



INTER-DISTRICT AND INTRA-DISTRICT SEGREGATION ON LONG ISLAND

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EXECUTIVE SUMMARY

Long Island has long been recognized as a region with a high degree of racial and ethnic segregation. In fact we rank tenth in the nation in residential segregation between blacks and whites. That puts us ahead of such cities as Los Angeles, Baltimore, and Washington, D.C. Further, we rank 19th in Hispanic/white segregation and this has grown rapidly since 1993.

A new study, conducted by Professor Douglas Ready at Teachers College, Columbia University measures the degree of segregation found within and between our school districts. Since school district boundaries mimic housing patterns, it is well known that Long Island's schools are highly segregated. But using a statistical tool known as Theil's H , an entropy index of segregation, the study indicates the extent to which racial and ethnic groups are (or are not) equally distributed across schools¹ and enables comparisons with the nation as a whole.

The key findings are:

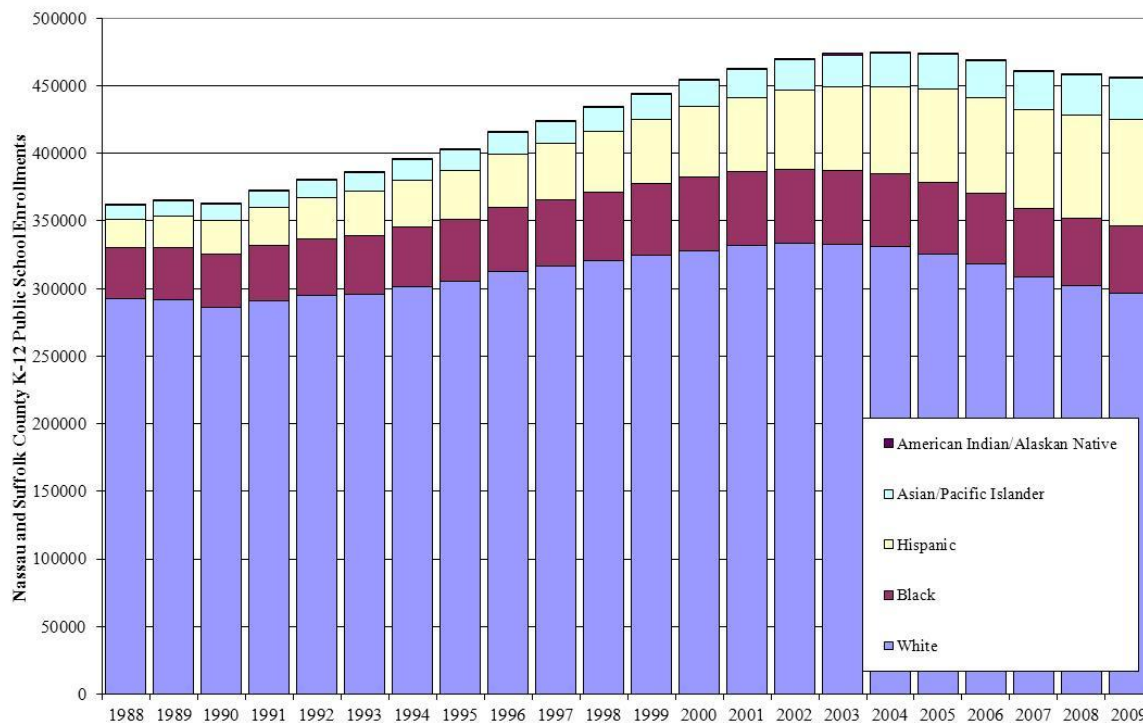
- Although there are some exceptions, schools in the same Long Island district aren't that segregated; instead, entire school districts are segregated from one another.
- Black-white segregation on Long Island is worse than Hispanic-white segregation, but Hispanic-white school segregation has been steadily increasing since the late 1980s, as the Hispanic population has grown to become the largest non-white racial/ethnic group in Long Island's schools.
- By one measure, school segregation on Long Island is double the national average; Nassau's is almost triple.

¹ Data for the analysis came from the Common Core of Data (CCD), which is collected through the U.S. Department of Education's National Center for Education Studies (NCES).

