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Charter Schools, Parent Choice, and Segregation: A Longitudinal Study of the Growth of Charters and Changing Enrollment Patterns in Five School Districts Over 26 Years

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Abstract: In 1975, a court-ordered busing program was launched to desegregate the schools of New Castle County, Delaware. It was by many accounts one of the most significant and successful desegregation programs in the nation (Armor & Rossell, 2002; Orfield, 2014; Raffel, 1980). In 1995, the districts of the county were declared “unitary” and the court order was lifted. Shortly thereafter, new policies were enacted allowing school choice, charter schools, and neighborhood attendance zoning. This study draws on primary and secondary data, including geographic, census, and enrollment data, and provides an account of the policy changes and a 26-year longitudinal analysis of changing enrollment trends and patterns. Segregation by race and income among schools accelerated after the policy changes. While the policy changes created greater segregation, enrollment

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trends varied by district and over time; segregation growth was moderate in two of the districts, small in the others. Our study illuminates the complexity of explaining segregation patterns and disentangling the contributing role of choice, charters, attendance zones, and residential demographics in explaining segregation patterns in school systems.

Keywords: Segregation; school choice; charter schools

Escuelas charter, elección de los padres y segregación: Estudio longitudinal del crecimiento de las escuelas charter y cambio de los patrones de matrícula en cinco distritos escolares a lo largo de 26 años

Resumen: En 1975, un programa de autobús ordenado por el tribunal fue lanzado para desagregar las escuelas del Condado de New Castle, Delaware. En los últimos años se ha convertido en una de las más importantes y exitosas programas de desagregación en la nación (Armor & Rossell, 2002; Orfield, 2014; Raffel, 1980). En 1995, los distritos del municipio fueron declarados "unitarios" y el mandamiento judicial fue levantado. Poco tiempo después, nuevas políticas fueron promulgadas, permitiendo elecciones escolares, escuelas charter y zonificación de atención de vecindad. Este estudio se basa en datos primarios y secundarios, incluyendo datos geográficos, de censo y de inscripción, y proporciona una cuenta de los cambios de política y un análisis longitudinal de 26 años de cambios en las tendencias y patrones de inscripción. La segregación por raza y renta entre las escuelas se aceleró tras el cambio de política. Aunque los cambios de políticas crean mayor segregación, las tendencias de inscripción varían por distrito y con el tiempo; El crecimiento de la segregación fue moderado en dos de los distritos, pequeño en los demás. Nuestro estudio ilumina la complejidad de explicar los patrones de segregación y desenredar el papel de elección, cartas, zonas de atención y demografía residencial en la explicación de los patrones de segregación en los sistemas escolares.

Palabras clave: segregación; elección de la escuela; escuelas charter

Escolas charter, escolha dos pais e segregação: Estudo longitudinal do crescimento das escolas charter e alteração dos padrões de matrícula em cinco distritos escolares ao longo de 26 anos

Resumo: Em 1975, um programa de ônibus ordenado pelo tribunal foi lançado para desagregar as escolas do Condado de New Castle, Delaware. Foi por muitas contas um dos mais significativos e bem-sucedidos programas de desagregação na nação (Armor & Rossell, 2002; Orfield, 2014; Raffel, 1980). Em 1995, os distritos do município foram declarados "unitários" e o mandado judicial foi levantado. Pouco tempo depois, novas políticas foram promulgadas, permitindo escolhas escolares, escolas charter e zoneamento de atendimento de vizinhança. Este estudo baseia-se em dados primários e secundários, incluindo dados geográficos, de censo e de inscrição, e fornece uma conta das mudanças de política e uma análise longitudinal de 26 anos de mudanças nas tendências e padrões de inscrição. A segregação por raça e renda entre as escolas acelerou após a mudança de política. Embora as mudanças de políticas criem maior segregação, as tendências de inscrição variaram por distrito e ao longo do tempo; O crescimento da segregação foi moderado em dois dos distritos, pequeno nos outros. Nosso estudo ilumina a complexidade de explicar os padrões de segregação e desenredar o papel de escolha, cartas, zonas de atendimento e demografia residencial na explicação dos padrões de segregação nos sistemas escolares.

Palavras-chave: Segregação; escolha da escola; escolas charter

The Issue of Rising Segregation Among Schools

Racial and social class segregation in U.S. public schools is widespread and may be rising. A recent U.S. GAO report (2016), for instance, shows that the percentage of all K-12 public schools that had high percentages (75 to 100%) of poor and Black or Hispanic students has reached 16%, up from 9% in 2000. Currently, about 28% of all black students attend schools that are both high-poverty and 90% students of color. Orfield, Ee, Frankenberg, and Siegel-Hawley (2016) report “that during the quarter century since the high point [of racial integration] in 1988, the share of intensely segregated nonwhite schools (which we defined as those schools with only 0-10% white students) more than tripled, rising from 5.7% to 18.6% of all public schools” (p. 3). According to Owens, Reardon, & Jencks’s (2016, p. 1159) analysis, “within large districts, between-school segregation of students who are eligible and ineligible for free lunch increased by over 40% from 1991 to 2012.” Segregation *between* districts of poor and non-poor students also increased. There is no disputing the facts on the current conditions of widespread school segregation by both race and class, but there are different perspectives on whether segregation constitutes a significant policy problem.

One perspective is that pervasive and growing segregation among schools is not an issue. It is not an issue as long as state or district policies are not deliberately creating segregated schools. In the 1960s and 1970s, state and district policies that *did* intentionally segregate students by race – called “de jure” segregation – were ruled unlawful. Court findings of government actions designed to segregate schools produced the court-ordered desegregation programs in the 1970s and 1980s – these were viewed as remedies to a due process (14th Amendment) violation. The violation was state sponsored action denying black children an equal education. Now that policies intentionally designed to segregate schools have been eliminated, continuing school segregation today is viewed as “de facto” – a result of residential patterns and individual choices by parents about where to send their kids to schools. Segregation of this type is not viewed as “caused” by state/district policy, and therefore it is not something that needs to be remedied by state action. This perspective does not consider segregation per se as a problem and contends that it is not the government’s obligation to insure schools are racially integrated; this perspective supports school choice and charters as an appropriate mechanism to give parents the opportunity to go to the school they wish.¹

There is another more critical perspective: it is wrong to enact policies knowing they are likely to increase segregation and create large numbers of schools with high concentrations of black, mostly poor students. This perspective contends these policies are inconsistent with principles of schooling for the common good. As Justice Thurgood Marshall noted in a desegregation case, “unless our children begin to learn together, then there is little hope that our people will ever learn to live together.”² Part of this perspective is the belief that segregated schooling is too often unequal schooling (Billings, Deming, & Rockoff, 2012; Condron & Roscigno, 2003; Donnor & Dixon, 2013; Frankenberg & Orfield, 2012; Hannah-Jones, 2014; Hanushek, Kain, & Rivkin, 2002; Kahlenberg & Potter, 2012; Kozol, 2005; Logan, Minca, & Adar, 2012; Logan, Minca, & Adar, 2012; Rivkin, 2016; Rotberg, 2014). While no one contends student assignment policies can insure entire school systems consist of integrated schools – it is simply not practical – it *is* argued that state/district policymakers should not knowingly enact policies that exacerbate racial and social class segregation. Doing so is tantamount to intentionally creating unequal schooling. More seriously,

¹ This perspective has roots in neoclassical market theory espoused by many proponents of school choice and charters. For more on this, see Walberg & Bast (2003) or Wells (2000).

² Cited in Kahlenberg and Potter (2012).

such policies may rise to the level of illegal discrimination, in violation of the 14th Amendment's due process clause (just as "de jure" segregation policies were found to be unlawful by the courts the 1950s, 1960s, and 1970s).³

There is probably no ultimate resolution to the academic and policy debates over school segregation because there is no single "right" or "wrong" position. Different perspectives rest in part on different values about the priority of individual (e.g., parent) choice, the proper role of government, and the importance of racial and social class diversity in schools. But it is not just about value differences. There are many key empirical questions within the debate that, with better answers, can help both academics and policymakers clarify their perspectives and develop more informed positions. What, exactly, constitutes "segregation"? How do we measure it? Does segregation have adverse consequences on students' life chances or racial attitudes or other outcomes? Is school segregation bad for communities or cities? Has segregation by race and/or class actually increased significantly over time? Have policy decisions by legislators and school board officials led to greater segregation? Clearly, the questions are myriad and the absence of good information means debates will continue and evidence-free policymaking will prevail in the state and local sphere.

The question we focus on concerns the relationship between policy decisions and segregation outcomes. This is a complicated topic with a large, sprawling literature and many unanswered questions. In this paper we examine historical changes in student assignment policies in the school districts of New Castle County, Delaware, and consequences for enrollment patterns over 26 years. Our focus is on segregation between white and black students and low-income and non-low-income students. The county's school districts are ethnically and economically diverse – 35% black and 36% subsidized lunch⁴ – and similar in composition to many medium-sized urban/suburban districts nationally.⁵ The residential demographics and policy changes affecting student enrollments in the county's districts are similar to trends and changes in many districts. Nationally, and in Delaware, we have seen student assignment policies trending away from central control and toward parent choice and with a diminishing influence of racial balance as a guiding principle. Our analysis illuminates what has happened among the New Castle County districts which were part of a historically significant desegregation program. This analysis helps us understand enrollment trends nationally and their links to policy changes governing how students get assigned to schools. To the extent that research can clarify effects of policy decisions on race/class integration and segregation among schools, policymakers can know better the short and long term effects of their decisions and theorists and policy analysts can formulate more verifiable descriptive and causal models of policy systems.

³ This is similar to Rothstein's (2017) argument in his compelling book, *The Color of Law*, in which he shows how government housing policy directly supported discriminatory practices among realtors and state real estate regulatory bodies and contributed to widespread residential segregation.

⁴ Percent of students on free or reduced price lunch. Detailed demographic information is reported in subsequent sections of this paper.

⁵ For national comparative purposes, based on 2010 census data, cities similar to Wilmington's black-white dissimilarity index are Greensboro, NC, Pittsburgh, PA, Indianapolis, IN, Louisville/Jefferson County, KY, Fort Worth, TX, Denver, CO, San Diego, CA, Fort Wayne, IN, and Austin, TX. For the larger Wilmington metro area (SMSA), the black-white residential segregation dissimilarity index is 53%; of the ranked 384 SMSA's for which the index was calculated, from lowest index to highest index, the Wilmington SMSA's rank is 221 out of 384. Source is Brown University "Diversity and Disparities" project – a research project that has compiled data on trends within the U.S at multiple geographic levels

[\[https://s4.ad.brown.edu/Projects/Diversity/\]](https://s4.ad.brown.edu/Projects/Diversity/)

Next, we summarize key literature on student assignment policy changes and enrollment impacts related to segregation. Since our case study is longitudinal and historical, the following is organized to give the historical and policy context germane to our case study.

National Changes in Desegregation Policy

The year 1988 was the high point of racial balance among U.S. public schools. This was after more than two decades of districts across the country implementing court-ordered desegregation plans (aka, “forced busing”). The late 1980s, however, saw a rise in districts appealing to courts to lift desegregation orders (Gordon & Bartz, 1993; Lutz, 2011; Williams, 1987). Public support for large busing programs waned in the 1980s, interest in school choice was growing, and school officials in many districts wanted a release from court supervision. The Supreme Court, too, was changing its views. Chief Justice Burger retired in 1986 and was replaced by the less activist, more conservative Reagan appointee, William Rehnquist. According to Hunter and Donahoo (2004), “as such, the 1990s began with the Court uncertain of its own stance on this issue. More than anything else, the decisions issued during this era indicated that the Court had not only lost interest in promoting school desegregation but would have preferred to get out of the business altogether” (p. 351).

Two Supreme Court cases in the early 1990s enabled many districts to be released from court-ordered and supervised busing plans: *Board of Education of Oklahoma City v. Dowell* (1991) and *Freeman v. Pitts* (1992). These cases established the principle of “unitary status” – that a school district could be ruled to have adequately addressed the original discriminatory laws and practices if it had designed and implemented a reasonable desegregation plan.⁶ While specifics of the definition of “unitary” in Court decisions left room for interpretation, these two rulings nonetheless paved the way for many districts to file for unitary status in state and federal courts.⁷ According to one estimate, there were about 600 school districts under court-ordered desegregation by the late 90s; over half have been released from court oversight (Reardon, Grewal, Kalogrides, & Greenberg, 2012). The Justice Department continues oversight of 178 open federal desegregation court cases, some going back 40 years (U.S. GAO, 2016).

A few studies have examined effects on segregation of districts being declared “unitary.” They indicate that following the lifting of a desegregation order black-white racial imbalance among schools within districts gradually increases when compared with districts continuing with their court-ordered desegregation policies; greater increases are observed in districts in the south (Clotfelter, Vigdor, & Ladd, 2006; Lutz, 2011; Reardon, Grewal, Kalogrides, & Greenberg, 2012). The most recent of these studies, and the one with the largest sample (Reardon et al, 2012), indicates that the dissimilarity index⁸ is about 5% higher in, 10 years later, in districts declared unitary than in comparison districts remaining under a desegregation order. The effect is statistically significant, though not large.

