No. 413PA21 TENTH DISTRICT

SUPREME COURT OF NORTH CAROLINA

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NORTH CAROLINA LEAGUE OF CONSERVATION VOTERS, INC.; HENRY M. MICHAUX, JR., et al., Plaintiffs, REBECCA HARPER, et al., Plaintiffs, COMMON CAUSE, Plaintiff-Intervenor, v. REPRESENTATIVE DESTIN HALL, in his official capacity as Chair of the House Standing Committee on Redistricting, et al., Defendants.	From Wake County

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BRIEF OF PLAINTIFFS-APPELLANTS
NORTH CAROLINA LEAGUE OF CONSERVATION VOTERS, INC., ET AL.

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INDEX

TABLE OF CASES AND AUTHORITIES

CASES

STATUTORY LAW

OTHER AUTHORITIES

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ISSUES PRESENTED

I. Do the General Assembly's 2021 redistricting plans for Congress, the state Senate, and the state House (the "Enacted Plans")—which the trial court found constitute intentional partisan gerrymanders—violate the North Carolina Constitution?

II. Do the Enacted Plans violate the North Carolina Constitution because they dilute the voting strength of North Carolina's Black citizens?

III. Do the Enacted Plans violate the North Carolina Constitution's Whole County Provisions and the *Stephenson*/*Dickson* line of cases?

IV. Do the NCLCV Plaintiffs have standing to bring their claims?

INTRODUCTION

The General Assembly has enacted hyper-partisan redistricting plans that—by design—would entrench one political party in power for the next decade, as well as dilute the voting power of North Carolina's minority citizens. This appeal asks whether our State's Constitution authorizes the General Assembly to do so. The answer is no. These plans egregiously violate the Constitution's guarantees that every citizen may participate in free elections on an equal basis. The Court should enforce those guarantees and set aside the General Assembly's unlawful maps.

The three-judge panel's findings are stunning. After a full trial, the panel found as fact that the Enacted Plans constitute "intentional, pro-Republican" gerrymanders. FOF 569.[1] The plans create these gerrymanders by packing and cracking Democratic voters across the State—from northeastern North Carolina, to the Piedmont Triad, to Buncombe County, and beyond. The congressional plan, for example, trisects the three largest Democratic counties—Wake, Mecklenburg, and Guilford—***and only those counties***, in violation of the General Assembly's own districting criteria.

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[1] References to the panel's judgment of 11 January 2022, reproduced at (R pp 3512-3771) are given by paragraph number in the court's findings of fact ("FOF") and conclusions of law ("COL"). Other references are made to documents in the printed record (R) and Rule 9(d) exhibits (Ex.), the Appendix (App.) and the transcripts (for example, T1 for volume 1 of the transcript).

The panel found that, as a result, the plans "resiliently safeguard electoral advantage for Republican[s]" and ensure that Republicans retain majorities in North Carolina's congressional delegation and the General Assembly even "when voters clearly prefer the other party." FOF 189, 191. More than that: The panel found that the Enacted Plans are among the most "extreme" gerrymanders possible and are more "carefully crafted for Republican advantage" than 99.9999% of possible congressional maps, 99.9% of possible Senate maps, and 99.9999% of possible House maps. FOF 175, 181–82.

The panel nonetheless held that the Constitution imposes no limit on the General Assembly's power to enact extreme gerrymanders. That holding puts democracy in peril. Under this State's Constitution, "[a]ll political power is vested in and derived from the people." N.C. CONST. art. I, § 2. But gerrymandered maps render the people's will irrelevant. In a functioning democracy, "frequent elections" hold lawmakers "directly accountable." *State ex rel. McCrory v. Berger*, 368 N.C. 633, 653, 781 S.E.2d 248, 261 (2016) (Newby, J., concurring in part and dissenting in part). In partisan gerrymanders, however, elections have little meaning. Finally, in a healthy democracy, lawmakers seek dialogue and compromise. But gerrymandered maps exacerbate partisanship and encourage legislators to ignore opposing views.

It now falls to this Court to protect our State's democracy and enforce the protections the North Carolina Constitution provides. While the U.S. Supreme Court in 2019 held that the Federal Constitution does not provide a remedy for partisan gerrymandering, all nine Justices agreed that extreme partisan gerrymandering is "incompatible with democratic principles." *Rucho v. Common Cause*, 139 S. Ct. 2484, 2506–07 (2019). More important, every Justice agreed that "state constitutions can provide" protection against such gerrymanders. *Id.*; *see id.* at 2512, 2524 (Kagan, J., dissenting). Notably, in 2019, a different North Carolina panel held that this State's Constitution protects against "extreme partisan gerrymandering." *Common Cause v. Lewis*, No. 18 CVS 014001, 2019 WL 4569584, at *3 (N.C. Super. Ct. Sept. 3, 2019). Pennsylvania's Supreme Court reached the same conclusion as to its similar constitution. *League of Women Voters of Pa. v. Commonwealth*, 645 Pa. 1, 134, 178 A.3d 737, 825 (2018).

This Court should join those courts and hold that extreme partisan gerrymandering violates our Constitution in at least three ways.

- First, partisan gerrymandering subverts the guarantee that "[a]ll elections shall be free," N.C. CONST. art. I, § 10—a promise that derives from the 1689 English Bill of Rights, which aimed to stop the King from controlling Parliament by manipulating the electorate.
- Second, partisan gerrymandering infringes the equal-protection

guarantee of "substantially equal voting power" and "substantially equal legislative representation." *Stephenson v. Bartlett*, 355 N.C. 354, 379, 562 S.E.2d 377, 394 (2002) ("*Stephenson I*").

- Third, partisan gerrymandering burdens the speech and associational rights of the voters it targets.

Indeed, partisan gerrymandering presents the very danger this Court identified in 1787 when it recognized that, absent judicial enforcement of the Constitution, "members of the General Assembly … [might] render themselves the Legislators … for life." *Bayard v. Singleton*, 1 N.C. 5, 7 (1787).

The panel concluded that the answer to extreme partisan gerrymandering is "frequent elections." COL 149. The very point of such gerrymandering, however, is to render elections meaningless. Elections thus provide "no remedy or relief." *Common Cause*, 2019 WL 4569584, at *3. Nor, contrary to the panel's view, can an amendment provide the answer: All amendments must pass the General Assembly, whose majority party will not approve any amendment that would curtail its ability to entrench itself. N.C. CONST. art. XIII. The remedy for extreme partisan gerrymandering must thus come from the safeguards that the framers of North Carolina's Constitution already created and charged this Court with enforcing.

The North Carolina Constitution likewise protects the rights of minority citizens to participate in free elections on an equal basis with all other citizens,

without having their votes diluted. The General Assembly's plans violate this protection. They pack and crack cohesive Black communities, denying them the ability to elect their preferred candidates. As a result, Black North Carolinians' representation will fall well short of their share of the population. The panel did not question that the plans will significantly underrepresent Black voters. But again, it held that the North Carolina Constitution provides no remedy. That was error.

In a last respect, too, the General Assembly acted unlawfully. The Whole County Provisions, as interpreted in the *Stephenson*/*Dickson* line of cases, instruct the General Assembly to respect county lines and pursue compact districts. But in the plans here, the General Assembly repeatedly crossed more county lines than was necessary and drew districts that were less compact than they could have been. Repeatedly, moreover, it did so ***in furtherance of*** pursuing partisan advantage.

The Court should protect the voting rights of millions of North Carolinians by setting aside the unlawful Enacted Plans.

STATEMENT OF THE CASE

Plaintiffs North Carolina League of Conservation Voters, Inc., et al., filed this action against Defendants on 16 November 2021, along with a motion for a preliminary injunction. On 19 November 2021, the Chief Justice assigned Judges A. Graham Shirley, Nathaniel J. Poovey, and Dawn M. Layton to serve

on a Three-Judge Panel for Redistricting Challenges, as defined in N.C.G.S. § 1-267.1. On 3 December 2021, this case was consolidated with *Harper v. Hall*, No. 21-CVS-500085, in which the plaintiffs also sought a preliminary injunction. Also on 3 December 2021, the panel declared partisan-gerrymandering claims "not justiciable" under the North Carolina Constitution, Order on Plaintiff[s'] Motion for Preliminary Injunction 7, and denied the preliminary-injunction motions, *id.* at 13.

Plaintiffs appealed and sought immediate injunctive relief in this Court. On 8 December 2021, this Court granted a preliminary injunction and delayed the 2022 primary elections until 17 May 2022. This Court also ordered the panel to issue a final judgment on Plaintiffs' claims by 11 January 2022. On remand, Common Cause sought and obtained permission to intervene.

From 3 January to 6 January 2022, the panel held a bench trial. On 11 January 2022, the panel entered judgment for Defendants. Pursuant to this Court's 8 December 2021 Order, the NCLCV Plaintiffs filed their Notice of Appeal in this Court the same day.

STATEMENT OF THE GROUNDS FOR APPELLATE REVIEW

This Court has jurisdiction under N.C.G.S. §§ 7A-27 and 7A-31, because Plaintiffs are appealing the trial court's final judgment and because this Court's 8 December 2021 Order certified the case for discretionary review prior to determination by the Court of Appeals. Pursuant to that Order, all Plaintiffs

filed Notices of Appeal to this Court from the trial court's final judgment on 11 or 12 January 2022.

BACKGROUND

I. The Law Governing Redistricting in North Carolina

After every census, the General Assembly redistricts. N.C. CONST. art. II, §§ 3, 5. The Constitution imposes several specific limits on redistricting, including an equal-population requirement, a contiguity requirement, the Whole County Provisions, and a prohibition on mid-decade redistricting. *Id.*; FOF 30. Redistricting also must comply with other constitutional requirements, including North Carolina's Free Elections, Equal Protection, Free Speech, and Free Assembly Clauses. *E.g.*, *Stephenson I*, 355 N.C. at 379, 562 S.E.2d at 394. Federal law imposes its own requirements, including the one-person, one-vote requirement and the Voting Rights Act ("VRA").

In a line of cases beginning with *Stephenson I*, this Court set forth a mandatory, nine-step framework that explains how to apply the Whole County Provisions consistent with federal law. *See id.*; *Stephenson v. Bartlett*, 357 N.C. 301, 582 S.E.2d 247 (2003) ("*Stephenson II*"); *Dickson v. Rucho*, 367 N.C. 542, 766 S.E.2d 238 (2014) ("*Dickson I*"); *Dickson v. Rucho*, 368 N.C. 481, 781 S.E.2d 404 (2015) ("*Dickson II*"). The *Stephenson*/*Dickson* framework provides that "[f]irst, 'legislative districts required by the VRA shall be formed' before non-VRA districts." *Dickson II*, 368 N.C. at 530, 781 S.E.2d at 438. Next, "[i]n

forming new legislative districts, any deviation from the ideal population for a legislative district shall be at or within plus or minus five percent." *Id.*

Steps three through nine provide detailed instructions about how to implement the Whole County Provisions consistent with other federal- and state-law requirements. When one county can form exactly one non-VRA district consistent with equal-population requirements, or when the entirety of one county can be divided into multiple non-VRA districts, all of which comply with equal-population requirements, the framework (in steps three and four) requires forming compact districts that do not traverse these whole counties. *Id.* Where that is not possible, the framework (in steps five and six) requires the formation of "clusters" of contiguous counties that, when combined, can be divided into compact districts that all comply with equal-population requirements. *Id.* at 530–31, 781 S.E.2d at 438–39. Within these clusters, the General Assembly must minimize unnecessary "traversals" of county lines. *Id.* Steps four, five, seven, and nine require that districts be "compact." *Id.*

II. *Common Cause*, *Harper*, and the General Assembly's History of Partisan Gerrymandering

The General Assembly often has flouted the fair, neutral redistricting principles required by North Carolina law and has gerrymandered based on

party, race, or both.[2] Neither party's hands are clean.

In the 2011 cycle, the controlling Republican party instructed its mapmaker to "ensure Republican majorities," based on claims that it was "'perfectly free' to engage in constitutional partisan gerrymandering." *Common Cause*, 2019 WL 4569584, at *4. In 2016, courts invalidated the 2011 congressional and legislative plans as racial gerrymanders.[3] But when the General Assembly redrew those maps, it created "[e]xtreme partisan gerrymander[s]." *Id.* at *125, *135; *see Harper v. Lewis*, No. 19 CVS 012667, 2019 N.C. Super. LEXIS 122, at *16–18 (Oct. 28, 2019). One leader "acknowledged freely that" the congressional map "would be a political gerrymander." *Harper*, 2019 N.C. Super. LEXIS 122, at *17.

In 2019, a three-judge panel unanimously rejected the argument that incumbent officeholders are "perfectly free" to gerrymander. *Common Cause*, 2019 WL 4569584, at *4. The panel explained that, under "extreme partisan gerrymander[s]," elections do not "fairly ascertain[]" the "free will of the

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[2] *E.g.*, *Cooper v. Harris*, 137 S. Ct. 1455, 1473 (2017); *Covington v. North Carolina*, 316 F.R.D. 117, 124 (M.D.N.C. 2016) (three-judge court), *summarily aff'd*, 137 S. Ct. 2211 (2017); *Gingles v. Edmisten*, 590 F. Supp. 345, 359–61 (E.D.N.C. 1984) (three-judge court), *aff'd in part, rev'd in part sub nom. Thornburg v. Gingles*, 478 U.S. 30 (1986).

[3] *Harris v. McCrory*, 159 F. Supp. 3d 600 (M.D.N.C. 2016) (three-judge court) (congressional plan), *aff'd sub nom. Cooper v. Harris*, 137 S. Ct. 1455 (2017); *Covington v. North Carolina*, 316 F.R.D. 117 (M.D.N.C. 2016) (three-judge court) (legislative plans), *summarily aff'd*, 137 S. Ct. 2211 (2017).

People"; rather, "the carefully crafted will of the map drawer … predominates." *Id.* at *3. That result, the panel held, violates North Carolina's Free Elections, Equal Protection, Free Speech, and Free Assembly Clauses. *Id.*

As the *Common Cause* panel explained, that conclusion "reflect[ed] the unanimous and best efforts of the … judges—each hailing from different geographic regions and each with differing ideological and political outlooks—to apply core constitutional principles." *Id.* at *1. The panel underscored that "[p]olitical losses and partisan disadvantage are not the proper subject for judicial review." *Id.* at *3. It emphasized, however, that it is "most certainly the province of the Court to ensure that 'future elections' in the 'courts of public opinion' are ones that freely and truthfully express the will of the People." *Id.*

III. The General Assembly's History of Targeting Black Voters

North Carolina also has "a long history of race discrimination generally and race-based vote suppression in particular." *Holmes v. Moore*, 270 N.C. App. 7, 20–21, 840 S.E.2d 244, 257 (2020); *see* R pp 3205, 3209–51. When Congress enacted the VRA, it looked to "North Carolina's pre-1965 history of pernicious discrimination" and deemed 40 counties "covered" jurisdictions under Section 5 based on their use of "suspect prerequisites to voting." *N.C. State Conf. of NAACP v. McCrory*, 831 F.3d 204, 215, 223 (4th Cir. 2016).

"[S]tate officials [have] continued in their efforts to restrict or dilute African American voting strength well after 1980 and up to the present."

Holmes, 270 N.C. App. at 23, 840 S.E.2d at 258 (quoting *McCrory*, 831 F.3d at 225). Often, "the North Carolina legislature has attempted to suppress and dilute the voting rights of African Americans," and the U.S. "Department of Justice or federal courts have determined that the … General Assembly acted with discriminatory intent, reveal[ing] a series of official actions taken for invidious purposes." *McCrory*, 831 F.3d at 223 (quotation marks omitted). Indeed, those actions have continued over the last decade. *See* R pp 3264–3278.

Voting in North Carolina, both historically and today, is racially polarized, which means that "the race of voters correlates with the selection of a certain candidate or candidates." *McCrory*, 831 F.3d at 214 (quoting *Thornburg v. Gingles*, 478 US. 30, 62 (1986)); *see* R p 3260. The fact that "race and party are inexorably linked in North Carolina," *McCrory*, 831 F.3d at 225, creates an "incentive for intentional discrimination," *id.* at 222; *see* R p 3275. Polarization "offers a 'political payoff for legislators who seek to dilute or limit the minority vote.'" *Holmes*, 270 N.C. App. at 22, 840 S.E.2d at 258 (quoting *McCrory*, 831 F.3d at 222).

IV. The 2021 Redistricting Process

After the 2020 census, the General Assembly tried to circumvent the constitutional prohibitions recognized in *Common Cause*, including via the criteria and methods it adopted. The Senate Committee on Redistricting and

Elections (chaired by Senators Ralph Hise, Warren Daniel, and Paul Newton) and the House Committee on Redistricting (chaired by Representative Destin Hall) issued proposed criteria on 9 August 2021, and, three days later, adopted them with few amendments. FOF 42–43, 54; Ex. 832:2–8:22; Ex. 956:24–25; *see* FOF 41–54.

The criteria stated that "[p]artisan considerations and election results data shall not be used in the drawing of districts in the 2021 … plans." FOF 54; Ex. 217. This statement, however, meant only that the committees' computer terminals did not contain electoral data. (Ex. 1063:3–8.) Thus, "[w]hile the four computer terminals in the committee hearing room did not themselves have election data …, the … Committees did not actively prevent legislators and their staff from relying on pre-drawn maps created using political data, or even direct consultation of political data." FOF 73. As a result, "legislators were free to bring materials into and out of the hearing rooms." (Ex. 1090:24–53:14, 64:15–70:7) Indeed, as trial revealed, that is exactly what happened. *Infra* pp. 32–33.

The criteria also stated that "[t]he Committees shall draw legislative districts within county groupings as required by" the *Stephenson*/*Dickson* framework and that "[w]ithin county groupings, county lines shall not be traversed except as authorized by" the *Stephenson*/*Dickson* cases. FOF 54; Ex. 216. The first *Stephenson*/*Dickson* step provides that "'legislative districts

required by the VRA shall be formed' before non-VRA districts." *Dickson II*, 368 N.C. at 530, 781 S.E.2d at 438. Given North Carolina's long history of racial discrimination, the VRA has often required districts that protect Black voting opportunity. *E.g.*, *Covington v. North Carolina*, 316 F.R.D. 117, 167 (M.D.N.C. 2016) (three-judge court), *summarily aff'd*, 137 S. Ct. 2211 (2017).

The General Assembly, however, did not start with the first step of the framework. FOF 53. Instead, committee members were instructed to begin by selecting one of the county clusters that had been developed by a Duke University research group to implement the *Stephenson*/*Dickson* framework. FOF 58–60; Ex. 744. The researchers explained that the clusters—16 options for the Senate plan and 8 for the House—were "largely algorithmically determined through an optimization procedure outlined … in *Stephenson*" using the 2020 census data. (Ex. 744) But the researchers cautioned that their clusters "do[] ***not*** reflect … compliance with the" VRA. FOF 59 (emphasis added).

The committees did not account for this limitation. They exacerbated the problem by adopting a criterion stating that "[d]ata identifying the race of individuals or voters ***shall not*** be used." FOF 54; Ex. 216. It is impossible to determine whether maps comply with the VRA or with North Carolina law without analyzing whether voting is racially polarized and, if so, how that polarization affects election results. FOF 61.

The Legislative Defendants were repeatedly told by members of the public and General Assembly that their process did not follow North Carolina law and would harm Black voters, yet they did not change course. *See generally* FOF 45–48, 51–53, 61–65. The committees heard that their approach would result in "voters of color [being] packed or cracked," FOF 45, that it would not comply with the VRA or *Stephenson I*, FOF 48, 52, 61, and that it would harm Black voters in specific districts and clusters, FOF 64–65. The committees, however, rejected an amendment that would have prohibited redistricting Black voters for "partisan advantage," FOF 51, declined to conduct "any racially polarized voting study" despite repeated requests, FOF 66, and declined even to review racial vote polarization information from others, FOF 64–65, despite the committees' promise that they would "consider" such information if provided, FOF 61.

V. The Enactment of the Final Plans

The General Assembly quickly enacted the final plans, holding the first committee hearings to vote on the proposed plans on November 1 and enacting them just three days later, on November 4, on party-line votes. FOF 80–83.

VI. This Suit and the Preliminary Injunction

The NCLCV Plaintiffs filed suit 12 days later. (R p 30). The NCLCV Plaintiffs include the NCLCV, which sued on its own behalf and on behalf of thousands of its members who are registered to vote in North Carolina and

reside in every congressional, state Senate, and state House district. (Ex. 4107) The NCLCV Plaintiffs also include civil-rights leader Mickey Michaux, himself a former member of the General Assembly, as well as Democratic and Black voters who reside across the state and noted professors of mathematics, statistics, and computer science.

The NCLCV Plaintiffs' Verified Complaint (R pp 30–122) alleges that the Enacted Plans are unconstitutional partisan gerrymanders that violate North Carolina's Free Elections Clause (Count I), Equal Protection Clause (Count II), and Free Speech and Free Assembly Clauses (Count III). It also alleges that the Enacted Plans unlawfully dilute the voting strength of North Carolina's Black voters in violation of North Carolina's Free Elections Clause (Count IV) and Equal Protection Clause (Count V), as well as violate the Whole County Provisions as implemented in the *Stephenson*/*Dickson* framework (Count VI). Simultaneously, the NCLCV Plaintiffs moved for a preliminary injunction on their partisan-gerrymandering claims in Counts I–III.

Another lawsuit was filed in *Harper v. Hall*, No. 21-CVS-500085, challenging only the Enacted Congressional Plan, based on partisan gerrymandering. Those plaintiffs also moved for a preliminary injunction.

The panel consolidated the two cases and denied the preliminary-injunction motions. (R pp 871-84) The NCLCV Plaintiffs and the *Harper* Plaintiffs immediately appealed.

This Court granted the Plaintiffs' preliminary-injunction motions, delayed the primary election until 17 May 2022, and ordered the panel to "hold proceedings necessary to reach a ruling on the merits of plaintiffs' claims and to provide a written ruling on or before Tuesday, January 11, 2022." (R pp 891–96)

VII. Trial

On remand, the *Harper* Plaintiffs amended their complaint to add partisan-gerrymandering claims concerning the Enacted Senate and House Plans. (R pp 897–964) Common Cause sought and obtained permission to intervene, *see* Order on Common Cause Mot. to Intervene at 6, *NCLCV v. Hall*, Nos. 21-CVS-015426, 21-CVS-500085 (N.C. Super. Ct. Dec. 15, 2021), alleging that the Enacted Plans are unconstitutional partisan gerrymanders; that the General Assembly violated *Stephenson I* by failing to consider VRA compliance; and that the General Assembly engaged in unlawful racial discrimination in violation of the Equal Protection Clause. (R pp 1263–1346)

The trial court held a four-day bench trial from 3 January through 6 January 2022. Below, the NCLCV Plaintiffs summarize (1) the quantitative expert evidence on the partisan-gerrymandering claims, (2) the lay testimony on those claims, and (3) the evidence on the racial vote-dilution claims.

A. Quantitative Evidence of Partisan Gerrymandering

Dr. Mattingly. Dr. Jonathan Mattingly, a Duke mathematics professor,

used an algorithm to create a collection of tens of thousands of nonpartisan maps—called an "ensemble." (T2 p 142:14–25) These maps respected nonpartisan criteria, including compactness, contiguity, and municipal integrity. (T2 143:5–11) Using 16 recent general elections, Dr. Mattingly compared the Enacted Plans' partisanship against the ensembles and found that "each of the enacted plans is an extreme [partisan] outlier." (R p 2565)[4]

Dr. Mattingly elaborated that, unlike the congressional maps in the nonpartisan ensemble, which respond to voter preferences and deliver Democrats "seven to nine" seats (out of 14) when voters prefer Democrats statewide, the Enacted Congressional Plan is "nonresponsive," "won't respond to the changing will of the people," and "always elect[s] four Democrats and 10 Republicans." (T2 pp 174:15–175:2)

Dr. Mattingly also found that the Enacted Senate and House Plans "systematically favor the Republican Party to an extent … rarely, if ever, seen in the" ensemble. (R p 2565) Dr. Mattingly conducted the same analysis at the cluster level for the Enacted Senate and House Plans and found "extreme packing and cracking" across "many … clusters." (T2 pp 163:7–9) Dr. Mattingly found that "the chance that [the enacted] maps were drawn … without" an "intentional thumb on the scales" is "astronomically small." (T2

[4] The expert reports of the experts who testified at trial were admitted into the record as exhibits, pursuant to the agreement of the parties.

pp 141:15–18)

Dr. Chen. Dr. Chen, a University of Michigan professor of political science, reached the same conclusion as to the Enacted Congressional Plan, based on an ensemble of 1,000 randomly generated nonpartisan congressional maps that adhered to the General Assembly's criteria. (R pp 2343–46) He concluded that the Enacted Plan is a "statistical outlier," creating "a degree of partisan bias favoring Republicans that is more extreme than the vast majority of the computer-simulated plans" and that the plan violated the General Assembly's own adopted criteria. (T2 pp 42:15–20; R pp 2348–2356, 2360)

Dr. Magleby. Dr. Daniel Magleby, a Binghamton University, SUNY political-science professor, compared the Enacted Plans to random samples of 1,000 nonpartisan maps for each of Congress, the Senate, and the House. (R pp 2759–2762) He found that "all three" Enacted Plans "represent significant outliers" (T3 p 375:17–19), and concluded that it was highly unlikely that the maps resulted from a "neutral, party-blind process." (R pp 2771, 2776, 2779)

Dr. Pegden. Dr. Wesley Pegden, a Carnegie Mellon professor of mathematical sciences, tested whether the Enacted Plans were designed for partisan advantage by examining whether small, random changes would "consistently reduce[] the favorability of the map to Republican[s]." (T2 p 217:16–17). He found that "the enacted Congressional, House, and Senate plans" had "a greater partisan bias than 99.99999%, 99.99999%, and 99.97%

of the trillions of districtings produced by my algorithm, respectively." (R p 2801) He repeated his analysis at the cluster level and found that the "strong majority" of the studied clusters "were extreme outliers." (T2 p 237:1–2).

Dr. Cooper. Dr. Christopher Cooper, a professor of political science and public affairs at Western Carolina University whose scholarship focuses on North Carolina state politics, illustrated how the Enacted Plans achieve their skewed results. (T2 pp 86:10–24, 89:12–18) District by district, he showed how the Enacted Plans pack and crack Democratic voters, to entrench the incumbent party in power. (R pp 2448–2529)

Dr. Duchin. Dr. Moon Duchin—a Tufts University mathematics professor and a redistricting expert—also evaluated whether the Enacted Plans systematically favor Republicans. (T3 pp 420:13–20, 421:12–22, 422:2–9) She did so by "overlaying" the Enacted Plans onto voting data from each of the 52 statewide partisan elections since 2012 to determine the seat results the Enacted Plans would have yielded. (T3 pp 421:12–422:1)

Dr. Duchin's analysis showed that the Enacted Plans "behave as though they are built to resiliently safeguard electoral advantage for Republican candidates." (T3 pp 439:23–440:8; R p 2720) In Congress, the plans allocate ten of North Carolina's congressional seats to Republicans "across a wide range of electoral conditions" (R pp 2720–21), including when voters clearly prefer Democratic candidates (R p 2721). As Dr. Duchin explained, in the Senate and

House, too, the Enacted Plans ensure majorities for Republicans even when they lose the statewide vote by up to six points. (R p 2721)

Dr. Duchin also analyzed whether the Enacted Plans' "egregious" and "durable" partisan skew is an inevitable feature of North Carolina's political geography, as the Legislative Defendants claimed. (R p 2719; T3 pp 440:2–8) She compared those plans against demonstrative maps offered by the NCLCV Plaintiffs—the "NCLCV Maps." (T3 pp 439:17–440:8, 468:2–8) Dr. Duchin concluded that the Enacted Plans' skew is not an inevitable consequence of applying North Carolina's redistricting criteria to the State's political geography—because the NCLCV Maps do ***better*** on adherence to state law and traditional districting criteria, while treating both parties fairly. For example, all three NCLCV Maps are "significantly more compact." (R p 2728)

Figure 1: Compactness in Enacted & NCLCV Maps

Compactness

	block cut edges (lower is better)	average Polsby-Popper (higher is better)	average Reock (higher is better)
SL-174	5194	0.303	0.417
NCLCV-Cong	4124	0.383	0.470
SL-173	9702	0.342	0.416
NCLCV-Sen	9249	0.369	0.428
SL-175	16,182	0.351	0.437
NCLCV-House	13,963	0.414	0.465

Source: Ex. 3948.

The NCLCV Maps also better respect political subdivisions: They create fewer municipal fragments and traverse fewer county lines. (R pp 2728, 2732).

Figure 2: Political Subdivisions in Enacted & NCLCV Maps

County and municipality preservation

	# county pieces
SL-174	25
NCLCV-Cong	26

	# traversals
SL-173	97
NCLCV-Sen	89
SL-175	69
NCLCV-House	66

	# municipal pieces (considering all blocks)	# municipal pieces (considering populated blocks)
SL-174	90	50
NCLCV-Cong	58	41
SL-173	152	91
NCLCV-Sen	125	100
SL-175	292	222
NCLCV-House	201	173

The NCLCV Maps also avoid the Enacted Plans' extreme partisan skew. Via the "overlay" method, Dr. Duchin illustrated how the Enacted Plans distort the voters' will, while the NCLCV Maps "convert voter preferences to far more even representation." (R pp 2719–20, 2722; T3 pp 433:23–436). Table 1 (R p 2721) highlights how the Enacted Plans convert close elections into Republican majorities and prevent Democrats from obtaining majorities even when they earn strong majorities of votes.

