IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
EASTERN DIVISION

RODNEY D. PIERCE and MOSES MATTHEWS,	
Plaintiffs,	Case No. 4:23-cv-193-D
v.	
THE NORTH CAROLINA STATE BOARD OF ELECTIONS, *et al*.,	
Defendants.	

LEGISLATIVE DEFENDANTS' PROPOSED POST-TRIAL FINDINGS OF FACT

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Defendants Philip E. Berger, in his official capacity as President Pro Tempore of the North Carolina Senate, and Destin Hall, in his official capacity as Speaker of the North Carolina House ("Legislative Defendants"), pursuant to the (1) Scheduling Order as modified, at D.E. 81 and D.E. 113; (2) the Honorable United States District Judge James C. Dever III's Practice Preferences; and (3) the Local Civil Rules for the Eastern District of North Carolina, hereby submit the following proposed findings of fact:

I.   Background

1.   Following each decennial census, the North Carolina General Assembly must redraw the districts for the North Carolina House of Representatives and North Carolina Senate, and North Carolina's Congressional districts. [D.E. 105 at 4 (¶ 7)]. This task is exclusively committed to the General Assembly. [D.E. 105 at 4 (¶ 8)].

2.   North Carolina has a long history of redistricting litigation, including in northeastern North Carolina, which "provides helpful context for understanding the current case." *Pierce v. N.C. State Bd. of Elections*, 97 F.4th 194, 204 (4th Cir. 2024).

3.   During the 1990 redistricting cycle, the United States Supreme Court encountered Congressional District 1 ("CD1"), which encompassed a large portion of the counties in northeastern North Carolina, in *Shaw v. Reno,* 509 U.S. 630 (1993), which recognized racial gerrymandering claims for the first time.

4.   After the 2010 redistricting cycle, the Supreme Court revisited CD1, affirming a district court's holding that CD1 was a racial gerrymander. As Senator Dan Blue testified, the General Assembly drew a majority-Black congressional district in northeastern North Carolina in a good faith effort to comply with the Voting Rights Act ("VRA"). [Day 1 Tr. 88:23-90:10]. However, the predominant consideration of race—prioritizing a strict majority-Black target over neutral redistricting principles—was not narrowly tailored to compelling interest: the court found

that the third *Gingles* precondition was not met because a district with a Black Voting Age Population ("BVAP") below 50% would provide equal minority electoral opportunity. *Harris v. McCrory*, 159 F. Supp. 3d 600, 612 (M.D.N.C. 2016), *aff'd sub nom. Cooper v. Harris*, 581 U.S. 285 (2017). The VRA did not require a majority-Black district in such circumstances.

5.   Litigation concerning the State's legislative districts has yielded similar results. In *Bartlett v. Strickland*, 556 U.S. 1 (2009), the General Assembly departed from the State Constitution's county-grouping formula to create a legislative crossover district with "an African-American voting-age population of 39.36 percent." *Id.* at 7 (plurality opinion). Both the United States and North Carolina Supreme Courts found this departure unjustified by § 2, which does not require "crossover" districts, i.e., those "in which minority voters make up less than a majority of the voting-age population." *Id.* at 13; *see also id.* at 11, 14. Accordingly, state law, not § 2, governed, and the crossover district was illegal because it violated the WCP.

6.   In response to that holding, the General Assembly adopted a policy of creating majority-Black districts. That also failed. Based on an expert's finding of divergent racial voting patterns, the General Assembly included 28 majority-Black districts in the 2011 legislative plans. *Covington v. North Carolina*, 316 F.R.D. 117, 132-33, 169 (M.D.N.C. 2016) (three-judge court), *aff'd*, 581 U.S. 1015 (2017). The Covington court found racial predominance from the General Assembly's goal of drawing majority-Black districts "first, before any other 'non-VRA' districts," which overrode the WCP formula. *Id.* at 130-31, 138-39. The districts did not satisfy strict scrutiny because the expert analysis the General Assembly consulted "made [no] determination whether majority bloc voting existed at such a level that the candidate of choice of African-American voters would usually be defeated without a VRA remedy," i.e., a majority-Black district. *Id.* at 168. The Supreme Court summarily affirmed. *North Carolina v. Covington*, 581 U.S. 1015 (2017).

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7. After this series of decisions, the General Assembly declined to consider racial data in remedial districting that occurred in 2017 and 2019. [Day 3 PM Tr. 114:20-115:5; D.E. 61 at 55-57]. In the 2017 remedial redistricting after *Covington*, the General Assembly implemented a criterion of race-neutrality. *See Covington v. North Carolina*, 283 F. Supp. 3d 410, 418 (M.D.N.C. 2018). The *Covington* court did not find that § 2 required any majority-Black districts, and it affirmed most of the 2017 districts. *Id.* at 458.

8. In 2018, different plaintiffs—represented by the legal team that brings this appeal—filed a state-court suit challenging the 2017 legislative plans under a novel doctrine purportedly prohibiting "partisan" gerrymandering. *Common Cause v. Lewis*, 18-cvs-014001, 2019 WL 4569584, at *1-2, 38 (N.C. Super. Ct. Sep. 03, 2019). In September 2019, a three-judge panel accepted the doctrine and invalidated the plans. *Id.* at *135. During the remedial redistricting, the General Assembly again adopted a criterion of race neutrality, an approach advocated for by the *Common Cause* plaintiffs. *See id.* at *131.

II. 2021 Redistricting Process and *Harper* Litigation

9. On February 12, 2021, the U.S. Census Bureau announced that its release of Public Law 94-171 redistricting data would be delayed by the COVID-19 pandemic, and would not occur until the fall of 2021, and specifically that it would deliver the P.L. 94-171 redistricting data to all states by September 30, 2021. [D.E. 105 at 4 (¶ 9)].

10. After receipt of the 2021 decennial census data, the General Assembly began the process of drawing new legislative and congressional districts for North Carolina. Like the 2017 and 2019 plans, the 2021 plans were drawn without racial data. [JX010 at 1]. In conducting this redistricting process, the General Assembly determined there were two permissible county groupings for State Senate districts in northeastern North Carolina, and chose one of them (which is the grouping at issue in this case). [Day 1 Tr. 104:6-24; Day 3 PM Tr. 116:1-23]. On November

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4, 2021, the General Assembly enacted the 2021 State Senate plan, N.C. Session Law 2021-173. [D.E. 105 at 6 (¶ 16)]. Senator Dan Blue criticized the 2021 Senate plan as a "partisan gerrymander." [Day 1 Tr. 110:13-25].

11.   Challenges to the 2021 North Carolina House, Senate, and congressional plans (the "2021 Plans") were quickly filed in state court by three groups of plaintiffs alleging that the 2021 Plans were unconstitutional partisan gerrymanders under the North Carolina Constitution. [D.E. 105 at 7 (¶ 17)]. The challenges to the 2021 Plans were consolidated and assigned to a three-judge panel in Wake County Superior Court. [D.E. 105 at 7 (¶ 17)]. On January 11, 2022, the three-judge panel entered a judgment concluding that the plaintiffs' partisan gerrymandering claims presented nonjusticiable political questions. [D.E. 105 at 7 (¶ 17)]. All plaintiffs appealed. [D.E. 105 at 7 (¶ 17)].

12.   In February of 2022, the North Carolina Supreme Court reversed the three-judge panel and struck down the 2021 Plans as partisan gerrymanders in *Harper v. Hall,* 380 N.C. 317, 868 S.E.2d 499 (2022) ("*Harper* I"). [D.E. 105 at 7 (¶ 18)]. During the remedial redistricting phase that followed, the General Assembly selected the alternative Senate county grouping (i.e., the one not at issue in this case) for northeastern North Carolina at the request of the plaintiff groups to address the alleged partisan gerrymandering. [Day 3 PM Tr. 116:1-23; D.E. 105 at 8, 39-40 (¶ 19)]; *see also North Carolina League v. Representative Destin Hall*, No. 21 CVS 015426, at ¶ 36, 2022 WL 2610499, at *5 (N.C. Super. Ct. Feb. 23, 2022). Again, the General Assembly did not use racial data in the 2022 remedial process. [Day 3 PM Tr. 114:20-22; D.E. 105 at 39-40]. The General Assembly's remedial plans were submitted to the three-judge panel on February 18, 2022. [D.E. 105 at 8 (¶ 19)].

13.   In the interim, the three-judge panel hired three Special Masters, all former jurists, who in turn hired four advisors of their own. [D.E. 105 at 8 (¶ 20)]. The three-judge panel submitted the remedial plans to the Special Masters. [D.E. 105 at 8 (¶ 20)]. The Special Masters recommended that the trial court uphold the General Assembly's remedial House and Senate plans but reject the remedial congressional plan. [D.E. 105 at 8 (¶ 20)]. The Special Masters submitted to the three-judge panel an alternative remedial congressional plan (the "Interim Congressional Plan") drafted in consultation with one of the advisors, Dr. Bernard Grofman. [D.E. 105 at 8 (¶ 20)]. The three-judge panel adopted the findings of the Special Masters in full. [D.E. 105 at 8 (¶ 20)]. All parties appealed the three-judge panel's remedial order to the North Carolina Supreme Court, and some sought a stay of the order. [D.E. 105 at 8 (¶ 20)]. The stay petitions were denied. Accordingly, the Remedial House and Senate Plans and the Interim Congressional Plan were used in the 2022 elections. [D.E. 105 at 8 (¶ 20)].

14.   Appeals from the three-judge panel's remedial order to the North Carolina Supreme Court proceeded on an expedited schedule, with oral arguments held in October of 2022. Ultimately, the North Carolina Supreme Court issued a ruling on December 16, 2022, *Harper v. Hall,* 383 N.C. 89, 881 S.E.2d 89 (2022) ("*Harper* II"), that affirmed the three-judge panel's rejection of the Remedial Congressional Plan and its approval of the Remedial House Plan, but reversed the three-judge panel's approval of the Remedial Senate Plan. [D.E. 105 at 8-9 (¶ 21)].

15.   On April 28, 2023, the North Carolina Supreme Court re-heard the *Harper* cases and withdrew *Harper* II, overruled *Harper* I, and held that partisan gerrymandering claims are nonjusticiable political questions under the North Carolina Constitution. *Harper v. Hall*, 384 N.C. 292, 886 S.E.2d 393 (2023) ("*Harper* III"). [D.E. 105 at 9 (¶ 23)]. The *Harper* III Court allowed the General Assembly to redraw the State's legislative and congressional districts. [D.E. 105 at 9

(¶ 23)]. In accordance with the *Harper* III order, the General Assembly drew new redistricting plans, including the 2023 State Senate plan. [D.E. 105 at 9-10 (¶¶ 24-29)].

III.   The 2023 Redistricting Process

16.   During the 2023 long session, which began before the April 2023 *Harper* decision, the General Assembly prioritized the State's biannual budget. [Day 3 PM Tr. 112:12-16]. Senator Ralph E. Hise, Jr., one of the three co-chairs of the 2023 Senate Committee on Elections and Redistricting (the "Committee"), testified that it was important that the budget was complete prior to redistricting so that drawing was not tied to any budget negotiations, and so that the entire General Assembly could focus on the redistricting process. [Day 3 PM Tr. 112:23-113:3]. Contrary to Plaintiffs' conjecture, the timing of the redistricting process was not a tactic to "run out the clock" or limit challenges to the plan, but instead the result of prioritizing the budget. [Day 3 PM Tr. 113:4-11]. Furthermore, in setting the redistricting timeline, the General Assembly adhered to deadlines provided by the North Carolina State Board of Elections ("NCSBE") regarding when districts were needed to meet candidate filing and other pre-election deadlines. [Day 3 PM Tr. 112:16-20, 113:4-11].

17.   In addition to the numerous public hearings held after the release of the 2020 decennial census in 2021 [D.E. 105 at 5 (¶ 13)], the General Assembly held three public comment sessions from September 25-27, 2023, in Elizabeth City, Hickory, and Raleigh. [Day 3 PM Tr. 117:9-11; Day 4 Tr. 5:7-11; D.E. 105 at 9 (¶ 24)]. The General Assembly also opened a public comment portal on its website that allowed individuals to submit comments and proposed maps for consideration. [Day 3 PM Tr. 117:11-14; D.E. 105 at 9 (¶ 24)].

18.   House Democratic Leader, Representative Robert Reives II [Day 1 Tr. 138:6-7] admitted that during the 2023 redistricting process, then-House Redistricting Committee Chairman Destin Hall established a dedicated room for House Democratic Caucus members to use. [Day 1

Tr. 153:22-154:1]. Representative Reives also admitted that Chairman Hall offered financial resources for the House Democratic Caucus to hire outside redistricting consultants, but that he did not take Chairman Hall's offer. [Day 1 Tr. 154:2-10, 154:21-23]. Instead, the House Democratic Caucus hired an undisclosed private consultant, Stephen Mallinson, using undisclosed private funds, to assist with maps and amendments. [Day 1 Tr. 154:11-25]. While Representative Reives testified that Mallinson did not draw any of his amendments, it remains unclear on this record whether Mallinson drew any other alternative maps or amendments offered by Democrats in 2023. [Day 1 Tr. 154:11-20].

A.   **The 2023 Senate Criteria**

19.   As co-chair of the Committee, Senator Hise participated in drafting the 2023 Senate Plan Criteria ("the 2023 Senate Criteria") [Day 3 PM Tr. 113:12-15]. The 2023 Senate Criteria included:

- Equal Population. The Committee chairs will use the 2020 federal decennial census data as the sole basis of population for the establishment of districts in the 2023 Senate Plan. In forming new legislative districts, any deviation from the ideal population for a legislative district shall be at or within plus or minus five percent for purposes of compliance with federal "one-person, one-vote" requirements. *Stephenson v. Bartlett*, 357 N.C. 301 (2003) (*Stephenson II*).

- County Groupings and Traversals. The Committee chairs shall draw legislative districts within county groupings as required by *Stephenson v. Bartlett*, 355 N.C, 354 (2002) (*Stephenson I*), *Stephenson II*, *Dickson v. Rucho*, 367 N.C. 542 (2014) (*Dickson I*) and *Dickson v. Rucho*, 368 N.C. 481 (2015) (*Dickson II*). Within county groupings, county lines shall not be traversed except as authorized by *Stephenson I*, *Stephenson II*, *Dickson I*, and *Dickson II*.

- Traditional Districting Principles. We observe that the State Constitution's limitations upon redistricting and apportionment uphold what the United States Supreme Court has termed "traditional districting principles." These principles include factors such as "compactness, contiguity, and respect for political subdivisions." *Stephenson II* (quoting *Shaw v. Reno*, 509 U.S. 630 (1993)).

- Compactness. Communities of interest should be considered in the formation of compact and contiguous electoral districts. *Stephenson II*.

- Contiguity. Each Senate district shall at all times consist of contiguous territory. N.C. Const. art. II, § 3. Contiguity by water is sufficient.

- Respect for Existing Political Subdivisions. County lines, VTDs and municipal boundaries may be considered when possible in forming districts that do not split these existing political subdivisions.

- Racial Data. Data identifying the race of individuals or voters shall *not* be used in the drafting of districts in the 2023 Senate Plan.

- Political Considerations. Politics and political considerations are inseparable from districting and apportionment. *Gaffney v. Cummings*, 412 U.S. 735 (1973). The General Assembly may consider partisan advantage and incumbency protection in the application of its discretionary redistricting decisions . . . but it must do so in conformity with the State Constitution. *Stephenson II*. To hold that legislators cannot take partisan interests into account when drawing district lines would essentially countermand the Framers' decision to entrust districting to political entities. *Rucho v. Common Cause*, 588 U.S. _____ (2019).

- Incumbent Residence. Incumbent residence may be considered in the formation of Senate districts.

[JX004].

20.   In compliance with the whole county provisions of the North Carolina Constitution (the "Whole County Provision"), and governing precedents applying it ("*Stephenson*"),[1] the County Groupings and Traversals criterion required a structured method for grouping counties while minimizing unnecessary splits. [JX004; Day 3 PM Tr. 114:5-19]. Under this pyramid structure, drawing starts first by identifying if any single county could be its own district. [Day 3 PM Tr. 114:10-12]. Next, drawers must look for any two whole counties, with a contiguous border,

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[1] *See, e.g.*, *Stephenson v. Bartlett*, 355 N.C. 354, 370, 562 S.E.2d 377, 389 (2002) (*Stephenson I*); *Stephenson v. Bartlett*, 357 N.C. 301, 302, 582 S.E.2d 247, 248 (2003) (*Stephenson II*); *Dickson v. Rucho*, 368 N.C. 481, 571, 766 S.E.2d 238, 258 (N.C. 2014), *vacated on other grounds*, 575 U.S. 959 (2015).

which could be their own district—and so on and so forth, until and unless, the drawer must start splitting counties to form the final districts in compliance with the Equal Population requirement. [JX004; Day 3 PM Tr. 114:12-18]. Senator Hise testified that he believed the legislature can comply with both *Stephenson* and federal law, but that if the two ever came into conflict, federal law would supersede the *Stephenson* county-grouping system. [Day 4 Tr. 8:24-9:6]. Senator Blue agreed and testified that he believed both *Stephenson* and the VRA were successfully harmonized in the 2018-2020 redistricting cycles. [Day 1 Tr. 73:5-10, 102:2-22].

21. In compliance with court rulings, the General Assembly again did not use race when drawing districts. [JX004; Day 3 PM Tr. 114:20-22]. Moreover, the General Assembly concluded that there was insufficient evidence that the *Gingles* criteria could be met to justify using race in drawing districts or departing from the *Stephenson* grouping requirements to achieve racial targets. [Day 3 PM Tr. 118:3-5; Day 4 Tr. 116:11-16].

22. During Committee meetings and hearings, Senator Hise and the other co-chairs asked anyone with evidence of legally significant racially polarized voting to submit that evidence to the Committee. [Day 3 PM Tr. 117:18-21; Day 4 Tr. 10:20-22]. This included during the three public hearings held in September, several weeks before the first draft Senate map was filed. [D.E. 105 at 9 (¶ 24); Day 3 PM Tr. 117:10-21; Day 4 Tr. 5:7-14]. No evidence of legally significant racially polarized voting was presented. [Day 3 PM Tr. 118:3-5].

B.   The 2023 Senate Plan

23. The first draft of the 2023 Senate Plan was released to the public on October 18, 2023, as S.B. 758. [D.E. 105 at 9 (¶ 25); Day 3 PM Tr. 118:4-6; Day 4 Tr. 4:24-5:2].

24. The Committee co-chairs supervised and directed all drawing of the 2023 Senate Plan. Staff were responsible for physically implementing changes in the map software, and staff

could not, and did not, work on the maps without supervision and direction from a co-chair. [Day 3 PM Tr. 115:18-25].

25.   After implementing the Equal Population and County Groupings and Traversals criterion, the co-chairs were left with eighteen counties in northeastern North Carolina that, following the other 2023 Senate Criteria, could be grouped two different ways to make an eight-county district and a ten-county district. [JX001; Day 3 PM Tr. 116:1-8]. Neither grouping option creates a majority-Black district. [Day 1 Tr. 105:14-18; JX069 at 11, 13]. The co-chairs chose the same configuration chosen in 2021, which grouped Northampton, Hertford, Gates, Bertie, Perquimans, Pasquotank, Camden, Currituck, Tyrrell, and Dare counties in Senate District 1 ("SD1") and Warren, Halifax, Martin, Chowan, Washington, Hyde, Pamlico, and Carteret in Senate District 2 ("SD2"). [JX001]. The groupings left no further discretion to alter the borders of SD1 and SD2—the contours are dictated by *Stephenson*. All other county groupings remained the same as in the 2022 Remedial Senate Plan. [D.E. 105 at 9-10 (¶ 26)].

26.   The co-chairs preferred the enacted northeastern county grouping configuration because it kept intact four of the five "fingerling counties" in northeastern North Carolina, along with parts of the coastal region, together as a recognized community of interest. [JX001; Day 3 PM Tr. 116:9-15, 21-23]. The co-chairs also heard testimony that, of the counties included in enacted SD1, the majority were in the Norfolk media market whereas those in SD2 were largely in the Greenville media market. [Day 3 PM Tr. 116:16-20].

27.   On October 22, 2023, members of the Committee and General Assembly leadership received a letter from the Southern Coalition for Social Justice. [Day 3 PM Tr. 118:6-8; PX179]. Based on information from a preliminary study, the letter requested that the county groupings for SD1 and SD2 revert to the versions used in the 2022 Senate map. [Day 3 PM Tr. 118:10-18;

PX179; Day 4 Tr. 16:11-16]. The letter, based on a preliminary study, did not claim that a majority-Black district was necessary in northeastern North Carolina to enable Black voters to elect Senate candidates of their choice [Day 4 Tr. 116:11-16], and Senator Hise did not recall the letter even requesting that a majority-Black district be drawn. [Day 3 PM Tr. 118:19-21]. Upon reviewing the letter and all other public comments, the co-chairs of the Committee determined that there was no evidence of legally significant racially polarized voting that could justify the use of race in drawing districts (or departure from *Stephenson* to create a majority-Black district). [Day 3 PM Tr. 118:3-5].

28.   The Committee continued debating S.B. 758 on October 23, 2023. Democratic Senators Woodard and Garrett each offered an amendment, relating to Durham and Guilford Counties respectively, which both passed unanimously. [D.E. 105 (¶ 26) at 10; Day 3 PM Tr. 119:3-12]. Those amendments were not prepared with racial data. [JX024; JX025]. S.B. 758's committee substitute was adopted and sent to the Senate Chamber for debate. [D.E. 105 at 10 (¶ 26)].

29.   On October 24, 2023, Democratic Senator Dan Blue, a member of the Committee, offered two amendments to S.B. 758 on the Senate floor, Amendments A-2 and A-3. Both Amendments proposed changes to the Senate districts in northeastern North Carolina. [Day 3 PM Tr. 119:16-25; JX016; JX017; D.E. 105 at 10 (¶ 27)]. Unlike the amendments approved in Committee, Senator Blue's amendments were prepared with racial data in violation of the 2023 Senate Criteria. [Day 1 Tr. 119:7-8, 121:22-24; Day 3 PM 120:4-6; JX4].

30.   Senator Blue admitted that Amendment A-2 split Pitt County into three separate districts, and split Wilson, Lenoir, and Wayne Counties into two districts. [Day 1 Tr. 115:7-16; LD001; LD002]. In contrast, Pitt, Wilson, Lenoir, and Wayne Counties are kept whole under the

enacted 2023 Senate Plan. [Day 1 Tr. 115:17-19; LD001; LD002; JX001]. Similarly, Amendment A-3 split Pitt County twice, and introduced splits into Nash, Wilson, Wayne, and Lenoir Counties. [Day 1 Tr. 121:14-21; LD003; LD004; JX001]. These county splits contravene *Stephenson*. Senator Blue further admitted that in drafting his amendments, he was attempting to draw to a racial BVAP target of about 47%, as he did not believe reaching a 50% threshold was necessary for Black voters to have an opportunity to elect a candidate of their choice. [Day 1 Tr. 129:6-9]. Simply put, Senator Blue departed from the *Stephenson* groupings to create a minority crossover district.

31.   Senator Blue also admitted that his Amendment A-3 had numerous similarities to the 2011 State Senate Plan struck down as a racial gerrymander in *Covington*: it split Pitt and Lenoir Counties in largely the same way as in 2011, and then used Greene County to connect those splits to oddly drawn appendages into the center of Wayne County. [Day 1 Tr. 122:4-124:16; LD003; LD004; JX065]. Finally, Senator Blue recognized and admitted that Amendment A-3 double-bunked all Republican incumbents in the region. [Day 1 Tr. 125:1-16; LD004 at 53].

32.   Both of Senator Blue's Amendments were tabled. [Day 3 PM Tr. 120:9-10; JX016; JX017]. Senator Hise testified that he did not support Senator Blue's Amendments because, contrary to the requirements stated in the 2023 Senate Criteria, the Amendments were drawn using racial data and, even so, the racial data relied upon was not provided in the accompanying StatPacks Senator Blue distributed prior to the vote. [Day 3 PM Tr. 120:1-9; JX016; JX017].

33.   On October 25, 2023, the General Assembly passed and ratified S.L. 2023-146 (S.B. 758) into North Carolina law as the 2023 Senate Plan.

IV.   **This Litigation**

34.   On November 20, 2023, Plaintiffs filed the instant action against Legislative Defendants and State Board Defendants challenging SD1 and SD2 of the 2023 Senate Plan under § 2 of the VRA. [D.E. 13 at 2-3, 20-22].

35.   Legislative Defendants Destin Hall[2] and Philip E. Berger were sued in their official capacities only, as Speaker of the North Carolina House of Representatives and President *Pro Tempore* of the North Carolina Senate respectively. [D.E. 1 at 4].

36.   The North Carolina State Board of Elections ("NCSBE") and its members were sued in their official capacities only. [D.E. 1 at 4].

37.   SD1 is made up of the following whole counties: Northampton, Hertford, Bertie, Gates, Perquimans, Pasquotank, Camden, Currituck, Tyrell, and Dare. [D.E. 105 at 12 (¶ 31)]. It has a Black Voting Age Population ("BVAP") of 29.49% and a Non-Hispanic White Voting Age Population of 63.29% based on the 2020 Decennial Census Data. [D.E. 105 at 12 (¶ 31); JX006 at p. 11]. SD1 is currently represented by Bobby Hanig, a white Republican. [D.E. 105 at 12 (¶ 34]. No Plaintiff resides in SD1. [D.E. 105 at 3 (¶¶ 2, 4)].

38.   SD2 includes Warren, Halifax, Martin, Chowan, Washington, Hyde, Pamlico, and Carteret counties. [JX001]. SD2 has a BVAP of 30.01% and a Non-Hispanic White Voting Age Population of 63.13%. [D.E. 105 at 12, (¶ 24); JX006 at p. 11]. SD2 is currently represented by Norman W. Sanderson, a white Republican. [D.E. 105 at 12 (¶ 35].

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[2] Plaintiffs' Complaint originally named Timothy Moore in his official capacity as Speaker of the North Carolina House of Representatives. However, Destin Hall has since assumed the position of Speaker. Pursuant to Rule 25(d) of the Federal Rules of Civil Procedure, Speaker Hall was automatically substituted as a party in the above-captioned matter. All references to the Speaker of the North Carolina House of Representatives as a Defendant in this matter, therefore refer to Speaker Hall.

39.   SD1 and SD2, like Senate Districts 4, 5, 6, and 11, are made up of whole counties in a single grouping. [JX001; Day 3 PM Tr. 117:2-3].

40.   Plaintiff Rodney Pierce is a Black resident of Halifax County, North Carolina. [D.E. 105 at 3 (¶ 1)]. He has been registered to vote in Halifax County since 1996 and is a consistent voter. [D.E. 105 at 3 (¶ 1); Day 1 Tr. 38:4-11]. He is registered as a Democrat. [D.E. 105 at 15 (¶ 55)].

41.   As a resident of Halifax County, Mr. Pierce resides in SD2, House District 27 ("HD27"), and CD1, as enacted under the respective 2023 plans. [D.E. 105 at 3, 11, 17, 25-26; JX001; Day 1 Tr. 55:25-56:19]. Mr. Pierce currently represents HD27 in the General Assembly. [D.E. 105 at 15 (¶ 55)]. CD1 is currently represented by Don Davis, a Black Democrat. [D.E. 105 at 24 (¶ 111); Day 1 Tr. 56:5-13]. Of these three districts, Mr. Pierce admitted that he only filed a legal challenge against the single district where a Republican represents him, SD2. [Day 1 Tr. 56:14-19].

42.   Though the Complaint purports to challenge Senate Districts 1 and 2, Mr. Pierce admitted at trial that he does not challenge SD1. [Day 1 Tr. 55:21-24].

43.   Plaintiff Moses Matthews is a Black resident of Martin County, North Carolina and resides in SD2 under the 2023 Senate Plan. [D.E. 105 at 3 (¶¶ 3-4)]. He is registered as a Democrat and has been a regular voter since he first registered in 1976. [D.E. 105 at 3 (¶ 3); Day 1 Tr. 58:8-15, 66:18-19].

44.   Neither Plaintiff testified about his candidates of choice or attested to having voted for the losing candidate in SD2.

45.   No Plaintiff resides in SD1. [D.E. 105 at 3 (¶¶ 2, 4)].

V.   Geography of Northeast North Carolina and Alternative Mapping Possibilities.

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A. Under the Geography of North Carolina, Specifically Northeastern North Carolina, It Is Not Possible To Configure a Reasonable Majority-Black District.

56. Plaintiffs' counsel retained Mr. Blakeman Esselstyn to determine "whether there is an area in Northeastern North Carolina" with a Black population that is "sufficiently large and geographically compact" to allow for the creation of a majority-BVAP State Senate district in the area. [PX069 at 2]. Pursuant to this task, Mr. Esselstyn set out to draw "Demonstration Districts" in northeastern North Carolina. [PX069 at 2-3; Day 1 Tr. 217:4-11].

57. Mr. Esselstyn's effort was unsuccessful due to insurmountable features of North Carolina's demographic geography. While Mr. Esselstyn testified that the total Black population for North Carolina is 22.5%, the relevant metric is BVAP, and that is only 21.37% statewide. [Day 2 Tr. 67:5-69:3]. In fact, only 8 of the state's 100 counties have a majority BVAP. [D.E. 105 at 11 (¶ 33)].