There is also information, though more mixed, on segregation trends nationally within and among school districts. Two studies indicate that on a national level, since about 1990 there has not been much change in racial imbalance among schools. Logan and Oakley (2004) and Logan, Oakley, & Stowell (2006), using large purposive national samples, do not find a change in the dissimilarity

⁶ For an in-depth analysis of the development and evolution of the principle of “unitary status” in state and district courts prior to the Supreme Court rulings, see Williams (1987).

⁷ For more on this history, see Raffel (1980) and Wolters (1995).

⁸ The “dissimilarity index” is described in detail later in our paper. This is the same index used on our analysis, in addition to the other index we use, the “exposure index”.

index during the decade of the 1990s, although more recently, imbalance may have increased slightly as suggested by Rivkin's (2016) analysis, based on all the districts in the country. He finds a 4 point decline in the dissimilarity index between 1988 and 2012. What definitely has occurred, and studies from the 1990s onward show this, is that the overall proportion of whites in public schools has declined, and thus, so has the "exposure" index (shown in the above studies). While informative, measures at the national level mask substantial variation among districts – in size, history, geography, racial composition, and policy context – thus broad national generalizations mask important differences among districts. As Reardon and Owens (2014) note: "There is disagreement about the direction of more recent trends in racial segregation, largely driven by how one defines and measures segregation. Depending on the definition used, segregation has either increased substantially or changed little, although there are important differences in the trends across regions, racial groups, and institutional levels" (p. 199).

The Trend Away from Attendance-Zone-based Student Assignment and the Rise of Parental Choice and Charter Schools

School choice, a fringe reform idea in the 1960s and 1970s (Friedman, 1962; Coons & Sugarman, 1978), became widely implemented in the 1980s in the form of magnet schools. Magnet schools grew rapidly as part of desegregation programs to encourage voluntary integration (Blank, Dentler, Baltzell & Chabotar, 1983; Rossell, 1990; Steel & Levine, 1994). By the early 1990s, nearly half of urban school districts had magnet schools and school choice and as of 2010, magnet enrollment nationwide was between 1.5 and 2 million students.⁹

In the 1980s and 1990s, many states enacted legislation allowing parents to choose a school outside their assigned attendance area school (sometimes called "open enrollment"). Most state policies come with language requiring that racial impacts be considered in approving student transfers and prohibiting transfers that undermine court-ordered desegregation plans. Forty-four states now have interdistrict open enrollment policies (either mandatory or voluntary) and 34 also have intradistrict open enrollment policies (either mandatory or voluntary).¹⁰

Charter schools arrived on the education landscape in the early 1990s and now are in 42 states (and DC); 6,000 charters¹¹ now enroll about 5% of public school children.¹² Their numbers grew rapidly because they appeal to reformers on the left and the right (Gajendragadkar, 2006). The advocacy supporting charters is predicated on principles of parent choice, community empowerment, innovation, management autonomy, and competition. Innovation-minded educators and community empowerment proponents are supportive because they allow coalitions of teachers, parents, or other local stakeholders to create and run their own schools with specialized programs – schools that are publicly funded but operate independently of public school bureaucracies (Nathan,

⁹ https://nces.ed.gov/programs/digest/d12/tables/dt12_108.asp [U.S. Department of Education, National Center for Education Statistics, Core of Data (CCD), "Public Elementary/Secondary School Universe Survey," 1990-91 through 2010-11. (This table was prepared October 2012.)]

¹⁰ Education Commission of the States, *Open Enrollment: 50-State Report*, retrieved January 13, 2016.

¹¹ U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey," selected school years, 1999–2000 through 2012–13. See Digest of Education Statistics 2014, tables 216.20 and 216.30.

http://nces.ed.gov/programs/coe/indicator_cgb.asp

¹² http://nces.ed.gov/programs/coe/indicator_cgb.asp [U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey," selected school years, 2003–04 through 2013–14. See Digest of Education Statistics 2015]

1997; Smith, Wohlstetter, Kuzin, & De Pedro, 2011). Others support charter schools as a way to enhance the role of market forces in public education and produce, at least in theory, efficiency and productivity benefits from competition (Finn, Manno, & Vanourek, 2001; Hill & Lake, 2004).

Unlike magnet schools, charters have no historical “charge” to achieve racial balance. However, as charters have proliferated, press reports and studies are raising concerns about their potential to create greater race and class segregation within school systems (Frankenberg & Lee, 2003; Frankenberg & Orfield, 2012; Frankenberg, Siegel-Hawley, & Wang, 2010; Holme, Frankenberg, Diem, & Welton, 2013; Rotberg, 2014). Frankenberg and Orfield (2012), for instance, point out that 70% of black students in charter schools attend “intensely segregated” charter schools (90-100% of students from under-represented minority backgrounds). The AFT President Randi Weingarten recently labelled the choice and charters movement as being the “polite cousin of segregation.”¹³

Now most states have nondiscrimination or racial balance language in their charter approval and oversight policies (Frankenberg & Lee, 2003; Gajendragadkar, 2006). Some require charter proposers to describe procedures to ensure diversity; others direct charters to have student bodies “reasonably” reflecting the racial composition of the district in which the charter is located; others merely exhort charters to have a commitment to diversity in their recruitment and admissions. Delaware policy forbids a charter from being formed that will “circumvent a court-ordered desegregation plan.”

It is not known whether these policies have any significant effect in creating more racially integrated charter schools. Doubtless these policies encourage and incentivize many charters to attempt to recruit a diverse student body. But it is unclear whether state policies can legally go beyond pronouncements of racial balance/diversity goals or dictating procedural requirements in charter applications to recruit for diversity. To go further than this – to enforce specific admissions procedures and racial balance outcomes – would venture into risky legal territory (Gajendragadkar, 2006; Oluwole & Green, 2008). This is because charters are not and never were an instrument of desegregation and because a 2007 Supreme Court decision ruled against use of race-based admissions in public schools in the absence of a “de jure” violation (*Parents Involved in Community Schools v. Seattle School District No. 1*).¹⁴ Given this decision, it is questionable whether state policies can regulate charter admissions and enrollments to engineer racial balance. Irrespective of state policy, charters cannot in their admissions practices violate federal protections against illegal forms of discrimination.

Thus, the majority of charters have student bodies that draw most or all of their students out of nearby neighborhoods (Bifulco, 2014; Bifulco, Ladd, & Ross, 2009; Frankenberg, Siegal-Hawley, & Wang, 2010; Frankenberg, Kotok, Schafft, & Mann, 2017; Gulosino & d’Entremont, 2011; Hicks, 2017; Ritter, Jensen, Kisida, & McGee, 2010). Since there are racially homogenous neighborhoods in cities throughout the country, the student body of the charters in these neighborhoods will reflect the demographic composition of the neighborhood. Studies show that charter schools are disproportionately found in larger cities and in these cities, more likely to be in areas with higher

¹³ <http://www.washingtontimes.com/news/2017/jul/21/Randi-Weingarten-blasts-school-choice-segregation/>

¹⁴ A Seattle school district policy directed high schools to use race as an admissions criterion in instances where there were more applicants than seats. The district was not remedying a past “de jure” segregation violation; it was attempting to produce racially balanced schools. Some students, denied admission to a school they had selected, sued alleging the district’s “racial tie-breaker” policy was prohibited discrimination. The court judged the policy to be a violation of the Equal Protection Clause because students were denied admission based solely on their race (even if the intent was to create more racially balanced student body).

percentages of low-income and minority residents (Bifulco, 2014; Frankenberg, Siegal-Hawley, & Wang, 2010; Henig & MacDonald, 2002; Ritter, Jensen, Kisida, & McGee, 2010). These factors alone – charters' locations and parents preferring nearby schools – largely account for the fact that 70% of black students in charter schools attend "intensely segregated" charter schools (Frankenberg & Orfield, 2012).

Whether or not charters exacerbate segregation is a much debated question that has no single answer because methods differ among studies, because causality is difficult to infer, and because many local context variables shape enrollment patterns in any given district. A number of studies, but not all, suggest that in some districts and states, the rise of charters probably has contributed to greater racial segregation. These studies with samples from a single district or state find evidence of a likely segregative influence associated with the availability of charter schools. A study of Durham (NC) school district by Bifulco, Ladd, and Ross (2009) finds that a 10% increase in the percent black in the assigned attendance zone increases the average white student's likelihood of opting out by 6%, and living a mile closer to a school with a substantially higher percent white than the assigned school increases the likelihood of opting out by an additional 4.3%. A RAND study of charter school choices in Texas and California (Booker, Zimmer, & Buddin, 2005) finds black students in both states tend to move to charter schools with a higher percentage of black students and those schools are more racially concentrated than the public schools they leave. A study of charters in Florida finds "charter schools were more racially and socio-economically segregated, and that they exacerbated the segregation and stratification in traditional public schools" (Choi, 2012, p. xii). Gulosino and d'Entremont (2011) draw a similar conclusion from their analysis of charters in New Jersey and so does Garcia (2008), based on his study of transfers into charters in Arizona. A study in Indianapolis of transfers from traditional schools to 14 charters, finds that transfers of black students were to charter schools with, on average, a 9.2% higher percentage of black students, and transfers of whites were to schools with a 13.9% higher percentage of white students. "Overall, students are moving to charter schools that are less diverse than their previous schools" (Stein, 2015, p. 615). Frankenberg et al. (2017) studying transfers into charters in 10 Pennsylvania metropolitan regions find that black and Latino students are more likely to self-select into a charter school with students whose racial makeup is similar to their own.

On the other hand, two other district level studies and two studies with broad national samples do not indicate charters are leading to greater levels of black-white segregation. A large sample study was conducted by Chingos (2013) using 2003 to 2011 school-level enrollment data from all U.S. counties. He analyzes whether increases in the percentage of students enrolled in charters in a school system is associated with growing racial imbalance in the system and concludes: "There is no doubt that the high level of segregation in American society, including in our schools, is an important problem in its own right. The findings reported here indicate that it is unlikely that charter schools—a prominent effort to increase school choice, especially for students from disadvantaged backgrounds—are making the problem worse." Another longitudinal study with a very large (but not random) sample examined the effects of student level transfers to charter schools in Chicago, San Diego, Philadelphia, Denver, Milwaukee, and the states of Ohio, Texas, and Florida (Zimmer et al., 2009). They conclude: "Charter schools are not skimming the highest-achieving students from traditional public schools, nor are they creating racial stratification." A study of charters in Little Rock, Arkansas (Ritter, Jensen, Kisida, & Bowen, 2012) reports while many charters were segregated, so too were many traditional schools and that students transferring into charters generally left traditional public schools that were even more segregated. They conclude that "the majority of these transfers improve the levels of racial integration at the schools from which

they transferred” (p. 1). Arcia (2006), studying Miami, writes that “the impact of charters on racial/ethnic segregation was small if any” (p. 43).

Studies of charters' effects on segregation use different methods, cover different geographical areas, and produce different conclusions about effects on segregation. Many of the studies infer that charters' have a segregating influence based on analyses of student-level transfer choices from traditional to charter schools – if, on average, students select charters with more students of their own race, then, logically, overall segregation should increase – but these studies do not actually measure the extent of or changes in districtwide segregation over an extended time. Thus, while the evidence from these studies taken as a whole is persuasive that charters exacerbate segregation by race (and probably by class as well) in many districts and regions, differences in research methods and inconsistency of findings do not permit more precise generalizations or estimates of effect sizes. This, perhaps, should not come as a surprise given the complexities involved in research on this question. When researchers recommend additional research, most often they stress the need for studies that track enrollment changes over time and provide local context information to strengthen interpretations of results. This is the contribution made by our study.

From Desegregation to Choice-based Student Assignment Policy in Delaware

The policy changes described above have all occurred in New Castle County, Delaware.

Delaware is located northeast of Baltimore and southwest of Philadelphia, with I-95 running for 23 miles through its northernmost county, New Castle County (Figure 1). New Castle County's current population is 550,000. The northern half of the county is most densely populated (Figure 2), much of it urban (Wilmington) or mixed urban/suburban. The southern half of New Castle County – below the canal that bisects the county – is more rural and less densely populated than the northern portion, with one medium-sized city, Middletown (20,300 people). New Castle County's southern portion has many farms and about 10 small towns and villages, mostly fewer than 2,000 residents.

