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Altering Grade Configurations in Virginia Schools: Reducing School Segregation without Necessarily Considering Race in Light of the Parents Involved Ruling

William J. Glenn

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ALTERING GRADE CONFIGURATIONS IN VIRGINIA SCHOOLS: REDUCING SCHOOL SEGREGATION WITHOUT NECESSARILY CONSIDERING RACE IN LIGHT OF THE PARENTS INVOLVED RULING*

WILLIAM J. GLENN**

This Article proposes a method by which school districts can voluntarily desegregate their schools while remaining within the constitutional guidelines set forth in the recent Parents Involved in Community Schools v. Seattle School District No. 1 Supreme Court opinion. This Article suggests that schools reconfigure grades as an alternative to the more explicit race-based measures struck down in Parents Involved. Grade reconfiguration entails reconstituting elementary schools, for instance, into primary and upper elementary schools. The reconfigured schools can serve the same number of students as a traditional school, but in a smaller grade span, meaning that such schools can have larger attendance zones. Moreover, districts can strategically select the attendance zones in order to combat the effects of residential segregation on school segregation.

This Article models grade reconfiguration in several Virginia school districts to show the reduction in segregation that would be possible through grade reconfiguration. The models show that grade reconfiguration can eliminate segregation in small school districts and reduce it considerably in larger districts. The Article also illustrates that the technique could also be used as part of an interdistrict desegregation plan.

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INTRODUCTION

The 2007 Supreme Court ruling in Parents Involved in Community Schools v. Seattle School District No. 1 (Parents Involved)\(^1\) deemed unconstitutional the attempts of two public school districts to implement voluntary school desegregation plans.\(^2\) Such plans attempt to stop the trend of minority students becoming increasingly isolated in segregated schools.\(^3\) Surprising as it may seem,
more than fifty years after the decisions in the Brown v. Board of Education cases, segregation remains a reality in many school districts. The Parents Involved ruling may increasingly isolate these students by making it more difficult for school districts to address the problem.

The Parents Involved decision further complicates schools’ attempts to constitutionally desegregate due to the disparate opinions of the Justices and the fact that Parts III.B and IV of the opinion did not command a majority of the Court. The deep disagreements within the Court make it more difficult for policy makers to craft constitutional options for diversifying schools. Estimates differ regarding the number of school districts that have implemented voluntary desegregation plans, ranging between somewhere in the hundreds to about one thousand. The districts using voluntary desegregation plans span the nation, from Berkeley, California, to Lynn, Massachusetts.
The *Parents Involved* ruling has reduced the number of options available to school districts that have implemented or plan to implement voluntary desegregation plans. This Article presents grade reconfiguration as one constitutional option school districts might employ to reduce school segregation in and across districts. Grade reconfiguration involves changing the grades offered at schools in order to expand attendance zones and reduce school segregation. For example, two elementary schools serving grades K–5 could be reconfigured into one K–2 primary school and one 3–5 upper elementary school, with each reconfigured school serving the combined attendance zone of the original schools. This approach would prove useful for desegregation purposes if the two schools previously had significantly different demographics because the combined attendance zone would be a blend of the two distinct areas. Grade reconfiguration has been used in the past as a desegregation remedy. This Article examines the potential impact on school segregation, using Virginia school districts as examples.

This Article does not extol the virtues of desegregation. Rather, it proposes a mechanism by which school districts can constitutionally desegregate their schools. This Article also does not propose a standard level of desegregation that can be realized in all situations. For intradistrict desegregation, the Article assumes that the standard matches the racial balance of the district. For interdistrict approaches, the Article assumes that the standard matches the racial balance of the region.

Part I of this Article introduces the *Parents Involved* decision and discusses the three primary opinions in the case. Part II discusses grade reconfiguration as a potential desegregation strategy by explaining the concept, discussing its use as a desegregation remedy, and evaluating the strengths and weakness of the reconfiguration mechanism. Part III proposes several models of grade reconfiguration that could be applied in a variety of Virginia school districts, including neighborhood, the average education level of adults residing in the neighborhood, and the racial composition of the neighborhood as a whole."


10. See infra Part II for a discussion of past uses of grade reconfiguration as a desegregation strategy.

11. I selected Virginia for this study because the state possesses a diverse array of school systems: large and small; rural, suburban, and urban; racially homogeneous and racially heterogeneous. Virginia, in many ways, serves as a microcosm of the nation.
small districts, a larger district, and an interdistrict version. Part IV discusses how grade reconfiguration fits within the boundaries of the Parents Involved decision. Finally, the Conclusion advocates for grade reconfiguration as a constitutionally acceptable model for voluntary desegregation.

I. THE PARENTS INVOLVED CASE

The Parents Involved opinion evaluated two voluntary desegregation plans, one from Seattle, Washington, and the other from Jefferson County, Kentucky (Louisville). The two plans will be discussed separately, followed by an analysis of the three main opinions in the case. It is relevant to note at the outset that prior to the Parents Involved decision a desegregation order had never covered the Seattle public schools, while the Jefferson County schools had been under a desegregation order and were declared unitary in 2000.

A. Factual Background of the Seattle Case

As a White student entering ninth grade, Andy Meeks applied to the selective Biotechnology Career Academy within Ballard High School in Seattle. His mother and middle school teachers thought that the small program at the academy would provide him his best chance to succeed in high school. The academy accepted Andy into its program. He could not enroll, however, because the district denied his assignment to Ballard High School under its voluntary desegregation plan.

The Seattle plan permitted incoming freshmen to enroll at any high school in the district subject to the capacity of the school to

12. Each model is offered by way of example. This Article does not suggest that any district discussed is considering implementing the proposed model.
14. Id. at 712.
15. Id. at 715–16.
17. Parents Involved, 551 U.S. at 713–14. "Andy suffered from attention deficit hyperactivity disorder and dyslexia...." Id. at 713. He benefited from hands-on instruction, which was part of the appeal of the small program at the Academy. Id. at 713–14.
18. Id. at 714.
accept more students. The plan allowed each student to rank his/her choices, causing some schools to be "oversubscribed"—more students ranked a particular school as their first choice than that school could accept. The district employed a series of tiebreakers to determine which students would be accepted at oversubscribed schools. The first tiebreaker asked whether the student had a sibling at the school. The second tiebreaker considered the race of the individual student if the chosen oversubscribed school was either less than thirty-one percent or greater than fifty-one percent White.

B. Factual Background of the Jefferson County Case

Joshua McDonald, a White student, moved with his mother into the Jefferson County School District in August 2002. His mother sought to enroll Joshua in kindergarten in the neighborhood school one mile away from their residence, but that school did not have available space. The district assigned Joshua to another school in the same school cluster, which was located ten miles from Joshua’s home, and denied his mother’s request to place him in a school in a different school cluster located only one mile from his house. Though the district generally permitted intercluster transfers, the district justified its decision based on the negative effect Joshua’s placement would have had on the district’s desegregation plan.

The Jefferson County voluntary desegregation plan required each nonmagnet school to enroll between fifteen and fifty percent of non-White students. Ballard High School was one of five schools that was oversubscribed in the year that Andy applied, triggering use of the Seattle plan’s tiebreakers. Where race broke the tie, the district considered only whether or not a student was White; the district deemed all other groups non-White. Moreover, the racial tiebreaker applied only if an oversubscribed school had a White student population that was at least ten percent greater than or less than the district's overall White student population of forty-one percent. Schools with less than thirty-one percent White students would accept White students under the second tiebreaker, while schools with greater than fifty-one percent White students would reject White students. See id. Ballard High School fell into the latter category, causing the district to refuse Andy Meeks admission on the basis of his race.

19. Id. at 711.
20. Id. Ballard High School was one of five schools that was oversubscribed in the year that Andy applied, triggering use of the Seattle plan’s tiebreakers. Id. at 713.
21. Id. at 711–12.
22. Id.
23. Id. Where race broke the tie, the district considered only whether or not a student was White; the district deemed all other groups non-White. Id. at 712. Moreover, the racial tiebreaker applied only if an oversubscribed school had a White student population that was at least ten percent greater than or less than the district’s overall White student population of forty-one percent. Id. Schools with less than thirty-one percent White students would accept White students under the second tiebreaker, while schools with greater than fifty-one percent White students would reject White students. See id. Ballard High School fell into the latter category, causing the district to refuse Andy Meeks admission on the basis of his race. Id. at 713.
24. Id. at 717.
25. Id.
27. Parents Involved, 551 U.S. at 717.
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Black students. The district drew elementary school attendance zones such that each child could attend one of a number of schools within a cluster. Each child could select his or her first and second choice school, but if either school possessed a Black enrollment outside of the acceptable range, the district would not assign the child to that school if his or her race would move the school further away from the Black student target.

The Seattle and Jefferson County cases share common features that distinguish them from “traditional” desegregation cases. The most important of these is that the plaintiffs were White and were seeking to invalidate voluntary programs designed to increase diversity rather than to invalidate mandatory programs meant to bar students of different racial or ethnic backgrounds from attending school together.

C. The Roberts Plurality Opinion

Chief Justice Roberts first noted that the Court decides cases involving race as a classification using the strict scrutiny standard,

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28. Id. at 716. Similar to the Seattle plan, the Jefferson County plan considered the size of just one racial group: Black students. See id. The target range of fifteen to fifty percent Black students surrounds the district’s thirty-four percent Black student population, though not quite as precisely as the plus or minus ten percent band in Seattle. See id. at 712, 716.

29. Id. at 716.

30. Id. In other words, the district would not assign a Black student to a school with fifty percent or more Black students, but would assign the same Black student to a school with fewer than fifteen percent Black students, and the opposite would be true for students from other racial-ethnic groups, including White students such as Joshua McDonald. See id.

31. The Justices filed a total of five opinions in Parents Involved, id. at 707, three of which will be considered in this Article. Because the Roberts, Kennedy, and Breyer opinions were the primary opinions for the various factions of the Court, they will be discussed in greater detail. Chief Justice Roberts’s opinion served as the five person opinion of the Court with regard to Parts I, II, III.A, and III.C and as a four person plurality opinion with regard to Parts III.B and IV. Id. Justice Kennedy filed a concurring opinion, id., the most important parts of which explained his reasons for not joining Parts III.B and IV of the Roberts opinion. See id. at 782–90 (Kennedy, J., concurring). Justice Breyer filed a dissenting opinion joined by three other members of the Court. Id. at 803 (Breyer, J., dissenting). Justices Thomas and Stevens filed two opinions not discussed in this Article. Id. at 748 (Thomas, J., concurring); id. at 798 (Stevens, J., dissenting). Justice Thomas concurred with the Roberts opinion, but wrote separately specifically to rebut Justice Breyer’s dissent. See id. at 748–82 (Thomas, J., concurring). Justice Stevens joined the Breyer dissent, but filed his own opinion to argue that the majority was not following the precedents of Brown v. Board of Education and certain subsequent cases. See id. at 798–803 (Stevens, J., dissenting).

32. Id. at 720 (plurality opinion) (“It is well established that when the government distributes burdens or benefits on the basis of individual racial classifications, that action is
which requires that the state action be "narrowly tailored" to advance a "compelling" interest. The Court in prior school segregation cases "recognized two interests that qualify as compelling": (1) past discrimination that had been proved in court and (2) diversity in post-secondary education. Chief Justice Roberts ultimately concluded that the desegregation plans at issue did not advance either interest.

Roberts observed that two districts in the Parents Involved case were not remediying past discrimination since the Seattle schools had never been subject to a desegregation order and the Jefferson County schools had been released from court supervision in 2000. Roberts held that diversity could not be a compelling state interest in these cases because "race is not considered as part of a broader effort to achieve 'exposure to widely diverse people, cultures, ideas, and viewpoints,'" and because neither case arose in the context of higher education. The Court distinguished between the freedoms necessary in higher education versus pre-K-12. In addition, the opinion stated that diversity could be a compelling state interest only if a program "focused on each applicant as an individual, and not simply as a member of a particular racial group." Even so, the Court

33. Id. (citing Adarand Constructors, Inc. v. Peña, 515 U.S. 200, 222 (1995)).
34. Id. "The first is the compelling interest of remedying the effects of past intentional discrimination." Id. (citing Freeman v. Pitts, 503 U.S. 467, 494 (1992)). "The second government interest we have recognized as compelling for purposes of strict scrutiny is the interest in diversity in higher education upheld in Grutter. The specific interest found compelling in Grutter was student body diversity 'in the context of higher education.'" Id. at 722 (citation omitted) (quoting Grutter v. Bollinger, 539 U.S. 306, 328 (2003)).
35. Id. at 720 ("[T]he Seattle public schools have not shown that they were ever segregated by law, and were not subject to court-ordered desegregation decrees.").
36. Id. at 720-21 ("[T]he District Court that entered [the Jefferson County desegregation] decree dissolved it, finding that Jefferson County had 'eliminated the vestiges associated with the former policy of segregation and its pernicious effects,' and thus had achieved 'unitary' status." (quoting Hampton v. Jefferson County Bd. of Educ., 102 F. Supp. 2d 358, 360 (W.D. Ky. 2000))).
37. Id. at 723 (quoting Grutter v. Bollinger, 539 U.S. 306, 330 (2003)).
38. Id. at 725 ("The Court in Grutter expressly articulated key limitations on its holding—defining a specific type of broad-based diversity and noting the unique context of higher education ....").
39. Id. at 724. "[I]n light of 'the expansive freedoms of speech and thought associated with the university environment, universities occupy a special niche in our constitutional tradition.'" Id. (quoting Grutter v. Bollinger, 539 U.S. 306, 329 (2003)). The Court failed to mention how students would be prepared to use their new found freedoms of speech and thought in higher education after not applying them in the pre-K-12 context.
40. Id. at 722.
also held that the plans were not narrowly tailored to achieve their goals.\footnote{Id. at 735. "The districts have also failed to show that they considered methods other than explicit racial classifications to achieve their stated goals. Narrow tailoring requires 'serious, good faith consideration of workable race-neutral alternatives' . . . ." Id. (citation omitted) (quoting Grutter v. Bollinger, 539 U.S. 306, 339 (2003)).}

The Court essentially held that the diversity-based justifications of the districts' plans amounted to unconstitutional racial balancing.\footnote{Id. at 726 ("[I]t is clear that the racial classifications employed by the districts are not narrowly tailored to the goal of achieving the educational and social benefits asserted to flow from racial diversity. In design and operation, the plans are directed only to racial balance, pure and simple, an objective this Court has repeatedly condemned as illegitimate.").} The opinion distinguished between such racial balancing and the more acceptable practice of crafting a plan by "working forward from some demonstration of the level of diversity that provides the purported benefits . . . ."\footnote{Id. at 729.} The Court further found that the districts failed to show that their race-based policies were necessary\footnote{Id. at 733 (supporting this conclusion with statistics confirming that a third of the assignments made on the basis of the racial tiebreaker would have been assigned to the same school without use of the racial tiebreaker).} given that the programs affected so few students.\footnote{Id. at 734 ("[T]he minimal impact of the districts' racial classifications on school enrollment casts doubt on the necessity of using racial classifications.").}

The plurality limited the use of race in the pre-K–12 context to those situations where a school district aims to remedy the effects of past segregation.\footnote{Id. at 747–48 ("For schools that never segregated on the basis of race, such as Seattle, or that have removed the vestiges of past segregation, such as Jefferson County, the way 'to achieve a system of determining admission to the public schools on a nonracial basis,' is to stop assigning students on a racial basis." (citation omitted) (quoting Brown v. Board of Educ. (Brown II), 349 U.S. 294, 300–01 (1955))).} This position provides no latitude for individual race-based criteria in voluntary desegregation efforts. It does leave open, however, other ways of desegregating schools that do not rely on race, since avoiding the use of race would move a desegregation plan out of the strict scrutiny realm.\footnote{Strict scrutiny would not apply unless districts used another suspect class. Kadrmas v. Dickinson Pub. Sch., 487 U.S. 450, 457–58 (1988) ("Unless a statute . . . discriminates against a 'suspect class,' it will ordinarily survive an equal protection attack so long as the challenged classification is rationally related to a legitimate governmental purpose."). A common alternative approach to desegregation uses poverty as a proxy for race. This approach does not trigger strict scrutiny. See, e.g., Lewis v. Casey, 518 U.S. 343, 374 (1996) ("[W]eight discrimination alone [does not] provid[e] an
D. The Kennedy Opinion

Justice Kennedy took a position between the plurality and the dissent regarding the parts of the Roberts opinion that he did not join. He refused to join those parts of the Roberts opinion that he felt went too far in limiting the use of race. Justice Kennedy criticized the plurality opinion for being "too dismissive of the legitimate interest government has in ensuring all people have equal opportunity regardless of their race." Unlike the plurality, Justice Kennedy would permit school officials to use race at the group level if necessary to provide students with an opportunity for an equal education.

