more homogenous compared with the other geographic scales.

The relative measure of socioeconomic homogeneity will be determined using the formulae described above in the context of *educational attainment* and types of *occupation* held in these various geographies. My data for educational attainment will be gathered from census records for the population over twenty-five: 1) *less than high school graduate*, 2) *high school graduate or equivalent*, 3) *bachelor's degree*, and 4) *graduate or professional degree*. Likewise, calculated from the same formula for ethnic and educational criteria, a comparison of employment will be indexed from the census categories of *employment by industries*, ranging from *construction* to *public administration*. Similar to my previous discussion of ethnicity, socioeconomic indicators will be compared with neighboring census tracts and other geographies. This is necessary to rule out the possibility that the relative homogeneity in my unit

¹ Modeled on the Pew Research Religious Diversity Index (RDI) with the US Census data estimates (2017) applied:

	8118 & 8167		District 212*		District 209*		Chicago MSA*		Illinois		United States	
	Total	HHI	Total	HHI	Total	HHI	Total	HHI	Total	HHI	Total	HHI
% Hispanic, Any Race	65.37	4273	38	1444	33	1089	22	484	17.3	299	18.1	238
% White, Non-Hispanic	29.02	842	56	3136	23	529	53	2809	61.3	3758	60.7	3685
% African-American	.46	.2	2	4	40	1600	16	256	14.6	213	13.4	180
% Asian	.03	.0009	3	9	2	4	7	49	5.7	32	5.8	34
		5115		4591		3222		3598		4302		4137

of study is not simply a reflection of broader regional, state or national trends. These comparative measures are also necessary to validate the study, which seeks to better understand the impact of school district fragmentation on a relatively homogeneous community.

In addition to establishing the relative ethnic and socioeconomic homogeneity, my analysis will confirm financial disparities between the Northlake two high school districts. This element of the study will probe the finances of each district, including a comparison of resources allocated to instruction in either district as well as the origin of funding, which is largely reliant on local sources. Relevant funding data are publicly available through the Illinois School Report Cards, annually published by the Illinois State Board of Education. While seemingly tangential, these data are necessary to acknowledge the existing body of literature on school fragmentation, which discusses inequitable access to education for historically marginalized groups. My study will likely confirm a spatial inequity that can augment current scholarship.

B. Subject Recruitment

Initial participants will be recruited from the student body of the Proviso Mathematics and Science Academy and Proviso West High School. Working with district administrators, the specific selection of possible student participants will be determined by matching addresses from the school database with the boundaries of census tract 8167. Targeted requests for student participants, identified by student ID number, will then be handed to each Language Arts teacher to pass the formal request to each selected student. (I have a good rapport with my colleagues at both schools and this particular teacher cohort is useful as all District 209 students are enrolled in a Language Arts class at any given time.) Participation in the survey is voluntary, with no incentive provided.

I hope to compile a minimum of fifty completed surveys. This number would constitute roughly one-quarter of public high school students from tract 8167 enrolled in Proviso Township high schools. Survey prompts (see Appendix) are designed to elicit evidence of travel patterns as well as student sense of place relative to their immediate surroundings in the broader context of local high school districts. Those students who complete the survey will be encouraged to sit down for a parent-sanctioned, in-school interview. Interviews will take place at the convenience of students, either before or after school as well as during lunch periods. Unlike the survey, which can be completed with minimum inconvenience, the interview will demand a time commitment for each student. As such, this portion of the study will be incentivized. I will offer

equivalent of service hours or, if colleagues are willing, extra credit for student interview participants. Considering variables such as student interest and time constraints, the specific number of respondents cannot currently be determined. Nevertheless, I hope to access at least subjects for a sit-down interview.

The final body of participants will be assembled as a matter of convenience, as my aforementioned recruitment strategy cannot produce a randomized population. Survey recipients and interviewees will be selected solely from Proviso Township residents of Northlake. While tract 8167 and tract 8118 are considered together to define the relative homogeneity of this community, it is residents of tract 8167 who disproportionately shoulder the spatial burdens of school district fragmentation in this community.