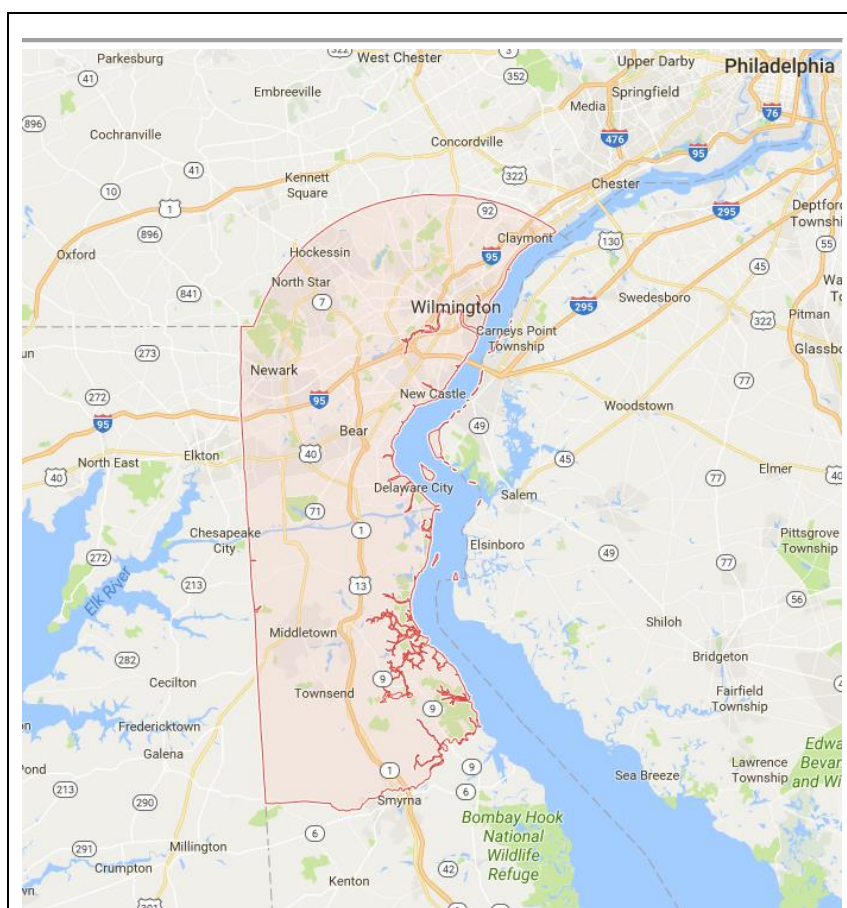


Figure 1. Delaware's New Castle County

Source: Google Maps

In the mid-1970s, New Castle County had 11 school districts with a total of 83,000 students. Of the 11 districts, the Wilmington school district was the largest, with 13,852 students, 85% of whom were black; 9 of its 22 schools were 95% or more black. One other school district, De La Warr, just south of Wilmington, was 55% black and 44% white. The other nine suburban school districts averaged 95% white. The city of Wilmington was 56% black and like most old American cities, residentially segregated. The trend for the last two decades had been toward increasing racial isolation of black students in Wilmington's schools as the number of black students steadily increased and the number of white students steadily decreased (Darden, 1985; Klaff, 1982).

In 1975, the U.S. District Court in the *Evans v. Buchanan* case ruled that these segregated conditions were the result of district and state actions and ordered a desegregation plan. It was a major undertaking. There were many stakeholders involved: the boards of eleven separate school districts, officials from the state education agency and board of education, federal court officials, and numerous citizens' groups.¹⁵ A city-suburban busing plan of this scale had no precedent – the Supreme Court's 1974 *Milliken v. Bradley* decision ruled against this solution if the between-district segregation was “de facto,” as opposed to “de jure” as determined in the *Evans* decision. In *Milliken*, the racial segregation of blacks in the Detroit city district, surrounded by white suburban districts, was judged not to be a product of racially discriminatory acts of the state or local school districts. The segregation in Wilmington, however, was tied to a 1968 state act that reorganized and consolidated districts throughout the state, but maintained the inner city, highly segregated, Wilmington school district. The *Evans* ruling, then, required that the suburban districts must be part of the desegregation remedy. It took several years, scores of meetings, and the submission of 19 different plans before a workable plan, satisfactory to all the involved parties, was approved by the districts, the state, and the court (Schmidt, 1985).

“In 1978 Wilmington and New Castle County became the scene of the most sweeping busing program ever implemented in the United States” (Wolters, 1984, p. 197). It involved eliminating 10 of the 11 districts, dividing the city-suburban region into four areas, and busing students between suburban and city schools within each of the areas. One of the original eleven districts, Appoquinimink, was not part of the plan given that Middletown (which Appoquinimink served) was located in southern New Castle County, 25 miles from Wilmington. By 1981, the four areas were turned into the four school districts that remain today: Brandywine, Christina, Colonial, and Red Clay. The four districts were roughly the same size (10,000 – 15,000 students), each district's boundaries included a portion of the city of Wilmington, and each district was about 25-30% black.

It was the nation's first multi-district, city-suburban busing program. As Orfield (2014, p. 6) writes:

Delaware's desegregation story is one of the most important in the nation. As the northernmost of East coast states segregated by law at the time of the Brown

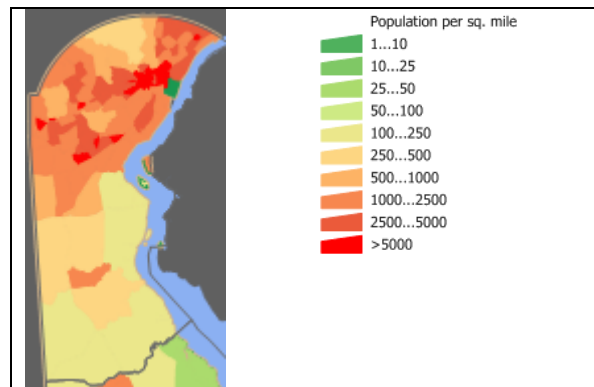


Figure 2. New Castle County population density

Source: U.S. Census, 2010, SF 1 file

https://commons.wikimedia.org/wiki/U.S._state_population_maps

¹⁵ For more on this history, see Raffel (1980), Schmidt (1985), or Wolters (1992).

decision, Delaware hardly promised to become a national leader in school desegregation. Yet because it was one of only two states where the federal courts ordered a district merger and full desegregation of what had been separate school districts in a large metropolitan area, Wilmington became a test of the possibility and durability of city-suburban desegregation policies. The scope of these policies went far beyond individual districts in fragmented metropolitan areas and affected the great majority of the local housing market [and] produced rapid, sweeping and long-lasting declines in school segregation.

The school district boundary and attendance area rezoning and busing resulted in uniformly racially balanced schools – each ranging from about 25-35% black. From the late 70s through the 90s, New Castle County was one of the most successfully desegregated metropolitan regions in the nation as measured by the reduction of racial segregation and the degree of racial balance achieved across all of its schools (Armor & Rossell, 2002; Orfield, 2014; Raffel, 1980). The widely used segregation index – the dissimilarity index – which had been as high as 82% in 1973 at the elementary school level, dropped into the single digits after the plan was implemented (Darden, 1985, p. 129). “As late as 1993 the New Castle County districts were among the most racially balanced districts in the country” (Armor & Rossell, 2002, p. 246).

In the mid-1990s, as was happening across the country, came the shift in attitudes and legal opinion about continued court involvement in and supervision of desegregation programs. In 1993, Delaware’s State Board of Education petitioned the federal district court for “unitary status” and in 1995 this was granted. Unitary status does not mean busing goes away or there is a wholesale redistribution of students to neighborhood schools. Unitary status only means that the court order goes away. In New Castle County’s four districts, being released from court supervision meant only that court oversight was ending. What to do next was up to the districts and the state department of education. The decisions and policies that determine which students go to which schools – decisions about attendance areas, grade configurations, bus routes, building locations, and many others – would now rest with the individual districts and the state department of education (Raffel, 2002; Wolters, 1995).

The four districts did not initiate immediate changes in their student assignment policies (Mascitti, 2000; Niemeyer, 2014; Raffel, 2002). It takes considerable time, effort, and resources to re-zone schools, change student assignment policies, re-assign staff, and redesign bus routes. While there were some who advocated dismantling the busing and returning immediately to neighborhood schools (Miller, 1999, June 10),¹⁶ this was not the position of most school district officials and

¹⁶ Some of these advocates, who had long opposed the busing, were able to gain legislative support for a bill to spur the districts to move more quickly toward “neighborhood schools.” The 2000 “Neighborhood School Act” aimed “to establish and implement a plan for neighborhood schools in Northern New Castle County that is fair and equitable to all affected children in New Castle County” (Neighborhood Schools Act of 2000, 14 Del. Code Ann. § 220). The Act directed the four districts in the desegregation program to submit plans to transition to neighborhood attendance area based student assignment. Realizing the scope of this undertaking, the legislation did not put a timeline on completion, and included language recognizing that practical considerations – space in building, costs, public hearings, etc. – would necessitate plans being phased in. While the legislation communicated the legislature’s support for the neighborhood schools concept, there was no legislative leverage to induce change. The individual school districts determined their own student assignment policies and how much they would and could change long-established attendance areas and student assignment practices. Boyer and Ratledge (2013) and Arnold (2003) discuss some of precursors, proponents, and consequences of the Neighborhood Schools Act. Each of the affected districts responded differently and responses varied over time (Niemeyer, 2013; Raffel, 2002).

political leaders who understood that changes needed to be made carefully (Raffel, 2002; Thompson, 2000, August 21). It is important to understand the historical context in that most parents and school officials were accustomed to the current attendance zones, their assigned schools, the teachers they knew, the bus routes and schedules, the feeder patterns, and the school grade configurations. Those families strongly averse to busing or racially diverse schools for the most part were no longer in the system – either having left during the 1970s and 1980s (if they had children in the system) or deciding not to enter the system, opting instead for private schools – their enrollments grew 25% in the aftermath of busing;¹⁷ or opting for nearby schools in districts *outside* the desegregation area, just over the state border in Pennsylvania¹⁸ or the Appoquinimink school district in south New Castle County. Thus, there were no immediate big changes, but over the next five years enrollment patterns did change, with racial segregation among schools rising as charter schools emerged and attendance zone adjustments were made to put more students in neighborhood schools.

As in many states in the mid-1990s, proponents of school choice and charters lobbied for legislation in Delaware. Charter legislation was enacted in 1995.¹⁹ Delaware's legislation allowed both the Department of Education and school districts to be charter school authorizers and did not put a limit on the number of charter schools. Charter schools in Delaware operate independently of school districts and are treated as LEAs for federal funding purposes. Two charters opened up in 1996; now over 9% of Delaware's public school students are enrolled in charters (as a percentage, the eighth most in the nation, including Washington DC).²⁰ As mentioned earlier, while charters do not operate with racial balance requirements, they cannot discriminate in admissions on the basis of race, creed, color, sex (except in the case of a same-gender school), handicap, or national origin.

In 1996, the School District Enrollment Choice Program²¹ was enacted, allowing parents to apply to a school in any other district; districts were required to admit applicants as long as there was capacity remaining after all students from within the district had been admitted. Parents had to provide their own transportation to the nearest bus stop in the receiving district's bus route for the particular school to which the parent had applied. Additional language stipulated that in the aggregate transfers could not lead to enrollment pattern changes in violation of court-ordered racial balance requirements. Since there was no court order, this stipulation was just a legal caution. More restrictive of choice was that the majority of schools operated at or near capacity, thus limiting the available seats for "choice in" applicants.

¹⁷ Wolters (1984; 1995). Early news reports covered the reputed adverse impact of the new desegregation program on white enrollments (Nagengast, 1979). See also, Schmidt (1985)

¹⁸ One option was enrolling in Appoquinimink school district in southeastern New Castle County that at the time of the 1975 desegregation order was a small town/rural school district. While it was impractical in 1975 to involve schools in this district in the busing program given the distance of most of its schools from Wilmington, for families moving into northern Delaware with their children needing to be enrolled in a school, the schools in Appoquinimink were an attractive option for those parents wanting to avoid having their children attend a racially mixed school and attend a school for some of their school years in Wilmington (and getting bused). Another option pursued by many parents, even though they worked in New Castle County, was living just beyond the Delaware border in Pennsylvania, attending a school in the small districts of Avon Grove, Kennett, Unionville-Chadds Ford, or Garnet Valley.

¹⁹ 14 Del. Code §501 Chapter 5.

²⁰ U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey," 1999-2000 through 2014-15. (This table was prepared October 2016.)

²¹ 14 Del. Code §501 Chapter 4.

As the following sections show, the policy changes that began in 1995/1996 produced changes in enrollment patterns. Our analysis takes a multi-decade view. It is now over twenty years since the 1995 lifting of the desegregation order and the emergence of school choice and charter schools. Racial and income segregation have increased. Precise attributions of causation are difficult given that the desegregation order and enactment of the choice/charter legislation happened within a year of each other and these policies did not play out in each district in the same way: at the district level, changes in policy and practice were incremental and shaped by their different geographies, demographics, communities, and organizational cultures. The enrollment trends we document stem from manifold causes. Charter schools' emergence certainly played a role, but there was no single policy cause and no single enrollment result. This is the complex reality we seek to convey.

Analysis of Changing Enrollment Patterns in New Castle County: Data Sources and Segregation Indexes

This is primarily a quantitative study, drawing on enrollment, census, and geographic data; we also draw on several evaluation reports that have been done within the state and on press accounts.

School Enrollment Data

The school enrollment data are from the National Center for Educational Statistics' Common Core of Data (CCD). Enrollment data were downloaded for years 1987 through the 2013-14 school year; the data include enrollment counts for all schools by race and free lunch.

Census Data

Census data for New Castle County for 2000 and 2010 were obtained from several web-based sources, but all originating from the US Census bureau. Using school addresses and latitude-longitude coordinates generated from the CCD for years 2000 and 2010, census block group FIPS codes were linked with school locations to provide estimates of the demographic characteristics of the census "block group" in which each school was located.²² Block groups, which are smaller than census tracts, provide more precise figures on the neighborhood demographics located around each school. The main variables of interest at the block group level are the block groups' racial profile and economic characteristics (e.g., percent of families in poverty; median household income).

Segregation Indices

There is no single way to measure "degree of segregation." Two indexes are commonly used in research on segregation and inequality – the "dissimilarity" index and the "intergroup exposure" index (Archbald, 2004; Armor, 1980; Rossell, 1978; Taeuber & Taeuber, 1965). These indexes provide quantitative measures of segregation, each reflecting different aspects of segregation. When used to measure residential segregation, the census tract is usually the geographic unit used to compute the index, so the index is measuring segregation among tracts. When used to measure racial or income segregation among schools, the school is the unit to compute the index.