Kennedy also thought that the dissent went too far in permitting the use of race in a manner that "would result in the broad acceptance of governmental racial classifications in areas far afield from schooling. The dissent's permissive strict scrutiny (which bears more than a passing resemblance to rational-basis review) could invite widespread governmental deployment of racial classifications."  

Justice Kennedy provided guidance regarding the types of measures a school district could use to achieve equal educational opportunities. Justice Kennedy's proposed use of race generally delineated racial categories at the group level, rather than "[a]ssigning to each student a personal designation according to a

adequate basis for invoking strict scrutiny." (alterations in original) (quoting San Antonio Indep. Sch. Dist. v. Rodriguez, 411 U.S. 1, 29 (1973)).

48. Parents Involved, 551 U.S. at 787 (Kennedy, J., concurring). Kennedy argued that Roberts "impl[ied] an all-too-unyielding insistence that race cannot be a factor in instances when, in my view, it may be taken into account."  
49. Id. at 787–88.
50. Id. at 788–89 ("If school authorities are concerned that the student-body compositions of certain schools interfere with the objective of offering an equal educational opportunity to all of their students, they are free to devise race-conscious measures to address the problem in a general way and without treating each student in different fashion solely on the basis of a systematic, individual typing by race.").

51. Id. at 791.
52. Justice Kennedy noted:

School boards may pursue the goal of bringing together students of diverse backgrounds and races through other means, including strategic site selection of new schools; drawing attendance zones with general recognition of the demographics of neighborhoods; allocating resources for special programs; recruiting students and faculty in a targeted fashion; and tracking enrollments, performance, and other statistics by race.

Id. at 789.
altering grade configurations . . . " Though no other Justice agreed with Justice Kennedy, his opinion fell in between the plurality and the dissent, a position unlikely to change with the appointment of Justice Sotomayor.

E. The Breyer Dissent

Justice Breyer’s dissent identified two central points of contention. First, he argued that cases such as Parents Involved require an intermediate standard of review. His position rested on "[a] longstanding and unbroken line of legal authority [that] tells us that the Equal Protection Clause permits local school boards to use race-conscious criteria to achieve positive race-related goals, even when the Constitution does not compel it." Breyer discussed several cases to support the proposition that localities have broad powers to enact voluntary programs.

Second, Breyer wrote that “the districts’ plans are ‘narrowly tailored’ to achieve their ‘compelling’ goals. In sum, the districts’ race-conscious plans satisfy ‘strict scrutiny’ and are therefore lawful.” Breyer found the plans compelling because they sought to remedy school segregation in order to improve educational opportunities and thereby produce a better-prepared citizenry. In

53. Id.
55. See Erwin Chemerinsky, A New Term, A New Justice, TRIAL, Nov. 2009, at 50, 51 (“It is widely thought that Sotomayor’s votes will mirror Souter’s, especially in high-profile cases, and so her presence will not significantly change the Court’s direction.”).
56. Parents Involved, 551 U.S. at 837 (Breyer, J., dissenting) (“[T]he law requires application here of a standard of review that is not ‘strict’ in the traditional sense of that word, although it does require . . . careful review . . . .”).
57. Id. at 823.
59. Id. at 855.
60. Id. at 843.
addition, Breyer argued that the districts had created plans that were narrowly tailored because "the race-conscious criteria at issue only help[ed] set the outer bounds of broad ranges," and the use of "broad-range limits on voluntary school choice plans are less burdensome, and hence more narrowly tailored." Breyer further argued, "the manner in which the school boards developed these plans itself reflects 'narrow tailoring.' Each plan was devised to overcome a history of segregated public schools." According to Breyer, these features of the voluntary desegregation plans made them constitutional.

Given the foregoing, Breyer seemingly would give school districts wider latitude to use race-conscious measures to achieve greater inclusion than he would to measures used to maintain separation. The dissent asserted that the plurality opinion stripped localities of their ability to use limited, inclusive, race-conscious measures. It is unlikely, however, that this position currently could command a majority of the Justices.

The following simplified version of the three opinions seeks to guide school district officials in forming constitutional desegregation

The compelling interest at issue here, then, includes an effort to eradicate the remnants, not of general "societal discrimination," but of primary and secondary school segregation; it includes an effort to create school environments that provide better educational opportunities for all children; it includes an effort to help create citizens better prepared to know, to understand, and to work with people of all races and backgrounds, thereby furthering the kind of democratic government our Constitution foresees. If an educational interest that combines these three elements is not "compelling," what is?

61. Id. at 846.
62. Id. at 847 (citing Grutter v. Bollinger, 539 U.S. 306, 341 (2003)).
63. Id. at 848.
64. Id. at 855 ("The upshot is that these plans' specific features—(1) their limited and historically diminishing use of race, (2) their strong reliance upon other non-race-conscious elements, (3) their history and the manner in which the districts developed and modified their approach, (4) the comparison with prior plans, and (5) the lack of reasonably evident alternatives—together show that the districts' plans are 'narrowly tailored' to achieve their 'compelling' goals. In sum, the districts' race-conscious plans satisfy 'strict scrutiny' and are therefore lawful.").
65. See id. at 829–30 (commenting that the drafters of the Fourteenth Amendment would have recognized the difference between race-based criteria meant to separate the races and those meant to bring them together).
66. Id. at 833–34 ("[T]he plurality would rewrite this Court's prior jurisprudence, at least in practical application, transforming the 'strict scrutiny' test into a rule that is fatal in fact across the board. In doing so, the plurality parts company from this Court's prior cases, and it takes from local government the longstanding legal right to use race-conscious criteria for inclusive purposes in limited ways.").
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plans. The plurality would not permit the use of race in a voluntary
desegregation plan in the pre-K–12 context absent proof of past
desegregation. Justice Kennedy would permit the use of race at a
group level, but not as applied to individual students. The dissent
would allow the use of race at an individual or group level in order to
produce "positive" outcomes. Therefore, in order to operate within
the parameters of Parents Involved, school districts should implement
desegregation plans that either do not consider race or that consider
race only at the group level.

II. GRADE RECONFIGURATION AS A DESEGREGATION STRATEGY

A. Grade Reconfiguration Can Reduce School Segregation

Grade reconfiguration changes the composition of schools by
reducing the number of grades offered at each school, thereby
reducing the number of schools with competing grades. Grade
reconfiguration operates on the assumption that the demographics of
each grade level in a district typically vary only slightly from the
demographics of the district as a whole.67 This fact explains why small
school districts that offer each grade in only one school tend to have
low values of school segregation.68 In these districts, the attendance
zone for each school (and consequently, grade) aligns with the
boundaries of the entire district, eliminating the largest factor in
intradistrict segregation: residential segregation.69 Intradistrict school
segregation can be all but eliminated if a district has one attendance

67. This can be seen by analyzing the Common Core of Data ("CCD") gathered by
the United States Department of Education. Nat'l Ctr. for Educ. Statistics, U.S. Dep't of
drop-down menu under "Each row of the table should be a" and the year "2005–2006;"
then click "Next;" select "Enrollment by Race/Ethnicity" from the drop-down menu under
"Select Columns" and select all categories of Race/Ethnicity for the years "2005–06;" then
click "Next;" select Virginia from the drop-down menu under "Row Variable" and press
"View Table"). Comparing the number of students from each racial–ethnic group in a
district to the number of such students at each grade level in the district shows that the
grade level percentages fall within a few percentage points of the district percentages the
vast majority of the time.
68. See Author's Unpublished Analysis of CCD Data for Virginia (on file with the
69. See JORDAN RICKLES ET AL., RALPH & GOLDY LEWIS CTR. FOR REG’L POLICY
STUDIES, RELATIONSHIP BETWEEN SCHOOL AND RESIDENTIAL SEGREGATION AT THE
metroamerica/factsheets/LCMetroAm_DiscussPaper_2.pdf ("Unfortunately, school and
residential segregation remain tethered to each other.").
zone that is coextensive with the boundaries of the district, which is a practical reality in small school districts that offer each grade in one school.

Virginia's Falls Church City Public Schools illustrates this point. Falls Church is a small, suburban school district with four schools: a pre-K–1 primary school, a 2–4 elementary school, a 5–7 middle school, and an 8–12 high school. Table 1 contains student racial–ethnic demographics in numbers and percentages for each school in Falls Church for the 2005–06 school year. As Table 1 indicates, the percentage of students attending school from each racial–ethnic group is nearly equivalent to the percentage of that racial–ethnic group in the district. There are minor variations, but the main pattern demonstrates racial–ethnic balance across the schools. For example, reading down the percentages columns, one finds that the percentage of each racial–ethnic group in each school is within 2.2% of the percentage of the relevant group in the total population. These numbers show that Falls Church has virtually no school segregation. What little segregation exists is due to rounding error and random variations in the percentage of students from each group at given grade levels (e.g., higher percentages of Asian students in middle school and high school than in elementary school).

70. The only school level segregation in such districts is that which exists across grade level, which tends to be minimal, as discussed supra notes 67–68 and accompanying text. The minor variations lack educational significance in most cases because there is no incentive to desegregate across grade levels if, for example, a district has an overrepresentation of Asian students in eighth grade and an underrepresentation in second grade. It is important to note that the lack of across-school segregation does not mean that no within-school segregation exists. See Dylan Conger, Within-School Segregation in an Urban School District, 27 EDUC. EVALUATION & POL'Y ANALYSIS 225, 238 (2005) (reporting that segregation among the various classrooms of a single school is prevalent and would not necessarily be remedied by merely assigning students from all ethnic groups to one school). In fact, within-school segregation based on policies such as ability grouping and Advanced Placement courses can be quite significant, though it tends to be of a lesser magnitude than across-school segregation. Id. at 239.


72. Achieving mathematically perfect desegregation would require fractions of students from each racial–ethnic group to attend each school.
Table 1: Falls Church City School Demographics and Student Percentages, 2005–06

<table>
<thead>
<tr>
<th>School Demographics</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>George Mason HS</td>
<td>5</td>
<td>98</td>
<td>37</td>
<td>69</td>
<td>599</td>
<td>808</td>
</tr>
<tr>
<td>Mary Ellen Henderson MS</td>
<td>1</td>
<td>48</td>
<td>18</td>
<td>35</td>
<td>314</td>
<td>416</td>
</tr>
<tr>
<td>Mt. Daniel ES</td>
<td>2</td>
<td>24</td>
<td>10</td>
<td>18</td>
<td>189</td>
<td>243</td>
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<tr>
<td>Thomas Jefferson ES</td>
<td>0</td>
<td>35</td>
<td>26</td>
<td>27</td>
<td>310</td>
<td>398</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
<td><strong>205</strong></td>
<td><strong>91</strong></td>
<td><strong>149</strong></td>
<td><strong>1412</strong></td>
<td><strong>1865</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School Percentages</th>
<th>George Mason HS</th>
<th>Mary Ellen Henderson MS</th>
<th>Mt. Daniel ES</th>
<th>Thomas Jefferson ES</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6%</td>
<td>12.1%</td>
<td>4.6%</td>
<td>8.5%</td>
<td>74.1%</td>
<td>100%</td>
</tr>
<tr>
<td>0.2%</td>
<td>11.5%</td>
<td>4.3%</td>
<td>8.4%</td>
<td>75.5%</td>
<td>100%</td>
</tr>
<tr>
<td>0.8%</td>
<td>9.9%</td>
<td>4.1%</td>
<td>7.4%</td>
<td>77.8%</td>
<td>100%</td>
</tr>
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<td>6.5%</td>
<td>6.8%</td>
<td>77.9%</td>
<td>100%</td>
</tr>
<tr>
<td>0.4%</td>
<td>11.0%</td>
<td>4.9%</td>
<td>8.0%</td>
<td>75.7%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: All numerical data come from the U.S. Department of Education's Common Core of Data. See Nat'l Ctr. for Educ. Statistics, supra note 67. All percentages and indices were calculated by the author using CCD data and an Excel spreadsheet (on file with the North Carolina Law Review).

The Appomattox County Public Schools, located in rural Virginia, also employs a primary/upper elementary model.73 Table 2 shows that the schools in Appomattox exhibit a racial–ethnic balance similar to the schools in Falls Church. As with Falls Church, in 2005–06 the percentages of Black and White students at each Appomattox school fell within about two percent of the total percentage of the group in the district. The Exposure Index also varied only slightly from the demographics of the district. Schools in Appomattox County exhibited just 3.54% of possible segregation and would have had to move only 36.05 students (1.56% of the total number of students) to achieve perfect desegregation. The Appomattox schools provide a second example of how school segregation is almost nonexistent within a district that offers each grade level at only one school.