C. Survey Instrument

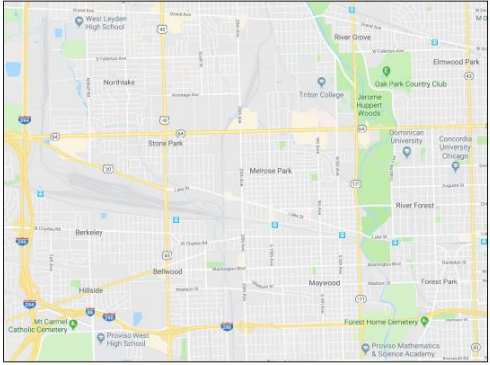
Please complete this survey and hand it back to your Language Arts teacher when finished. Also, I am looking to interview individual students regarding their responses to this survey. Your interview should last roughly 15 minutes and will be conducted at school. If interested in participating in an interview, contact me at scolwell@pchs209.org or write down your preferred e-mail address in the space below so that I can contact you. I appreciate your help!

Thank You,

Mr. Colwell

1) Using the map below, complete the following tasks:

- Using lines, draw what you believe is the boundary of your neighborhood.
- Mark X^o on any area of the map that you are certain is not part of your neighborhood.
- Place three visible dots to indicate the locations where you typically spend most of your time. *do not include your home or school as part of these three places*



2) How do you typically get to school? *check one*

_____ Car or Van _____ Bus _____ Bicycle _____ Walk _____ Other

3) If you checked car or van, how many students (including you) are typically in the vehicle? _____

4) Are you driven to school by someone who returns home and picks you up in the afternoon? _____ *Yes or No*

5) Using the options listed, respond to each the following statements:

A = Strongly Agree B = Agree C = No Opinion or Not Sure D = Disagree E = Strongly Disagree

_____ I have a strong bond with my community and close ties to neighbors

_____ I have a long commute to and from school.

_____ My closest friends attend either PMSA or Proviso West.

_____ Of the different places I visit on a daily basis, the trip to school is my longest commute.

_____ Given the opportunity, I would prefer to walk or bike to school.

_____ Beyond the typical school day, I regularly attend events at PMSA or Proviso West.

6) What best explains the reason that drive or commute to school in a vehicle? *check one*

_____ There are no sidewalks or paths that connect my neighborhood to my school.

_____ My route to school is not safe for bikes or pedestrians.

_____ I am not allowed to walk or ride my bike to school.

_____ I do not have the time to walk or bike to school.

D. Analyzing the Spatial Disconnect

More than the financial disparities experiences by the Northlake residents of Leyden Township and Proviso Township, this study will concentrate on the spatial consequences of school district fragmentation. The residents of tract 8167 occupy a small enclave of Proviso Township, separated from the rest of the school district by a large rail yard. This study will

consider the consequences of time and distance faced by public school students commuting from this area of Proviso Township, which is significantly closer to West Leyden High School than either of the schools assigned to residents of tract 8167. Using the geographic center of tract 8167 as a reference point, I will compare the distances traveled while commuting to Proviso West as well as the Proviso Math and Science Academy as opposed to the more proximal campus of West Leyden. The time of each separate commute will also be documented, with a running log kept for each school day over the course of two weeks. These daily travel times will be recorded at of 7:30^{AM} and 3:30^{PM}, roughly correlating to beginning and end of bell schedules in each school district. As with distance, travel times can be obtained via the directions function of Google Maps.

Besides the personal inconveniences of longer commutes arising from school district fragmentation in Northlake, my study will consider the environmental consequences of Proviso students commuting to schools that are significantly further from the more proximal West Leyden High School. The following formula will be used with the geographic center of tract 8167 as a reference:

- *Distance of Travel to Proviso West – Distance of Travel to West Leyden = Excess Commute*
- *Distance of Travel to PMSA – Distance of Travel to West Leyden = Excess Commute*

Figures derived from the daily commute of tract 8167 Proviso students will be calculated to determine to annual amounts of CO₂ emitted as a result of the excess commute (Fecht, 2019). Each calculation will be unique to the given mode of transportation (identified by the student survey) and prorated to account for a 176-day school year. My analysis will also account for carpooling and students shuttled to school by an adult, a circumstance that would compound the daily excess commute as the distance traveled would include two additional trips to and from census tract 8167 to the school in question.