The dissimilarity index computes the percentage of type X persons (e.g., low-income or white) that would need to be redistributed among tracts or schools to have a uniform proportion in

²² This was done using "Policy Map," a type of Geocoding software. <https://www.policymap.com/>

all units (tracts or schools) – a balanced distribution.²³ Lower dissimilarity index percentages denote less segregation. Typically, dissimilarity index percentages exceeding 60 are viewed as high; from 30 to 60 is considered moderate racial imbalance; and below 30, low (Kantrowitz, 1973; Lee, Iceland, & Farrell, 2014). The index ranges from 0%, no one needing redistribution to achieve a balanced distribution, to 100%, which reflects complete segregation – every tract or every school contains only one race or only one income category (i.e., either all “low-income” or all “not” low-income).

The second index, intergroup exposure, reflects the extent to which persons of one group (e.g., black or poor) are “exposed” to persons of the other group (e.g., white or nonpoor). Unlike the dissimilarity index, the exposure index is not measuring how many people need to be redistributed to achieve a uniform distribution. Rather, it is an indicator of, in the “typical” tract or school, the opportunity of persons of one group to interact with (or be “exposed to”) members of the other group. The exposure index yields statements like these: “The percent white in the average black child’s school is 20%” (indicating most black students are in overwhelming black schools, and thus there is limited black-to-white exposure) or “the percent white in the average black child’s school is 65%” (indicating most black students are predominantly white schools, and thus there is quite a bit more exposure of blacks to whites, and vice versa). The demographic categories can be “poor” and “nonpoor” too. The exposure index, then, is a way to reflect the typical level of exposure of one group to another across the schools. (For the formulas for the indexes, see the Appendix.)

Each of the four sections below contributes different forms of evidence to understand the trends and patterns of growing segregation by race and class following the ending of the desegregation program, the enactment of charter and choice policy, and the growing use of neighborhood-based assignment. The first section is the setting – the county geography and demographics helpful to more fully understand the school enrollment patterns and their changes over time. We present evidence indicating residential segregation has not changed much; in fact suburbs and small townships outside of Wilmington have become more racially integrated. The second section shows the growing school segregation indexes over twenty six years, revealing impacts of the policy changes starting in 1996. The third section focuses on the charters, showing where they located and their enrollment composition compared with the traditional public schools. The fourth section presents findings of growing correlations between schools’ enrollment composition and the demographics of their neighborhoods.

Section #1: Geography and Demographics of New Castle County (NCCo)

The following geographic and demographic information provides context for analyses of enrollment trends and patterns. This information provides important context for interpreting the consequences of enrollment in charters based on location choices. Understanding this context is particularly important for facilitating interpretation of the long-term enrollment trends and distributions among the county’s districts and schools.

²³ Another definition sometimes used is: The dissimilarity index measures whether one particular group is distributed across census tracts in a city in the same way as another group.

Figure 3 shows the boundaries of NCCo’s five school districts, the location of all public schools, and the distribution of African Americans among census tracts. The city of Wilmington, in northeastern NCCo has 72,000 people; the Wilmington metro area has 110,000 (hence the higher density of schools). In northwest NCCo is the county’s next largest city, Newark (population 31,000), where the University of Delaware is located. Outside of Wilmington and Newark, the rest of the population in the northern half of NCCo is in smaller municipalities like Bear, Glasgow, Claymont, Elsemere, and New Castle with populations in the 5,000 – 15,000 range.

Figure 4 shows the distribution of household income by census tract. The central portion of Wilmington has much higher concentrations of low-income residents, predominantly black. Wilmington’s northern suburbs are more affluent as are neighborhoods north and west of the city of Newark and some recently developed neighborhoods in the southern NCCo in and around Middletown, a rapidly growing portion of NCCo where farmlands have been converted into neighborhoods. Some of these newer middle-income neighborhoods in southern NCCo are relatively diverse (Figure 1).²⁴

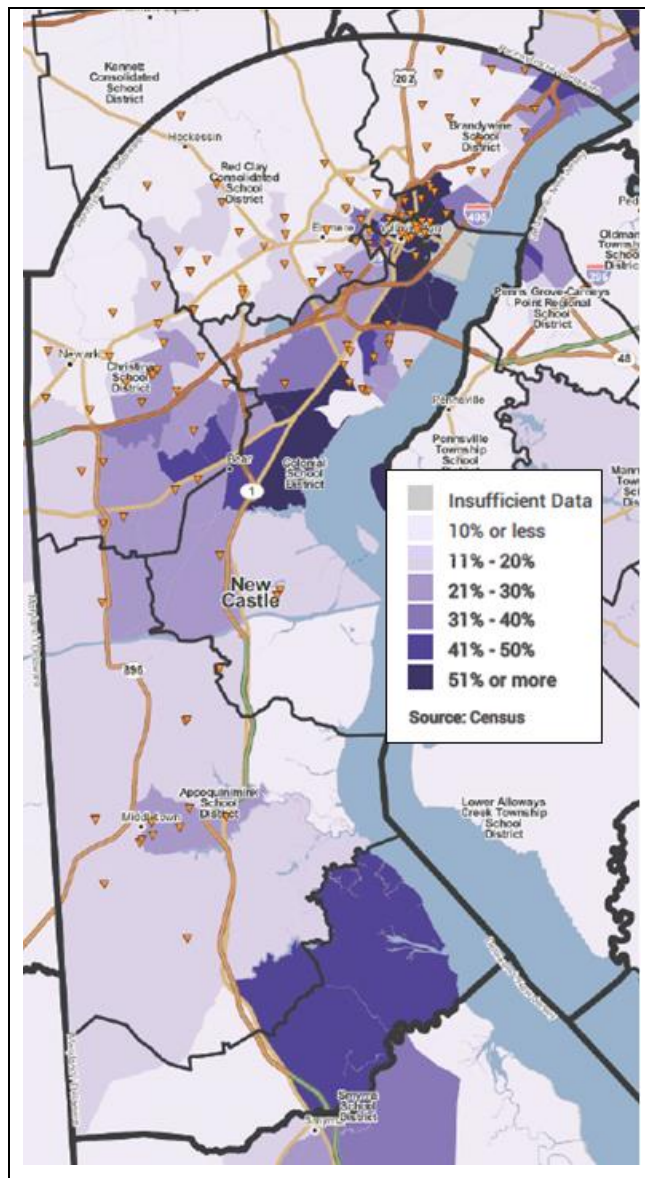


Figure 3. NCCo public schools’ locations and % black by census tract.
Source: U.S. Census, 2010

²⁴ The low-income region in the central portion of the city of Newark is the University of Delaware’s student population.

In NCCo, the degree of black residential segregation has been decreasing since the late 1970s (Carswell, 2000; Raffel, 2002; Ware & Peuquet, 2003). Although there are still racially isolated census tracts in Wilmington (above 70% black), since the late 70s there has been steady growth in the percentage of black families in neighborhoods and small municipalities throughout NCCo, as documented in multiple local studies and reports on population trends in NCCo. In the *Widener Law Symposium Journal*, Raffel (2002, p. 9) writes: “In 1970, the percentage of blacks in NCCo was 12.7%. Outside the city less than five percent of the population was black, mostly concentrated in small pockets. In 2000, a majority of the blacks in NCCo resided outside of Wilmington. Reports of the most recent census indicate there were over 100,000 black residents in the county and 60% lived outside the City of Wilmington.”

Also showing greater suburban racial integration, in 1970, many census tracts in NCCo had no black residents; in 1980, 26 suburban census tracts had between 5% and 15% black residents; and in 1990, this number had increased to 36 tracts, with 11 tracts at 15 to 30% black. In 2000, almost half the tracts had between 10 and 50% black residents.

Analyses employing the dissimilarity index, show residential segregation has declined. Ware and Peuquet (2003), in a report on housing and demographics for the Delaware State Housing Authority, computed the black-white dissimilarity index for NCCo for the years 1980, 1990, and 2000 and found a decline from 64%, to 56%, to 51%. This dropped to 47% by 2010.²⁵ Figures are available for the NCCo cities of Wilmington and Newark. While Wilmington has significant residential segregation (Figure 3), segregation has declined: the dissimilarity index was 61% in 1990, 60% in 2000, to 55% in 2010. In Newark, from 1990 to 2010, the index declined from 24% to 16%.²⁶

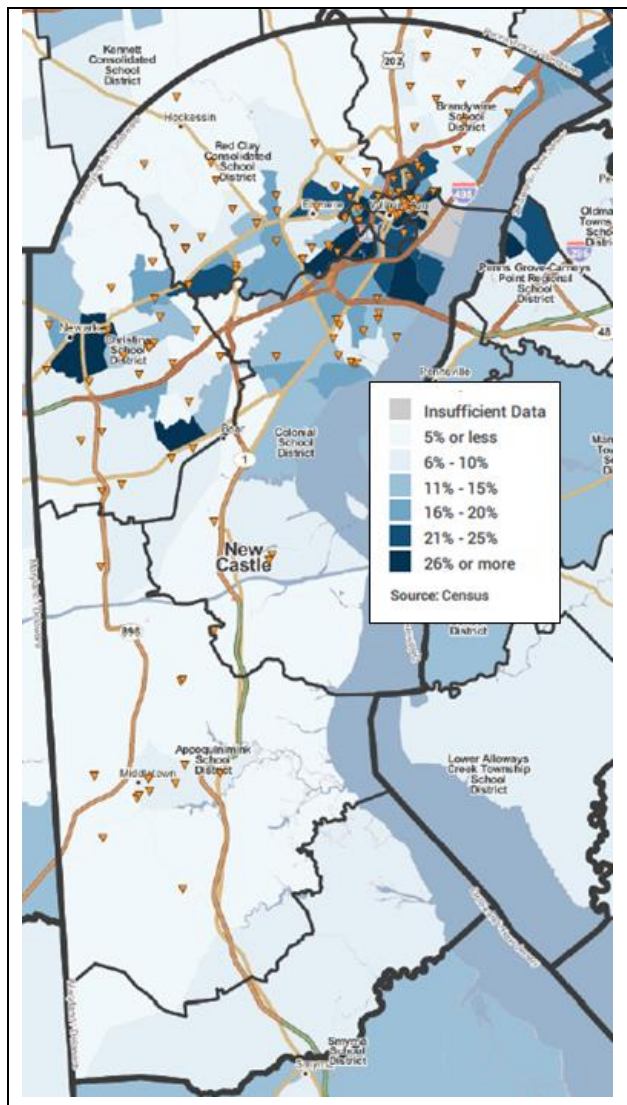


Figure 4. NCCo: Poverty by census tracts.
Source: U.S. Census, 2010

²⁵ For national comparative purposes, cities similar to Wilmington’s dissimilarity index are Greensboro, NC, Pittsburgh, PA, Indianapolis, IN, Louisville/Jefferson County, KY, Fort Worth, TX, Denver, CO, San Diego, CA, Fort Wayne, IN, and Austin, TX. For more on residential socio-economic segregation patterns and trends, see Reardon and Bischoff (2011) or Watson (2009).

²⁶ Source is Brown University “Diversity and Disparities” project – a research project that has compiled extensive data on trends within the US at multiple geographic levels.

[<https://s4.ad.brown.edu/Projects/Diversity/>]

Declining residential segregation in NCCO is partially explained by two broader demographic trends. First, while the county's total population – both black and white – grew from 1990 to 2010, the black population grew much faster: the black percentage grew by 8 points and the white percentage declined by 13 points. In 1990, NCCo's population was 441,946, with 79% and 16% black; in 2010, the population was 538,479, with 66% white and 24% black. Contributing to this demographic change is a higher fertility rate among black families as compared with whites. From 1990 – 1994 the birth rate (annual births/1000 woman aged 15 – 29) averaged 71 for white women and 121 for black women (DHSC, 2011; Raffel, 2002). The second change is growing racial diversity overall in NCCo: many more black families living in the suburbs (Carswell, 2000; Schneider & Phelan, 1993). From 1990 to 2010 there was steady growth in the percentage of blacks in more census tracts distributed more widely throughout NCCo.²⁷ A report using a diversity index reflects this. This index ranges from 0 to 100 and represents the chance that two people chosen randomly from an area will be different by race and ethnicity. On this scale, NCCo's index rose from 34 to 46 to 56 from 1990 to 2000 to 2010 (Overberg, 2014).²⁸

While residential segregation in NCCo has decreased, as the next section shows, the amount of black-white segregation among schools has increased. Segregation among schools did not start to increase until 1996, when the desegregation order was lifted and choice and charters began. The next three sections examine the trend of growing segregation and show how some of the growing segregation is associated with the growing number of charter schools.

Section #2: Trends in Segregation Indexes at the County and District Level (1987 – 2013)

This section presents results of longitudinal analyses of changes in segregation by race (black, white) and income (poor, nonpoor)²⁹ in NCCo since 1987. We report results using the *dissimilarity* and *intergroup exposure* indexes for both race³⁰ and for income.

The first section below shows changes in the indexes at the county level. A county level analysis is appropriate since charters do not “belong” to any district and since the charter and choice policies affect enrollment patterns across districts; also, the desegregation program involved four of the five districts in the county, so understanding enrollment patterns at this level of aggregation is informative. At the same time, districts are separate entities, have their own priorities, geographies, and politics, and have a good deal of autonomy in determining their own student assignment practices; thus, examining enrollment trends by district is also important.