58. Moreover, Mr. Esselstyn observed that in the 2022 Senate plan, there were four single district county groupings that contained high BVAP counties in northeastern North Carolina, but none of the districts themselves were majority BVAP or Black Citizen Voting Age Population ("BCVAP"). [Day 1 Tr. 236:13-17].

59. Mr. Esselstyn's task was further complicated in that northeastern North Carolina *already* contains a district that provides at least equal Black electoral opportunity, and it arose naturally by operation of *Stephenson*, without racial predominance. Pitt and Edgecombe are paired together as a single district county grouping in the Enacted Senate Plan [JX001] in Senate District 5 ("SD5"). The District elected a Black Democrat, Kandie Smith, in the previous two elections, and has a BVAP of 40.35%. [D.E. 105 at 12, 18 (¶¶ 38, 67)]. Testimony by numerous witnesses established that SD5 is a performing crossover district. [Day 1 Tr. 80:3-25; JX001; Day 3 AM Tr. 72:2-73:10; PX128 at 23-26]. Plaintiffs' counsel instructed Mr. Esselstyn that none of his

demonstration districts could include the high population majority-Black Edgecombe County, or its neighbor Pitt County. [Day 2 Tr. 13:6-9, 69:6-70:8]. These instructions constrained Mr. Esselstyn's mapping possibilities in this region.

60.   Mr. Esselstyn, who is the principal and sole employee of a company called "Mapfigure Consulting," [Day 1 Tr. 211:12-13; Day 2 Tr. 103:14-15], has never drawn statewide electoral maps for a state governing authority. [Day 2 Tr. 51:13-18]. His electoral district drawing experience is limited to assisting municipalities and school districts [Day 2 Tr. 52:4-8], a task for which he admittedly used only decennial census data. [Day 2 Tr. 53:7-9, 94:12-17]. Mr. Esselstyn did not draw any electoral maps for any jurisdictions following the 2010 census, meaning that his work drawing electoral districts is limited to this census cycle only. [Day 2 Tr. 52:9-53:9].

B.   Mr. Esselstyn's Methodology for Drawing His Demonstration Districts was Deeply Flawed and Demonstrates that Race Predominated.

61.   Mr. Esselstyn drew four primary demonstration districts with supporting demonstration maps in northeastern North Carolina which were considered in this case, labeled Demonstration Districts A, B, C, and D, respectively. [PX069 at 14, 18, 20, 23]. Although Mr. Esselstyn intended his demonstration districts to demonstrate that reasonably configured majority-BVAP districts can be drawn, Mr. Esselstyn admitted that only two of the demonstration districts, A and C, actually achieve that target. [Day 2 Tr. 20:23-21:11, 78:3-6].

62.   To create his demonstration districts, Mr. Esselstyn used a combination of Dave's Redistricting App, Maptitude for Redistricting, and QGIS to adjust boundaries and attempt to achieve 50% BVAP or BCVAP targets. [PX069 at 1-2]. As he was creating these districts, Mr. Esselstyn loaded racial data into Maptitude and displayed racial data in the Maptitude data view pane as he drew. [Day 2 Tr. 65:2-16].

63.	Mr. Esselstyn admitted that he began his districting work by identifying certain majority-Black counties, which he calculated using decennial census data. [Day 2 Tr. 66:21-67:4]. Figure 1 in Mr. Esselstyn's report shows these identified counties. [PX069 at 5, Fig. 1].

Figure 1: Majority-Black North Carolina counties
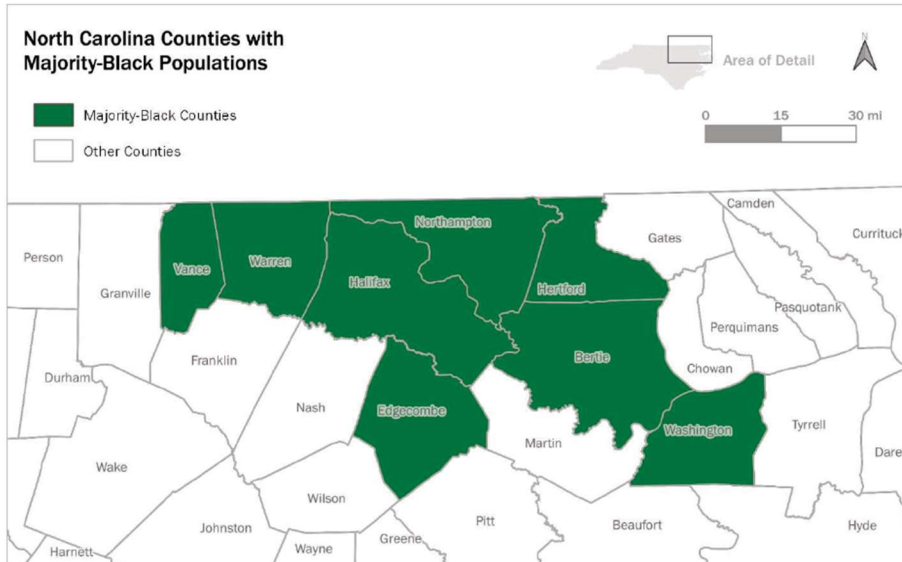
[PX069 at 5, Fig. 1].

64.	Next, Mr. Esselstyn created a shaded map of VTD's in the region, showing various levels of BVAP. [Day 2 Tr. 70:9-19]. Figure 2 in Mr. Esselstyn's opening report shows this shading:

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Figure 2: Voting districts classified by Black voting age population

Voting Districts in Northeastern North Carolina Shaded by Percentage of the Voting Age Population that is Black

Legend: 0% to 14.99% | 15% to 29.99% | 30% to 39.99% | 40% to 49.99% | 50% and above

Counties

0   25   50 mi
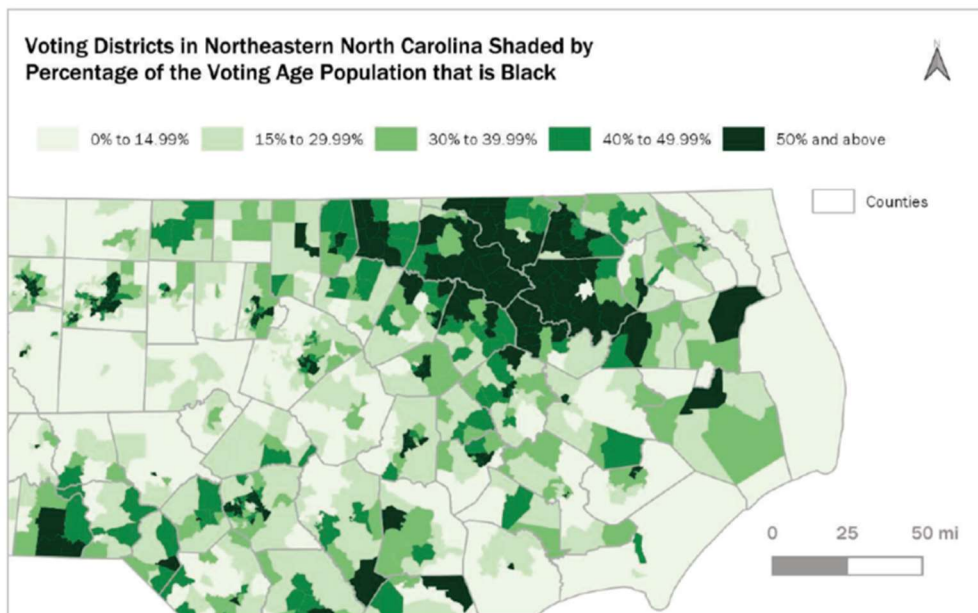
[PX069 at 7, Fig. 2].

65. Mr. Esselstyn admitted that the chosen shading in his Figure 2 used to reflect majority-BVAP VTDs treated a VTD with a BVAP of 50% and a VTD with a BVAP at 99.9% as the same. [Day 2 Tr. 70:20-23]. This means that the VTDs shaded in the darkest green could have a range of 49.9%. Puzzlingly, Mr. Esselstyn criticized the shading bins utilized by one of Legislative Defendants' experts, Dr. Sean Trende, because Dr. Trende truncated lower BVAP VTDs from 0 to 30% BVAP, a narrower margin that Esselstyn used here. [PX147 at 28-29]. But in voting rights cases, a gradation focusing around the 50% BVAP threshold, like Dr. Trende used, is much more useful. [Day 4 Tr. 161:24-162:7]. Moreover, none of Dr. Trende's bins have a range of 49.9%. [*See, e.g.,* LD060 at 32, Fig. 15].

66. Mr. Esselstyn then identified what he believed to be two potential county groupings in northeastern North Carolina based upon decennial census data. [Day 1 Tr. 234:8-25]. Figure 3 in his opening report shows the same two clusters identified by the General Assembly:

Figure 3: Two county cluster alternatives for northeastern North Carolina
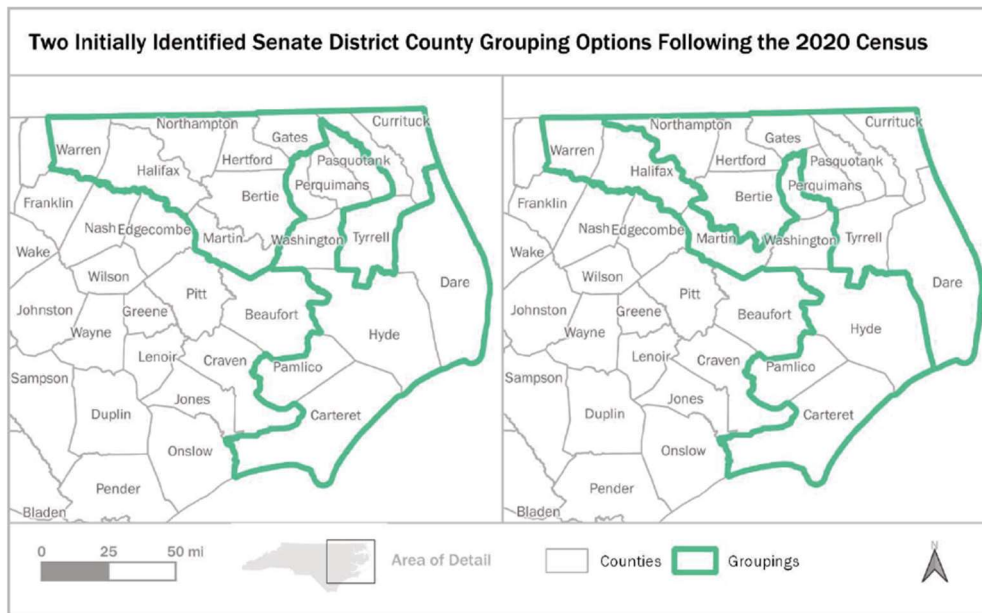
[PX069 at 8, Fig. 3].

     67.   Mr. Esselstyn testified that these groupings were determined by Dr. Mattingly as part of a 2021 article Dr. Mattingly, Mr. Esselstyn, and several others authored. [Day 2 Tr. 71:23-72:12; *see also* Day 1 Tr. 160:24-161:6 (Mattingly); JX115]. Mr. Esselstyn admitted that this article did not account for race in making its groupings because they believed it unnecessary since there were no VRA challenges to the 2010 *Stephenson* groupings. [Day 2 Tr. 72:12-74:1; *see also* Day 1 Tr. 161:13-19 (Mattingly)].

     68.   In drawing his demonstration districts, Mr. Esselstyn made little to no effort to comply with the 2023 Senate Plan Criteria. [JX004]. In fact, Mr. Esselstyn admitted that he did not listen to any of the publicly available Senate Redistricting and Elections Committee audio, or attend or review any transcripts of the Committee's public hearings or meetings. [Day 2 Tr. 64:2-8]. Nor did he submit any proposed alternative maps for the Committee to consider. [Day 2 Tr. 66:14-16].

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69.   Contrary to the 2023 Senate Plan Criteria's explicit instructions to not consider race [JX004], Mr. Esselstyn admitted that he loaded racial data into Maptitude when creating his districts. [Day 2 Tr. 65:2-6]. In fact, Mr. Esselstyn repeatedly viewed and referenced this data in adjusting his demonstration districts' lines. [Day 2 Tr. 65:7-16]. In contrast, Mr. Esselstyn did not load any socioeconomic data into Maptitude. [Day 2 Tr. 65:17-22].

70.   Although the 2023 Senate Plan Criteria also dictate the exclusive use of decennial Census data [*see* JX004], Mr. Esselstyn ignored that requirement and opted to use the American Community Survey's ("ACS") BCVAP data. [Day 1 Tr. 219:22-220:11].

71.   Notably, this was the first and only time Mr. Esselstyn elected to use BCVAP data in drawing demonstration districts under VRA § 2 or any other electoral districts. [Day 2 Tr. 94:12-17]. Despite his testimony here that the ACS CVAP data is the "gold standard," [Day 1 Tr. 225:8-13; Day 2 Tr. 21:16-18], Mr. Esselstyn conceded that in the only other case where he drew demonstration districts under VRA § 2, *Grant v. Raffensperger* in Georgia, he used and expressly relied upon decennial Census BVAP data. [Day 2 Tr. 51:20-52:3, 94:6-7].

72.   Plaintiffs' racially polarized voting expert, Dr. Collingwood, did not use CVAP for his BVAP analysis or for his racially polarized voting analysis. [Day 3 AM Tr. 76:6-11].

C.   Demonstration Districts B and D Are Not Majority-Black Districts.

73.   It is undisputed that only two of Mr. Esselstyn's demonstration districts—A and C—are above a 50% BVAP threshold. [Day 2 Tr. 20:23-21:3, 78:3-6]. Mr. Esselstyn admitted that the other two—B and D—both fall below 50% BVAP. [Day 2 Tr. 60:4-61:7].

74.   Attempting to explain away this fact, Mr. Esselstyn claimed that he could still offer Demonstration Districts B and D as majority-Black districts because he used 2016-2020 5-year ACS data to report their BCVAP. [Day 2 Tr. 21:12-22:1, 55:15-18, 79:16-24]. But Mr. Esselstyn's only apparent purpose for looking to BCVAP figures is that the BVAP figures do not achieve his

predetermined goal of a 50% target. His reliance on BCVAP is unreliable and lacking in credibility. ACS CVAP data is ill-suited for the instant purpose of evaluating demonstration districts, especially those that cross the 50% threshold only by a razor thin margin and only by reference to some data reported for some years.

75.   ACS data is not typically used independent of census data by experts (including Mr. Esselstyn) to establish majority-Black status of a district. Unlike BVAP data, which represents actual population numbers, is derived from the decennial census, and which Mr. Esselstyn admitted is "considered the best data available," [Day 1 Tr. 224:8-12; Day 2 Tr. 50:16-19], BCVAP data is based upon survey estimates. [Day 2 Tr. 50:20-23].

76.   As Mr. Esselstyn also admitted, the decennial census data provides a much deeper and more granular way of analyzing various race and ethnicity categories, as compared to what the ACS offers. [Day 2 Tr. 57:22-58:4].

77.   Tellingly, Mr. Esselstyn admitted that he used decennial census data for calculating the populations of his demonstration districts, noting that he is not aware of any circumstances where ACS data would be used to test for equal population. [Day 2 Tr. 62:12-22].

78.   Nor did Mr. Esselstyn use ACS data when he drew demonstration districts under VRA § 2 in Georgia. [Day 2 Tr. 50:16-51:9, 51:20-52:3, 94:6-17]. There is no reason to believe Mr. Esselstyn's use of ACS data was appropriate in this instance. The only apparent rationale for his selection is that the BVAP figures for Demonstration District B and D do not suit Mr. Esselstyn's predetermined purposes. That is not a credible basis for selection of data.

79.   Testimony from Legislative Defendants' expert Dr. Sean Trende[3] confirmed that use of BCVAP data is inappropriate here. Dr. Trende is an experienced redistricting expert who has testified concerning the *Gingles* preconditions in 8 to 9 other cases, including for a group of Black plaintiffs in Michigan (in a case where he prepared § 2 demonstration districts), and who has drawn districting plans for several government entities. [LD060 at 3; Day 4 Tr. 130:12-132:16]. Dr. Trende testified that the use of BCVAP data is inappropriate in assessing whether a district is majority-Black because of the need for certainty on the 50% plus one threshold. [Day 4 Tr. 138:5-9].

80.   While Dr. Trende noted that the ACS is a rich source of information and is useful for research, allocation of funds, and other functions, he cautioned that users should be aware of its limitations when working with it—especially given that the ACS reports 90% confidence intervals. [Day 4 Tr. 137:12-138:2; LD060 at 9]. In situations where a BVAP threshold is not met in a given district, and the BCVAP threshold only slightly crosses the threshold, the uncertainty of the ACS estimates carries significance. [Day 4 Tr. 138:5-9]. Dr. Trende could recall only one other case in which he testified where a plaintiff attempted to use CVAP to establish a district's majority-minority status when the district's BVAP was below 50%. [Day 4 Tr. 138:10-15]. That case, *Alabama State Conference of the NAACP, et al. v. Wes Allen, et al.*, No. 2:21-cv-1531-AMM, is still pending.

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[3] Legislative Defendants tendered Sean Trende, Ph.D., as an expert in American Politics with an emphasis on redistricting including drawing and analyzing redistricting maps, use of U.S. Census data, and in political methodology with a particular emphasis on sampling methodology. [Day 4 Tr. 132:17-23].

1. **The ACS is a survey with margins of error that undermine Mr. Esselstyn's assertion that Demonstration Districts B and D are majority-Black.**

81.   Unlike the decennial census, the ACS is a survey built with data from a small number of persons and households randomly selected across the United States. [Day 2 Tr. 50:16-23, 51:3-9; Day 4 Tr. 136:22-137:7, 168:17-169:15; LD034; LD035]. The answers collected from these surveys are then extrapolated to produce estimates in order to "complete" the data's results. [Day 1 Tr. 221:20-23; Day 2 Tr. 50:20-51:9; Day 4 Tr. 169:16-23; LD037].

82.   The sample sizes of the ACS are small [Day 2 Tr. 96:18-99:14; Day 4 Tr. 142:10-20; LD060 at 7-8], and the ACS provides no information concerning where individual respondents reside within the state [Day 2 Tr. 98:9-12; LD060 at 7-8, 17, n. 7]. Moreover, Mr. Esselstyn performed no investigation to determine how often the 5-year data sets he utilized surveyed the counties addressed in his report. [Day 2 Tr. 98:13-15].

83.   In addition to the relatively low ACS response rates [Day 2 Tr. 98:21-99:14; LD035; LD036; LD060 at 8], when the ACS receives incorrect or incomplete survey questions, the Census Bureau assigns or allocates responses to those questions. [Day 2 Tr. 99:15-100:11; LD037]. These allocation rates create further uncertainty in ACS results. [Day 2 Tr. 95:15-100:4]. The item allocation rates for citizenship nationwide for the last four years were: 9.7% in 2023; 9.8% in 2022, 10.1% in 2021, and 9.4% in 2020. [LD038].

84.   Mr. Esselstyn admitted that he did not provide response rates or allocation rates for the ACS data he used in his report. [Day 2 Tr. 100:12-17]. He also admitted that he is not aware of how the ACS weights its allocations across various entries contained within the dataset. [Day 2 Tr. 102:24-103:10].

85.   Another deficiency with BCVAP data for present purposes is that it is not provided at a Voting Tabulation District ("VTD"), precinct, or block level. [Day 2 Tr. 55:19-56:3; Day 4

Tr. 147:22-24]. Instead, the BCVAP data Mr. Esselstyn used is provided at the block group level, which is itself a collection of individual census blocks. [Day 2 Tr. 55:22-56:6; Day 4 Tr. 147:22-148:3].

86.   While the decennial census provides population information at an individual block level, the ACS does not provide BCVAP data at the block level. [Day 2 Tr. 55:22-56:9; Day 4 Tr. 147:22-148:3]. This imprecision is relevant because Mr. Esselstyn's demonstration districts do not always follow block groups. Because of this, the ACS data must be disaggregated down to the individual census block level. [Day 4 Tr. 146:15-148:9; LD060 at 13-14].

87.   Mr. Esselstyn admitted that he made no attempt to disaggregate the ACS data down from a block group level to the block level, even though he testified that he is able to do so. [Day 2 Tr. 56:10-57:18]. Rather than disaggregating the data himself, Mr. Esselstyn relied upon a third party—the Redistricting Data Hub's—disaggregation. [Day 2 Tr. 56:17-19]. The Redistricting Data Hub is not run by the U.S. Census Bureau and Mr. Esselstyn did not independently verify the accuracy of its disaggregation methods. [Day 2 Tr. 56:20-57:2]. The Redistricting Data Hub does not have known error margins or publish failure rates for its data disaggregation. [LD062 at 15].

88.   This disaggregation process creates additional uncertainty that cannot be fairly estimated because "there's no math for disaggregating group error margins." [Day 4 Tr. 148:23-24; *see also* Day 4 Tr. 139:8-11, 146:19-148:9 (Dr. Trende testifying that the error margins themselves are estimates); Day 3 AM Tr. 78:8-79:7 (Dr. Collingwood acknowledging that ACS point estimates gave sampling errors expressed in margins of error)]. In contrast, BVAP data reported from the decennial census does not have a margin of error. [Day 1 Tr. 223:25-224:4; Day 2 Tr. 50:16-19].

89.   Due to this margin of error, which is implicit in his report's BCVAP data, Mr. Esselstyn also admitted that there could be significant variation between the BCVAP figures he reported and their true value, noting that it could be higher or lower than what his report states. [Day 2 Tr. 21:21-22:1].

90.   Despite recognizing that these margins of error exist throughout the BCVAP data he used, Mr. Esselstyn admitted he did not report any such margins. [Day 2 Tr. 58:11-13]. This is true even though Mr. Esselstyn also admitted that he is aware the ACS is published with margins of error at a 90% confidence interval. [Day 2 Tr. 101:6-8]. Mr. Esselstyn conceded that he does not know the actual margins of error contained within the ACS data underlying his reports' BCVAP percentages. [Day 2 Tr. 100:18-101:5].

91.   Mr. Esselstyn urges the Court to ignore this substantial uncertainty on the ground that the BCVAP numbers are "conservative" estimates [Day 2 Tr. 21:20-21]. Mr. Esselstyn reasons that the "any part Black" measure of BVAP takes a broader view of which census respondents count as "Black" than the BCVAP measure of the ACS [Day 2 Tr. 23:2-14]. But Mr. Esselstyn manufactured this problem by looking to BCVAP when the BVAP figures are readily available. There is no reason to guess what an "any part Black" measure would show when the Census Bureau has reported that number with the highest level of accuracy of any data available. Put differently, the way to ascertain "any part Black" is not to speculate from BCVAP—which does not measure "any part Black"—but to identify the figure directly from BVAP—which *does* measure "any part Black."

92.   A review of Mr. Esselstyn's own data shows that the BCVAP figures are not conservative. Far from BCVAP being the most "conservative" or lowest estimates, Mr. Esselstyn's rebuttal report shows that the BCVAP estimates for his demonstration districts are all uniformly

higher than the reported BVAP numbers themselves. Indeed, Mr. Esselstyn's own tables shown below reveal that it is highly likely he resorted to BVCAP because the BVAP figures did not support his opinions.

93.   For Demonstration District A, these figures are best seen in Tables 3a and 4a to Mr. Esselstyn's rebuttal report.

Table 3a: Statistics for Demonstration District A

District	Population Deviation	BVAP	2022 Black-CVAP	Reock	Polsby-Popper
Demonstration District A	-4.29%	51.47%	52.71%	0.30	0.32

Table 4a: Statistics for additional districts in Demonstration Map A

District	Population Deviation	BVAP	2022 Black-CVAP	Reock	Polsby-Popper
A-2	-2.00%	17.31%	18.05%	0.43	0.33
A-4	+0.19%	33.42%	35.81%	0.39	0.21
A-9	-2.99%	19.93%	20.31%	0.33	0.14
A-11	-0.62%	33.58%	35.80%	0.59	0.38

[PX147 at 6, Table 3a, 4a].

94.   For Demonstration District B, these figures are best seen in Table 5a to Mr. Esselstyn's rebuttal report.

Table 5a: Statistics for Demonstration Districts B and B-2

District	Population Deviation	BVAP	2022 Black-CVAP	Reock	Polsby-Popper
Demonstration District B	-4.93%	48.41%	49.41%	0.35	0.29
Demonstration District B-2	-4.36%	11.37%	11.88%	0.39	0.25

[PX147 at 7, Table 5a].

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95.   For Demonstration District C, these figures are best seen in Tables 6a and 7a to Mr. Esselstyn's rebuttal report.

Table 6a: Statistics for Demonstration District C

District	Population Deviation	BVAP	2022 Black-CVAP	Reock	Polsby-Popper
Demonstration District C	-2.08%	50.21%	51.24%	0.37	0.36

Table 7a: Statistics for additional districts in Demonstration Map C

District	Population Deviation	BVAP	2022 Black-CVAP	Reock	Polsby-Popper
C-2	+3.81%	13.49%	13.81%	0.37	0.32
C-4	-4.11%	36.51%	38.27%	0.49	0.32
C-11	-4.46%	32.52%	35.07%	0.33	0.23

[PX147 at 7, Table 6a, 7a].

96.   For Demonstration District D, these figures are best seen in Table 8a to Mr. Esselstyn's rebuttal report.

Table 8a: Statistics for Demonstration Districts D and D-2

District	Population Deviation	BVAP	2022 Black-CVAP	Reock	Polsby-Popper
Demonstration District D	-4.67%	49.22%	50.14%	0.30	0.21
Demonstration District D-2	-4.62%	10.50%	11.06%	0.34	0.17

[PX147 at 7, Table 8a].

2.   Mr. Esselstyn chose not to use the most updated ACS data available to him in creating his demonstration districts.

97.   Mr. Esselstyn departed further from professional standards in admittedly declining to use the most recent ACS dataset available. [Day 2 Tr. 91:3-21]. Although Mr. Esselstyn knew when configuring his demonstration districts that data from both the 2017-2021 and 2018-2022 5-

year ACS were available, he instead chose to use 2016-2020 5-year ACS data to calculate his districts' BCVAP estimates. [Day 2 Tr. 55:15-18 (used 2016-2020 data for his opening report), 92:23-93:13 (chose not to use 2017-2021 data at all), 90:24-91:5 (chose not to use 2018-2022 data until his rebuttal report)].

98.   Although Mr. Esselstyn initially claimed that the 2018-2022 ACS was not available to him prior to his opening report's due date [Day 1 Tr. 238:7-13], this simply is not true (and does not explain his refusal to use the 2017-2021 ACS). Mr. Esselstyn ultimately admitted that the 2018-2022 ACS was released before the July due date for opening reports [Day 2 Tr. 92:9-17] as was the disaggregated version prepared by Redistricting Data Hub. [Day 1 Tr. 238:9-13; Day 2 Tr. 91:17-21]. In fact, uncontroverted testimony from Dr. Trende revealed that experts in other cases, including himself and Plaintiffs' expert Dr. Loren Collingwood, were using this data in March of 2024 in another case. [Day 4 Tr. 141:8-14].

99.   The most plausible explanation for Mr. Esselstyn's choice has nothing to do with a reliable methodology. Measured by the 2018-2022 ACS, the BCVAP estimates for Demonstration Districts B and D fell significantly from the measures under the 2016-2020 ACS. Demonstration District B fell below the 50% mark and Demonstration District D fell to 50.14%. [Day 2 Tr. 93:19-94:4]. From that, it is easy to see why Mr. Esselstyn would prefer the 2016-2020 data. This confirms that Esselstyn made his data choices, not because they were justified under sound professional standards, but to achieve a predetermined outcome. This is not a hallmark of credible expert opinion.

100.   Moreover, it is undisputed that Demonstration District B is not a majority-Black district, even under the BCVAP metric. [Day 2 Tr. 93:19-25].

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101.   Despite his protests that the use of 2016-2020 data was appropriate, Mr. Esselstyn chose to shift to the 2018-2022 5-year ACS data to calculate his demonstration districts' BCVAP estimates. [Day 2 Tr. 55:15-18, 92:23-93:13].

3.   The ACS margin of error undermines Mr. Esselstyn's opinion that Demonstration District D is a majority-Black district.

102.   Mr. Esselstyn and Dr. Trende agree that Demonstration District D has a BCVAP point estimate of 50.14% [Day 4 Tr. 159:23-160:2], but uncertainty surrounding that estimate leaves it a mystery whether the true BCVAP figure exceeds 50%. There is no basis for the Court to assume an affirmative answer to that question, especially where the BVAP of Demonstration District D falls below 50%.

103.   All relevant calculations by the experts in this case show that the margins of error surrounding the BCVAP point estimate for Demonstration District D fall below 50%, reflecting that the true value may be below that threshold.[4] [Day 4 Tr. 133:6-134:2, 150;12-15; Day 2 102:3-12]. Mr. Esselstyn admitted this.[Day 2 Tr. 21:5-11, 93:23-94:4, 102:3-12].