The selection of students must be determined with the aid and approval of District 209 administrators. This process will likely take two weeks and involve appointments with the Assistant Superintendent of Academics and Family Service as well as time necessary for this office to receive approval from the District Superintendent. Upon approval, another two to three weeks is necessary meet with Language Arts teachers in order to explain the logistics of the survey and allow them to work this procedure into their routine. Further time may be needed to send out multiple requests to selected students who did not respond to the survey. When all surveys are completed and collected, students (identified via surveys) will be contacted to set up

a time and place for interviews. This process, in addition to the time required for interviews and transcription, will be given eight to ten weeks to complete. The following questions will serve as the basis for the interview:

- Discuss the X^s on your survey map.
In other words, why do you *not* consider these places to be part of your neighborhood?
- Explain the reason(s) for why you drew this particular border of your neighborhood.
What distinguishes the areas inside your neighborhood from those outside?
- How much time do you spend at places on the other side of North Avenue?
Describe your activities in these places.
- Taking a guess, how much time do you spend traveling to and from school each day?
- Compared to students living closer to school, how is your day different because of this commute?
- How does your school commute interfere with other daily routines (e.g., homework, job, etc.)?
- In your opinion, what is a reasonable amount of that students should spend commuting to school?
- On a typical day, what prevents you from walking or biking to school?
- What are the biggest obstacles to taking public transportation to school?
- Of all the high schools you can think of, which one is closest to your home?

Prior to writing up the findings, my survey and interview data will then be assessed. The mapping portion of my survey will be used to identify how closely Proviso Township students associate themselves with the areas across North Avenue as opposed to areas within Proviso Township itself. This may determine the degree to which a perceived spatial disconnect exists. Collected from interviews, the input of individual stakeholders will complement the quantitative findings of my study. Their anecdotes will give voice to an otherwise prosaic collection of data.

IV. Conclusion

This study leans toward the inductive end of the research spectrum and, lacking the soon-to-be assembled data, I cannot foretell the outcome of my prospective analysis. Being student of Geography, I am concerned with the spatial disparities outlined in this proposal. As an educator at the Proviso Mathematics and Science Academy, I have regular contact with students from census tract 8167. Kids from Northlake have expressed frustration over the distance they travel to either Proviso West High School or PMSA, both of which are significantly further from their homes than the more proximal West Leyden High School. Using my own words, some describe Northlake as a community that seems marginal to their high schools experience. I anticipate that my analysis will confirm their frustrations. Also, my findings will likely demonstrate that this

particular case of school district fragmentation results in an outsized carbon footprint. As a student of Environmental Studies, I am further convinced that my prospective study has merit. My intent is not to embarrass or shame the people of Proviso Township. (I can personally attest to exceptional commitment and talents embodied by school personnel and parents alike.) I only hope that my research can objectively identify an existing inequality at our local level and persuade the broader community of geographers and educators to recognize the spatial divides that often go unnoticed in existing scholarship and school policy.

The optimal outcome of this proposed research would be felt at multiple scales. At the most local level, we might better appreciate the frustrations experienced by stakeholders in this educational community. In the broader context, this study might inspire further research to add nuance and texture to the existing body of literature devoted to school district fragmentation. Similar situations certainly exist outside the bounds of Proviso Township.

Ideally, this research would serve as a blueprint and catalyst to identify and study these scenarios. The geographic scope of my perspective study is limited to one area of West Cook County with which I am very familiar. Future studies might devise and incorporate a GIS-based methodology that identifies relatively homogenous communities that straddle the boundary of disparately funded school districts. Subsequent research might also consider travel patterns within larger school districts. For instance, the byzantine system of Chicago Public Schools attendance lends itself to a analysis of excess commutes. I expect that a generalized model or GIS formula would require an exceedingly ambitious undertaking. The analysis would be confounded by an immense amount of data layered across multiple fragmented geographies to a calculation of excess commutes that would inevitably be compounded by the selected scale of research (e.g., metropolitan, state, national, etc.) or districts with geographic subsets such as charter schools and attendance zone boundaries.