²⁷ For more on 1980s trends in black “suburbanization” see Schneider and Phelan (1993).

²⁸ The Diversity Index ranges from 0 to 100 and represents the chance that two people chosen randomly from an area will be different by race and ethnicity. In more personal terms: “What is the chance that the next person I meet will be different from me?” A higher number means more diversity, a lower number, less. For more detail, see: <http://www.usatoday.com/pages/interactives/div100-map/>

²⁹ Free-lunch enrollment figures by school are our measure of “poor” versus “nonpoor” percentages. Family income to qualify for free lunch is at about 130% of the federally defined poverty level.

³⁰ Our paper focuses on black - white segregation (and not other race/ethnicities) because the paper is historically rooted in the NCCo desegregation saga – the court cases, the controversies, and the busing have all been about issues of school segregation and integration of black and white students. In the 1970s and 1980s the size of the Hispanic population in NCCo was in the low single digits, though now has risen and is about 15%. Enrollment proportions of students of other race/ethnic categories are in the low single digits.

Changes in Racial and Income Segregation at County Level

Figure 5 shows the 26 year trend in both indexes – dissimilarity and exposure – and the “% black” (the shaded region) computed at the county level for 1987 to 2013.³¹ In 1987, the enrollment total for the county was about 57,000 and about 27% black; by 2013, the total enrollment was 71,000 and about 35% black.³² Both segregation indexes have changed significantly since 1987 – changes that accelerated starting in 1996 (Figure 5) – the year after the desegregation order was lifted and the charter and school choice policies enacted. Since about 2006, the indexes have changed little. For 10 years, starting in 1996, segregation grew as the districts transitioned away from the desegregation-based enrollment patterns and adapted to changes brought by the charter and choice policies and the transition to neighborhood schools. Perhaps a “steady state” in enrollment patterns has been achieved now that those students who want neighborhood schools have them and those who want to choose a non-neighborhood school, whether a charter or some other public school, also have access to what they want.

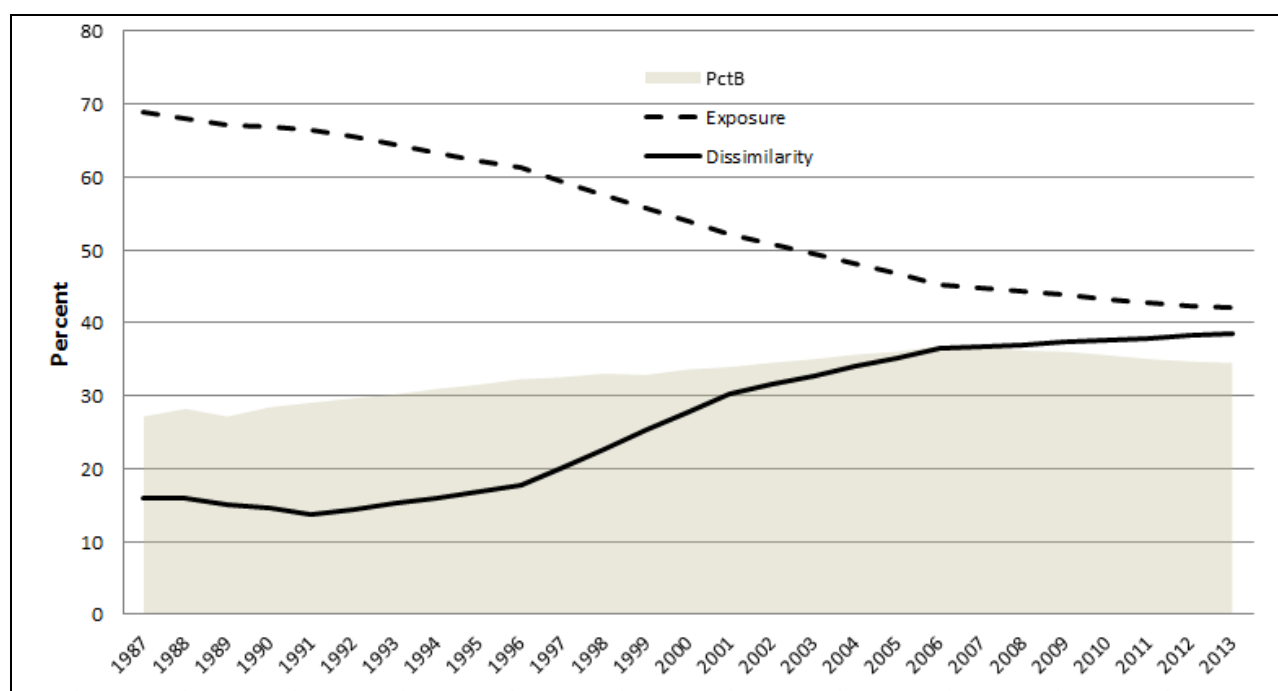


Figure 5. Exposure and dissimilarity indexes by race and % black, 1987-2013, NCCo schools

Exposure index. Reflecting the growing percentage of black students and the decreasing overall percentage of white students over the 26 years, there has been a steady decline in the level of exposure of black to white students, from 69% white in the typical black student’s school to 41%, although the rate of decline slowed around 2006. A portion of this decline in exposure is a result of there being fewer white students overall and a portion of the decline is also due growing racial imbalance among the schools as discussed next (both factors affect the index). In the 1980s and

³¹ The % white is close to inverse of the yearly percentages of the black enrollment. In the 1990s, as noted above, the % Hispanic began to grow, which is not a part of our analysis.

³² The school measure used to reflect the income background of the student body used is “% of students on free lunch” (low-income).

early 1990s, none of the traditional public schools were racially imbalanced.³³ By 2013, 12% of NCCo schools were 75% or more black; of these 14 schools, eight are charters. If the schools in 2013 were racially balanced along the same proportions as they averaged in the early 1990s, the exposure index in 2013 would be about 15% higher than it currently is (56% rather than 41%). The decline in exposure is caused both by the decline in white students in the public schools and also by whites being less evenly distributed among schools, as compared with the early 1990s.

Dissimilarity index. The dissimilarity index, at its lowest was 14% in 1991 and in 2013 was 39% – considered “moderate” segregation on the conventional scale.³⁴ It declined a few points from 1987 to 1991 and then started to increase slowly. In 1996, the dissimilarity slope grew steeper, increasing from an annual change of 2% to 2.5% per year; then the slope moderated a bit over the next five years from 2001 to 2006, but with the result that in absolute terms, the index went from a low of 14% in 1991 to 36% in 2006, when the index started to level off, though still increasing.

Segregation Indexes: Poor versus Nonpoor. Figure 6 shows the changes in the indexes reflecting income segregation (poor versus nonpoor). It shows a steady decline in the level of exposure of poor to nonpoor students over the 26 years among the county’s schools. The dissimilarity index declined somewhat from 1987 to 1995, and then started rising in 1996, with its steepest rise occurring between 1996 and 2001. This is the most striking parallel with the racial segregation indexes: the increase in the slope of the dissimilarity index starting in 1996, when school choice and

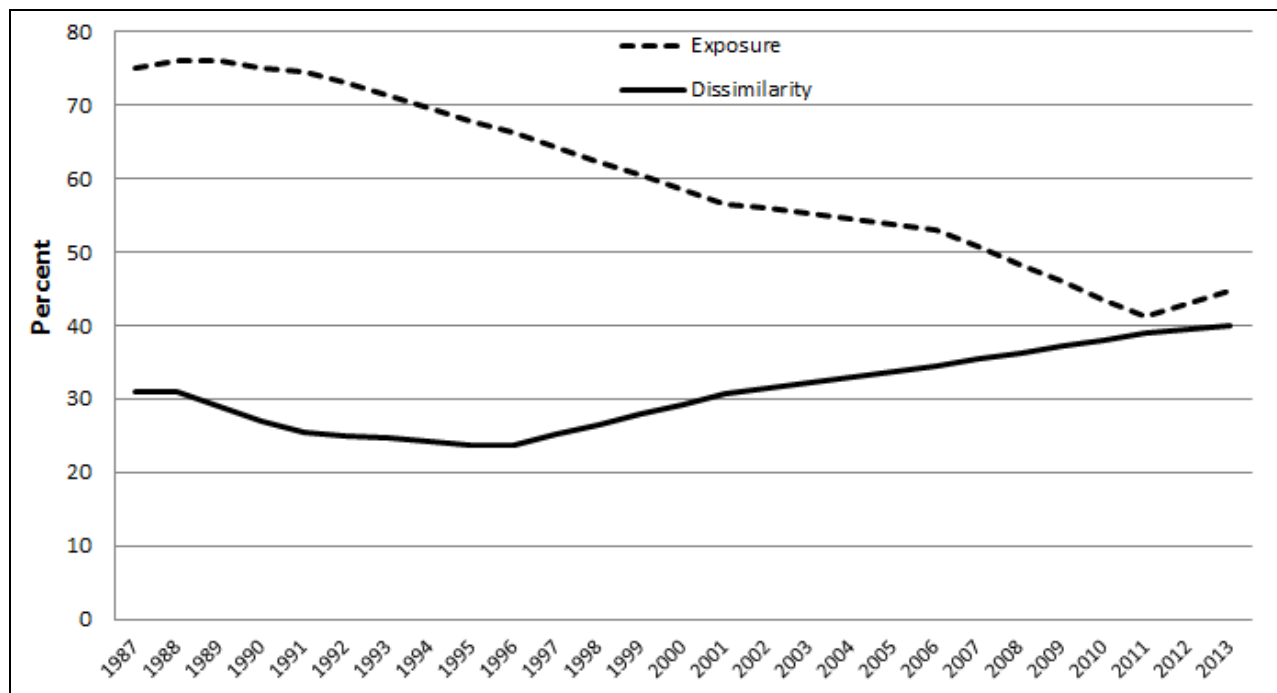


Figure 6. Exposure and dissimilarity indexes by income, 1991-2013, NCCo.

³³ Exempted from the court order were several, small early-childhood centers in or near Wilmington that were predominantly black.

³⁴ Typically, dissimilarity index percentages exceeding 60 are viewed as high, those from 30 to 60, moderate, and those below 30, low (Kantrowitz, 1973; Lee, Iceland, & Farrell, 2014).

charter legislation was passed, along with the Neighborhood Schools Act. The exposure of poor to nonpoor students has declined steadily, showing growing isolation of low-income students among the county's schools.

The trends at the county level unit of analysis, as we will see next, are driven mainly by its two largest districts – Christina and Red Clay. The county level indexes are computed with enrollment figures from every school. Christina and Red Clay have about half the schools in the county and these two districts have grown significantly more segregated than the other three. Christina and Red Clay became moderately segregated; the other three grew only a little more segregated, but remained well within the “low” segregation portion of the dissimilarity scale.

Changes in Racial Segregation by District

It is beyond this paper's focus to examine in detail each district's changes over the twenty-six years, but the more salient trends and differences between the districts warrant comment. Note that the “by district” graphs do not include the charter schools because the charters are separate agencies – they are not in school districts. Section 3 discusses the charters.

Exposure index. Figure 7 shows the exposure indexes at the district level.³⁵ All the trend lines show decreasing exposure over the 26 years, with the exposure lines starting to level off about 2009. The decreasing exposure reflects the growing percentage of black students and decreasing percentage of white students in the NCCo schools. The leveling off in exposure starting in 2009 reflects that the charter schools are not computed into the district indexes (charters *are* in Figure 5's trend lines). As a point of comparison, the exposure index computed for the 16 charters operating in 2013 is 20%. At this time, the districts ranged in exposure from a low of 38% in Christina to a high of 70% in Appoquinimink.

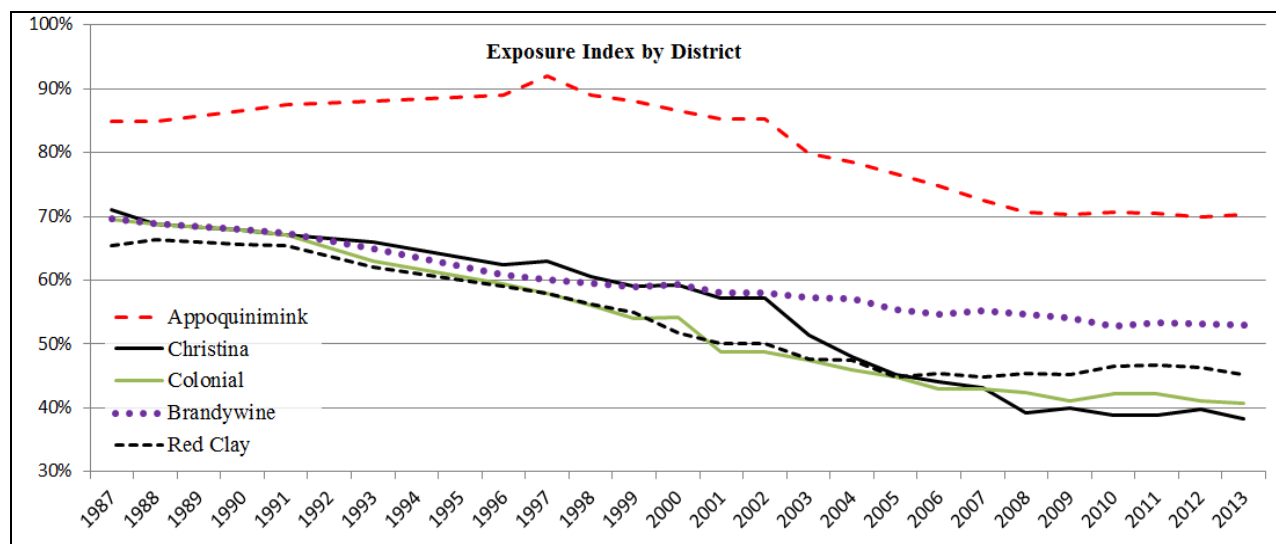


Figure 7. Exposure index by race in five NCCo public school districts (1987-2013)

³⁵ We did not compute free lunch indexes at the district level for two reasons. Because free lunch reporting is much more complicated than counting enrollments by racial categories there is potentially less reliability and more year to year fluctuation when computed at the district level given the small number of schools used to compute each district-level index and that, also, eligibility requirements can change based on changes in federal or state regulations (Hoffman, 2012).