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[4] Though Dr. Trende made mathematical mistakes in calculating the margins of error, those mistakes are immaterial because, under any viable calculation, the low bound of the error margin is below 50% BCVAP. Dr. Trende admitted the errors to the Court in his direct examination and issued a forthright apology, which bolsters his credibility as a professional striving to provide accurate opinions in this case. Plaintiffs' request to strike Dr. Trende's testimony and his expert report, [Day 4 Tr. 204:22-206:5], should be denied. That request is plainly untimely—the deadline for motions *in limine* was October 18, 2024. *See* D.E. 81 at 1. Plaintiffs' experts responded to Dr. Trende's analysis in their rebuttal reports served in August 2024, and Plaintiffs questioned Dr. Trende in his September 2024 deposition where he acknowledged the errors. Plaintiffs had all the information necessary to file a motion *in limine* by the October 18, 2024, deadline, but they failed to do so. In contrast, Legislative Defendants filed a motion *in limine* to exclude opinions by Plaintiffs' experts, D.E. 86, which allowed the Court time to consider the motion and exclude the evidence before trial. *See* D.E. 91. Plaintiffs' request is also unwarranted. Dr. Trende's mistakes did not affect the entirety of his testimony and opinions in this case, nor did they change his conclusions, which is distinguishable from the authority Plaintiffs cited at trial. [Day 4 Tr. 205:18-13]. *E.E.O.C. v. Freeman*, 778 F.3d 463, 466 (4th Cir. 2015) (district could found the expert's errors "ma[de] it impossible to rely on any of his conclusions."). Moreover, because this is a bench trial, "'the Court can freely accept or reject an expert's testimony at trial as the trier of fact' without excluding evidence under Fed. R. Evid. 702." *Pender v. Bank of Am. Corp.*, No. 3:05-CV-00238-

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104.   Calculating the margin of error for the demonstration districts is hardly a simple matter. First, all demonstration districts but Demonstration District A split counties, which precludes recourse to the ACS margins of error reported for whole counties. [Day 4 Tr. 147:7-19]. Second, Mr. Esselstyn's demonstration districts do not always follow block groups, which complicates the aggregation process because the Census Bureau only publishes error margins down to the block group level. [LD060 at 13-14]. Accordingly, there is substantial uncertainty surrounding any error margin one might consult in analyzing a demonstration district.

105.   Dr. Trende testified to six or seven different ways to execute the aggregation process and to certain methodological differences between him and Dr. Collingwood on that question. [Day 4 Tr. 149:1-7]. Dr. Trende chose to use the same geographic unit throughout, and as a result aggregated the disaggregated block group information to calculate the margin of error for the demonstration districts. [Day 4 Tr. 149:22-24].

106.   In contrast, Dr. Collingwood alternated between which geographic unit he used throughout his error margin calculations. [Day 4 Tr. 149:25-150:3]. Instead of using a consistent geographic unit, Dr. Collingwood used whole counties where possible and then used the same process as Dr. Trende, re-aggregating the disaggregated block groups in the split counties and then combining the methods together. [Day 4 Tr. 149:25-150:3]. When using the county levels, Dr. Collingwood calculated a lower margin of error. [Day 4 Tr. 150:4-9].

GCM, 2016 WL 7320894, at *7 (W.D.N.C. Dec. 15, 2016) (citation omitted); *see also Goodwin v. Cockrell*, No. 4:13-CV-199-F, 2014 WL 6630105, at *1 (E.D.N.C. Nov. 21, 2014) (applying the reasoning of another district court that declined to exclude expert testimony "because this is a bench trial and the Court is capable of accessing [sic] the credibility of a witness's expertise, determining what evidence is helpful and what weight the evidence should be given at the time testimony is heard") (citations omitted); *United States v. Wood*, 741 F.3d 417, 425 (4th Cir. 2013) ("[B]ecause the district court was also the trier of facts, the district court's evidentiary gatekeeping function was relaxed, and the district court was in the best position to decide the proper weight to give the expert opinions.").

107.   Dr. Collingwood calculated the error margin for Demonstration District D-1 as plus or minus .594% when using whole counties plus block groups. [Day 3 AM Tr. 83:17-84:3; PX128 at 15].

108.   Dr. Collingwood agreed that one cannot be at least 90% certain that the true BVCAP of Demonstration District D is greater than 50%. [Day 3 AM Tr. 84:4-8]. Dr. Collingwood claimed it was "uncommon" to calculate margins of error in demonstration districts because "there's no known way to disaggregate the margin of error estimate from a block group to a block…so you're naturally going to be coming up with a fuzzy number in the first place." [Day 3 AM Tr. 84:19-24].

109.   These analyses show that, no matter the method employed, a true BCVAP of Demonstration District D below 50% cannot be ruled out as a matter of basic statistical methods. [Day 4 Tr. 150:12-17]. Thus, it cannot be said with a reasonable degree of scientific certainty that is standard in the field that Demonstration District D exceeds the 50% +1 BCVAP mark. [Day 4 Tr. 160:13-17]. Plaintiffs appear to ask the Court to disregard margins of error and credit the point estimate as the true BCVAP, under the theory that the true value may match or even exceed the point estimate. [*See* Day 4 Tr. 110:8-14]. This is unpersuasive. It is a common occurrence in statistics that one point estimate exceeds another, but both are within the margin of error—as where a survey shows one candidate with 47% support from likely voters and a second candidate with 48% support, where the margin of error is 3%. The discipline of statistics commands that those point estimates be deemed a "statistical tie," even though the higher figure may indeed be winning. It cannot be mathematically ruled out that the lower figure is winning. So too here.

110.   Dr. Collingwood also provided a margin of error analysis for every State Senate district in the enacted plan that includes the error margins from the Census. [Day 3 AM Tr. 81:3-

18; PX128 at 18]. These error margins range from as large as 1.76% (SD39) to as low as .21% (SD50). [Day 3 AM Tr. 82:1-15; PX128 at 18]. Dr. Collingwood agreed that even using the smallest reported error margin of .21% for the enacted Senate districts, 50% would still be inside the confidence interval for Demonstration District D and its 50.14% point estimate. [Day 3 AM Tr. 82:16-21].[5]

D. None of Mr. Esselstyn's demonstration districts were shown to comport with traditional redistricting criteria.

111.   None of Mr. Esselstyn's demonstration districts were configured according to neutral redistricting criteria that apply in North Carolina, and certainly not as compared to the enacted 2023 Senate Plan. Many of his demonstration districts are less compact than analogues in the 2023 Plan, all split more political subdivisions, and all fail to comply with *Stephenson*. Notably, Mr. Esselstyn failed to provide any testimony about how he considered communities of interest in creating his demonstration districts. This is because all redistricting criteria were subordinated to Mr. Esselstyn's goal of drawing districts exceeding a hard 50% majority-minority mark.

1. Demonstration District A

112.   Within Mr. Esselstyn's Demonstration Map A, Mr. Esselstyn drew a single majority-Black district (Demonstration District A) and four surrounding districts: A2, A4, A9, and A11. [Day 2 Tr. 12:9-15]. Mr. Esselstyn explained that he believes these districts, and the resulting plan, are "reasonably configured." [Day 2 Tr. 12:25-13:5]. This opinion is unsupportable.

113.   Demonstration District A contains all of the counties in northeastern North Carolina that Mr. Esselstyn identified as majority Black, with the exception of Edgecombe County, which counsel instructed him to exclude from the district. [Day 2 Tr. 65:6-11, 75:22-76:1]. Mr. Esselstyn

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[5] Dr. Alford testified credibly that 50% confidence intervals are not used in social science—instead, 95% confidence intervals are used. [Day 4 Tr. 123:10–23].

admitted that he included Washington County in Demonstration District A because of his goal of keeping the "Black vote counties" intact. [Day 2 Tr. 76:2-9].

> ### a. Demonstration District A's Districts are Less Compact than the 2023 Senate Plan's Corresponding Districts.

114.   In analyzing the compactness metrics of his demonstration districts, Mr. Esselstyn only reviewed the compactness of the districts themselves. [Day 2 Tr. 63:10-17]. Specifically, Mr. Esselstyn reviewed and reported both Polsby-Popper and Reock scores for his Demonstration Districts. [Day 2 Tr. 7:19-8:12, 27:8-16; PX069 at 27-28]. Mr. Esselstyn understood that, with both of these metrics, the higher the reported score is, the more "compact" a district's boundaries are. [Day 2 Tr. 27:8-16].

115.   But Mr. Esselstyn made no attempt to determine or report the compactness of the population itself for his demonstration districts, despite admitting that he is aware of peer-reviewed methods for testing population compactness [Day 2 Tr. 63:14-22]. As such, Mr. Esselstyn's compactness scores tell the Court nothing about the compactness of the minority population. [Day 2 Tr. 63:14-22].

116.   Even by his own metrics, several of Demonstration District A's surrounding districts were rendered less compact than their corresponding districts in the enacted 2023 Senate Plan. [PX069 at 29]. This is illustrated in Table 10 to Mr. Esselstyn's opening report:

Table 10: Compactness score comparison for Demonstration Map A

Demonstration Districts	A	A-2	A-4	A-9	A-11	Average
Reock	0.30	0.43	0.39	0.33	0.59	0.41
Polsby-Popper	0.32	0.33	0.21	0.14	0.38	0.28
Enacted 2023 Districts	1	2	4	9	11	Average
Reock	0.26	0.23	0.57	0.44	0.46	0.39
Polsby-Popper	0.21	0.10	0.41	0.23	0.38	0.27

[PX069 at 29, Table 10].

117.   Specifically, Demonstration Districts A-4 and A-9 score lower in both metrics than their enacted 2023 Senate Plan counterparts, and A-11's Polsby-Popper score is identical to enacted District 11. [PX069 at 29, Table 10]. Thus, while Demonstration District A's boundary lines may be marginally more compact than the enacted 2023 Senate Plan, at least half of its surrounding districts are far less compact.[6]

b. Demonstration District A creates county and city splits which the 2023 Senate Plan does not contain.

118.   Regarding county splits, Demonstration District A splits Wilson County between A11 and A4, while also splitting Carteret County between A2 and A9. [Day 2 Tr. 76:10-16]. These counties are kept whole in the enacted 2023 Senate Plan. [Day 2 Tr. 76:17-19].

119.   Despite recognizing that his plan created various population splits, Mr. Esselstyn admitted that he did not report the population percentages affected by the newly introduced splits. [Day 2 Tr. 82:18-22].

c. Demonstration District A violates *Stephenson*.

120.   Demonstration District A and its four redrawn districts were created using Dr. Mattingly's county grouping formula, which he then materially and artificially manipulated to freeze both Pitt and Edgecombe Counties in neighboring SD5. [Day 2 Tr. 13:6-9].

121.   In comparing his Demonstration District A and the enacted 2023 Senate Plan, Mr. Esselstyn admitted that his demonstration districts break apart several of the enacted plan's county groupings. [Day 2 Tr. 76:10-19]. Figures 6 and 9 of Mr. Esselstyn's opening report show these differences:

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[6] Notably, the General Assembly has no power to alter single-district county groupings like the ones present here, to make them more compact. [JX001]. Mr. Esselstyn had nearly unfettered discretion in drawing his demonstration districts.

Figure 6: Selected enacted 2023 North Carolina State Senate districts
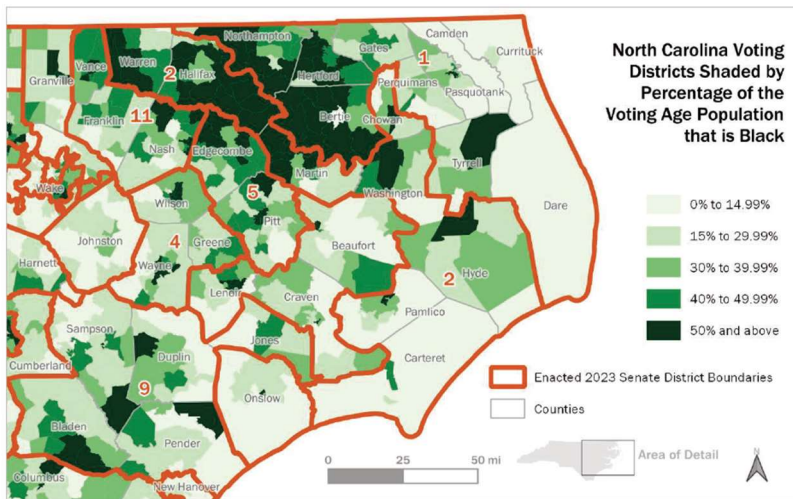
[PX069 at 13, Fig. 6].

Figure 9: Demonstration Map A districts that differ from enacted 2023 plan
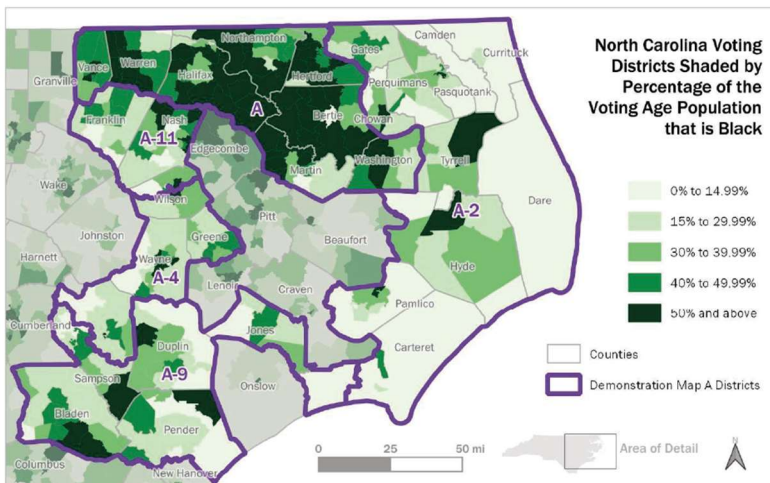
[PX069 at 17, Fig. 9].

122.   In creating Demonstration District A, Mr. Esselstyn offered a single county grouping made up of a large number of the counties located in the demonstration area. [Day 2 Tr. 76:23-77:10]. Figure 8 of Mr. Esselstyn's opening report shows this grouping:

35

Figure 8: Differing county groupings used in Demonstration Map A

[PX069 at 16, Fig. 8].

123.   In total, this grouping contains 23 counties, almost a quarter of the total number of counties in North Carolina. [Day 2 Tr. 77:5-13]. On re-direct, counsel pointed Mr. Esselstyn to the enacted 2011 House Plan, which he contends contained a 21 coun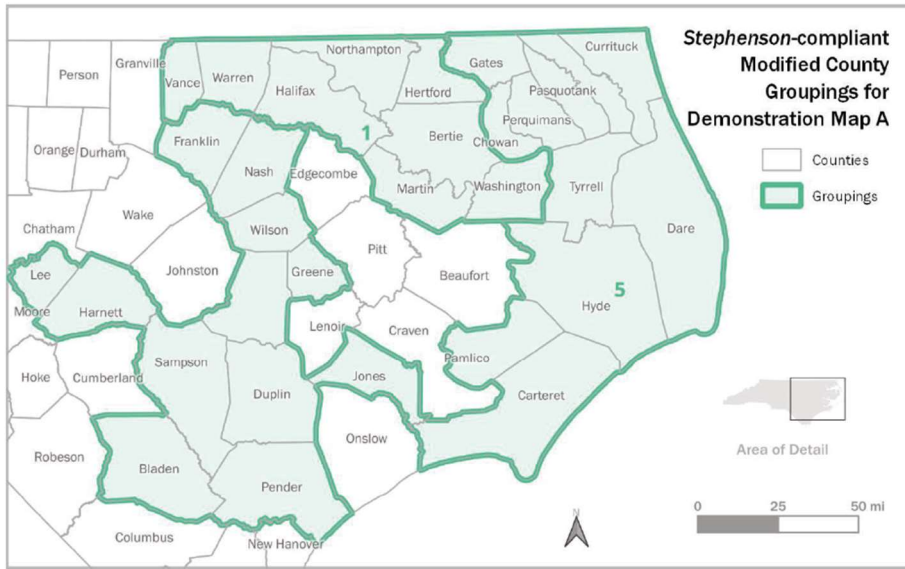ty[7] grouping cluster, in support of his belief that large groupings are "not unprecedented." [Day 2 Tr. 108:7-25]. But a monster grouping in a plan struck down as a racial gerrymander provides no support for Mr. Esselstyn or Dr. Mattingly's work.

124.   Moreover, all of Demonstration Map A is configured based on Dr. Mattingly's flawed county groupings, which improperly freeze Pitt and Edgecombe Counties.

125.   Dr. Mattingly's opinions in this case are based on an algorithm he and others developed to implement the *Stephenson* requirements. [LD047; Day 1 Tr. 158:5-14, 159:20-160:8].

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[7]   Notably, this referenced grouping actually comprised 20 counties. [*See* https://www.ncleg.gov/Files/GIS/Plans_Main/House_2011/mapGrouping.pdf].

126.   That algorithm was first published in a paper in the peer-reviewed journal Statistics and Public Policy on May 6, 2020. [LD047; PX01 at 3; Day 1 Tr. 160:16-23].

127.   According to that article, Dr. Mattingly "avoid[ed] considering race when clustering because the enacted clusters were adopted without considering the VRA (*Dickson v. Rucho*, December 2015), and were neither altered nor questioned when a special master corrected the districts to remedy racial prejudice (*Covington v. North Carolina*, 'Special master's recommended plan and report')." [LD047 at 20; PX01 at 1 ("We did not take account of the VRA and in effect assumed for purposes of that paper, without analyzing the issue or making any conclusion, that no district was required to be drawn under the Voting Rights Act.")]. The 2021 paper authored by Dr. Mattingly, Mr. Esselstyn, and others that identified *Stephenson*-compliant clustering options, given that the legislature also did not consider the VRA. [Day 1 Tr. 160:24-161:19; JX115].

128.   In October 2023, Dr. Mattingly modified the code for his algorithm to allow users to first draw a district, freeze that district, and then implement the *Stephenson* clustering procedure. [PX01 at 1, 4; Day 1 Tr. 177:13-18].

129.   Dr. Mattingly initially claimed that this ability was previously present in the algorithm, but the modifications made the ability "explicit." [Day 1 Tr. 177:15; PX01 at 4 ("In fall of 2023, as part of our research, we modified the code in our public repository to make it easier to run the algorithm while freezing particular counties. This possibility always existed in the algorithm; however, we modified the code to make this ability more explicit.")].

130.   These October 2023 modifications allowed a user "to freeze a VRA district and then cluster the rest of the state[.]" [Day 1 Tr. 163:8-10; PX01 at 4 (describing the changes as

allowing "the user to explicitly freeze several counties," and then "[f]rozen counties are removed from consideration and the standard Stephenson algorithm is run on the remaining counties")].

131. These October 2023 modifications of the algorithm were not peer-reviewed, Day 1 Tr. 181:1-19, and Dr. Mattingly admitted that this ability to freeze VRA districts was not described anywhere in the 2020 paper that was peer-reviewed. [Day 1 Tr. 178:17-179:12].

132. For this case, Plaintiffs' counsel instructed Dr. Mattingly to "take a number of Demonstration Districts as districts that satisfied the VRA…and then apply the *Stephenson* procedures to the remainder of the state after removing those Demonstration Districts." [Day 1 Tr. 158:10-14; *see also* Day 1 Tr. 163:16-21 (Dr. Mattingly was asked to "consider a number of demonstration districts as Voting Rights Act districts," to then "remove those districts from consideration," and then "apply the *Stephenson* algorithm to the remaining part of the state" to identify the county clusters)].

133. For Demonstration District A, Dr. Mattingly was asked to "first freeze" Demonstration District A, "and then apply the algorithm to the rest of the state and the resulting county clusters." [Day 1 Tr. 164:12-18].

134. Plaintiffs' counsel also instructed Dr. Mattingly "to freeze the Pitt-Edgecombe single district cluster." [PX01 at 6; Day 1 Tr. 164:19-24]. This freezing, which the General Assembly could not do in drawing the enacted plan, resulted in different county clusters than those Mr. Esselstyn identified in his report. [Day 2 Tr. 104:3-21].

135. The result is a single-district cluster consisting of Demonstration District A (light yellow), and a single-district cluster consisting of Pitt and Edgecombe Counties (purple). [PX01 at 6; Day 1 Tr. 164:23-165:17].

136. Dr. Mattingly admitted that when a Pitt-Edgecombe district is not frozen, Pitt County is grouped with Beaufort County in a cluster, and Edgecombe County is grouped with Franklin and Nash Counties in a cluster. [Day 1 Tr. 165:24-167:24; PX114 at 1-2; *see also* Day 2 Tr. 104:3-105:10 (Mr. Esselstyn recognizing that Dr. Mattingly's rebuttal report identifies single county groupings of Franklin, Nash, and Edgecombe Counties in one grouping, and Pitt and Beaufort Counties in another)]. As explained above, the Pitt-Edgecombe district (SD5) is a performing minority crossover district naturally occurring as the result of North Carolina law rather than as the result of racially predominant line-drawing. Accordingly, the configuration presented in Demonstration Map A dismantles an existing opportunity district created by race-neutral means and replaces it with a district (Demonstration District A) purposefully drawn to hit a racial target at the expense of neutral criteria.

137. No demonstration districts were drawn using these naturally created groupings. Instead, Demonstration Map A is based only on the results of Dr. Mattingly's manipulated algorithm designed to preserve the additional Democratic district in Pitt/Edgecombe.

2. Demonstration District B

138. Mr. Esselstyn's Demonstration District B contains Bertie, Chowan, Gates, Halifax, Hertford, Martin, Northampton, Warren, and part of Pasquotank Counties. [PX069 at 18]. Demonstration District B's BVAP is below 50%, based on the 2018-2022 estimates and marginally above in 2016-2020 estimates. [Day 2 Tr. 60:3-14, 78:3-6; PX069, Attachment F at 3]. Mr. Esselstyn admitted that Demonstration District B is not a majority-BVAP district. [Day 2 Tr. 78:3-6].

139. Demonstration District B splits Pasquotank County between District B and B-2, much like it splits Elizabeth City between B and B-2. [Day 2 Tr. 78:10-16]. Figure 11 to Mr. Esselstyn's opening report shows this split:

Figure 11: Demonstration Map B
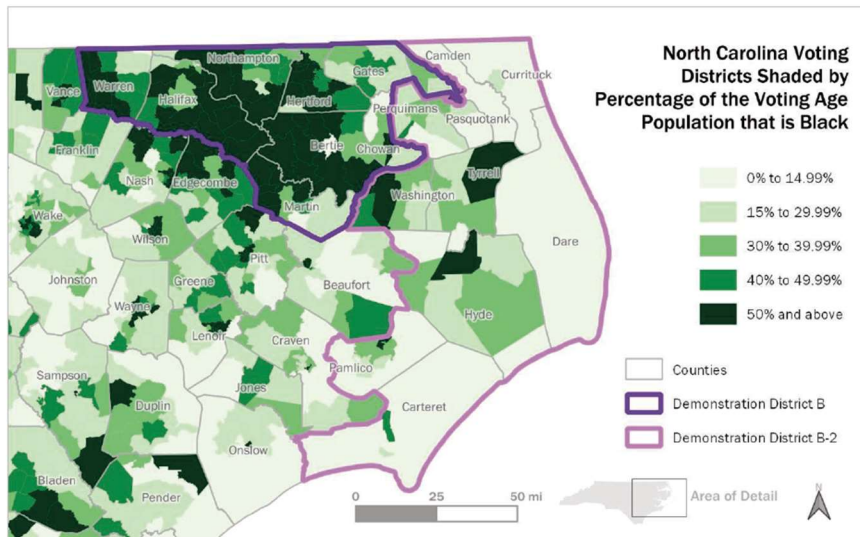
[PX069 at 20, Fig. 11].

140. This racial makeup of the district is further illustrated by Figures 11, and 13 in Dr. Trende's report:

Figure 11: District B-1 Block Choropleth
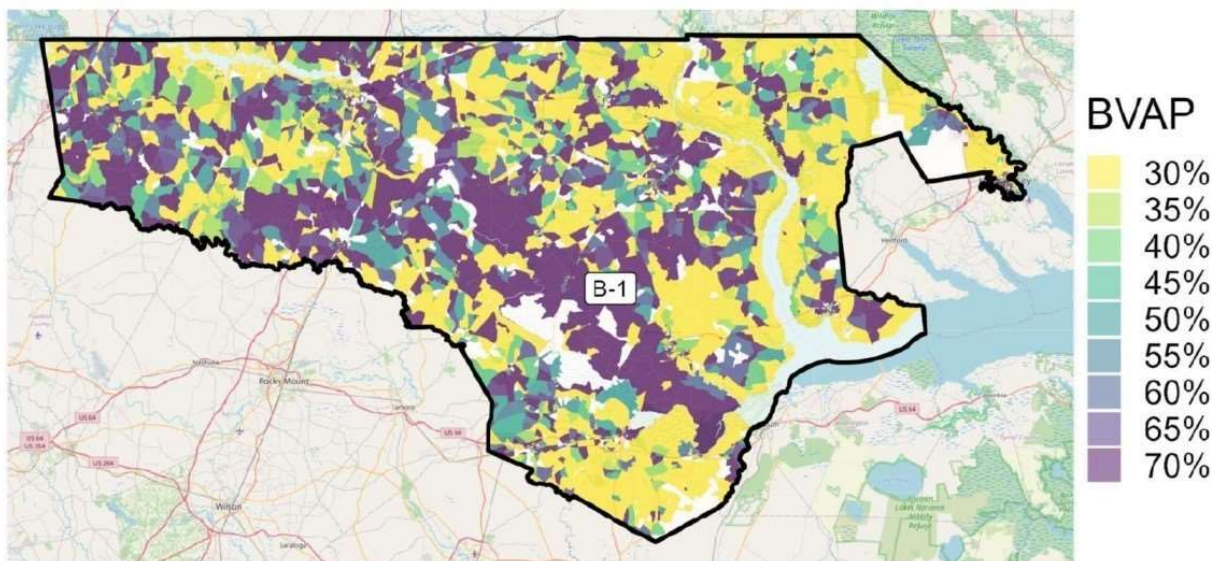
© OpenStreetMap contributors

[LD060 at 29, Fig. 11].

Figure 13: Racial Dotplot, District B-1. One blue dot = 10 Black Residents of Voting Age; One Orange 'x' = 10 White Residents of Voting Age.
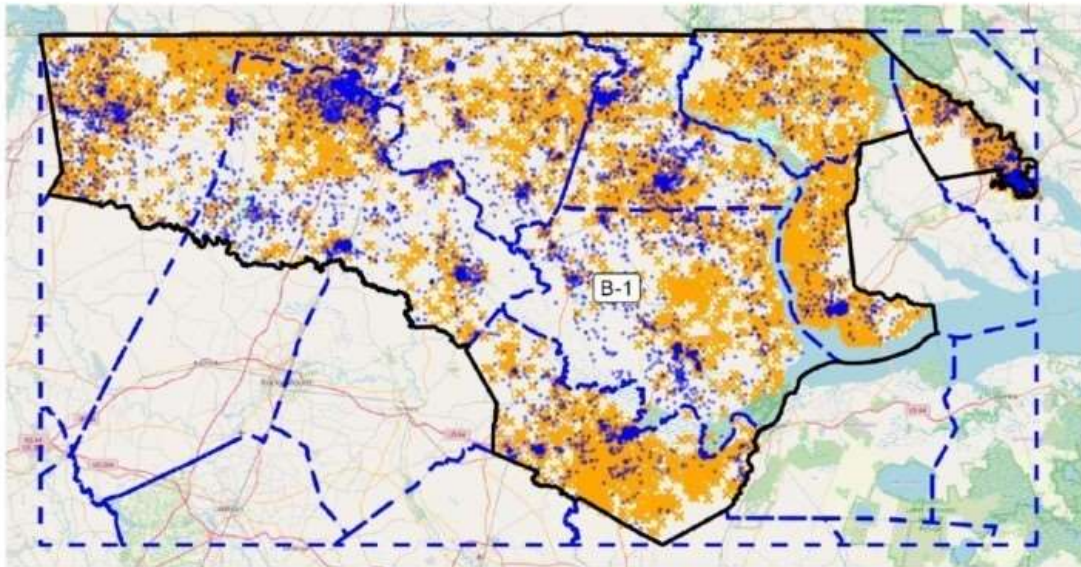
[LD060 at 30, Fig. 13].

3. Demonstration District D

141.   Mr. Esselstyn's Demonstration District D contains Bertie, Gates, Halifax, Hertford, Martin, Northampton, Tyrrell, Warren, Washington, and a portion of Pasquotank Counties. [PX069 at 23-24].

142.   Mr. Esselstyn admitted that Demonstration D is not a majority-BVAP district. [Day 2 Tr. 20:23-21:4, 79:16-18].

a. Demonstration District D creates county and city splits which the 2023 Senate Plan does not contain.