RESEARCH FINDINGS

Public school enrollments in Nassau and Suffolk Counties grew from roughly 362,000 in the late 1980s to over 475,000 by 2004 (see Figure 1). This enrollment growth, however, varied dramatically across student racial/ethnic groups. Hispanic enrollments increased threefold while Asian enrollments grew by 250% during this period. In contrast, white enrollments grew by only 12% percent and Black enrollments by roughly 33%. As a result, white proportional representation decreased from roughly 81% in 1988 to less than 70% by 2004. Moreover, by the start of the 2001-2002 school year, Hispanic students had come to outnumber their black peers. Since 2004, Long Island public schools have experienced shrinking enrollments, declining to under 460,000 by the 2009-2010 school year. These declines have been driven by reductions in white student enrollments, which have fallen by over 34,000. Conversely, Asian and Hispanic enrollments have continued to increase both proportionally and numerically. During the 2009-2010 school year, fewer than two out of three students in Nassau and Suffolk Counties were white.

Figure 1. Racial/Ethnic Public School Enrollments on Long Island, 1988-2009



Importantly, this growth in non-white student populations did not occur evenly across school districts. Figures 2 and 3 provide information about elementary school racial/ethnic segregation on Long Island. The measure of segregation here is known as Theil's H , which indicates the extent to which racial/ethnic groups are equally distributed across schools. Values of H range from 0 to 1, with 0 indicating that school racial/ethnic enrollments are perfectly balanced and 1 indicating perfect segregation. This indicator is not dependent on overall racial/ethnic enrollments in a given area. This is important, because student enrollments on Long Island have become increasingly non-white over the past several decades (see Figure 1). As such, simple indicators such as the proportion of schools that are majority non-white are not useful. A finding that more schools are currently non-white compared to a decade ago tells us nothing about increases in segregation, as all schools may have experienced similar increases in their non-white populations. Rather, analyses of Long Island schools require a measure of segregation that is less sensitive to overall racial/ethnic changes within a given population, and that considers how the distribution of racial/ethnic groups both within and across school districts changes over time.

Unlike Figure 1, which includes all public (non-charter) K-12 schools on Long Island, the analyses in Figures 2-4 include a particular group of schools and districts. Long Island has many school districts that are quite small where certain grade levels are offered only in a single school. For example, many districts offer only a single middle and a single high school, meaning within-district segregation in the upper grades is not possible. Moreover, in other districts particular elementary school grades are offered only in one school (e.g., a district might contain a single K-2 school, and a single 3-6 school), suggesting that between-school segregation in the lower grades is unlikely. Conversely, in districts where a given grade is offered in more than one school (e.g., the district provides two or more K-6 schools), there is the potential for neighborhood residential segregation to be associated with between-school (within-district) segregation. To account for this, the analyses in Figures 2-4 use data only from elementary schools in districts that offer two or more elementary schools with overlapping grades. Although the number of students, schools and districts vary over time, as schools are opened and closed and grade configurations altered, these analyses employ an average of 193,075 students, 335 schools and 82 school districts.

Figure 2. Black/White Elementary School Student Segregation on Long Island, 1988-2009