74. For an explanation of the Exposure Index calculation, see infra note 153 and accompanying text.
Table 2: Appomattox County School Demographics and Student Percentages, 2005–06

<table>
<thead>
<tr>
<th>School Demographics</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
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<tr>
<td>Appomattox County HS</td>
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<td>1</td>
<td>206</td>
<td>2</td>
<td>500</td>
<td>709</td>
</tr>
<tr>
<td>Appomattox MS</td>
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<td>0</td>
<td>177</td>
<td>4</td>
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<td>535</td>
</tr>
<tr>
<td>Appomattox ES</td>
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<td>1</td>
<td>157</td>
<td>2</td>
<td>343</td>
<td>503</td>
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<tr>
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<td>2</td>
<td>179</td>
<td>7</td>
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<td>570</td>
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<tr>
<td>Total</td>
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<td>4</td>
<td>719</td>
<td>15</td>
<td>1579</td>
<td>2317</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>School Percentages</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
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<tbody>
<tr>
<td>Appomattox County HS</td>
<td>0.0%</td>
<td>0.1%</td>
<td>29.1%</td>
<td>0.3%</td>
<td>70.5%</td>
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<tr>
<td>Appomattox MS</td>
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<td>0.0%</td>
<td>33.1%</td>
<td>0.7%</td>
<td>66.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Appomattox ES</td>
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<td>0.2%</td>
<td>31.2%</td>
<td>0.4%</td>
<td>68.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Appomattox PS</td>
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<td>0.4%</td>
<td>31.4%</td>
<td>1.2%</td>
<td>67.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>0.0%</td>
<td>0.2%</td>
<td>31.0%</td>
<td>0.6%</td>
<td>68.1%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note: All numerical data come from the U.S. Department of Education’s Common Core of Data. See Nat’l Ctr. for Educ. Statistics, supra note 67. All percentages and indices were calculated by the author using CCD data and an Excel spreadsheet (on file with the North Carolina Law Review).

Grade reconfiguration cannot be implemented as cleanly in large districts because they serve too many students to offer each grade at just one school. Nevertheless, the principle of expanding attendance zones by reducing the number of schools that offer each grade can reduce school segregation in large districts. Therefore, grade reconfiguration can be the entire solution in small districts and a piece of a more comprehensive plan in larger districts.

B. Examples from School Districts that Have Used Grade Reconfiguration as a Desegregation Remedy

Grade reconfiguration has been attempted in several school districts, including Charlotte-Mecklenburg, North Carolina;[75] Denver, Colorado;[76] Hillsborough County (Tampa), Florida;[77] Houston,

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75. See Swann v. Charlotte-Mecklenburg Bd. of Educ., 379 F. Supp. 1102, 1106 (W.D.N.C. 1974) (including in the desegregation proposal a mandate that the fourth grade be moved when possible to schools serving fourth and fifth graders).


77. See Manning v. Sch. Bd. of Hillsborough County, 244 F.3d 927, 931 (11th Cir. 2001) (describing a 1971 desegregation plan which converted traditionally Black schools
Texas; Minneapolis, Minnesota; Pasadena, California; and Santa Barbara, California. Reconfiguration has had mixed results in the districts that have implemented it.

In Houston, grade reconfiguration proved unsuccessful because of the manner in which the District Court for the Southern District of Texas applied the remedy. The district court counted Hispanic students as Whites, thereby enabling the court to pair primarily Hispanic schools with primarily Black schools in a grade reconfiguration process that left White students largely out of the process. Houston provides an example of how an improperly-applied remedy can fail to operate in the spirit of Brown and place the burdens associated with desegregation on students of color.

within the district into schools serving only grades 6–7, which all students in the district would attend. For additional discussion of the Tampa reconfiguration plan, see infra notes 86–101 and accompanying text.

78. See Guadalupe San Miguel, Jr., Brown Not White: School Integration and the Chicano Movement in Houston 161 (2001) (illustrating the ten different school pairings set forth in Houston’s 1971 desegregation plan and the grade configurations within each pairing).


80. See Amy Stuart Wells et al., Both Sides Now: The Story of School Desegregation Graduates 91 (2009) (recounting a 1970 Pasadena desegregation plan which sent all students in a district to a single school for grades K–3 and all to a single school for grades 4–6, but noting that the K–3 schools were generally located in White neighborhoods, which meant that minority students “were always sent the farthest”).


82. See, e.g., Heilman, supra note 79, at 152 (quoting a 1977 editorial run in a Black community newspaper critical of desegregation efforts in Minneapolis). Black parents in Tampa, Florida, for example, viewed the benefits of grade reconfiguration to be the increased resources generally accompanying White children, while the negatives often included a disruption to the community, an unfair burden of busing only children of color, and within-school segregation at the desegregated school. See infra notes 91–96 and accompanying text.


84. See San Miguel, supra note 78, at 75 (“[I]t took several weeks for many in the community to realize the unjust nature of this integration plan.”).

85. See infra notes 91–96 and accompanying text for an illustration of how attempts to desegregate schools can burden those students shuffled among schools.
Hillsborough County schools in Tampa, Florida, attempted a more evenhanded approach. The Tampa plan linked each Black elementary school with two to five White schools and each Black junior high school with one to three White schools. Students whose home school was a Black elementary school attended a White school during grades 1–5, while students whose home school was a White school remained at their home school. The district reconfigured the Black elementary schools into sixth grade centers attended by the students who attended any of the linked schools. Similarly, all seventh grade students whose home school was one of the linked junior high schools attended a Black junior high school. The plan dispersed students from the Black middle school across the linked White schools that the school district reconfigured to cover grades eight and nine.

The Tampa grade reconfiguration plan drew complaints from both Black and White parents. Black parents complained that the weight of desegregation fell unequally on Black students, who were bused from their home schools for several years, while White students were bused for only two years. Black parents also argued that the closing of two Black high schools removed a strong institution from the neighborhood. Additionally, Black parents felt that teachers cared about their children less in desegregated schools than in their

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86. Manning v. Sch. Bd. of Hillsborough County, 244 F.3d 927, 931 (11th Cir. 2001).
87. Id.
88. Id.
89. Id.
90. Id.
91. See Janet M. Hall, School Desegregation in Hillsborough County, Florida 76–78 (Dec. 1992) (unpublished M.S. thesis, University of South Florida), available at http://susdl.fcla.edu/fh/ (follow the “Search Author List” hyperlink; scroll down to “Author: Hall, Janet M.;” follow “table of contents (PDF)” hyperlink; then follow “Chapter III: Busing comes to Hillsborough County” hyperlink) (quoting outcries from White opposition to busing—“I’d burn the schoolhouse down before I let them bus my little girl out of the neighborhood”—and the equally dissatisfied Black opposition that characterized the plan as a “neighborhood school system for whites”).
92. Id. at 76 (reporting that Black students would be bused for ten of their twelve school years under the plan; Whites left their neighborhood schools for only sixth and seventh grades); see also Tamela McNulty Eitle, Diversity, Desegregation, and Accountability in Florida Districts, in EDUCATION REFORM IN FLORIDA: DIVERSITY AND EQUALITY IN PUBLIC POLICY 117, 135–36 (Kathryn M. Borman & Sherman Dorn eds., 2007) (remarking on the Black community’s disappointment that the plan served to place a “disproportionate burden” on Black students).
93. Hall, supra note 91, at 78 (calling the two schools “sources of community identity and pride”); see also Eitle, supra note 92, at 135–36 (noting the closing of the two high schools).
own neighborhood schools, though they feared that a return to neighborhood schools would coincide with a return to inadequate facilities, textbooks, and other supplies. For their part, White parents disliked that their children attended the sixth and seventh grade centers located at formerly Black schools.

Eventually, school officials in Tampa became concerned about having children attend three different schools in three years and changed the desegregation plan. In 1991 Hillsborough County adopted a new desegregation plan using other approaches, including clusters of schools and magnet schools. The rationale for the change was to move to a middle school model in which schools served grades 6–8.

The former plan had been more successful in maintaining lower levels of school segregation, as demonstrated by the fact that school segregation in the district increased by about twenty-five percent during the 1990s, which comprised the time between the termination of grade reconfiguration and the declaration of unitary status in the district.

Minneapolis school officials also attempted grade reconfiguration. The Minneapolis plan paired a White school with a Black school, each school offering half the grades it previously offered.


95. See id. at 148 (attributing Black parents’ fear of “unequally funded schools” to a perception that the school board did not respect segregated Black schools); Hall, supra note 91, at 100 (discussing how the appearance of textbooks and freshly painted facilities at formerly Black schools coincided with the influx of White students).

96. Hall, supra note 91, at 104 (calling this aspect of the plan “[a]lways unpopular with Whites”).

97. See id. at 104–05 (citing the difficulty of establishing teacher/student/parent relationships as one drawback of a plan requiring several school changes).

98. See Manning v. Sch. Bd. of Hillsborough County, 244 F.3d 927, 932–33 (11th Cir. 2001).

99. See id.

100. Eitle, supra note 92, at 136.

101. Id.

102. See Heilman, supra note 79, at 133 (describing how two K–6 schools were paired under the plan, one offering grades K–3, and the other grades 4–6). The district also used other means for desegregation, such as changing attendance boundaries. See id. at 136–37, 139–41.
in terms of the children's reactions and the opportunity to appoint a Black superintendent.103 The primary negative effect was that some White parents pulled their children out of the public schools and enrolled them in private schools, though the extent to which this occurred is unclear.104

As a final example, the Pasadena Unified School District was the first "northern" district to receive a desegregation order.105 Like the Minnesota plan, the Pasadena plan paired schools to achieve grade reconfiguration.106 Students from Black and/or Hispanic schools were bused to White schools for grades K-3, while students from White schools were bused to Black and/or Hispanic schools for grades 4-6.107 However, many students from White schools enrolled in private schools in the fourth grade so that their parents could avoid having their children bused to non-White areas.108 "White flight" increased rapidly in Pasadena and manifested itself in a variety of ways, including flight to surrounding cities,109 increased use of private schools by White—and many Black—families,110 and a nearby community seceding from the district and creating its own high school.111 Busing in Pasadena eventually evolved into a means to transport children of color from high density population areas to schools in White neighborhoods largely abandoned by White

103. Id. at 170 (describing busing opponents' favorable reactions to Superintendent Green's appointment).
104. Id. at 169-70 (citing figures suggesting that White student enrollment decreased by as much as fifty percent but also noting that declining birth rates likely were at least partially responsible for this decline).
105. See WELLS ET AL., supra note 80, at 62 (reporting that a federal judge ordered Pasadena schools to desegregate in 1970, marking the first time a district outside the South had been ordered to desegregate). The author taught in the Pasadena Unified School District from 1997-2002.
106. Id. at 91 (commenting that because the K-3 schools were formerly predominantly White schools in White neighborhoods, "the youngest students of color were always sent the farthest").
107. See id.
108. Id.
110. See id. (estimating that as many as seven thousand children had left the Pasadena Unified School District by the mid-70s); see also WELLS ET AL., supra note 80, at 91 ("[P]rivate schools flourished in Pasadena at that time.").
111. Uhrich, supra note 109 (relating that La Cañada, a wealthy White community, formed its own school district in opposition to the desegregation plan); WELLS ET AL., supra note 80, at 62 (same).
families. Efforts to lure White students back into the district in the first few years of the new millennium generally proved unsuccessful.

C. Weaknesses and Strengths of Grade Reconfiguration

Grade reconfiguration, like any other type of desegregation plan, possesses various weaknesses and strengths, which often correlate to the characteristics of the school district considering grade reconfiguration. This section considers these weaknesses and strengths.

1. Non-educational Considerations Related to Grade Reconfiguration

A first consideration regarding a district's decision to implement grade reconfiguration relates to the number of students in the district, which plays a very important role in intradistrict desegregation efforts. Grade reconfiguration can help only if a district is large enough to have schools offering competing grades. For the many

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112. See John Ryan, Tackling Local Resistance to Public Schools: Pasadena's Superintendent Reaches Out to Middle-Class Families, L.A. DAILY J., May 17, 2004, at 1 (discussing the impossibility of using busing to desegregate a school district whose minority population exceeds eighty-five percent). "We found ourselves busing just for the sake of busing, and that in and of itself was not accomplishing the goal we need to achieve,' Joe Brown, the president of the Pasadena chapter of the National Association for the Advancement of Colored People, said." Id.

113. See id. (discussing the efforts of the then superintendent to lure middle class White families back into the district). Ryan's 2004 article notes, "[t]he city of Pasadena is 53 percent white, but only 16 percent of the students in public schools are white. The percentage of white students in the district was 54 percent before [Judge] Real's order." Id.; see also Nat'l Ctr. for Educ. Statistics, U.S. Dep't of Educ., Digest of Education Statistics, Table 91, http://nces.ed.gov/programs/digest/d08/tables/dt08_091.asp (last visited Feb. 14, 2010) (showing that in the fall of 2006, 15.7% of the students attending school in the Pasadena Unified School District were White). Taken together, the figures show that the efforts to lure White students back into the Pasadena Unified School District failed to increase the percentage of White children in the district.

114. See Danielle Holley-Walker, After Unitary Status: Examining Voluntary Integration Strategies for Southern School Districts, 88 N.C. L. REV. 877, 897–98 (2010) (discussing the limitations on desegregation efforts in small school districts). Holley-Walker correctly asserts that districts that are so small that they offer each grade in just one school cannot achieve additional intradistrict desegregation and that desegregating small districts will not have the same numerical impact as integrating large districts with urban and suburban areas. Id. Nevertheless, it would be a mistake to underestimate the degree of desegregation that is possible in small districts. It is important to note that even if desegregation in small districts lacks the numerical impact it holds in larger districts, desegregation offers an experience that is every bit as important in the lives of the students in small districts as in larger districts. See Janet Ward Schofield, Maximizing the Benefits of Student Diversity: Lessons from School Desegregation Research, in DIVERSITY
small districts that operate two or three elementary schools, grade reconfiguration can eliminate intradistrict segregation at the elementary school level, as will be shown below.\textsuperscript{115} Larger districts also can employ grade reconfiguration effectively.\textsuperscript{116}

Two other important elements for achieving desegregation through grade reconfiguration are sufficient diversity within the area\textsuperscript{117} and different racial–ethnic patterns within schools in the area. Two examples from Virginia illustrate the first point: grade reconfiguration requires sufficient diversity within the area. No intradistrict remedy could force racial–ethnic mixing in Buchanan County, servicing 3,500 students in 2005–06, where only two Black students and one Hispanic student represented the district's entire minority population.\textsuperscript{118} Only slightly more integration would be possible in Petersburg City, where Black students made up 95.5\% of the school population and Hispanic and White students each make up only 2\% of the population.\textsuperscript{119} Voluntary desegregation in such
districts would need to include interdistrict remedies, which could include grade reconfiguration.\textsuperscript{120}

With regard to the second point, that grade reconfiguration requires different racial–ethnic patterns within schools in the area, the most recent data from Virginia's Powhatan County Public Schools presents a good example of a district in which grade reconfiguration would not be effective. In the 2005–06 school year, Powhatan had one high school, one junior high school, one middle school, and two elementary schools.\textsuperscript{121} Both elementary schools had similar demographics: about 8.4% and 11.8% Black, 90.4% and 86.7% White, and less than 2% combined of other races.\textsuperscript{122} Intradistrict grade reconfiguration would not reduce the level of segregation in the schools.