143.   Demonstration District D introduces the same split to Pasquotank County which Demonstration District B uses to capture the majority-Black VTDs. [Day 2 Tr. 79:12-15]. Figure 15 to Mr. Esselstyn's opening report shows this split:

Figure 15: Map of Demonstration District D
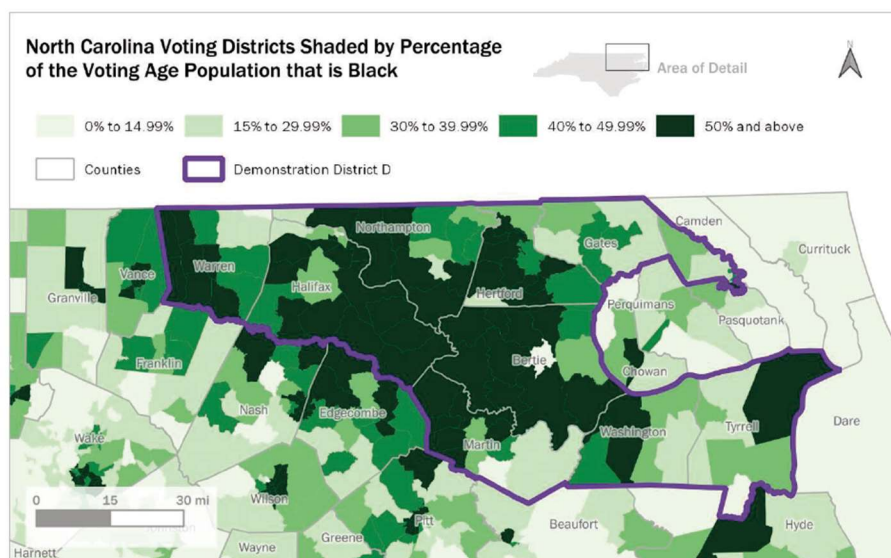
[PX069 at 24, Fig. 15].

> **b.** **Race Predominated in the Drawing of Demonstration Districts B and D.**

144. Mr. Esselstyn's predominant purpose in creating Demonstration Districts B and D was hitting a racial target. Although he denied this, the *Stephenson* doctrine leaves little room to hide predominant racial intent beyond assertions about "other criteria" and "other characteristics." [Day 1 Tr. 230:14-17]. After Mr. Esselstyn drew these districts, new *Stephenson* groupings were assembled around the demonstration district by Dr. Mattingly. [PX69 at. 19, 25]. None of these groupings were the same as the groupings enacted by the General Assembly in the 2023 Plans, or even the groupings identified by the original algorithm that did not consider race. [*Compare* PX69 Figures 3 and 6 *with* Figures 11 and 16.]. It is incredible for Mr. Esselstyn to suggest that race did not predominate over at least county-grouping doctrine, since none of his demonstration districts

would have even arguably exceeded any 50% minority threshold without subordinating the grouping requirements to racial goals.

145. Moreover, Mr. Esselstyn's goal of grouping Black voting counties together to achieve a racial quota is evident in many of his chosen boundary lines. For example, Demonstration Districts B and D split Pasquotank County, seeking out the majority-Black VTD's and placing them within the districts while excluding the ones below 50%. [Day 2 Tr. 78:21-79:5]. This targeted display is best seen in Figures 14, 15, and 16 to Dr. Trende's report:

Figure 14: BVAP % of Blocks, Pasquotank County, NC

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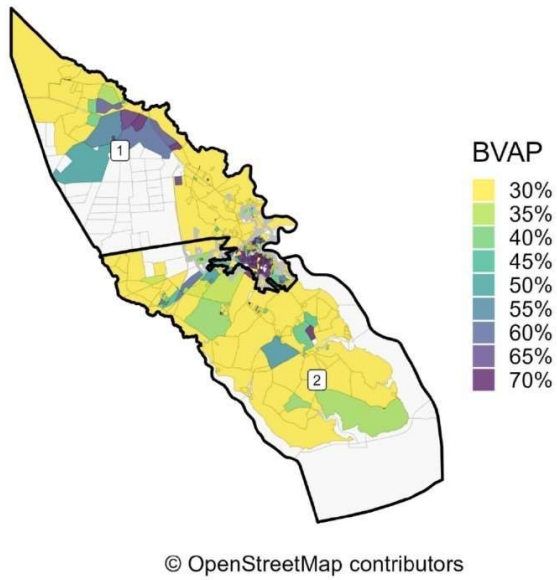
[LD062 at 31, Fig. 14].

Figure 15: BVAP % of VTDs, Pasquotank County, NC, with city boundaries and district lines superimposed.

© OpenStreetMap contributors
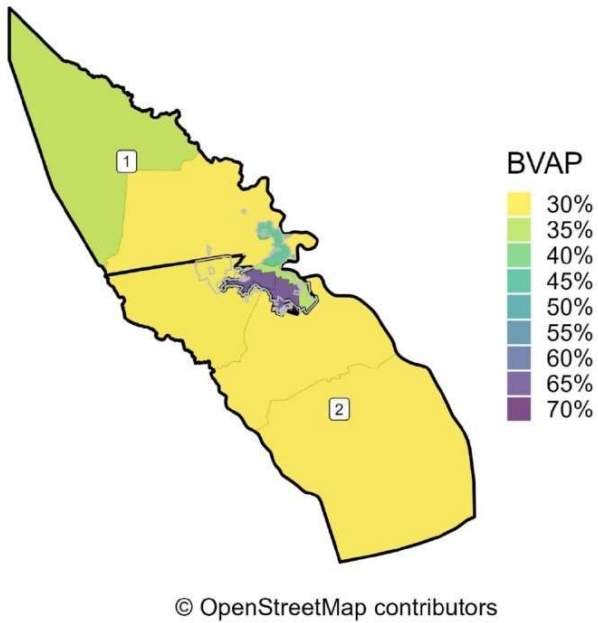
[LD062 at 32, Fig. 15].

Figure 16: Racial Dotplot, District B-1, Pasquotank County, NC. One blue dot = 10 Black Residents of Voting Age; One Orange 'x' = 10 White Residents of Voting Age.
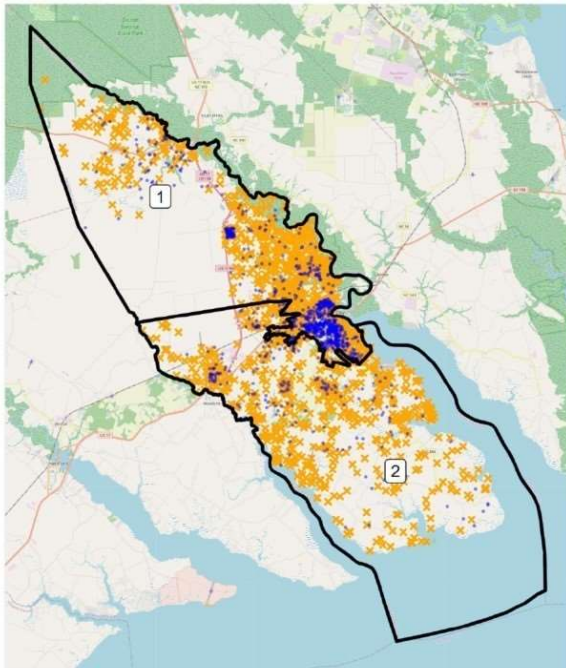
[LD060 at 33, Fig. 16].

146.   Mr. Esselstyn does not dispute this, and in fact admitted that none of the VTDs in

Pasquotank with 50% or higher BVAP were placed in Demonstration District B-2, meaning that

all were placed in Demonstration District B-1, which he was attempting to make majority-Black.

[Day 2 Tr. 78:21-79:5].

4.   Demonstration District C

147.   For Demonstration District C, Mr. Esselstyn created a district which incorporated

Chowan and Gates Counties. [Day 2 Tr. 15:10-19]. Demonstration District C also divided Vance

County, which was kept whole in Demonstration District A and in the enacted 2023 Senate Plan.

[Day 2 Tr. 15:10-19, 80:6-19; JX001]. To complete Demonstration Map C, Mr. Esselstyn drew

three other districts: C-2, C-4, and C-11. Figure 14 to Mr. Esselstyn's opening report shows

Demonstration Map C:

Figure 14: Demonstration Map C districts differing from enacted 2023 plan
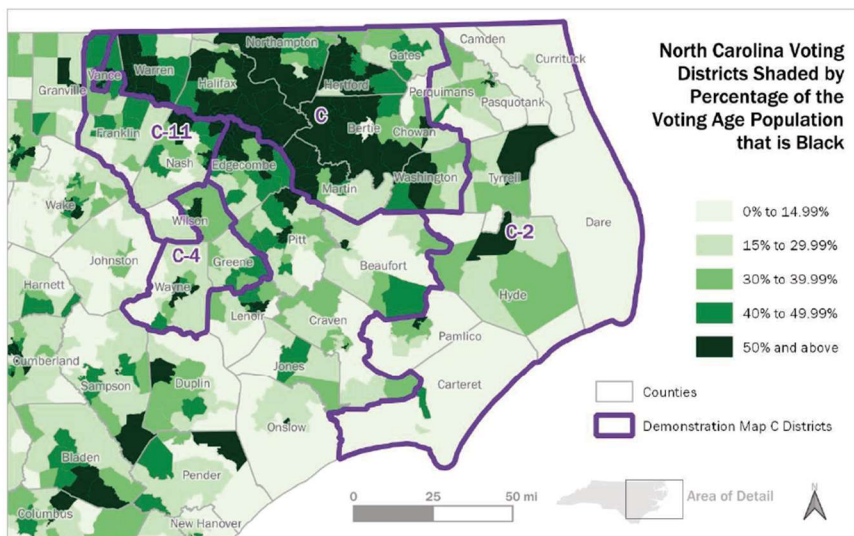
[PX069 at 23, Fig. 14].

a. Demonstration Map C's Districts are Less Compact than the 2023 Senate Plan's Corresponding Districts.

148. Mr. Esselstyn admitted that both Demonstration Districts C-4 and C-11 are less compact than their corresponding districts in the enacted 2023 Senate Plan, using either Reock or Polsby-Popper district boundary compactness metrics. [Day 2 Tr. 80:20-81:24]. This is further illustrated in Table 12 to Mr. Esselstyn's opening report:

Table 12: Compactness score comparison for Demonstration Map C

Demonstration Districts	C	C-2	C-4	C-11	Average
Reock	0.37	0.37	0.49	0.33	**0.39**
Polsby-Popper	0.36	0.32	0.32	0.23	**0.31**
Enacted 2023 Districts	1	2	4	11	Average
Reock	0.26	0.23	0.57	0.46	**0.38**
Polsby-Popper	0.21	0.10	0.41	0.38	**0.28**

[PX069 at 29, Table 12].

b. Demonstration District C creates county and city splits which the 2023 Senate Plan does not contain.

149. Vance County, which was split in Demonstration District C, was kept whole in the enacted 2023 Senate Plan. [Day 2 Tr. 80:6-19]. Mr. Esselstyn also admitted that Demonstration District C splits the city of Henderson. [Day 2 Tr. 80:9-14]. Demonstration District C also splits Wilson County between Demonstration Districts C-11 and C-4, despite the county being kept whole in the enacted 2023 Senate Plan. [Day 2 Tr. 82:12-17].

c. Demonstration District C violates *Stephenson*.

150. Mr. Esselstyn's Demonstration Districts C, C-2, C-4, and C-11 are all based on a selection of modified county groupings, which Mr. Esselstyn claimed were dictated by Dr. Mattingly's generated groupings. [Day 2 Tr. 83:2-13]. Figure 13 to Mr. Esselstyn's opening report shows these modified county groupings:

Figure 13: Modified county groupings used in Demonstration Map C
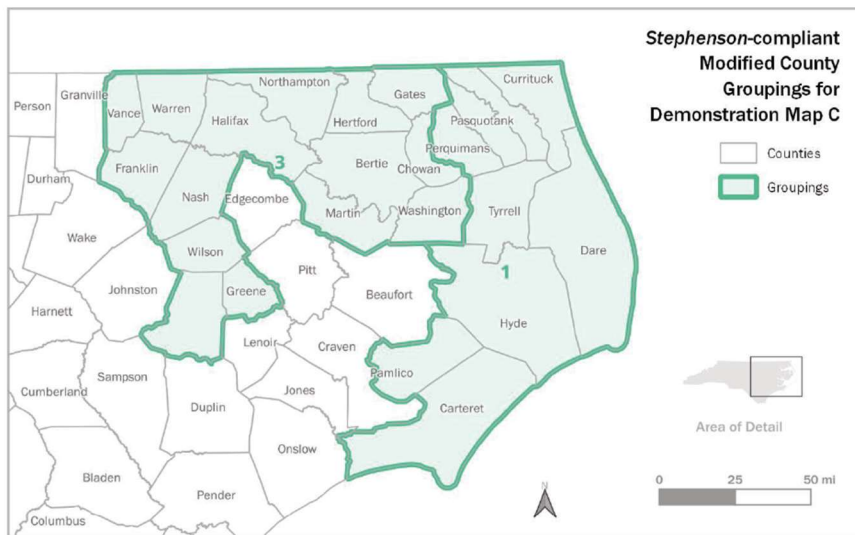
[PX069 at 22, Fig. 13].

151. Mr. Esselstyn admitted that Demonstration District C did not split the most populous counties in the grouping; rather, he chose to split Vance and Wilson counties. [Day 2 Tr. 83:14-85:4]. This is in spite of the fact that Mr. Esselstyn admitted that he understood counties such as Franklin and Nash, both of which border other counties in Demonstration District C but which Mr. Esselstyn chose not to split, have larger populations than those counties he chose to split. [Day 2 Tr. 84:24-85:21]. This itself is a violation of *Stephenson. See Pender County v. Bartlett,* 361 N.C. 491, 507-09, 649 S.E.2d 364, 374-76 (2007).

152. Dr. Mattingly claimed that his algorithm utilized different methodologies for freezing a VRA district when that district splits a county, as Demonstration Districts C and D do. [*See* PX01 at 5].

153. He claimed that method one removes the frozen VRA district along with the split from the clustering exercise, where it is treated as its own district, and the algorithm is applied to the remaining part of the map. [Day 1 Tr. 197:3-9].

154. Method two treats the frozen district along with the split as if it were part of a cluster containing the entirety of the frozen district along with other districts in the cluster, "allow[ing] the possibility of it to be part of a larger county cluster." [Day 1 Tr. 197:22-198:2].

155. The map included with Dr. Mattingly's back-up data for method two showed Demonstration District C in a three-district grouping (light yellow). [Day 1 Tr. 201:15-19; LD074 at 3]. He agreed that "this number three makes sense because in method two district C would be included in a county cluster with two other districts." [Day 1 Tr. 201:20-25]. Dr. Mattingly also agreed that method one "differs" from method two because, in method one, "you would have pulled district C with its portion of the split county and apply the county clustering rules [on] the remainder of the area as if Districts C were its own individual district." [Day 1 Tr. 202:6-11].

156. But the map included with Mattingly's back-up data for method one showed Demonstration District C not on its own, but instead in a three-district grouping (light yellow) with two other districts. [Day 1 Tr. 202:25-203:11; LD073 at 3].

157. Dr. Mattingly could not credibly explain this result, claiming he "misspoke" and that it was "a little tricky to say." [Day 1 Tr. 203:13-14].

158. He began by claiming that the non-frozen part of the county would be "clustered with somebody else to create a new county clustering." [Day 1 Tr. 205:3-4]. That would suggest that the portion of Vance County not in Demonstration District C would be clustered with adjoining counties in a different grouping from the demonstration district.

159. But Dr. Mattingly then claimed that "when you report it, the state is not interested in some made-up split county that you created to run the algorithm" and "you report it as the whole cluster because now the county cluster is this demonstration district and the county here and all the part it was connected to." [Day 1 Tr. 205:4-9].

160. He attempted to further explain with an example of Pasquotank County, claiming that "Pasquotank A" would be in the demonstration district, and "Pasquotank B" would not be in the demonstration district. [Day 1 Tr. 206:4-6]. He said that "then you perform the county clustering and when you're done you'll have a county clustering that contains Pasquotank B." [Day 1 Tr. 206:6-8]. He then claimed "that doesn't make any sense, right? You need to report [the] full county cluster" and that "when you report the cluster, you report [the] Demonstration District and the one that it was joined to because Pasquotank is just one county." [Day 1 Tr. 206:9-13].

161. When asked about his earlier testimony about treating the Demonstration District and its split as its own cluster, Dr. Mattingly backtracked and said he was "speaking in a simplified manner about" Demonstration District A, which does not split counties. [Day 1 Tr. 207:6-10]. But Dr. Mattingly admitted that his prior testimony about methods one and two was about split counties. [Day 1 Tr. 207:18-24].

162. Dr. Mattingly then claimed that when demonstration districts split counties, "you have to be slightly more subtle about it" and "[y]ou have to pull off that part and treat it as already clustered; but then when you create the new cluster, whatever cluster that county would be joined with, you connect them all together to make one cluster." [Day 1 Tr. 207:12-17].

163. When asked about his conflicting descriptions, Dr. Mattingly claimed again that he misspoke and "shouldn't have said" that Demonstration District C would be "its own cluster." [Day 1 Tr. 207:25-208:4].

164. Dr. Mattingly maintained that Demonstration District C is "pulled off separately" and "removed completely from the map," but that when "part of a county is left, it's made into its own county, and then the algorithm is run to create county clusters, and then…the Demonstration District is joined back with the county cluster that would be with its fused county." [Day 1 Tr.

208:5-13]. Dr. Mattingly admitted that his maps were not showing the method where he "pulled that area off to make its own grouping," and instead only showed "the resulting county clusters at the end." [Day 1 Tr. 208:14-17].

165. There are multiple problems with Dr. Mattingly's revised explanation for method one. First, the revised explanation for method one appears to be describing the same method as method two, where the frozen district is "part of a larger county cluster" with the non-frozen part of the split county. [Day 1 Tr. 197:22-198:2].

166. Second, this revised explanation is inconsistent with his description of the two methods in his expert report. [*See* PX01 at 5].

167. Third, the revised explanation is also contrary to the approach he repeatedly described in his earlier testimony and that was used for Demonstration District A, which was to "consider a number of demonstration districts as Voting Rights Act districts," to then "remove those districts from consideration," and then "apply the Stephenson algorithm to the remaining part of the state" to identify the county clusters. [Day 1 Tr. 163:16-21; Day 1 Tr. 163:8-10; *see also* Day 1 Tr. 164:12-18 (explaining he was asked to "first freeze" Demonstration District A, "and then apply the algorithm to the rest of the state and the resulting county clusters."); Day 1 Tr. 158:10-14 (Dr. Mattingly stating he was asked to "take a number of Demonstration Districts as districts that satisfied the VRA…and then apply the Stephenson procedures to the remainder of the state after removing those Demonstration Districts."); Day 1 Tr. 158:25-159:3 (describing the Stephenson ruling as requiring the state to "first…consider the Voting Rights Act and remove any districts that are needed to satisfy the Voting Rights Act" and then "take the remainder of the state" and "look at each individual county."); Day 1 Tr. 186:22-24 (describing one of the ways to implement Stephenson with split counties as "remov[ing] the Demonstration District completely

from the state, cut it out and leave the rest of the state and run the algorithm on what's left."); Day 1 Tr. 158:10-14; PX01 at 4].

168.   Under that approach, Demonstration District C (including the portion of Vance County in that district) would be frozen in its own grouping, and removed from the population available for further grouping of counties, and the non-frozen portion of Vance County would fit in a different grouping with the adjoining counties to the south.

169.   Dr. Mattingly's report and back-up data instead shows Demonstration District C in a three-district grouping (rust) with two other districts for both his methods one and two. [Day 1 Tr. 168:11-25, 208:18-22; PX01 at 8-9; LD073 at 3; LD074 at 3]. Similarly, Demonstration District D is placed in a two-district grouping under both methods (light yellow). [Day 1 Tr. 169:22-170:2; PX01 at 9-10].

170.   Dr. Mattingly's methodologies for freezing a district that splits a county were implemented specifically for this case. [PX01 at 5]. These changes to Dr. Mattingly's code were made in May 2024, LD49, and were not peer-reviewed. [Day 1 Tr. 180:15-19].

171.   Dr. Mattingly admitted that one of his co-authors, Greg Herschlag, committed the changes to the code, which involved at least 130 additions and 9 deletions. [Day 1 Tr. 185:20-186:4; LD049]. Dr. Herschlag also prepared the back-up data for Dr. Mattingly's report in this case. [Day 1 Tr. 198:11-17].

172.   While Dr. Mattingly claimed at some points that these changes to the code were unnecessary, he acknowledged in other places that these changes were necessary because there were "two different ways to interpret Stephenson" and one of them "required a slight modification, which we did." [Day 1 Tr. 181:9-12].

d. Race Predominated in the Drawing of Demonstration District C.

173.   Race predominated in Mr. Esselstyn's creation of Demonstration District C. As with other demonstration districts, Mr. Esselstyn first created Demonstration District C to be majority-Black. Only after the creation of Demonstration C, were new *Stephenson* groups assembled around the demonstration district. None of these groupings were the same as the groupings enacted by the General Assembly in the 2023 Plans, or the groupings identified by the original algorithm that did not consider race. [*Compare* PX69 Figs. 3 and 6 *with* Fig. 13]. Race came first and other criteria were subordinate.

174.   Additional confirmation of predominance abounds in the record. Mr. Esselstyn created his Demonstration District C with an arm that reaches in to capture a five-mile-wide area with the largest concentration of Black voters and split the city of Henderson. [Day 2 Tr. 89:5-90:13]. Choropleth maps are shaded "area-based" maps that can be used to depict the racial distribution of residents of voting age in Plaintiffs' Demonstration Districts. [LD060 at 25]. Choropleth maps at both the Census Block and VTD levels show the arm reaching into Vance County and picking up the highest concentration of Black voting age residents, represented by dark purple shading:

Figure 21: District C-1 Block BVAP Choropleth, Vance County, NC
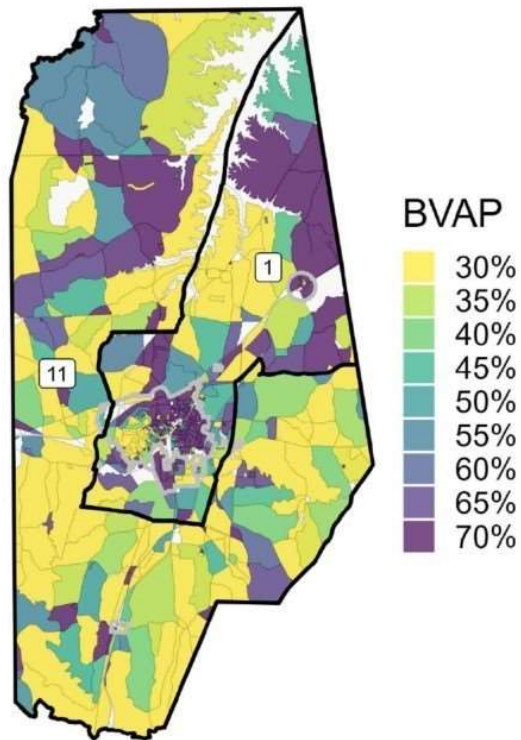
© OpenStreetMap contributors

[LD060 at 38, Fig. 21].

Figure 22: District C-1 VTD BVAP Choropleth, Vance County, NC
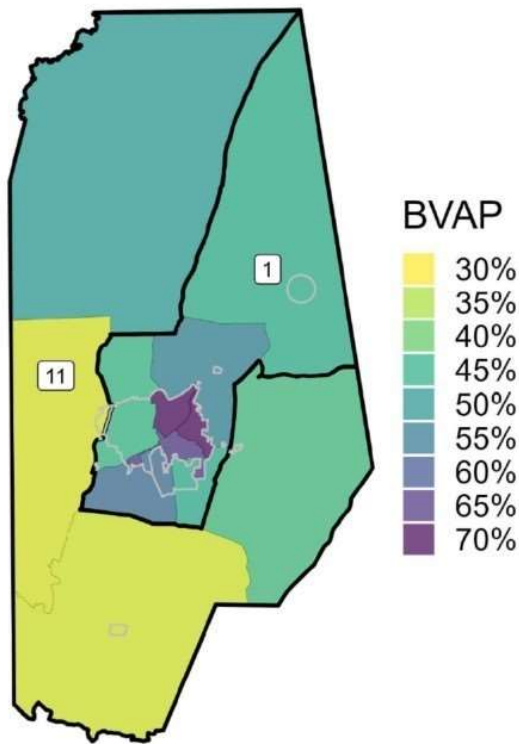
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[LD060 at 39, Fig. 22].

175.   These color scales are truncated at 30% and 70% BVAP to focus in on crucial data points between 40% and 60% BVAP. [LD060 at 27].

176.   In addition to choropleth maps, dot density maps, like those credited in *Bethune-Hill v. Virginia State Bd. of Elections*, 326 F. Supp. 3d 128, 146 (E.D. Va. 2018) (three-judge court), depict the distribution of residents of districts by race [LD060 at 27], as shown below:

Figure 23: Racial Dotplot, District C-1, Vance County, NC. One blue dot = 10 Black Residents of Voting Age; One Orange 'x' = 10 White Residents of Voting Age.
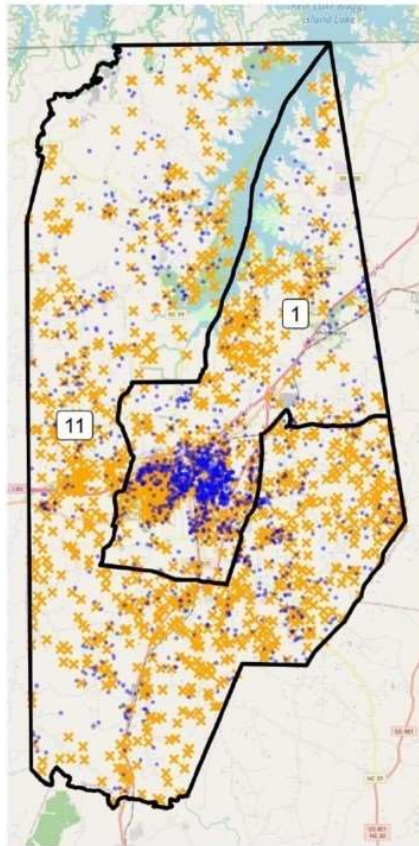
[LD060 at 40, Fig. 23].

177.   Specifically, Mr. Esselstyn's Demonstration District C puts 63% of Vance County's Black population in Demonstration District C-1, putting the remaining 37% in Demonstration District C-11. [Day 2 Tr. 16:11-13, 46:19-47:1, 80:6-8].

E.   Mr. Esselstyn's Criticisms of Dr. Trende Reveal the Flaws in Mr. Esselstyn's Methodology.

178.   Mr. Esselstyn's rebuttal report criticizes Dr. Trende's use of plots, which used an orange "X" marker for populations of white people of voting age and a blue dot for Black people of voting age [PX147 at 25]. Mr. Esselstyn also testified that he believed that the "X" is 3.4 times larger than the dot. [Day 2 Tr. 41:18-23; PX147 at 25]. However, it is unclear how Mr. Esselstyn can credibly make these claims, as Mr. Esselstyn admitted that he did not run **any** of Dr. Trende's

code himself. [Day 2 Tr. 35:6-13]. Thus, he is unable to rebut Dr. Trende's testimony that he set the size parameter for both the "X" and dots at 1 within his R code. [Day 4 Tr. 162:22-163:14, 198:3-23].

179.   While Mr. Esselstyn could have run Dr. Trende's code and altered any sizing he felt was misleading, he chose not to. Instead, he used Maptitude to create his own dot plots, which he claimed are more representative of Black and white population concentrations. [Day 2 Tr. 88:15-24]. Figure 5 of Mr. Esselstyn's rebuttal report shows these two dot plots side by side:

Figure 5: Comparison of two dot density maps by different mapmakers
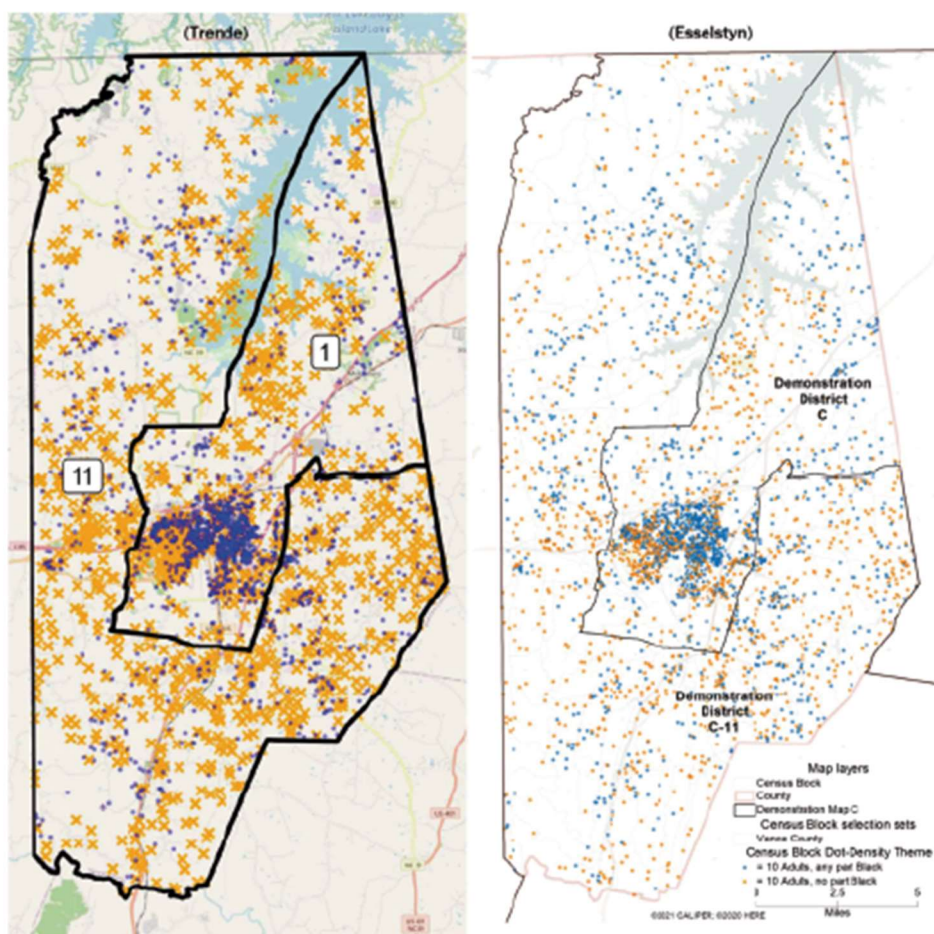
[PX147 at 27, Fig. 5].