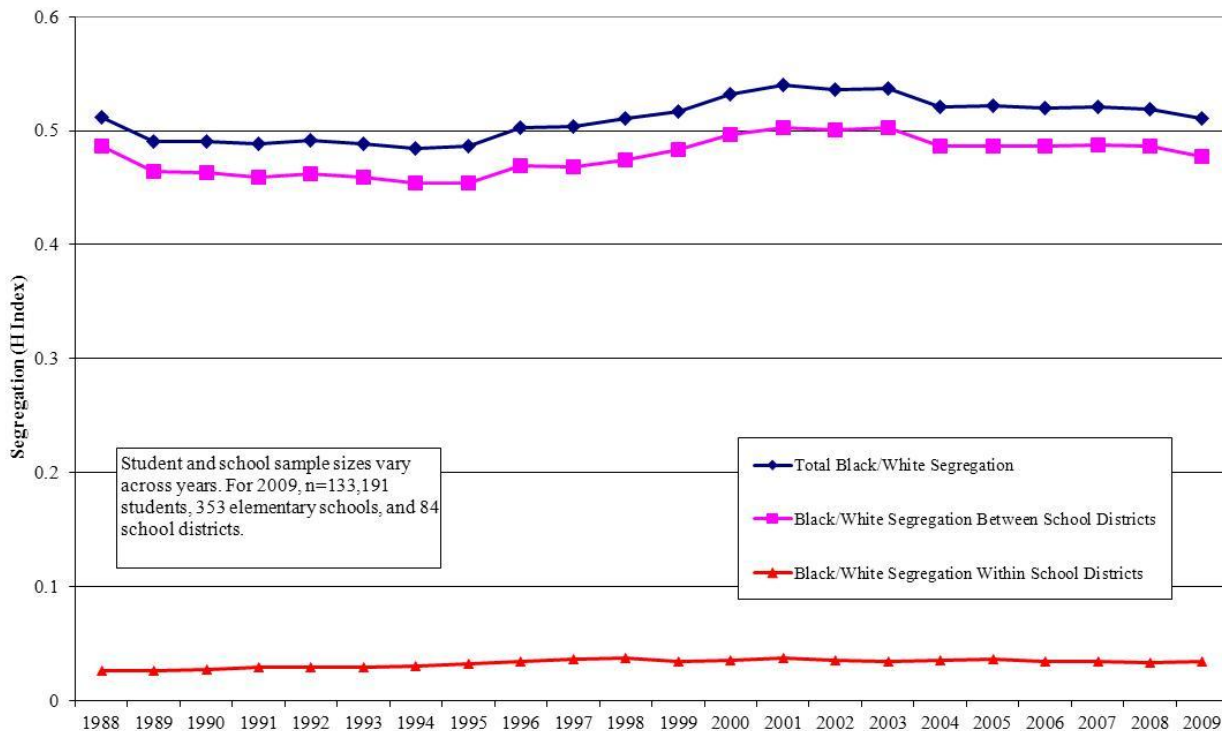


Figure 2 displays the extent of black/white elementary school segregation on Long Island. The top line indicates the total degree of black/white segregation. The middle line indicates the portion of black/white segregation that exists between school districts, while the bottom line represents the portion of black/white segregation that lies between schools in the same school district. The top line (the total amount of segregation) is equal to the sum of the bottom line (the amount of within-district segregation) plus the middle line (the amount of between-district segregation). Note first that overall black/white segregation on Long Island has remained relatively stable at very high levels for the past two decades. Values of H have been hovering around .5, which indicates that black/white school diversity is roughly 50% lower than the overall school diversity among Long Island elementary schools. Another important take-away is that black/white segregation occurs largely between school districts. Since 1988, roughly 10% of black/white

elementary school segregation has been located between schools in the same school district, while more than 90% has been located between school districts. In other words, within a given school district, black and white students are typically distributed relatively evenly across elementary schools. In general, within-district segregation is greater in areas that contain fewer, but larger school districts, as larger districts are more likely to capture a broader array of neighborhoods. Conversely, areas that support many small schools districts—Nassau and Suffolk Counties are prime examples—are more likely to evince segregation between (rather than within) school districts.

Figure 3. Hispanic/White Elementary School Student Segregation on Long Island, 1988-2009