Two other considerations are the physical area of the district and the physical location of schools within the district boundaries. Each of these factors relates to the issue of transportation, which is a potential stumbling block for most desegregation plans. Desegregation can be successful when transportation issues are minimal, but transportation complications, such as distance and time, hinder these efforts.\textsuperscript{123} Pairing and reconfiguring schools that are nearby to each other minimizes the transportation issues. In districts with few schools, this can occur naturally because the district covers a small area\textsuperscript{124} or can be accomplished when schools are centrally located. For example, Appomattox County, in Virginia, has centrally located schools;\textsuperscript{125}

\begin{footnotesize}
\textsuperscript{120} See infra Part III.B.3.

\textsuperscript{121} Those schools were: Powhatan High School, Powhatan Junior High School, Pocahontas Middle School, Powhatan Elementary School, and Pocahontas Elementary School. See Va. Dep't of Educ., supra note 118 (follow the “2005-2006 School Summaries by Ethnicity, Grade, and Gender” hyperlink).

\textsuperscript{122} See id.

\textsuperscript{123} See R. Loy Waldrop, Jr., Comment, Busing and Racial Imbalance: Judicial Sword and Social Dragon, 39 TENN. L. REV. 647, 654–65 (1972) (noting that “impractical attendance or transportation problems” are often “scrutinized”).

\textsuperscript{124} Falls Church, for instance, is a small school district in terms of geography—just 1.99 square miles. See U.S. Census Bureau, State and County Quick Facts, http://quickfacts.census.gov/qfd/states/51/51610.html (last visited Feb. 15, 2010).

\textsuperscript{125} See Google Maps, http://maps.google.com/ (follow the “Get Directions” hyperlink; in field A, insert the address for one of Appomattox's Public Schools: Appomattox Primary School, 185 Ferguson St., Appomattox, VA 24522; Appomattox Elementary School, 2020 Church St., Appomattox, VA 24522; Appomattox Middle School, 2020 Church St., Appomattox, VA 24522; Appomattox High School, 198 Evergreen Ave, Appomattox, VA 24552; in field B insert the address for another school; select “Get Directions” to calculate approximate distances) (last visited Feb. 24, 2010). The greatest distance between schools is 1.5 miles.
\end{footnotesize}
separate, reconfigured primary and upper elementary schools; and virtually no school segregation.  

The transportation issues are more problematic for districts that cover larger areas and for interdistrict plans. If one considers a hypothetical (and stereotypical) district comprised of an urban core that serves poor students of color surrounded by middle class, White suburbs, the transportation issues would be fairly mild at the “rim” where the two communities meet. Transportation would be more problematic, however, for students deeper in the inner core or farther in the outer suburbs.

Grade reconfiguration also works better for some grades than others. In particular, high schools are not well suited to this approach for a variety of reasons. Many local communities regard their high schools as important local entities and firmly resist efforts to consolidate with other schools or districts, arguing for local control of education. Grade reconfiguration cannot succeed if communities refuse to merge schools, and opposition to consolidation poses a serious threat to desegregation. Extracurriculars and advanced courses present similar difficulties at the high school level because grade reconfiguration creates a risk that freshmen and sophomores would be unable to participate in activities such as varsity sports and higher-level courses. The issues related to extracurricular activities

126. See supra Table 2.

127. Hanover County, which is eighty-seven percent White, sits fairly close to Richmond City, which is eighty-nine percent Black. See Va Dep’t of Educ., supra note 118. Students at Beaverdam Elementary, an exurban school, would have to travel approximately forty-seven minutes (more than thirty miles) to reach the nearest elementary schools in Richmond. See Google Maps; http://maps.google.com/ (follow the “Get Directions” hyperlink; in field A insert the address for Beaverdam Elementary: 15485 Beaverdam School Road, Beaverdam, VA 23015; in field B, insert address for one of Richmond’s northern most elementary school district zones: Mary Munford Elementary School, 211 Westmoreland Ave., Richmond, VA 23226 (35.7 miles); Linwood Holton Elementary, 1600 W. Laburnum, Richmond, VA 23227 (33 miles); Ginter Park Elementary, 3817 Chamberlayne Ave., Richmond, VA 23227 (32.4 miles); John B. Cary Elementary, 3021 Maplewood Ave., Richmond, VA 23221 (36.1 miles); select “Get Directions”) (last visited Feb. 24, 2010).


129. Alternatively, an obstacle to reconfiguration at the high school level might be that it would be less cost effective to offer advanced courses in grade nine and ten schools in which just a few students would be eligible to take them.
are less of a problem at middle and elementary schools, so grade reconfiguration is better suited for these schools.

2. Educational Considerations Related to Grade Reconfiguration

The most important potential benefit of grade reconfiguration would be demonstrating that educational benefits can be achieved by restructuring schools. Unfortunately, the research regarding the costs and benefits of various grade configurations is very sparse. Moreover, the few published studies tend to focus on the middle school level.

The research discussing the effects of grade reconfiguration on elementary schools is inconsistent. Some studies suggest that pre-K–3 grade schools benefit young children, though others raise concerns regarding schools with a narrow range of grades. The Children's Academy of New Albany in southern Indiana exemplifies the benefits of pre-K–3 grade school configuration. The Academy converted a pre-K–5 school into a pre-K–3 school in order to focus on the needs of the primary grades, especially literacy. The reconfiguration enabled the school to focus on early childhood development, with an end goal of preparing third graders to move from learning to read to reading to learn. The new grade configuration also provided the administration and teachers with opportunities to conduct more integrated planning and professional development activities. The benefits of attending a primary school increase if the children move

130. In my experience as a teacher, high school sports and Advanced Placement classes are very important considerations for communities.
131. See Craig B. Howley, Grade-Span Configurations: Where 6th and 7th Grades Are Assigned May Influence Student Achievement, SCH. ADMIN., March 2002, at 24, 25 (calling available research "seriously wanting").
132. Id. (noting that research into grade reconfiguration is largely "prescriptive" and tends to focus on middle schools); see also CATHERINE PAGLIN & JENNIFER FAGER, GRADE CONFIGURATION: WHO GOES WHERE? 6 (1997) ("Most of the research on grade span focuses on the middle grades.").
133. See infra notes 135–45 and accompanying text.
134. See infra notes 146–49 and accompanying text.
135. See Gene I. Macröff, The Critical Primary Years: Focusing Educational Priorities from Preschool to Third Grade Holds Great Promise for More Productive Learning in the Higher Grades, PRINCIPAL, Nov.–Dec. 2006, at 41, 41 ("Without fourth and fifth graders in the building, the entire atmosphere and orientation of the Children's Academy shifted and the staff could concentrate exclusively on the needs of students in the early elementary grades.").
136. Id. (calling the school's new focus on literacy education "unprecedented").
137. Id. at 42.
138. Id. at 41.
on as a cohort to an upper elementary school that shares an educational approach with that in the primary school.\textsuperscript{139}

Hollyrood School in Portland, Oregon, provides another example of a school with a successful K–3 model.\textsuperscript{140} In 1986, staff members at K–5 Hollyrood Elementary voted to convert the school to a K–3 school.\textsuperscript{141} The school subsequently reported many of the same benefits as the Children’s Academy, especially the ability to focus on the developmental needs of young children.\textsuperscript{142} School administrators say they have formed a stronger “learning community” with the new arrangement.\textsuperscript{143} The district subsequently reorganized Hollyrood into one school, Beverly Cleary School, on two sites: a K–1 school on the Hollyrood site and a 2–8 school on the Fernwood site.\textsuperscript{144} The results appear to be successful because the students at both school sites score extremely high on statewide reading and math tests.\textsuperscript{145}

There are some disadvantages, however, to narrow grade configurations. K–2 schools are among the largest schools in the nation in terms of student numbers.\textsuperscript{146} In addition, the fewer grades offered at each school, the more school transitions that students must

\begin{itemize}
\item \textsuperscript{139} Id. at 43.
\item \textsuperscript{140} PAGLIN & FAGER, supra note 132, at 26–28.
\item \textsuperscript{141} Id. at 26
\item \textsuperscript{142} Id. (reporting the Hollyrood staff perception that the more concentrated grade span “create[s] a learning environment that is experiential and developmentally appropriate”).
\item \textsuperscript{143} Id.
\item \textsuperscript{144} Beverly Cleary School, About the School, http://www.beverlyclearyschool.org/about-school (last visited Feb. 15, 2010); Hollyrood-Fernwood Schools, About Us, http://www.hollyrood-fernwood.pps.k12.or.us/docs/_sid/58d97798abfb536efda8b103e872054ed/pg/10731 (last visited Feb. 15, 2010).
\item \textsuperscript{145} See Beverly Cleary School, supra note 144 (stating that the third grade scores in reading and math are routinely in the top percentile and that one hundred percent of students have met the reading benchmarks for the past two years); see also OR. DEP’T OF EDUC., 2008–09 FINAL AYP REPORT (PUBLIC) SUMMARY 1–3 (2009), available at http://www.ode.state.or.us/data/reportcard/AYPpdfs/10/10-AYP-857.pdf (indicating that Beverly Cleary School met all Adequate Yearly Progress (“AYP”) standards in reading and mathematics across all races for the 2008–09 school year); OR. DEP’T OF EDUC., 2007–2008 SCHOOL REPORT CARD, HOLLYROOD-FERNWOOD 2 (2008), available at http://www.ode.state.or.us/data/reportcard/RCpdfs/09/09-ReportCard-857.pdf (showing that the Hollyrood-Fernwood school surpassed both the district and state in passage rates on Oregon Statewide Assessments in reading, mathematics, writing, and science tests for the 2007–08 school year).
\item \textsuperscript{146} See Howley, supra note 131, at 28 (observing the tendency of grade reconfiguration to create “larger and larger schools” which in turn “damage[s] the educational equity for everyone”).
\end{itemize}
endure between kindergarten and twelfth grade.\textsuperscript{147} Each of these two factors negatively impacts student performance.\textsuperscript{148} The limited amount of research on the topic does not yet elucidate whether the benefits of narrowly-configured schools outweigh the negative consequences,\textsuperscript{149} so grade reconfiguration remains a reasonable educational strategy to promote desegregation.

This Part has discussed the weaknesses and strengths of grade reconfiguration. A district considering employing grade reconfiguration also would need to estimate how successful reconfiguration would be in reducing segregation. The next Part will discuss models demonstrating the extent to which segregation might be reduced if selected districts in Virginia reconfigured their grade levels.

\section*{III. Modeling in Virginia}

This Part describes the data and analyses this Article uses to model possible outcomes if selected Virginia school districts applied grade reconfiguration. The first models\textsuperscript{150} use data from very small districts. When the indices showed reduced segregation in these districts, I designed models for larger districts. Finally, I built one \textit{interdistrict} model, since in many locations a significant reduction in segregation would require a cross-district approach.\textsuperscript{151} The larger

\begin{thebibliography}{99}
\bibitem{147} See \textit{id.} (warning that frequent transitions “disrupt the social structure in which learning takes place”); see also \textit{PAGLIN \& FAGER, supra} note 132, at 8 (commenting that “[t]ransitions can be stressful”).
\bibitem{148} \textit{Howley, supra} note 131, at 28 (concluding that large, narrowly constructed schools might be a “bad investment” measured in terms of “per unit of achievement”).
\bibitem{149} \textit{PAGLIN \& FAGER, supra} note 132, at 1 (“Research has not provided definitive answers to the myriad possible questions . . . .”).
\bibitem{150} The plural term “models” describes the fact that I computed a different model for each school district in this study. Each model applied the same principles in different contexts, so minor differences arose between the models, as would occur in reality if different school districts implemented such models.
\bibitem{151} A straightforward mathematical technique makes it possible to estimate the importance of interdistrict plans in Virginia. The state’s Dissimilarity Index computed by school (as is typical) showed that Virginia schools possess nearly fifty percent of the maximum possible level of segregation according to the author’s computation using CCD data for Virginia. See Nat’l Ctr. for Educ. Statistics, \textit{supra} note 67. The Dissimilarity Index is discussed later in this Part. See \textit{infra} note 155 and accompanying text. The state’s Dissimilarity Index computed by district came out to nearly forty percent according to the author’s computations using the CCD data. This result is important because modeling by district removes all the intradistrict effects from the model and is exactly equivalent mathematically to having each district place all of its students in one school. These calculations show that even if Virginia somehow eliminated \textit{all} of its intradistrict segregation, such efforts would reduce the level of segregation by just under twenty percent of the maximum amount according to the author’s computation using CCD data.
\end{thebibliography}
district and interdistrict models presented various options for reconfiguration. This Article uses Google Maps to estimate distances and travel times.

A. Data Sources

The study of grade reconfiguration presented in this Article evolved from a study of the current patterns of school segregation in Virginia. The data for the initial phase of the project came from the United States Department of Education Common Core of Data ("CCD") for the most recent school year available at the time (2005–06). School attendance by race–ethnicity for every public school in Virginia comprised the data set.

The analysis of the level of segregation in each district involved five measures: (1) a comparison of the number and percentages of each racial–ethnic group at the individual schools to the district-wide figures, (2) the Exposure Index, (3) the related Isolation Index, (4) the multiple group Dissimilarity Index, and (5) the Student Change Index.

The Exposure Index of Group A to Group B measures the percentage of students from Group B that attend the school of the average student from Group A. While this index typically measures the exposure of Black and/or Hispanic students to White students, all exposure permutations were calculated for this Article. The Exposure Index of Group A to Group B would equal the percentage of Group B students in the school population if schools were perfectly desegregated.

This result is based on the two computations discussed in this footnote. If the state had about fifty percent of the maximum possible segregation and that figure was reduced to forty percent by desegregating each district, that would mean the percentage of segregation was reduced by ten percent. In other words, more than eighty percent of the school segregation in Virginia can be attributed to interdistrict segregation.