180.   These figures speak for themselves, and even Mr. Esselstyn's image shows Demonstration District C's arm reaching into Henderson to excise the Black Population. [*Id.*]. Indeed, Dr. Trende testified that, when looking at these two figures side by side on the courtroom screen, Mr. Esselstyn's version made the cluster of blue dots in Henderson look even more prominent. [Day 4 Tr. 200:2-8].

VI.   Voting Patterns in North Carolina and Relevant Regions

181.   Questions concerning voting patterns by race in North Carolina (with a focus on northeastern North Carolina) are relevant to the issues in this case.

182.   Plaintiffs offered Dr. Collingwood's opinions to justify their demand for a majority-Black district. Dr. Collingwood's opinions lacked credibility on certain points and do not serve the purposes for which they are offered.

A.   Dr. Collingwood's Analysis Shows Substantial Levels of Crossover Voting

183.   Dr. Collingwood first examined elections to show a divergence in voting patterns along racial lines. [PX36 at 1]. His analysis, however, shows substantial levels of white crossover voting.

184.   Dr. Collingwood defined polarization as 50% plus one support by one racial group for one candidate and 50% plus one support by another racial group for another candidate. [PX36 at 1]. That standard practically guarantees a finding of polarization. [*See* Day 4 Tr. 94:9-11].

185.   Dr. Collingwood conducted his racially polarized voting analysis (and his BVAP analysis) on a 12-county "Demonstration Area" consisting of Bertie, Chowan, Gates, Halifax, Hertford, Martin, Northampton, Pasquotank, Tyrrell, Vance, Warren, and Washington Counties. [Day 2 Tr. 174:15-25; PX36 at 11].

186. This area includes counties that were not in every demonstration district, [Day 3 AM Tr. 54:15-17], and excluded several counties in enacted SD1 (Perquimans, Camden, Currituck, and Dare) and SD2 (Carteret, Pamlico, Hyde). [D.E. 105 at 11 (¶¶ 31-32)].

187. Crossover voting—when white voters vote for a candidate preferred by Black voters—"occurs differently in different places" and in "different race[s]." [Day 3 AM Tr. 20:2-6, 34:13-16].

188. Dr. Collingwood's analysis showed meaningfully higher levels of white crossover voting in enacted SD1 and SD2 than in Dr. Collingwood's Demonstration Area. [*See, e.g.*, Day 3 AM Tr. 34:6-9; Day 3 AM Tr. 24:2-26:21]. The average crossover voting in the Demonstration Area was also significantly lower than the statewide average of 25% and 31%. [Day 3 AM Tr. 20:11-17].

189. In 2022 contests, crossover voting in enacted SD1 ranged from 19.4% to 22.3%, and from 15.8% to 17.8% in enacted SD2. [Day 3 AM Tr. 23:16-20; PX36 at 28]. In the same elections in the Demonstration Area, crossover voting ranged from 10% to 13.4%. [Day 3 AM Tr. 23:21-24:1; PX36 at 29].

190. In 2020 contests, crossover voting in enacted SD1 ranged from 17.2% to 22.6%, and from 12.6% to 20.4% in enacted SD2. [Day 3 AM Tr. 24:6-17; PX36 at 31]. In the same elections in the Demonstration Area, crossover voting ranged from 8.9%to 18%. [Day 3 AM Tr. 24:19-25; PX36 at 32].

191. In 2018 contests, crossover voting in enacted SD1 ranged from 24.2% to 26.2%, and from 20.4%to 22.4% in enacted SD 2. [Day 3 AM Tr. 25:5-10; PX36 at 36]. In the same elections in the Demonstration Area, crossover voting ranged from 8.9% to 18%. [Day 3 AM Tr. 25:11-17; PX36 at 38].

192. In 2016 contests, crossover voting in enacted SD1 ranged from 19.8% to 51.6%, and from 18% to 43% in enacted SD 2. [Day 3 AM Tr. 25:21-26:9; PX36 at 40]. In the same elections in the Demonstration Area, crossover voting ranged from 13.9% to 43.46 %. [Day 3 AM Tr. 26:10-16 PX36 at 41].

193. Dr. Collingwood's analysis of SD5 (40.35% BVAP), comprising Pitt and Edgecombe Counties, showed Black-preferred candidates won all but one of the 2022 contests with over 52% of the vote. [Day 3 AM Tr. 72:2-10; PX128 at 23; D.E. 105 at 12 (¶ 38)]. Black-preferred candidates won all of the 2020 contests with over 54% of the vote, with some around 60%, all of the 2018 contests with over 52% of the vote, and all of the 2016 contests with over 53% of the vote. [Day 3 AM Tr. 72:12-73:10; PX128 at 24-26].[8]

194. Dr. Collingwood's analysis of the 2024 election also confirms high levels of crossover voting in SD1 and SD2 compared to his Demonstration Area. Crossover voting in enacted SD1 ranged from 17.1% to 23.1% and 13.3% to 26.6% in enacted SD2. [PX279 at 24-25]. In the Demonstration Area, crossover voting ranged from 7.3% to 18.5%. [PX279 at 26].

195. As with prior elections, SD5 performed for the Black-preferred candidate in the 2024 elections with a mean victory of 12.6 percentage points and a success rate of 100%. [PX279 at 18].

B. Fifty-percent BVAP Districts Are Not Necessary

196. Dr. Collingwood offered the opinion that SD1 and SD2 will not elect Black-preferred candidates. [*See* Day 3 AM Tr. 141:21-142:5]. Even if that is true, Dr. Collingwood's

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[8] This high level of crossover voting is consistent with the testimony of Plaintiffs' witness, former Congressman Butterfield, who testified that Pitt County is a "progressive" county, [Day 1 Tr. 17:18–19], and that Democratic candidates and minority candidates "do very well in Pitt County" and there is "good coalition building between the races in Pitt County." [Day 1 Tr. 35:6–9].

own data show that no demonstration district needs to be 50% BVAP to ensure equal electoral opportunity or even a very high likelihood of Black electoral success.

197. Dr. Collingwood's electoral performance analysis shows that the Black-preferred candidate won all of the contests in the demonstration districts with win margins on average between 10 and 20 points. [Day 3 AM Tr. 4:14-19].

198. In 2022, the Black-preferred candidate wins every contest in Demonstration Districts A, B, C, and D by an average of between 6 and 10 percentage points. [Day 3 AM Tr. 181:7-14; PX36 at 19-20].

199. In 2020, the Black-preferred candidate wins every contest, with an average win margin of 21% in Demonstration District A, 19% in Demonstration District C, and 18% in Demonstration District D. [Day 3 AM Tr. 181:23-182:9; PX36 at 20-21].

200. In 2018, the Black-preferred candidate wins every contest in Demonstration Districts A, B, C, and D with around 60% of the vote. pDay 3 AM Tr. 182:13-21; PX36 at 21-22].

201. In 2016, the Black-preferred candidate wins every contest in Demonstration Districts A, B, C, and D typically by a margin of greater than 20%. [Day 3 AM Tr. 182:22-183:7; PX36 at 22-23].

202. Dr. Collingwood agreed that the results of his performance analysis were evidence that Demonstration Districts A, C, and D—drawn at 51.47% BVAP, 50.21% BVAP, and 49.22% BVAP, respectively—did not need to be drawn above 50% BVAP to perform as Black opportunity districts. [Day 3 AM Tr. 6:12-7:13].

203. Even in Demonstration District D, the district with the lowest BVAP of 49.2%, the Black-preferred candidate won every election in 2022 by an average of 7.4%. [Day 3 AM Tr. 7:14-8:16, 9:6-11; PX36 at 20].

204.   Dr. Collingwood's performance analysis based on the 2024 elections confirms the demonstration districts do not need to be drawn above 50% BVAP to perform, and featured average margins of victory in the double-digits.

205.   In the 2024 elections, the Black-preferred candidates wins all demonstration districts 100% of the time. [PX279 at 19]. The average margin of victory was 16.7% in Demonstration District A, 11.2% in Demonstration District B, 13.7% in Demonstration District C, and 13% in Demonstration District D. [PX279 at 19].

206.   Moreover, Dr. Collingwood analyzed the BVAP percentage a district in the Demonstration Area requires to afford at least equal Black electoral opportunity and concluded that the threshold is 47%. [PX36 at 24]. That number is unreliable and almost certainly much too high. [*See infra* § VI.C]. But, even taken at face value, it defeats any assertion that a majority-BVAP district is needed in northeast North Carolina to secure equal Black electoral opportunity.

C.   Dr. Collingwood's BVAP Analysis is Unreliable

1.   Dr. Collingwood's Original BVAP Analysis

207.   Dr. Collingwood's opinion that a 47% BVAP is needed to create a Black opportunity district, *see* PX36 at 24, is unsupportable and lacking in credibility.

208.   Dr. Collingwood's BVAP analysis was a "simulation" analysis, i.e., simulating each theoretical level of Black voting population from one to one hundred. [Day 3 AM Tr. 35:21-36:1].

209.   Dr. Collingwood has not conducted his BVAP analysis "in another court context" and does not know if other courts have accepted it. [Day 3 AM Tr. 36:2-8, 37:3-5].

210.   Dr. Collingwood's methodology differed significantly from analyses previously performed by voting rights experts in redistricting cases, including in cases in North Carolina. [*See* D.E. 20-1; *see also* Bernard Grofman, Lisa Handley, David Lublin, Drawing Effective Minority

Districts: A Conceptual Framework and Some Empirical Evidence, 79 N.C. L. Rev. 1383 (2001), available at: https://scholarship.law.unc.edu/nclr/vol79/iss5/12].

211.   For example, experts in voting rights litigation typically conduct a "district-specific, functional analysis that considers the participation rates and voting patterns of whites" in order "to determine the percentage of the minority population that is needed to provide minority voters with an opportunity to elect candidates of their choice." [D.E. 20-1 at 8; 79 N.C. L. Rev. 1383, 1423 ("A case-specific functional analysis…must be conducted to determine the percentage minority necessary to create an effective minority district.")].

212.   Dr. Collingwood did not calculate the percent needed to elect a Black-preferred candidate at any district level or at the county level. [Day 3 AM Tr. 38:21-39:2]. Dr. Collingwood claimed that that this analysis could not be conducted at the county level. [Day 3 AM Tr. 44:22-45:1 ("But if you have a county set at -- you know what the BVAP is -- say it's 50 percent -- you can't, like, do a simulation and say, 'Well, if this county was actually 45 percent,' or 35 percent, because that's not possible."); Day 3 AM Tr. 43:19-22 ("If you're looking at a full county, you know what the BVAP is of that full county, so you wouldn't be able to simulate a change in BVAP there.")]. This is plainly wrong. One could calculate the BVAP needed for a single-member district *within* a county to qualify as an opportunity district, just as Dr. Collingwood calculated that number for his "Demonstration Area."

213.   Dr. Collingwood also claimed that this analysis could not be conducted at the district level. [Day 3 AM Tr. 47:11-48:1 ("And the reason I say that is because any district, once you have it set in stone, the BVAP is fixed…once it is fixed, you know what the BVAP is. And so you just can't say that, well, we know the BVAP here is 47 but if we shift it down to 39, what would it be?")]. He rejected any analysis that adjusted the BVAP of an existing district to

determine at what level that district would perform, claiming "that wouldn't make sense because that district is already set at the BVAP." [Day 3 AM Tr. 49:7-8; *see also id*. 50:13-16; id. at 51:18-23 ("[Y]ou have a fixed Black voting age population in SD1. And so you cannot make it go lower and say, oh, if SD1 were two points Black higher, now I conduct my turnout analysis and I conduct my racially polarized voting and I say now they win. We just -- we can't do that. It's fixed.")].

214.   This is also incorrect. An expert can calculate the BVAP needed to elect a Black-preferred candidate in a given district, which could then be reconfigured to achieve that BVAP threshold. District lines are not "fixed"; the premise of *redistricting* is that they can be redrawn. A district-specific functional analysis is exactly what experts have performed for decades. [*See* 9 N.C. L. Rev. 1383, 1408-1422 (Tbls. 5-10)].

215.   Dr. Lisa Handley, Dr. Bernard Grofman, and others have formulated a method to determine the percentage of BVAP needed in an existing district to perform in a given election:

Table 6: Percent Black Needed for Black Candidate to Win, Incorporating Cohesion & Crossover: Selected Southern Congressional Primary, Runoff & General Elections with Black Candidates

Congressional District	Year	% Black Participation	% White Participation	% Black Needed To Equalize Turnout	% Black Votes for Black Candidate* (Cohesion)	% White Votes For Black Candidate* (Crossover)	% Black Needed Given Both Cohesion & Crossover
DEMOCRATIC PRIMARY							
FL 3 (Brown)	1992 Primary	28.7	21.6	42.9	93.5	34.4	31.9
GA 2 (Bishop)	1992 Primary	39.8	44.4	52.7	84.4	31.2	43.7
GA 11 (McKinney)	1992 Primary	27.3	38.2	58.3	89.7	60.4	27.4
GA 4 (McKinney)	1996 Primary	30.5	12.8	29.6	93.3	24.6	27.0
DEMOCRATIC RUNOFF							
FL 3 (Brown)	1992 Runoff	24.0	14.5	37.7	92.0	15.8	36.7
GA 2 (Bishop)	1992 Runoff	35.3	30.3	46.2	79.0	25.5	45.7
GA 11 (McKinney)	1992 Runoff	20.9	34.6	62.3	90.8	26.5	49.3
GENERAL ELECTION							
FL 3 (Brown)	1992 General	57.8	68.6	54.3	97.1	25.6	41.7
GA 2 (Bishop)	1992 General	55.9	62.6	52.8	98.3	32.4	36.5
GA 11 (McKinney)	1992 General	60.3	57.8	48.9	96.7	36.0	33.0
GA 4 (McKinney)	1996 General	58.3	66.4	53.2	98.1	31.2	37.5

* The estimates of % white & black votes for black candidates is the % of whites & blacks voting for any of the black candidates, not simply the sinning black candidate.

[9 N.C. L. Rev. 1383, 1410].

216.   When questioned about the differences between his methodology and the methodology used by Dr. Handley in a prior North Carolina redistricting case, [D.E. 20-1], Dr. Collingwood tried to claim that he and Dr. Handley were "basically doing the same thing." [Day 3 AM Tr. 46:21].[9]

217.   But Dr. Collingwood repeatedly admitted he did not know how those analyses were conducted. [*See, e.g.*, Day 3 AM Tr. 45:16 ("I just don't know what Dr. Handley is doing here."); Day 3 AM Tr. 44:4-5 ("I just don't know, you know, what she's doing. So I can't really speak to what she's doing."); Day 3 AM Tr. 47:8-9 ("But again, I just don't know what she's doing."); Day 3 AM Tr. 53:4-5 ("Well, I don't know exactly what she's doing because I don't know her")]. This claim of ignorance is not credible given that Dr. Collingwood was shown this report—which was filed on the docket by Plaintiffs—during his deposition in this case. [Day 3 AM Tr. 40:2-42:1].

218.   It is clear that Dr. Collingwood's analysis differed from the analyses generally accepted in this field in several key respects.

219.   Dr. Handley's analysis was conducted in several county groupings and in individual counties. [Day 3 AM Tr. 43:1-3, 53:4-6; D.E. 20-1 at 3-4, 12-13, Tbls. 3-22B]. Dr. Collingwood's BVAP analysis was conducted as "a regionwide, 12-county analysis" in a "broader" region than a district. [Day 3 AM Tr. 38:11-15, 54:11-14; *see also* PX36 at 24 ("I use an area wider than any of the demonstration districts")].

220.   The area was arbitrarily chosen without a reliable methodology. This 12-county region excluded several counties in enacted SD1 (Perquimans, Camden, Currituck, Tyrell, and

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[9] In that report, Dr. Handley explained that she was "one of the co-authors of the 2001 North Carolina Law Review article, "Drawing Effective Minority Districts: A Conceptual Framework and Some Empirical Evidence," and that she used "the approach outlined in [that article] to conduct numerous district-specific, functional analyses both for interested jurisdictions and in the context of litigation." [D.E. 20-1].

Dare) and SD2 (Carteret, Pamlico, Hyde). [*See* D.E. 105 at 11 (¶¶ 31-32)]. Dr. Collingwood also failed to include every county in the area Plaintiffs have identified as the "Black Belt" by excluding Edgecombe County. [Day 3 AM Tr. 176:6-177:13]. The region also included counties that are not in every demonstration district. [Day 3 AM Tr. 54:15-17].

221.   This 12-county region also does not align with any enacted county grouping, or even with any of Dr. Mattingly's proposed county groupings. For example, this region is larger than the 1-district grouping drawn for Demonstration District A (Vance, Warren, Halifax, Northampton, Hertford, Bertie, Martin, and Washington), [PX1 at 6], the 2-district grouping drawn for Demonstration District B (Warren, Halifax, Northampton, Hertford, Bertie, Martin, Gates, Chowan, Part of Pasquotank (District B); Camden, Currituck, Perquimans, Chowan, Washington, Tyrrell, Dare, Hyde, Pamlico, Carteret, Part of Pasquotank (District B-1)), [PX1 at 8], the 3 district-grouping for Demonstration District C, Bertie, Chowan, Gates, Halifax, Hertford, Martin, Northampton, Warren, and Washington, part of Vance (District C); Franklin, Nash, Part of Vance, Part of Wilson (District C-11); Wayne, Green, Part of Wilson (District C-4), [PX1 at 9], or the 2-district grouping drawn for Demonstration District D (Warren, Halifax, Northampton, Hertford, Bertie, Gates, Martin, Washington, Tyrell, portion of Pasquotank (District D); Camden, Currituck, Perquimans, Chowan, Dare, Hyde, Pamlico, Carteret, part of Pasquotank (District D-2)), [PX1 at 10].

222.   Dr. Collingwood's 12-county region is also noncontiguous—by excluding Perquimans County, he left a hole in the northeastern corner of the region.

223.   Dr. Handley used both statewide and state legislative elections, while Dr. Collingwood excluded state legislative contests. [Day 3 AM Tr. 39:3-8, 43:6-44:1]. In fact, Dr.

Collingwood claimed that state legislative contests cannot be used for this type of analysis, even though Dr. Handley used them for this type of analysis. [Day 3 AM Tr. 43:15-23].

224. Dr. Collingwood only looked at two election years (2022 and 2020) for his BVAP analysis, even though he included four election years (2022, 2020, 2018, and 2016) for his performance analysis and his racially polarized voting analysis. [Day 3 AM Tr. 43:4-15, 55:3-8; PX36 at 2]. Dr. Handley used four election years in her analysis. [Day 3 AM Tr. 43:4-5]. Dr. Collingwood did not meaningfully explain this change in datasets, and it suggests cherry-picking.

225. Dr. Collingwood agreed that the Black percentage needed to win will vary across both the grouping of the geography of voters and the election contests considered. [Day 3 AM Tr. 39:16-20].

226. Even with these methodological deficiencies, Dr. Collingwood's BVAP analysis (as noted) confirms that 50% BVAP is not required in the Demonstration Area, and that the percent needed to win is likely well below 47%.

227. Dr. Collingwood's BVAP analysis based on 27 elections is reported as a histogram showing the estimated BVAP required in a particular contest for the Black-preferred candidate to win. [Day 3 AM Tr. 55:11-21; PX36 at 25].

228. This analysis showed two election contests where the BVAP needed was between 42 and 43% in order for the Black-preferred candidate to win, 10 election contests where the BVAP needed was between 44 and 45%, and seven elections where the BVAP needed was between 46 and 47%. [Day 3 AM Tr. 57:1-58:3; PX36 at 25]. Therefore, in 19 of the 27 elections included in the analysis, 47% or less BVAP was necessary to guarantee victory for the Black-preferred candidate. [Day 3 AM Tr. 58:4-13].

229.	In the remaining eight elections, there was one election where the BVAP needed was between 48 and 49% for the Black-preferred candidate to win, one election between 50 and 51%, and six elections between 52 and 53%. [Day 3 AM Tr. 58:20-24, 60:6-21; PX36 at 25]. Accordingly, very few elections support a 47% BVAP estimate as the percent required for minority performance: most outcomes show a figure below that, but some show a figure above 52% BVAP. But none of Plaintiffs' demonstration districts are drawn with this level of BVAP making clear that even Plaintiffs do not credit Dr. Collingwood's estimates showing a percent BVAP needed to win above 52%. In fact, Dr. Collingwood's above-52% estimates cut against Plaintiffs' case under the first *Gingles* precondition, given their demonstration districts are not drawn to that level of BVAP.

230.	Dr. Collingwood did not report, and did not know, where all of the different election contests were in his histogram. [Day 3 AM Tr. 60:22-61:1]. He claimed that "[t]he exercise is to basically take…the results of these 27 separate contests and to show what the overall average is." [Day 3 AM Tr. 61:1-3].

231.	Dr. Collingwood only reported the mean of his analysis—47.07% BVAP—and did not report, and did not know, the median value in his analysis. [Day 3 AM Tr. 64:18-22]. He admitted that most of the values fall below 47.07% BVAP. [Day 3 AM Tr. 62:24-63:1].

232.	Dr. Collingwood admitted that his analysis did not show variation across counties, across districts, or across precincts. [Day 3 AM Tr. 61:4-13, 61:22-24; *see also* Day 3 AM Tr. 68:2-7]. That is plainly not true to reality, where there surely is variation across these geographies.

233.	Dr. Collingwood acknowledged that his BVAP analysis did not discern between the precincts in split counties that were included in Plaintiffs' Demonstration Districts as compared to the precincts in split counties that were not included. [Day 3 AM Tr. 68:11-18].

234.   He also agreed that if an area has higher crossover voting than its neighbor, then that area would need less BVAP than its neighbor in order to offer the opportunity to elect. [Day 3 AM Tr. 62:16-20].

235.   Unlike Dr. Handley, Dr. Collingwood does not show his work. He reports no details about the specific contests falling within each BVAP level. Nor does he show "the percentage of vote a black-preferred candidate would receive in each House and Senate grouping of interest, given the turnout rates of blacks and whites and the degree of black cohesion and white crossover voting for each election, in a 50%, 45%, 40% and 35% black VAP district," as Dr. Handley's analysis did. [*See* D.E. 20-1 at 12].

236.   Dr. Collingwood acknowledged that including Pitt and Edgecombe Counties, which were excluded from his BVAP analysis, would reduce the BVAP level needed to win in that area. [Day 3 AM Tr. 75:12-19].

237.   Dr. Collingwood admitted that his BVAP analysis "certainly demonstrates that a…Black performing district could be drawn under 50 percent." [Day 3 AM Tr. 76:23-77:4].

238.   In summary, Dr. Collingwood cherry-picked the election contests, the years, and the counties to run his BVAP analysis in a manner inconsistent with methods generally accepted in the field.

239.   Dr. Alford also responded to Dr. Collingwood's district performance analysis, and found it was clear from Dr. Collingwood's analysis that 50% BVAP is not required to elect the Black candidate of choice. [Day 4 Tr. 54:25-55:6; LD59 at 15].

240.   Because all the Black-preferred candidates are the Democratic candidates, the electoral performance of a district is simply the expected Democratic share of the general election vote in the district. [Day 4 Tr. 51:9-52:11; LD59 at 15].

241. Dr. Alford had never seen the type of BVAP analysis Dr. Collingwood performed before, referring to it as "unusual." [Day 4 Tr. 52:16, 55:4; *see also* Day 4 Tr. 114:6-7 ("It's not the way I would do that or the way I've seen other experts do it.")].

242. Dr. Alford reproduced Dr. Baretto's graph depicting precinct-level election results graphed against the precinct-level 2020 census BVAP. The vote for Democratic candidate Cooper, who was the Black-preferred candidate, starts to move to about 50% around 35% BVAP and that Cooper wins in all precincts well below 50% BVAP. [Day 4 Tr. 55:12-56:13; LD059 at 16].

243. Dr. Alford produced the same chart for Dr. Collingwood's 12-county Demonstration Area, which shows the vote for Cooper starting to move about 50% in precincts around 37% BVAP and that Cooper wins all precincts well below 50% BVAP. [Day 4 Tr. 55:12-56:13; LD59 at 16-17]. The 2016 Governor's race produced a very similar result. [LD059 at 16-17].

244. Plaintiffs served supplemental reports from Dr. Collingwood that updated his BVAP analysis to add the 2024 election results and that increased his BVAP needed-to-win estimate to 47.7% BVAP. [PX279 at 20]. This analysis suffers from the same methodological flaws as his initial analysis and will not be credited.

245. Dr. Collingwood once again only conducted his analysis on the 12-county Demonstration Area, and did not conduct the analysis at the district-level or county-level. [PX279 at 20]. Dr. Collingwood reported the same "histogram" for his results, and again failed to report which elections fall within which BVAP ranges in his histogram. [PX279 at 20-21].

246. As with his initial analysis, Dr. Collingwood's updated BVAP analysis shows that 50% districts are not necessary in the Demonstration Area, and the number is much lower than 47.7%. It appears from the histogram that 2 elections fall within the 41 to 43% range, 11 elections

fall between the 43 and 45% range, 9 elections fall between the 45 and 47% range, and 6 elections fall between the 47 and 49% range. [PX279 at 21]. This means that more than half of the 42 elections analyzed fall below the 47% BVAP range, and 28 out of 42 elections need 49% or less BVAP.

247. Seven elections fall in the 51 to 53% range, [*see* PX279 at 21], confirming that Plaintiffs do not credit Dr. Collingwood's estimates showing higher BVAP needed to win than the demonstration districts they presented.

248. Dr. Collingwood made another methodological choice that affects the accuracy of his entire BVAP analysis and the updated analysis: he only analyzed the behavior of Black voters and white voters, and did not consider the voting behavior of non-Black minority voters (i.e., voters other than Black and white voters). [LD076 at 13]. This choice matters because the crossover proportion among white voters can be different from the level of crossover support among voters that are neither Black nor white. [LD076 at 13]. This difference is not important for assessing the impact of candidate party versus race, but it is important in a BVAP needed to win analysis because that analysis is impacted by the level of all non-Black voting for the Black preferred candidate. [LD076 at 13].[10]

249. To respond to Dr. Collingwood's updated BVAP analysis, Dr. Alford first analyzed Black versus "non-Black" (i.e., all voters who are not Black) voting behavior, and found the estimates for crossover voting for non-Black voters are "systematically higher" than the estimates of crossover voting based on white voters alone. [LD076 at 13-14, Tbl. 5].

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[10] Dr. Handley's 2019 analysis estimated support of "Black" and "non-Black" voters. [LD076 at 13; *see also* D.E. 20-1 at 7].

250.   Dr. Alford then estimated the BVAP needed to win based on the 2024 elections following the procedure utilized by Dr. Handley in her prior work and using the Black versus non-Black voter estimates. [LD076 at 12-15]. That analysis shows an average of 42% BVAP needed to win in the Demonstration Area, and also shows the levels needed in each of the 2024 contests analyzed. [LD076 at 15-16, Tbl. 6]. This 42% BVAP needed to win number, which is more than five points lower than Dr. Collingwood's estimate, reflects the impact of the higher crossover voting of all non-Black voters in the Demonstration Area (roughly 23% on average) than for white voters alone (roughly 15% on average). [LD076 at 15].

251.   Dr. Alford also analyzed the BVAP needed to win in relevant areas in northeastern North Carolina, and found that the average BVAP needed to win in SD1 and in SD2 was 41%. [LD076 at 16, Tbl. 6]. In Edgecombe and Pitt Counties, that number drops to 30%, and to 22% statewide. [LD076 at 16, Tbl. 6].

252.   Dr. Alford's analysis directly contradicts Dr. Collingwood's updated BVAP analysis, and also demonstrates that the analysis can be conducted at the district-level (e.g., in the case of SD1 and SD2) and at the county-grouping level (e.g., in the case of Edgecombe and Pitt Counties).

253.   Dr. Collingwood rejects the claim that the BVAP needed to elect a Black-preferred candidate is less than 47%. [PX280 at 2]. Dr. Collingwood first points to lower Black turnout in the 2024 election and claims that his BVAP estimate increased because of lower Black turnout in 2024 compared to white voter turnout. [PX280 at 2, 7]. But Dr. Collingwood appears to be overemphasizing the impact of these turnout differences given the "miniscule" increase—from 47% to 47.7%—in his BVAP estimates. [*See* PX280 at 7]. Moreover, Dr. Alford's BVAP needed to win analysis accounts for actual racial turnout in the 2024 election. [LD076 at 5].