Table 1:Voter Preferences & Seats Under Enacted & NCLCV Maps[5]

	D Vote Share	SL-174	NCLCV-Cong	SL-173	NCLCV-Sen	SL-175	NCLCV-House
GOV12	0.4418	4	4	16	18	41	44
AGC16	0.4444	4	4	17	17	40	42
LAC16	0.4475	4	5	18	20	42	45
JHU16	0.4563	4	5	18	19	42	49
AGC20	0.4615	3	4	17	19	40	51
JZA16	0.4619	4	5	19	21	43	50
JDI16	0.4653	4	6	19	21	44	53
LTG16	0.4665	4	6	19	21	44	54
LAC12	0.4674	4	5	20	20	44	51
AGC12	0.4678	4	5	18	18	43	50
SEN16	0.4705	4	6	19	21	43	55
TRS16	0.4730	4	6	19	21	45	53
TRS20	0.4743	4	6	17	20	45	51
JA620	0.4806	4	7	17	21	46	55
PRS16	0.4809	4	7	19	22	48	56
JA420	0.4822	4	7	17	22	47	56
INC20	0.4823	4	7	18	23	47	56
LTG20	0.4836	4	7	18	21	46	55
JA720	0.4842	4	7	17	22	48	56
SUP20	0.4862	4	7	19	23	49	56
JA520	0.4874	4	7	18	22	49	57
JA218	0.4876	4	7	18	22	45	55
JS420	0.4879	4	7	19	24	49	56
J1320	0.4885	4	7	19	23	49	56
PRS12	0.4897	4	6	20	21	46	55
SEN20	0.4910	4	7	20	24	48	56
LAC20	0.4918	4	8	21	25	51	58
SEN14	0.4919	4	6	20	22	46	52
PRS20	0.4932	4	8	20	25	50	60
JS220	0.4934	4	8	21	24	51	59
SUP16	0.4941	4	6	22	23	49	57
JS118	0.4955	4	7	20	25	50	58
INC16	0.4960	4	6	22	22	50	57
JST16	0.4976	4	7	21	23	50	58
LTG12	0.4992	5	7	22	22	50	58
JS120	0.5000	4	8	22	27	52	60
AUD16	0.5007	5	8	22	23	51	56
GOV16	0.5011	4	7	20	27	50	58
ATG20	0.5013	4	8	21	25	51	58
ATG16	0.5027	4	7	20	23	50	57
JA118	0.5078	4	8	22	26	51	58
AUD20	0.5088	4	8	24	28	54	61
JA318	0.5091	4	8	21	26	52	59
SOS20	0.5116	5	8	24	28	53	62
JGE16	0.5131	5	8	22	25	52	59
INC12	0.5186	5	8	22	22	55	61
SOS16	0.5226	5	9	24	24	57	62
GOV20	0.5229	4	8	23	27	58	63
AUD12	0.5371	8	9	27	28	61	65
SOS12	0.5379	7	9	26	26	59	63
TRS12	0.5383	7	9	25	24	59	65
SUP12	0.5424	8	9	28	28	61	66

53 – 47 or closer

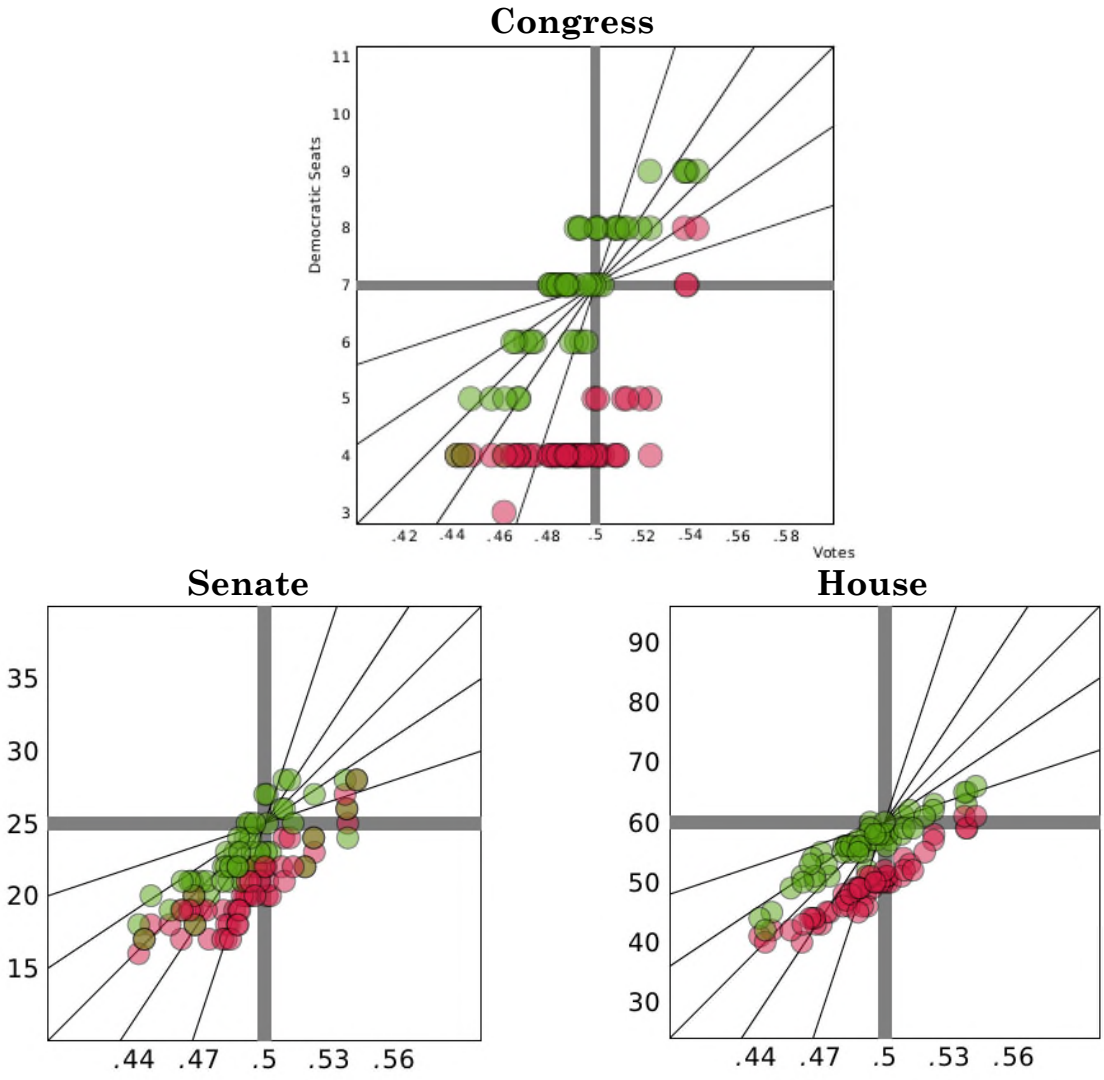
Source: R p 2721

[5] AGC = Agriculture Commissioner; ATG = Attorney General; AUD = Auditor; GOV = Governor; INC = Insurance Commissioner; LAC = Labor Commissioner; LTG = Lieutenant Governor; PRS = President; SEN = Senator; SOS =

Figure 3 (Ex. 3937) displays the same results graphically. Red dots represent elections overlaid by the Enacted Plans, with the Democratic vote share for each statewide election (on the x-axis) plotted against the number of seats carried by the Democratic candidate statewide (on the y-axis). Green dots represent elections overlaid by the NCLCV Plans. As Dr. Duchin explained, in fair maps the dots cross the point where about 50% of the vote receives about 50% of seats—which shows "close votes" translating into "close seats" totals. (R p 2722) And in a fair map, the dots will not consistently stick in the lower right or upper left quadrants, in which "one party has a majority of the votes but … a minority of the seats." (T4 pp 436:14–23)

Secretary of State; SUP = Superintendent of Public Instruction; TRS = Treasurer. The prefix JA* refers to judicial elections to the Court of Appeals (so that, for instance, JA118 is the election to the Seat 1 on the Court of Appeals in 2018), JS* are elections to this Court. All other J* prefixes refer to an election to replace a specific judge on the Court of Appeals. Where there was more than one judicial candidate from a given party on the ballot, they were combined for this analysis. The two-digit suffix designates the election year.

Figure 3: Votes and Seats in Enacted Plans & NCLCV Maps

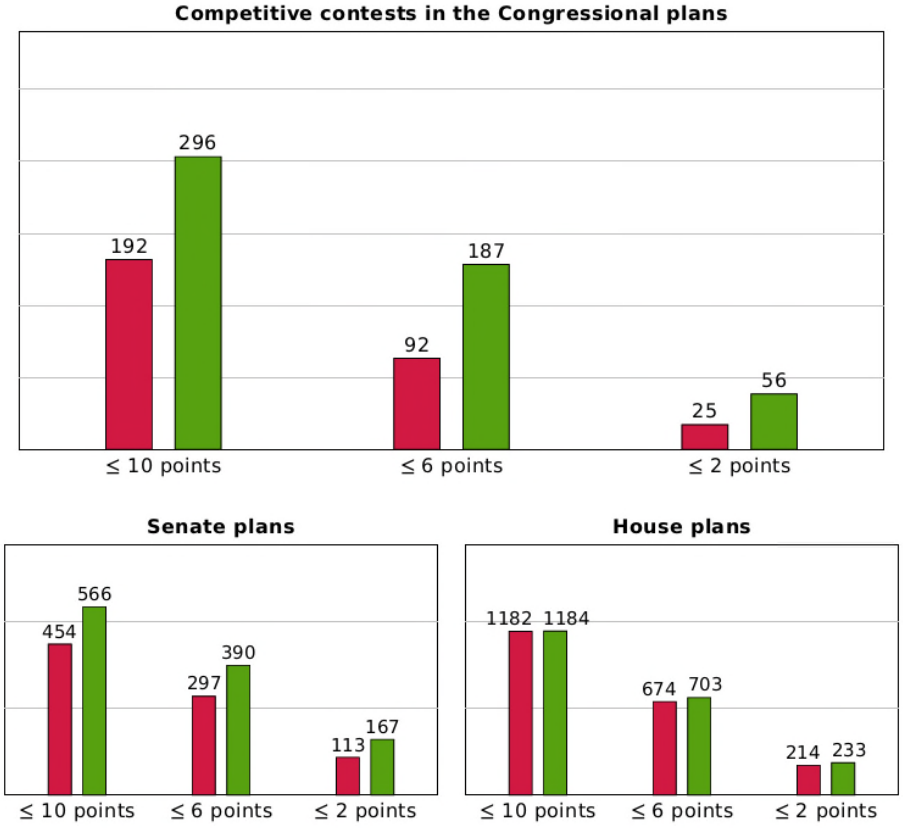


Across all three maps, the lesson is the same: The Enacted Plans are badly skewed, whereas the NCLCV Maps treat both parties fairly. The red dots fall far away from the 50/50 point (where the x- and y- axes intersect) and cross the thick horizontal line far to the right—underscoring that Democrats cannot receive a majority of seats until they win statewide vote shares approaching 54%. (T3 pp 433:25–434:9) And 36 times, the red dots fall in the

lower right quadrant—reflecting elections where Republicans receive the majority of seats without earning the majority of votes (12 times each in Congress, the Senate, and the House). By contrast, the green dots representing the NCLCV Maps far more closely align with voters' preferences. Indeed, across all three maps—156 elections—the green dots fall into the upper left quadrant (a result in which Democratic candidates win the majority of seats without receiving the majority of votes) only 4 times. They fall into the lower right-hand quadrant (reflecting a ***pro-Republican*** deviation in which Republicans win the majority of seats without a majority of votes) 11 times.

Moreover, Dr. Duchin found that the Enacted Plans' Republican skew comes at the cost of competitive districts where "candidates have to make the case" to voters and "neighbors [can] try to persuade neighbors." (T3 pp 438:9–13, 438:23–439:5; PX150 at 20; R p 2735) The Enacted Plans produce their "resilient [pro-Republican] effect by having fewer close contests," which enables the plans to "withstand shifting [voter] preferences." (T3 pp 439:13–16) In contrast, as the NCLCV Maps show, it is possible to faithfully translate voters' preferences into seats while also creating ***more*** competitive elections. (T3 pp 438:6–13)

Figure 4: Competitive Contests in Enacted Plans and NCLCV Maps.



Source: Ex. 3942. The red bars show the number of close district-wide contests (decided by 10, 6, and 2 points, respectively) in each Enacted Plan across the 52 statewide elections. The green bars show the same metric for the NCLCV Maps.

Dr. Duchin thus concluded that it is "certainly possible to make maps" that treat both parties symmetrically and comply with traditional districting criteria. (T3 pp 435:22–25; *accord* R p 2720)

Dr. Barber. Dr. Barber, a political-science professor at Brigham Young University, was the Legislative Defendants' sole quantitative expert on partisan gerrymandering. (T4 pp 608:9–11) The Legislative Defendants did not ask Dr. Barber to analyze their Enacted Congressional Plan, offering no

defense to Plaintiffs' claims about that plan and effectively conceding that it is an extreme gerrymander. (T4 pp 608:18–20; FOF 424)

In the Senate and House, Dr. Barber proceeded cluster by cluster: He drew 50,000 randomly generated maps for each cluster, "winnowed" out maps that (in each cluster) had more county traversals or were less compact on average than the Enacted Plans, and identified how many Democratic seats his simulations would yield based on historical elections. (T4 pp 619:25–620:12, 624:1–20) His report then compared those results with the results the Enacted Plans and the NCLCV Maps would produce and identified whether those maps were "outliers" in each cluster—defining "outliers" to include any result outside the middle 50% of the distribution. (R p 2902) Finally, his report totaled the results in each cluster to provide an expected number of Democratic seats statewide. (R pp 2904, 3054)

Dr. Barber's analysis confirmed that the Enacted Senate and House Plans are partisan gerrymanders. He agreed that "a simulated districting analysis ... can help detect gerrymandering." (T4 pp 659:7–21) He also conceded that according to his calculations, the Enacted Senate and House Plans were "partisan outlier[s] as [he] use[d] that term." (T4 pp 670:7–671:5, 672:12–15)

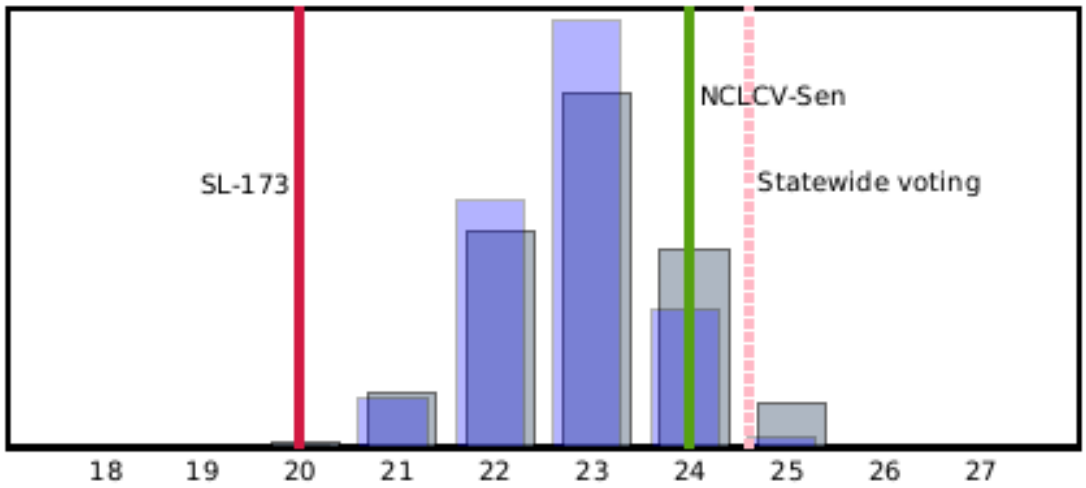
Dr. Barber conspicuously did not calculate whether the maps ***as a whole*** were partisan outliers. But three of the Plaintiffs' experts—Drs. Mattingly,

Pegden, and Duchin—filled that gap by calculating the aggregate statewide results that Dr. Barber's ***own ensembles*** would yield. (R pp 2746, 2750–51, 2858–2870; 2670–2687.) Dr. Barber conceded he could identify no error in Plaintiffs' experts' analyses. (T4 pp 690:8–692:3, 704:21–706:9)

The results were striking. Figures 5 and 6 display Dr. Duchin's aggregation of Dr. Barber's results for the Enacted Senate and House Plans. The statewide histograms that Dr. Duchin created from Dr. Barber's ensembles spotlighted that the Enacted Plans are partisan outliers (and that the NCLCV Maps are not). Below, the gray columns reflect the Democratic-leaning seat distribution of Dr. Barber's original 50,000 map set; the blue bars reflect Dr. Barber's "winnowed" set;[6] the red and green lines reflect the Enacted Plan and the NCLCV Map, respectively; and the dotted pink line reflects the results from a hypothetical map that perfectly translates statewide vote shares into seats. The Enacted Plan is the solid red line.

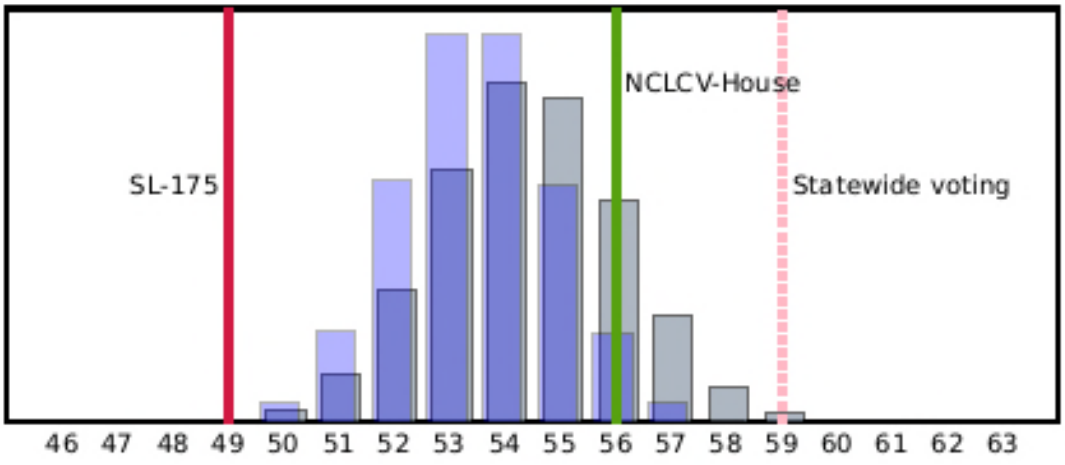
[6] Dr. Duchin criticized Dr. Barber's choice to winnow certain maps from his 50,000-map set as putting a "really significant thumb on the scale" that made the Enacted Plans look less like outliers. (T3 pp 445:23–446:24) Thus, Dr. Duchin analyzed and displayed the results of Dr. Barber's methodology with and without that winnowing.

Figure 5: Democratic Seats in Dr. Barber's Senate Ensemble



Source: R. p 2754.

Figure 6: Democratic Seats in Dr. Barber's House Ensemble

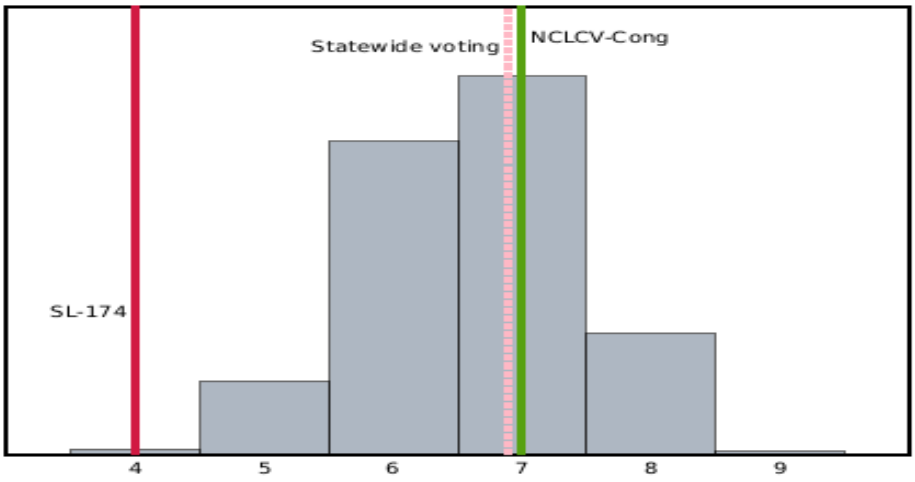


Source: R. p 2755

Dr. Duchin also filled in the gap left by Dr. Barber's telling failure to apply his methodology to Congress by applying Dr. Barber's own algorithm and methodology to create a 20,000-map ensemble. (R p 2749) As shown in Figure 7, the results, again, underscored that the Enacted Congressional Plan is an

outlier and that the NCLCV Map is not an outlier and instead closely tracks statewide results.

Figure 7: Democratic Seats in Congress Using Barber Methodology.



Source: R p 2751.[7]

B. Lay Evidence on Partisan Gerrymandering

Legislative Defendants. At trial, the Legislative Defendants selectively invoked legislative privilege to shield the disclosure of facts related to the map-drawing process. During the 2021 redistricting, Senator Daniel took the lead on the congressional plan (T4 pp 746:9–19); Senators Daniel, Newton, and Hise drew the Senate map (T4 pp 731:15–19, 746:20–22); and Representative Hall drew the House map (T4 pp 759:2–5, FOF 72). The staffs

[7] The Legislative Defendants also offered the testimony of Dr. Andrew J. Taylor, a political-science professor at North Carolina State University. LDTX108 at 5. Dr. Taylor offered opinions about "[p]olitical scientists' common understanding[s]" of "free elections, equal elections, the freedom of speech, and the freedom of assembly." LDTX108 at 7.

of President *Pro Tempore* Philip Berger and Speaker Timothy Moore were heavily involved in all three maps. (T4 pp 745:11–16, 783:22–784:3) At trial, however, only Representative Hall and Senator Hise testified; the remaining four Legislative Defendants invoked legislative privilege.[8] Even this selective account, however, confirmed that the General Assembly achieved the Enacted Plans' gerrymanders by violating their promises of transparency.

Representative Hall. During map-drawing, Representative Hall had repeatedly touted the process as "just about as transparent" as "humanly" possible and promised it would not rely on "[p]artisan considerations and election results data" or "maps drawn outside of the building." (T4 pp 777:21–778:8; Ex. 1015:15–16:18, 1045:23–147:4, 1046:21–36:4, 1055:16–18, 1062:23–1064:14, 1081:9–13, 1086:1–3, 1096:3–6) Indeed, on 2 November 2021, Hall reiterated that when he left the hearing rooms, he had not "referred to or consulted with" "any materials ... to make changes when [he] came back into the room to keep drawing the maps." (Ex. 6158:13–19) Representative Hall affirmed that "[t]here were no outside consultants that [he] used at all in any way in the drawing of this map." (Ex. 6159:6–8)

Under oath, however, Representative Hall testified that he had relied on

[8] 12/22/21 Leg. Defs.' Mot. for Protective Order Quashing Notices of Deposition of President *Pro Tempore* Philip E. Berger, Senator Warren Daniel, Senator Paul Newton & Speaker Timothy K. Moore.

"concept maps" drawn by Dylan Reel, the General Counsel of the House Rules Committee, outside the hearing room and away from the public video and audio stream. (T4 pp 779:23–25, 780:13–15) Representative Hall also participated in "strategy sessions" with Mr. Reel and Neal Inman—Speaker Moore's Chief of Staff—outside the hearing room "almost every day" that he was drawing the House plan. (T4 pp 782:16–783:3, 782:3–5; FOF 72) And when Representative Hall returned to the hearing room, he used the "concept maps" as a "game plan," (T4 pp 788:22–789:5) including for drawing several of the most packed and cracked regions under the House plan.[9]

Indeed, Representative Hall admitted that he examined the "concept maps" on Mr. Reel's phone ***while sitting at the map-drawing terminal***. (T4 pp 785:18–786:19) He also admitted that he "frequently print[ed] [out] the latest draft" of particular groupings "for others to look at outside the [hearing] room." He did not know whether input he received from others relied on partisan (or racial) data. (T4 pp 783:6–13; *cf.* PX79 at 65:14-66:23)

Representative Hall testified that he had no idea how the "concept maps"

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[9] 12/28/21 Harper Pls.' Mot. to Compel Adequate Responses to Second Set of Interrogs. & First Set of Requests for Production, & for Other Appropriate Relief at 3-4 (explaining that Rep. Hall testified at his deposition that he "relied on these concept maps for 'around five' House county clusters in total, including Wake County, Pitt County, the Forsyth-Stokes county cluster, and (potentially) Mecklenburg County, and possibly others"). Collectively, the four named clusters contain 33 districts.

were drawn: He did not know whether "outside consultants" had drawn them, "what software [was] used," or whether that software employed "election and racial data," as many packages do. (T4 pp 783:16–785:17, 786:20–24) And when Plaintiffs sought the maps in discovery, the Legislative Defendants claimed that they "were not saved, are currently lost, and no longer exist." 12/30/21 Leg. Defs.' Supp. Objections & Responses to Pls.' Second Set of Interrogs. at 4. The failure to preserve those "concept maps" violates state law.[10] The panel denied a motion for sanctions based on spoliation. (R pp 2699–2705; T4 pp 770:5–16)

Senator Hise. Senator Hise admitted that he and the two other co-chairs of the Senate Redistricting Committee "worked as a team" with three partisan staff members from the office of Senator Berger, who "advise[d] [the co-chairs] on many things," including "moving specific areas into specific districts." (T4 pp 744:6–13, 745:7–16, 746:5–7) Senator Berger asserted privilege and refused to testify. *Supra* p. 32. Senator Hise admitted that he never "instructed … staff not to use political data" or "pre-drawn maps while advising" the Senate co-chairs, and never asked those staff members "to

[10] N.C.G.S. §§ 120-133(a), 121-5, 132-3; *see* 1/4/22 Order on Harper Plaintiffs' & Plaintiff Common Cause's Joint Mot. for Discovery Sanctions at 10; *see also* N.C.G.S. §§ 120-132; 12/29/21 Order on Harper Plaintiffs' Mot. to Compel Adequate Responses to Second Set of Interrogs. & First Set of Requests for Production.

confirm that they did not consult" such data.[11] Hence, "Representative Hall and [Senator Hise] … confirmed that no restrictions on the use of outside maps were ever implemented or enforced." FOF 73.

Mr. Daye. Tyler Daye, a coordinator with Common Cause, attended committee hearings and watched the public livestreams of the map-drawing. (T3 pp 334:11–17, 335:24–336:12) Mr. Daye testified that he observed unknown "materials being brought in" to the room (T3 pp 342:25–343:3, 64:9–14), and that "legislators would often ask staff for printouts of the … plans" with "precincts labeled," which the legislators would "often take" with them "out of the room." (T3 pp 340:16–23) Members could use "those precinct level printouts" to analyze the maps and "redraw the[m]" using publicly available software that contained partisan and racial data. (T3 pp 340:24–341:3, 363:19–364:15) Mr. Daye also witnessed that one legislator held "his phone over the maps," then "t[ook] a call," "went out of the room," and "came back in and continued" map-drawing. (T3 pp 364:12–15; *see* PX1460 at 2-5, PX1540, PX1543, PX1539)

Mr. Daye also testified to the mechanics of how the mapmakers drew their gerrymanders. He watched districts as they were being drawn. (T3 pp 336:10–12) And while the hearing room's computers did not contain partisan

[11] (T4 pp 746:14–19)

or racial data, Mr. Daye recreated the process using publicly available software containing such data. (T3 pp 343:3–10) By doing so, Mr. Daye confirmed that legislators "drew districts … that were more competitive for Republicans first"—locking in Republican districts—and then drew packed Democratic districts. (T3 pp 347:20–24, 351:15–21).[12]

Sam Hirsch. To distract attention from their own maps, the Legislative Defendants pursued discovery concerning the creation of the NCLCV Maps. As a result, the NCLCV Plaintiffs produced to the Legislative Defendants "all source code, source data, input parameters, and all outputted data associated with" those maps. LDTX189 at 2. The Legislative Defendants also obtained —over the NCLCV Plaintiffs' objection—a court order requiring the NCLCV Plaintiffs' co-lead counsel Sam Hirsch to testify, both at deposition and at trial, about how the NCLCV Maps were created.[13] Mr. Hirsch testified that the

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[12] For instance, Mr. Daye watched Senator Newton crack and pack Democratic voters in drawing the Iredell-Mecklenburg county cluster in the Senate Plan. (T4 pp 344:19–347:16; Ex. 6098–103, 6746, 6747, 6892, 6894, 6745, 6895, 6744 6898, 6749, 6899) He observed the same occur with the Granville-Wake cluster in the Senate Plan (T3 348:20-351:4, 6104–09, 6730, 6903, 6729, 6905, 6728, 6907, 6732, 6909) By the same method, Mr. Daye confirmed that the mapmakers were simultaneously cracking and packing compact and cohesive Black communities. (Ex. 6098–6109, 6746, 6895, 6745, 6896, 6744, 6899, 6749, 6900, 6730, 6094, 6729, 6906, 6728, 6908, 6732, 6910)

[13] Due to the panel allowing Legislative Defendants to call Mr. Hirsch as a witness, Mr. Hirsch, out of an abundance of caution, withdrew from participating as trial counsel on the eve of trial. (T4 pp 810:15–21)

NCLCV Maps were created via "computational redistricting"—which used computerized algorithms to optimize various parameters, including population equality, contiguity, compactness, respect for counties and other political subdivisions, minority electoral opportunity, and partisan fairness. (T4 pp 803:19–804:9, 815:21–22) Mr. Hirsch explained that the algorithm aimed at "symmetry [so] that you treat each party evenhandedly," so that "no one gets discriminated against [based] on their political viewpoint or their party affiliation." (T4 pp 808:5–8, 833:25–835:14).[14]

C. Racial Vote Dilution Evidence

The NCLCV Plaintiffs also showed that the Enacted Plans dilute the voting strength of Black voters.