Appoquinimink – the district in southern NCCo, furthest from Wilmington – has a substantially lower percentage of black students. Appoquinimink was the one district in the county not involved in the court order, as explained earlier. In 1996, the district had just six schools and was 89% white and 9% black. In the late 90s it started growing rapidly, owing to inexpensive land, newly developed neighborhoods, and new homes south of I-95 and close to the district’s growing city of Middletown. Appoquinimink was for the next decade the fastest growing district in Delaware, tripling in size to about 9,000 students in 2013 from under 3,000 in 1990. Over these years the district’s black population grew from about 12% to its current (2013) 26%.

Dissimilarity index. Each of the five districts from 1987 to 2013 has a growing dissimilarity index (Figure 8), but Red Clay and Christina stand out with their steeper increases in racial imbalance among schools. We offer insights here into the rising racial imbalance within these two districts and notable changes in the other districts (Figure 8).

Of the four districts involved in the desegregation, Red Clay’s racial imbalance was the highest in 1987, grew the most, and remains the highest. In the last decade of the court order, Red Clay deviated more than the other district’s from the court’s written racial balance specifications. The growing racial imbalance was a gradual, incremental process, due in part to less intensive court oversight in the late 1980s and in part to the ongoing challenge of keeping schools racially balanced as neighborhood populations changed and some white parents became more vocal in their dissatisfaction with being assigned to certain schools in Wilmington (Varady & Raffel, 1995). This pattern continued into the 1990s. In 1990, Red Clay rezoned several attendance areas and implemented a controversial intradistrict choice policy that included creating and promoting two magnet schools to replace two academically weak schools on the verge of becoming majority black.³⁶ This magnet initiative did not stem the trend toward greater racial imbalance and it is likely the district’s school choice policy contributed to segregation. In 1995, the court order was lifted, which obviated the obligation to bus to redress the initial segregation violation.³⁷ One of the magnet schools became Delaware’s first charter school: the Charter School of Wilmington, which is now just 7% black.

Christina’s dissimilarity index also has risen significantly, although, unlike Red Clay, Christina’s did not start rising until the end of the desegregation order; and compared with Red Clay, Christina’s increase in segregation was slower. Following the lifting of the order in 1995, attendance zones and busing patterns did not change at all for several years, but in 2000, a “neighborhood schools” group advocated a plan to rezone Christina’s attendance areas to stress neighborhood schools and reduce city-suburban busing (Busso, 2001, October 19). The district’s leadership, concerned about the abrupt creation of segregated schools, did not immediately adopt the plan, but over the ensuing years, incrementally, attendance patterns grew more neighborhood-based. Of all the districts, Christina had the greatest busing distance between its city and suburban schools and therefore had a lot of parents interested in a closer school if and when the options became available. Some went to Wilmington Charter High School when it opened in 1996; a second charter elementary school opened in 2001 in the west side suburbs and drew many whites from the district’s

³⁶ This period of time was not without political travails. The local newspaper occasionally wrote about Red Clay’s chronic difficulties adhering to the court-prescribed racial balance guidelines and in 1992 the district ended up a defendant in litigation related to its lackluster track record in desegregating its schools (4 F. 3d 1103 - *Jenkins v. Red Clay Consolidated School District Board of Education*, 1992).

³⁷ There are no research studies specifically examining Red Clay’s 1980s and 1990s enrollment trends and their connections to the demographics, politics, and policies of the district. Several publications offer historical context with a few passages commenting on decisions and enrollment issues in the district at this time (Karkosak, 1991; Lawson, 2000)

west side neighborhoods; and with the “forced” busing gone and the 2001 state policy greenlighting neighborhood schools, more blacks stayed in the city and more whites remained in suburban schools as school capacity limits allowed. An initiative by Christina converting several city schools to magnets to attract suburban whites was ineffective and so, year by year, the city schools’ black enrollments grew (Trower, 1999, April 3). By 2003, a quarter of Christina’s schools were 50% or more black, whereas in 1998, it had only one school with a slight black majority (52%).

The dissimilarity indexes for the two other desegregated districts – Brandywine and Colonial –were flat for a few years after the desegregation order ended in 1996, but then started to climb modestly. Colonial school district’s 12 point increase from 2000 to 2001 resulted mainly from the closing of two old, small elementary schools in the southern portion of the district, both of which were about 33% black with most of the black students bused there from Wilmington. The following year a larger elementary school opened and was about 75% white. At the same time, the district rezoned these and several other elementary schools so that more black students and white students would attend neighborhood schools (Kenney, 2001, February 14). Since 2001, enrollment patterns in the district have not changed much. In 2006, Colonial school district’s dissimilarity index declined slightly when the district closed an elementary school that had been 76% black and reassigned these students to other more racially balanced schools. One reason for Colonial’s relatively low dissimilarity index is that it does not have any schools with high white percentages. Colonial is the only majority black of the five districts in the county and has relatively uniform racial distribution among its 14 schools.

Like Colonial, the Brandywine district also experienced a modestly increasing dissimilarity index beginning a few years after the end of the desegregation order and then leveling off around 2003. This reflects in part the assignment of more students to neighborhood schools, but also, in part, the creation of two “academically gifted” programs housed in two different elementary schools. These programs were 5% and 7% black. Even though this is just two schools out of 21, these percentages have a nontrivial effect on the index because these numbers are so low and so far from the mean percentage of blacks among all the schools. By 2004 these programs were discontinued. It is likely that the index of dissimilarity could have been higher in the absence of charter schools, because three opened up in predominantly black neighborhoods that were within Brandywine’s district boundaries, and these charters’ enrollments were over 90% black (Section 3 discusses this).

Finally, Appoquinimink exhibits no effect of the 1996 policy changes. Its dissimilarity index has climbed only slightly over the last two decades. As described earlier, Appoquinimink was not part of the desegregation program. The only desegregation policy “effect” on Appoquinimink was that many young families in the late 1980s and 1990s moved into this district, consciously eschewing the other districts that were part of the desegregation program. Appoquinimink grew rapidly in the 1990s and 2000s. This growth required building new additions to schools, building new schools, and rezoning attendance areas to keep up with growing and changing neighborhood populations (Brown, 2001, July 10). Growth in the number of black students has been slightly higher than that of whites. The 9% jump in the dissimilarity index in 2001 reflects a short term approximately increase in the number of black students in two schools in 2002, pushing their black percentages into the 20s, and the addition of a new elementary school that had a very low black percentage (13%). After a few years, the index dropped slightly.

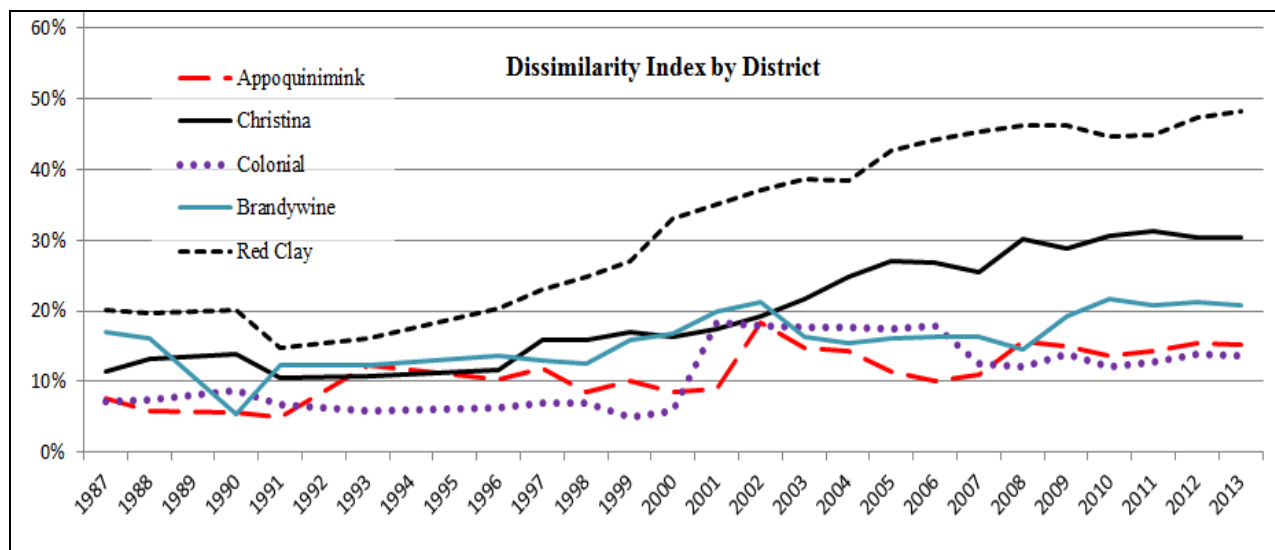


Figure 8. Dissimilarity indexes by race in five NCCo public school districts (1987-2013)

To shed more light on the trends and changes in segregation patterns, the next section discusses the emergence and locations of charters.

Section #3: Examining Charters’ Locations and Enrollment Composition Relative to Traditional (noncharter) Public Schools: Years 2000 and 2013

The number of charters has grown steadily since 1996, when the first charter school was created (The Charter School of Wilmington). As of 2013, 12% of NCCo public school students were in 16 charter schools. Most charters are located in or close to Wilmington, in neighborhoods with high concentrations of black students; few of the charters have a racially mixed student body. Here we explain charters’ growing share of NCCo public school enrollment and ways this contributes to the changing segregation indexes’ discussed in Section 2 – particularly in the decade following the advent of charters in 1996.

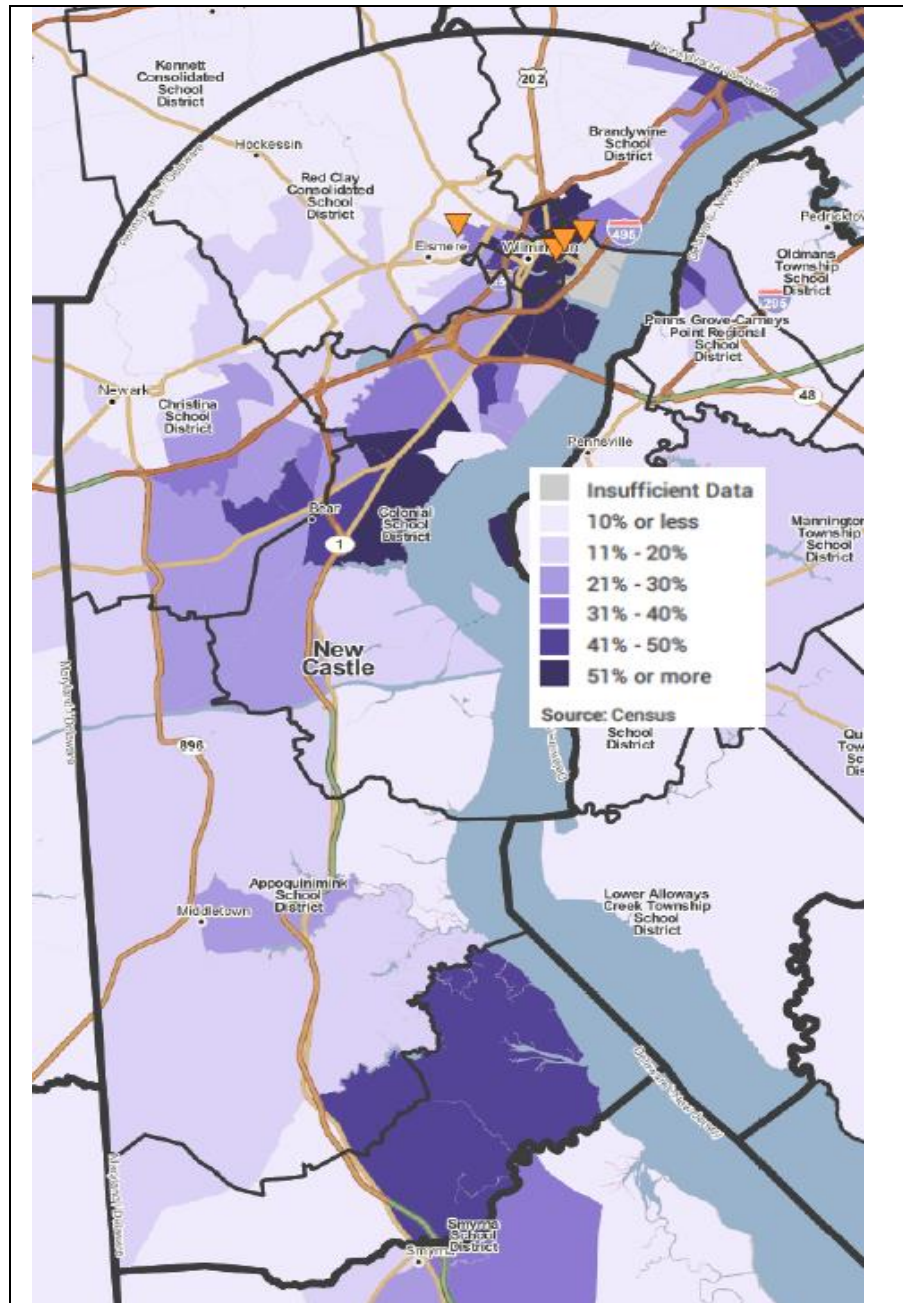


Figure 9. Locations of charter schools in 2000 and % black by census tract.