153. Gang Meng, G. Brent Hall & Steven Roberts, Multi-group Segregation Indices for Measuring Ordinal Classes, 30 COMPUTERS, ENV’T, & URB. SYS. 275, 280 (2006). The formula for the Exposure Index is:

\[
\text{Exposure Index} = \sum_{i=1}^{n} \left( \frac{x_i}{X} \right) \left( \frac{y_i}{t_i} \right)
\]

Where,

- \(x_i\) = the number of students from racial group \(x\) at school \(i\),
- \(X\) = the number of students from racial group \(x\) in the district,
- \(y_i\) = the number of students from racial group \(y\) at school \(i\), and
- \(t_i\) = the total enrollment of school \(i\).
The Isolation Index is the same as the Exposure Index, except that it measures the exposure of the average student from Group A to students from Group A.\textsuperscript{154} The value of this measure would equal the percentage of Group A students in the school population if schools were desegregated perfectly.

The multiple group Dissimilarity Index measures the extent to which the racial–ethnic composition of the individual schools differs from the composition of the district.\textsuperscript{155} It estimates the percentage of

\textsuperscript{154} Id. The Formula for the Isolation Index is:

\[
\text{Isolation Index} = \sum_{i=1}^{n} \left( \frac{x_i}{X} \right) \left( \frac{x_i}{t_i} \right)
\]

Where,
- \( x_i \) = the number of students from racial group \( x \) at school \( i \),
- \( X \) = the number of students from racial group \( x \) in the district, and
- \( t_i \) = the total enrollment of school \( i \).

\textsuperscript{155} James M. Sakoda, \textit{A Generalized Index of Dissimilarity}, 18 \textit{DEMOGRAPHY} 245, 246 (1981). The formula for the Dissimilarity Index is:

\[
\text{Dissimilarity Index} = \frac{1}{2} \frac{\sum_{i=1}^{n} \sum_{j=1}^{m} |g_{ij} - (p_j \times t_i)|}{\sum_{j=1}^{m} (T \times p_j) \times (1 - p_j)}
\]

Where,
- \( g_{ij} \) = the number of students from group \( j \) at school \( i \),
- \( P_j \) = the percentage of students in the district from group \( j \),
- \( t_i \) = the total number of students at school \( i \), and
- \( T \) = the total number of students in the district.

The term \((1/2)(\text{numerator})\) measures how many students would have to change schools in order for the demographics of each school to match those of the district as a whole. The denominator measures how many students would have to change schools to achieve desegregation if the district was composed of strictly one-race schools. To understand the denominator, consider the following example. Assume that there is a completely segregated school district with a Black school, a Hispanic school, and a White school, each with 300 students. The schools would match the district demographics if each school had 100 Black, 100 Hispanic, and 100 White students. In order to desegregate the schools, 100 Black students would have to move to the Hispanic school, 100 Black students would have to move to the White school, 100 Hispanic students would have to move to the Black school, etc., with the end result that 200 students from each school would have to change schools, for a total of 600 students changing schools (100 students from each school would remain at their home school). To compute the denominator, \( T \) would equal 900, \( P_j \) would equal 1/3 for each group, and \((1 - P_j)\) would equal 2/3 for each group.
the maximum amount of segregation that is present in the district, with values ranging from 0.00 (where every school in the district mirrors perfectly the racial balance of the district) to 1.00 (where every school is a one-race school).

The Student Change Index measures the number or percentage of students that would need to change schools to achieve perfect desegregation. This index helps to understand the magnitude of change required to desegregate schools fully.

Preliminary analyses of the Virginia data showed that small districts that offered each grade in just one school had the lowest levels of segregation. Based on this observation, the project evolved into modeling the impact of grade reconfiguration on school segregation in school districts that offer the same grades in multiple elementary schools. The data for the models included attendance data sorted by race–ethnicity and grade level. I calculated the segregation indices for the reconfigured districts and compared the new values to the original values.

B. Modeling the Impact of Grade Reconfiguration on School Segregation in Virginia

This Part presents the results for different types of Virginia school districts in the order described above. Small districts will be

\[(900)(1/3)(2/3) = 200\] students changing schools from each group, for a total of 600 students.

156. The Student Change Index can be expressed in two ways. It can measure the number of students that would need to change schools to achieve perfect desegregation, in which case it equals the term \((1/2)(\text{numerator})\) of the Dissimilarity Index. It can also measure the percentage of students who would have to change schools, in which case it equals \([((1/2)(\text{numerator})]) / T\) from the Dissimilarity Index. In the example from the previous footnote, the district would have needed to move 600 students to transition from a system of one race schools to a system in which the demographics of each school matched that of the district. A district with the same number of students (900), but in which ten percent were Black, ten percent were Hispanic, and eighty percent were White would have to move just 306 children to achieve the same feat (Black: \((900)(0.1)(0.9) = 81\); Hispanic: \((900)(0.1)(0.9) = 81\); White: \((900)(0.8)(0.2) = 144\); for a total of 306 students). Similarly, for any value of the Dissimilarity Index, the latter district would have to move fewer students on a numerical and a percentage basis. As the above example shows, districts with the same Dissimilarity Index could have very different numbers of students needing to change schools to match the district demographics, depending on those demographics. One can think of the Dissimilarity Index as being a means of comparing segregation levels across districts with differing demographics, while the Student Change Index shows the magnitude of the change in terms of student numbers to desegregate a district.

157. Three of the districts discussed above, Appomattox County, Falls Church City, and Powhatan, illustrate this observation based on the author's analysis of CCD data.

discussed first, followed by larger districts, and finally, the interdistrict example.

1. Efficacy of Reconfiguration in Small School Districts

   a. Westmoreland County

   Westmoreland County Public School District is one example of a small school district with more school segregation than Appomattox and Falls Church. Westmoreland is a small rural district with two elementary schools, a middle school, and a high school.\textsuperscript{159} Table 3 shows that Westmoreland schools educated about four Black students per three White students in 2005–06. It also shows that the ratios were close to four to three at the high school and the middle school levels, while the ratio of Black to White students was greater than two to one at Cople Elementary. It was about three to four at Washington District Elementary.

\textsuperscript{159} See Westmoreland County Public Schools, http://www.wmlcps.org/ (last visited Feb. 15, 2010).
Table 3: Westmoreland County School Demographics, Percentages, and Exposure Indices, 2005-06

<table>
<thead>
<tr>
<th>School Demographics</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington &amp; Lee HS</td>
<td>0</td>
<td>5</td>
<td>315</td>
<td>33</td>
<td>250</td>
<td>603</td>
</tr>
<tr>
<td>Montross MS</td>
<td>0</td>
<td>1</td>
<td>264</td>
<td>29</td>
<td>176</td>
<td>470</td>
</tr>
<tr>
<td>Cople ES</td>
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<td>0</td>
<td>285</td>
<td>21</td>
<td>131</td>
<td>437</td>
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<tr>
<td>Washington District ES</td>
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<td>0</td>
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<td>59</td>
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<td>394</td>
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<td>Total</td>
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<td>750</td>
<td>1,904</td>
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<th>Hispanic</th>
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<th>Total</th>
</tr>
</thead>
<tbody>
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<td>Washington &amp; Lee HS</td>
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<td>41.5%</td>
<td>100.0%</td>
</tr>
<tr>
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<td>0.2%</td>
<td>56.2%</td>
<td>6.2%</td>
<td>37.4%</td>
<td>100.0%</td>
</tr>
<tr>
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</tr>
<tr>
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<td>39.4%</td>
<td>100.0%</td>
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<table>
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<th>Hispanic</th>
<th>White</th>
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<td>N/A</td>
<td>N/A</td>
</tr>
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<td>Asian</td>
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<td>1.000</td>
</tr>
<tr>
<td>District Demographics</td>
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<td>52.8%</td>
<td>7.5%</td>
<td>39.4%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note: All numerical data come from the U.S. Department of Education's Common Core of Data. See Nat'l Ctr. for Educ. Statistics, supra note 67. All percentages and indices were calculated by the author using CCD data and an Excel spreadsheet (on file with the North Carolina Law Review).

The segregation statistics confirm the story told by the school demographics. The exposure of both Black and White students to Black students differs by over 1.5% from the percentage of Black students in the population. Similarly, the exposure of these groups to White students is off by at least one percent. In 2005-06, Westmoreland schools had 14.3% of the maximum possible level of segregation and would have had to move 152.77 students—8.02% of the total—to achieve perfect desegregation. Each of these figures is far higher than the corresponding figures for Appomattox and Falls Church.160

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160. Falls Church City Schools had 5.34% of the maximum segregation and would have needed to move 2.17% of its student population to achieve perfect desegregation. The figures were 3.54% and 1.56% respectively for Appomattox. The Author calculated these indices using CCD data, Nat'l Ctr. for Educ. Statistics, supra note 67, and an Excel spreadsheet (on file with the North Carolina Law Review).
Table 4 shows the effects of reconfiguring the two Westmoreland elementary schools into a primary school, Cople, and an upper elementary school, Washington. As can be seen, each of the reconfigured schools would serve more Black students than White students, which would be consistent with the demographics of the district. The Exposure Indices discussed in the previous section would be far closer to their expected values, falling within 0.2% of the percentage of the relevant group in the population, as is true of Appomattox and Falls Church. Moreover, the level of segregation would be reduced by more than half as a result of grade reconfiguration. Westmoreland would have only 6.15% of the maximum level of segregation, while only 65.59 students—3.44% of the total—would have to change schools to achieve perfect desegregation.

Table 4: Reconfigured Westmoreland County School Demographics, Percentages, and Exposure Indices, 2005–06

<table>
<thead>
<tr>
<th>School Demographics</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington &amp; Lee HS</td>
<td>0</td>
<td>5</td>
<td>315</td>
<td>33</td>
<td>250</td>
<td>603</td>
</tr>
<tr>
<td>Montross MS</td>
<td>0</td>
<td>1</td>
<td>264</td>
<td>29</td>
<td>176</td>
<td>470</td>
</tr>
<tr>
<td>Cople Primary ES</td>
<td>0</td>
<td>0</td>
<td>262</td>
<td>47</td>
<td>177</td>
<td>486</td>
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<tr>
<td>Washington District</td>
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<td>33</td>
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<td>9.6%</td>
<td>100%</td>
</tr>
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</thead>
<tbody>
<tr>
<td>Washington &amp; Lee HS</td>
<td>0.0%</td>
<td>0.8%</td>
<td>52.2%</td>
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<tr>
<td>Montross MS</td>
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<td>56.2%</td>
<td>6.2%</td>
<td>37.4%</td>
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</tr>
<tr>
<td>Cople Primary ES</td>
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<td>53.9%</td>
<td>9.7%</td>
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<tr>
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<td>47.8%</td>
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</tr>
<tr>
<td>Upper ES</td>
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<td>52.8%</td>
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<td>39.4%</td>
</tr>
<tr>
<td>Total</td>
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<td>52.8%</td>
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</table>

<table>
<thead>
<tr>
<th>Exposure Index</th>
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<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington &amp; Lee HS</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Montross MS</td>
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<td>0.529</td>
<td>0.056</td>
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<td>1.000</td>
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<tr>
<td>Cople Primary ES</td>
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<tr>
<td>Upper ES</td>
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<td>0.074</td>
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<tr>
<td>Total</td>
<td>0.0%</td>
<td>0.3%</td>
<td>52.8%</td>
<td>7.5%</td>
<td>39.4%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note: All numerical data come from the U.S. Department of Education's Common Core of Data. See Nat'l Ctr. for Educ. Statistics, supra note 67. All percentages and indices were calculated by the author using CCD data and an Excel spreadsheet (on file with the North Carolina Law Review).
The location of the elementary schools would be an important obstacle to implementing grade reconfiguration in Westmoreland County. Westmoreland County is a long, fairly thin county running from West Northwest to East Southeast. The middle school and high school are relatively centrally located, but the two elementary schools sit at opposite ends of the county, nearly twenty-five miles—forty minutes—apart. This potential obstacle illustrates the importance of site selection for desegregation via grade reconfiguration.

b. Brunswick County

Brunswick County Public Schools, a rural district with four elementary schools, one middle school, and one high school in 2005-06, serves as a second example of a restructuring possibility. Table 5 shows the demographic data for Brunswick County schools. The ratio of Black to White students is roughly four to one in this district, with about one percent Hispanic students and a handful of Asian students. Table 5 shows that the main school segregation issue in Brunswick County is attributable to the fact that two of the four elementary schools have greater than expected percentages of Black students, while the other two have a higher percentage of Hispanic and White students than the district’s total public school population. Brunswick has 18.71% of the maximum possible segregation and would have to move only 143.08 students—6.33% of the total—to achieve perfect desegregation.

Table 5: Brunswick County School Demographics, Percentages, and Exposure Indices, 2005-06

<table>
<thead>
<tr>
<th>School Demographics</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>Brunswick Sr. HS</td>
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<td>1</td>
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<td>2</td>
<td>82</td>
<td>453</td>
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<td>Russell JHS</td>
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<td>7</td>
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<td>139</td>
<td>6</td>
<td>44</td>
<td>190</td>
</tr>
</tbody>
</table>

161. See U.S. Census Bureau, State and County Quick Facts, http://quickfacts.census.gov/qfd/maps/virginia_map.html (last visited Feb. 15, 2010) (showing Westmoreland County to be located on the right-hand side of the map).

After the 2005–06 school year, the Brunswick County School District merged the two smaller elementary schools into one school, changed the seventh through ninth grade junior high school into a sixth through eighth grade middle school, and moved ninth grade to the high school. The merger of Red Oak and Sturgeon Elementary schools helped reduce school segregation since Red Oak had fewer Black students than the total district percentage, while Sturgeon had more Black students. Moving sixth grade to the middle school level reduced the number of “competing grades” by one, which tends to reduce segregation.

The Brunswick County model illustrated below takes these changes into account. The combined Red Oak-Sturgeon Elementary School already possesses demographics similar to the demographics

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163. See Brunswick County Public Schools, http://www.brun.k12.va.us/ (follow the “Campuses” link) (last visited Feb. 15, 2010).
164. See supra Table 5.
165. The term “competing grade” indicates that more than one school in a district offers the same grade level. The district operates one middle school and one high school, but several elementary schools, so the “competing grades” issue arises only in the context of elementary schools in this district. Therefore, the district reduced the number of competing grades by moving sixth grade from the elementary schools to the middle school.
166. See supra Part II.A.
of the district, so that school was not reconfigured in the model. The model for the two remaining elementary schools reconfigures kindergarten through fifth grade, leaving pre-kindergarten at the neighborhood school.