V. Timeline

I plan to begin gathering and analyzing census and school funding data during the upcoming summer season. This is an ideal time to formally engage district official as regular school is not in attendance. I hope to secure research supervisors the following fall. Once committed, these mentors can provide necessary feedback for teasing out inconsistencies and fine-tuning my research plan. Concurrent with my PMSA teaching schedule and course load at

NEIU, the ongoing mentorship and review process will likely occur over the course of the fall semester. By the start of the following spring semester (2020), I hope to have my formalized research plan and survey instruments in place for consideration by the Institutional Review Board. Once approved, I can administer the surveys to students. This will coincide with the second semester of our high school term, when students from tract 8167 had experienced at least five months of commuting from their Northlake enclave to Proviso Township high schools. Ideally, I can begin the analysis of student data and commit to writing the first draft of my results during the summer of 2020. I hope to enroll in GES 5903 during the fall semester of 2020 and complete the formal process, including presentation of my thesis, the following spring.

VI. Sources of Funding

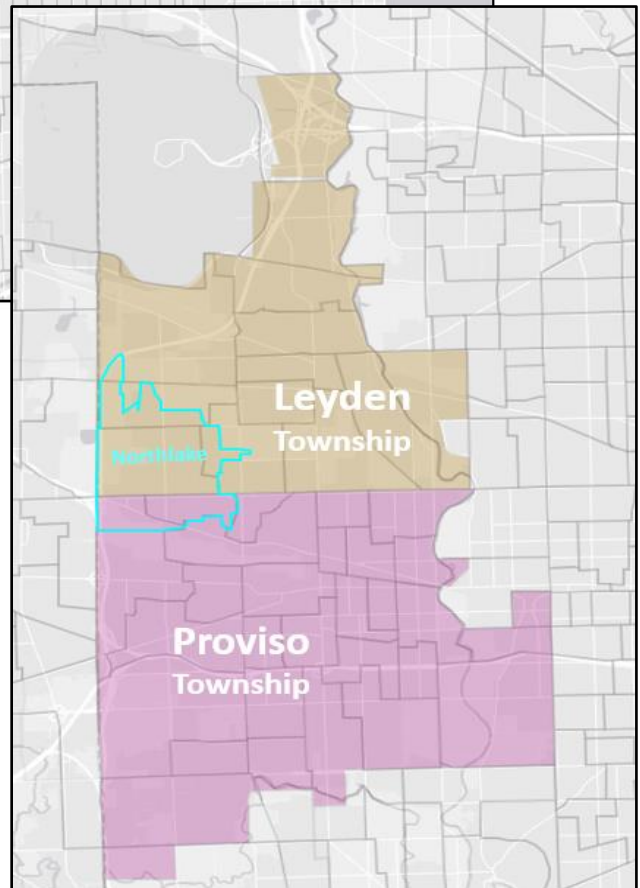
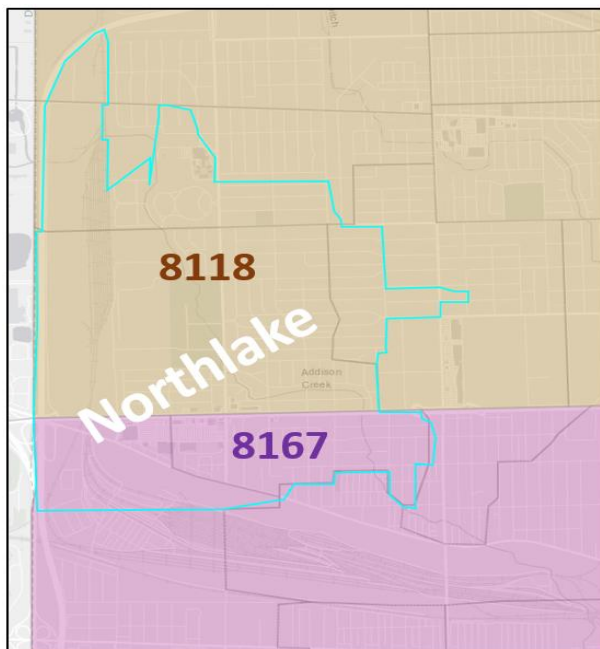
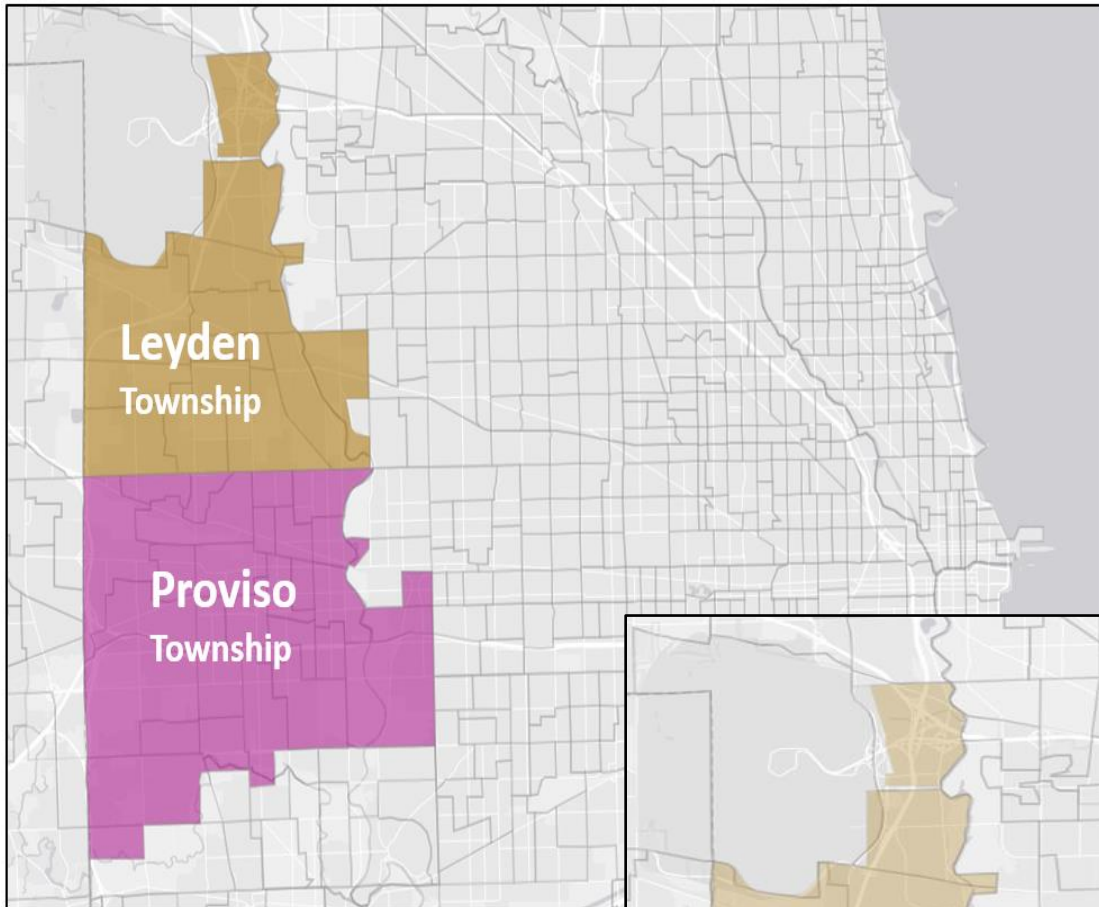
Potential funding for this prospective project will be difficult to procure. The results of my analysis will likely confirm the dysfunctional relationship between local communities within the existing bounds of fragmented political entities. It is a critique. Much of the available grant funding is aimed at pragmatic approaches to existing problems, not the revelation of new ones. For instance, the Transportation Research Board seeks “solutions that are practical and readily usable” (Hedges, 2019). Many potential funding sources are narrowly aligned to the specific mission of each institution. Although the aforementioned initiative is advertised as “very broad and considers many aspects of transportation” the program explicitly favors highway studies (Hedges, 2019). For those interdisciplinary activities I encountered, the moneys were largely allocated to teams of academics at major research institutions. Nevertheless, mine is a low-budget study entirely accessible from my daily sphere of activity. My place of employment provides access to photocopiers and everyday office supplies as well as internet communications. There are no facilities costs. As I am the sole researcher, personnel costs are non-existent. My travel expenses will not exceed those of my daily commute to work, where I have ready access to Northlake students attending the Proviso Math and Science Academy as well as Proviso West. Refer to Item A in the Appendix for my formal budget and a breakdown of anticipated costs.