Dr. Duchin. Dr. Duchin testified that significant racial vote polarization persists in North Carolina. Using "industry-leading" ecological-inference techniques, she found a "consistent pattern of polarization in statewide general elections." (R p 2726) Dr. Duchin found that racial polarization exists in "many Democratic primary elections as well, particularly in elections in which there is a Black Democratic candidate." (R p 2726)

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[14] In opposing the Legislative Defendants' attempts to obtain discovery concerning the creation of the NCLCV Maps, the NCLCV Plaintiffs stated that they did not intend to rely at trial on evidence about how the NCLCV Maps were created. The Legislative Defendants, however, insisted not just on pressing for discovery but on calling Mr. Hirsch at trial as one of their witnesses. As a result, Mr. Hirsch's testimony is part of the record in this case.

Second, Dr. Duchin showed, district by district, how the Enacted Plans leverage racially polarized voting patterns to dilute Black voting strength. She "designat[ed] … eight elections—four generals and four primaries"—that are illustrative of racially polarized voting. (R p 2726) She then measured outcomes in those races to determine whether districts would preserve Black voters' opportunity to nominate and elect their preferred candidates: She looked to whether the minority group's "candidate of choice prevails in at least 6 of the[] 8 contests." (R p 2726) She found that only 2 congressional districts, 8 Senate districts, and 24 House districts did so. (R p 2727) The NCLCV Maps, by contrast, protected minority electoral opportunities in 4, 12, and 36 districts, respectively. (R p 2727)

Table 2: Minority Electoral Opportunity in Enacted & NCLCV Plans

effective districts in state plan	effective districts in alternative plan
CD2, 9	CD2, 4, 9, 11
SD5, 11, 14, 19, 28, 38, 39, 40	SD1, 5, 11, 14, 18, 19, 26, 27, 32, 38, 39, 40
HD8, 23, 24, 25, 27, 32, 38, 39, 42, 44, 48, 57, 58, 60, 66, 71, 92, 99, 100, 101, 102, 106, 107, 112	HD2, 8, 9, 10, 23, 24, 25, 27, 31, 32, 33, 38, 39, 40, 42, 43, 44, 45, 48, 57, 58, 59, 60, 61, 63, 66, 71, 88, 92, 99, 100, 101, 102, 106, 107, 112

Source: R p 2727.

Dr. Duchin concluded that the Enacted Plans dilute minority voting strength and "racial opportunity to elect candidates of choice." (T3 pp 423:1–7)

Common Cause presented additional evidence to support its own claims that the Enacted Plans harm minority voters, detailed below.

Dr. Mattingly. Dr. Mattingly examined the racial impact of two districting decisions. FOF 588; Ex. 6580. As he explained, "[t]he Northeastern corner of the North Carolina State Senate [plan] has two possible county clusterings." FOF 589; Ex. 6580. He found that the "enacted plan splits the Black voters" of the area "roughly in half," creating "two stable Republican districts," whereas the "alternative clustering would have allowed the district with the larger" Black population to elect Black voters' preferred candidates. FOF 589; Ex. 6580. He also found that the configuration of districts in the Wayne-Duplin House cluster unnecessarily cracks Black communities, to the benefit of Republican candidates. FOF 590; Ex. 6580.

Dr. Leloudis. Dr. James L. Leloudis II, a historian at the University of North Carolina at Chapel Hill, conducted a study of North Carolina's "long and cyclical history of suppressing minority political participation," FOF 581, and found that the Enacted Plans perpetuate a long history of discrimination against Black voters dating to Reconstruction, (R p 3205) Dr. Leloudis explained that after Congress passed the VRA, which limited more explicit efforts to suppress minority voting, "extreme partisan gerrymandering and racial vote dilution became the tactics of choice for limiting minority voting rights and political participation." (R p 3205) Dr. Leloudis also observed that,

because of North Carolina's political history and pervasive racial vote polarization, "race and politics overlap, to the extent that partisan gerrymandering many times acts as a cover for racial discrimination." R pp 3205–06; *see also* FOF 578–82; T3 pp 303:4–310:14, 323:23–315:9. Indeed, "accepting" the contention that "the redistricting process was conducted race-blind" would require "belie[ving] that … politicians vying for public office in the racially polarized America of the 21st century lack an intimate knowledge of where people live and how they vote." (R p 3279)

Representative Hawkins. Representative Zack Hawkins also testified to the effects of the Legislative Defendants' decisions, explaining that the Enacted Plans diluted Black voting strength in specific regions, such as Pitt County. (T4 pp 865:20–869:3)

Dr. Lewis. Legislative Defendants' expert Dr. Jeffrey Lewis, a political scientist at the University of California, Los Angeles, purported to apply Dr. Duchin's methodology and to show that the Enacted Plans contained more "Black-effective" districts than she identified. On cross-examination, however, Dr. Lewis conceded a fundamental flaw in his approach: He had identified as "Black-effective" several districts in which Black voters' preferred candidates had a 0% chance of winning the general election. (T4 pp 599:21–606:20)

VIII. The Panel's Decision

On January 11, the panel issued its decision. It found that the three

Enacted Plans are "intentional, pro-Republican partisan" gerrymanders, FOF 569, that the "General Assembly consistently acted with an intent to redistrict for partisan advantage," COL 170, and that "excessive partisanship in districting" is "incompatible with democratic principles," COL 145. The panel, however, held as a matter of law that the North Carolina Constitution permits even extreme, intentional gerrymanders. COL 144. It also rejected the NCLCV Plaintiffs' racial vote-dilution and Whole County Provision claims.

A. Partisan Gerrymandering

Findings of Fact. The "Legislative Defendants offered no defense of the 2021 Congressional Plan," and "[n]o expert witness opined that it was not the product of an intentional partisan redistricting." FOF 424. The panel "agree[d] with the findings of each of [Plaintiffs'] experts and f[ound] that the 2021 Congressional Plan is an intentional, and effective, pro-Republican partisan redistricting." FOF 423. Relying on Dr. Duchin's analysis, the court found that the plan "is designed in a way that safeguards Republican majorities in any plausible electoral outcome, including those where Democrats win more votes by clear margins." FOF 193. The panel explained that the plan "will almost always yield 10 Republican seats and 4 Democratic seats," "even when Democrats win statewide by clear margins." FOF 191, 193.; *see also* FOF 140.

The panel found that this skew could not be "explained by … political

geography." FOF 183. Instead, the "plan's partisan bias goes beyond any 'natural' level of electoral bias." FOF 482. The panel credited the ensemble analyses of Dr. Mattingly, Dr. Chen, and Dr. Magleby, observing that when compared to nonpartisan maps, the "Congressional map is an 'extreme outlier'" of up to 99.9999%, and that it is "highly non-responsive to the changing opinion of the electorate." FOF 140 (quoting R pp 2637–38); FOF 175, 209, 451. Indeed, the panel found that, in pursuit of "partisan advantage," the plan "***subordinate[d]*** the [General Assembly's] Adopted Criteria and traditional redistricting criteria" and drew districts that were less compact and less respectful of political subdivisions than nearly all nonpartisan maps in Dr. Chen's ensemble. FOF 429, 434, 451, 469 (emphasis added). Citing Dr. Pegden, the panel found that the "enacted congressional map is more carefully crafted to favor Republicans than at least 99.9999% of all possible maps"—making it a one-out-of-a-million map. FOF 175.

The panel further explained, district by district, how the Enacted Congressional Plan cracks and packs Democratic voters. FOF 423–566.

The panel also found that the Enacted Senate and House Plans are "partisan outliers in their partisan bias and the degree to which they are optimized for partisan advantage." FOF 177. It again credited Dr. Duchin's testimony and found that the Enacted Plans consistently "give Republicans an outright majority" in the Senate and House in "every single one of the 52

elections decided within a 6-point margin." FOF 191. This evidence, the panel explained, showed that the Enacted Senate Plan consistently "precludes Democrats from winning a majority in the Senate" and that the Enacted House Plan is "designed to systematically prevent Democrats from gaining a tie or majority." FOF 196, 199.

The panel, again, concluded that this skew "cannot be explained by … political geography." FOF 183. As the panel found, Dr. Mattingly's and Dr. Magleby's ensemble analyses show that "the State House and Senate Plans are extreme outliers that 'systematically favor the Republican Party to an extent which is rarely, if ever, seen in the non-partisan collection of maps.'" FOF 142 (quoting R p 2565). And again, the panel credited Dr. Pegden, finding that the "enacted House map … is more carefully crafted for Republican partisan advantage than at least 99.9999% of all possible maps … satisfying" nonpartisan constraints, and that the "enacted Senate map is more carefully crafted … than at least 99.9% of all" such maps. FOF 182.

The court again rejected the argument that the General Assembly's districting criteria accounted for the skew. To the contrary, "the mapmakers focused on [preserving] municipalities … only when doing so advantaged Republicans." FOF 158. And in a number of clusters, the General Assembly "depart[ed] from traditional redistricting principles and reduce[d] the compactness of ... districts." FOF 265.

The panel also credited analyses from Dr. Mattingly, Dr. Pegden, and Dr. Barber showing how the Enacted Senate and House Plans packed and cracked Democratic voters across specific districts and clusters. The panel found that the district configurations of the Granville-Wake, Cumberland-Moore, Guilford-Rockingham, Forsyth-Stokes, Iredell-Mecklenburg, and Buncombe-Burke-McDowell Senate clusters, as well as the configuration of Senate Districts 1 and 2, were partisan outliers. FOF 233–308. The panel drew the same conclusion about the House districts in the Guilford, Buncombe, Mecklenburg, Pitt, Durham-Person, Forsyth-Stokes, Wake, Cumberland, and New Hanover-Brunswick clusters. FOF 309–410. The panel noted that the analysis of Dr. Barber—Legislative Defendants' expert—only "reinforces th[e] conclusion" that "partisan redistricting and bias in these groupings were responsible for the partisan bias" statewide. FOF 309.

Conclusions of Law. The panel concluded that "intentional, and effective, pro-Republican partisan redistricting" in each of the three Enacted Plans "systematically" protects Republicans from electoral competition. FOF 199, 423. The panel, however, found that the North Carolina Constitution permits such gerrymandering, and that none of the provisions the Plaintiffs invoked—the Free Elections, Equal Protection, Free Speech, and Free Assembly Clauses—impose any limit on the General Assembly's attempts to entrench the majority party in power. COL 70–134. Rejecting *Common Cause*,

the panel also held that redistricting is a nonjusticiable political question "which the legislature alone is allowed to answer." COL 153, 156.

B. Racial Vote Dilution

The panel also rejected the NCLCV Plaintiffs' racial-vote dilution claims. It acknowledged North Carolina's "long and cyclical history of suppressing minority political participation" and the "numerous instances where white conservatives have employed a variety of measures to limit the rights of racial and ethnic minorities." FOF 581. The panel, however, did not analyze the NCLCV Plaintiffs' claim as a racial vote-dilution claim. Instead, the panel required the NCLCV Plaintiffs to satisfy the intent standard applicable to a racial ***gerrymandering*** claim—*i.e.*, that "race predominated over traditional race-neutral … principles"—and found that the NCLCV Plaintiffs had not adequately shown a "discriminatory purpose." COL 164; *see* COL 169–72.

The panel also believed that the vote-dilution claim failed because Dr. Duchin "didn't do *Gingles* one"—that is, did not assess whether Black voters would constitute 50%+ of the voting-age population in alternative districts. FOF 587. The panel did not address the NCLCV Plaintiffs' argument that, under North Carolina law, no such showing is required.

C. The Whole County Provisions and *Stephenson/Dickson*

The NCLCV Plaintiffs presented evidence that the Enacted Senate and House Plans traverse more county boundaries than necessary and draw

needlessly noncompact districts. In particular, Dr. Duchin explained that the Enacted Senate Plan traverses 97 county boundaries and the Enacted House Plan traverses 69. (R p 2732) By contrast, the NCLCV Maps show that it is possible to draw fair Senate and House maps with as few as 89 and 66 county traversals, respectively. (R p 2732) Similarly, the NCLCV Maps are significantly more compact. (R p 2728) The panel did not mention this evidence. Instead, it stated that the Enacted Plans "contained the minimum number of traversals and maintained sufficient compactness" to comply with the *Stephenson/Dickson* framework and, for that reason, rejected the NCLCV Plaintiffs' claim under the Whole County Provisions. COL 177–78.

D. Standing

The panel found as fact that the NCLCV Plaintiffs had the type of "personal stake" and "direct injury" necessary to challenge every district in all three Enacted Plans. COL 3-4. The panel acknowledged that individuals have standing to challenge "their own districts" as well as "the entire county grouping" in which they reside. COL 8. It also found that the "organizational Plaintiffs," including NCLCV, "each have members who would otherwise have standing to sue in their own right, [that] the interests each seeks to protect are germane to the organization's purpose, and [that] neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit." COL 13. As well, the panel held that an association may sue in its

"own right to seek judicial relief from injury to itself and to vindicate whatever rights and immunities the association itself may enjoy," COL 5, and that here, "the organizational Plaintiffs each seek to vindicate rights enjoyed by the organization under the North Carolina Constitution," COL 12.

The panel held, however, that the NCLCV Plaintiffs lacked standing to bring their partisan-gerrymandering and racial vote-dilution claims because it believed the NCLCV Plaintiffs had no "cognizable claims." COL 14, 16.

STANDARD OF REVIEW

On appeal, "[c]onclusions of law are reviewed de novo." *Dickson I*, 367 N.C. at 551, 766 S.E.2d at 245. Factual findings may be set aside if not "supported by competent evidence found by the trial judge." *Id.*

ARGUMENT

I. The Enacted Plans Are Extreme Partisan Gerrymanders That Violate The North Carolina Constitution.

The panel correctly found, after "a careful review of all of the evidence," that the Enacted Plans are "intentional, pro-Republican" gerrymanders that are "built to resiliently safeguard electoral advantage for Republican candidates" and that deliver majorities to Republicans even "when voters clearly prefer the other party." FOF 189, 191, 589. The panel nevertheless upheld the Enacted Plans because, in its view, the North Carolina Constitution allows the General Assembly to gerrymander without limit. This Court should not accept that democracy-destroying proposition.

A. Extreme Partisan Gerrymanders Violate the North Carolina Constitution.

Extreme partisan gerrymandering assaults the most basic principles of our Constitution. When the incumbent party gerrymanders itself into a majority, "political power" does not "derive[] from the people." N.C. Const. of 1776, Declaration of Rights, § I. Power begets power. And when skewed maps predetermine elections, "the ballot" no longer expresses the "will of the people." *People ex rel. Van Bokkelen v. Canaday*, 73 N.C. 198, 220 (1875). The ballot becomes meaningless.

This Court has consistently intervened when those in power have threatened to undermine free and fair elections. It did so in *Stephenson I*, which held that the use of single- and multimember districts in the same plan violates the North Carolina Constitution by depriving some voters of "substantially equal voting power." *Stephenson I*, 355 N.C. at 379, 562 S.E.2d at 394. Indeed, Court has long protected the "compelling interest" in "having fair, honest elections." *State v. Petersilie*, 334 N.C. 169, 184, 432 S.E.2d 832, 840 (1993). Hence, for more than 125 years, it has followed the imperative that "fair and honest elections are to prevail in this state." *McDonald v. Morrow*, 119 N.C. 666, 26 S.E. 132, 134 (1896).[15]

[15] Notably, *Stephenson I* held that redistricting plans that deprive voters of "substantially equal voting power" violate the Constitution without addressing

The scourge of extreme partisan gerrymandering calls for this Court's intervention again. There can be no dispute that such gerrymandering thwarts core democratic principles. In 2004, all nine Justices of the U.S. Supreme Court agreed that "an excessive injection of politics" in redistricting is "unlawful." *Vieth v. Jubelirer*, 541 U.S. 267, 292–93 (2004) (plurality op. of Scalia, J.); *see id.* at 316 (Kennedy, J., concurring). And in *Rucho v. Common Cause*, 139 S. Ct. 2484 (2019), all nine Justices again agreed that partisan gerrymanders are "incompatible with democratic principles." *Id.* at 2506; *see also id.* at 2512 (Kagan, J., dissenting). While the U.S. Supreme Court ultimately found that the Federal Constitution does not provide a remedy for partisan gerrymandering, Chief Justice Roberts emphasized that the Court did not condemn complaints about "excessive partisan gerrymandering" to "echo into a void"—precisely because state courts can redress such gerrymandering via "state constitutions." *Id.* at 2507 (majority op.).

Here, this Court should accept the Chief Justice's invitation, fulfill the promises of the North Carolina Constitution, and protect the voting rights of millions of North Carolinians. Below, the NCLCV Plaintiffs address each of the constitutional provisions that *Common Cause* correctly held prohibit extreme partisan gerrymandering, as well as the panel's errors in holding that

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whether they did so beyond "any reasonable doubt," COL 23—though regardless, the NCLCV Plaintiffs proved their claims beyond any such doubt.

this State's Constitution condones without limit an incumbent party's efforts to entrench itself without regard to the will of the people.

1. Extreme Partisan Gerrymanders Violate the Free Elections Clause.

a. The Free Elections Clause's Text, History, Purpose, and Context All Condemn Extreme Partisan Gerrymandering.

North Carolina's prohibition on extreme partisan gerrymandering flows, first, from its Free Elections Clause, which provides that "[a]ll elections shall be free." N.C. CONST. art. I, § 10. This is "one of the clauses that makes the North Carolina Constitution more detailed and specific than the federal Constitution." *Common Cause*, 2019 WL 4569584, at *109 (citing *Corum v. Univ. of N.C.*, 330 N.C. 761, 783, 413 S.E.2d 276, 290 (1992)). This Clause prohibits extreme gerrymanders that systematically prevent the majority from governing North Carolina, as *Common Cause* correctly held.

Text and history. That conclusion follows, first, from the Free Elections Clause's text and history. The word "free," at the Founding, meant "[u]ncompelled," "unrestrained," "[n]ot bound by fate," and "not necessitated." *Free*, Samuel Johnson, *Dictionary of the English Language* (1755), https://johnsonsdictionaryonline.com/views/search.php?term=free; *accord Free,* THOMAS SHERIDAN, A COMPLETE DICTIONARY OF THE ENGLISH LANGUAGE (1789) ("[a]t liberty," "uncompelled," or "unrestrained"). "Free" elections are

thus "free from interference or intimidation" by the government. JOHN V. ORTH & PAUL M. NEWBY, THE NORTH CAROLINA STATE CONSTITUTION 55–57 (2d ed. 2013) [hereinafter ORTH & NEWBY]; *see Common Cause*, 2019 WL 4569584, at *111. When extreme partisan gerrymanders dictate results, elections are not "uncompelled," "unrestrained," or "free from interference." Rather, elections are "bound by fate" to yield one result—the result sought by the mapmaker.

The Free Elections Clause's origins make that conclusion even more plain. In 17th-century England, the King undertook "to manipulate parliamentary elections, including by changing the electorate in different areas to achieve 'electoral advantage.'" *Common Cause*, 2019 WL 4569584, at *111 (quoting J.R. JONES, THE REVOLUTION OF 1688 IN ENGLAND 148 (1972)). Those abuses "led to a revolution" and, thereafter, a provision in the 1689 English Bill of Rights specifying that "election of members of parliament ought to be free." *Id.* (quoting Bill of Rights 1689, 1 W. & M. c. 2 (Eng.)). That clause aimed, directly, at the King's manipulation of electoral boundaries to achieve electoral advantage. *Id.* At the Founding, several states adopted free-elections clauses modeled on the 1689 English Bill of Rights. *Id.* In turn, the framers of the North Carolina Declaration of Rights drew from the constitutions of these states, including Pennsylvania. *Id.*; *see* Earle H. Ketcham, *The Sources of the North Carolina Constitution of 1776*, 6 N.C. HIS. REV. 215, 221 (1929)

[hereinafter Ketcham] (noting that Free Elections Clause was "in the same spirit as the English Declaration of Rights").

When North Carolina's Founding Fathers imported the Free Elections Clause, they brought with it the contemporary understanding of the 1689 Bill of Rights, including that it guarded against attempts to manipulate the legislative body by controlling the electorate. *See, e.g.*, *Comm. to Elect Dan Forest v. Emps. Pol. Action Comm.*, 376 N.C. 558, 2021-NCSC-6, ¶¶ 75–81 (relying on English origins to interpret the North Carolina Constitution's open-courts provision). Other courts have likewise traced the origins of their own constitutions' free-elections clauses to this historical understanding. Indeed, the Pennsylvania Supreme Court drew on caselaw dating as far back as the 1860s in holding that its free-elections clause protects each citizen's right to "an equally effective power to select the representative of his or her choice" and "bars the dilution of [that] power" via gerrymandering. *League of Women Voters*, 645 Pa. at 117, 178 A.3d at 184.

North Carolina's 1971 Constitution reinforces this conclusion. The original 1776 Constitution closely paralleled the English Bill of Rights and provided that "elections ***ought*** to be free." *Common Cause*, 2019 WL 4569584, at *111 (emphasis added). The 1971 Constitution amended the clause to specify that "'[a]ll elections ***shall*** be free.'" *Id.* (emphasis added by the panel). As this Court has emphasized, that change "ma[d]e [it] clear" that the Free

Elections Clause is a "command[]" and "not mere admonition[]." *N.C. State Bar v. DuMont*, 304 N.C. 627, 639, 286 S.E. 2d 89, 97 (1982).

Purpose and context. The Free Elections Clause's purpose and context confirm that it prohibits extreme gerrymanders that prevent the majority from governing. The Free Elections Clause is closely tied to the Declaration of Rights' foundational principle that "[a]ll political power is vested in and derived from the people." Decl. of Rights § 2; *see* N.C. Const. of 1776, Declaration of Rights, § I. Indeed, the Free Elections Clause is an "application of the principle of popular sovereignty, first stated in Section 2" of the Declaration of Rights. ORTH & NEWBY at 55; *see* Ketcham at 219–20 (emphasizing centrality of "the doctrine of popular sovereignty").

The Free Elections Clause thus protects the "fundamental role of the will of the people in our democratic government." *Common Cause*, 2019 WL 4569584, at *109. As Section 2 reflects, "[o]ur government is founded on the will of the people." *Van Bokkelen*, 73 N.C. at 220. And "[t]heir will is expressed by the ballot." *Id.* In particular, the Free Elections Clause protects the ability of a ***majority*** of the people to translate votes into governing power: Because "this is a government of the people, … the will of the people—the majority—legally expressed, must govern." *State ex rel. Quinn v. Lattimore*, 120 N.C. 426, 26 S.E. 638, 638 (1897). Hence, "the object of all elections" must be "to ascertain, fairly and truthfully, the will of the people—the qualified voters."

Hill v. Skinner, 169 N.C. 405, 415, 86 S.E. 351, 356 (1915); *accord Quinn*, 120 N.C. at 428–29, 26 S.E. at 638 ("[A]ll acts providing for elections, should be liberally construed, that tend to promote a fair election or expression of this popular will.").

The Free Elections Clause thus bars laws that seek to manipulate future elections and interfere with the "will of the people." *Quinn*, 120 N.C. at 428, 26 S.E. at 638. In *Clark v. Meyland,* for example, this Court struck down a law that required voters seeking to change their party affiliation to take an oath to support the party's nominees. *See* 261 N.C. 140, 141, 134 S.E.2d 168, 169 (1964). That attempt to manipulate future elections, this Court held, "violate[d] the constitutional provision that elections shall be free." *Id.* at 143, 134 S.E.2d at 170.

These same principles condemn partisan gerrymandering. Partisan gerrymandering thwarts the "principle of popular sovereignty," ORTH & NEWBY at 55, that the Free Elections Clause implements. Under gerrymandered maps, elections do not "ascertain, fairly and truthfully, the will of the people." *Hill*, 169 N.C. at 415, 86 S.E. at 356. It "is the will of the map drawers that prevails." *Common Cause*, 2019 WL 4569584, at *110. And that result violates the "core principle of republican government"—"that the voters should choose their representatives, not the other way around." *Ariz. State Legislature v. Ariz. Indep. Redistricting Comm'n*, 576 U.S. 787, 824 (2015).

Moreover, partisan gerrymandering "represent[s] an abuse of power that, at its core, evinces a fundamental distrust of voters, serving the self-interest of the political parties at the expense of the public good." *League of United Latin American Citizens (LULAC) v. Perry*, 548 U.S. 399, 456 (2006) (Stevens, J., concurring in part and dissenting in part).

Indeed, the Declaration of Rights directly connects elections with popular sovereignty. It guarantees that "[f]or redress of grievances and for amending and strengthening the laws, elections shall be often held." N.C. CONST. art. I, § 9. This clause, together with the Free Elections Clause, "mandates that elections in North Carolina" must ensure "that all North Carolinians are freely able, through the electoral process, to pursue a 'redress of grievances and … amend[] and strengthen[] the laws.'" *Common Cause*, 2019 WL 4569584, at *111 (quoting ORTH & NEWBY at 56). But when gerrymanders entrench one party in power, voters cannot "meaningfully seek to redress their grievances or amend the laws consistent with their policy preferences"—because these voters are unable to "obtain a majority" of seats, even with a majority of votes. *Id.* at *112.[16]

[16] Partisan-gerrymandering claims under the Free Elections Clause should not require an affirmative showing of intent. As this Court has held, when a law implicates the values that Clause protects, "it is the effect of the act, and not the intention of the Legislature, which renders it void." *Van Bokkelen*, 73 N.C. at 225–26. That issue, however, is not presented here, given the panel's

b. The Panel Erred in Holding that the Free Elections Clause Condones Extreme Partisan Gerrymandering.

The panel erred by holding that the Free Elections Clause imposes no limits on politicians' ability to entrench themselves in power by ignoring the will of the voters and rendering elections mere formalities.

First, the panel observed the "reported decisions that construe the [Free Elections] clause" have not "deal[t] with redistricting for partisan advantage." COL 70, 73. But those decisions adopt ***principles*** that apply equally to extreme partisan gerrymandering:

- The oath requirement in *Clark* was unconstitutional because it manipulated future election results and undermined the "free choice" of the voters, in violation of the promise that "elections shall be free." *Clark*, 261 N.C. at 142–43, 134 S.E.2d at 170.
- In *Swaringen v. Poplin*, election fraud contravened the principle that "[o]ur government is founded on the consent of the governed" and hence a "free ballot and a fair count must be held inviolable." 211 N.C. 700, 191 S.E. 746, 747 (1937).
- In *Obie v. North Carolina State Board of Elections*, a ballot-access regulation violated the right of a candidate's supporters "to cast

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express findings that the General Assembly acted with the intent to entrench Republicans in power.

> [their] votes effectively" for "the advancement of [their] political beliefs." 762 F. Supp. 119, 121 (E.D.N.C. 1991).

The same principles govern here. Extreme partisan gerrymandering thwarts the "free choice" of voters (as in *Clark*), contravenes the principle that "[o]ur government is founded on the consent of the governed" (as in *Swaringen*), and prevents voters from "cast[ing] … votes effectively" for their preferred candidates (as in *Obie*).

Second, the panel reasoned that the Free Elections Clause cannot prohibit extreme partisan gerrymandering because *Stephenson I* stated that "[t]he General Assembly may consider partisan advantage and incumbency protection in … its discretionary redistricting decisions." COL 73 (quoting *Stephenson I*, 355 N.C. at 371–72, 562 S.E.2d at 390). That, however, misreads *Stephenson I*, which did not consider a claim that the General Assembly had enacted an extreme partisan gerrymander that nullified the will of the people. Indeed, *Stephenson I* emphasized that the General Assembly's "application of its discretionary redistricting decisions … must" remain "in conformity with the State Constitution." *Stephenson I*, 355 N.C. at 371–72, 562 S.E.2d at 390.

Moreover, the panel overlooked what *Stephenson I* ***cited*** when it stated that the General Assembly "may consider partisan advantage and incumbency protection"— the U.S. Supreme Court's decision in *Gaffney v. Cummings*, 412 U.S. 735 (1973); *see Stephenson I*, 355 N.C. at 371, 562 S.E.2d at 390. The way

that *Gaffney* allows partisan advantage and incumbency protection to be considered is the opposite of the way they were considered here. *Gaffney* held that states can take political considerations into account to achieve "politically fair" maps and to "allocate political power to the parties in accordance with their voting strength." 412 U.S. at 753–54. *Gaffney* thus approved of the approach reflected in the NCLCV Maps—*i.e.*, using electoral data to ensure that maps treat both parties fairly and symmetrically. *Supra* pp. 20–27; *see* T4 pp 806:4–805:6, 833:25–836:21. It did not approve of employing political considerations to entrench one party in power ***regardless*** of voters' preferences. And *Stephenson I* did not, by citing *Gaffney*, condone such gerrymandering.

Third, the panel acknowledged that the Free Elections Clause derives from "the English Bill of Rights," and that the Bill of Rights was "crafted in response to abuses and interference by the Crown in elections for members of parliament which included changing the electorate in different areas to achieve electoral advantage." COL 77. Still, the panel reasoned that the same words in the Free Elections Clause should be interpreted differently because the "circumstances under which … the same language [was] used" were "different." COL 90. None of the panel's reasons, however, withstands scrutiny.

One, the panel reasoned that the Bill of Rights did not "restrict[] … the power of Parliament" but only that of "the Crown." COL 79. North Carolina,

however, imported the Free Elections Clause into the Declaration of Rights, which ***does*** bind the General Assembly. Indeed, the Declaration of Rights contains many provisions that derive from the Bill of Rights, including the rights to "petition" for redress of grievances; to "have arms for … defence"; to be free of "excessive bail," "excessive fines," and "cruel and unusual punishments"; and to trials by "jurors … duly impanelled and returned."[17] No one has ever doubted that these provisions bind the General Assembly. In fact, this Court's seminal opinion in *Bayard* voided an "act of the General Assembly" that contravened one of these provisions by attempting to seize property "without a trial by jury." 1 N.C. at 7. Ever since, this Court has emphasized that "[t]he very purpose of the Declaration of Rights is to ensure that the violation of these rights is never permitted by ***anyone*** … invested … with the powers of the State." *Corum v. Univ. of N.C.*, 330 N.C. 761, 782–83, 413 S.E.2d 276, 289–90 (1992) (emphasis added).