Table 6 shows the data for the Brunswick County grade reconfiguration model. Black, Hispanic, and White students are more evenly spread across elementary schools in this model, which causes the Exposure Index to fall in line with those of the previously-discussed districts. This transformation would eliminate roughly three-fourths of the segregation in the school district, as it would have only 4.77% of the maximum possible segregation. Just 36.49 students—1.62% of the total—would have to change schools to achieve perfect desegregation under this model.

Table 6: Reconfigured Brunswick County School Demographics, Percentages, and Exposure Indices, 2005-06

<table>
<thead>
<tr>
<th>School Demographics</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunswick Sr. HS</td>
<td>0</td>
<td>1</td>
<td>488</td>
<td>5</td>
<td>116</td>
<td>610</td>
</tr>
<tr>
<td>Russell MS</td>
<td>0</td>
<td>1</td>
<td>441</td>
<td>5</td>
<td>103</td>
<td>550</td>
</tr>
<tr>
<td>Meherrin Powellton ES (4-6)</td>
<td>0</td>
<td>0</td>
<td>293</td>
<td>6</td>
<td>86</td>
<td>385</td>
</tr>
<tr>
<td>Red Oak-Sturgeon ES</td>
<td>0</td>
<td>1</td>
<td>251</td>
<td>7</td>
<td>57</td>
<td>316</td>
</tr>
<tr>
<td>Totaro (K-3)</td>
<td>0</td>
<td>0</td>
<td>309</td>
<td>5</td>
<td>84</td>
<td>398</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>3</td>
<td>1782</td>
<td>28</td>
<td>446</td>
<td>2959</td>
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<table>
<thead>
<tr>
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<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunswick Sr. HS</td>
<td>0.0%</td>
<td>0.2%</td>
<td>80.0%</td>
<td>0.8%</td>
<td>19.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Russell MS</td>
<td>0.0%</td>
<td>0.2%</td>
<td>80.2%</td>
<td>0.9%</td>
<td>18.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Meherrin Powellton ES (4-6)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>76.1%</td>
<td>1.6%</td>
<td>22.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Red Oak-Sturgeon ES</td>
<td>0.0%</td>
<td>0.3%</td>
<td>79.4%</td>
<td>2.2%</td>
<td>18.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Totaro (K-3)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>77.6%</td>
<td>1.3%</td>
<td>21.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>0.0%</td>
<td>0.1%</td>
<td>78.9%</td>
<td>1.2%</td>
<td>19.7%</td>
<td>100.0%</td>
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</table>

<table>
<thead>
<tr>
<th>Exposure Index</th>
<th>American Indian</th>
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<th>Hispanic</th>
<th>White</th>
<th>N/A</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Asian</td>
<td>0.000</td>
<td>0.002</td>
<td>0.799</td>
<td>0.013</td>
<td>0.186</td>
<td>1.000</td>
</tr>
</tbody>
</table>


168. The three grade level modifications made by the district in 2005-06 would have changed the figures to 12.14% of maximum segregation and 86.99 children needing to change schools. The district’s modifications alone yielded a fairly large reduction in segregation in Brunswick County. Reconfiguring the larger elementary schools would more than double the reduction of segregation.
Grade reconfiguration would be very reasonable in Brunswick County. The distance between the two elementary schools that would be reconfigured happens to be almost exactly the same as that between the two schools that merged, so transportation would not be a major issue. In fact, the middle school sits next to Totaro Elementary School, so the elementary and middle school students could take the same bus.

The more important limitation, however, is that the district is composed of nearly eighty percent Black students. The lack of diversity limits the effectiveness of any remedy. This issue will be revisited in the section on interdistrict modeling.

2. Alexandria City: An Example from a Larger School District

Grade reconfiguration works best in small school districts, where it can be effective as the only desegregation technique. It is not as effective in larger school districts because such districts will have multiple schools that offer each grade no matter how the grades are reconfigured. Nevertheless, grade reconfiguration can be part of a more comprehensive approach in a larger school system.

Larger districts must consider the race-ethnicity of neighborhoods when establishing attendance zones for grade

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
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<th>White</th>
<th>District Demographics</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.0%</td>
</tr>
<tr>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>0.01%</td>
<td>0.1%</td>
</tr>
<tr>
<td>0.789</td>
<td>0.786</td>
<td>0.788</td>
<td>78.9%</td>
<td>78.9%</td>
</tr>
<tr>
<td>0.012</td>
<td>0.014</td>
<td>0.012</td>
<td>1.2%</td>
<td>1.2%</td>
</tr>
<tr>
<td>0.197</td>
<td>0.198</td>
<td>0.199</td>
<td>19.7%</td>
<td>19.7%</td>
</tr>
<tr>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note: All numerical data come from the U.S. Department of Education’s Common Core of Data. See Nat’l Ctr. for Educ. Statistics, supra note 67. All percentages and indices were calculated by the author using CCD data and an Excel spreadsheet (on file with the North Carolina Law Review).

169. The distances and times are less than twelve miles and thirty minutes in both instances. See Google Maps, http://maps.google.com/ (follow the “Get Directions” hyperlink; in field A, insert Meherrin Powellton Elementary School, 11555 Dry Bread Road, Lawrenceville, VA 23868; in field B, insert Totaro Elementary School, 19350 Christanna Highway, Lawrenceville, VA 23868; select “Get Directions”) (last visited Feb. 24, 2010).


171. See supra Table 6.

172. See infra Part III.B.3.

173. See supra Part II.

174. See supra Part II.
reconfiguration in order to maximize the benefits of the approach.\textsuperscript{175} This section proposes models for the Alexandria City Public Schools, a suburban district in Northern Virginia. Alexandria had thirteen elementary schools, two middle schools, and one high school during the 2005–06 school year.\textsuperscript{176} The first reconfiguration model links adjacent elementary school attendance areas together into five sets of K–2 and 3–5 schools and one set of K–1, 2–3, and 4–5 schools. The second reconfiguration creates similar sets of schools, but without the requirement that attendance areas be adjacent for schools to be combined. In both models, the middle schools are reconfigured into a 6–7 school and an 8–9 school.\textsuperscript{177} The discussion will illustrate the extent to which considering race when planning attendance zones can reduce school segregation.

Table 7 shows the base data for Alexandria. The school demographics show that some of the elementary schools contained about fifty percent White students, while others had less than twenty percent. The two middle schools differed slightly from expectations, especially with regard to Asian and White students. These disparities are reflected in the Exposure Indices.\textsuperscript{178} White students were isolated from other students, being exposed to a far greater percentage of other White students than one would expect given the population of the district. The segregation statistics show that the district possessed

\begin{itemize}
\item \textsuperscript{175} Unlike a small district, a larger district with, for example, fifty elementary schools will continue to offer the same grades at multiple schools, so the district cannot benefit from using grade reconfiguration to match the school attendance zones with the district boundaries. Moreover, each school in the district likely will be similar to some schools in terms of demographics and will be different from other schools (no desegregation remedy would be necessary if all the schools resembled one another demographically). Given the foregoing, very little desegregation would be realized if a district paired, for example, a predominantly Hispanic school with another predominantly Hispanic school for grade reconfiguration purposes. A predominantly Hispanic school must be paired with a school with few Hispanic students in order to move the percentage of Hispanic students at each school closer to the district average. In contrast, a school whose demographics resemble those of the district as a whole should be paired with a school with similar demographics in order to maintain the proper balance at each school.
\item \textsuperscript{176} See Va. Dep't of Educ., supra note 118 (follow the “2005–2006 Summaries by Ethnicity, Grade, and Gender” hyperlink).
\item \textsuperscript{177} Adding the ninth graders may be somewhat problematic, though less than it may appear at first glance. Ninth graders attend the district's only high school, but on a different, nearby campus from the 10–12 campus. See T.C. Williams High School, http://www.acps.k12.va.us/tcw/ (last visited Feb. 15, 2010) (indicating that ninth graders are housed at the school's Minnie Howard campus). The author chose to include the ninth grade in the model so that two grades could be offered in each reconfigured middle school and because they attend school at a physically distinct campus from the rest of the high school students.
\item \textsuperscript{178} See Table 7.
\end{itemize}
17.73% of the maximum amount of segregation and that 1,265.70 students—12.10% of the total—would have had to change schools to achieve perfect desegregation.

Table 7: Alexandria City School Demographics, Percentages, and Exposure Indices, 2005–06

<table>
<thead>
<tr>
<th>School Demographics</th>
<th>American</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>T. C. Williams HS</td>
<td>6</td>
<td>174</td>
<td>1,256</td>
<td>719</td>
<td>708</td>
<td>2,863</td>
</tr>
<tr>
<td>Francis C. Hammond MS</td>
<td>0</td>
<td>110</td>
<td>546</td>
<td>327</td>
<td>180</td>
<td>1,163</td>
</tr>
<tr>
<td>George Washington MS</td>
<td>1</td>
<td>18</td>
<td>482</td>
<td>270</td>
<td>303</td>
<td>1,074</td>
</tr>
<tr>
<td>Charles Barrett ES</td>
<td>1</td>
<td>11</td>
<td>54</td>
<td>46</td>
<td>131</td>
<td>243</td>
</tr>
<tr>
<td>Cora Kelly Magnet ES</td>
<td>1</td>
<td>10</td>
<td>265</td>
<td>163</td>
<td>52</td>
<td>491</td>
</tr>
<tr>
<td>Douglas MacArthur ES</td>
<td>0</td>
<td>29</td>
<td>134</td>
<td>82</td>
<td>260</td>
<td>505</td>
</tr>
<tr>
<td>George Mason ES</td>
<td>1</td>
<td>10</td>
<td>45</td>
<td>91</td>
<td>187</td>
<td>334</td>
</tr>
<tr>
<td>James K. Polk ES</td>
<td>1</td>
<td>56</td>
<td>161</td>
<td>116</td>
<td>101</td>
<td>415</td>
</tr>
<tr>
<td>Jefferson-Houston ES</td>
<td>1</td>
<td>6</td>
<td>249</td>
<td>39</td>
<td>58</td>
<td>353</td>
</tr>
<tr>
<td>John Adams ES</td>
<td>2</td>
<td>57</td>
<td>262</td>
<td>167</td>
<td>91</td>
<td>579</td>
</tr>
<tr>
<td>Lyles-Crouch ES</td>
<td>3</td>
<td>8</td>
<td>119</td>
<td>6</td>
<td>151</td>
<td>287</td>
</tr>
<tr>
<td>Maury ES</td>
<td>0</td>
<td>1</td>
<td>99</td>
<td>20</td>
<td>40</td>
<td>160</td>
</tr>
<tr>
<td>Mt. Vernon ES</td>
<td>3</td>
<td>11</td>
<td>103</td>
<td>252</td>
<td>79</td>
<td>448</td>
</tr>
<tr>
<td>Patrick Henry ES</td>
<td>1</td>
<td>26</td>
<td>215</td>
<td>407</td>
<td>39</td>
<td>388</td>
</tr>
<tr>
<td>Samuel W. Tucker ES</td>
<td>1</td>
<td>66</td>
<td>273</td>
<td>140</td>
<td>101</td>
<td>581</td>
</tr>
<tr>
<td>William Ramsay ES</td>
<td>1</td>
<td>51</td>
<td>216</td>
<td>257</td>
<td>50</td>
<td>575</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>624</td>
<td>4479</td>
<td>2,802</td>
<td>2,531</td>
<td>10,459</td>
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<table>
<thead>
<tr>
<th>School Percentages</th>
<th>American</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>T. C. Williams HS</td>
<td>0.2%</td>
<td>6.1%</td>
<td>43.9%</td>
<td>25.1%</td>
<td>24.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Francis C. Hammond MS</td>
<td>0.0%</td>
<td>9.5%</td>
<td>46.9%</td>
<td>28.1%</td>
<td>15.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>George Washington MS</td>
<td>0.1%</td>
<td>1.7%</td>
<td>44.9%</td>
<td>25.1%</td>
<td>28.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Charles Barrett ES</td>
<td>0.4%</td>
<td>4.5%</td>
<td>22.2%</td>
<td>18.9%</td>
<td>53.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Cora Kelly Magnet ES</td>
<td>0.2%</td>
<td>2.0%</td>
<td>54.0%</td>
<td>33.2%</td>
<td>10.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Douglas MacArthur ES</td>
<td>0.0%</td>
<td>3.7%</td>
<td>26.5%</td>
<td>16.2%</td>
<td>51.5%</td>
<td>100.0%</td>
</tr>
<tr>
<td>George Mason ES</td>
<td>0.3%</td>
<td>3.0%</td>
<td>13.5%</td>
<td>27.2%</td>
<td>56.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>James K. Polk ES</td>
<td>0.2%</td>
<td>8.7%</td>
<td>38.8%</td>
<td>28.0%</td>
<td>24.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Jefferson-Houston ES</td>
<td>0.3%</td>
<td>1.7%</td>
<td>70.5%</td>
<td>11.0%</td>
<td>16.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>John Adams ES</td>
<td>0.5%</td>
<td>9.8%</td>
<td>45.3%</td>
<td>28.8%</td>
<td>15.7%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Lyles-Crouch ES</td>
<td>1.0%</td>
<td>2.8%</td>
<td>41.5%</td>
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<td>52.6%</td>
<td>100.0%</td>
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<td>Maury ES</td>
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<td>0.6%</td>
<td>61.9%</td>
<td>12.5%</td>
<td>25.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Mt. Vernon ES</td>
<td>0.7%</td>
<td>2.5%</td>
<td>23.0%</td>
<td>56.3%</td>
<td>17.6%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Patrick Henry ES</td>
<td>0.3%</td>
<td>6.7%</td>
<td>55.4%</td>
<td>27.6%</td>
<td>10.1%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Table 8 shows the results for the first transformation. To make the notation clear, the school “Barrett-Kelly K–2” combines the kindergarten through second grade students of Barrett Elementary and Kelly Elementary.\(^179\) This model would create a greater balance of White students across the district, but a couple of schools would continue to serve far more White students than optimal. The Exposure Indices would move somewhat more in line with expectations. The percentage of the maximum segregation would decline to 13.95%, while 996.37 students—9.53% of the total—would have to change schools to achieve perfect desegregation. This model reduces segregation by a far smaller percentage than in the smaller districts, but would lower the level of segregation by more than 200 students, an 18% reduction.