254.   Dr. Collingwood also claims that the higher white crossover voting in SD1 and SD2 compared to the Demonstration Area "is attributable to coastal Outer Banks counties" that "cannot easily be combined with the Black-Belt counties of the Demonstration Area to construct a Black-performing district." [PX280 at 2; *see also* PX280 at 10]. Dr. Collingwood's assertions about crossover voting, however, are based on his calculations that excluded the crossover voting of voters who are neither white nor Black, which results in lower levels of crossover voting than when all non-Black voters are considered.

255.   Dr. Alford's analysis shows that even in Dr. Collingwood's Demonstration Area, and even using 2024 turnout data, the average BVAP needed to win is 42%. The Court credits Dr. Alford's analysis as more reliable and accurate than Dr. Collingwood's analysis.

D. Dr. Collingwood's Testimony Lacked Credibility

256.   Dr. Collingwood made other choices calling into doubt the reliability and credibility of his testimony.

257.   Dr. Collingwood included two contests—the 2018 State Supreme Court race and 2018 Court of Appeals 2—involving three candidates. [PX36 at 6]. In both his performance analysis and his racially polarized voting analysis, Dr. Collingwood combined the two candidates who obtained high levels of support from white voters together to indicate the contests as "Blocked" and as not performing for the Black-preferred candidate. [PX36 at 6, 15-16; Day 3 AM Tr. 9:12-21]. But Dr. Collingwood admitted that the Black-preferred candidate received a higher vote total than either of the white-preferred candidates individually, [Day 3 AM Tr. 10:7-10, 10:17-21, 12:15-19, 13:25-14:3]. The Black-preferred candidate was not "blocked." Dr. Collingwood made "an assumption" that a white-preferred candidate would win SD1 and SD2 in a two-candidate race. [Day 3 AM Tr. 14:24-15:6]. But the point of the analysis is to observe voting preference by race, not to assume that question away. Dr. Collingwood had no basis to speculate

where white support for one or the other of the white-preferred candidates would go in the event of a two-candidate race. The only fact available for observation is that the Black-preferred candidate *actually* received the most votes and was *not* blocked. Stating the obvious, Dr. Alford explained that the Black-preferred candidate did not lose this election and that white voters did not block the Black-preferred candidate. [Day 4 Tr. 122:9-25].

258.   Dr. Collingwood did not address these issues on direct examination, [Day 3 AM Tr. 19:23-25, 12:24-13:2], but instead reported only the results of combining the white-preferred candidates as if this choice—which is counterintuitive at best—were uncontroversial. [Day 4 Tr. 18:5-19:25]. This is not a hallmark of candor.

259.   Plaintiffs' counsel served an updated version of Dr. Collingwood's CV on the night before his direct examination. When asked what was changed on the updated version, Dr. Collingwood claimed that he added a book and some additional research articles. [Day 3 AM Tr. 85:6-14].

260.   Dr. Collingwood claimed he did not remove anything from his CV, explaining "[y]ou would never do that in academia." [Day 3 AM Tr. 85:15-19]. But Dr. Collingwood did remove something—the reference to the fact that Matt Barreto chaired his Ph.D. Committee. [Day 3 AM Tr. 86:15-18]. Dr. Collingwood admitted he made this change after being asked about Dr. Barreto at his deposition in this case. [Day 3 AM Tr. 86:2-3].

261.   Dr. Collingwood lacks experience analyzing North Carolina voting patterns and geography. Dr. Collingwood has never served as an expert witness in a case in North Carolina or submitted an analysis of racially polarized voting to a court in North Carolina prior to this case. [Day 2 Tr. 173:2-8]. Dr. Collingwood has only ever advised jurisdictions during redistricting in California and New Mexico, [Day 2 Tr. 172:13-22], and a significant amount of his experience is

based out of California. [Day 2 Tr. 172:23-173:1]. Other than one paper that included some data from North Carolina, Dr. Collingwood has not analyzed racially polarized voting in North Carolina in an academic setting. [Day 2 Tr. 173:11-14].

E.   Differences in Racial Voting Preferences Are Best Explained by Political Differences, Not by Racial Prejudice

262.   Dr. Alford was asked to analyze racially polarized voting and to respond to Plaintiffs' expert, Dr. Collingwood. [Day 4 Tr. 34:11-16; LD59 at 2].

263.   Dr. Alford was accepted by the court as an expert in voter cohesion and polarization, as well as voting behavior and redistricting. [Day 4 Tr. 34:1-4].

264.   Dr. Alford is a tenured professor at Rice University. [Day 4 Tr. 32:15-23]. Dr. Alford earned a Bachelor of Science in Political Science from the University of Houston, a Master's of Public Administration from the University of Houston, and a Ph.D. from the University of Iowa in Political Science with a focus in American elections and voting behavior, public policy, and political science methodology. [Day 4 Tr. 32:6-14].

265.   Dr. Alford has taught about the Voting Rights Act, redistricting, and social science methodology, including statistical analyses, [Day 4 Tr. 32:24-33:7], and has served as an expert witness in dozens of redistricting cases. [Day 4 Tr. 33:8-14].

266.   Dr. Alford concluded that Dr. Collingwood's racially polarized voting analysis "clearly shows partisan polarized voting" but does not show "the polarization is related to race." [Day 4 Tr. 34:19-22, 57:2-4; *see also* LD59 at 2]. Party affiliation best explains divergent voting preferences of Black and white voters in North Carolina elections. [Day 4 Tr. 58:24-59:7; LD59 at 19].

267.   Black voters cohesively support Democratic candidates, and the majority of white voters support Republican candidates. [Day 4 Tr. 57:10-18; LD59 at 18].

268.   It is not the case that Black voters support Black candidates on account of race, as they are no more likely to support a Black Democratic candidate than they are to support a white Democratic candidate, and they are no less likely to oppose a Black Republican than a white Republican. [Day 4 Tr. 57:22-58:7; LD59 at 18-19].

269.   It is also not the case that a majority of white voters regularly oppose Black candidates on account of race, as they are no more likely to oppose a Black Democratic candidate than they are to oppose a white Democratic candidate, and are no less likely to support a Black Republican candidate than they are to support a white Republican candidate. [Day 4 Tr. 58:10-19; LD59 at 19].

270.   Dr. Alford also concluded that there is "substantial white crossover voting" that allows districts to perform for Democratic candidates below 50% Black population. [Day 4 Tr. 34:25-35:4; *see also* LD59 at 2; Day 4 Tr. 56:21-23 ("All of the evidence shows clearly that districts below 50 percent…clearly perform for Black-preferred candidates.")].

271.   Dr. Alford relied on the data and results provided by Dr. Collingwood. [Day 4 Tr. 35:10-12; *see also* LD59 at 3]. Dr. Alford first replicated Dr. Collingwood's results to confirm their accuracy, and then conducted his analysis using Dr. Collingwood's results. [Day 4 Tr. 36:4-16; *see also* LD59 at 2].

272.   Dr. Alford's analysis of three U.S. Senate Elections in 2016, 2020, and 2022 shows a polarized response to party affiliation, but not to the race of the candidate. [LD59 at 6].

273.   Black voters were highly supportive of the Democratic candidate and white voters were supportive of the Republican candidate in all three contests. [LD59 at 6; Day 4 Tr. 39:4-8]. That is true in both the two contests where both candidates were white and in the one contest where there was a Black candidate and a white candidate. [LD59 at 6; Day 4 Tr. 39:10-17].

274.   In SD1, white voters were slightly more supportive of the Black Democrat in 2022 (at 20%) than the average of the support for the two white Democratic candidates in 2016 and 2020 (at 19%). [Day 4 Tr. 40:1-6; LD59 at 6]. In SD2, white voters were equally supportive of the Black Democratic candidate as they were of the average of the white Democratic candidates at 17% of the vote. [Day 4 Tr. 40:7-13; LD59 at 6]. In these and other elections, SD1 and SD2 have consistently higher levels of white crossover voting than in Dr. Collingwood's Demonstration Area. [Day 4 Tr. 40:14-21; LD59 at 6].

275.   These results show the racial cue of the candidate does not significantly impact voter choices. Black voters consistently support Democratic candidates, and white voters consistently support Republican candidates, regardless of the race of the candidate. [Day 4 Tr. 40:22-41:23; LD59 at 6]. If voters were responding to the race of the candidates, one would expect Black voters would give less support to a white Democrat than a Black Democrat, or that white voters would be more willing to cross over to support a white Democrat than a Black Democrat. [Day 4 Tr. 41:24-42:10; LD59 at 6]. But in partisan contests between white candidates, Black voters support Democratic candidates, and white voters support Republican candidates at roughly the same levels as the partisan contests between white and Black candidates. [LD59 at 6].

276.   Dr. Alford's analysis of seven supreme court races between 2016 and 2020 showed the same results of roughly equal levels of white crossover voting for Democratic candidates in white versus white elections as in Black versus white elections. [Day 4 Tr. 44:8-12; LD59 at 7-8]. In the six partisan-affiliated elections, Black voters were highly supportive of the Democratic candidate, and white voters were supportive of the Democratic candidate, consistent with a polarized response based on party affiliation, and not race. [LD59 at 7]. Four of the partisan

elections featured two white candidates, while the other two involved a Black candidate versus a white candidate. [LD59 at 7].

277.   In SD1, the average white crossover voting for the Black Democratic candidate was slightly higher (at 23%) in the Black versus white races than it was for the white Democratic candidate (at 21%) in the white versus white races. [Day 4 Tr. 43:3-12; LD59 at 7]. The same was true in SD2. The average white crossover voting for the Black Democratic candidate in the Black versus white races was higher (at 19%) than for the white Democratic candidate (at 17%) in the white versus white races. [Day 4 Tr. 43:13-19; LD59 at 7].

278.   Of particular import is the 2016 Supreme Court race, which is the most recent judicial election that did not have a partisan designation on the ballot (though the candidates could express a partisan preference). [Day 4 Tr. 44:13-24; LD59 at 8]. Without the partisan indication on the ballot, Black support for the Black candidate (Morgan) was significantly lower than Black support for either the white or Black Democratic candidates in the partisan elections analyzed. [Day 4 Tr. 45:14-20; LD59 at 8]. White support for the white candidate (Edmunds) was also much lower than for Republican candidates, and there were very high levels of white crossover voting for the Black candidate. [Day 4 Tr. 45:22-24; LD59 at 8]. The white vote was "completely non-cohesive," and Morgan defeated Edmonds. [Day 4 Tr. 46:1-10; LD59 at 8 ("it is clear that White voters were not voting cohesively to defeat the Black candidate of choice, and in fact Morgan defeated Edmonds statewide and in each of other areas included here.")]. In fact, a majority of white voters (52%) in SD1 voted for the Black candidate, as did 43% of voters in SD2. [Day 4 Tr. 46:11-16; LD59 at 8].

279.   These results show that the race of the candidate has no impact beyond the impact of party, particularly for white voters. [Day 4 Tr. 46:20-47:1; LD59 at 8]. If party were not driving

voting behavior, then the results of this race should be the same as those in partisan contents. [Day 4 Tr. 49:9-12]. But if party is the "really important factor" and it is removed, different voting behavior would result, and that is what occurred in the 2016 Supreme Court race. [Day 4 Tr. 45:12-14]. This highly probative election establishes that divergence in candidate preference by race is a partisan phenomenon, not a racial phenomenon.

280.   Dr. Collingwood acknowledged the high level of crossover voting in the non-partisan 2016 Supreme Court 2 contest. [Day 3 AM Tr. 26:2-5, 26:24-27:8]. Dr. Collingwood concluded that "[t]he two candidate surnames are not especially racially distinctive from one another - both Black and white folks might realistically have either of those names." [PX128 at 4; *see also* Day 2 Tr. 134:20-22; Day 3 AM Tr. 28:9-11, 32:5-16].[11]

281.   Dr. Collingwood agreed that it was possible that voters either did not know or simply did not care about the race of the Black candidate, Morgan. [Day 3 AM Tr. 32:17-25, 33:25-34:5]. Instead, many voters were likely voting based on "policy positions" and "policy issues." [Day 3 AM Tr. 33:7-34:5]. Dr. Collingwood admitted that the race of the candidate "would be muddled" based on their last names alone. [Day 3 AM Tr. 32:13-16].

282.   Dr. Alford's analysis of 17 court of appeals races between 2016 and 2022 shows the same result of polarization based on party, not on the race of the candidate. [*See* LD59 at 8-11; Day 4 Tr. 47:9-24]. Specifically, the average white crossover voting in SD1 for the Democratic candidate was identical (at 22%) in the 10 white versus white contests as in the six Black versus white contests. [L59 at 10]. In SD2, the average white crossover voting was roughly the same (at 19%) in the white versus white contests as in the Black versus white contests in SD2 (at 18%).

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[11] Dr. Collingwood's testimony about the specific percentages of names correlated with Black individuals and white individuals was inconsistent with his prior testimony and was never disclosed. [Day 3 AM Tr. 27:14–43:3]. The Court thus disregards it.

[L59 at 10]. In the one contest where both candidates were Black, "the role of the candidate's party remains clear." [LD59 at 10-11]. Black voters supported the Democrat and white voters supported the Republican at levels consistent with contests in which the Republican candidate was white. [LD59 at 10-11; Day 4 Tr. 47:25-49:5].

283.   The elections for all offices in 2016, 2018, 2020, and 2022 also show polarized voting by party, but no indication of differences in voter behavior based on the race of the candidates. [*See* LD59 at 11; Day 4 Tr. 49:4-50:9]. White crossover voting was slightly lower in the 2016 contests, but that slight difference does not appear in the 2018, 2020, or 2022 contests. [*See* LD59 at 11-14; Day 4 Tr. 50:10-51:1].

284.   Dr. Collingwood did not find any errors in how Dr. Alford presented his analysis. [Day 3 AM Tr. 76:17-22].[12] Dr. Collingwood did not analyze or offer any opinions about whether voting patterns were due to a voter's racial or partisan affiliation. [Day 3 AM Tr. 21:14-15, 21:23-22:6]. Dr. Collingwood therefore could not, and did not purport to, rebut Dr. Alford's opinions on this point.

285.   Dr. Collingwood agreed that the preferred candidate of Black voters tends to be the Democratic candidate. [Day 3 AM Tr. 20:7-10]. Dr. Collingwood does not know what percentage of voters in the Demonstration Area are Democrats, but he agreed it is "realistic" that, if the population of Republicans in the Demonstration Area grew relative to Democratic population, crossover voting would decrease. [Day 3 AM Tr. 20:19-21:7]. Dr. Collingwood did not study how often Democrats voted for Republicans or vice versa. [Day 3 AM Tr. 178:22-24].

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[12] Dr. Collingwood referenced one instance where Dr. Alford inadvertently mislabeled the race or party of one candidate, and Dr. Alford acknowledged this mistake, which is immaterial: even in this race, white voters overwhelming supported a Black candidate. [Day 4 Tr. 96:6-24].

286. Dr. Alford's analysis of the 2024 elections confirms a strong polarized response to candidate party affiliation rather than the race of the candidate. [LD075 at 2-3].

287. On average, white voters support Black Democratic candidates at the same levels as white Democratic candidates. In SD1, white voters provide an average of 24.1% crossover support to white Democratic candidates and an essentially identical 24.2% crossover to Black Democratic candidates. [LD075 at 3, 5, Tbl. 1]. Similarly, white voters in SD2 provide an average of 21% crossover support to white Democratic candidates and 20.5% to Black Democratic candidates. [LD075 at 3, 5, Tbl. 1]. White voters in the Demonstration Area supported white Democratic candidates at 14.6% and Black Democratic candidates at 14%. [LD075 at 3, 5, Tbl. 1]. The same is true statewide—white voters supported white Democratic candidates at 31.5% and Black Democratic candidates at 31.4%. [LD075 at 3, 5, Tbl. 1].

288. If voters were responding to the race of the candidates, Black voters would be expected to provide significantly more support to Black candidates compared to white candidates, and white voters would show increased opposition to Black candidates. But Dr. Alford's analysis shows that Black voters are no more supportive of the Black Democrat than they are of white Democrat candidates, and white voters are not more likely to oppose a Black Democrat than a white Democrat. [LD075 at 3-4].

289. Dr. Collingwood attempts to draw various conclusions about the differences in levels of crossover voting based on the race of the candidate in the 2024 elections, [PX279 at 1, 8-14; *see also* PX280 at 3-4], but these conclusions are unsupported.

290. Dr. Collingwood concludes that on average, white voters in SD1, SD2, and the Demonstration Area are less supportive of Black Democratic candidates than white Democratic candidates. [PX279. at 1, 8-9, 11, 14]. But these differences are slight—about 1.5% statewide,

about 0.3% in SD1, 1.84% in SD2, and less than 1% in the Demonstration Area. [PX279 at 1, 8-9, 11, 14].

291. These differences are largely the result of the "unusual 2024 Gubernatorial contest" that Dr. Collingwood averages with the eight white versus white candidate contests. [LD076 at 6]. The 2024 Gubernatorial contest was not a white versus white candidate contest, and the differences all but disappear when it is removed from that average. [LD076 at 6]. For example, the average difference of white voter support for Black candidates compared to white candidates is .4% statewide, 0 in SD1, .9% in SD2, and .2% in the Demonstration Area. [LD076 at 6; *see also id*. at 4, Tbl. 1].

292. Dr. Alford found that the impact of the candidate of the party is polarizing—the gap between Black voter support for the Democratic candidate and white voter support for the Democratic candidate is about 70 to 80% across the relevant geographies. [LD076 at 6-7, Tbl. 3]. In contrast, the impact of the race of the candidate is near zero. [LD076 at 7, Tbl. 4].

293. Dr. Collingwood also concludes that on average in SD1, SD2, and the Demonstration Area, white voters crossover at higher rates for white Democrats when the Republican candidate is Black. [PX279 at 9, 11-12, 14].

294. But these conclusions are based on just one contest: the 2024 Gubernatorial race between Black Republican Mark Robinson and white Democrat Josh Stein. Dr. Collingwood had previously cautioned against relying on a finding based on only one or two Black candidates. [LD076 at 8-9; PX36 at 3, 4, 5].

295. Despite these cautions, and despite not previously analyzing the role of the race of the candidate, Dr. Collingwood's opinions about the levels of white support for Black Republican candidates exclusively relies on this single contest.

296.   Dr. Collingwood also makes much of the fact that Robinson received less white support in 2024 when running against a white Democrat than when he ran against a Black Democrat in 2020, and that Stein received more support from white voters when running against a Black Republican in 2024 than when running against a white Republican in 2020. [PX279 at 9, 11, 14]. Dr. Collingwood omits the fact that Robinson won the Republican primary with 65% of the vote over two white Republicans in 2024. [LD076 at 10].

297.   Dr. Collingwood also makes no mention of the events that occurred during the 2024 campaign and the allegations that emerged against Robinson in the months leading up to the election. [LD076 at 10-11]. Polling showed there was a "dramatic shift away from Robinson" during the campaign, with Stein up by 17 points by late September and 15 points by late October 2024. [LD076 at 11-12]. These events were "not an obscure 'insider politics' event," and instead were a "highly visible news story covered and commented on extensively even in the national media." [LD076 at 12]. Dr. Alford concluded that this race and the "highly publicized downturn" of Robinson's campaign was a "special circumstance," which makes it "less useful" when evaluating voting patterns. [LD076 at 12]. Likewise, Dr. Critchlow described Robinson as an "unusual candidate" in 2024. [Day 5 Tr. 102:23-24].

298.   Moreover, the fact that Robinson was Black and Stein was white was likely known by North Carolina voters before August 2024 because both had already served in statewide elected roles, [LD076 at 12], making Dr. Collingwood's assertion that voters were suddenly voting based on the race of the candidates in the 2024 election unlikely.

299.   The small differences between Dr. Collingwood's EI estimates and those of Dr. Alford's appear to be due to a difference in methodology. [LD076 at 2]. Dr. Collingwood appears

to be using an older, iterative version of EI, while Dr. Alford used the preferable non-iterative RxC technique that was developed by experts for larger tables like those in this case. [LD076 at 2-3].

300.   The result is that Dr. Collingwood's estimates show slightly higher Black cohesion and slightly lower white crossover voting. [LD076 at 3]. For example, Dr. Alford's results show Black voters supporting Democratic candidates at about 95 to 96%, while Dr. Collingwood's estimate was 99%. [LD076 at 3]. Dr. Alford's results also showed white voters crossing over to support Democratic candidates at rates of about 31-32% compared to Dr. Collingwood's estimate of 27 to 28%. [LD076 at 3].

301.   Unlike Dr. Collingwood's results, Dr. Alford's results are consistent with exit poll estimates for North Carolina in 2024. For example, those polls showed support for Kamala Harris at 36-37%, compared to Dr. Alford's 32%. [LD077 at 1]. Dr. Collingwood's estimate was several points lower at 27%. [LD076 at 3]. The exit polls estimated Black voter support for Trump at 11-12%, and Dr. Alford's result showed 6%. [LD077 at 1]. Dr. Collingwood's estimate was significantly lower at 1.4%. [LD076 at 3].

302.   There are also several occasions of Dr. Collingwood's estimates exceeding 100%—for example, the Supreme Court 6 race shows 99% support for the Democratic candidate statewide, and 1.4% for the Republican candidate, for a total of 100.4%. [LD076 at 5, Tbl. 2; PX279 at 23]. Similarly, the Superintendent of Public Instruction Race shows 99.3% Black support for the Democratic candidate, and 1.2% for the Republican candidate, for a total of 100.5%. [LD076 at 5, Tbl. 2; PX279 at 23]. These discrepancies mean Dr. Collingwood's estimates cannot be taken at face value.

303.   Dr. Collingwood criticizes Dr. Alford's confidence intervals and his treatment of third-party candidates. But Dr. Alford explained that the slight differences between his estimates

and Dr. Collingwood's estimates did not change his conclusion. [LD076 at 2]. Moreover, third-party candidates were present in just 6 out of the 14 elections analyzed, [PX280 at 6], and the difference between Dr. Collingwood's confidence intervals and Dr. Alford's are a few percentage points at most. [PX280 at 3]. It also cannot be assumed that Dr. Collingwood's confidence intervals are more accurate given his use of an older version of EI that is not the preferred method here. [*See* LD076 at 2-3].

VII.   Factors Relevant to Minority Voting Opportunity.

304.   Legislative Defendants called Andrew Taylor, Ph.D., as an expert in the totality of circumstances related to voting in North Carolina. Dr. Taylor received a B.A. in American Studies from the University of Canterbury, in the United Kingdom, an M.A. in Government from Lehigh University, and a Ph.D. in Political Science from the University of Connecticut. [Day 4 Tr. 208:10-13; LD062 at Appx. A].

305.   Dr. Taylor is a full professor in the Political Sciences department at North Carolina State University, where he has taught for 30 years and served as Department Chair. [Day 4 Tr. 208:18-25; LD062 at Appx. A]. His teaching experience includes courses on American politics and government, some of which cover the VRA and redistricting. [Day 4 Tr. 209:15-210:20; LD062 at Appx. A]. Dr. Taylor has authored and published numerous peer-reviewed articles, books, and chapters in edited books on these subjects. [Day 4 Tr. 210:21-212:13; LD062 at Appx. A]. Dr. Taylor also served as President of the North Carolina Political Science Association from 2012-2013. [Day 4 Tr. 209:1-4; LD062 at Appx. A]. Dr. Taylor was previously qualified as a testifying expert in the *Harper* litigation. [Day 4 Tr. 212:14-18; LD062 at 3].

306.   Based on this experience, Legislative Defendants tendered Andrew Taylor, Ph.D., as an expert in the following areas: political science with an emphasis on North Carolina politics,

voting, and elections; North Carolina political history; and comparative state and national laws, politics, and policies. [Day 4 Tr. 212:24-213:5].

307.   Legislative Defendants asked Dr. Taylor to respond to the report of Plaintiffs' expert, Dr. Burch, with respect to various factors relevant under VRA § 2. [Day 4 Tr. 213:9-11; LD062 at 5; PX021 at 3]. In her initial report, Dr. Burch surveyed data she claimed are relevant to Senate Factors 5, 6, and 7, including analysis of data on eleven counties she identified as part of North Carolina's "Black Belt" region.[13] [PX021 at 3, 34-35]. Dr. Taylor responded to Dr. Burch's report with analysis of Senate Factors 3, 5, 7, and 8. [Day 4 Tr. 213:9-11; LD062 at 5].

308.   While Dr. Burch and Dr. Taylor used similar methodologies as far as collecting data, their analytical approaches differed. At trial, Dr. Taylor characterized Dr. Burch's framework as a "descriptive approach" while he used a comparative analysis. [Day 4 Tr. 213:12-214:13; LD062 at 6]. Specifically, Dr. Taylor compared contemporary statewide indicators with those of other states now and North Carolina in the past. [Day 4 Tr. 213:17-214:8; LD062 at 6]. Where possible, Dr. Taylor also compared the eleven Black Belt counties with the rest of North Carolina. [Day 4 Tr. 214:9-12; LD062 at 6]. Dr. Taylor used a comparative analysis because it is a common approach among social scientists and because he understands that the language of the Senate Factors calls for it, by requiring an examination of "the extent to which" certain indicators or gaps exist—not just whether a gap exists in the first instance. [Day 4 Tr. 213:17-214:24].

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[13] Dr. Taylor testified that the "Black Belt" in political science and political history is a "pretty amorphous and elastic concept." [Day 4 Tr. 215:9-11]. However, for the purposes of responding to Dr. Burch's report, Dr. Taylor did not dispute Dr. Burch's use of the term to identify the eleven counties at issue in this case. [Day 4 Tr. 215:6-8, 216:1-4]. Likewise, for clarity, Legislative Defendants here refer to the eleven counties Dr. Burch identified as "the eleven counties at issue" or "the eleven Black Belt counties."

309. This approach also makes sense: the regrettable fact of racial discrimination was a national problem, and effects in terms of inequality are national in scale. There would be no purpose in examining whether factors related to past discrimination and current inequality exist where the outcome of such an examination will be the same every time. To be probative, the question must be framed in comparative terms.

310. Across the factors he examined, Dr. Taylor found that North Carolina's performance has improved over time and is unremarkable in a national context. [Day 4 Tr. 246:3-13; LD062 at 25-27]. He also determined that performance under these factors in the eleven Black Belt counties is unremarkable relative to other parts of the state. [Day 4 Tr. 246:3-11; LD062 at 25-27].

311. Dr. Donald Critchlow offered expert opinion on the extent to which campaigns are characterized by racial appeals and the extent to which Black members have been elected to office. [Day 5 Tr. 52:5-8].

312. Dr. Critchlow is a professor of history at Arizona State University and Director of the Center for American Institutions at that University. [Day 5 Tr. 49:18-22; LD061 at 32]. He holds a Ph.D. and M.A. in History from the University of California, Berkeley. [Day 5 Tr. 49:12-15].

313. His academic focus has been on American political history, a field that includes campaigns, elections, voter behavior, legislative promises and enactment, and public policy. [Day 5 Tr. 50:2-5]. He has taught courses and published peer-reviewed literature, including nine refereed books, on these topics. [Day 5 Tr. 50:6-11; LD061 at 32-35]. Dr. Critchlow has also studied and published on the topic of Civil Rights in the South, including the Voting Rights Act, and the role of race in American political campaigns. [Day 5 Tr. 51:4-13].

314. Dr. Critchlow also edits a peer-reviewed journal published by Cambridge University Press entitled the Journal of Policy History, which covers political history. [Day 5 Tr. 50:15-22].

315. Dr. Critchlow has been accepted by other courts as an expert witness in the field of history, and he has offered expert opinion on the "Senate Factors" in redistricting litigation. [Day 5 Tr. 51:14-22; *see also* LD061 at 2 (list of cases)].

316. The Court has accepted, without objection, Dr. Critchlow as an expert in the field of American history with a focus in political history. [Day 5 Tr. 51:23-52:1].

A.   The Extent of Any History of Voting-Related Discrimination

317. Though not expressly addressed by Dr. Burch's reports, Plaintiffs presented evidence regarding the history of voting-related discrimination in North Carolina. But the vast majority of the evidence presented was before 1985.

318. For example, when asked about the history of discrimination in Halifax County, Rodney Pierce cited to voting rights cases prior to 1985: *Alston v. Butts*, C.A. No. 875 (E.D.N.C. Temporary Restraining Order, May 8, 1964); *Walker v. Moss*, 246 N.C. 196, 97 S.E.2d 836 (1957); *Johnson v. Halifax Cnty.*, 594 F. Supp. 161 (E.D.N.C. 1984). [Day 1 Tr. 44:25-45:12, 51:20-52:4]. Pierce was in high school in Halifax County public-schools when the school funding case *Leandro v. State*, 346 N.C. 336, 488 S.E.2d 249 (1997) was first filed in 1994 in Halifax County Superior Court. [Day 1 Tr. 38:25-39:4]. Tellingly, Plaintiffs neither cited to nor testified about any more recent voting rights cases in the region.