Two, the panel reasoned that the North Carolina Constitution conferred broad powers on the General Assembly; that the check on "legislative excess" is to "have elections often"; and that today the North Carolina Constitution includes "four … constraints" that expressly address redistricting but do not

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[17] *Compare* 1689 English Bill of Rights, *with* 1776 Declaration of Rights § 18 (right to "petition"); *id.* § 27 ("right to bear arms"); *id.* § 10 (prohibition on "excessive bail," "excessive fines," and "cruel or unusual punishments"); *id.* §§ 9, 14 (protections for trial "by jury").

expressly "restrict[] … redistricting for partisan advantage." COL 92, 95–96. Based on all this, the panel concluded that the Free Elections Clause's general principles cannot "operate … as a restriction on the authority of the General Assembly to redistrict." COL 97.

The panel's conclusion does not follow; indeed, it clashes with this Court's decisions. The North Carolina Constitution contains both districting-specific rules (like the Whole County Provisions) and general principles (for example, the Equal Protection Clause, the Free Elections Clause, and more). The panel cited no authority for the notion that the districting-specific rules somehow ***oust*** the general principles—and that plainly cannot be the case. *Stephenson I* proves the point; there, this Court held that "the use of both single-member and multi-member districts within the same redistricting plan violates the Equal Protection Clause" even though the Constitution's district-specific rules impose no such limit. 355 N.C. at 378, 562 S.E.2d at 394.

Indeed, when the very purpose of extreme partisan gerrymandering is to skew electoral outcomes to thwart the will of the voters, the panel's view—that "accountability through frequent elections" is the "sole[]" limit on the General Assembly, COL 149—is especially misplaced. Gerrymandering's ***whole point*** is to entrench one party in power even "when voters clearly prefer the other party." FOF 191. "[F]requent elections" cannot check a legislature that has insulated itself from the will of the people.

Three, the panel reasoned that the Free Elections Clause cannot prohibit partisan gerrymandering because, at the Founding, "Patrick Henry … attempt[ed] to partisan gerrymander … to the detriment of James Madison" and because "Rotten Boroughs" persisted after the 1689 English Bill of Rights. COL 103, 106. This type of constitutional argument, to begin, is always infirm: It would condone laws that discriminate against minority citizens, that deny women equal rights, and that punish core political speech in the mode of the Alien and Sedition Acts.

Here, moreover, these arguments are especially misplaced. North Carolina's early courts had no occasion to consider the lawfulness of partisan gerrymandering—because in early North Carolina, party politics was limited, and this State's first Constitution required Senate and House districts to follow county lines. *See* ORTH & NEWBY at 12; J. MICHAEL BITZER, REDISTRICTING AND GERRYMANDERING IN NORTH CAROLINA 13–16 (2021); *see also* ORTH & NEWBY at 11 (noting general "dearth of constitutional litigation," "nationwide" and in North Carolina).

Moreover, when gerrymandering occurred elsewhere, it was condemned as ***unconstitutional***. For example, "Light Horse Harry" Lee warned that Patrick Henry's gerrymander "menace[d] the existence of the govt." by

designing "the districts … to conform to the anti-federal interest."[18] Edmund Randolph feared that Henry's effort "to arrange the districts" would "tend to the subversion of the new government."[19] Meanwhile, when Elbridge Gerry created the district that gave gerrymandering its name, it was denounced as a "grievous wound on the Constitution" that "in fact subverts and changes our Form of Government."[20] Contemporaries called the map "unconstitutional, unequal, and unjust," and decried it as reflecting "unconstitutional hackings and hewings of the state."[21] *See* Br. of Historians in Support of Appellees at 35–37, *Rucho v. Common Cause*, No. 18-422, 2019 WL 1167913 (U.S. Mar. 8, 2019).

In any event, the U.S. Supreme Court has already rejected the near-identical argument in its seminal one-person, one-vote case of *Baker v. Carr*, 369 U.S. 186 (1962). There, Justice Frankfurter urged that the Court should not intervene to correct severely malapportioned districts that diluted some citizens' voting power. He argued, just like the panel below, that British and American history had a long history of "rotten boroughs" and that at the

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[18] 2 DOCUMENTARY HISTORY OF THE FIRST FEDERAL ELECTIONS, 1788-1790, at 378 (M. Jensen et al., eds. 1976).

[19] 11 PAPERS OF JAMES MADISON 339 (R. Rutland et al., eds. 1962).

[20] *The Gerry-Mander, or Essex South District Formed into a Monster!*, Salem Gazette, Apr. 2, 1813.

[21] ELMER C. GRIFFITH, THE RISE AND DEVELOPMENT OF THE GERRYMANDER 70-71, 89 (1907).

Founding, the "representation ratio in one North Carolina county was more than eight times that in another." *Id.* at 303, 307–08 (Frankfurter, J., dissenting). The Court, however, disagreed and held that the plaintiffs' "allegations of a denial of equal protection present a justiciable constitutional cause of action." *Id.* at 237; *accord Wesberry v. Sanders*, 376 U.S. 1, 14–15 (1964) ("The delegates [to the Constitutional Convention] referred to rotten borough apportionments in some of the state legislatures as the kind of objectionable governmental action that the Constitution should not tolerate ...."). Likewise here, the historical anecdotes cited by the panel do not insulate the Enacted Plans from constitutional scrutiny.

2. Extreme Partisan Gerrymanders Violate the Equal Protection Clause.

a. North Carolina's Equal Protection Clause Protects The Right To Substantially Equal Voting Power And Condemns Extreme Partisan Gerrymandering.

North Carolina's Equal Protection Clause reinforces the constitutional prohibition against extreme partisan gerrymandering. As this Court has explained, "[t]he right to vote is one of the most cherished rights in our system of government." *Blankenship v. Bartlett*, 363 N.C. 518, 522, 681 S.E.2d 759, 762 (2009). And partisan gerrymandering violates the Equal Protection Clause by diluting the votes of some North Carolinians based on the party they support, as *Common Cause* correctly held. 2019 WL 4569584, at *113.

Like the Free Elections Clause, North Carolina's Equal Protection Clause provides broader protections than the Federal Constitution—and in a manner directly relevant here. *Id.* *Stephenson I*, as explained, invalidated the simultaneous use of single-member and multimember districts in a redistricting plan, holding that although such a scheme does not violate the federal Equal Protection Clause, it burdens a "***fundamental*** right under the State Constitution": namely, the right to "substantially equal voting power and substantially equal legislative representation." 355 N.C. at 382, 562 S.E.2d at 396. "***Equal voting power*** for all citizens," this Court explained, "***is the goal***." *Id.* at 380, 562 S.E.2d at 395. And because multimember districts undermine that goal, this Court deemed them to violate the Equal Protection Clause.

Again and again, this Court has reaffirmed that North Carolina's Equal Protection Clause broadly protects the right to vote on an equal basis. *Blankenship* held that this Clause mandates one-person, one-vote in judicial elections because the "right to vote ***on equal terms*** … —a one-person, one-vote standard—is a fundamental right," and one that receives greater protection than under the Federal Constitution. *Blankenship*, 363 N.C. at 522, 681 S.E.2d at 762–63 (emphasis added). In *Northampton County Drainage District Number One v. Bailey*, this Court struck down a voting scheme for drainage districts on the ground that it violated the "fundamental right" to

"vote on equal terms." 326 N.C. 742, 746–47, 392 S.E.2d 352, 356 (1990). These decisions recognize that North Carolina's Constitution broadly protects "political equality": The "concept of 'we the people' under the Constitution visualizes no preferred class of voters but equality among th[em]," and "every voter [must be] equal to every other voter in his State." *Stephenson I*, 355 N.C. at 391, 562 S.E.2d at 402.

Common Cause correctly applied that principle to hold that partisan gerrymandering violates the Equal Protection Clause. As in *Stephenson I*, *Blankenship*, and *Northampton*, gerrymandering deprives some citizens of "substantially equal voting power." *Stephenson I*, 355 N.C. at 382, 562 S.E.2d at 396. In particular, such gerrymandering—by "seeking to diminish the electoral power of supporters of a disfavored party"—deprives supporters of "equal" voting power. *Common Cause*, 2019 WL 4569584, at *113. There is "nothing 'equal' about the 'voting power' of Democratic voters when they have a vastly less realistic chance of winning a majority." *Id.* at *116.

As in *Stephenson I*, partisan gerrymandering also deprives voters from the disfavored party of "substantially equal legislative representation." *Id.* Such "gerrymandering insulates legislators from popular will and renders them unresponsive to portions of their constituencies." *Id.* As *Stephenson I* explained, the "political reality" is that "legislators are much more inclined to listen to and support a constituent than an outsider." 355 N.C. at 380, 562

S.E.2d at 395. And "[w]hen a district is created solely to effectuate the interests of one group, the elected official … is 'more likely to believe that their primary obligation is to represent only … that group.'" *Common Cause*, 2019 WL 4569584, at *116 (quoting *Shaw v. Reno*, 509 U.S. 630, 648 (1993)).

b. The Panel Erred in Holding that the Equal Protection Clause Condones Extreme Partisan Gerrymandering.

The decision below again erred by holding that the Equal Protection Clause imposes no limits on even the most egregious gerrymanders.

First, the panel repeated its reasoning that, because the North Carolina Constitution includes other express "objective constraints … on the legislature in drawing legislative maps," the "addition of the Equal Protection Clause" cannot have "impose[d] new restrictions on" the General Assembly's "redistricting" powers. COL 110–11. As discussed above, that reasoning is flawed. Indeed, were it right, *Stephenson I*—which held that the General Assembly's "drawing [of] legislative maps" violated the Equal Protection Clause—would have come out the other way.[22]

Second, the panel noted that the U.S. Supreme Court "declined to strike [down] the partisan gerrymandered maps in *Rucho*" as violating the federal

[22] For similar reasons, the decision to deny the Governor a veto over redistricting maps—on which the panel relied, COL 57–60, 112, 150—says nothing about whether ***courts*** may remedy partisan gerrymanders that violate other provisions of the North Carolina Constitution.

Equal Protection Clause. COL 114. As the panel acknowledged, however, North Carolina's Equal Protection Clause "in some instances … afford[s]" "greater protection." COL 114; *see State ex rel. Martin v. Preston*, 325 N.C. 438, 449–50, 385 S.E.2d 473, 479 (1989). More than that, the ***manner*** in which North Carolina's Equal Protection Clause is broader—its safeguards for "political equality," "substantially equal voting power," and "substantially equal legislative representation," *Stephenson I*, 355 N.C. at 391, 562 S.E.2d at 402—speak directly to partisan gerrymandering. Those decisions reflect that this Court "has consistently interpreted the North Carolina Constitution to provide the utmost protection for the foundational democratic freedoms of association, speech, and voting." *Libertarian Party of N.C. v. State*, 365 N.C. 41, 55, 707 S.E.2d 199, 208–09 (2011) (Newby, C.J., dissenting).

Third, the panel offered several reasons why it believed that even extreme partisan gerrymanders are consistent with the Equal Protection Clause. Per the panel, an individual in a gerrymandered district can still "cast a vote"—and "there is no requirement that each party must be influential in proportion to its number of supporters." COL 121–22.

These statements, however, overlook how gerrymandered maps violate core equal-protection principles. As the U.S. Supreme Court explained in *Reynolds v. Sims*, all voters have a right to "equal participation … in election[s]"—and that opportunity "can be denied by a debasement or dilution

of the weight of a citizen's vote just as effectively as by wholly prohibiting the free exercise of the franchise." 377 U.S. 533, 555 (1964). Indeed, *Reynolds* emphasized that "in a society ostensibly grounded on representative government," a "majority of the people of a State" should be able to "elect a majority of … legislators"—and that "[t]o conclude differently, and to sanction minority control of state legislative bodies, would appear to deny majority rights," to contravene the principle that "legislatures … should be bodies which are collectively responsive to the popular will," and to violate "the concept of equal protection." *Id.* at 565.

While the U.S. Supreme Court reached those conclusions in a one-person, one-vote case, the "injury in a partisan gerrymandering case is much the same, except that the dilution is based on party affiliation." *Rucho*, 139 S. Ct. at 2514 (Kagan, J., dissenting). In such gerrymanders, "districters have set out to reduce the weight of certain citizens' votes, and thereby deprive them of their capacity to 'full[y] and effective[ly] participat[e] in the political process[].'" *Id.* (quoting *Reynolds*, 377 U.S. at 565). Indeed, Justice Kennedy, in a controlling opinion, agreed that if districters declared that they were drawing a map "so as most to burden [the votes of] Party X's" supporters, it would violate equal protection. *Vieth*, 541 U.S. at 312 (Kennedy, J., concurring in the judgment); *see Rucho*, 139 S. Ct. at 2514 (Kagan, J., dissenting).

The panel's reasoning, moreover, squarely conflicts with *Stephenson I.*

When a plan includes both single and multimember districts, everyone still "cast[s] a vote"—and so long as the districts comply with one-person, one-vote principles, every citizen's vote carries, in some sense, equal weight. COL 121. *Stephenson I*, however, invalidated the multimember districts because of how they treated voters unequally ***in practice***. If a citizen lives in a 20,000-person district with one representative, he or she may have the same formal voting power as a citizen who lives in a 100,000-person district with five representatives. *Stephenson I*, 355 N.C. at 391, 562 S.E.2d at 402. In reality, however, these citizens cannot translate their votes into "substantially equal legislative representation": The citizen in the multimember district has an "unfair and unequal advantage" because he or she can approach all five representatives. *Id.* at 380, 562 S.E.2d at 395 (quotation marks omitted). Similarly, gerrymandering dramatically—and unequally—affects citizens' ability to ***make votes count***.

Fourth, the panel incorrectly stated that "rational basis" review applies because "membership in a political party" is not "a suspect class." COL 120; *see* COL 15. This conclusion is unfaithful to *Stephenson I*, which held that the "right to vote on equal terms is a fundamental right"—and when laws burden this right, as gerrymandered maps do, "strict scrutiny is … applicable." 355 N.C. at 378, 562 S.E.2d at 393.

Fifth, the panel asserted that the Equal Protection Clause cannot speak

to partisan gerrymandering because its 1971 addition to the Constitution was not "meant to bring about a fundamental change to the power of the General Assembly." COL 63. Before 1971, however, the "state constitution's guarantee of equal protection" was already "implicit in the document"; the 1971 Constitution merely made that "commitment … explicit." *State v. Cofield*, 320 N.C. 297, 302, 357 S.E.2d 622, 625 (1987).

3. Extreme Partisan Gerrymanders Violate the Free Speech and Free Assembly Clauses.

a. The Free Speech and Free Assembly Clauses Condemn Extreme Partisan Gerrymandering, Which Targets Core Political Expression.

Finally, the Free Speech and Free Assembly Clauses reinforce North Carolina's prohibition on extreme partisan gerrymandering, as *Common Cause* correctly held. 2019 WL 4569584, at *118–24.

First, partisan gerrymandering impermissibly targets speech based on viewpoint. The Free Speech Clause provides that "[f]reedom of speech and of the press are two of the great bulwarks of liberty and therefore shall never be restrained." N.C. CONST. art. I, § 14. And "[v]oting … constitutes a form of protected speech." *Common Cause*, 2019 WL 4569584, at *119 (citing *Buckley v. Valeo*, 424 U.S. 1, 21 (1976)). Indeed, there "is no right more basic in our democracy than the right to participate in electing our political leaders," which includes the right to "vote." *McCutcheon v. Fed. Election Comm'n*, 572 U.S.

185, 191 (2014) (plurality op. of Roberts, C.J.). True, a vote carries a legal effect. But as Justice Alito explained, the "act of voting is not drained of its expressive content when the vote has a legal effect." *Nev. Comm'n on Ethics v. Carrigan*, 564 U.S. 117, 134 (2011) (Alito, J., concurring).

Applying decades of North Carolina caselaw, *Common Cause* properly recognized that a law violates the Free Speech Clause when "it renders disfavored speech ***less effective***, even if it does not ban such speech outright"—because the "government may not restrict a citizen's 'ability to ***effectively*** exercise' their free speech rights." *Common Cause*, 2019 WL 4569584, at *121 (emphasis added) (quoting *Heritage Vill. Church & Missionary Fellowship, Inc. v. State*, 40 N.C. App. 429, 451, 253 S.E.2d 473, 486 (1979), *aff'd*, 299 N.C. 399, 263 S.E.2d 726 (1980)). Laws thus can violate the Free Speech Clause even when they do not expressly prohibit any speech. In *Heritage Village Church*, for example, the Court of Appeals invalidated limits on campaign expenditures and explained that, even though these limits ban no speech, they "seriously hamper[ed] plaintiffs' ability to effectively exercise" their free speech rights. *Heritage Vill. Church & Missionary Fellowship, Inc. v. State*, 40 N.C. App. 429, 451, 253 S.E.2d 473, 486 (1979), *aff'd*, 299 N.C. 399, 263 S.E.2d 726 (1980). Likewise, in *Arizona Free Enterprise Club's Freedom Club PAC v. Bennett*, the U.S. Supreme Court invalidated a state scheme that gave "a publicly financed candidate … roughly one dollar for every dollar spent by an opposing privately

financed candidate." 564 U.S. 721, 728 (2011). This scheme did not ban one word of speech—but it violated the First Amendment because its dollar-for-dollar match made the privately financed speech "less effective." *Id.* at 747. Myriad decisions are in accord.[23]

Partisan gerrymandering violates those principles by making some votes—votes for the disfavored party—less effective based on viewpoint. It is "axiomatic" that the government may not infringe on protected activity based on an individual's viewpoint. *Rosenberger v. Rector & Visitors of Univ. of Va.*, 515 U.S. 819, 828 (1995); *see Common Cause*, 2019 WL 4569584, at *120. Indeed, "political free speech" has "such a high status" that, for such speech, free-speech protections have their "fullest and most urgent application." *Winborne v. Easley*, 136 N.C. App. 191, 198, 523 S.E.2d 149, 154 (1999). Hence, "[v]iewpoint discrimination is ***most*** insidious where the targeted speech is political." *Common Cause*, 2019 WL 4569584, at *120. As the U.S. Supreme Court has explained, in "the context of political speech, … [b]oth history and logic" demonstrate the perils of permitting the government to "identif[y] certain preferred speakers" while burdening "disfavored speakers." *Citizens*

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[23] *E.g.*, *McCullen v. Coakley*, 573 U.S. 464, 489–90 (2014) (law violated First Amendment rights of pro-life protestors, even though "petitioners [could] still be 'seen and heard,'" because the law "effectively stifled [their] message"); *Davis v. Fed. Election Comm'n*, 554 U.S. 724, 736 (2008) (restrictions on self-financed candidates violated the First Amendment by "diminish[ing] the effectiveness" of speech).

United v. Fed. Election Comm'n, 558 U.S. 310, 340–41 (2010).

That is what partisan gerrymandering does. Indeed, rigorously enforcing the Free Speech Clause is ***especially*** necessary where, as here, federal law does not provide a remedy. In *Vieth* and *Rucho*, the U.S. Supreme Court found that extreme partisan gerrymandering may well ***violate*** the Federal Constitution but held that the Federal Constitution provides no ***remedy***. That is all the more reason to recognize an action under North Carolina's Free Speech Clause.

Partisan gerrymandering also prevents voters and supporters of the disfavored party from effectively associating. *Common Cause*, 2019 WL 4569584, at *120. The Free Assembly Clause specifies that the "people have a right to assemble together to consult for their common good, to instruct their representatives, and to apply to the General Assembly for redress of grievances." N.C. CONST. art. I, § 12. This guarantee encompasses a "right to freedom of association." *Feltman v. City of Wilson*, 238 N.C. App. 246, 253, 767 S.E.2d 615, 620 (2014).

In particular, *Common Cause* explained that "[j]ust as voting is a form of protected expression, banding together with likeminded citizens in a political party is a form of protected association." 2019 WL 4569584, at *120. That is because individuals form parties to "express their political beliefs and to assist others in casting votes in alignment with those beliefs." *Libertarian*

Party, 365 N.C. at 49, 707 S.E.2d at 205. Indeed, for "elections to express the popular will, the right to assemble and consult for the common good must be guaranteed." *Common Cause*, 2019 WL 4569584, at *120 (quoting JOHN V. ORTH, THE NORTH CAROLINA STATE CONSTITUTION 48 (1995)); *accord* ORTH & NEWBY at 58.

Individuals and associations like NCLCV build political associations ***in order to*** "obtain … majorities" in the legislature and further their views. *Common Cause*, 2019 WL 4569584, at *76. But when partisan gerrymandering "diminishes the effectiveness" of those efforts, by targeting individuals based on the party with which they seek to associate, it severely burdens those associational rights. *Davis v. Fed. Election Comm'n*, 554 U.S. 724, 736 (2008); *see Ariz. Free Enter. Club's Freedom Club PAC v. Bennett*, 564 U.S. 721, 736 (2011); *Common Cause*, 2019 WL 4569584, at *122 (partisan gerrymandering "violate[s] … associational rights by" weakening the ability of political associations to "carry out [their] core functions and purposes" (quoting *Gill v. Whitford*, 138 S. Ct. 1916, 1939 (2018) (Kagan, J., concurring)).

b. The Panel Erred in Holding that the Free Speech and Free Assembly Clauses Condone Extreme Partisan Gerrymandering.

Again, the panel's conclusions do not withstand scrutiny. Principally, the panel reasoned that this Court has interpreted North Carolina's speech and assembly rights "in alignment with cases interpreting the [federal] First

Amendment," and that the U.S. Supreme Court has held that the First Amendment does not provide a remedy for partisan gerrymandering. COL 125, 128. On many occasions, however, this Court has interpreted the State Constitution more broadly than the Federal Constitution. *See, e.g.*, *supra* p.67.

The panel also asserted that extreme partisan gerrymandering cannot violate speech or assembly rights because voters "are free to engage in speech" and assembly "no matter what the effect the Enacted Plans have on their district." COL 125; *see id.* 129. But as explained, free-speech and assembly principles reach regulations that render speech less effective, even absent an outright ban. *Supra* pp. 71–74.

More than that, partisan gerrymandering ***retaliates*** against voters based on the views they express: Free speech and assembly principles give their "greatest protection to political beliefs, speech, and association." *Rucho*, 139 S. Ct. at 2514 (Kagan, J., dissenting). Yet "partisan gerrymanders subject certain voters to 'disfavored treatment'—again, counting their votes for less—precisely because of 'their voting history [and] their … political views.'" *Id.* (quoting *Vieth*, 541 U.S. at 314 (opinion of Kennedy, J.)). That sort of retaliation flies in the face of North Carolina Constitution's broad protections for the rights of free speech and free assembly.

B. Plaintiffs' Partisan-Gerrymandering Claims Do Not Present a Nonjusticiable Political Question.

Contrary to the panel's view, Plaintiffs' partisan-gerrymandering claims do not present a "political question[]." COL 135. Such claims involve neither a textual commitment of "an issue … to one branch of government" nor a lack of "manageable criteria or standards." *Hoke Cnty. Bd. of Educ. v. State*, 358 N.C. 605, 639, 599 S.E.2d 365, 391 (2004).

1. The North Carolina Constitution Does Not Commit to the General Assembly the Decision Whether to Entrench Itself in Power.

Partisan-gerrymandering claims do not implicate "a textually demonstrable constitutional commitment of the issue to a coordinate political department." *Bacon v. Lee*, 353 N.C. 696, 717, 549 S.E.2d 840, 854 (2001). The panel stated, incorrectly, that the North Carolina Constitution "establish[es] that redistricting is in the exclusive province of the legislature." COL 137. But although the Constitution indeed charges the General Assembly with the primary responsibility to "revise" state legislative districts, *see* N.C. CONST. art. II, §§ 3, 5, the NCLCV Plaintiffs are not "seeking to have the judicial branch interfere with an issue committed to the sole discretion of the General Assembly." *Cooper v. Berger*, 370 N.C. 392, 409, 809 S.E.2d 98, 108 (2018). They are instead "seeking to have the Court undertake the usual role performed by a judicial body, which is to ascertain the meaning of an applicable

legal principle." *Id*. That is the quintessential function of the courts: "[I]t is emphatically the province and duty of the judicial department to say what the law is." *Marbury v. Madison*, 5 U.S. (1 Cranch) 137, 177 (1803); *see Bayard*, 1 N.C. at 7 ("Consequently the constitution … standing in full force as the fundamental law of the land, notwithstanding the act on which the present motion was grounded, the same act must of course, in that instance, stand as abrogated and without any effect.").

Here, the applicable legal principles the NCLCV Plaintiffs ask this Court to ascertain the meaning of are the Free Elections, Equal Protection, Free Speech, and Free Assembly Clauses. This Court has "the authority to decide this case because the General Assembly's authority pursuant to" Article II, Sections 3 and 5, "is necessarily constrained by the limits placed upon that authority by other constitutional provisions." *Cooper*, 370 N.C. at 410, 809 S.E.2d at 109. Indeed, many cases adjudicate the constitutional limits on the General Assembly's Article II authority to "revise" districts. As *Common Cause* explained, "North Carolina courts have adjudicated claims that redistricting plans violated the Whole County Provisions, the mid-decade redistricting bar, the Equal Protection Clause, and other provisions." 2019 WL 4569584, at *124 (citing, *e.g.*, *Stephenson*, 355 N.C. at 376, 380–81, 562 S.E.2d at 392, 395; *State ex rel. Martin v. Preston*, 325 N.C. 438, 385 S.E.2d 473 (1989)). Here too, if the panel were correct that the North Carolina Constitution committed all

"redistricting" decisions to the General Assembly, COL 137, then *Stephenson I* would have been decided differently.[24]

That a particular power is constitutionally delegated to the General Assembly has no bearing on this Court's authority to decide whether the General Assembly has exercised that delegated power in ways that violate other constitutional prohibitions. For example, this Court has held that "the General Assembly's exclusive authority to enact criminal statutes … does not authorize the enactment of ex post facto laws in violation of Article I, Section 16." *Cooper*, 370 N.C. at 411, 809 S.E.2d at 109. Likewise, "the General Assembly's exclusive authority to classify property for taxation-related purposes does not allow more favorable tax classification treatment for one religious organization as compared to another in light of the constitutional guarantees of religious liberty and equal protection." *Id.* (citing *Heritage Vill. Church & Missionary Fellowship, Inc. v. State*, 299 N.C. 399, 406 n. 1, 263

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[24] For this same reason, the panel erred when it stated that this Court had ***already*** resolved the question here and held that "the creation of boundaries is a … political question[]." COL 135. That would have come as a surprise to the *Stephenson I* Court, which adjudicated disputed "boundar[y]" issues. Contrary to the panel's statement, *Howell v. Howell*, 151 N.C. 575, 66 S.E. 571 (1909), did not deem a "partisan-gerrymandering challenge" nonjusticiable. That decision declined to set aside the creation of a special-tax district on the ground that county boards of education had been delegated "discretion" concerning such districts. 66 S.E. at 573–74. *Howell* did not present the distinctive evil at issue in this case—namely, the General Assembly's power to ***entrench itself*** without check.

S.E.2d 726, 730 n. 1 (1980)). So, too, here.

2. No Lack of "Manageable Criteria or Standards" Prevents North Carolina Courts from Resolving Plaintiffs' Partisan-Gerrymandering Claims.

Alternatively, the panel reasoned that no "satisfactory and manageable criteria exist for" resolving Plaintiffs' claims, on the ground that it is impossible "to decide how much partisanship is 'extreme'" enough to invalidate redistricting maps. COL 138, 140. The factual findings in this case and in *Common Cause*, however, show the opposite.

The plans the General Assembly enacted in 2017 and 2021 have two signal features that identify them as extreme partisan gerrymanders. ***First***, they systematically prevent a political party whose candidates receive a majority of votes statewide from receiving at least half the seats statewide, across a wide range of electoral conditions. R p 2721; FOF 194–201. ***Second***, this partisan skew is not compelled by political geography or traditional districting principles (as is clear from the NCLCV Maps, as well as voluminous ensemble analysis in this case). FOF 192. The panels below and in *Common Cause* readily found those facts, and future courts can readily administer the same test—which provides "clear standards" and does not require courts to draw "uncertain" conclusions. COL 140; *see Common Cause*, 2019 WL 4569584, at *2, *22 (noting that plans were "designed specifically to ensure that Democrats would not win a majority … under any reasonably foreseeable

electoral environment").

The panel's concerns, moreover, are particularly misplaced on the facts here. Partisan gerrymandering goes too far when plans deliver "every single one of … 52 elections decided within a 6-point margin" to Republicans, when a nonpartisan plan would treat both parties fairly. FOF 191. It goes too far when maps entrench one party in power even "when voters clearly prefer the other party." *Id.* And it goes too far when plans are 99.9999%, 99.99%, and 99.9999% outliers, *supra* pp. 19–20, 42–43—especially when, to achieve that skew, the legislature has "subordinate[d]" its stated redistricting criteria "and traditional redistricting criteria for partisan advantage." FOF 469.

The panel also stated that it found the U.S. "Supreme Court's analysis in *Rucho* … instructive" but that it wished "to avoid repeating the entirety of *Rucho*." COL 138, 142. Such a recounting, however, would have to include *Rucho*'s affirmation that its decision did not "condone excessive partisan gerrymandering" nor "condemn complaints … to echo into a void"—precisely because "state courts" could reach different results by applying "[p]rovisions in state statutes and state constitutions." 139 S. Ct. at 2507. And while the panel suggested that the states mentioned in *Rucho* had applied redistricting-specific provisions enacted by "legislatures" or by referenda, COL 69, that suggestion overlooks the Pennsylvania Supreme Court's *League of Women Voters* decision—which applied Pennsylvania's free-elections clause to reach the same

result as *Common Cause*. 645 Pa. at 135, 178 A.3d at 825.[25]

3. It Is Imperative that this Court Adjudicate the Partisan-Gerrymandering Claims Here.

Rejecting the panel's justiciability holding is especially important because of what is at stake here. As Justice Kagan explained in *Rucho*, extreme "gerrymanders … deprive[] citizens of the most fundamental of their constitutional rights: the rights to participate equally in the political process, to join with others to advance political beliefs, and to choose their political representatives." 139 S. Ct. at 2509. And in so doing, such gerrymanders "debase[] and dishonor[] our democracy, turning upside-down the core American idea that all governmental power derives from the people." *Id.* They "enable[] politicians to entrench themselves in office as against voters' preferences," "promot[e] partisanship above respect for the popular will," and "encourage[] a politics of polarization and dysfunction" that may "irreparably damage our system of government." *Id.*

Indeed, the harms from extreme partisan gerrymandering are well-documented—as the panel did not deny.