Table 8: Reconfigured Alexandria City School Demographics, Percentages, and Exposure Indices, 2005–06

<table>
<thead>
<tr>
<th>School Demographics</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Williams HS</td>
<td>3</td>
<td>131</td>
<td>899</td>
<td>494</td>
<td>557</td>
<td>2084</td>
</tr>
<tr>
<td>Francis C. Hammond MS</td>
<td>4</td>
<td>76</td>
<td>665</td>
<td>422</td>
<td>322</td>
<td>1489</td>
</tr>
<tr>
<td>Washington MS</td>
<td>0</td>
<td>95</td>
<td>720</td>
<td>400</td>
<td>312</td>
<td>1527</td>
</tr>
<tr>
<td>Barrett-Kelly K–2</td>
<td>0</td>
<td>14</td>
<td>162</td>
<td>102</td>
<td>97</td>
<td>375</td>
</tr>
<tr>
<td>Barrett-Kelly 3–5</td>
<td>2</td>
<td>7</td>
<td>157</td>
<td>107</td>
<td>86</td>
<td>359</td>
</tr>
<tr>
<td>Henry-Tucker K–2</td>
<td>0</td>
<td>56</td>
<td>264</td>
<td>138</td>
<td>69</td>
<td>527</td>
</tr>
<tr>
<td>Henry-Tucker 3–5</td>
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<td>36</td>
<td>224</td>
<td>109</td>
<td>71</td>
<td>442</td>
</tr>
<tr>
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<td>2</td>
<td>9</td>
<td>199</td>
<td>25</td>
<td>137</td>
<td>372</td>
</tr>
<tr>
<td>Jefferson-Lyles 3–5</td>
<td>2</td>
<td>5</td>
<td>169</td>
<td>20</td>
<td>72</td>
<td>268</td>
</tr>
</tbody>
</table>

\(^179\) Preschool students would stay at their home school in the Alexandria models.
Table 9 shows the data for the Alexandria school model in which the racial-ethnic composition of schools was a dominant consideration controlling pairing decisions. The reconfigured schools would move the number and percentage of students from the primary racial-ethnic groups—Black, Hispanic, and White—closer to the district percentages and would produce additional improvement in
the Exposure Indices. The numbers would still be less than ideal, however, underscoring the need for companion remedies to further reduce segregation.

Table 9: Reconfigured Alexandria City School Demographics, Percentages, and Exposure Indices, 2005–06

<table>
<thead>
<tr>
<th>School Demographics</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>T. C. Williams HS</td>
<td>3</td>
<td>131</td>
<td>899</td>
<td>494</td>
<td>557</td>
<td>2084</td>
</tr>
<tr>
<td>Francis C. Hammond MS</td>
<td>4</td>
<td>76</td>
<td>665</td>
<td>422</td>
<td>322</td>
<td>1489</td>
</tr>
<tr>
<td>George Washington MS</td>
<td>0</td>
<td>95</td>
<td>720</td>
<td>400</td>
<td>312</td>
<td>1527</td>
</tr>
<tr>
<td>Barrett-Henry K-2</td>
<td>0</td>
<td>23</td>
<td>132</td>
<td>75</td>
<td>90</td>
<td>320</td>
</tr>
<tr>
<td>Barrett-Henry 3-5</td>
<td>2</td>
<td>14</td>
<td>137</td>
<td>78</td>
<td>80</td>
<td>311</td>
</tr>
</tbody>
</table>
| Jefferson-Maury- 
  Vernon K-1 | 0          | 7     | 160   | 123      | 104   | 394   |
| Jefferson-Maury- 
  Vernon 2-3 | 3            | 5     | 142   | 110      | 42    | 302   |
| Jefferson-Maury- 
  Vernon 4-5 | 1            | 6     | 149   | 78       | 51    | 265   |
| Kelly-Lyles K-2     | 2              | 10    | 202   | 84       | 116   | 414   |
| Kelly-Lyles 3-5     | 2              | 8     | 182   | 85       | 87    | 364   |
| MacArthur-Adams K-2 | 0              | 37    | 193   | 130      | 176   | 536   |
| MacArthur-Adams 3-5 | 2              | 49    | 203   | 119      | 175   | 548   |
| Mason-Ramsay K-2    | 1              | 29    | 115   | 192      | 133   | 470   |
| Mason-Ramsay 3-5    | 1              | 32    | 146   | 156      | 104   | 439   |
| Polk-Tucker K-2     | 0              | 63    | 231   | 150      | 97    | 541   |
| Polk-Tucker 3-5     | 2              | 39    | 203   | 106      | 105   | 455   |
| Total               | 23             | 624   | 4479  | 2802     | 2531  | 10459 |

<table>
<thead>
<tr>
<th>School Percentages</th>
<th>T. C. Williams HS</th>
<th>0.1%</th>
<th>6.3%</th>
<th>43.1%</th>
<th>23.7%</th>
<th>26.7%</th>
<th>100.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Francis C. Hammond MS</td>
<td>0.3%</td>
<td>5.1%</td>
<td>44.7%</td>
<td>28.3%</td>
<td>21.6%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>George Washington MS</td>
<td>0.0%</td>
<td>6.2%</td>
<td>47.2%</td>
<td>26.2%</td>
<td>20.4%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Barrett-Henry K-2</td>
<td>0.0%</td>
<td>7.2%</td>
<td>41.3%</td>
<td>23.4%</td>
<td>28.1%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td>Barrett-Henry 3-5</td>
<td>0.6%</td>
<td>4.5%</td>
<td>44.1%</td>
<td>25.1%</td>
<td>25.7%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>
| Jefferson-Maury- 
  Vernon K-1 | 0.0% | 1.8% | 40.6% | 31.2% | 26.4% | 100.0% |
| Jefferson-Maury- 
  Vernon 2-3 | 1.0% | 1.7% | 47.0% | 36.4% | 13.9% | 100.0% |
The other measures of school segregation also indicate lower levels of school segregation. The percentage of maximum segregation drops to 9.71%. The number of students who would have to change schools to achieve perfect desegregation declines to 793.57—6.63% percent of the total—a reduction of over 500 students from the base data. Employing grade reconfiguration in conjunction with other desegregation techniques could reduce the numbers further.

3. Interdistrict Modeling: Colonial Heights and Petersburg

The drawback to the previous examples is the reliance on the demographics of the district. Many school districts in Virginia can desegregate on an intradistrict basis only to a very limited extent due to the fact that they are virtually one-race school districts.180 Figure 1

180. See infra Figure 1. To be more precise, the gray shaded areas in Figure 1 show that almost thirty districts in Virginia educate a population consisting of at least ninety percent White students, who comprise just over ten percent of the students in the state. See id.; also Va. Dep't of Educ., supra note 118 (providing the 2005–06 demographic data for each of Virginia's school districts).
displays this dilemma visually. The areas shaded in gray have White student percentages of ninety percent or more and serve more than ten percent of the state’s student population. The areas shaded in light gray are the school districts that had the lowest White student percentages in the state. The two sets of districts educated roughly the same number of children in 2005–06, about twenty percent of the students in the state combined.

*Figure 1: Virginia Counties with Abnormally High and Low White Student Populations, 2005–06*

The issue can be considered in the context of White students, whose percentage in each district varies from 2% in Petersburg City to 99.91% in Buchanan County. One way to address the issue of segregated districts would be to use grade reconfiguration across

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181. See infra Figure 1.
182. See Va. Dep’t of Educ., supra note 118 (providing demographic data for Virginia’s school districts). The school districts appearing in gray are Alleghany County, Augusta County, Bath County, Bland County, Botetourt County, Buchanan County, Buena Vista City, Carroll County, Craig County, Dickenson County, Floyd County, Giles County, Grayson County, Highland County, Lee County, Page County, Poquoson City, Pulaski County, Rappahannock County, Roanoke County, Rockbridge County, Rockingham County, Russell County, Scott County, Smyth County, Tazewell County, Washington County, Wise County, and Wythe County. See U.S. Census Bureau, supra note 161.
183. See Va. Dep’t of Educ., supra note 118. The light gray-shaded districts are thirty-two percent or less White, and hence more racially diverse. The school districts in light gray are Alexandria City, Brunswick County, Charles City County, Danville City, Franklin City, Greensville County, Hampton City, Newport News City, Norfolk City, Petersburg City, Portsmouth City, Richmond City, Surry County, and Sussex County. See U.S. Census Bureau, supra note 161.
184. See Va. Dep’t of Educ., supra note 118.
185. Petersburg City serves a student population with 95.5% Black students, as mentioned above. See Va. Dep’t of Educ., supra note 118.
ALTERING GRADE CONFIGURATIONS

district boundaries. This option requires nearby districts with different demographics to be available and willing to implement the proposal.

Cross-district plans cannot solve the problem of integrating the schools with isolated White students in the western part of the state. As can be seen in Figure 1, the predominantly White districts, shaded in gray, are clustered together in a band, in some cases several hours from demographically different districts. Buchanan County illustrates the dilemma perhaps better than any other district. As discussed above, 3,496 of the 3,500 students who attended school in the county in 2005–06 were White, so no intradistrict desegregation remedy could diversify the district. In Figure 1, Buchanan County is bordered by West Virginia on two sides and by Dickenson, Russell, and Tazewell Counties on the other two sides. The three bordering counties served 99.2%, 98.8%, and 95.2% White students, respectively. Buchanan County sits more than three hours one way from the nearest Virginia district that would make a reasonable desegregation partner, therefore schools in Buchanan County will remain segregated until residential patterns change.

Interdistrict plans in Virginia hold more promise of desegregating districts with few White students. Figure 1 shows that several of these light gray–shaded districts are relatively small in terms of land mass and are surrounded by districts outside of the two extremes. Thus, acceptable desegregation partners are available nearby, if the will to desegregate exists.

This model illustrates a way to desegregate the Petersburg City elementary schools. In 2005–06, Petersburg had six elementary schools, but one, Westview, has been converted into an early

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186. See supra note 118 and accompanying text.
187. See id.
188. See U.S. Census Bureau, supra note 161. The standard for a “reasonable desegregation partner” is very low: any district with eighty percent or fewer White students would qualify. The candidates are Roanoke City, located in the midst of other segregated White districts, and Henry County, in Figure 1, the second unshaded district from the left on the southern border of Virginia. See supra Figure 1.
189. See supra Figure 1.
190. As with each of the models in this Article, this example illustrates the potential of grade reconfiguration to desegregate schools, but does not imply that the relevant school boards would consider such a plan. This plan would be difficult to enact because it would require the authorization of both school boards. See VA. CODE ANN. § 22.1-25(A)(2) (2006) (“No school division shall be divided or consolidated without the consent of the school board thereof and the governing body of the county or city affected or, if a town comprises the school division, of the town council.”).
childhood center\textsuperscript{191} and another, Blandford, into an alternative school,\textsuperscript{192} leaving four elementary schools in the district. The model incorporates those changes.\textsuperscript{193}

The first step was determining which district(s) would be optimal to enter into a relationship with Petersburg. Petersburg is in close proximity\textsuperscript{194} to five school districts: Chesterfield, Colonial Heights, Dinwiddie, Hopewell, and Prince George.\textsuperscript{195} Chesterfield, Dinwiddie, and Prince George possess student demographics similar to those of the state as a whole.\textsuperscript{196} Each has a fairly high degree of school segregation, with Chesterfield being particularly segregated.\textsuperscript{197} These districts would be excellent candidates for intradistrict plans, but do not make good partners for Petersburg, in part because their schools with the most Black students tend to be located closest to Petersburg.\textsuperscript{198} Hopewell serves a slight majority of Black students,\textsuperscript{199} making it a less-than-ideal candidate to pair with Petersburg. Colonial Heights is a small school district with over eighty percent White students.\textsuperscript{200} Colonial Heights operates three elementary schools,\textsuperscript{201} each of which is within fifteen minutes of a Petersburg elementary school.\textsuperscript{202} Given the foregoing, this model used Colonial Heights as the partner for Petersburg.

\begin{itemize}
\item \textsuperscript{191} Petersberg City Schools: A Proud History 4, http://petersburg.k12.va.us/modules/groups/homepagefiles/cms/944092/File/History/PCPS\%20History.pdf (last visited Feb. 15, 2010).
\item \textsuperscript{192} Id. at 3.
\item \textsuperscript{193} The students from Blandford are included with Lee Elementary School for purposes of this model because those are the only Petersburg elementary schools located east of Interstate 95. The Westview students are divided in half and included with Hill and Stuart schools, since Westview sits between those two schools.
\item \textsuperscript{194} "Close proximity" is defined as twenty minutes or fewer apart for purposes of this model.
\item \textsuperscript{195} See U.S. Census Bureau, supra note 161.
\item \textsuperscript{196} See Va. Dep't of Educ., supra note 118.
\item \textsuperscript{197} See id.
\item \textsuperscript{198} See id. (follow the “2005–2006 Summaries by Ethnicity, Grade, and Gender” hyperlink). In Chesterfield County, the school with the highest percentage of Black students is Ettrick Elementary; in Dinwiddie, Rohoic Elementary; and in Prince George County, Harrison Elementary.
\item \textsuperscript{199} See Va. Dep't of Educ., supra note 118.
\item \textsuperscript{200} See id.
\item \textsuperscript{201} See id. (follow the “2005–2006 Summaries by Ethnicity, Grade, and Gender” hyperlink).
\item \textsuperscript{202} See Google Maps, http://maps.google.com/ (follow the “Get Directions” hyperlink; in field A, insert one of the following addresses: Lakeview Elementary School, 401 Taswell Avenue, Colonial Heights, Virginia 23834; North Elementary School, 3201 Dale Avenue, Colonial Heights, Virginia 23834; Tussing Elementary School, 5501 Conduit Road, Colonial Heights, Virginia 23834; in field B, insert one of the following addresses: Hill Elementary School, 1450 Talley Avenue, Petersburg, VA 23803; Lee Elementary
\end{itemize}
Table 10 shows the base demographics for Petersburg and Colonial Heights elementary schools, which would have enrolled slightly more than two Black students per White student. This combination of schools far exceeds the level of segregation in any of the other districts analyzed in this Article. The Petersburg schools each had at least eighty-five percent Black students, while each of the Colonial Heights schools served at least sixty percent White students.\(^\text{203}\) The Dissimilarity Index estimates that this group of schools has 79.4\% of the maximum level of segregation.