B.   Degree to Which Voting is Polarized

319. Representative Reives testified that North Carolina contains increasing levels of political polarization, which have risen over the last two decades. [Day 1 Tr. 153:15-21]. He also

understood the Democratic Party to be the party of choice for most Black persons of voting age. [Day 1 Tr. 153:4-7].

320.   Originally appointed in 2014, Representative Reives has represented House District 54 ("HD54") in numerous configurations, none of which has never had a majority-BVAP population. [Day 1 Tr. 148:8-15]. HD54 is comprised of Chatham and Randolph counties, which Representative Reives considers to be rural. [Day 1 Tr. 148:16-18; D.E. 105 at 2]. Under the 2023 House Plan, HD54 has an 11.6% BVAP. [D.E. 105 at 2-3]. Representative Reives continues to believe that east of I-95, Black persons do not have to reside in a district that is greater than fifty-percent (50%) BVAP in order to elect their candidate of choice. [Day 1 Tr. 155:8-12].

321.   Consistent with Representative Reives' experience, Senator Blue continues to be elected from Senate District 14 ("SD14"), which has a BVAP of 44.18%. [Day 1 Tr. 99:5-11; JX006 at 13]. SD14 is wholly within Wake County. [JX001].

322.   Senator Blue attributed the victory of Kandie Smith in SD5—which comprises Pitt and Edgecombe counties—to white crossover voting. [Day 1 Tr. 80:5-25; JX001]. According to Senator Blue, racially polarized voting is "smaller" in the areas within SD5, which Senator Blue believes allows Black candidates to have a higher chance at success in the general election. [Day 1 Tr. 80:19-22]. Smith won the 2024 general election contest for SD5 by defeating white Republican candidate Alexander Paschal by a margin of 55.08% to 44.92%. [D.E. 105 at 12]. Senate District 5's BVAP is 40.35%. [D.E. 105 at 12].

323.   Representative Reives continues to believe that east of I-95, Black persons do not have to reside in a district that is greater than fifty-percent (50%) BVAP in order to elect their candidate of choice. [Day 1 Tr. 155:8-12].

324.   Although its specific configurations have changed over time, North Carolina's CD1 has been historically located in northeastern North Carolina. [D.E. 105 at 24-26 (¶¶ 112-117)].

325.   CD1 is currently composed of all of Bertie, Camden, Chowan, Currituck, Edgecombe, Gates, Granville, Greene, Halifax, Hertford, Lenoir, Martin, Nash, Northampton, Pasquotank, Perquimans, Tyrrell, Vance, Warren, Washington, Wayne, and Wilson Counties. [D.E. 105 at 25-26 (¶ 117)]. CD1 has a BVAP of 40.42%. [D.E. 105 at 23 (¶ 110)].

326.   Don Davis, an African American Democrat, currently represents CD1. [D.E. 105 at 24 (¶ 111)]. Congressman Davis was first elected in 2022, when the district had a BVAP of 41.23%. [D.E. 105 at 23 (¶¶ 108-109)]. Mr. Davis was successfully re-elected in 2024. [D.E. 105 at 24 (¶ 111)].

327.   Prior to Congressman Davis, G.K. Butterfield represented CD1 from 2004 to 2022. Day 1 Tr. 22:6-9. In fact, CD1 has been represented by an African American since 1992. [Day 1 Tr. 22:13-18, 30:6-12, 31:1-3; D.E. 105 at 22-24 (¶¶ 95-111)].

328.   During his tenure, Congressman Butterfield won elections in CD1 by significant margins. When the district was 47.76% BVAP, Congressman Butterfield won 63.98% of the vote in 2004, 100% in 2006, 70.28% in 2008, and 59.31% in 2010. [D.E. 105 at 22 (¶¶ 96-99); Day 1 Tr. 22:23-23:20].

329.   When the district was redrawn to 52.66% BVAP for the 2012 and 2014 elections, Congressman Butterfield believed this level was "excessive" and unnecessary." [Day 1 Tr. 24:14-25:11.] He won 75.32% and 73.38% of the vote in 2012 and 2014, respectively. [D.E. 105 at 22-23 (¶¶ 100-102); Day 1 Tr. 24:3-13].

330. Even after the district was redrawn to 44.5% BVAP, Congressman Butterfield continued to win by significant margins—68.62% of the vote in 2016, and 69.85% in 2018. [D.E. 105 at 23 (¶¶ 103-105); Day 1 Tr. 29:1-17].

331. There are multiple factors involved in winning an election, with fundraising being a "major contributor" to electoral success. [Day 1 Tr. 30:13-19]. "[N]ational issues," such as immigration and abortion, were at issue in Congressman Davis's campaign. [Day 1 Tr. 31:18-20]. Congressman Davis was ultimately able to "engage successfully in fundraising" and prevail against a "formidable" opponent. [Day 1 Tr. 30:20-31:6].

332. Plaintiffs attempted to offer testimony from Congressman Butterfield about the existence of racially polarized voting in northeastern North Carolina and the level of BVAP necessary in CD1 to elect a Black-preferred candidate. [*See* Day 1 Tr. 14:25-17:7]. But Congressman Butterfield admitted his "methodology was not scientific," was a "back-of-the-envelope analysis," [Day 1 Tr. 16:15-19], and was far from the way an expert would conduct an analysis. [Day 1 Tr. 27:15-20, 28:11-13]. Congressman Butterfield has never performed an ecological inference analysis, and did not analyze any of the counties for his testimony in this case. [Day 1 Tr. 28:14-20].

333. But even Congressman Butterfield agreed that districts above 50% BVAP are not necessary in northeastern North Carolina. [Day 1 Tr. 19:25-19:8; s*ee also id*. at 25:20-24]. Congressman Butterfield acknowledged that the level of BVAP needed in a district has decreased over time, [Day 1 Tr. 19:2-8], and agreed that a district drawn at 45% BVAP would be "competitive." [Day 1 Tr. 27:1-4].

C.   **Whether Voting Procedures Enhance Opportunity for Discrimination**

334.   Experts also disputed the extent to which North Carolina has used voting practices or procedures that tend to enhance the opportunity for discrimination against the minority group. [Day 4 Tr. 235:4-6; LD062 at 18-20].

335.   Examples of such suspect voting practices include unusually large election districts, majority-vote requirements, and prohibitions against single-shot voting. [LD062 at 5]. The vast majority of evidence presented by Plaintiffs involved prior redistricting litigation that has since ended. [*See* PX117 at 24]. This is irrelevant to current electoral opportunity because the litigation is over. When questioned on cross-examination about the impact of the districts struck down in *Covington* as racial gerrymanders, Dr. Taylor emphasized that even those districts did not impact the physical act of voting—all citizens were still able to cast their ballot. [Day 5 Tr. 42:23-43:12].

336.   Dr. Taylor found that North Carolina has basic election practices typical of the rest of the country. [LD062 at 18]. For example, he testified that the North Carolina General Assembly does not have unusually large election districts, nor do their elections have cumulative voting. [Day 4 Tr. 235:7-9].

D.   **Effects of Past Discrimination on the Minority Group's Ability to Participate in the Political Process**

337.   The experts considered the extent to which members of the minority group bear the effects of discrimination in areas such as education, employment, and healthcare, which hinder their ability to participate effectively in the political process. [Day 4 Tr. 216:14-17; LD062 at 5; PX21; Day 3 AM Tr. 110:18-110:23 (Burch)].

338.   Dr. Taylor does not dispute that North Carolina has a history of discrimination in relevant areas through the 1980s. [Day 4 Tr. 249:24-250:2; Day 5 Tr. 15:5-11, 16:10-13; LD062 at 7]. Nor does Dr. Taylor dispute that in some instances, racial disparities continue to exist

between Black and white residents of North Carolina. [Day 5 Tr. 22:2-9; LD062 at 26-27]. However, Dr. Taylor's comparative and temporal analyses revealed that, since 1982, North Carolina's racial gaps in the areas of education, employment, and healthcare are no worse than the rest of the nation, and indeed are better based on some metrics. [LD062 at 26-28].

339.   Dr. Burch admits that the relevant legal inquiry (Senate Factor 5) looks to racial disparities "in the jurisdiction at issue in the case." [Day 3 PM Tr. 26:13-14]. Dr. Burch admitted that socioeconomic racial disparities are a national problem, at least in part. [Day 3 PM Tr. 65:14-17]. In fact, in all previous cases where Dr. Burch has testified about the Senate Factors, she opined that the state at issue had socioeconomic racial disparities. [Day 3 PM Tr. 65:10-13]. She has never found a state lacking such a disparity. *See id*.

340.   Dr. Burch acknowledged that Dr. Taylor argued that North Carolina compares favorably on some racial disparity metrics relative to the rest of the country. [Day 3 PM Tr. 23:17-24:6].

341.   Dr. Burch did not report voter turnout disparities by race in her opening report, [PX21; Day 3 PM Tr. 64:3-7], nor did she calculate voter turnout disparities in the Black Belt counties. [PX21; PX117; Day 3 PM Tr. 64:9-13]. Dr. Burch asserts she was not "asked" to report on the existence or magnitude of a voter turnout disparity by race in North Carolina. [Day 3 PM Tr. 64:7].

1.   Education

342.   Because diverse socioeconomic areas with varying data availability are relevant to a wholistic consideration of education, Dr. Taylor did not use a single comparator consistently across all considerations. [Day 5 Tr. 26:3-7]. To evaluate Dr. Burch's claims on education, Dr.

Taylor analyzed school segregation rates, racial gaps in student test scores, graduation rates, and higher education attainment and enrollment rates. [LD062 at 7-12].

343.   Dr. Burch examined educational disparities, but she did not analyze the degree to which educational attainments contributed to any observed voter turnout differences in North Carolina. [Day 3 PM Tr. 64:19-65:2].

344.   Dr. Burch used statewide data to analyze racial disparities between black and white students in North Carolina. [PX21; Day 3 AM Tr. 111:25-112:18]. Dr. Burch also used data from the North Carolina Department of Public Instruction to analyze student proficiency in reading and math, which was statewide data. [Day 3 AM Tr. 116:9-17]. Dr. Burch used data from the Stanford Education Data Archive to analyze county health rankings, which included reading and math test scores of third graders at the county level. [PX27; PX28; Day 3 AM Tr. 118:3-120:7].

345.   Dr. Burch relied on the 2022 ACS one-year estimates for data regarding statewide racial disparities in educational attainment. [Day 3 AM Tr. 112:20-113:4]. However, Dr. Burch admitted that not every county is surveyed, and some may be missing in the ACS one-year estimates, [Day 3 AM Tr. 113:15-20], so it is not likely that all relevant North Carolina counties were included in the estimate she relied upon. For other portions of her socioeconomic disparity analysis, Dr. Burch relied on the 2021 five-year ACS estimates. Although there were more recent 2022 five-year ACS estimates available at the time Dr. Burch issued her report, *see* [Day 2 Tr. 92:7-12] (Esselstyn conceding 2022 ACS estimates available as early as January 2024); [Day 4 Tr. 141:1-7] (Dr. Trende advising the same),[14] Dr. Burch did not use that more recent data. [Day 3 PM Tr. 67:17-23; PX21 at 12-17 & Figs. 4-8].

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[14]   *See also* U.S. Census Bureau, *2022 Data Release New and Notable*, https://www.census.gov/programs-surveys/acs/news/data-releases/2022/release.html   (visited Mar. 13, 2025) (confirming "2018-2022 ACS 5-year Estimates" published by January 25, 2024).

a.   School Segregation

346.   First, Dr. Taylor analyzed data from the National Center for Education Statistics compiled from 1990 to 2024 by education researchers to create a "Segregation Index." [Day 4 Tr. 206:20-25, 218:4-5; LD062 at 7-8]. The Segregation Index provides a score that is a variance ratio or evenness index measuring the difference between white and nonwhite students in their exposure to students from the other group. [Day 4 Tr. 217:7-15, 218:8-13; LD062 at 8]. A perfect exposure score would reflect an exposure rate that is roughly proportionate to the population of a given racial group in the jurisdiction. [Day 4 Tr. 218:25-219:6]. However, as Dr. Taylor testified, it is practically impossible for a jurisdiction to have a perfect exposure score because of residential patterns. [Day 4 Tr. 219:7-11].

347.   Using the Segregation Index, Dr. Taylor found that North Carolina schools are less segregated compared to the rest of the nation. [Day 4 Tr. 218:21-24; LD062 at 9]. The average white student in North Carolina attends a school that is 30-35% nonwhite, while the average white student in the U.S. nationally attends a school that is 25-30% nonwhite. [Day 4 Tr. 218:16-20; LD062 at 9]. At these rates, North Carolina schools are not considered "predominantly same race/ethnicity," according to the Government Accountability Office.[15] [LD062 at 9]. Dr. Taylor's analysis provides context to the dissimilarity index Dr. Burch uses in her report. [Day 5 Tr. 46:16-47:8; PX021 at 6, n.19].

348.   Analyzing the segregation rates in the eleven counties at issue, Dr. Taylor found that the population makeup of the schools was roughly proportionate to the overall population averaged across the eleven counties. [Day 4 Tr. 220:5-8; LD062 at 9-10]. In fact, comparing white

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[15] The Government Accountability Office (GAO), in a June 2022 report to the chair of the U.S. House Committee on Education and Labor, characterized schools with populations of 75% or more students of a single race as "predominantly same-race." [LD062 at 9].

versus Black student population scores for 2022, Dr. Taylor found that, although schools in the eleven counties were slightly more segregated compared to the rest of the state, school segregation for the region had improved since 1991. [Day 4 Tr. 220:5-17; LD062 at 9-10].

b. Test Scores

349. Dr. Taylor also analyzed data on racial gaps in student test scores. [Day 4 Tr. 220:18-19; LD062 at 10-11]. As part of his comparative approach, Dr. Taylor did not look simply to see whether any gaps in attainment existed between white and Black North Carolinians, but rather how attainment rates in North Carolina compare to those across the nation. [Day 4 Tr. 221:15-18]. Using 2022 data from the National Assessment of Educational Progress's "Nation's Report Card," which publishes proficiency scores in math and reading for grades 4 and 8, Dr. Taylor observed that North Carolina's white and Black students are at the national average for their demographic groups. [Day 4 Tr. 220:19-221:6; LD062 at 10]. Indeed, although a gap existed between white and Black student performance, the racial gaps in North Carolina were less than in the country as a whole. [Day 4 Tr. 221:5-10; LD062 at 10].

350. Analyzing the racial gap in test scores in the eleven counties, Dr. Taylor compared test scores in the eleven Black Belt counties against the eleven largest counties in North Carolina. [Day 4 Tr. 222:23-223:3; LD062 at 11]. Dr. Taylor found that the racial gap average for the eleven Black Belt counties was a gap of 0.63 points for reading and 0.5 points for math, while it was a gap of 0.79 points for reading and 0.93 points for math in the eleven largest counties in North Carolina. [Day 4 Tr. 223:3-9; LD062 at 11].

351. Dr. Burch also reported on racial gaps between white and Black student test scores in the eleven Black Belt counties, but she used data published by the University of Wisconsin Population Health Institute that was four years older than the testing data upon which Dr. Taylor primarily relied. [PX021 at 10-11; Day 4 Tr. 221:25-222:4]. Because Dr. Burch used data from

2018, her report and data could not include considerations for how the COVID-19 pandemic may have impacted test scores, though she speculated at trial as to its impact. [PX021 at 10-11; Day 4 Tr. 222:11-14]. Conversely, no speculation was necessary with Dr. Taylor on this point because his data from 2022 did account for potential impact on scores due to the pandemic. [Day 4 Tr. 222:15-16].

352.   Additionally, Dr. Taylor analyzed the same University of Wisconsin Population Health Institute test score data that Dr. Burch reviewed, and he found that a more comprehensive review of the same data set revealed that, while a racial gap existed in all eleven counties, the gap for third graders in the counties was relatively small compared to the gaps noted in other national and statewide data sets. [Day 5 Tr. 6:23-8:20; LD062 at 11].

c.   Graduation Rates

353.   Dr. Taylor also analyzed data on high school graduation rates by race. [Day 4 Tr. 223:12-13; LD062 at 10-11]. Using data from the National Center for Education Statistics from the 2021-22 school year, Dr. Taylor found that the adjusted cohort graduation rate ("ACGR") between white and Black high school students was narrower in North Carolina than the rest of the Nation. [Day 4 Tr. 223:13-24; LD062 at 11]. Specifically, in North Carolina the ACGR difference between whites and Blacks was 7 percentage points, compared to 9 percentage points nationally. [Day 4 Tr. 223:24-224:1; LD062 at 11]. Since the white graduation rate was the same in North Carolina as the rest of the nation at 90%, North Carolina's smaller racial gap in graduation rates was attributable to the Black graduation rate in North Carolina being 2% higher at 83% than the national Black graduation rate of 81%. [Day 4 Tr. 224:1-4; LD062 at 11].

354.   Dr. Burch analyzed graduation rates using data reflecting the percentage of white and Black residents who are 25 years and older without a high school diploma in the eleven Black Belt counties. [Day 4 Tr. 224:10-14; PX021 at 12]. Unlike Dr. Taylor's direct observation of the

graduation rates of North Carolina high schoolers, Dr. Burch's methodology introduced additional variables, as it captured individuals who move into the state without a diploma and missed individuals who graduated in the state and then left before being surveyed. [Day 4 Tr. 224:15-225:3].

d. Higher Education

355. Dr. Taylor also analyzed data on higher education attainment rates by race. [Day 4 Tr. 225:11-13; LD062 at 12]. According to data published by the University of North Carolina System, the proportion of Black students enrolled in UNC System colleges increased from 20.5% in 2014 to 21.2% in 2023, making enrollment roughly equivalent to the proportion of the state's total population that is Black. [Day 4 Tr. 226:13-18; LD062 at 12]. Dr. Burch conceded this point. PX117; Day 3 AM Tr. 122:11-123:7.

356. In 2016, the North Carolina General Assembly enacted the NC Promise, which reduced tuition to $500 at four UNC System universities.[16] [Day 4 Tr. 225:24-226:2; LD062 at 12; Day 3 PM Tr. 68:8-11 (Burch)]. Two of the colleges offering this reduced tuition rate are historically Black colleges or universities: Elizabeth City State University and Fayetteville State University. [Day 4 Tr. 226:3-5; LD062 at 12; Day 3 PM Tr. 68:12-18 (Burch)].

357. Dr. Burch criticized the enrollment rate of Black students at UNC Chapel Hill, one of the sixteen universities in the UNC System [Day 3 PM Tr. 69:14-70:4; PX117 at 5-6], which Dr. Taylor explained at trial is North Carolina's high-value public university system. [Day 4 Tr. 226:25-227:3, 227:13-16]. Dr. Burch's treatment of the offerings at the fifteen other UNC System universities—which Dr. Taylor described as dismissive and seemingly arbitrary—failed to account

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[16] The tuition reduction took effect in 2018, after being passed as part of the 2016 State budget. [Day 4 Tr. 225:25-226:1].

for several factors students consider when selecting a college, including what degree programs are offered. [Day 4 Tr. 227:4-25].

358.   Dr. Burch argues that it is inappropriate to look at the System-wide data because Dr. Burch alleges that there are differences in "prestige" and "resources" between different schools in the System, [Day 3 AM Tr. 122:22-25], but she admits that she did not consider the North Carolina Promise Tuition Plan in her rebuttal report's discussion of UNC enrollment data as a possible explanation for differences between Black enrollment figures at different UNC universities. [PX117; Day 3 PM Tr. 68:5-7]. Dr. Burch never studied whether students applying to the UNC system would be more likely to select a campus eligible for the Promise Tuition Plan. [Day 3 PM Tr. 70:5-10].

359.   Dr. Burch never analyzed whether there were disparities in educational funding between majority-minority and majority-white school districts in North Carolina, even though that type of analysis is something she has done in other cases where she has served as an expert. [Day 3 PM Tr. 70:11-71:3]. In fact, Dr. Burch admitted that there was data showing that some majority-nonwhite school districts in North Carolina receive more education funding on a per-pupil basis than majority-white districts in North Carolina. [Day 3 PM Tr. 71:4-10].

360.   Since 2009, North Carolina has seen a steady increase in the portion of Black residents who have attained a college degree. [Day 4 Tr. 225:16-23; LD062 at 12]. According to 2020 data from the Lumina Foundation's "Stronger Nation" project, the proportion of Black North Carolinians with a bachelor's degree or higher is 0.6 percent higher than the national average: 26.9% versus 26.3%. [Day 4 Tr. 225:16-23; LD062 at 12].

361.   Dr. Taylor did not dispute any of the numbers Dr. Burch reported in terms of the gaps between Black and white educational achievement in North Carolina; rather, Dr. Taylor

contextualized Dr. Burch's report by showing that these gaps in achievement are similar to or less than national averages. [Day 4 Tr. 257:15-258:7, 260:8-13, 262:23-263:1; LD062 at 7-12, 27].

2.   Economics

362.   To evaluate the socioeconomic conditions described by Dr. Burch, Dr. Taylor analyzed data on unemployment rates by race. [Day 4 Tr. 230:3-10; LD062 at 12-13]. Using data from the Economic Policy Institute, Dr. Taylor found that from 2010 to 2023, the Black unemployment rate in North Carolina fell from 17.2% to 5.4%, bringing it from 1.3% above the national average in 2010 to 5.8% below the national average in 2023. [Day 4 Tr. 230:3-10; LD062 at 12-13]. While the Black unemployment rate in the eleven Black Belt counties was slightly higher than the North Carolina average, at 5.6% in 2023 according to data published by the North Carolina Office of State Budget and Management ("OSBM"), it was still 0.2% lower than the national average. [Day 4 Tr. 230:13-16; LD062 at 13].

363.   Dr. Taylor also analyzed data on poverty rates by race. [Day 4 Tr. 230:17-18; LD062 at 13]. Using data from the North Carolina OSBM, Dr. Taylor observed that the percentage of Black residents in the eleven counties in poverty came down nearly four percentage points, going from 29.6% in 2010 to 25.7% in 2022, a greater improvement than what was observed for the state as a whole. [Day 4 Tr. 230:24-231:3; LD062 at 13].

364.   Dr. Burch looked at various economic statistics in North Carolina, starting with Black median income. Dr. Burch cited statistics showing that average Black median household income is lower in the 11 counties she focused on than the statewide average, [Day 3 PM Tr. 11:20-13:2]. However, Dr. Burch admitted that white median household income is also lower in those counties than the statewide average. [PX21; Day 3 PM Tr. 71:22-72:1].

365.   Dr. Burch also discussed homeownership statistics, arguing that racial disparities in homeownership can reduce voter registration and turnout because of the burden of maintaining one's voter registration when one moves. [Day 3 PM Tr. 72:9-13].

366.   However, Dr. Burch did not study the ways in which North Carolinians can register to vote in the state. [Day 3 PM Tr. 72:17-20]. For example, Dr. Burch did not consider that North Carolina allows 18 days of same day registration. [Day 3 PM Tr. 72:21-73:8]. Dr. Burch also did not consider that North Carolina allows voters to update their registration through the state's Division of Motor Vehicles. [Day 3 PM Tr. 73:9-18]. Dr. Burch did not study the length of rental periods in northeastern North Carolina, and was unaware of the frequency with which voters move. [Day 3 PM Tr. 73:19-74:2].

367.   Dr. Burch also discussed discriminatory lending practices. However, Dr. Burch did not find any recent examples of discriminatory red lining or other mortgage lending practices in the 11 Black Belt counties. [Day 3 PM Tr. 74:3-25]. And the one example of allegedly discriminatory mortgage lending practices she did find in North Carolina involved a single lender whom Dr. Burch agreed had only "a small part of the mortgage market in the state." [Day 3 PM Tr. 74:3-10].

3.   Healthcare

368.   In terms of health, Dr. Taylor analyzed data on life expectancy by race. [Day 4 Tr. 231:8-10; LD062 at 13-14]. Using data from the U.S. Center for Disease Control and Prevention's National Center for Health Statistics and the Division of Public Health in the North Carolina Department of Health and Human Services, Dr. Taylor observed that since 1990 the racial disparity in life expectancy has become narrower in North Carolina than the national average. [Day 4 Tr. 231:8-17; LD062 at 13-14]. Specifically, in 1990 the difference in life expectancy between whites and Blacks was 6.3 years, in North Carolina and nationally, but by 2020, although the national gap

had lowered to 5.9 years, in North Carolina the gap was down to 4.5 years. [Day 4 Tr. 231:12-17; LD062 at 14]. For the eleven Black Belt counties, the racial gap was even lower, at 3.2 years. [Day 4 Tr. 231:23-25; LD062 at 14].

369.   Dr. Burch did not analyze disparities in health insurance coverage within the 11 Black Belt counties. [Day 3 PM Tr. 75:16-24].

370.   Dr. Burch also testified that people who are ill and need a "helper or caregiver who is not always accessible" may face a "physical disability" that acts as a barrier to voting. [Day 3 PM Tr. 17:14-16]. However, she did not analyze curbside voting in North Carolina for voters with disabilities. [Day 3 PM Tr. 75:7-15].

4.   Criminal Justice

371.   For criminal justice, Dr. Taylor analyzed data on incarceration rates by race. [Day 4 Tr. 232:4-5; LD062 at 15]. Using data from the Prison Policy Initiative and U.S. Census, Dr. Taylor observed that, while nationally the Black incarceration rate is 6 times greater than the white incarceration rate, in North Carolina the Black incarceration is 3.7 times greater. [Day 4 Tr. 232:11-14; LD062 at 15]. On this topic, Dr. Burch chose to compare North Carolina to other states—but only eleven Southern states. [Day 4 Tr. 232:15-233:6; PX117 at 7]. Of these eleven Southern states, North Carolina ranked fourth from the bottom for Black-white incarceration disparity. [Day 4 Tr. 232:15-233:6; PX117 at 7]. Dr. Taylor testified that comparing to only a select number of states was not as appropriate as his methodology of comparing North Carolina to national performance. [Day 4 Tr. 233:7-13].

E.   The Extent to Which Campaigns Are Characterized by Racial Appeals

372.   Dr. Burch also assessed the extent to which racial appeals are part of political campaigns in North Carolina. Dr. Critchlow responded to that analysis.

373.   Dr. Critchlow studied the Senate Judiciary Committee report accompanying the 1982 amendments to the Voting Rights Act. He found the report does not clearly define what a "racial appeal" is for purposes of the sixth Senate Factor. [Day 5 Tr. 53:7-15; LD061 at 14-16].

374.   Dr. Critchlow, however, found multiple prominent examples in the public discourse of racial appeals from the time the Senate was considering the 1982 amendments. He mentioned, among other examples, former Alabama governor George Wallace declaring "segregation now and forever" in the 1960s, after which he pivoted to a discussion of "states' rights" during campaigns in the late 1960s and early 1970s; a Los Angeles mayoral candidate, Sam Yorty, claiming during his 1969 and 1973 campaigns that Black voters were racist because they supported Black candidates, including in 1973 when he faced Thomas Bradley, a Black candidate; and criticism of Presidents Jimmy Carter for promising during his 1976 campaign to preserve "ethnic purity" of neighborhoods, and Ronald Reagan for discussing "states' rights" during his 1980 campaign. [Day 5 Tr. 53:16-55-25; LD061 at 14-15].

375.   Dr. Critchlow also testified that references to "states' rights" by Wallace would be recognized by voters as a reference to Wallace's opposition to racial integration. [Day 5 Tr. 55:14-25].

1.   Methodologies

376.   To evaluate Dr. Burch's assertions about the use of racial appeals in North Carolina political campaigns, Dr. Critchlow first developed what he terms a more objective methodology to study that question. [Day 5 Tr. 56:12-16]. Specifically, Dr. Critchlow relied on a newspaper survey, which is commonly relied upon by historians in conducting historical research and is a standard methodology in the field of political research. [Day 5 Tr. 56:24-57:16].

377.   Dr. Critchlow found that newspapers are a good source and the most ready source to systematically study charges of racial appeals or charges of racism in political campaigns. [Day

5 Tr. 57:3-13]. This is because newspapers provide coverage of political events and charges of racism are likely to garner public attention and controversy. [*Id.*]. Newspaper surveys can provide a sense of what is controversial or important to the public, as well as a rough sense of public opinion. [Day 5 Tr. 57:17-25].

378.   Dr. Critchlow selected a series of 14 newspapers in North Carolina for his survey, all of which are on a popular newspaper aggregation service known as Newspapers.com. [Day 5 Tr. 568:3-5; LD061 at 7-8]. Those newspapers included the Herald-Sun (Durham), News and Observer (Raleigh), Charlotte Observer, Winston-Salem Journal, Rocky Mount Telegram, Ashville Citizen-Times, News and Record, (Greensboro), Butner-Creedmoor News, Hickory Daily Record, News Herald (Morganton), Chatham News (Siler City), Salisbury Post, Statesville Record & Landmark, and Stanly News and Press (Albemarle). [LD061 at 7]. Dr. Critchlow searched from 2008 to approximately June 2024 (when research for his report concluded). [LD061 at 7; Day 5 Tr. 58:9-20].