First, such gerrymanders create artificially uncompetitive districts that

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[25] The panel also cited this Court's opinion in *Dickson I*. COL 143. But that case addressed whether a claim under the "Good of the Whole" Clause was justiciable. 367 N.C. at 575, 766 S.E.2d at 260. Justiciability issues are clause- and claim-specific. *Dickson*'s conclusion as to that different clause has no bearing on this Court's decision here.

diminish the incentives for legislators to be responsive to their constituents,[26] and "remove the incentive" for legislators to "grant political concessions to constituent interests … or create electoral coalitions [that] ensure representation of diverse points of view."[27]

Second, when gerrymandering is used to establish "safe" districts, it engenders more polarized—and more dysfunctional—politics. With general-election results all but preordained, the focus of political activity shifts to the primary election of the dominant party. Catering to the base replaces working to persuade moderates.[28]

Third, partisan gerrymandering undermines trust in the political process and discourages civic engagement. Simply put: When citizens believe their votes do not matter, they will not engage.[29]

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[26] David Lubin & Michael P. McDonald, *Is It Time to Draw the Line? The Impact of Redistricting on Competition in State House Elections,* 5 ELECTION L.J. 144, 157 (2006

[27] Bruce Adams, *Toward a System of "Fair and Effective Representation": A Common Cause Report on State and Congressional Reapportionment* 24 (1977).

[28] Katherine M. Gehl & Michael E. Porter, *Why Competition in the Politics Industry is Failing America* 14 (2017); *Schuette v. Coal. to Def. Affirmative Action, Integration & Immigrant Rights & Fight for Equal. by Any Means Necessary*, 572 U.S. 291, 313 (2014) (partisan gerrymandering reduces the kind of "rational, civic discourse" that is essential "to form a consensus to shape the destiny of the Nation and its people").

[29] Let the Voters Choose: Solving the Problem of Partisan Gerrymandering, Comm. for Econ. Dev. (Mar. 13, 2018), https://www.ced.org/reports/solving-the-problem-of-partisan-gerrymandering; J. Gerald Hebert & David G. Vance, Redistricting Must Be Fixed Before Census, Roll Call, July 29, 2008, 1, 4

In the face of these harms, the panel erred in concluding that only the "political process" can address partisan gerrymandering: In North Carolina, the political process runs through ***the same*** General Assembly that has entrenched itself. North Carolina has no citizen-driven referendum or initiative process. And as the panel observed, the Governor has no veto over redistricting plans. So the reality is this: Unless this Court upholds its responsibility to serve as a "final check" through the exercise of "judicial review," *McCrory*, 368 N.C. at 653, 781 S.E.2d at 261, millions of North Carolinians will find their votes drained of meaning.

C. The Enacted Plans Effect Their Unconstitutional Gerrymanders by Packing and Cracking Democratic Voters Across the State.

1. The Panel Correctly Found Partisan Gerrymandering Across the State.

The panel's opinion details how the Enacted Plans effect their partisan gerrymanders in drawing districts and selecting clusters across the State. *See* FOF 123–30, 180, 233–424, 440–455, 470–80, 484–566. For brevity, the

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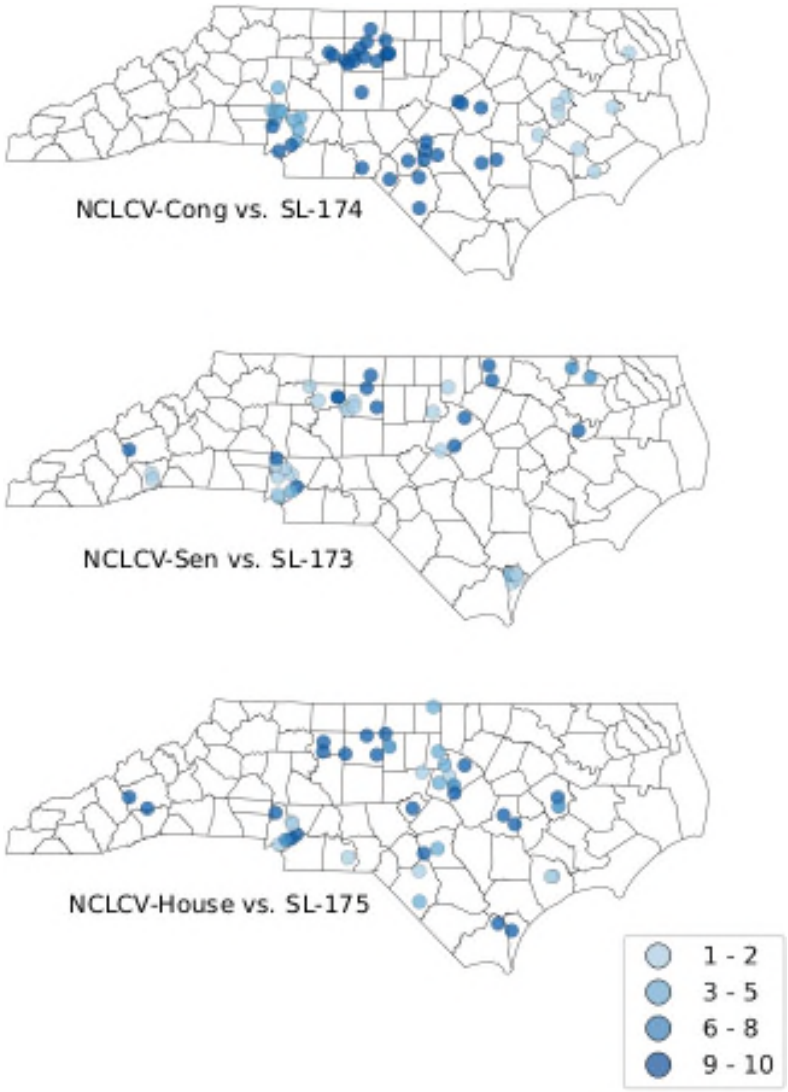
(observing that excessive gerrymandering "fuel[s] voter apathy"). *See generally* Trevor Potter & Marianne H. Viray, *Barriers to Participation*, 36 U. MICH. J.L. REFORM 547, 575 (2003) (electoral competition "plainly has a positive effect on the interest and participation of voters in the electoral process," but "[i]t stands to reason that voter turnout decreases when voters feel that their votes are inconsequential"); Adam B. Cox, *Partisan Gerrymandering and Disaggregated Redistricting*, 2004 SUP. CT. REV. 409, 433 n.66.

NCLCV Plaintiffs will not repeat that discussion, which strikingly illustrates how comprehensively the General Assembly gerrymandered across North Carolina—from northeastern North Carolina, to Wake County, to the Piedmont Triad, to Mecklenburg County, and all the way to Buncombe County.

The NCLCV Plaintiffs' evidence, moreover, underscored how this packing and cracking harmed ***real people*** across the State. The blue dots in the below figure represent individuals involved in this case—either individual NCLCV Plaintiffs, or individual NCLCV members, who are registered Democrats—whose votes are less effective under the Enacted Plans than they would be under the NCLCV Plans.

Figure 8: Locations of Individual Plaintiffs or NCLCV Members Affected by the Enacted Plans' Partisan Gerrymandering.



Source: R p 2737.

2. The Panel Omitted Some Districts and Clusters That the NCLCV Plaintiffs Challenge.

The panel cataloged the congressional, Senate, and House districts that it perceived Plaintiffs as challenging. FOF 9–11. The panel, however, failed to acknowledge that NCLCV Plaintiffs have challenged Senate Districts 36,

43, 44, and 48, as well as House Districts 63 and 64. These districts must be redrawn because they are configured to maximize Republican advantage (House Districts 63 and 64), because they are the product of clustering decisions that were made to maximize Republican advantage (Senate Districts 36, 43, 44, 48), or because they violate *Stephenson I* (Senate Districts 43 and 44). (R pp 70, 72–74, 78). Moreover, in nearly every Senate and House cluster—aside from single-district clusters dictated by the *Stephenson*/*Dickson* framework—the NCLCV Maps improve competitiveness, Black electoral opportunity, compactness, or traversals. (R pp 2721, 2727, 2729–31, 2732, 2735)

3. The Panel Should Have Found That Partisan Gerrymandering Affected Three Additional House Clusters.

Despite finding that the Enacted House Plan as a whole is an intentional pro-Republican gerrymander and an extreme partisan outlier, the panel found that pro-Republican outcomes in two House clusters—the Wayne-Duplin cluster and the Onslow-Pender cluster—are not "the result of intentional, pro-Republican partisan redistricting." FOF 418, 422. The panel also made no findings about Alamance County, which the NCLCV Plaintiffs challenged.

The districts in each of the Wayne-Duplin, Onslow-Pender, and Alamance House clusters are arranged to maximize Republican advantage. For instance, in Wayne and Duplin Counties, the Enacted House Plan will give

Republicans two districts out of two; in Onslow and Pender Counties, Republicans will reliably win three House districts out of three; and in Alamance County, Republicans will win one of two districts reliably, and will have an even chance of winning the second. (R pp 2605, 2609; Ex. 4009, "SL-175" B5:BA5, B11:BA11, B15:BA17, B64:BA64) As the NCLCV Maps show, it is possible to draw compact districts within these clusters that treat both parties more evenhandedly—and indeed, the NCLCV Maps are more compact in the Onslow-Pender county cluster and Alamance County. FOF 421; Ex. 4009, "NCLCV-House" B5:BA5, B11:BA11, B15:BA17, B64:BA64; R p 2731.

Even if the General Assembly's choices here were not cluster-level outliers, they still ***contributed*** to the extreme gerrymandering in the plan ***as a whole***—and to the extent the panel concluded otherwise, it clearly erred. As Dr. Mattingly explained, the "extreme statewide tilt towards the Republican Party" in the Enacted Senate and House Plans "is the result of a significant number of truly independent choices at the" cluster level (R p 2566), including those in Wayne, Duplin, Onslow, Pender, and Alamance Counties. And the "chance of making so many independent choices which bias the results towards the Republican Party unintentionally, without corresponding choices favoring the Democratic party, is astronomically small." (R p 2566) The districts in these clusters thus contributed to the General Assembly's statewide violation, and redrawing these districts may be part of any remedy.

II. The Enacted Plans Dilute Black Voting Strength in Violation of the North Carolina Constitution.

The Enacted Plans also unconstitutionally dilute the voting strength of North Carolina's Black voters. As the panel correctly recognized, the Free Elections Clause and the Equal Protection Clause guarantee North Carolina's minority residents the right to "substantially equal voting power" and "substantially equal legislative representation." COL 158 (quoting *Stephenson I*, 355 N.C. at 379, 562 S.E.2d at 394). A redistricting plan violates those principles, when it diminishes minority voters' opportunity to elect their preferred candidates, compared with their share of the population and with the opportunities that non-minority voters enjoy. COL 159.

The Enacted Plans do just this. Leveraging North Carolina's long history of racially polarized voting, they pack and crack cohesive Black communities to deny Black voters the opportunity to elect their preferred candidates. The Enacted Plans thereby deprive Black voters of equal voting power and equal legislative representation. The panel agreed with much of the NCLCV Plaintiffs' view of the law on this issue and did not dispute that the Enacted Plans inflict the harms that the NCLCV Plaintiffs identified. But nonetheless, the panel declined to set the plans aside. That was error. This Court should hold that North Carolina's Free Elections and Equal Protection Clauses provide robust protection against minority vote dilution similar to the

protection provided by Section 2 of the federal Voting Rights Act ("VRA"), 52 U.S.C. § 10301, as interpreted by Justice Souter in *Bartlett v. Strickland*, 556 U.S. 1, 26–44 (2009) (dissenting opinion); *see Metts v. Murphy*, 363 F.3d 8, 11–12 (1st Cir. 2004) (en banc) (per curiam). That dilution exists here.

A. The Free Elections Clause and the Equal Protection Clause Protect North Carolina's Minority Voters Against Vote Dilution on the Basis of Their Race.

North Carolina's Constitution—in particular, its Free Elections Clause and Equal Protection Clause—provides more powerful protections against vote dilution than the Federal Constitution. As the panel correctly recognized, North Carolina's citizens—"including its minority voters"—have "'a constitutionally protected right to participate in elections on an equal basis.'" COL 158 (quoting *White v. Pate*, 308 N.C. 759, 768, 304 S.E.2d 199, 205 (1983)). This means that "North Carolina's minority voters," like all other voters, have the "right to 'substantially equal voting power' and 'substantially equal legislative representation.'" COL 158 (quoting *Stephenson I*, 355 N.C. at 379, 562 S.E.2d at 394).

When a redistricting plan dilutes minority voting strength, minority voters do not have "substantially equal voting power" or "substantially equal legislative representation." *Id.* And in such circumstances, the redistricting plan "dilute[s] and devalue[s] votes of some citizens compared to others," in violation of the Free Elections Clause and the Equal Protection Clause.

Common Cause, 2019 WL 4569584, at *110. As the panel correctly recognized, "[t]he North Carolina Constitution's guarantees of 'substantially equal voting power' and 'substantially equal legislative representation' are violated when a redistricting plan deprives minority voters of a 'a fair number of districts in which their votes can be effective,' measured based on 'the minority's rough proportion of the relevant population.'" COL 159 (quoting *Bartlett v. Strickland*, 556 U.S. at 28–29 (Souter, J., dissenting)).

Racial vote dilution works by exploiting racially polarized voting. Where voting is racially polarized—that is, "where [B]lack and white voters vote differently," *Thornburg v. Gingles*, 478 U.S. 30, 54 n.21 (1986)—redistricting plans can dilute minority voting strength by ***cracking*** minority voters "'into districts in which they constitute an ineffective minority of voters'" or by ***packing*** minority voters "'into districts where they constitute an excessive majority,' so as to eliminate their influence in neighboring districts.'" *Bartlett v. Strickland*, 556 U.S. at 28–29 (Souter, J., dissenting) (quoting *Gingles*, 478 U.S. at 46 n.11).

In determining whether racial vote dilution has occurred under Section 2 of the VRA, courts assess if a redistricting plan deprives minority voters of "a fair number of districts in which their votes can be effective," *id.* at 28, by assessing whether (i) the minority group is sufficiently large and geographically compact to constitute a majority in an additional single-

member district; (ii) the minority group is politically cohesive; and (iii) the majority votes sufficiently as a bloc to enable it usually to defeat the minority-preferred candidate. *See Gingles*, 478 U.S. at 50–51. "The 'geographically compact majority' and 'minority political cohesion' showings are needed to establish that the minority has the potential to elect a representative of its own choice in some single-member district …. And the 'minority political cohesion' and 'majority bloc voting' showings are needed to establish that the challenged districting thwarts a distinctive minority vote by submerging it in a larger white voting population …. Unless these points are established, there neither has been a wrong nor can be a remedy." *Growe v. Emison*, 507 U.S. 25, 40–41 (1993).

In *Bartlett v. Strickland*, the U.S. Supreme Court held that, to succeed in a racial vote-dilution claim under Section 2 of the VRA, a minority group must show that it could constitute a literal ***arithmetic majority*** of an additional single-member district. But as Justice Souter pointed out in his dissent for four Justices, this arbitrary 50%-plus-one rule perpetuates rather than alleviates the harms of vote dilution. In measuring whether a group is sufficiently large and geographically compact to nominate and elect its preferred candidates in a single-member district, the question should ***not*** be whether the group constitutes a majority in that district but whether it is sufficiently large and geographically compact to be ***effective*** in nominating

and electing its preferred candidates when it coalesces "with a reliable number of crossover voters from an otherwise polarized majority." *Strickland*, 556 U.S. at 26, 28–29 (Souter, J., dissenting). As Justice Souter explained, any other rule would invite the packing of minority voters into districts where they constitute an excessive majority, which would make it ***harder*** to ensure that minority voters' "opportunity to elect" corresponds to their "rough proportion of the … population." *Id.*

The understanding of racial vote dilution set forth by the *Strickland* dissent accords with deeply entrenched North Carolina law. When a plan dilutes minority voting strength, minority voters are ***not*** able to nominate and elect their preferred candidates, while voters who are members of the majority group ***are***—precisely because of the way the districts are drawn. Such a plan "specifically and systematically design[s] the contours of the election districts" to make it "nearly impossible for the will of the people"—specifically, minority voters—"to be expressed through their votes," in violation of the Free Elections Clause. *Common Cause*, 2019 WL 4569584, at *112. Such a plan also denies the "equal protection of the laws" to minority voters based on their race ***and*** violates minority voters' fundamental right to "substantially equal voting power" and "substantially equal legislative representation," without advancing any compelling governmental interest, in violation of North Carolina's Equal Protection Clause. *Stephenson I*, 355 N.C. at 379, 562 S.E.2d at 394.

B. The Enacted Plans Dilute Minority Voting Strength in Violation of the North Carolina Constitution.

At trial, the evidence showed that the Enacted Plans egregiously dilute Black voting strength in violation of the Free Elections Clause and the Equal Protection Clause. Based on an analysis of historical election results and census data, Dr. Duchin showed that the Enacted Plans crack and pack sufficiently large, geographically compact, and politically cohesive communities of Black voters and deprive them of the opportunity to nominate and elect their preferred candidates, even in districts where they had historically had such opportunities. Indeed, as detailed below, the panel did not make adverse factual findings on ***any*** issue essential to the NCLCV Plaintiffs' racial vote-dilution claims.

First, the evidence showed "a ***consistent*** pattern of polarization" in North Carolina's election results from the last decade: White voters have supported Republican candidates at a rate of more than 61%, while Black voters have supported Democratic candidates at a rate of over 94%. (R p 2726 (emphasis added); R p 3260). Democratic primary elections also exhibit significant racial polarization, particularly when Black candidates seek the Democratic nomination. R p 2726. Hence, Black voters are politically cohesive, but the majority votes sufficiently as a bloc to enable it to usually defeat Black-preferred candidates.

Second, by comparing the Enacted Plans with the NCLCV Maps, Dr. Duchin found that North Carolina's Black communities are sufficiently large, geographically compact, and politically cohesive that in alternative maps that are ***not*** designed to dilute their voting strength, these communities could nominate and elect their preferred candidates in 4 congressional districts, 12 Senate districts, and 36 House districts, which would better reflect their proportional share of North Carolina's citizen voting-age population. (R p 2727)[30] The Enacted Plans, however, limit Black voters to just 2 (out of 14) effective congressional districts, as few as 8 (out of 50) effective Senate districts, and as few as 24 (out of 120) effective House districts. (R p 2727) This is far from a "fair number of districts" in which Black citizens' "votes can be effective" relative to their "rough proportion of the … population," *Strickland*, 556 U.S. at 28–29 (Souter, J., dissenting), given that less than 69% of North Carolina's adult citizens are White. (R p 2726)[31] In all, the Enacted

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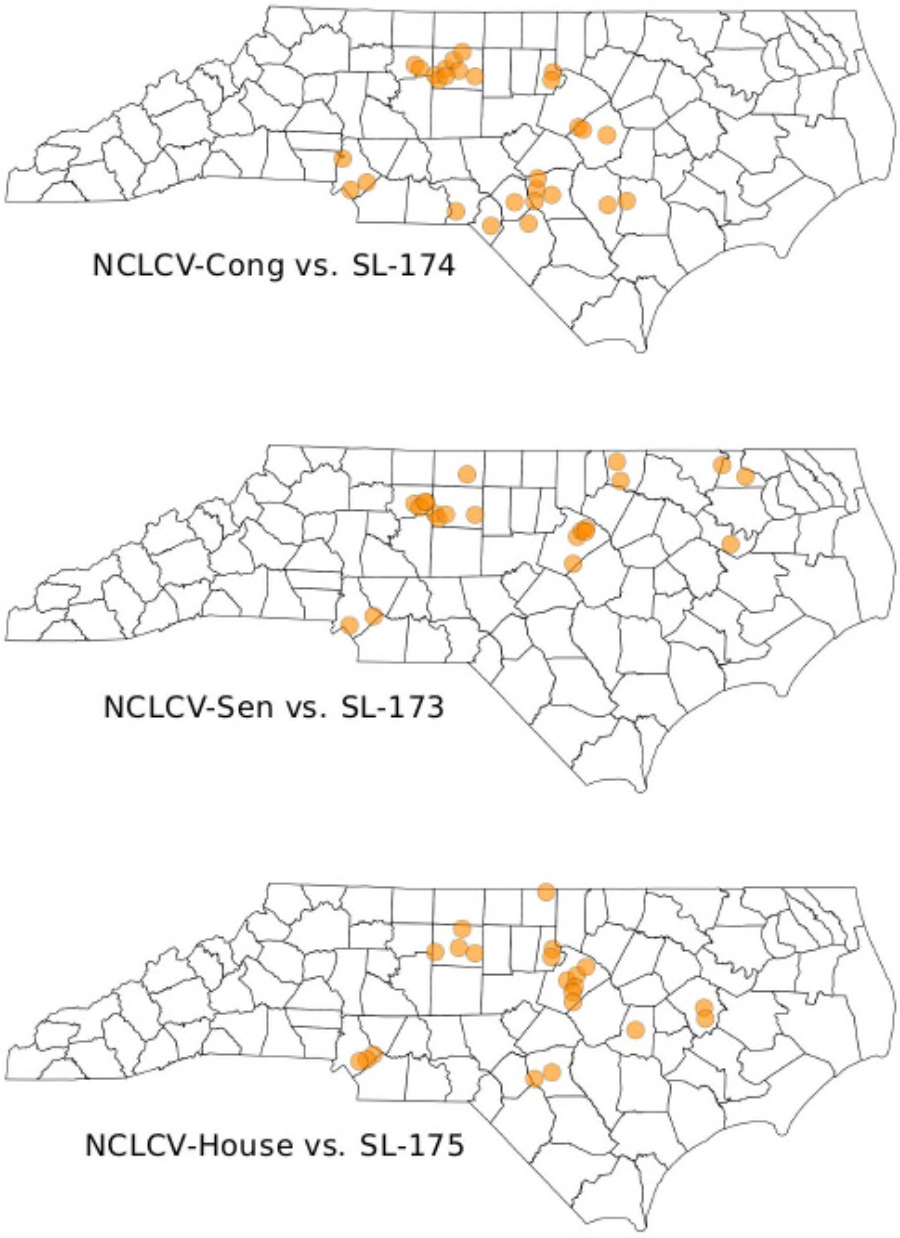
[30] Dr. Duchin concluded that there were sufficiently large, geographically compact, and politically cohesive groups of Black voters in the following areas of the state where the NCLCV Maps contain effective Black opportunity districts: Districts 2, 4, 9, and 11 in the NCLCV Congressional Map; Districts 1, 5, 11, 14, 18, 19, 26, 27, 32, 38, 39, and 40 in the NCLCV Senate Map; and Districts 2, 8, 9, 10, 23, 24, 25, 27, 31, 32, 33, 38, 39, 40, 42, 43, 44, 45, 48, 57, 58, 59, 60, 61, 63, 66, 71, 88, 92, 99, 100, 101, 102, 106, 107, 112 in the NCLCV House Map. The panel's statement that Dr. Duchin did not provide a "district-by-district analysis," FOF 596, is thus incorrect.

[31] Census Bureau, *Citizen Voting Age Population by Race & Ethnicity* (Feb. 19, 2021), https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.2019.html

Plans deprive Black voters of the ability to nominate and elect their preferred candidates in 2 congressional districts, 4 Senate districts, and 12 House districts. The Enacted Plans effect this result through the classic tactics of packing and cracking—as detailed below. *Infra* 97–106.

Third, the Enacted Plans' racial vote dilution does not follow from applying traditional neutral redistricting principles to North Carolina's political geography. As Dr. Duchin found, the NCLCV Maps ***do better*** on every traditional neutral redistricting criterion and requirement of North Carolina law and create significantly more effective Black opportunity districts. Figure 9 details the locations of individuals involved in this case—either an Individual Plaintiff or a Black NCLCV member—whose votes have been rendered ineffective under the Enacted Plans but would have been effective under the NCLCV Maps.

Figure 9: Locations of Individual Plaintiffs or Black NCLCV Members Affected by the Enacted Plans' Racial Vote Dilution.



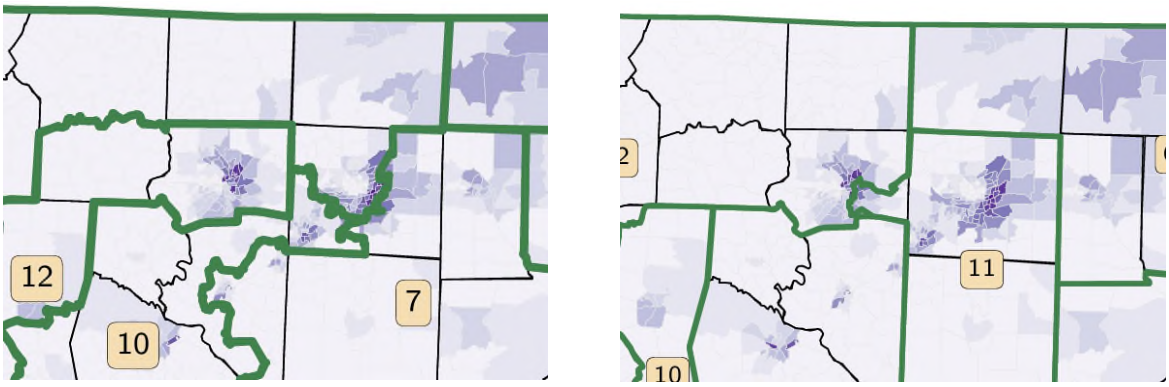
Source: R p 2738.

The evidence at trial detailed how the Enacted Plans dilute Black voting strength by packing and cracking Black communities across the State.

Congress: Guilford and Forsyth Counties. The Enacted Congressional Plan deprives the cohesive, large, and compact Black voting-age population in Guilford and Forsyth Counties of the ability to nominate and elect candidates of their choice. Under the prior map, the Black voting-age population in this area was primarily contained within Congressional District 6, which encompassed Black communities in the major Piedmont Triad cities of Greensboro, High Point, and Winston-Salem. The Enacted Congressional Plan fractures these communities:

- The Plan cracks Black voters east of downtown Greensboro into District 7—a significantly Republican district that is far less compact than necessary. (R p 2729)
- The Plan cracks Black voters in downtown Greensboro and in northern Guilford County into the heavily Republican District 11, which is drawn to ***exclude*** Democratic-leaning Forsyth County just to the west but ***include*** a string of Republican counties stretching all the way to the Tennessee border.
- The Plan cracks Black voters in the High Point area into a heavily Republican District 10—which is drawn to skirt Democratic populations in Davidson County and to encompass white Republican voters located in precincts as far off as the Charlotte suburbs.
- The General Assembly also cracked Black voters in Winston-Salem into District 12, which encompasses Forsyth, Yadkin, northern Iredell, Catawba, and Lincoln Counties.

Figure 10: Enacted & NCLCV Congressional Districts 7, 10, 11 & 12



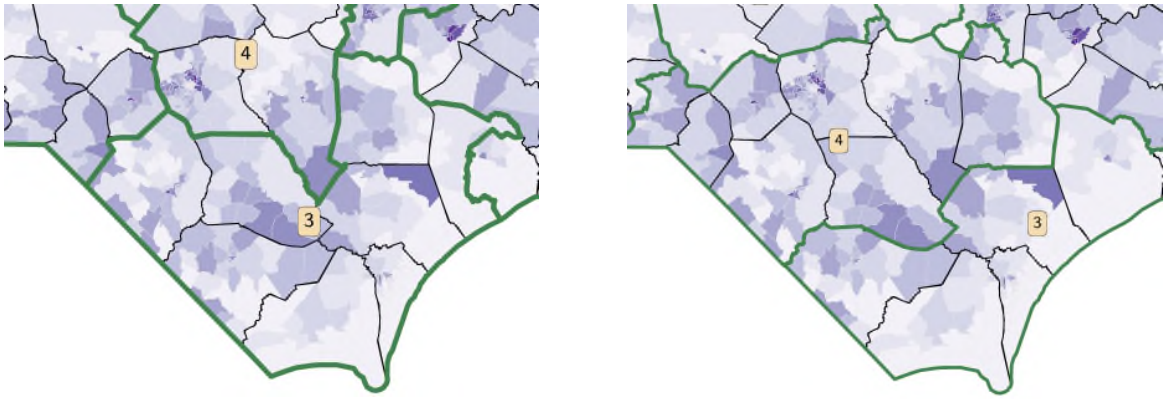
Source: Ex. 3974, 3976. In this section, darker purple shading indicates areas with a higher proportion of BVAP. Green lines indicate district boundaries. The left is the Enacted Plan; the right is the NCLCV Map.

The NCLCV Congressional Map shows that the General Assembly ***chose*** to create this racial vote dilution. As this map shows, Guilford County could instead be part of a more compact single district that includes part of Forsyth County. Such a district would provide Black voters with the opportunity to nominate and elect candidates of their choice. (R pp 2727, 2738)

Congress: Southeastern North Carolina. The Enacted Congressional Plan splits most of the Black population in southeastern North Carolina across three districts. The Black communities in Bladen, Cumberland, Duplin, Hoke, Richmond, Robeson, Sampson, and Scotland Counties are divided across Congressional Districts 3, 4, and 8. All three

districts are likely to elect White-preferred candidates. (R p 2727)

Figure 11: Enacted & NCLCV Congressional Districts 3, 4 & 8



Source: Ex. 3974, 3976.