VII. Appendix

A. Anticipated Budget

Category	Item	Cost Yr 1	Cost Yr 2	Narrative / Justification / Sources for price quotes
Personnel	N/A			
	<i>Subtotal</i>	\$0	\$0	
Facilities	Proviso Math & Science Academy			<i>location for student interviews</i>
	Proviso West High School			<i>location for student interviews</i>
	Dunkin Donuts (Northlake)			<i>location for interviewing recent graduates</i>
	NEIU			<i>site for advising, IRB, etc.</i>
	<i>Subtotal</i>	\$0	\$0	
Equipment	iPhone			<i>for recording interviews</i>
	HP EliteBook Laptop			<i>data storage, word processing, etc.</i>
	Copier/Printer			<i>for duplicating surveys (available at place of employment)</i>
	<i>Subtotal</i>	\$0	\$0	
Supplies	Office Supplies			<i>miscellany (available at place of employment)</i>
	Food and Drink	\$20	\$20	<i>as gratitude for interviewees at Dunkin Donuts</i>
	<i>Subtotal</i>	\$0	\$0	
Communication	Cell Phone			<i>unlimited data available via existing plan</i>
	Internet			<i>available via my home subscription and school</i>
	<i>Subtotal</i>	\$0	\$0	
Travel	Fuel			
	<i>Subtotal</i>	\$50	\$50	<i>cost of fuel outside of normal travel schedule, to various locations (this is an estimate subject to shifting fuel prices)</i>
	TOTAL	\$70	\$70	

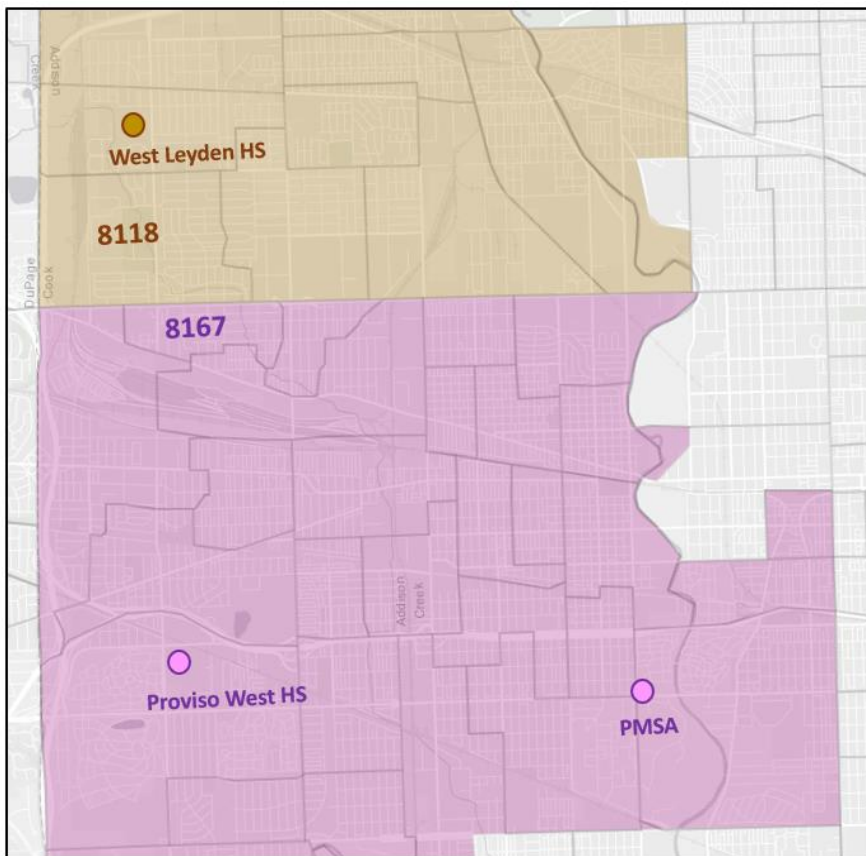
B. *Boundaries at Scale: Township, High School, Municipal and Census Tract*



C. Census Tract 8167: Enclave Isolated by Railyard



D. School Locations Relative to Northlake Census Tracts



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