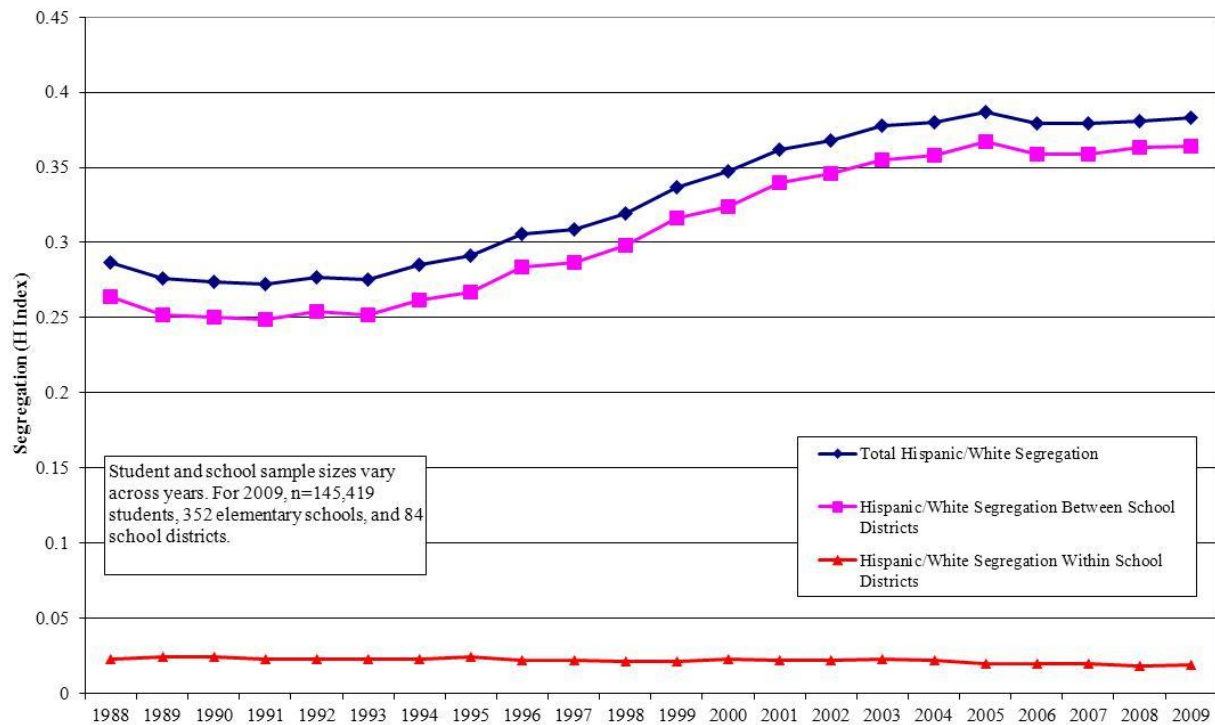


Figure 3 provides similar information regarding Hispanic/white elementary school segregation. As with black/white segregation, the vast majority of Hispanic/white segregation on Long Island exists between school districts. However, Hispanic/white segregation is considerably less severe than black/white segregation, although over the past two decades, Hispanic/white segregation has been steadily increasing as the Hispanic student population has grown, with increases disproportionately concentrated in a small number of school districts.

Black/White and Hispanic/White Elementary School Segregation in Nassau and Suffolk Counties

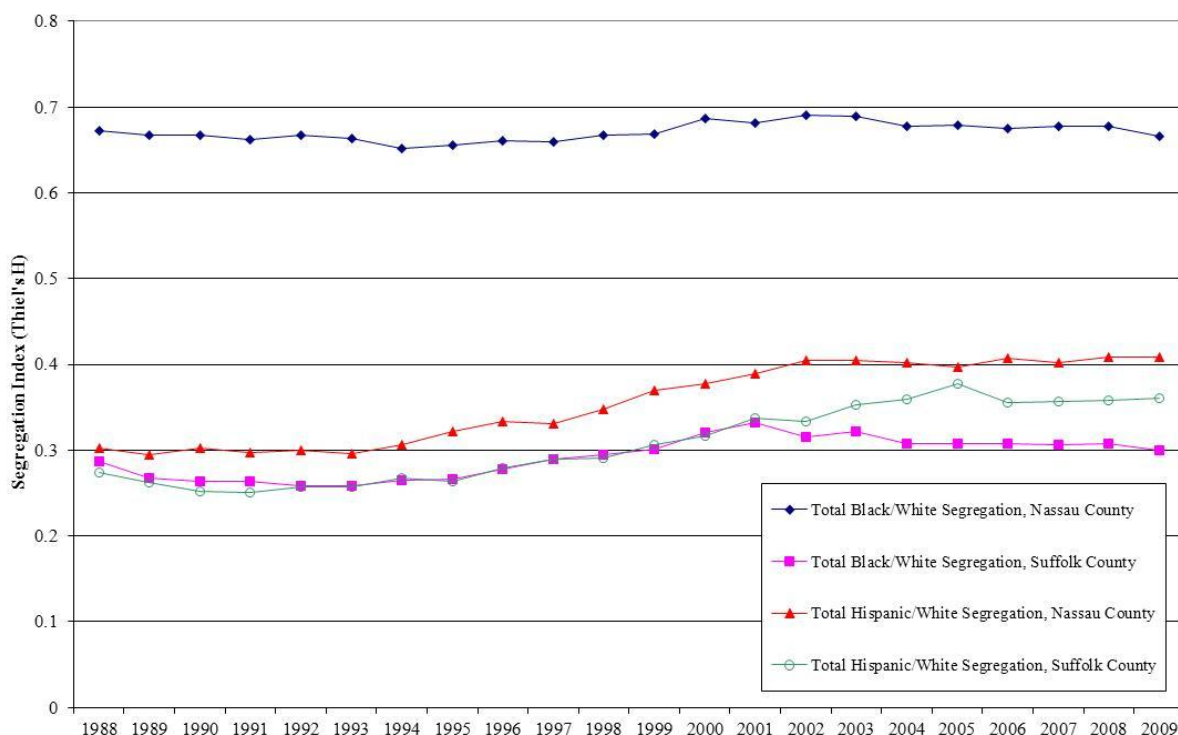


Figure 4 compares total black/white and Hispanic/white segregation in Nassau and Suffolk counties. Note first that black/white segregation is considerably more pronounced among elementary schools in Nassau compared to Suffolk County. Of the 190 Nassau County elementary schools included in these analyses, enrollments in 13 or more were 50% black or greater. Reflecting the between-district character of Nassau County's segregation, 9 of these 13 schools were located in only three school districts—Elmont, Roosevelt, and Baldwin. Conversely, of the 167 Suffolk County elementary schools included in these analyses, none had black enrollments greater than 50%. The fact that Nassau County schools enroll a somewhat larger proportion of black students compared to Suffolk County (12.2% vs. 7.7%, respectively) cannot fully explain these different enrollment patterns.