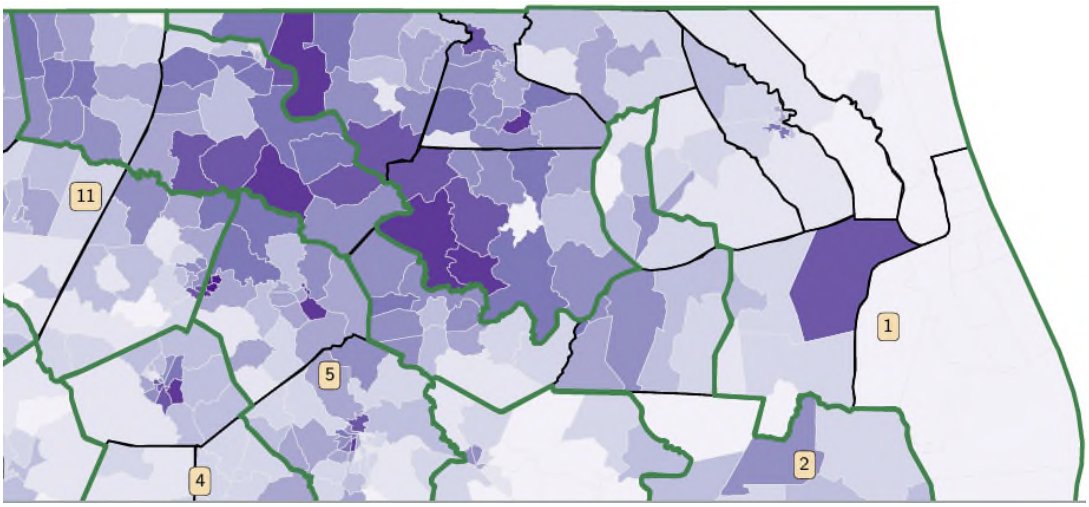
These districts instead could have been drawn to preserve Black voters' opportunity to nominate and elect candidates of their choice, as shown in the NCLCV Map's District 4. (R pp 2727, 2738) All this would have required was ***not cracking*** Black communities in Robeson, Bladen, Sampson, Duplin, Cumberland, Hoke, and Scotland Counties.

Senate: Northeastern North Carolina. Northeastern North Carolina is home to a historical, significant, politically cohesive Black community. This community was one of the earliest targets of racial vote dilution in North Carolina: After the Civil War, it was packed into the "Black Second" congressional district.[32] The Enacted Senate Plan continues this legacy of

[32] ERIC ANDERSON, RACE AND POLITICS IN NORTH CAROLINA 1872–1901: THE BLACK SECOND 3–4, 141 (1981).

subordinating Black voting strength in northeastern North Carolina by cracking the Black community between Districts 1 and 2.

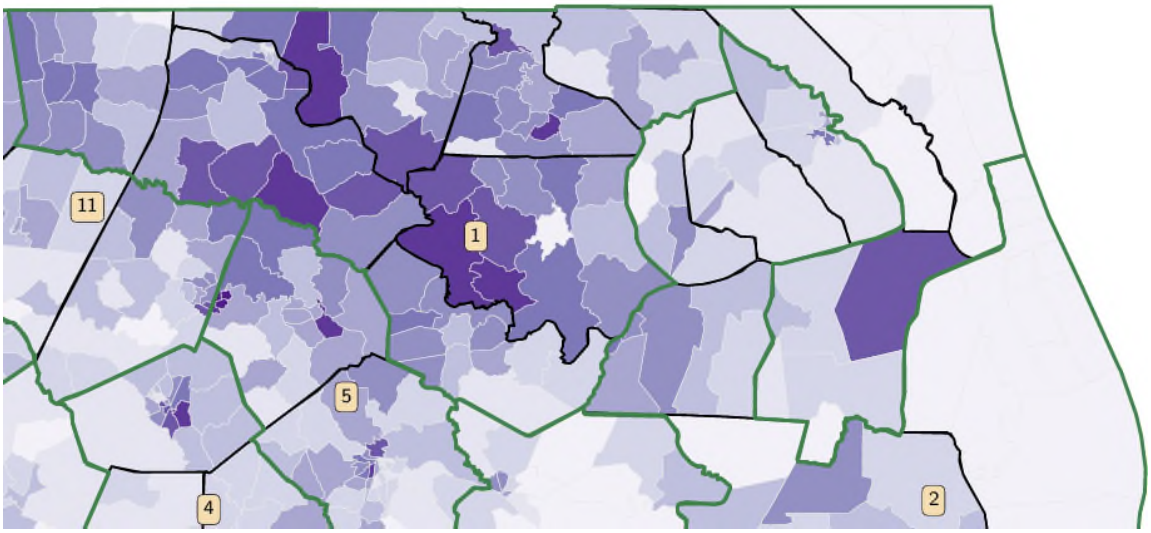
Figure 12: Enacted Senate Districts 1 & 2



Source: Ex. 3978.

The General Assembly had the choice of two alternative county clusterings in this region, with each cluster comprising one district. (Ex. 6580) As the panel found, the "chosen cluster is the choice that … significantly fractures Black voters in that area." FOF 589. It "splits the Black voters" in this region "roughly in half," resulting in neither district being effective for Black voters, whereas the other potential clustering would have created one solidly effective Black opportunity district (while also traversing fewer county lines and improving compactness). Ex. 6580; FOF 299.

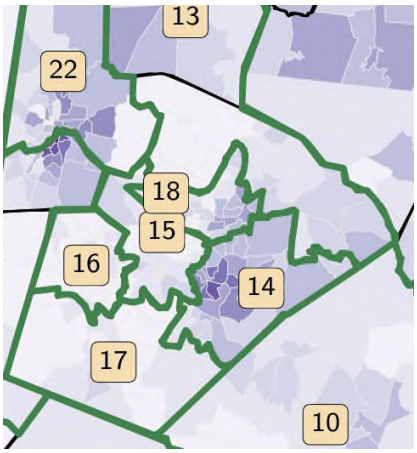
Figure 13: NCLCV Senate Districts 1 & 2

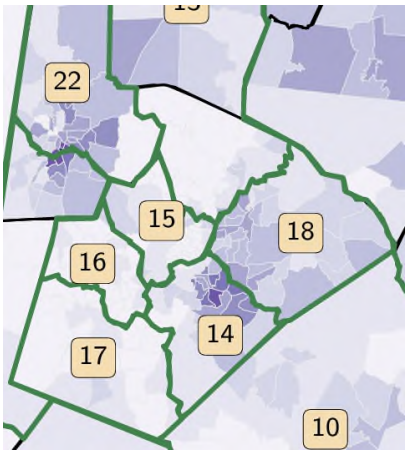


Source: Ex. 3978.

Senate: Wake County. Wake County has a large Black population. As the NCLCV Map shows, when compact districts are drawn, two are effective for Black voters. (R pp 2727, 2738)

Figure 14: Enacted & NCLCV Senate Districts 13, 14, 15, 16, 17, & 18





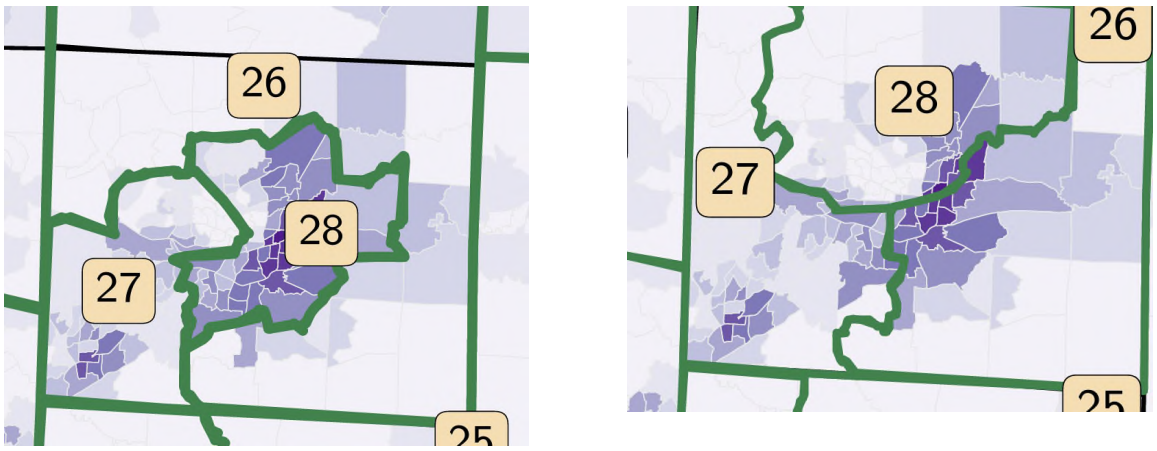
Source: Ex. 3978, 3980.

The Enacted Senate Plan, however, reduces the number of effective

districts to one. Senate District 14 captures most of eastern Wake County's Black voters, pushing its Democratic vote share above 70%. (Ex. 4009, "SL-173" B15:BA15) The remaining Black voters are split between District 18 and Districts 13. White voters in these two districts consistently will be able to defeat Black voters' preferred candidates. (R pp 2727, 2730)

Senate: Guilford & Rockingham Counties. The Enacted Senate Plan also dilutes Black voting strength in the Guilford-Rockingham county cluster. As the NCLCV Map shows, had Guilford County been drawn with compact districts, the county's Black residents would have had the opportunity to elect candidates of their choice in two districts—NCLCV Districts 26 and 27. (R pp 2727, 2739)

Figure 15: Enacted & NCLCV Senate Districts 26, 27 & 28



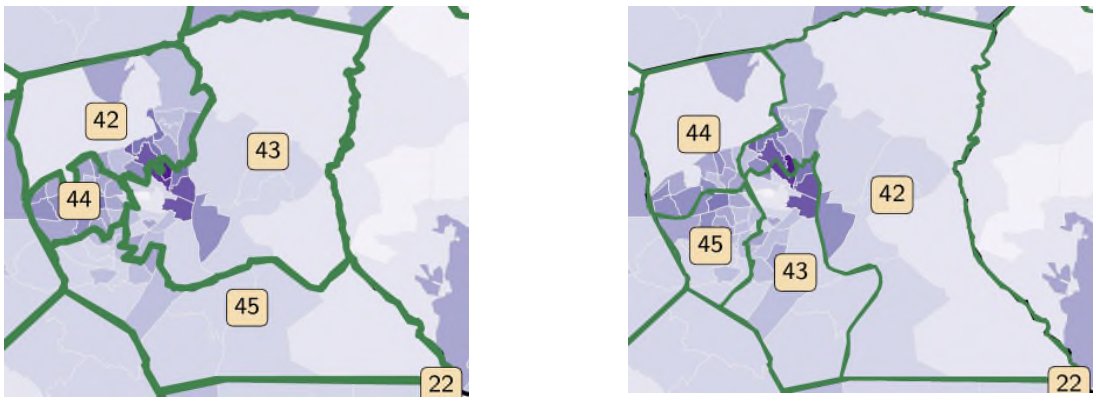
Source: Ex. 3978, Ex. 3980.

The Enacted Senate Plan, however, draws Districts 27 and 28 to deprive Black voters north of High Point of electoral opportunity. Although District 27

will reliably vote Democratic, it excludes Black voters southeast of downtown Greensboro, which will ordinarily allow White voters' preferred candidates to defeat Black-preferred candidates in the primary. (R p 2727) Again, this arrangement comes at the cost of compactness. (R p 2730)

House: Cumberland County. Cumberland County has a sizable Black population. (Ex. 3982) Drawing more compact districts, as the NCLCV Map does, produces four districts where Black voters have an opportunity to elect candidates of their choice: NCLCV Districts 42, 43, 44, and 45 all preserve fair electoral opportunities for Black voters. (R p 2727) The four districts' average Polsby-Popper compactness score—which measures the smoothness of a district's perimeter—is 0.42. (R p 2731)

Figure 16: Enacted & NCLCV House Districts 42, 43, 44 & 45



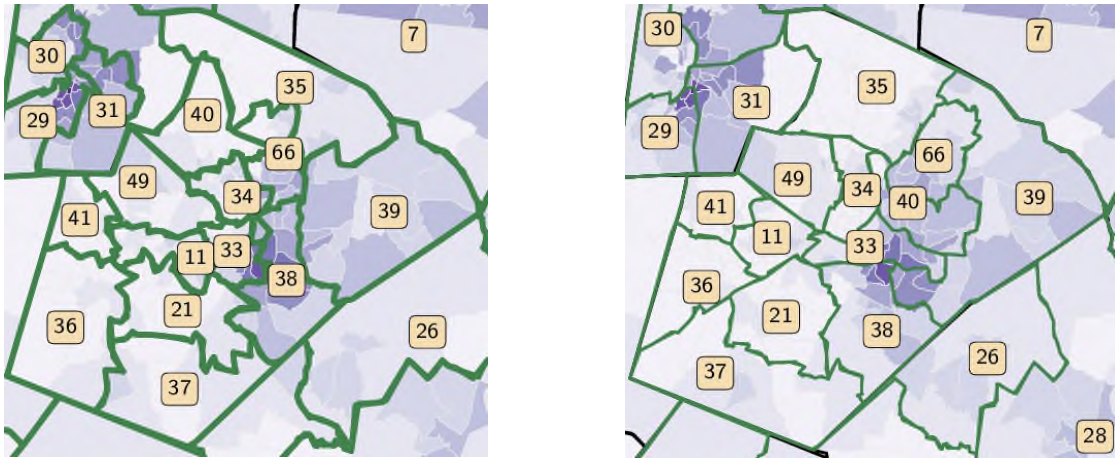
Source: Ex. 3982, 3984.

The Enacted House Plan, however, concentrates Black voters into District 44, which dilutes Districts 43 and 45. (Ex. 3982) Strikingly, this choice deprives Cumberland County's most concentrated Black community, in and

around downtown Fayetteville, of the ability to elect their preferred candidates. And again, this choice undermines compactness, as the average Polsby-Popper score drops to 0.34. (R p 2731)

House: Wake County. The Enacted House Plan also dilutes Black voting strength in Wake County's 13 districts. The NCLCV House Map illustrates how Wake County's House districts can be drawn in a compact way, with an average Polsby-Popper score of 0.39. (R p 2731) This configuration preserves five House districts—33, 38, 39, 40, and 66—that would give Black voters an opportunity to elect their preferred candidates. (R p 2727)

Figure 17: Enacted & NCLCV House Districts 11, 21, 33, 34, 35, 36, 37, 38, 39, 40, 41, 49 & 66



Source: Ex. 3982, 3984.

The Enacted House Map, however, packs Black voters into fewer districts, so that only three—Districts 38, 39, and 66—are effective. (R p 2727) This deprives Black voters elsewhere of electoral opportunities and reduces overall compactness, with the average Polsby-Popper score dropping to 0.34.

(R p 2731)

House: Pitt County. Pitt County is home to two House districts—Districts 8 and 9. The NCLCV Map's configuration of Districts 8 and 9 yields two compact districts, with an average Reock compactness score of 0.57. (R p 2731) Both districts give Black voters a realistic opportunity to elect their preferred candidates. (R p 2727)

Figure 18: Enacted & NCLCV House Districts 8 & 9

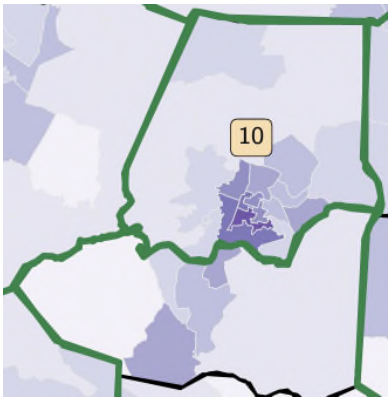
Source: Ex. 3982, 3984.

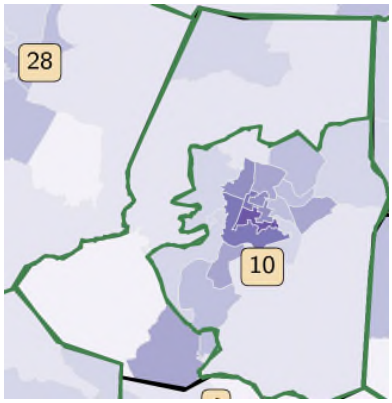
The Enacted House Plan, however, splits Greenville so that several of the city's whiter precincts are included in District 9, while its heavily Black precincts are kept out of District 9. Black-preferred candidates are unlikely to win in District 9 due to polarized voting. R p 2727; *infra* pp. 115–116. The change also reduces the average Reock compactness score to 0.49. (R p 2731)

House: Wayne County. In Wayne County, the Enacted House Plan splices the longstanding Black community in the heart of the county—severing

voters in majority-Black Goldsboro from voters to the south in majority-Black Brogden. Under the Enacted Plan, neither District 10 nor District 4 is effective. (R p 2727)

Figure 19: Enacted House Districts 4 & 10





Source: Ex. 3982, 3984.

The General Assembly was not required to enact such a dilutive plan: Under the NCLCV House Map, the Goldsboro and Brogden Black communities would be kept together in District 10, which would be effective for Black voters. (R p 2727)

C. The Panel's Contrary Conclusions Were Error.

The panel ***did not reject any of the evidence*** that the NCLCV Plaintiffs adduced to show that the Enacted Plans dilute the voting strength of North Carolina's Black residents. The panel erred in, nonetheless, rejecting the NCLCV Plaintiffs' racial vote-dilution claims.

1. The Panel Applied the Wrong Legal Standard.

The panel rejected the NCLCV Plaintiffs' racial vote-dilution claim

largely because it applied the wrong legal standard. It found that the NCLCV Plaintiffs did not state a claim because Dr. Duchin "didn't do *Gingles* one." FOF 587; COL 176; *see* FOF 595. That is, when Dr. Duchin analyzed whether North Carolina's Black communities were sufficiently large and geographically compact to nominate and elect their preferred candidates in single-member districts, she did not confine her analysis to districts in which Black adults would constitute more than 50% of the voting-age population ("BVAP"). (R p 2726–27) Instead, she analyzed districts where Black voters could be ***effective*** in nominating and electing their preferred candidates, including "crossover" districts where Black voters could be expected to form coalitions with a small but reliable set of White voters. (R p 2726–27)

The panel misunderstood the NCLCV Plaintiffs' claim and imposed a legal standard not required under the North Carolina Constitution. The U.S. Supreme Court has indeed interpreted the federal VRA to limit relief to areas in which Black voters can constitute more than 50% of the voting-age population in compact districts. *Strickland*, 556 U.S. at 17–20. But as explained, North Carolina's Free Elections and Equal Protection Clauses are properly interpreted ***not*** to include that limit and instead to accord with Justice Souter's *Strickland* dissent, which looks to whether districts can be "effective" for Black voters. Indeed, the panel elsewhere ***recognized*** that the question should be whether "a redistricting plan deprives minority voters of 'a

fair number of districts in which their votes can be ***effective***.'" COL 159 (emphasis added).

That is the proper rule. As Justice Souter explained, "[i]f districts with minority populations under 50% can never count as minority-opportunity districts" for purposes of the state's "obligation to provide equal electoral opportunity," the State "will be required ... to pack black voters into additional majority-minority districts, contracting the number of districts where racial minorities are having success in transcending racial divisions in securing their preferred representation." *Strickland*, 556 U.S. at 27 (Souter, J., dissenting). This will "promot[e] racial blocs" and "the role of race in districting decisions as a proxy for political identification will be heightened." *Id.* Thus, to effectuate the constitutional guarantees of "substantially equal voting power" and "substantially equal legislative representation," *Stephenson I*, 355 N.C. at 379, 562 S.E.2d at 394, what matters is ***effectiveness***, not arbitrary or mechanical demographic targets.

Under the correct analysis, there can be no doubt that the Enacted Plans egregiously dilute Black voting strength. At trial, the Legislative Defendants presented testimony from Dr. Lewis purporting to show that the Enacted Plans created more Black opportunity districts than Dr. Duchin calculated. (T4 pp 581:10-23; LDTX200 at 2-7) Even Dr. Lewis, however, calculated that the Enacted Congressional Plan creates only two Black-effective districts, which

falls far short of Black voters' share of the state population. LDTX200 at 7. Cross-examination, moreover, revealed that his calculations were deeply problematic and overstated the number of Black opportunity districts: He conceded that in several of his "effective" districts, Black voters might succeed in nominating their preferred candidates in the primaries—but they had a ***0% chance*** of electing their preferred candidates in the general election. (T4 pp 599:21-606:20. Any analysis yielding that absurd result is worthless.

2. The Panel Erred By Rejecting the Racial Vote-Dilution Claims on the Ground That the NCLCV Plaintiffs Had Not Shown "Discriminatory Purpose."

The panel also rejected the NCLCV Plaintiffs' racial vote-dilution claims by holding that the Plaintiffs had not shown "discriminatory purpose." COL 172. The panel, however, erred as a matter of law both in ***requiring*** intent and, to the extent intent is required, in the ***standards*** it applied.

a. The Panel Erred By Requiring Intent.

The panel erred, first, by requiring a showing of intent at all. The NCLCV Plaintiffs' vote-dilution claims arise in part under the Free Elections Clause. And as explained above, when a law implicates the values that Clause protects, "it is the ***effect*** of the act, and not the ***intention of the Legislature***, which renders it void." *Van Bokkelen*, 73 N.C. at 225–26. The panel incorrectly believed the Free Elections Clause "inapplicable," on the ground that it is "narrow[]" and requires only that elections be "free from interference or

intimidation." COL 175. That characterization, however, understates the fundamental values the Free Elections Clause protects. And dilutive maps ***do*** "interfere" with Black voters' electoral rights: Through packing and cracking, they prevent large, compact, and cohesive Black communities from electing their preferred candidates.

That result, moreover, should be no different under the Equal Protection Clause. True, this Court has generally required a showing of intent under the Equal Protection Clause. But for laws that unequally dilute voting strength, it has sufficed that the legislature could foresee this result. For example, when *Stephenson I* invalidated multimember districts, or when *Northampton* invalidated a voting scheme for drainage districts, this Court focused on the dilutive ***effects*** and did not inquire into whether the legislature acted with malice. *Stephenson I*, 355 N.C. at 391, 562 S.E.2d at 402; *Northampton*, 326 N.C. at 746–47, 392 S.E.2d at 356. That accords with the rule in vote-dilution cases under the federal Equal Protection Clause. *Reynolds*, 377 U.S. at 561–68; *Wesberry*, 376 U.S. at 7, 14, 18; *cf. Baker*, 369 U.S. at 232, 237.

b. The Panel Applied the Wrong Intent Standard, to the Extent Intent Is Required.

The panel also erred because, even were intent required, it applied the wrong standard—in two different respects.

First, the panel confused the NCLCV Plaintiffs' claim with a ***racial-***

gerrymandering claim. In bringing such a claim, a plaintiff must show that "race predominated over traditional race-neutral redistricting principles," triggering "strict scrutiny." *Covington*, 316 F.R.D. at 129. The panel invoked that incorrect standard, COL 163–64, and held that the NCLCV Plaintiffs failed to show that "race was the predominant motive behind the way in which the Enacted Plans were drawn," COL 167; *see* COL 168–69, 171.

The NCLCV Plaintiffs, however, did ***not*** bring a racial-gerrymandering claim, which is "analytically distinct" from a claim of "unconstitutional vote dilution." *Shaw v. Reno*, 509 U.S. 630, 652 (1993). The panel thus decided a claim that was never before it. Regardless, even when North Carolina's Equal Protection Clause requires intent, plaintiffs need not show that impermissible motive "predominated." Instead, under North Carolina law, a discriminatory purpose need only be "a motivating factor." *Holmes*, 270 N.C. App. at 16, 840 S.E.2d at 254–55 (quoting *McCrory*, 831 F.3d at 220–21).

Second, the panel incorrectly believed that Plaintiffs could not show race-based intent because "the General Assembly consistently acted with an intent to redistrict ***for partisan advantage***"; per the panel, unless Plaintiffs showed that "the General Assembly targeted [Black voters] on the basis of race ***instead of*** partisanship," or that "race and partisan gain were coincident goals ***predominating*** over all other factors," Plaintiffs could not prove their case. COL 170–71 (emphases added).

This was error. Again, the NCLCV Plaintiffs at most had to show that race was "a motivating factor." *Holmes*, 270 N.C. App. at 16, 840 S.E.2d at 254–55. And "intentionally targeting a particular race's access to the franchise because its members vote for a particular party, in a predictable manner, constitutes discriminatory purpose," even "absent any evidence of race-based hatred." *McCrory*, 831 F.3d at 222–23. Indeed, the fact that "race and party are inexorably linked in North Carolina" creates an "incentive for intentional discrimination." *Id.* at 222, 225; *see also* R pp 3205–06.[33] Hence, the panel's observation that "a substantial number of Black voters are affiliated with the Democratic Party," COL 171, in no way undermines the evidence that the General Assembly acted—in part—based on race.

c. Plaintiffs Proved That The General Assembly Intended To Dilute Black Voting Strength.

Judged under the proper standard, Plaintiffs readily showed that the General Assembly had all the intent that could possibly be required—*i.e.*, that race was "a … factor." *Holmes*, 270 N.C. App. at 16, 840 S.E.2d at 254–55. Such a purpose can be "inferred from the totality of the relevant facts,

[33] Indeed, based on his extensive study of the history of North Carolina politics, Dr. Leloudis opined that "in North Carolina politics, extreme partisan gerrymandering is a highly effective means of discriminating against racial minorities," because it "works to restrict minority voting power, and, by doing so, weakens the influence of interracial and multiethnic coalitions, particularly within the Democratic Party." (R p 3275)

including the fact, if it is true, that the law bears more heavily on one race than another." *Id.* at 17, 840 S.E.2d at 255. And to determine whether this has occurred, courts may weigh the law's "historical background," the "sequence of events" leading up to the law, "[d]epartures from normal procedure[s]," "legislative history," and the law's "disproportionate impact." *Id.* (citing *Vill. of Arlington Heights v. Metro. Hous. Dev. Corp.*, 429 U.S. 252, 264 (1977)). Below, the Plaintiffs presented exactly that evidence and overcame any "presumption of good faith." COL 169.

First, the "disproportionate impact" here, *id.*, is large: The Enacted Plans deprive Black voters of 2 congressional districts, 4 Senate districts, and 12 House districts in which their votes would be effective. Courts presume legislators know of, and intend, such effects. *Gaffney*, 412 U.S. at 753; *accord In re Senate Joint Res. of Legis. Apportionment 1176*, 83 So. 3d 597, 641 (Fla. 2012) ("If an alternative plan can achieve the same constitutional objectives that prevent vote dilution and retrogression of protected minority and language groups and also apportions the districts in accordance with tier-two principles so as not to disfavor a political party or an incumbent, this will provide circumstantial evidence of improper intent.").[34]

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[34] The panel's statement that the "General Assembly did not subordinate traditional race-neutral districting principles … to racial considerations," FOF 598, is irrelevant. No such showing is required for racial vote-dilution claims. That statement is also incorrect: The NCLCV Maps show that the General

Second, the General Assembly adopted a process that was purpose-built to dilute Black voting strength; was told that its process would have this effect; and adopted it anyway. As explained, the *Stephenson*/*Dickson* framework requires, at its first step, considering the VRA. Yet the Legislative Defendants disregarded this requirement and declined to conduct the racially polarized voting analysis required. FOF 47, 61. Worse, they adopted redistricting criteria that barred public consideration of "racial data." FOF 54; Ex. 216. That strategic omission made it impossible for the General Assembly to determine whether it was complying with the VRA, or to publicly weigh whether its maps diluted Black voting strength. Meanwhile, the General Assembly's criteria did not actually ***prevent*** consideration of racial data, any more than political data. *See* Ex.1062:23–64:14, 1077:1–11, 1076:14–81:7; FOF 73 (finding that "no restrictions on the use of outside maps were ever implemented or enforced"). They did, however, have one virtue: They created plausible deniability, so that the General Assembly could ***claim*** it had ***no idea*** about its maps' effects on Black voters.

That is why, even after members of the public and the General Assembly

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Assembly could have better achieved traditional race-neutral districting principles while ***avoiding*** the Enacted Plans' dilution. That these "alternative plan[s] … achieves all of [these] criteria without subordinating one standard to another demonstrates that it was not necessary for the Legislature to subordinate a standard in its plan." *In re Senate Joint Res. of Legis. Apportionment 1176*, 83 So. 3d at 641.

told the Legislative Defendants that their approach was unlawful and would harm Black voters, they stuck to it anyway. For example, when the redistricting criteria were first proposed, Senator Dan Blue, a Black Democrat, challenged the Committee chairs on how they could draw VRA-compliant districts without considering racial data and observed that there is racially polarized voting in North Carolina. FOF 48; Ex. 878:24–13:1; *see also* FOF 52–53; FOF 61. Senator Blue also introduced an amendment that would have prohibited the redistricting of Black voters for partisan advantage. FOF 51; Ex. 787; Ex. 921:5–63:20. It was rejected. FOF 53; Ex. 931:19–20. Representative Hawkins also "warn[ed] his colleagues" that the General Assembly "would repeat the mistakes of the last decade," by purporting to not evaluate "racial impact." (T4 pp 873:16–21; *see also* FOF 45) Other legislators "questioned how the committee would comply with the VRA," given the Duke presentation of county clusterings "stated its analysis did not reflect compliance with the VRA as required by *Stephenson*." FOF 63. The General Assembly rejected all those warnings, precisely because it knew the vote dilution that public scrutiny would expose.