In 2000, four years after the enactment of charter legislation there were four charters – all in Wilmington (Figure 9). Three of the four charters were in neighborhoods with high percentages of black residents and households below the poverty line (see, also, Table 1). One of the four charters is academically selective (The Charter School of Wilmington)³⁸ with a 14% black enrollment – well below the 35% overall black enrollment of the county’s schools – and has only 5% of its students on free lunch. The other three charter schools in 2000 average about 90% black students with high percentages of students on free lunch.

³⁸ On the map Figure 9 it is the westernmost school.

Table 1
NCCo's First Four Charter Schools' Demographics: 2000

Charter School	School Characteristics			Block Group Characteristics		
	% White	% Afr. Am.	% Free Lunch	% White	% Afr. Am.	% Poverty
Wilmington CS	71.9	13.9	4.6	40.6	51.1	14.6
Marion CS	6.3	89.2	34.7	14.4	84.0	17.9
Edison CS	7.0	89.0	60.3	0.8	76.8	34.4
East Side CS	0.0	92.8	79.5	0.8	76.8	34.4

As of 2013, 16 charters enrolled 12% of NCCo's public school students. Figure 10 shows that most charters are located in the northeastern portion of NCCo and most in racially mixed or majority black areas. Seven out of the 16 charter schools in 2013 are in block groups 50% or more black; three charters are in in block groups 80% or more white. These charters are mostly in Wilmington and in populated areas just south of Wilmington, presumably, serving areas of highest demand.

Census data from 2010 show that compared with the traditional schools, the charters are located in areas with substantially lower in income (annual household incomes below \$30,000) and with higher percentages of black residents (Figure 11). Median annual household income in the block groups around charters averages \$49,000, whereas the median annual household income in the block groups around the traditional (noncharter) public schools averages \$76,000.

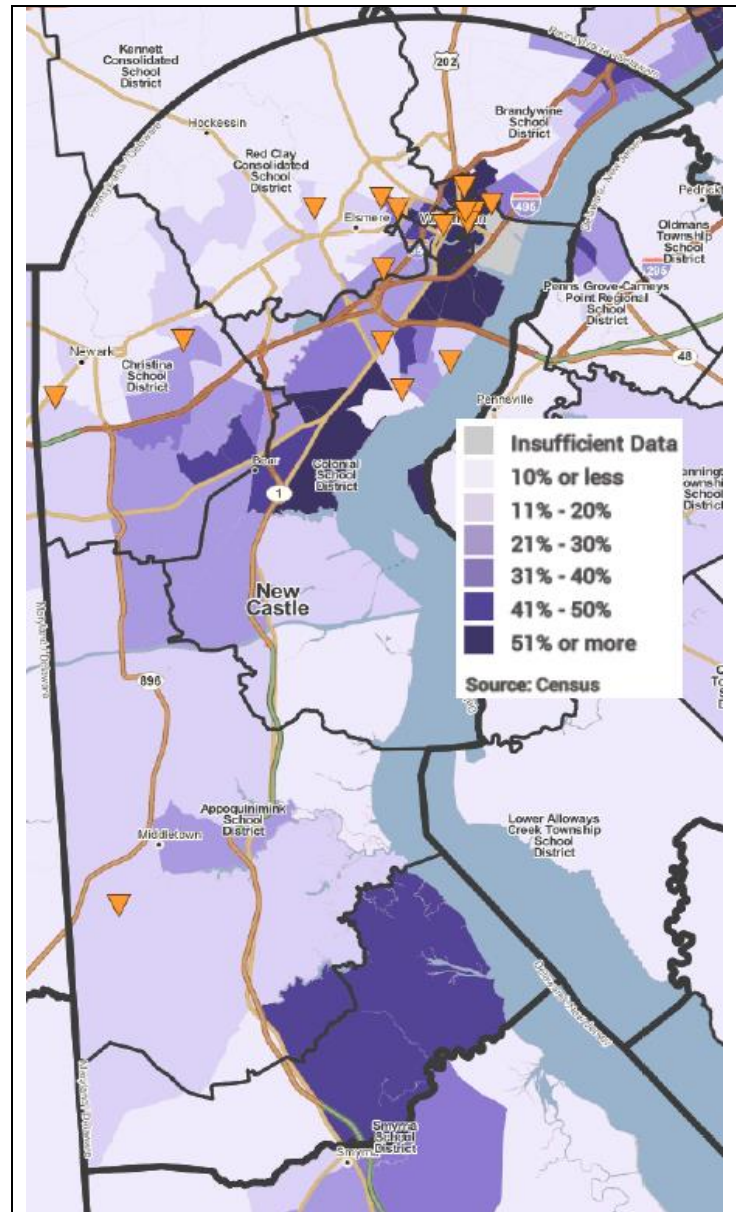


Figure 10. Locations of charters in 2013 and % black by census tract.

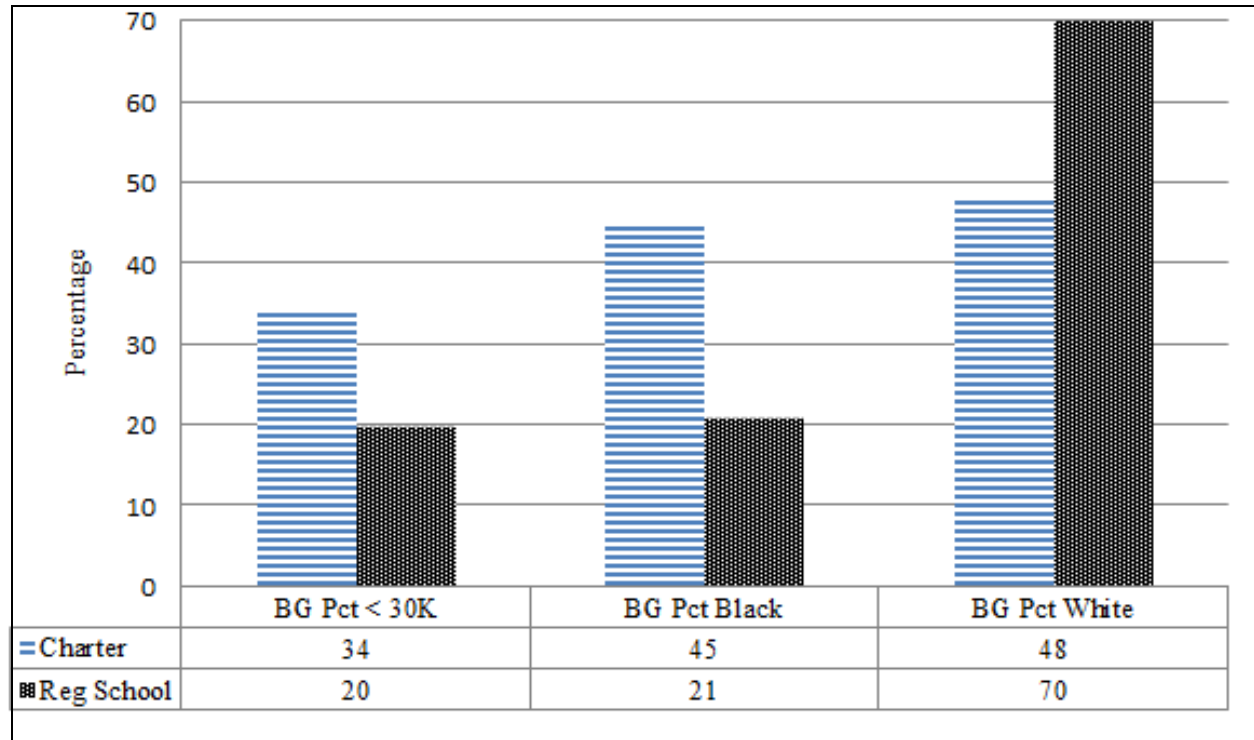


Figure 11. Charter vs. traditional school *neighborhood* comparisons (selected demographics) 2010.
 Note: BG refers to block group. BG Pct<30K refers to the percentage of residents with household incomes below \$30K/year living in the census block group in which the charter is located.

All but a few of the 16 charter schools are either overwhelmingly white or overwhelmingly black; half of charters are above 80% black (Figure 12). By contrast only 5% of the traditional (noncharter) schools are above 80% black. In 1995-96, before the charters emerged, *none* of the traditional public schools were majority black.³⁹

³⁹ There was an early childhood center in the city that was about 90% black.

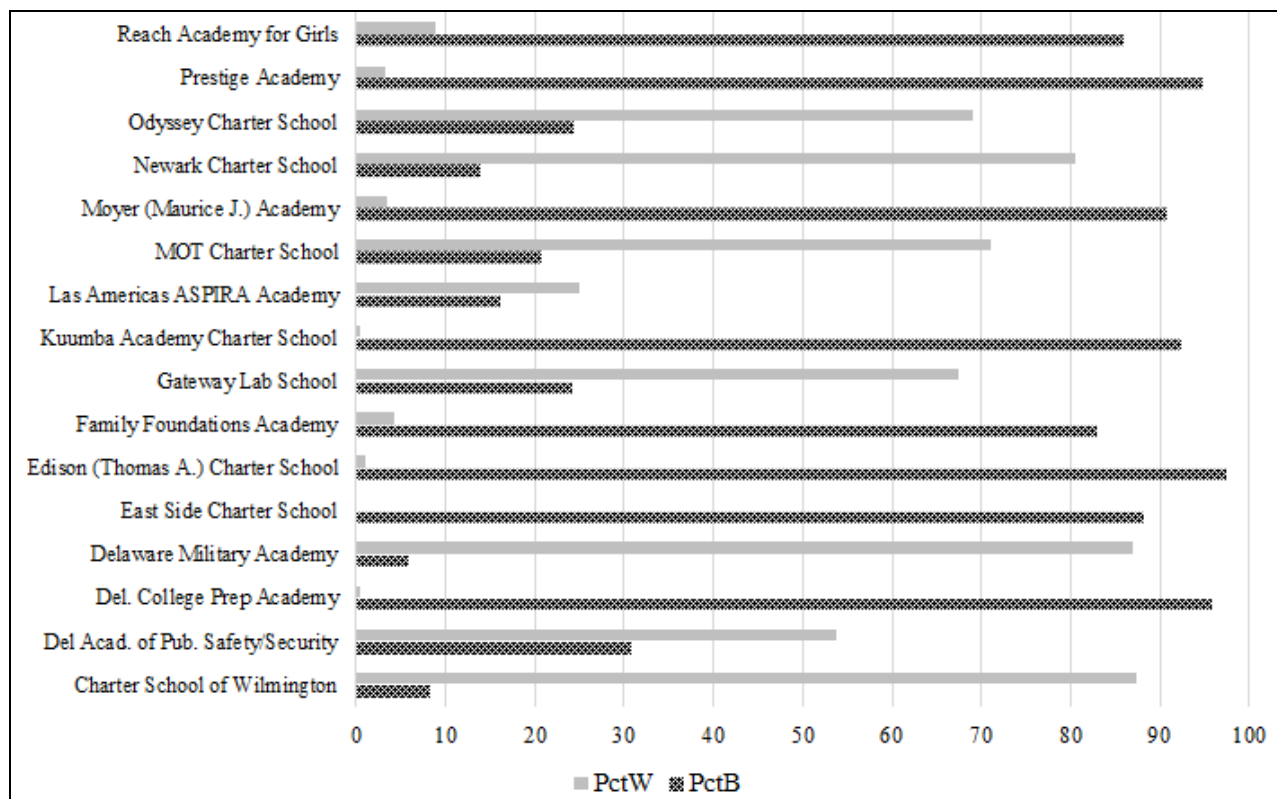


Figure 12. Black (PctB) and white (PctW) percentages in NCCo Charter Schools (2013)

In 2013 (Figure 13) 5% of the 104 traditional (noncharter) schools were over 80% black, with another 6% in the 61-80% black range (11 out of the 104 schools over 60% black). Thus, currently, compared with the charter sector, there is far more racial balance among the traditional schools. However, compared to the year 2000, there has been an increase in the number of racially isolated schools among the traditional schools: from 4% of schools in 2000 to 11% in 2013.