379.   For Dr. Critchlow's survey, he identified the general election candidates for the 20 contests for three offices between 2008 and 2024: North Carolina Governor, U.S. Senate, and Representative for North Carolina's First Congressional District. He selected these races as ones that would attract the most attention (and, in the case of CD1, a congressional seat that overlapped the territory of SD1 and SD2 at issue in this case). [Day 5 Tr. 58:21-59:4; LD061 at 6].

380.   He then searched news coverage of each contest, for each candidate, for stories matching the terms "racism," "bigotry," and "issues." [LD061 at 6]. He testified that he reviewed "hundreds" of articles matching search terms. [Day 5 Tr. 93:16-94:1]. He determined that the terms were broad enough to be inclusive of the issues he was attempting to capture, with the term "racism" returning 114 articles and "bigotry" returning 85 articles. [Day 5 Tr. 59:5-12]. After

reviewing the articles matching the search parameters, Dr. Critchlow prepared Table 2 to his report. [Day 5 Tr. 61:8-23; LD061 at 11-12].

381.   Dr. Critchlow's methodology did not "rely specifically on a definition of overt or subtle racial appeals," but rather looked at newspaper reports for accusations of racism in campaigns—a measure Dr. Critchlow found was "an objective measure that went beyond any kind of subjective or scholarly debate … over what a racial appeal is." [Day 5 Tr. 60:18-61:2].

382.   In contrast, Dr. Burch agreed that her report did not provide a statistical or systematic analysis of racial appeals in North Carolina, [Day 3 PM Tr. 83:5-9], and even acknowledged that she had a "hard time envisioning what that [i.e., a statistical evaluation] would look like." [Day 3 PM Tr. 80:17-22].

383.   When Dr. Burch searched for evidence of racial appeals, she did not use any database in particular to search for examples of racial appeals, instead using an undefined mixture of Google, various websites, and searches of social media and campaign websites for some, but not all, North Carolina candidates. [Day 3 PM Tr. 76:11-77:9].

384.   Dr. Burch did not keep a list of the websites and social media she reviewed. [Day 3 PM Tr. 77:10-12]. Dr. Burch did not keep a list of the search terms that she used to discover and analyze racial appeals of North Carolina political candidates. [Day 3 PM Tr. 77:23-25]. Dr. Burch did not provide any documentation of searches she conducted that did not result in finding an alleged racial appeal—or the identities of campaigns where she could not find any evidence of the campaign(s) making a racial appeal. [Day 3 PM Tr. 79:13-18].

385.   Dr. Critchlow was critical of Dr. Burch's approach, which in his opinion was not systematic or statistical in nature. [Day 5 Tr. 66:3-12]. He pointed out that Dr. Burch's approach was not replicable (unlike his approach, which was replicable) because she did not clearly identify

a methodology, demonstrate how she selected or used sources, or otherwise employed a systematic approach. [Day 5 Tr. 66:13-67:3].

2. Dr. Critchlow's Results

386. Table 2 reports the results of Dr. Critchlow's newspaper survey. He identifies, for each campaign in each of the 20 contests, what campaign issues received coverage and whether charges of racism were reported. [LD061 at 11-12]. He reported that of the 40 campaigns, charges of racism were reported in just two—Bev Perdue's campaign for Governor in 2008, and Pat McCrory's campaign for Governor in 2012—which were from over a decade ago. Day 5 Tr. 62:19-63:4. That amounts to 2 campaigns with a charge of racism out of 40 campaigns during the period of Dr. Critchlow's study. [LD061 at 12].

387. In his report, Dr. Critchlow discusses the two examples he found. In 2008, Perdue was accused of being a KKK sympathizer because of a legislative vote she took and because convenience stores she was connected with stocked Confederate-themed items. Perdue disputed the charge and had Black legislators vouch for her policies, record, and character. [LD061 at 8 & fn.2]. Likewise, in 2012, McCrory was criticized for an ad featuring a former Democratic Sheriff from Eastern North Carolina who supported McCrory. McCrory's campaign denied the ad had anything to do with race, and a Charlotte Observer newspaper editorial argued that turning policy differences into racism is not helpful. [LD061 at 8 & fn. 4]. The North Carolina Democratic Party that year also attempted to tie McCrory (the Republican candidate) to Donald Trump (before he became a candidate), who had raised "birtherism" allegations involving President Obama. However, the charge appeared to Dr. Critchlow to be guilt by association, since McCrory had not mentioned President Trump or "birtherism." [*Id.*]. Although these are examples where charges of racism were alleged, they do not appear to be legitimate racial appeals.

388.   On cross-examination, Dr. Critchlow did acknowledge that, based on events that post-dated the end of his research for this case, he would have identified a charge of racism in Mark Robinson's campaign for Governor in 2024, bringing the total to 3 campaigns out of 40. [Day 5 Tr. 104:18-105:5]. Dr. Critchlow noted that Mark Robinson was "an unusual candidate" and finished well behind President Trump in the 2024 election in North Carolina, as President Trump carried North Carolina and Mr. Robinson only got 40% of the vote in his own campaign. [Day 5 Tr. 102:23-103:1].

389.   However, even counting Robinson's 2024 gubernatorial campaign, Dr. Critchlow found that just 3 campaigns out of 40 (i.e., 7.5%) for the three offices he examined during that 16-year period contained a charge of racism. Dr. Critchlow's newspaper survey found that political campaigns in North Carolina focused on the "bread and butter issues," such as the economy, taxes, health care, and education, in an effort to attract voters. [Day 5 Tr. 62:4-8; LD061 at 11].

390.   Dr. Critchlow did not find evidence, overall, in his newspaper survey of any pervasive emphasis on racism during the campaigns he studied. [Day 5 Tr. 65:25-66:2].

3.   Dr. Burch's Results

391.   Dr. Burch provided examples of what she asserted were racial appeals used in North Carolina election campaigns between 2018 and 2024. [Day 3 PM Tr. 81:9-14]. These campaigns ran the gamut from statewide elected officials, Members of Congress, state legislative campaigns, and campaigns for local and county offices. [Day 3 PM Tr. 81:12-25].

392.   Dr. Burch agreed that, during the four election cycles she studied (2018, 2020, 2022, and 2024), there were as many as 680 General Assembly campaigns, plus "hundreds" of countywide campaigns across North Carolina's 100 counties, plus statewide and Congressional candidates. [Day 3 PM Tr. 82:1-24]. Dr. Burch agreed there could have been over 1,000 election contests across all the offices she reviewed between 2018 and 2024. [Day 3 PM Tr. 82:25-83:4].

393.   Dr. Critchlow also observed that Dr. Burch's evidence did not show a prevalence of racial appeals in North Carolina politics. He pointed out that her own work identified alleged racial appeals in just 16 campaigns over a multiple-year period for a wide range of offices in North Carolina, including everything from statewide contests to General Assembly and Congressional offices all the way down to local offices, like sheriff and school board. [Day 5 Tr. 67:10-19; LD061 at 13-14]. But while Dr. Burch provided a numerator (16 campaigns with an alleged racial appeal), she did not provide the denominator for that equation—i.e., the total number of candidates or contests for all the offices in North Carolina that she looked at. Given the number of county and local offices, plus all the state and federal offices, there would be "hundreds and hundreds upon hundreds" of such contests in the denominator—per election cycle. [Day 5 Tr. 68:17-23].

394.   In other words, without knowing both the numerator and denominator, it is impossible to quantify how pervasive alleged racial appeals are in campaigns in a jurisdiction (here, North Carolina) just by looking at the number of alleged racial appeals Dr. Burch identified over a multi-year period. [Day 5 Tr. 68:14-16]. If Dr. Burch's 16 appeals arose from 20 campaigns, that might lead to a different conclusion on the prevalence of appeals in campaigns than if the 16 appeals arose from 500 campaigns or 1,000 campaigns.

395.   Dr. Critchlow then offered methodological criticisms of how Dr. Burch identified implicit racial appeals. He pointed out that Dr. Burch's approach treated legitimate policy concerns, like illegal immigration or crime, as racial appeals—even as a 2024 CBS/YouGov poll found that 62% of registered voters, including 53% of Hispanic registered voters, favored the deportation of illegal immigrants. [LD061 at 16-17; Day 5 Tr. 70:5-17].

396.   Likewise, Dr. Burch treated discussion of rising crime rates as potentially "coded" racial language, even as North Carolina crime statistics showed significant increases in crime.

From 2013 to 2022, Dr. Critchlow reported North Carolina crime statistics showing murders were up 76.9%, rape up 81.2%, aggravated assault up 53.5%, and motor vehicle theft up 30.6%. [LD061 at 17; Day 5 Tr. 70:21-71:22].

397.   Finally, while discussion of affirmative action was identified as a potential racial appeal, Dr. Critchlow cited a 2019 Pew survey showing that a majority of Americans, both white and Black, thought that a person's qualifications should be more important for employment than a person's racial identity. [Day 5 Tr. 72:9-16; LD061 at 19]. Dr. Critchlow testified that this survey showed that affirmative action was a legitimate area of political discourse and debate. [Day 5 Tr. 72:17-20].

398.   Dr. Burch defines a racial appeal as a communication that primes anti-minority racial, fear, resentment, and bias through a variety of audiovisual and textual cues that associate persons of color with longstanding negative racial stereotypes. [Day 3 PM Tr. 86:12-22]. Dr. Burch also asserted that racial appeals can be subtly activated—including by appealing to racial "egalitarian" ideas—and do not specifically have to talk about race. [Day 3 PM Tr. 86:22-87:6].

399.   To describe how racial appeals work, Dr. Burch testified concerning her opinion that the phrase "sanctuary city" can be a "code word" that can constitute an implicit racial appeal. [Day 3 PM Tr. 88:11-15]. She testified that a "sanctuary city" was a city that might "agree not to work with federal agencies in order to report people for certain crimes" and whose employees "won't ask about immigration status." [Day 3 PM Tr. 88:16-22]. Dr. Burch did not dispute that the term "sanctuary city" was initially used by mayors and governors in the Democratic Party. [Day 3 PM Tr. 89:2-7].

400.   Dr. Burch did not test North Carolina audiences in 2024 to determine if terms like "sanctuary city" or "illegal immigration" would prime anti-minority attitudes in the State. [Day 3

PM Tr. 89:14-90:1]. Testifying further, Dr. Burch said she did not do her own particularized experiment on North Carolina voters' reactions to racial code words because she did not have the resources to do it for this case. [Day 3 PM Tr. 90:5-10].

401.   Dr. Burch then admitted that illegal immigration was an issue of public concern in 2024 and discussing it on its own is not a racial appeal. [Day 3 PM Tr. 90:18-91:5].

402.   In the 2024 North Carolina Attorney General race, Dan Bishop released an ad attacking Jeff Jackson for using the popular social media platform TikTok. [PX21; Day 3 PM Tr. 91:6-20]. Dr. Burch stated that the TikTok ad was an explicit racial appeal, [Day 3 PM Tr. 91:11-13], and that the candidate sponsoring the ad "rel[ied] on specific stereotypes of Asian American perpetual foreignness." [Day 3 PM Tr. 92:19-93:9]. However, she admitted that both candidates in the 2024 North Carolina Attorney General race were white men and then-incumbent Members of Congress. [Day 3 PM Tr. 91:14-20].   Dr. Burch also admitted that there were security and espionage concerns raised because of the Chinese government's ownership of TikTok and there was federal legislation passed to address those concerns. [Day 3 PM Tr. 91:21-92:9]. Dr. Burch admitted that the concerns around TikTok were bipartisan. [Day 3 PM Tr. 92:16-18]. Notably, Jeff Jackson won the 2024 North Carolina Attorney General contest, [Day 3 PM Tr. 94:1-3], making this an example of a contest where the campaign accused of making the racial appeal (i.e., Bishop) lost.

403.   Dr. Critchlow also analyzed Dr. Burch's use of the so-called "TikTok" ad from the 2024 North Carolina Attorney General race between Dan Bishop and Jeff Jackson, both white men and (at the time) Members of Congress. Dr. Burch used this as an example of a racial appeal, alleging it was anti-Asian. [Day 5 Tr. 72:21-25]. Dr. Critchlow pointed out, however, that the ad had to do with the Chinese government's ownership of TikTok, and "wasn't an attack on the

Chinese people" or "Asian Americans." [Day 5 Tr. 73:1-13; LD061 at 19-20]. The Chinese government's partial ownership of TikTok led to security concerns that motivated Congress to pass bipartisan legislation signed into law by President Biden—the 21st Century Peace Through Strength Act—that compelled the sale of TikTok. [LD061 at 20].

404.   As another such example, in the 2024 North Carolina Governor contest, Democrat Josh Stein defeated Republican Mark Robinson by a 55-40% margin, even though Donald Trump won in North Carolina. [*See* Day 3 PM Tr. 94:8-12].

405.   There are fake or erroneous political ads that have nothing to do with race. [Day 3 PM Tr. 96:13-15].

406.   Notably, Dr. Burch did not find any examples of racial appeals in campaigns for the North Carolina Senate, [Day 3 PM Tr. 84:5-11]. In addition, Dr. Buch did not find any racial appeals that occurred in a contest for offices in electoral districts or counties in northeastern North Carolina. [Day 3 PM Tr. 83:15-84:4].

407.   Dr. Burch identified three candidates for State House that she alleged made racial appeals in their campaigns, but only one, Diamond Staton-Williams, won her general election. [Day 3 PM Tr. 85:6-20]. Diamond Staton-Williams is a Black woman and ran as a Democrat, [Day 3 PM Tr. 95:4-8], and her opponent was Brian Echevarria, a Black and Hispanic Republican. [Day 3 PM Tr. 94:24-95:11].

408.   Dr. Critchlow confirmed that even where racial appeals are made, they are not always a winning strategy in North Carolina. He pointed out that in two of Dr. Burch's examples of racial appeals, the candidate making that appeal lost. For example, candidate Russell Walker was seeking election to House District 48 in 2018, and shortly after winning his primary election, the media reported on racial appeals he made, which Dr. Critchlow characterized as reprehensible.

[LD061 at 20; Day 5 Tr. 74:8-75:1]. The North Carolina Republican Party withdrew its endorsement of Walker, and he went on to lose the general election by 25 points. [LD061 at 20-21; Day 5 Tr. 74:20-22].

409.   Likewise, a candidate for House District 65 in 2024, Joseph Gibson III, allegedly made racial slurs and shared a white supremacist video. He, too, was repudiated and, in the 2024 Republican Primary, he received less than 20% of the vote. [LD061 at 21].

410.   In the end, Dr. Critchlow concluded that Dr. Burch had not proven that North Carolina political campaigns are marked by racial appeals. [Day 5 Tr. 75:5-8].

F.   Success of Black Candidates

411.   Senate Factor 7 considers the extent to which members of the minority group have been elected to public office in the jurisdiction. [Day 4 Tr. 233:18-20; LD062 at 16-17].

412.   Dr. Critchlow evaluated Dr. Burch's analysis of Senate Factor 7. He concluded that, since 1981—when North Carolina's General Assembly had just four Black members—there has been "a steady and progressive increase in Black representation." [LD061 at 23-24; Day 5 Tr. 75:9-22].

413.   Specifically, Dr. Critchlow found that, in 1981, there were only four Black members of the General Assembly—three members of the North Carolina House, and one member of the North Carolina Senate. [LD061 at 24]. By 1985, that number grew to 16. [LD061 at 23].

414.   As of August 2024, the 170-member General Assembly had 35 Black members, including House and Senate minority leaders Representative Reives and Senator Blue.[17] [Day 4 Tr. 234:14-20; LD062 at 17]. This meant that 20.58% of General Assembly members were Black, compared to the national average of Black representation in state legislative roles of 10.55%.

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[17] Senator Blue also served as House Speaker for two terms in the early 1990s. [LD062 at 17].

[LD062 at 17]. After the 2024 elections, the number of Black members in the North Carolina General Assembly increased to 38—meaning the proportion of Black legislators in the General Assembly is now 22.35%. [Day 4 Tr. 234:21-23; LD071; LD072; *see also* LD061 at 23; Day 5 Tr. 75:20-76:1].

415.   Senator Blue admitted that he has seen the proportion of Black Senators rise, including an increase to ten (10) Black Senators in the 2024 to 2025 Session, up from nine (9) Black Senators in the 2023 to 2024 Session. [Day 1 Tr. 98:3-99:3]. Representative Reives admitted that the proportion of Black representatives in the North Carolina House has grown from twenty-six (26) in the 2023-2024 Session, to twenty-eight (28) in the 2024-2025 Session. [Day 1 Tr. 148:22-149:19; LD072].

416.   Additionally, both Plaintiffs have successfully run for public office in northeastern North Carolina. Matthews was elected to the Martin County School Board as a Black Democrat for five terms—thus winning five separate district-specific elections. [Day 1 Tr. 66:16-67:6]. After winning the Democratic Primary in 2024, Pierce was elected to State House District 27 in an unopposed race. [D.E. 105 at 15, 17].

417.   In the 2024 Democratic Primary Election for State House District 27 (HD27), Pierce defeated incumbent Michael H. Wray, a white Democrat, by a margin of 50.14% to 49.86%. [D.E. 105 at 17]. In the 2024 general election for HD27, Pierce ran unopposed and received 100% of the vote. [D.E. 105 at 15]. HD27 is made up of Halifax, Northampton, and Warren counties. [Day 1 Tr. 45:18-24]. All three of the counties in HD27—Halifax, Northampton, and Warren—are included in CD1 under the 2023 plan. [D.E. 105 at 25-26]. Halifax and Warren counties are included in SD2 under the 2023 plan. [Day 1 Tr. 55:21-24; JX001].

418.   The eleven Black Belt counties are all in North Carolina's historic CD1. [Day 4 Tr. 234:8-10]. Since 1990, the following Black Representatives have represented CD1 in the U.S. House: Frank Ballance, G.K. Butterfield, Eva Clayton, and Don Davis (current). [Day 4 Tr. 234:3-7; LD062 at 16].

419.   Similar levels of Black representation exist at the local level in northeastern North Carolina. According to the North Carolina Black Alliance, 191 of the 581 Black elected officials in North Carolina hold an office that represents one of the eleven Black Belt counties. [LD062 at 17]. Likewise, within the eleven counties, 40 of 62, or 65%, of county commissioner seats were held by Black members—making the proportionate representation in excess of the counties' Black population. [LD062 at 17].

420.   The North Carolina Democratic Party's leaders in the General Assembly have been, and continue to be, Black. Senator Blue has been a member of the North Carolina Senate since 2009. [Day 1 Tr. 69:8]. Prior to joining the State Senate, Senator Blue served several stints in the North Carolina House of Representatives, beginning with his first election in 1980, and ending with his final term to join the State Senate. [Day 1 Tr. 69:3-8]. During his time in the State House, Senator Blue served two terms as its Speaker. [Day 1 Tr. 69:5-6]. From 2013 until 2024, Senator Blue served as the Senate Democratic Leader. [Day 1 Tr. 69:8-10]. Today, the Senate Democratic Leader is Senator Sidney Batch. [Day 1 Tr. 98:12-14]. Batch is a Black Democrat, representing SD17, which is also wholly located within Wake County and has a BVAP of 10.51%. [JX001; JX06 at 13, 140].

421.   Representative Reives has served as Leader of the North Carolina House's Democratic Caucus for three terms. [Day 1 Tr. 138:6-7]. Prior to his current role, Representative

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Reives served as the Deputy Leader for two terms and, before that, the Freshman Leader. [Day 1 Tr. 138:7-8].

422.   Dr. Critchlow also pointed to other evidence concerning the ability of Black North Carolinians to get elected to public office. He noted that several North Carolina cities, including Fayetteville, Durham, and Charlotte, have Black mayors. [Day 5 Tr. 76:2-9; LD061 at 23].

423.   Dr. Critchlow also cited a list, prepared by former Governor Roy Cooper, recognizing the service of Black judges, prosecutors, and other elected officials. [Day 5 Tr. 76:2-9]. The list included some 50 names, [LD061 at 24-26], including judges—breaking the stereotype of "all white" justice in the South. [*Id*. at 24].

424.   Dr. Critchlow found that North Carolina has taken great pride in the racial progress that has been made in this regard. [Day 5 Tr. 76:8-9]. He found that the election of meaningful numbers of Black elected officials, at both local and higher offices, is evidence "that there's a political force being mobilized by the Black community" to achieve electoral success. [Day 5 Tr. 76:16-21].

G.   Responsiveness of Elected Officials to Minority Needs and Concerns

425.   Experts considered whether there is a significant lack of responsiveness on the part of elected officials to the particularized needs of members of the minority group. [Day 4 Tr. 239:8-14; LD062 at 21].

426.   According to Dr. Taylor, "particularized" is a term of art in political science that refers to the direction of government resources to a geographic target.[18] [Day 4 Tr. 239:15-19]. As with the other inquiries, Dr. Taylor assessed the responsiveness of North Carolina policymakers

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[18] For example, "particularized benefits" in terms of a Congressional budget authorization would be those that members of Congress direct to their constituents in their districts or states. [Day 4 Tr. 239:20-22].

compared to the other 49 states, and then compared this responsiveness to actions that were directed to the eleven Black Belt counties. [Day 4 Tr. 240:4-241:22].

427.   To start, Dr. Taylor used data from Devin Caughey and Christopher Warshaw's book *Dynamic Democracy* to correlate scores of a state's policies and the public's attitude towards those policies and develop a ranking of all the states by the strength of the correlation coefficient ("Caughey-Warshaw data"). [Day 4 Tr. 240:11-241:8; LD062 at 21-22]. The data is not broken down into sub-analyses by race; it measures the responsiveness of the political body to the general population. [Day 5 Tr. 33:4-8; LD062 at 21-22]. However, Dr. Taylor included it as the baseline of how to understand North Carolina political responsiveness to the population at large to enable comparison with the Black population and eleven counties specifically. [Day 5 Tr. 33:8-12; LD062 at 21-22].

428.   Using the Caughey-Warshaw data, Dr. Taylor found that North Carolina was number 28 out of 50 in the size of the positive correlation between opinion on economic policy and economic policy outputs from 1982-2019. [Day 4 Tr. 241:9-11; LD062 at 21]. On cultural issues—an area where Southern states typically lag—North Carolina has improved rapidly since 2011, resulting in a positive correlation of 25 out of 50. [Day 4 Tr. 241:12-18; LD062 at 22]. Among the eleven Southern states identified by Dr. Burch in her analysis of incarceration rates, North Carolina ranked third for the most positive correlation between opinion on cultural policy and cultural policy outputs. [Day 4 Tr. 241:20-22; LD062 at 22].

429.   Dr. Taylor also analyzed federal government appropriations—including procurement grants and direct payment to individuals—as reported on a per-county basis in the USASpending.gov database. [Day 4 Tr. 241:24-242:9; LD062 at 22]. In 2019, the average position

in North Carolina of the eleven Black Belt counties for per capita federal expenditures was in the top half for the state, at 33 out of 100 counties. [Day 4 Tr. 242:10-12; LD062 at 22].

430.　There is no equivalent database for total state government spending at the county level. [Day 4 Tr. 242:14-17; LD062 at 22]. However, Dr. Taylor reported that, in Fiscal Year 2023-24, the North Carolina General Assembly funded numerous projects that directly benefited Black North Carolinians. To wit, several of North Carolina's public historically Black universities and colleges received over half a billion dollars in appropriations for the biennium. [LD062 at 24]. Millions of dollars were also allocated to various Black heritage and advancement organizations across the state. [LD062 at 24].

431.　To evaluate how the eleven counties ranked on important state government-funded public services, Dr. Taylor looked at school funding statistics. [Day 4 Tr. 242:22-243:8; LD062 at 22-23]. On per capita expenditure as measured by total local appropriations—money spent by the district itself plus state supplements—the eleven counties had an average rank of 30.5 out of 100 counties. [Day 4 Tr. 243:3-8; LD062 at 22-23 & n.49]. In fact, the majority of the Black Belt counties were in the top 25 for appropriations. [Day 4 Tr. 243:13-16; LD062 at 22-23 & n.49]. According to data published in April of 2024 by the North Carolina Department of Public Instruction, the public schools in all eleven counties received low wealth supplemental funding from the State. [Day 4 Tr. 244:16-245:10; LD032 at 20-21].[19] Likewise, in Fiscal Year 2022-23, the General Assembly provided $10 million to Chowan, Northampton, and Washington Counties, $7.8 million to Halifax County, and $6 million to Warren County from the Needs-Based Public School Capital Fund. [LD062 at 23].

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[19] This citation is to the native page numbers contained within LD032.

432.   Dr. Taylor also looked at several other particularized appropriations made to the eleven Black Belt counties from the General Assembly. [Day 4 Tr. 245:13-20; LD062 at 23-24]. For example, in Fiscal Year 2022-23, the following appropriations were made to portions of the eleven counties for local government projects: $1 million to Edgecombe, $900,000 to Bertie, $500,00 to Vance, and $126,000 to Washington. [LD062 at 23]. Edgecombe County also received $1.25 million to assist with fire clean-up. [LD062 at 23]. In Fiscal Year 2023-24, Elizabeth City State University—a historically Black university located in Pasquotank County—received nearly $100 million for the biennium, Bertie and Chowan benefited from a $200,000 appropriation for the East Coast Greenway Trail, and millions of dollars were allocated to Black Belt counties for water and wastewater projects. [LD062 at 23].

433.   While Pierce decided to run for office because he felt incumbent Michael Wray, a white Democrat, was voting against the interests of HD27's constituents [Day 1 Tr. 54:1-17], many of the issues that Pierce cited, like hog farms and Medicaid, were already directly addressed by the General Assembly.[20]

434.   Matthews had similar criticisms of the Republican General Assembly, but admitted that he has never personally contacted any legislator about redistricting. [Day 1 Tr. 65:5-66:4, 67:12-14].

H.   **Additional Information Relevant to Black Electoral Opportunity**

435.   As part of his analysis of whether the political process is equally open to participation of the minority group, Dr. Taylor used data from the Cost of Voting Index ("COVI"). [Day 4 Tr. 236:2-4; LD062 at 18]. COVI ranks states based on a composite score of performance in nine elements of accessible voting: (1) registration deadlines, (2) registration restrictions, (3)

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[20] A moratorium on new hog farms in North Carolina has been in place for over a decade [Day 1 Tr. 55:18-20], and Medicaid expansion passed in the 2023-2024 session. [Day 1 Tr. 55:14-17].

preregistration laws, (4) voting inconveniences, (5) voter ID laws, (6) poll hours, (7) registration drive restrictions, (8) automatic voter registration, and (9) early voting. [Day 4 Tr. 236:6-13; LD062 at 18, n.28].[21] In 2022, North Carolina ranked 24th on the Index. [Day 4 Tr. 236:16-17; LD062 at 18].

436. In the 2022 general election, Dr. Taylor found that the eleven Black Belt counties received a disproportionately higher number of polling places considering their voting-age population (VAP): of the 2,655 polling places located across North Carolina in the 2022 general election, 131 or 4.93% of polling places were in the eleven Black Belt counties, even though these counties account for only 2.68% of the state's VAP. [Day 4 Tr. 238:2-9; LD062 at 19]. Dr. Taylor also found that 14 of the 19 early voting sites within the eleven counties were in Census tracts where the Black population exceeded that of the whole county. [Day 4 Tr. 238:12-17; LD062 at 19]. Dr. Burch did not criticize any of Dr. Taylor's analyses of polling places in her rebuttal or supplemental reports. [Day 4 Tr. 238:25-239:3; PX117; PX271].

437. Dr. Taylor also analyzed voter registration and turnout by race. [Day 4 Tr. 236:18-237:20; LD062 at 18-20]. Using U.S. Census data as reported by the Kaiser Family Foundation, 2022 voter registration statistics showed a 70.9% white registration rate nationally, 63.4% white registration in North Carolina, 64.1% Black registration nationally, and 58.3% Black registration in North Carolina. [Day 4 Tr. 236:23-237:7; LD062 at 18-19]. Based on this data, Dr. Taylor found that, in 2022, the registration rate for white North Carolinians was 89.4% of the national figure, while the rate for Black North Carolinians was 91% of the national figure. [Day 4 Tr. 237:3-9; LD062 at 18-19]. Put another way, Dr. Taylor found not only that the Black registration rate in

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[21] Dr. Taylor clarified at trial that nobody must pay to vote, so the "Cost of Voting Index" might be more appropriately named the "Ease of Voting Index." [Day 4 Tr. 236:4-6].

North Carolina was higher than the Black rate nationally, but it was also proportionally higher than the comparable white figures. [Day 4 Tr. 236:23-237:9; LD062 at 18-19].

438.   The Kaiser Family Foundation also published statistics on voter turnout in 2022, showing a 54.7% turnout rate for white voters nationally, a 49.3% turnout rate for white North Carolina voters, a 45.1% turnout rate for Black voters nationally, and a 41.2% turnout rate for Black North Carolina voters. [LD062 at 19]. As with voter registration, Dr. Taylor observed that Black voter turnout was proportionally higher than white voter turnout in 2022, with the white voter turnout rate being 90.1% of the national figure, and the Black voter turnout rate being 91.4% of the national figure. [Day 4 Tr. 237:15-20; LD062 at 19].

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CERTIFICATE OF SERVICE

I hereby certify that on this day the forgoing document was filed on the Court's electronic case filing system (CM/ECF), and that notice of the filing will be served on all counsel of record by the Court's system.

This the 14th day of March, 2025.

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