Third, the General Assembly knew that its ***specific plans*** would dilute Black voting strength—yet proceeded anyway. For example:

- Representative Hawkins questioned packing of Black voters in a Pitt County House district—but the Legislative Defendants demurred from engaging, citing the prohibition on racial data. (Ex. 1348:3–17;

T4 pp 868:19–869:3, 869:2–3, 872:19–873:2)

- As to Guilford County, Representative Pricey Harrison explained that the proposed congressional plan divided the Triad region "very significantly in ways that are splitting up the large African-American populations and communities of interest," in part by extending Congressional District 11 from "downtown Greensboro all the way to the Tennessee border," which was contrary to the "very strong commentary—and recommendation" from the public "to keep Guilford whole and to keep the Triad whole." (Ex. 1593:12–25; *see* Ex. 1595:1–11)

- As to northeastern North Carolina, Senator Blue warned that adopting the proposed configuration of Senate Districts 1 and 2 would dilute Black voting strength by cracking cohesive Black communities into two districts. Senator Blue offered an amendment that would avoid this result by selecting the alternative county clustering. (Ex. 1449:21–56:11) He explained that the "seven or eight counties along the North Carolina-Virginia border" are historically considered the "Black belt of North Carolina because they're majority black counties." (Ex. 1450:17–24) Senator Blue explained that his amendment would have "put[] those counties back together naturally, because that's how they've been and they have elected a minority from that district I think since it was created." (Ex. 1453:1–6; *see also* Ex. 1452:1–19, 1457:23–58:14) He explained: "[T]his district in the northeast, District 1 . . . it's reasonably compact, because it's a cluster, it's politically cohesive, because that's what the information from these various groups have told you that it is; and there is racially polarized voting in it." (Ex. 1463:2–8, 1463:12–20) The Committee, however, rejected the amendment. (Ex. 1478:5–12)

Fourth, the General Assembly violated even its own (unlawful) approach. While chairs of the redistricting committees refused themselves to conduct a racially polarized voting analysis, they insisted they would review any such analysis they received. FOF 47, 61; Ex. 879:11-16, 86:10-23; Ex. 1124:12–15, 1130:24-33:2; Ex. 3478:12–17; T4 pp 792:23–793:6. In October

2021, the Southern Coalition for Social Justice sent two letters outlining patterns of racially polarized voting in different House and Senate county clusters, identifying the relevant BVAPs for those regions, and emphasizing the need for careful consideration of this data. (Ex. 6854, 6855) Representative Hall, however, declined to read the letter because he knew it contained racial data. (T4 pp 793:11–21) And Senator Hise testified that he reviewed the letter, understood it to contain racially polarized voting data, and ignored it. T4 pp 752:24–753:8, 753:18–754:5; *see also* FOF 64–65. In a hearing, Senator Blue emphasized that the "preliminary evidence" of racial voting patterns in these letters "show[ed] that [the Legislative Defendants] ha[d] a responsibility to inquire as to whether or not there is further need for a [VRA] district." (Ex. 1456:24–49:10)

Fifth, the General Assembly's long history of racially discriminatory election laws underscores that it intended the dilution that its plans effected. *See Rogers v. Lodge*, 458 U.S. 613, 625 (1982) ("Evidence of historical discrimination is relevant to drawing an inference of purposeful discrimination …."). In 2013 and 2018, for example, the General Assembly enacted restrictive voter-identification laws that state and federal courts struck down as "targeting voters who, based on race, were unlikely to vote" for the party controlling the General Assembly. *McCrory*, 831 F.3d at 215, 223–33; *see Holmes*, 270 N.C. App. at 23, 34, 36, 840 S.E.2d at 258–59, 265–66. And in just

the last decade, courts have repeatedly invalidated North Carolina's congressional and legislative maps as impermissibly discriminating based on race. FOF 573–77.[35]

III. The Enacted Plans Violate the North Carolina Constitution's Whole County Provisions and This Court's *Stephenson/Dickson* Framework Interpreting Those Provisions.

The panel also erred in rejecting the NCLCV Plaintiffs' Whole County Provision claims. In *Stephenson I*, this Court held that when drawing Senate and House district lines "within any … contiguous multi-county grouping," the "resulting interior county lines created by any such groupings may be crossed or traversed ... only to the extent necessary to comply with the at or within plus or minus five percent 'one-person, one-vote' standard." *Stephenson I*, 355 N.C. at 384, 562 S.E.2d at 397. The Enacted Senate and House Plans violate this command. The panel erred by failing to redress the Enacted Plans' violations of the Whole County Provisions and the *Stephenson*/*Dickson* framework.

In the Enacted Senate Plan, Districts 43 and 44 create an unnecessary traversal in the Cleveland-Gaston-Lincoln cluster. District 44 traverses the Cleveland-Lincoln county line, the Cleveland-Gaston county line, and the Lincoln-Gaston county line, for a total of three traversals. Although District

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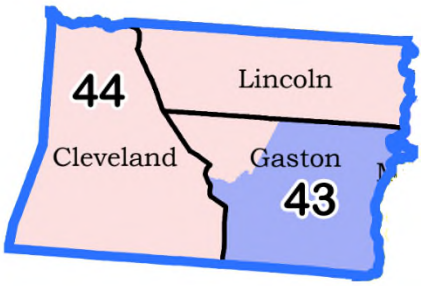
[35]*E.g.*, *Harris*, 159 F. Supp. 3d 600 ; *Covington*, 316 F.R.D. 117; *Covington v. North Carolina*, 283 F. Supp. 3d 410 (M.D.N.C. 2018) (three-judge court), *aff'd in part, rev'd in part*, 138 S. Ct. 2548 (2018); *North Carolina v. Covington*, 138 S. Ct. 2548 (2018) (per curiam).

44 must cross into Gaston County to satisfy equal-population requirements, it is possible to configure these districts so that District 44 traverses only two county boundaries. Indeed, that is exactly what the NCLCV Senate Map does.

Figure 20: Enacted Senate Districts 43 and 44

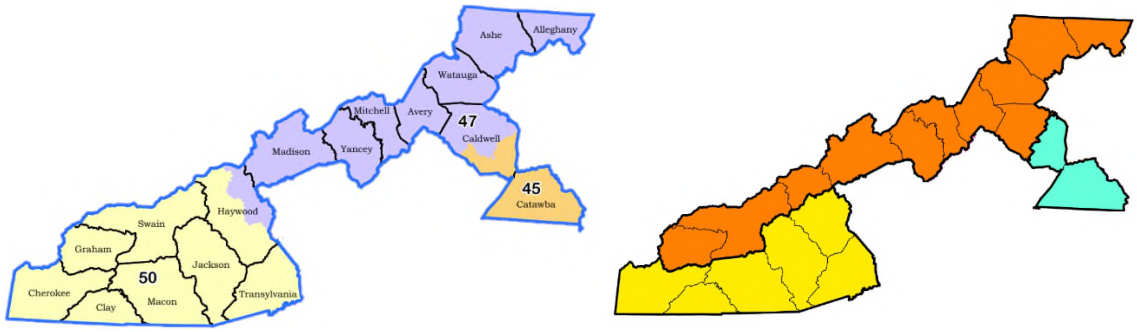


Source: Ex. 38.

Districts 45, 47, and 50 create 23 traversals. As the NCLCV Senate Map shows, it is possible to configure these districts to create 19 traversals. The General Assembly's approach violated *Stephenson I*'s instruction that "interior county lines" within county "groupings may be crossed or traversed … only to the extent necessary." 355 N.C. at 384, 562 S.E.2d at 397.[36]

[36] These districts illustrate an ambiguity in this Court's cases concerning what constitutes a traversal. Following legislative defendants' litigation position in *Covington*, the traversal calculations given in the above paragraph assume that a "traversal" occurs whenever a district crosses a county line, even when the county contains only one district (*e.g.*, in Cherokee, Clay, Graham, Swain, Macon, Jackson, and Transylvania Counties in Enacted District 50). *See Covington v. North Carolina*, 10/15/2017 Hr'g Tr. 116:4—14 (M.D.N.C.) (No. 1:15CV399). The Court could take this case as an opportunity to clarify that point. The NCLCV Plaintiffs respectfully submit that the Court should clarify that such traversals should be avoided ***at least*** when drawing a district with

Figure 21: Senate Districts 45, 47, and 50 of Enacted & NCLCV Maps



Source: Ex. 38, R p 2718.

In the Enacted House Plan, Districts 1 and 79 also unnecessarily traverse county boundaries. As Figure 22 shows, the enacted configuration traverses 11 county lines. And as the NCLCV House Map shows, Districts 1 and 79 can be configured to have just 8 traversals.

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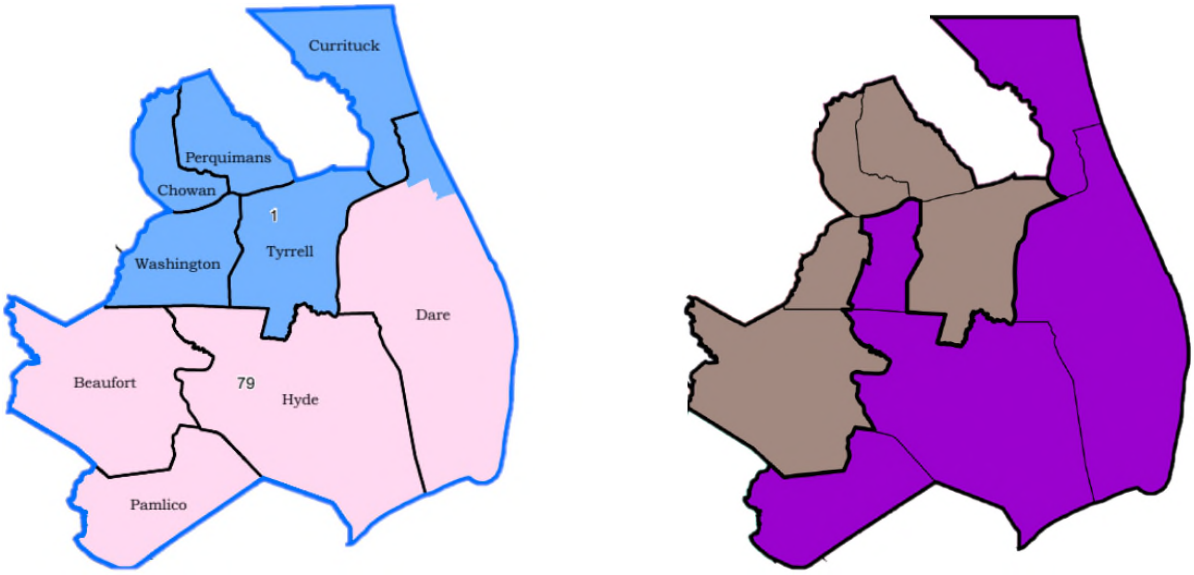
more such traversals will exacerbate an extreme partisan gerrymander or diminish minority electoral opportunity.

Figure 22: House Districts 1 and 79 in Enacted & NCLCV Maps



Source: Ex. 39; R p 2718.

Finally, the legislature made several choices about ***which clusters*** it selected—from the choices generated by the Duke study—that created even more unnecessary county traversals.

- The Enacted Senate Plan's configuration of Senate Districts 1 and 2 in northeastern North Carolina—that is, its selection of one county cluster over the alternative available clustering—creates 28 traversals, compared with just 23 traversals in the NCLCV Senate Map. (Ex. 38; R p 2718)

- The Enacted Senate Plan's configuration of districts within Forsyth, Stokes, Yadkin, Surry, Wilkes, and Alexander Counties creates 5 traversals, compared with 4 in the NCLCV Plan. (Ex. 38; R p 2718)

- The Enacted Senate Plan's clustering plan for Buncombe County created a minimum of 7 traversals in the nine-county area encompassing Buncombe, Burke, Cleveland, Gaston, Henderson, Lincoln, McDowell, Polk, and Rutherford Counties (not counting the unnecessary traversal created by District 44). In contrast, as the NCLCV Senate Map shows, pairing Buncombe County with

> Henderson and Polk Counties brings the total number of traversals in the area to six. (Ex. 38; R p 2718)

Each of these choices, moreover, exacerbated the Enacted Plans partisan gerrymandering, racial vote dilution, or both. To be sure, this Court's cases do not squarely resolve whether *Stephenson I* requires selecting clusters that minimize traversals; instead, *Stephenson I* states that the General Assembly must minimize traversals "within ... multi- county grouping[s]." 355 N.C. at 384, 562 S.E.2d at 397; *see* FOF 610. The NCLCV Plaintiffs, however, respectfully submit that the General Assembly should not be permitted to select clusters that increase traversals ***at least*** when doing so exacerbates partisan gerrymandering or racial vote dilution. The panel thus erred when it stated that the General Assembly's actions were "not unlawful" because plans may "traverse[]" more county lines than necessary in pursuit of "partisan advantage." COL 178.

IV. The NCLCV Plaintiffs Have Standing, as the Panel's Findings Confirm.

The panel's findings of fact and conclusions of law confirm that the NCLCV Plaintiffs have standing to pursue all their claims. While the panel ultimately held that the NCLCV Plaintiffs lacked standing as to their partisan-gerrymandering and racial vote-dilution claims, it did so only on the ground that North Carolina's Constitution does not recognize "any cognizable claim for partisan gerrymandering," COL 14, and that it believed the racial vote-

dilution claim failed on the merits, COL 16.

That conclusion misapprehends standing law. Standing "in no way depends on the merits of the plaintiff's contention that particular conduct is illegal." *Warth v. Seldin*, 422 U.S. 490, 500 (1975). Rather, in assessing standing, courts assume the merits ***in the plaintiff's favor*** and simply ask "whether the person whose standing is challenged is a proper party to request an adjudication of a particular issue and ***not whether the issue itself is justiciable***." *Flast v. Cohen*, 392 U.S. 83, 99–100 (1968) (emphasis added).[37]

That error aside, the panel's findings of fact and conclusions of law confirm that the NCLCV Plaintiffs have standing here. This "State's standing jurisprudence is broader than federal law," COL 2 (quoting *Davis v. New Zion Baptist Church*, 258 N.C. App. 223, 225, 811 S.E.2d 725, 727 (2018)). A plaintiff need only show that he has "'alleged such a personal stake" so as to "'sharpen[] the presentation of issues.'" COL 3 (quoting *Goldston v. State*, 361 N.C. 26, 30, 637 S.E.2d 876, 879 (2006)); *see Comm. to Elect Dan Forest*, 376 N.C. 558, 2021-NCSC-6, ¶ 82. Here, the panel's decision confirms that the

[37] The panel's standing discussion stated that the NCLCV Plaintiffs did not show that the Enacted Plans "provide one racial group with less opportunity than other members of the electorate to nominate and elect members of their choice." FOF 632. This finding appears to have reflected the panel's misapprehension that actionable vote dilution requires identifying an alternative district in which Black adults would constitute more than 50% of the voting-age population. That view is wrong for the reasons explained above. *Supra* pp. 90–92, 106–108.

NCLCV Plaintiffs made that showing.

First, the panel correctly held that individuals have standing to challenge both the districts in which they reside and broader county groupings. That is because the way "in which one state legislative district is drawn in a county grouping necessarily is tied to the drawing of some, and possibly all, of the other districts within that same grouping." COL 8. Hence, "a challenge to the entire county grouping ... constitutes the necessary 'personal stake in the outcome of the controversy' for a plaintiff to have standing to challenge all districts within a county grouping." COL 8 (quoting *Goldston*, 361 N.C. at 30, 637 S.E.2d at 879); *see Erfer v. Commonwealth*, 568 Pa. 128, 135, 794 A.2d 325, 330 (2002) (explaining that a "reapportionment plan acts as an interlocking jigsaw puzzle, each piece reliant upon its neighbors to establish a picture of the whole" and that an "allegation that a litigant's district was improperly gerrymandered necessarily involves a critique of the plan beyond the borders of this district"), *abrogated on other grounds by League of Women Voters*, 645 Pa. 1, 178 A.3d 737 (2018).[38]

[38] This reasoning applies equally to challenges to congressional districting. Because of the stringent equal-population requirements for congressional districts, the decision to draw the boundaries of one district affects the bounds of each of its neighboring districts, and decisions to draw district lines on one side of the State affect district lines throughout the State. In any event, as the panel found, there is at least one individual NCLCV Plaintiff or NCLCV member who resides in every congressional district. FOF 619. Indeed, the

Second, the panel correctly held that an organization, like the NCLCV, "has standing to bring suit on behalf of its members if: '(a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.'" COL 6 (quoting *River Birch Assocs. v. City of Raleigh*, 326 N.C. 100, 129-30, 388 S.E.2d 538, 555 (1990)).

Here, the panel's findings confirm that, under those principles, the NCLCV Plaintiffs have standing to challenge every congressional, Senate, and House district and cluster. Individual NCLCV Plaintiffs reside in several congressional, Senate, and House districts, and the NCLCV Plaintiffs identified "a plausible alternative"—the NCLCV Maps—that "would not create the same partisan composition of the districts that are the result of partisan packing or cracking." FOF 612–14. Moreover, the "NCLCV has members who reside in every challenged North Carolina Congressional, North Carolina Senate, and North Carolina House of Representatives district." FOF 619. Indeed, the NCLCV Plaintiffs showed that NCLCV has members who are registered Democratic voters in ***each*** district in each of the three Enacted Plans. (Ex. 4107–08) What is more, Dr. Duchin showed that the NCLCV has

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NCLCV has members who are registered Black Democrats in every congressional district. (Ex. 4108)

a Democratic member in areas in each identified district and legislative cluster in which alternative maps—specifically, the NCLCV Maps—would improve the members' opportunity to elect their preferred candidates. (R pp 2737, 2739–41)

The panel thus correctly found that NCLCV has "members who would otherwise have standing to sue in their own right, the interests each seeks to protect are germane to the organization's purpose, and neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit." COL 13; *see* FOF 620–23. In particular, and among other things, the panel correctly found that "Plaintiff NCLCV's interests it seeks to protect in this litigation are its ability to effectively advocate for candidates who will protect the environment, its ability to build a pro-environment majority, and its ability to hold legislators accountable, which is frustrated by the predetermining of elections they allege will occur under the Enacted Plans." FOF 620; *see* FOF 621 (other harms).

This conclusion applies equally to the NCLCV Plaintiffs' racial vote-dilution claims. The NCLCV Plaintiffs have Black members who are registered to vote in virtually every district in each of the Enacted Plans. (Ex. 4108) Moreover, Dr. Duchin again showed that the NCLCV has Black members who are registered to vote in areas in each identified district and cluster in which the NCLCV Maps would give Black voters the opportunity to

elect their preferred candidates. (Ex. 4116–20; R pp 2738–41) Bringing this suit, moreover, is germane to NCLCV's purposes, which include an "intentional focus on systematically excluded communities of color" and efforts to address environmental harms suffered by such communities. (Ex. 4107)

Third, the panel's findings confirm that the NCLCV has standing to sue in its own right. As the panel correctly observed, an "association may have standing to in its own right to seek judicial relief from injury to itself and to vindicate whatever rights and immunities the association itself." COL 5 (quoting *River Birch Assoc. v. Raleigh*, 326 N.C. 100, 129, 388 S.E.2d 538, 555 (1990)). The panel detailed the harms that the NCLCV itself suffers, statewide, from how the Enacted Plans "predetermin[e] … elections." FOF 620–21. And it held that the "organizational Plaintiffs," including the NCLCV, "each seek to vindicate rights enjoyed by the organization under the North Carolina Constitution." COL 12. Many decisions have found that similar organizations suffering similar harms have standing.[39]

Finally, the panel's decision confirms that the NCLCV Plaintiffs have

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[39] *E.g.*, *Common Cause*, 2019 WL 4569584, at *107 (Common Cause); *Common Cause v. Rucho*, 318 F. Supp. 3d 777, 829 (M.D.N.C. 2018) (three-judge panel), *vacated and remanded on other grounds*, 139 S. Ct. 2484 (2019); *Ohio A. Philip Randolph Inst. v. Householder*, 373 F. Supp. 3d 978, 1076 (S.D. Ohio) (three-judge court), *vacated and remanded on other grounds*, 140 S. Ct. 101 (2019); *League of Women Voters of Mich. v. Johnson*, 352 F. Supp. 3d 777, 802 (E.D. Mich. 2018) (three-judge court), *rev'd and remanded on other grounds*, No. 18-2383, 2018 WL 10096237 (6th Cir. Dec. 20, 2018).

standing to raise their Whole County Provisions claim. It acknowledged that "[i]ndividual private citizens and voters of a county have standing to sue to seek redress from" such a violation. COL 9. For the same reason, the NCLCV members who live in these districts have standing to do so—and the NCLCV has associational standing to sue on their behalf.

V. This Court Should Retain Jurisdiction Over the Remedial Process.

Given the impending 2022 primary, and the request by the State Board of Elections to receive remedial maps by 18 February 2022—just 16 days after oral argument—time is of the essence to move toward a remedy. Mindful of that reality, the NCLCV Plaintiffs offer eight suggestions as the Court weighs these important issues.

First, the Court could issue its decree first, so that the remedial process can commence, with a full opinion to follow.

Second, the Court can retain jurisdiction over the remedial process. The NCLCV Plaintiffs respectfully submit that doing so would be appropriate because there is simply no time for a remand: The panel would have to review remedial maps (including any passed by the General Assembly) and issue a decision, and this Court would then need to receive briefing on that decision and issue its own decision. This Court has retained jurisdiction after issuing

a decision before,[40] consistent with common practice in redistricting cases.[41]

Third, a schedule can be established that allows an adequate opportunity to review any remedial maps proposed (including any remedial maps passed by the General Assembly). Below, the NCLCV Plaintiffs identified their NCLCV Maps as potential remedial maps, and those maps have now been tested in discovery and litigation. To the extent others (including the General Assembly) wish to propose remedial maps, the NCLCV Plaintiffs suggest the following schedule:

- Each party may file with the Court one remedial congressional map, one remedial Senate map, and one remedial House map by 5:00 p.m. on Thursday, 10 February 2022, including block-assignment files for those maps.

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[40] *See D & W, Inc. v. City of Charlotte*, 268 N.C. 720, 723, 152 S.E.2d 199, 202–03 (1966); *see also State v. Harvin*, 843 S.E.2d 642, 643 (N.C. 2020).

[41] *League of Women Voters*, 645 Pa. at 581–83 (retaining jurisdiction after deeming a congressional plan an unconstitutionally extreme partisan gerrymander, and explaining that the court had "full constitutional authority and responsibility" to enact a remedial plan "based upon the evidentiary record"); *Larios v. Cox*, 300 F. Supp. 2d 1320, 1356-57 (N.D. Ga.) (three-judge court) (retaining jurisdiction "to permit the Georgia General Assembly to submit to the court … enacted plans for reapportionment"), *summarily aff'd,* 542 U.S. 947 (2004); *Jeffers v. Clinton*, 740 F. Supp. 585, 602 (E.D. Ark. 1990) (three-judge court) (retaining jurisdiction "as a matter of inherent equitable power" to review the legislature's subsequent apportionment before it could go into effect); *Graves v. Barnes*, 446 F. Supp. 560, 562, 571 (W.D. Tex. 1977) (three-judge court) (per curiam) (exercising the jurisdiction it had retained to implement a new, constitutionally compliant redistricting scheme, and noting that such action was "obligatory, both as a matter of constitutional principle, and as the product of the exercise of [the Court's] equitable discretion"), *summarily aff'd sub nom. Briscoe v. Escalante*, 435 U.S. 901 (1978); *accord Scott v. Germano*, 381 U.S. 407, 409–10 (1965).

- Each party may file a response to the other parties' proposed remedies by 5:00 p.m. on Monday, 14 February 2022.
- Each party may file a reply by 5:00 p.m. on Wednesday, 16 February 2022.[42]

Fourth, any party proposing remedial maps (including any remedial maps passed by the General Assembly) should be required to explain how those maps fully and completely remedy the partisan gerrymandering in the Enacted Plans. The explanation should cover at least these two questions:

- Does the map allow a political party whose candidates receive a majority of votes statewide to win at least half the seats statewide (as measured by the "overlay" analysis Professor Duchin conducted using 52 statewide general elections in Table 1 of her 23 December 2021 expert report)?
- To the extent the map does not do so, is the shortfall justified by a compelling nonpartisan interest?

As to the NCLCV Maps, the NCLCV Plaintiffs have already addressed these questions. They have shown that the NCLCV Congressional Map achieves near-perfect fairness (*i.e.*, symmetrical treatment of Republicans and Democrats) and nearly always allows the party whose candidates receive a majority of votes statewide to win at least half the seats statewide (while also meeting or exceeding the Enacted Plans' fidelity to state-law requirements and traditional neutral redistricting principles). They have also shown that the

[42] Although the General Assembly has passed a bill to further delay the primary, the Governor has not yet signed that bill. If the Governor does so, this proposed schedule could be extended somewhat. Even if the Governor does sign that bill, however, time will remain insufficient for a remand.

NCLCV Senate and House Maps are much fairer than the Enacted Plans and that, to the extent they still favor Republicans, they do so because of the constraints imposed by the Whole County Provisions as interpreted by this Court in the *Stephenson*/*Dickson* cases. The NCLCV Plaintiffs respectfully submit that unless another party presents maps that remedy the violations here at least as fully as the NCLCV Maps, the Court should adopt the NCLCV Maps.[43]

Fifth, any party proposing remedial maps (including any remedial maps passed by the General Assembly) should be required to explain how those maps fully and completely remedy the Enacted Plans' racial vote dilution. In particular, any party proposing a remedial map should demonstrate that the number of districts in that map that are effective for minority voters is "roughly proportional" to the minority group's share of the State's citizen voting-age population. *LULAC*, 548 U.S. at 436–38; *Johnson v. De Grandy*, 512 U.S. 997, 1000 (1994). Moreover, each party should identify which districts in its maps provide an effective opportunity for Black voters to nominate and elect their preferred candidates, as well as the factual basis supporting the conclusion

[43] If the Legislative Defendants submit remedial maps passed by the General Assembly, they should also be required to provide the same "StatPack Reports" and "Compactness Reports" that the General Assembly provided for the Enacted Plans, *see* N.C. General Assembly, Legislative and Congressional Redistricting, https://www.ncleg.gov/Redistricting (last visited 20 January 2022), as well as video and transcripts of all committee and floor debates.

that those districts are effective. Again, the NCLCV Plaintiffs have already provided this information.

Sixth, any party proposing remedial maps (including any remedial maps passed by the General Assembly) should be required to explain how those maps fully and completely remedy the Enacted Plans' violations of the Whole County Provisions and the *Stephenson*/*Dickson* framework. Again, the NCLCV Plaintiffs have already provided this information.

Seventh, the Court's decree can clarify the Court's authority to shorten, or eliminate, the two-week period that N.C.G.S. § 120-2.4(a) provides for the General Assembly to remedy an invalidated plan. This Court has the "inherent power ... to do all things that are reasonably necessary for the proper administration of justice," including in fashioning a remedy. *Beard v. N.C. State Bar,* 320 N.C. 126, 130, 357 S.E.2d 694, 696 (1987); *see also Kinlaw v. Harris,* 364 N.C. 528, 532–33, 702 S.E.2d 294, 297 (2010) (describing courts' "broad discretion to fashion equitable remedies to protect innocent parties when injustice would otherwise result"). Indeed, "[t]he General Assembly shall have no power to deprive the judicial department of any power or jurisdiction that rightfully pertains to it as a co-ordinate department of the government." N.C. CONST. art. IV, § 1.

Here, the Court can exercise its inherent power to resolve an unavoidable clash between two statutes—N.C.G.S. § 120-2.4(a) and N.C.G.S. § 163-1(b),

which sets the date for the primary election—and the Court cannot adhere to the former without further departing from the latter. Moreover, the State Board has stated that it requires remedial maps by 18 February 2022, to comply with the Uniformed and Overseas Citizens Absentee Voting Act, 52 U.S.C. §§ 20301–20311. Any statute enacted by the General Assembly that would interfere with that timeline is thus preempted. *E.g.*, *Doe v. Walker*, 746 F. Supp. 2d 667, 675 (D. Md. 2010). This Court has discretion to accommodate those interests by shortening or eliminating the two-week period.[44]

Eighth, the circumstances here warrant a ruling that any map that the Court adopts will govern all elections until the Census Bureau releases the 2030 redistricting data. While N.C.G.S. § 120-2.4(a)(1) purports to limit the effectiveness of any court-ordered remedial map "for … the next general election only," that statute violates the Constitution's ban on legislative mid-decade redistricting, *see* N.C. CONST. art. II, §§ 3, 5, and is void.

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[44] Indeed, while courts typically afford state legislatures the first opportunity to remedy unlawful districts, courts have declined to do so where the legislature has repeatedly violated the law in drawing redistricting plans and otherwise shown bad faith in the redistricting process. *E.g.*, *Hays v. State*, 936 F. Supp. 360, 371–72 (W.D. La. 1996) (three-judge court); *Terrazas v. Slagle*, 789 F. Supp. 828, 838, 840–41 (W.D. Tex. 1991) (three-judge court). Given the General Assembly's history of unlawful redistricting, the Court would be justified in adopting that approach here.

CONCLUSION

The NCLCV Plaintiffs have established—indeed, beyond any reasonable doubt—that the Enacted Plans violate the North Carolina Constitution. Those violations call for the reversal of the panel's judgment and the Court's retention of jurisdiction over remedial proceedings as described above.

Respectfully submitted this 21st day of January, 2022.

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CERTIFICATE OF SERVICE

Pursuant to Rule 26 of the North Carolina Rules of Appellate Procedure, I hereby certify that the foregoing document has been filed with the Clerk of the North Carolina Supreme Court by electronic submission. I further certify that a copy of this document has been duly served upon the following counsel of record by email:

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This the 21st day of January, 2022.

Electronically Submitted
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No. 413PA21 TENTH DISTRICT

SUPREME COURT OF NORTH CAROLINA

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NORTH CAROLINA LEAGUE OF CONSERVATION VOTERS, INC.; HENRY M. MICHAUX, JR., et al., Plaintiffs, REBECCA HARPER, et al., Plaintiffs, COMMON CAUSE, Plaintiff-Intervenor, v. REPRESENTATIVE DESTIN HALL, in his official capacity as Chair of the House Standing Committee on Redistricting, et al., Defendants.	From Wake County 21 CVS 015426 21 CVS 500085

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APPENDIX TO BRIEF OF PLAINTIFFS-APPELLANTS NORTH CAROLINA LEAGUE OF CONSERVATION VOTERS, INC., ET AL.