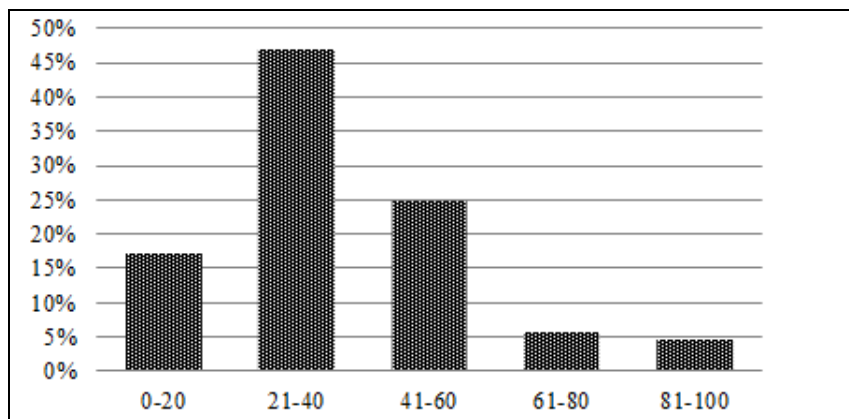


Figure 13. Percentages of traditional (noncharter) schools in selected ranges of “School % Black,” shown on X axis. (NCCo, 2013).

After Section 4, in which we describe changes in the correlation between schools’ race/income composition and neighborhood race/income composition, we will offer summary and conclusions about the overall pattern and direction of enrollment composition changes in NCCo schools since the early 1990s (pre-unitary; pre-charter/choice).

Section #4: Changes Over Time in the Correlation Between a School's Enrollment Demographics and its Neighborhood Demographics

As explained above, 1996 was the first year without the desegregation order and with choice and charter legislation enacted. Pre-1996, thousands of students rode long bus rides to attend desegregated schools. Charter schools and choice policy created opportunities to attend schools closer to home. Concurrently, districts started shifting attendance zones to put more students in neighborhood schools – a process facilitated by the 2000 Neighborhood Schools Act. School segregation grew.

Because there is residential segregation, it follows that, over time, as more students attend schools closer to home, the demographic composition of schools will become more like the demographic composition of surrounding neighborhoods. One way to examine this empirically is to measure the correlation between school demographics and neighborhood demographics at two points in time. Using school addresses for the county's schools in 2000 and in 2010, it was possible to link data on each school's "% black" and "% free lunch" to race/income characteristics of the census block group in which the school was located. This was done for both 2000 and 2010, because those are years of census data collection. The correlations between schools' racial/income composition and neighborhoods' racial/income characteristics in 2000 are compared with the correlations in 2010 in Table 2. All grow larger.

At both points in time (2000 and 2010), the correlations between school and neighborhood demographic characteristics are fairly strong (and all statistically significant). From 2000 to 2010, the correlation between school and neighborhood demographic characteristics *increased* on all three of the measures. The strongest relationship ($r=.72$) is the 2010 correlation between a schools' percentage of black students and the percentage of black residents in the block group. Table 2 shows that demographic composition of the county's schools has trended toward greater resemblance with the demographic composition of surrounding neighborhoods.⁴⁰

Table 2.

Correlations between school demographic and block group demographic variables, 2000 and 2010

Year	School Demog Vbl	BG Demog Vbl	Correl. (Pearson r)
2000	% Black	% Black	0.55
2010	% Black	% Black	0.72
2000	% Free Lunch	Mdn Hshld Income	-0.33
2010	% Free Lunch	Mdn Hshld Income	-0.46
2000	% Free Lunch	% BG in Poverty	0.30
2010	% Free Lunch	% BG in Poverty	0.50

Note: BG = census block group

⁴⁰ The block group is an imperfect proxy for "surrounding neighborhood;" thus, while the measures of school variables ("% black" and "% free lunch") are accurate, the boundaries of the block group do not match up with what would be the true geographic area from which a school would actually draw its students. The demographic characteristics of the census block groups are from residents living in the blocks near and around the school.

Summary and Conclusions

In the school districts of NCCo, 1995 marked the end of an historic court-ordered busing program, the advent of school choice, the emergence of charter schools, and a return to neighborhood-based attendance zoning. These same types of policy changes have been occurring in districts throughout the country as student assignment policies trend away from central control and toward parent choice, with racial balance diminishing as a priority.

Summary of Main Findings

In NCCo, racial and income segregation among the schools has increased substantially over the last twenty six years, especially racial segregation which increased by over 20% on the dissimilarity index. Measured at the county level, the current dissimilarity index at 39%, is considered in the moderate range of segregation. Prior to 1995, under the desegregation program, the dissimilarity index hovered around the mid-teens – a low level of segregation. The yearly increase in racial imbalance was steepest over the 10 years following the 1995-96 policy changes. The exposure index – the percentage of white students in the typical black student’s school – declined, with the decline steepest from 1996 to 2006. The trends in dissimilarity and exposure (poor and nonpoor students) were similar. That the changes in the indexes accelerated shortly after the policy changes makes a strong case that the growing segregation trends observed were caused by the policy changes, especially since residential segregation since 1990 has declined.

Computation of the county level segregation indexes includes the charter schools – as it should because they are public schools in the county. The computation of the indexes at the district level does not include the charter schools because they are not part of any district. Measuring the changes in the indexes at the district level leads to two observations: First, the large majority of the growing segregation observed was taking place in the two largest of the five districts in the county; the two districts have more than half the schools in the county. Segregation in these two districts increased 26% on the dissimilarity index; in the other three, segregation increased only a little (about 6%). This shows the salience of local context factors, such as residential demographics, geography, district decision-making, and community politics, in shaping enrollment trends and patterns. Second, the rate of increase – the slopes – of the segregation indexes in the 1996 to 2006 timeframe were significantly lower without the charter schools calculated into the indexes’ computation. As shown in Section 3, the level of segregation among the charters is very high; most are overwhelmingly (or entirely) black or large majority white.⁴¹ Thus, the charters’ contribution to segregation, included in the county level indexes but not in the district level computations, indicates a significant contribution of charters to the overall pattern of segregation and of growing segregation. However, this contribution over the last seven years has declined because the time of rapid growth of charters and charter enrollments (1996 – 2006) is over.

Also, evidence indicates the correlation between school and neighborhood demographics measured in 2000 and again in 2010 has grown (increases in correlation from .13 to .20 depending on the measure). This is both because attendance zones for the traditional schools have become more neighborhood-based (instead of designed to produce racially balanced schools) and because charter schools for the most part draw from nearby neighborhoods. On a residential level, racial

⁴¹ Based on 2013 enrollments, if all of the charters were perfectly racially balanced (percentage black same as district percentage black), the dissimilarity index measured at the county level would drop from its present level of 39% to 29%.

segregation did not change from 2000 to 2010 (actually decreased somewhat), but now more students are going to schools closer to where they live.

Interpreting Causality

Interpreting causality depends on our assumptions about the counterfactual condition. That the slopes of the segregation indexes increased immediately following the changes in student assignment policies makes it plausible to deduce these policies “caused” greater segregation. Segregation was increasing modestly in the years prior to 1996, but the 1996 policy changes significantly accelerated the rate of segregation. Thus it is reasonable to infer a causal relationship.

This conclusion is, implicitly, relative to a counterfactual condition in which the 1996 policy changes did not occur. It assumes the alternative to the 1996 policy changes was a continuance of the existing state prior to 1996: continuing the existing policies that assigned students to schools based on attendance zones drawn to produce racially balanced schools. Had there been no policy changes in 1996, current levels of segregation might be lower than they are now. If we simply project forward the slopes of the indexes in the years prior to 1996, the current levels of segregation as measured by the two indexes would be lower. However, this assumes the continuance of the status quo prior to 1996, which, of course did not happen.

On the other hand, one could posit, reasonably, a scenario producing *greater* school segregation than currently exists. The 2010 racial dissimilarity index for the city of Wilmington – this is *residential segregation* – computed at the census tract level, is 55%. This is almost 17 points higher than the 2010 dissimilarity index for school segregation. So if the alternative scenario posited was some form of wholesale return to neighborhood-based school attendance areas for all the schools in the districts,⁴² then today the schools would likely be considerably more segregated than they are now. In this scenario, it is arguably the *lack of action* of the school districts in implementing a wholesale shift toward a neighborhood schools that prevented more extensive racial segregation – a black city district adjacent to white or mostly white suburban districts, such as exists in many cities around the country (e.g., Milwaukee, Gary, Dayton, or Flint).

Neither hypothetical alternative condition – a continuance of the pre-1996 status quo nor a wholesale shift to neighborhood schools – happened. The changes in policies and political culture in the late 1980s and 1990s, along with geographic, demographic, and economic factors, created the NCCo enrollment patterns and trends we have today. Most likely the trends will continue into the 2020s given current demographic projections for the county (Ratledge & Hickox, 2016) and assuming that there are no major policy changes coming that will affect how students choose or are assigned to schools.

Different Interpretations and Responses

This study and our findings can be interpreted in different ways depending on one’s perspective on the priority of students learning together in diverse schools. As presented earlier, one perspective is that the growing segregation by race and class among the schools is neither a social nor a policy problem. “It’s what the market has produced and people are in the schools they want.” This perspective values choice and market principles in the public education sector. Segregation, per se, is not inherently a problem. While it is not common to find this view propounded in the scholarly community, this is, more or less, the position of the courts, conservative-leaning think

⁴² There was a vocal faction of activists in New Castle County that advocated for this, resulting in the Neighborhood Schools Act as described earlier. See also, Boyer & Ratledge (2009, p. 99).

tanks, and policymakers who favor markets and privatization in education.⁴³ It should be noted that many in the black community do not have a problem with all-black charter schools (Zernicke, 2016, August 16).

What makes the segregation question complicated is where racially isolated black schools have less resources. So it is not just segregation that is the concern, it resource inequities and inferior schooling. This might occur in some racially isolated charters because charters in many states do not have the same funding level as the traditional public schools. Batdorff et al. (2014) argue the difference may be, on average, 28% lower funding.⁴⁴ If charters in some states get significantly lower funding and if in those same states the number of black, racially isolated charter schools is growing (as has occurred in Delaware), then this means state policy is, in effect, allocating more black students into schools with comparatively lower funding. Since black students are more likely to come from lower-income backgrounds, this also means that more poor students are ending up in more schools with comparatively lower funding.⁴⁵

Secondly, if charters cause segregation more broadly in the systems where they operate (by drawing students from more integrated traditional schools into more segregated charters), that is another troubling trend. According to the 2016 GAO report (U.S. GAO, p.8), “An extensive body of research over the past 10 years shows a clear link between schools’ socioeconomic (or income) composition and student academic outcomes” (p. 8). Studies indicate black children educated in segregated schools show less academic growth than similar counterparts educated in diverse, racially integrated schools (Bifulco & Ladd, 2007; Billings, Deming, & Rockoff, 2012; Kainz & Pan, 2014; Wells, Fox, & Cordova-Cobo, 2016). Li, Campbell, and Fernandez (2013) warn about regional adverse effects socially and economically from long term racial isolation in segregated schools.

The point here is that, while segregation per se may not be problematic, it *is* a problem if it is associated with inferior outcomes and it results from state education policies. If, school choice policies create sectors of low-performing schools for poor black students (or any class of students), then these unequal outcomes will inevitably become problems for the community and state – potentially a legal problem (i.e., a violation of equal protection laws),⁴⁶ or a policy problem of dealing with dysfunctional schools, or a socio-economic problem of unemployment and community deterioration.

Policy makers can take steps to minimize problems related to segregation that charters may cause (Kahlenberg & Potter, 2012; Mead & Green, 2012; Potter, Quick, & Davies, 2016). Mead and Green (2012) recommend that charter laws include language on equity; they provide model policy language. The state can require that charter school proposals include plans for attracting and retaining a diverse student body and a diverse staff and a stated commitment to comply with any existing school desegregation decrees and non-discrimination provisions in state policies. Proposed plans for locations should include an impact analysis to consider how enrollments may affect diversity in other schools. Laws can stipulate that charter schools falling short on equity goals can

⁴³ See, for example, Thomas Sowell (2016) in the *National Review*. Levin (2001) and Wells (2000) provide critical analyses of the market-oriented perspective.

⁴⁴ This study has been criticized as over-estimating charters’ funding difference compared with public schools. See, <https://feaweb.org/another-flawed-charter-school-study>

⁴⁵ This, it should be noted, is the reverse of what a number of prominent education economists call for based on the “educational adequacy” formulation: higher funding levels for schools serving high-poverty students (Duncombe & Yinger, 2005; Odden, Goetz, & Picus, 2008; Versteegen, 2002).

⁴⁶ An example is a recently filed complaint from the ACLU contending that the state’s charter school laws and authorization policies have led to discrimination by race and disability in violation of Title VI on the 1964 federal Civil Rights Act.

have their charter revoked. Potter et al. (2016) describe ways district and charter admissions policies can promote diversity by considering socioeconomic variables in designing attendance zones and managing admissions.

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Appendix

The formula used to compute the Dissimilarity Index is:

Dissimilarity Index = $\frac{1}{2} \sum | (X_i / X) - (Y_i / Y) |$ In this equation, X_i represents the number of “category X” students in school i , X is the number of “category X” students in the District (or county if the index is being calculated at the county level), Y_i is the number of “category Y” in school i , and Y is the number of “category Y” students in the district (or county if the index is being calculated at the county level).

The formula used to compute Exposure is:

Exposure Index = $\sum (b_i / B) (w_i / Ttl_i)$ In this equation, b_i is the number of black students in school i , B is the number of black students in the district (or county if the index is being calculated at the county level), w_i is the number of white students in school i and Ttl_i is the total enrollment of school i .

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