**Table 10: Petersburg and Colonial Heights Base School Demographics and Percentages, 2005–06**

<table>
<thead>
<tr>
<th>Base Demographics</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hill ES (Pet)</td>
<td>0</td>
<td>0</td>
<td>365</td>
<td>4</td>
<td>3</td>
<td>372</td>
</tr>
<tr>
<td>Lee ES (Pet)</td>
<td>0</td>
<td>0</td>
<td>263</td>
<td>2</td>
<td>3</td>
<td>268</td>
</tr>
<tr>
<td>Stuart ES (Pet)</td>
<td>0</td>
<td>0</td>
<td>313</td>
<td>20</td>
<td>10</td>
<td>343</td>
</tr>
<tr>
<td>Walnut Hill ES (Pet)</td>
<td>2</td>
<td>4</td>
<td>538</td>
<td>18</td>
<td>11</td>
<td>573</td>
</tr>
<tr>
<td>Lakeview ES (CH)</td>
<td>0</td>
<td>7</td>
<td>71</td>
<td>12</td>
<td>260</td>
<td>350</td>
</tr>
<tr>
<td>North ES (CH)</td>
<td>0</td>
<td>22</td>
<td>73</td>
<td>13</td>
<td>195</td>
<td>303</td>
</tr>
<tr>
<td>Tussing ES (CH)</td>
<td>1</td>
<td>32</td>
<td>26</td>
<td>9</td>
<td>560</td>
<td>628</td>
</tr>
<tr>
<td>Blandford ES (Pet)</td>
<td>0</td>
<td>0</td>
<td>259</td>
<td>25</td>
<td>16</td>
<td>300</td>
</tr>
<tr>
<td>Westview ES (Pet)</td>
<td>0</td>
<td>0</td>
<td>314</td>
<td>1</td>
<td>3</td>
<td>318</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>65</td>
<td>2222</td>
<td>104</td>
<td>1061</td>
<td>3455</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Base Percentages</th>
<th>American Indian</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hill ES (Pet)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>98.1%</td>
<td>1.1%</td>
<td>0.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Lee ES (Pet)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>98.1%</td>
<td>0.7%</td>
<td>1.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Stuart ES (Pet)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>91.3%</td>
<td>5.8%</td>
<td>2.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Walnut Hill ES (Pet)</td>
<td>0.3%</td>
<td>0.7%</td>
<td>93.9%</td>
<td>3.1%</td>
<td>1.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Lakeview ES (CH)</td>
<td>0.0%</td>
<td>2.0%</td>
<td>20.3%</td>
<td>3.4%</td>
<td>74.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>North ES (CH)</td>
<td>0.0%</td>
<td>7.3%</td>
<td>24.1%</td>
<td>4.3%</td>
<td>64.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Tussing ES (CH)</td>
<td>0.2%</td>
<td>5.1%</td>
<td>4.1%</td>
<td>1.4%</td>
<td>89.2%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Blandford ES (Pet)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>86.3%</td>
<td>8.3%</td>
<td>5.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Westview ES (Pet)</td>
<td>0.0%</td>
<td>0.0%</td>
<td>98.7%</td>
<td>0.3%</td>
<td>0.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>0.1%</td>
<td>1.9%</td>
<td>64.3%</td>
<td>3.0%</td>
<td>30.7%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Note: All numerical data come from the U.S. Department of Education’s Common Core of Data. See Nat’l Ctr. for Educ. Statistics, supra note 67. All percentages and indices were calculated by the author using CCD data and an Excel spreadsheet (on file with the North Carolina Law Review).
The school pairs in the grade reconfiguration model share some common traits. Each pairing serves students in grades K–5. All of the paired schools are located about five miles, or fifteen minutes, apart, reducing transportation problems.

The model paired Lee Elementary School in Petersburg with Tussing Elementary School in Colonial Heights, which are the only schools in the group located east of Interstate 95. Table 10 shows that Lee enrolled 98.1% Black students and Tussing enrolled 89.2% White students. Since Tussing is a much larger school than Lee, the model assigns grades K–1 to Lee and 2–5 to Tussing.

The model also pairs Walnut Hill in Petersburg with North in Colonial Heights. Table 10 shows that Walnut Hill enrolled 93.9% Black students and North enrolled 64.4% White students. Similarly to the first pairing, the model assigned grades K–1 to North and 2–5 to Walnut Hill.

Finally, the model matches the remaining three schools: Hill and Stuart from Petersburg and Lakeview from Colonial Heights. Between them, the Petersburg schools served about ninety-five percent Black students, while Lakeview educated about seventy-five percent White students. The model assigns Lakeview grades K–1 for the students from all three schools. The model assigns grades 2–5 to each of the two Petersburg schools, with each serving their home students and half of the students from Lakeview.

Table 11 shows the enrollments in the reconfigured schools. The reconfigured schools would reduce school segregation in the area by a substantial margin. The school percentages show that every school would enroll less than 80% Black students and less than 50% White students, which constitutes an improvement in every school. On the other hand, this model still produces far more segregation than any of the other models. The primary cause of the segregation is the fact that the schools east of Interstate 95 have about half Black and half White students.

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204. This figure would be about ninety-two percent including Blandford.
206. The concept involves trying to keep the number of students at each individual school as close as possible to the actual value. I applied this principle for each of the Colonial Heights-Petersburg pairings.
208. Id.
209. The alternative model would have involved offering two grades at each of the Petersburg schools. I rejected that model because it would have necessitated an additional school transition if each child attended all three schools.
210. “Improvement” is defined as moving the school closer to the demographics of the combined districts.
students, while the schools west of the interstate possess a ratio of about three to one.\textsuperscript{211} The Dissimilarity Index shows that the modeled schools would have 27.6\% of the maximum segregation, far greater than desirable, but a huge improvement over the base data. It would be possible for the districts to include additional types of voluntary remedies to reduce the level of segregation even further.\textsuperscript{212}

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|c|c|c|}
\hline
\textbf{Reconfigured Demographics} & \textbf{American Indian} & \textbf{Asian} & \textbf{Black} & \textbf{Hispanic} & \textbf{White} & \textbf{Total} \\
\hline
Hill ES & 0 & 2 & 351 & 7 & 90 & 450 \\
Lee ES & 1 & 9 & 193 & 17 & 191 & 411 \\
Stuart ES & 0 & 3 & 332 & 17 & 96 & 448 \\
Walnut Hill ES & 0 & 19 & 401 & 16 & 148 & 584 \\
Lakeview ES & 0 & 2 & 380 & 13 & 90 & 485 \\
North ES & 2 & 7 & 210 & 15 & 58 & 292 \\
Tussing ES & 0 & 23 & 355 & 19 & 388 & 785 \\
Total & 3 & 65 & 2222 & 104 & 1061 & 3455 \\
\hline
\textbf{Reconfigured Percentages} & & & & & & \\
\hline
Hill ES & 0.0\% & 0.4\% & 78.0\% & 1.6\% & 20.0\% & 100.0\% \\
Lee ES & 0.2\% & 2.2\% & 47.0\% & 4.1\% & 46.5\% & 100.0\% \\
Stuart ES & 0.0\% & 0.7\% & 74.1\% & 3.8\% & 21.4\% & 100.0\% \\
Walnut Hill ES & 0.0\% & 3.3\% & 68.7\% & 2.7\% & 25.3\% & 100.0\% \\
Lakeview ES & 0.0\% & 0.4\% & 78.4\% & 2.7\% & 18.6\% & 100.0\% \\
North ES & 0.7\% & 2.4\% & 71.9\% & 5.1\% & 19.9\% & 100.0\% \\
Tussing ES & 0.0\% & 2.9\% & 45.2\% & 2.4\% & 49.4\% & 100.0\% \\
Total & 0.1\% & 1.9\% & 64.3\% & 3.0\% & 30.7\% & 100.0\% \\
\hline
\end{tabular}
\caption{Petersburg and Colonial Heights Reconfigured School Demographics and Percentages, 2005–06}
\end{table}

Note: All numerical data come from the U.S. Department of Education’s Common Core of Data. See Nat’l Ctr. for Educ. Statistics, \textsuperscript{supra} note 67. All percentages and indices were calculated by the author using CCD data and an Excel spreadsheet (on file with the North Carolina Law Review).

\section*{IV. GRADE RECONFIGURATION AND THE PARENTS INVOLVED DECISION}

Grade reconfiguration as modeled in the previous Part fits comfortably within the restrictions set forth by \textit{Parents Involved}. There are two distinct legal justifications for the constitutionality of

\textsuperscript{211} See \textit{infra} Table 11.

\textsuperscript{212} It also would be possible to reduce segregation to a significantly lower level using a far more complicated version of grade reconfiguration. The model included in this Article was selected because it was the most reasonable in terms of transportation and was the most transparent.
grade reconfiguration, depending on the size of the district. Small districts—usually rural, but sometimes suburban—with two or three elementary schools could justify grade reconfiguration for educational reasons, without any consideration of race being necessary.\textsuperscript{213} A grade reconfiguration plan that does not consider race should not trigger strict scrutiny.\textsuperscript{214} Grade reconfiguration in this context should be constitutional, at least in theory.\textsuperscript{215}

Larger districts cannot house each grade in a single school due to the number of students they educate. A district that employs grade reconfiguration but offers each grade at multiple schools has several different options for enlarging the attendance zones of its schools. Some of these options will be more effective than others in terms of desegregating the district's schools. The most effective designs would link two or more residential areas composed of different mixes of racial-ethnic groups.\textsuperscript{216} The racial-ethnic configuration of areas within the district would have to be considered when planning grade reconfiguration in larger districts in order to minimize school segregation.

This approach to desegregation would not consider the race of individual students, however. The Justices forming the plurality

\textsuperscript{213} Such small school districts usually have one middle school and one high school. For example, in Virginia in 2005-06, forty-six out of fifty-two (88.5\%) school districts with three elementary schools or fewer either had a middle school and a high school or one combined secondary school. In such districts, grade reconfiguration would only be necessary in elementary schools.


\textsuperscript{215} The Justices would apply a lesser standard than strict scrutiny to a plan in which race was not involved because education is not a fundamental right under the U.S. Constitution. See San Antonio Indep. Sch. Dist. v. Rodriguez, 411 U.S. 1, 37–39 (1973). Instead, “[t]he constitutional standard under the Equal Protection Clause is whether the challenged state action rationally furthers a legitimate state purpose or interest.” Id. at 55. The state purpose of providing an education to students is legitimate, Mueller v. Allen, 463 U.S. 388, 395 (1982), and the use of grade reconfiguration has a body of research support, though the support lacks unanimity. See supra Part II.C. Therefore, a school district would have a rational basis for applying grade reconfiguration in order to improve educational outcomes for children.

\textsuperscript{216} The logic here follows from one objective of desegregation, which is to facilitate children from different backgrounds attending the same school. If grade reconfiguration is applied across two or more areas with similar demographics, the educational benefits of primary grade schools could accrue, but desegregation would not because the mix of children would remain nearly the same as before. Desegregation occurs when children of different backgrounds attend school together, which for grade reconfiguration requires having children from neighborhoods with different demographics attend the same school.
opinion likely would not approve of the use of race,\textsuperscript{217} while the dissenters would find such a plan acceptable.\textsuperscript{218} The key vote would belong to Justice Kennedy. It appears likely that he would find such a plan constitutional since the use of the race–ethnicity of areas within a district follows his opinion, which states

[i]f school authorities are concerned that the student-body compositions of certain schools interfere with the objective of offering an equal educational opportunity to all of their students, they are free to devise race-conscious measures to address the problem in a general way and without treating each student in different fashion solely on the basis of a systematic, \textit{individual} typing by race.

School boards may pursue the goal of bringing together students of diverse backgrounds and races through other means, \textit{including strategic site selection of new schools; drawing attendance zones with general recognition of the demographics of neighborhoods... }\textsuperscript{219}

Therefore, grade reconfiguration seems consistent with Justice Kennedy's opinion, and the Court would likely find it a constitutional means of desegregation.

\textbf{CONCLUSION}

The \textit{Parents Involved} case sets forth the constitutional standards for voluntary desegregation plans enacted by school districts. The opinions displayed the wide range of beliefs among the Justices regarding the appropriate use of race–ethnicity in such plans. The plurality opinion opposed the use of individual or group race–ethnicity in most circumstances; Justice Kennedy's opinion opposed using the race–ethnicity of individuals, but remained open to race–ethnicity as a group variable; and the dissent stated that the use of race can be appropriate when used for inclusive purposes, as opposed to being used to segregate students.

The ruling leaves two options for crafting voluntary desegregation plans. First, a plan could function without considering

\textsuperscript{217} \textit{See Parents Involved}, 551 U.S. at 723 (discussing how race may be acceptable as one factor comprising diversity, but not as the sole factor).

\textsuperscript{218} \textit{Id.} at 823 (Breyer, J., dissenting) ("A longstanding and unbroken line of legal authority tells us that the Equal Protection Clause permits local school boards to use race-conscious criteria to achieve positive race-related goals, even when the Constitution does not compel it.").

\textsuperscript{219} \textit{Id.} at 788–89 (Kennedy, J., concurring) (emphasis added).
race–ethnicity, perhaps using proxies for it, thereby not triggering the strict scrutiny test. Second, the plan could consider race–ethnicity at the group level, perhaps by employing the characteristics of neighborhoods rather than those of individual students.

Grade reconfiguration offers one option that districts can include in voluntary desegregation plans. Grade reconfiguration provides a potentially powerful advantage in the courtroom because it can conform to either of the two options discussed in the previous paragraph. In small districts, a district need not consider race–ethnicity, therefore grade reconfiguration should not be subject to the strict scrutiny test. Larger districts can include group level race–ethnicity data in the manner discussed by Justice Kennedy in his Parents Involved concurrence, which is how race was used in the models presented in this Article.

Numerous districts have employed grade reconfiguration in the past and the present, some in connection with desegregation orders and others voluntarily experimenting with ways to improve education. The research on the educational value of grade reconfiguration remains sparse, with some studies showing benefits, such as tailoring teacher professional development to the developmental needs of children. Others show drawbacks, such as the effects of additional transitions between schools.

The models show that grade reconfiguration can make a sizeable reduction in school segregation. Grade reconfiguration can be the sole desegregation technique in districts with a handful of schools and can reduce segregation to levels caused by the relatively minor variations in race–ethnicity across grade levels. Therefore, small rural or suburban districts with residential segregation could use grade reconfiguration very effectively.

The models also show the potential impact of grade reconfiguration in larger districts or across districts. The method functions less effectively in larger districts because expanding attendance zones, even in a strategic manner considering group level race–ethnicity, can reduce, but not always eliminate, the effects of residential segregation. Grade reconfiguration can serve as one aspect of a comprehensive strategy to desegregate schools in larger, diverse districts.

However, grade reconfiguration would provide little assistance in addressing the glaring issue of segregation among the predominantly White districts in western Virginia. These districts are simply too far away from districts with different demographics for any remedy to work. This somewhat common problem also faces the northern New
England states, which serve a largely White and isolated population.220

Despite these potential difficulties, grade reconfiguration remains a viable option. Grade reconfiguration offers a constitutional approach that school districts can use to eliminate or reduce school segregation in a number of contexts. School districts should consider implementing it as an important element of voluntary desegregation plans.

220. See supra note 67 (select “State” from the drop-down menu under “Each row of the table should be a” and the year “2007–2008;” click “Next;” select “Enrollment by Race/Ethnicity” from the drop-down menu under “Select Columns” and select all categories of Race/Ethnicity for the years “2007–08;” click “View Table”).