Levels of Hispanic/white segregation are more similar across the two counties, although also somewhat more pronounced in Nassau County. Both Nassau and Suffolk Counties each had 16 schools that were more than 50% Hispanic. Importantly, the 16 Suffolk County schools with Hispanic enrollments equal to or greater than 50% were all located in only three school districts (10 in Brentwood, 3 in Central Islip, and 3 in Copiague). Moreover, while these analyses included no Nassau districts with majority Hispanic enrollments, Suffolk has three.

To an extent, differences in the historical developments of Nassau and Suffolk counties explain their differing degrees of segregation. Another set of explanations flow from differences in the degree of municipal and school district fragmentation across the two counties. As noted above, in general, greater fragmentation is associated with increased housing and school segregation, and Nassau County is somewhat more fragmented compared to Suffolk County. For example, during the 2009-2010 school year, Nassau County was organized into 55 school districts, which served fewer than 200,000 students. In contrast, Suffolk County's public schools enrolled over 250,000 students organized into only 52 school districts. Moreover, Suffolk's school districts cover an area of over 2,372 square miles compared to Nassau's 453

square miles. In short, Suffolk school districts are typically larger both in terms of enrollments and geographic size.

How does Long Island compare to other U.S. metropolitan areas? In general, residential segregation in Nassau and Suffolk Counties is quite extreme by national standards. According to recent analyses of data from the 2010 census, Long Island was ranked as the 10th worst metropolitan area in terms of black/white residential segregation, ahead of such cities as Boston, Los Angeles, Baltimore, and Washington, D.C.² Hispanic/white segregation on Long Island is also severe, with the Nassau-Suffolk metropolitan area ranked 19th in terms of Hispanic/white segregation. Although Long Island housing segregation is troubling, school segregation in Nassau and Suffolk Counties is even more stark, due principally to the large number of school districts, the small size of many school districts, and the district fragmentation that results. Indeed, one recent study indicates that school districts on Long Island are the most fragmented of any metropolitan area in the U.S.³ Supporting this, another study using data from the 1990s indicated that of all U.S. metropolitan areas, Long Island schools were among the top three in terms of the percent of school segregation that existed between (versus within) school districts.⁴

In terms of specific values of segregation, such as the H indices described above, few direct comparisons are available. One reason is that Long Island is unique in that although the U.S. Census Bureau categorizes Nassau-Suffolk County as a distinct metropolitan area, it does not actually include a major central city. Another distinction is that Long Island's district fragmentation necessitates a focus on elementary schools—an approach not required in other national studies of school segregation. With these caveats in mind, it may still be instructive to note that extant studies have reported average metropolitan area levels of white/non-white segregation (H) of between .21 and .25.⁵ In contrast, on Long Island we find levels of white/black segregation to be greater than .5, and levels of white/Hispanic segregation that approach .4. In other words, there is some indication that school segregation on Long Island may be up to twice as severe as the national metropolitan area average, depending on the particular student populations examined.

² John R. Logan and Brian Stults (2011) "The Persistence of Segregation in the Metropolis: New Findings from the 2010 Census" Census Brief prepared for Project US2010. <http://www.s4.brown.edu/us2010>.

³ Bischoff, Kendra, (2008) "School District Fragmentation and Racial Residential Segregation: How do Boundaries Matter?" Paper presented at the Population Association of America (PAA) 2008 Annual Meeting. <http://paa2008.princeton.edu/download.aspx?submissionId=80082>

⁴ Clotfelter, Charles T., (1999) "Public School Segregation in Metropolitan Areas." *Land Economics* Vol. 75, No. 4 (Nov., 1999), pp. 487-504. <http://www.jstor.org/stable/pdfplus/3147061.pdf?acceptTC=true>.

⁵ Reardon, S.F., Yun, J.T., & Eitle, T.M. (2000) "The changing structure of school segregation: Measurement and evidence of multi-racial metropolitan school segregation, 1989-1995." *Demography*, 37/3: 351-364.