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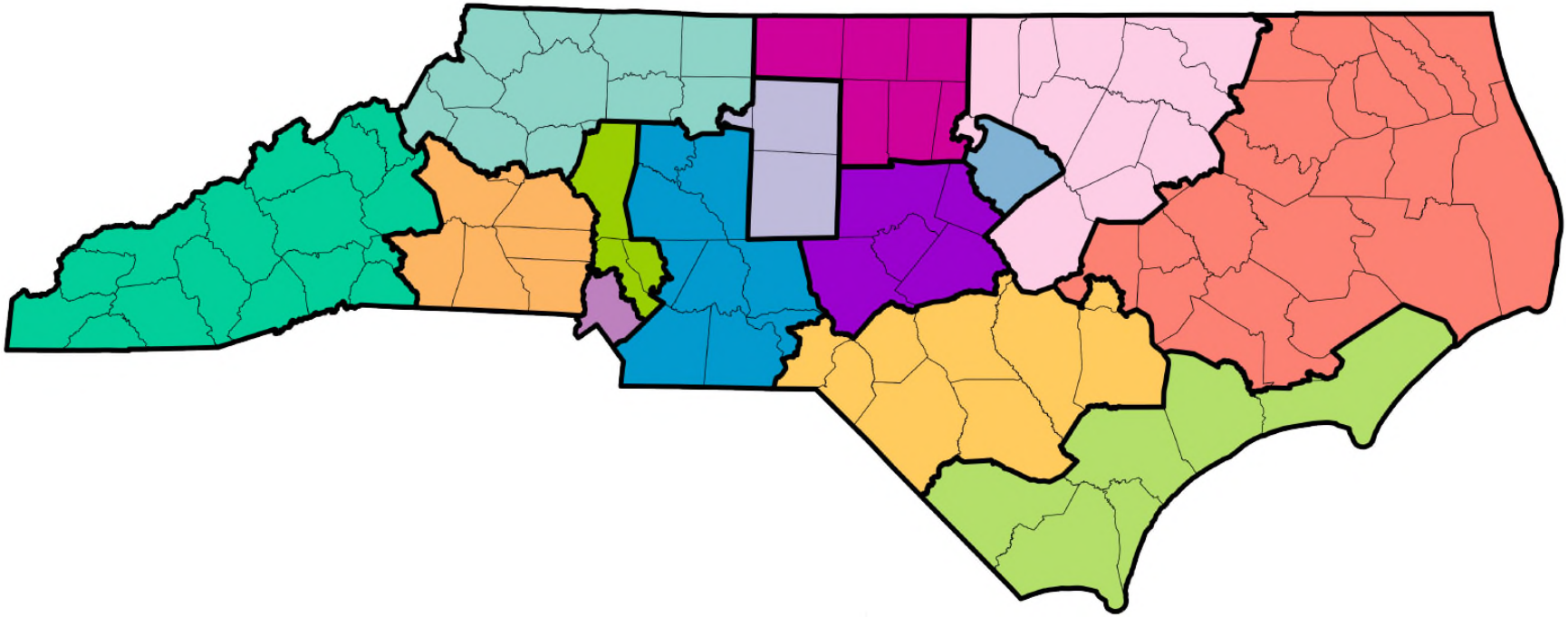
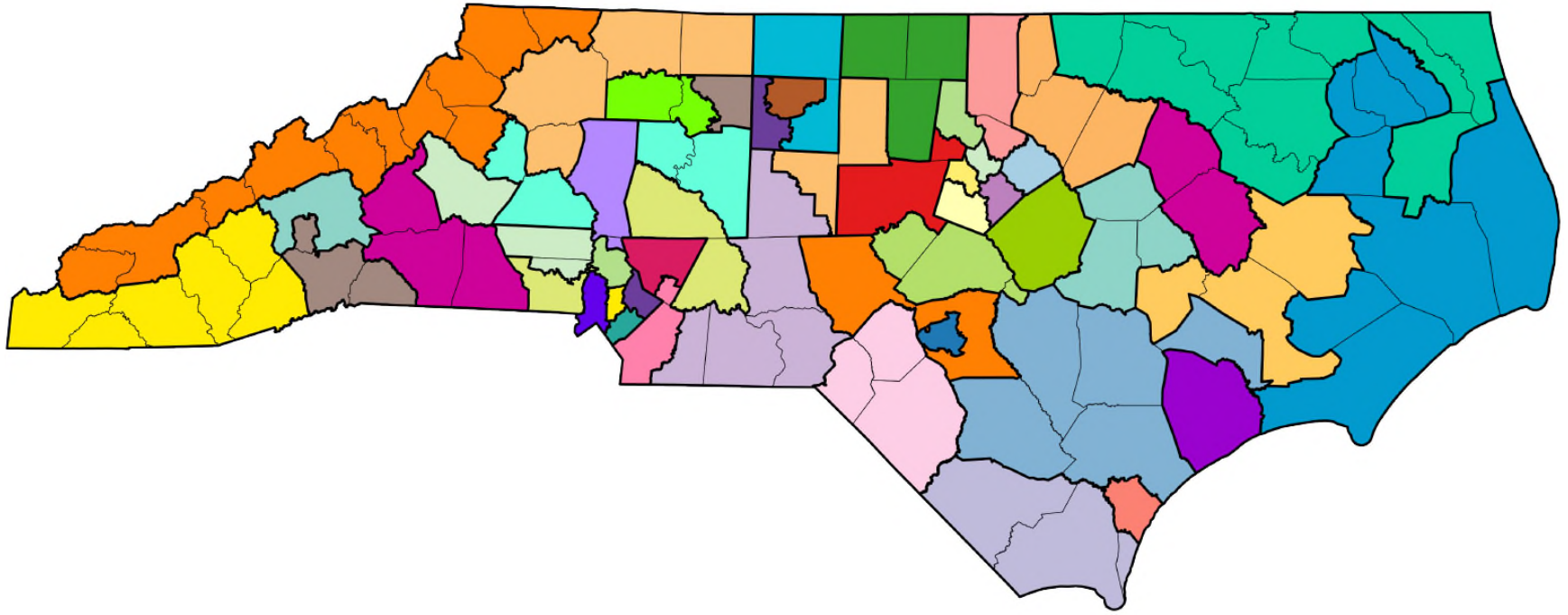
CONTENTS OF APPENDIX TO BRIEF OF NCLCV PLAINTIFFS



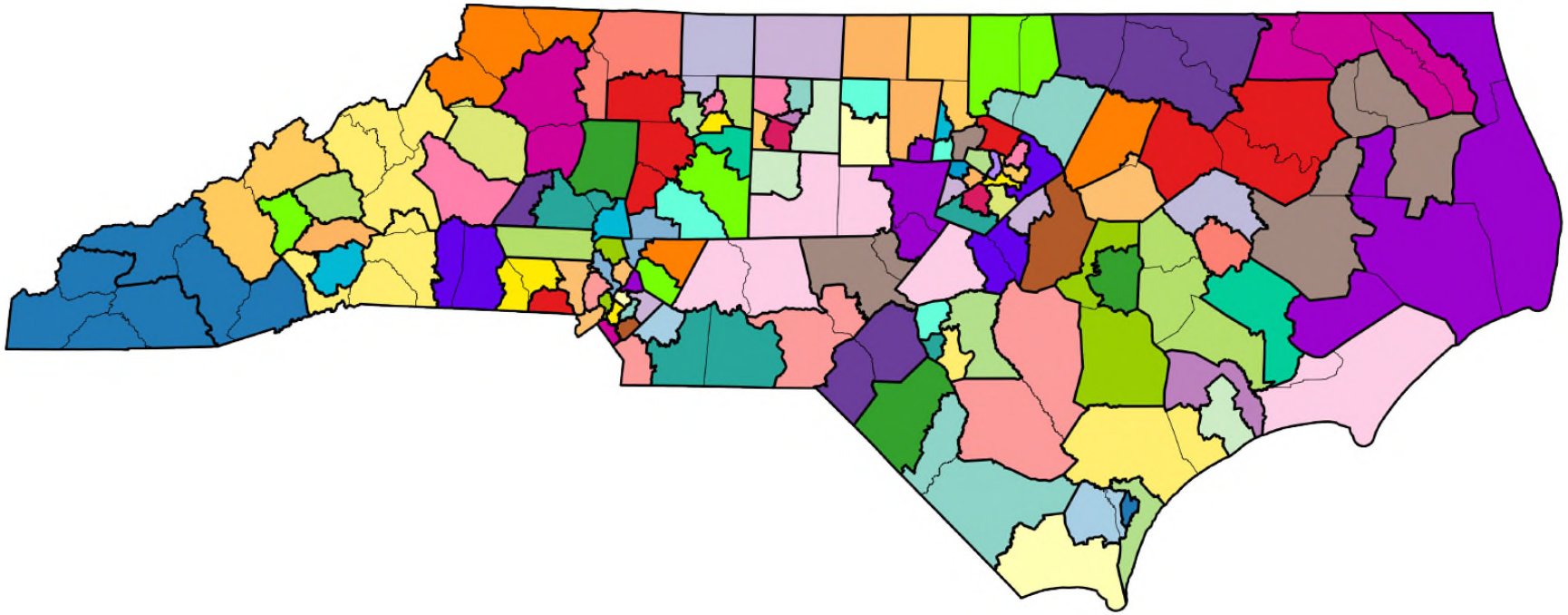
NCLCV CONGRESSIONAL MAP

(R p 2718, PX150 at 3)



NCLCV SENATE MAP

(R p 2718, PX150 at 3)



NCLCV HOUSE MAP

(R p 2718, PX150 at 3)

NORTH CAROLINA STATE CONSTITUTION

PREAMBLE

We, the people of the State of North Carolina, grateful to Almighty God, the Sovereign Ruler of Nations, for the preservation of the American Union and the existence of our civil, political and religious liberties, and acknowledging our dependence upon Him for the continuance of those blessings to us and our posterity, do, for the more certain security thereof and for the better government of this State, ordain and establish this Constitution.

ARTICLE I
DECLARATION OF RIGHTS

That the great, general, and essential principles of liberty and free government may be recognized and established, and that the relations of this State to the Union and government of the United States and those of the people of this State to the rest of the American people may be defined and affirmed, we do declare that:

Section 1. The equality and rights of persons.

We hold it to be self-evident that all persons are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty, the enjoyment of the fruits of their own labor, and the pursuit of happiness.

Sec. 2. Sovereignty of the people.

All political power is vested in and derived from the people; all government of right originates from the people, is founded upon their will only, and is instituted solely for the good of the whole.

Sec. 3. Internal government of the State.

The people of this State have the inherent, sole, and exclusive right of regulating the internal government and police thereof, and of altering or abolishing their Constitution and form of government whenever it may be necessary to their safety and happiness; but every such right shall be exercised in pursuance of law and consistently with the Constitution of the United States.

Sec. 4. Secession prohibited.

This State shall ever remain a member of the American Union; the people thereof are part of the American nation; there is no right on the part of this State to secede; and all attempts, from whatever source or upon whatever pretext, to dissolve this Union or to sever this Nation, shall be resisted with the whole power of the State.

Sec. 5. Allegiance to the United States.

Every citizen of this State owes paramount allegiance to the Constitution and government of the United States, and no law or ordinance of the State in contravention or subversion thereof can have any binding force.

Sec. 6. Separation of powers.

The legislative, executive, and supreme judicial powers of the State government shall be forever separate and distinct from each other.

Sec. 7. Suspending laws.

All power of suspending laws or the execution of laws by any authority, without the consent of the representatives of the people, is injurious to their rights and shall not be exercised.

Sec. 8. Representation and taxation.

The people of this State shall not be taxed or made subject to the payment of any impost or duty without the consent of themselves or their representatives in the General Assembly, freely given.

Sec. 9. Frequent elections.

For redress of grievances and for amending and strengthening the laws, elections shall be often held.

Sec. 10. Free elections.

All elections shall be free.

Sec. 11. Property qualifications.

As political rights and privileges are not dependent upon or modified by property, no property qualification shall affect the right to vote or hold office.

Sec. 12. Right of assembly and petition.

The people have a right to assemble together to consult for their common good, to instruct their representatives, and to apply to the General Assembly for redress of grievances; but secret political societies are dangerous to the liberties of a free people and shall not be tolerated.

Sec. 13. Religious liberty.

All persons have a natural and inalienable right to worship Almighty God according to the dictates of their own consciences, and no human authority shall, in any case whatever, control or interfere with the rights of conscience.

Sec. 14. Freedom of speech and press.

Freedom of speech and of the press are two of the great bulwarks of liberty and therefore shall never be restrained, but every person shall be held responsible for their abuse.

Sec. 15. Education.

The people have a right to the privilege of education, and it is the duty of the State to guard and maintain that right.

Sec. 16. Ex post facto laws.

Retrospective laws, punishing acts committed before the existence of such laws and by them only declared criminal, are oppressive, unjust, and incompatible with liberty, and therefore no ex post facto law shall be enacted. No law taxing retrospectively sales, purchases, or other acts previously done shall be enacted.

Sec. 17. Slavery and involuntary servitude.

Slavery is forever prohibited. Involuntary servitude, except as a punishment for crime whereof the parties have been adjudged guilty, is forever prohibited.

Sec. 18. Court shall be open.

All courts shall be open; every person for an injury done him in his lands, goods, person, or reputation shall have remedy by due course of law; and right and justice shall be administered without favor, denial, or delay.

Sec. 19. Law of the land; equal protection of the laws.

No person shall be taken, imprisoned, or disseized of his freehold, liberties, or privileges, or outlawed, or exiled, or in any manner deprived of his life, liberty, or property, but by the law of the land. No person shall be denied the equal protection of the laws; nor shall any person be subjected to discrimination by the State because of race, color, religion, or national origin.

Sec. 20. General warrants.

General warrants, whereby any officer or other person may be commanded to search suspected places without evidence of the act committed, or to seize any person or persons not named, whose offense is not particularly described and supported by evidence, are dangerous to liberty and shall not be granted.

Sec. 21. Inquiry into restraints on liberty.

Every person restrained of his liberty is entitled to a remedy to inquire into the lawfulness thereof, and to remove the restraint if unlawful, and that remedy shall not be denied or delayed. The privilege of the writ of habeas corpus shall not be suspended.

Sec. 22. Modes of prosecution.

Except in misdemeanor cases initiated in the District Court Division, no person shall be put to answer any criminal charge but by indictment, presentment, or impeachment. But any person, when represented by counsel, may, under such regulations as the General Assembly shall prescribe, waive indictment in noncapital cases.

Sec. 23. Rights of accused.

In all criminal prosecutions, every person charged with crime has the right to be informed of the accusation and to confront the accusers and witnesses with other testimony, and to have counsel for defense, and not be compelled to give self-incriminating evidence, or to pay costs, jail fees, or necessary witness fees of the defense, unless found guilty.

Sec. 24. Right of jury trial in criminal cases.

No person shall be convicted of any crime but by the unanimous verdict of a jury in open court, except that a person accused of any criminal offense for which the State is not seeking a sentence of death in superior court may, in writing or on the record in the court and with the consent of the trial judge, waive jury trial, subject to procedures prescribed by the General Assembly. The General Assembly may, however, provide for other means of trial for misdemeanors, with the right of appeal for trial de novo. (2013-300, s. 1.)

Sec. 25. Right of jury trial in civil cases.

In all controversies at law respecting property, the ancient mode of trial by jury is one of the best securities of the rights of the people, and shall remain sacred and inviolable.

Sec. 26. Jury service.

No person shall be excluded from jury service on account of sex, race, color, religion, or national origin.

Sec. 27. Bail, fines, and punishments.

Excessive bail shall not be required, nor excessive fines imposed, nor cruel or unusual punishments inflicted.

Sec. 28. Imprisonment for debt.

There shall be no imprisonment for debt in this State, except in cases of fraud.

Sec. 29. Treason against the State.

Treason against the State shall consist only of levying war against it or adhering to its enemies by giving them aid and comfort. No person shall be convicted of treason unless on the testimony of two witnesses to the same overt act, or on confession in open court. No conviction of treason or attainder shall work corruption of blood or forfeiture.

Sec. 30. Militia and the right to bear arms.

A well regulated militia being necessary to the security of a free State, the right of the people to keep and bear arms shall not be infringed; and, as standing armies in time of peace are dangerous to liberty, they shall not be maintained, and the military shall be kept under strict subordination to, and governed by, the civil power. Nothing herein shall justify the practice of carrying concealed weapons, or prevent the General Assembly from enacting penal statutes against that practice.

Sec. 31. Quartering of soldiers.

No soldier shall in time of peace be quartered in any house without the consent of the owner, nor in time of war but in a manner prescribed by law.

Sec. 32. Exclusive emoluments.

No person or set of persons is entitled to exclusive or separate emoluments or privileges from the community but in consideration of public services.

Sec. 33. Hereditary emoluments and honors.

No hereditary emoluments, privileges, or honors shall be granted or conferred in this State.

Sec. 34. Perpetuities and monopolies.

Perpetuities and monopolies are contrary to the genius of a free state and shall not be allowed.

Sec. 35. Recurrence to fundamental principles.

A frequent recurrence to fundamental principles is absolutely necessary to preserve the blessings of liberty.

Sec. 36. Other rights of the people.

The enumeration of rights in this Article shall not be construed to impair or deny others retained by the people.

Sec. 37. Rights of victims of crime.

(1) Basic rights. Victims of crime or acts of delinquency shall be treated with dignity and respect by the criminal justice system.

(1a) Enumerated rights. When the crime or act of delinquency is one against or involving the person of the victim or is equivalent to a felony property crime, the victim is entitled to the following rights:

- (a) The right upon request to reasonable, accurate, and timely notice of court proceedings of the accused.
- (a1) The right upon request to be present at court proceedings of the accused.
- (b) The right to be reasonably heard at any court proceeding involving the plea, conviction, adjudication, sentencing, or release of the accused.
- (c) The right to receive restitution in a reasonably timely manner, when ordered by the court.

(d) The right to be given information about the crime or act of delinquency, how the criminal justice system works, the rights of victims, and the availability of services for victims.

(e) The right upon request to receive information about the conviction, adjudication, or final disposition and sentence of the accused.

(f) The right upon request to receive notification of escape, release, proposed parole or pardon of the accused, or notice of a reprieve or commutation of the accused's sentence.

(g) The right to present the victim's views and concerns to the Governor or agency considering any action that could result in the release of the accused, prior to such action becoming effective.

(h) The right to reasonably confer with the prosecution.

(1b) Enforcement of rights. Except as otherwise provided herein, the General Assembly shall further provide, by general law, the procedure whereby a victim may assert the rights provided in this section. The victim or, if the victim is a minor, is legally incapacitated, or deceased, a family member, guardian, or legal custodian may assert the rights provided in this section. The procedure shall be by motion to the court of jurisdiction within the same criminal or juvenile proceeding giving rise to the rights. The victim, family member, guardian, or legal custodian have the right to counsel at this hearing but do not have the right to counsel provided by the State. If the matter involves an allegation that the district attorney failed to comply with the rights of a victim when obligated to so do by law, the victim must first afford the district attorney with jurisdiction over the criminal action an opportunity to resolve any issue in a timely manner.

(2) No money damages; other claims. Nothing in this section shall be construed as creating a claim for money damages, or any cause of action, against the State, a county, a municipality, or any of the agencies, instrumentalities, or officers and employees thereof.

(3) No ground for relief in criminal case. The failure or inability of any person to provide a right or service provided under this section may not be used by a defendant in a criminal case, an inmate, or any other accused as a ground for relief in any trial, appeal, postconviction litigation, habeas corpus, civil action, or any similar criminal or civil proceeding. Nothing in this section shall be construed to provide grounds for a victim (i) to appeal any decision made in a criminal or juvenile proceeding; (ii) to challenge any verdict, sentence, or adjudication; (iii) to participate as a party in any proceeding; or (iv) to obtain confidential juvenile records.

(4) No restriction of authority. Nothing in this section shall be construed to restrict the power of the district attorney, or the inherent authority of the court.

(5) Implementation. The General Assembly may prescribe general laws to further define and implement this section. (1995, c. 438, s. 1; 2018-110, s. 1.)

Sec. 38. Right to hunt, fish, and harvest wildlife.

The right of the people to hunt, fish, and harvest wildlife is a valued part of the State's heritage and shall be forever preserved for the public good. The people have a right, including the right to use traditional methods, to hunt, fish, and harvest wildlife, subject only to laws enacted by the General Assembly and rules adopted pursuant to authority granted by the General Assembly to (i) promote wildlife conservation and management and (ii) preserve the future of hunting and fishing. Public hunting and fishing shall be a preferred means of managing and controlling wildlife. Nothing herein shall be construed to modify any provision of law relating to trespass, property rights, or eminent domain. (2018-96, s. 1.)

ARTICLE II
LEGISLATIVE

Section 1. Legislative power.

The legislative power of the State shall be vested in the General Assembly, which shall consist of a Senate and a House of Representatives.

Sec. 2. Number of Senators.

The Senate shall be composed of 50 Senators, biennially chosen by ballot.

Sec. 3. Senate districts; apportionment of Senators.

The Senators shall be elected from districts. The General Assembly, at the first regular session convening after the return of every decennial census of population taken by order of Congress, shall revise the senate districts and the apportionment of Senators among those districts, subject to the following requirements:

(1) Each Senator shall represent, as nearly as may be, an equal number of inhabitants, the number of inhabitants that each Senator represents being determined for this purpose by dividing the population of the district that he represents by the number of Senators apportioned to that district;

(2) Each senate district shall at all times consist of contiguous territory;

(3) No county shall be divided in the formation of a senate district;

(4) When established, the senate districts and the apportionment of Senators shall remain unaltered until the return of another decennial census of population taken by order of Congress.

Sec. 4. Number of Representatives.

The House of Representatives shall be composed of 120 Representatives, biennially chosen by ballot.

Sec. 5. Representative districts; apportionment of Representatives.

The Representatives shall be elected from districts. The General Assembly, at the first regular session convening after the return of every decennial census of population taken by order of Congress, shall revise the representative districts and the apportionment of Representatives among those districts, subject to the following requirements:

(1) Each Representative shall represent, as nearly as may be, an equal number of inhabitants, the number of inhabitants that each Representative represents being determined for this purpose by dividing the population of the district that he represents by the number of Representatives apportioned to that district;

(2) Each representative district shall at all times consist of contiguous territory;

(3) No county shall be divided in the formation of a representative district;

(4) When established, the representative districts and the apportionment of Representatives shall remain unaltered until the return of another decennial census of population taken by order of Congress.

Sec. 6. Qualifications for Senator.

Each Senator, at the time of his election, shall be not less than 25 years of age, shall be a qualified voter of the State, and shall have resided in the State as a citizen for two years and in the district for which he is chosen for one year immediately preceding his election.

Sec. 7. Qualifications for Representative.

Each Representative, at the time of his election, shall be a qualified voter of the State, and shall have resided in the district for which he is chosen for one year immediately preceding his election.

Sec. 8. Elections.

The election for members of the General Assembly shall be held for the respective districts in 1972 and every two years thereafter, at the places and on the day prescribed by law.

Sec. 9. Term of office.

The term of office of Senators and Representatives shall commence on the first day of January next after their election.

Sec. 10. Vacancies.

Every vacancy occurring in the membership of the General Assembly by reason of death, resignation, or other cause shall be filled in the manner prescribed by law.

Sec. 11. Sessions.

(1) Regular Sessions. The General Assembly shall meet in regular session in 1973 and every two years thereafter on the day prescribed by law. Neither house shall proceed upon public business unless a majority of all of its members are actually present.

(2) Extra sessions on legislative call. The President of the Senate and the Speaker of the House of Representatives shall convene the General Assembly in extra session by their joint proclamation upon receipt by the President of the Senate of written requests therefor signed by three-fifths of all the members of the Senate and upon receipt by the Speaker of the House of Representatives of written requests therefor signed by three-fifths of all the members of the House of Representatives.

Sec. 12. Oath of members.

Each member of the General Assembly, before taking his seat, shall take an oath or affirmation that he will support the Constitution and laws of the United States and the Constitution of the State of North Carolina, and will faithfully discharge his duty as a member of the Senate or House of Representatives.

Sec. 13. President of the Senate.

The Lieutenant Governor shall be President of the Senate and shall preside over the Senate, but shall have no vote unless the Senate is equally divided.

Sec. 14. Other officers of the Senate.

(1) President Pro Tempore - succession to presidency. The Senate shall elect from its membership a President Pro Tempore, who shall become President of the Senate upon the failure of the Lieutenant Governor-elect to qualify, or upon succession by the Lieutenant Governor to the office of Governor, or upon the death, resignation, or removal from office of the President of the Senate, and who shall serve until the expiration of his term of office as Senator.

(2) President Pro Tempore - temporary succession. During the physical or mental incapacity of the President of the Senate to perform the duties of his office, or during the absence of the President of the Senate, the President Pro Tempore shall preside over the Senate.

(3) Other officers. The Senate shall elect its other officers.

Sec. 15. Officers of the House of Representatives.

The House of Representatives shall elect its Speaker and other officers.

Sec. 16. Compensation and allowances.

The members and officers of the General Assembly shall receive for their services the compensation and allowances prescribed by law. An increase in the compensation or allowances of members shall become effective at the beginning of the next regular session of the General Assembly following the session at which it was enacted.

Sec. 17. Journals.

Each house shall keep a journal of its proceedings, which shall be printed and made public immediately after the adjournment of the General Assembly.

Sec. 18. Protests.

Any member of either house may dissent from and protest against any act or resolve which he may think injurious to the public or to any individual, and have the reasons of his dissent entered on the journal.

Sec. 19. Record votes.

Upon motion made in either house and seconded by one fifth of the members present, the yeas and nays upon any question shall be taken and entered upon the journal.

Sec. 20. Powers of the General Assembly.

Each house shall be judge of the qualifications and elections of its own members, shall sit upon its own adjournment from day to day, and shall prepare bills to be enacted into laws. The two houses may jointly adjourn to any future day or other place. Either house may, of its own motion, adjourn for a period not in excess of three days.

Sec. 21. Style of the acts.

The style of the acts shall be: "The General Assembly of North Carolina enacts:".

Sec. 22. Action on bills.

(1) Bills subject to veto by Governor; override of veto. Except as provided by subsections (2) through (6) of this section, all bills shall be read three times in each house and shall be signed by the presiding officer of each house before being presented to the Governor. If the Governor approves, the Governor shall sign it and it shall become a law; but if not, the Governor shall return it with objections, together with a veto message stating the reasons for such objections, to that house in which it shall have originated, which shall enter the objections and veto message at large on its journal, and proceed to reconsider it. If after such reconsideration three-fifths of the members of that house present and voting shall agree to pass the bill, it shall be sent, together with the objections and veto message, to the other house, by which it shall likewise be reconsidered; and if approved by three-fifths of the members of that house present and voting, it shall become a law notwithstanding the objections of the Governor. In all such cases the votes of both houses shall be determined by yeas and nays, and the names of the members voting shall be entered on the journal of each house respectively.

(2) Amendments to Constitution of North Carolina. Every bill proposing a new or revised Constitution or an amendment or amendments to this Constitution or calling a convention of the people of this State, and containing no other matter, shall be submitted to the qualified voters of this State after it shall have been read three times in each house and signed by the presiding officers of both houses.

(3) Amendments to Constitution of the United States. Every bill approving an amendment to the Constitution of the United States, or applying for a convention to propose amendments to the Constitution of the United States, and containing no other matter, shall be

read three times in each house before it becomes law, and shall be signed by the presiding officers of both houses.

(4) Joint resolutions. Every joint resolution shall be read three times in each house before it becomes effective and shall be signed by the presiding officers of both houses.

(5) Other exceptions. Every bill:

(a) In which the General Assembly makes an appointment or appointments to public office and which contains no other matter;

(b) Revising the senate districts and the apportionment of Senators among those districts and containing no other matter;

(c) Revising the representative districts and the apportionment of Representatives among those districts and containing no other matter; or

(d) Revising the districts for the election of members of the House of Representatives of the Congress of the United States and the apportionment of Representatives among those districts and containing no other matter,

shall be read three times in each house before it becomes law and shall be signed by the presiding officers of both houses.

(6) Local bills. Every bill that applies in fewer than 15 counties shall be read three times in each house before it becomes law and shall be signed by the presiding officers of both houses. The exemption from veto by the Governor provided in this subsection does not apply if the bill, at the time it is signed by the presiding officers:

(a) Would extend the application of a law signed by the presiding officers during that two year term of the General Assembly so that the law would apply in more than half the counties in the State, or

(b) Would enact a law identical in effect to another law or laws signed by the presiding officers during that two year term of the General Assembly that the result of those laws taken together would be a law applying in more than half the counties in the State.

Notwithstanding any other language in this subsection, the exemption from veto provided by this subsection does not apply to any bill to enact a general law classified by population or other criteria, or to any bill that contains an appropriation from the State treasury.

(7) Time for action by Governor; reconvening of session. If any bill shall not be returned by the Governor within 10 days after it shall have been presented to him, the same shall be a law in like manner as if he had signed it, unless the General Assembly shall have adjourned:

(a) For more than 30 days jointly as provided under Section 20 of Article II of this Constitution; or

(b) Sine die

in which case it shall become a law unless, within 30 days after such adjournment, it is returned by the Governor with objections and veto message to that house in which it shall have originated. When the General Assembly has adjourned sine die or for more than 30 days jointly as provided under Section 20 of Article II of this Constitution, the Governor shall reconvene that session as provided by Section 5(11) of Article III of this Constitution for reconsideration of the bill, and if the Governor does not reconvene the session, the bill shall become law on the fortieth day after such adjournment. Notwithstanding the previous sentence, if the Governor prior to reconvening the session receives written requests dated no earlier than 30 days after such adjournment, signed by a majority of the members of each house that a reconvened session to reconsider vetoed legislation is unnecessary, the Governor shall not reconvene the session for that purpose and any legislation vetoed in accordance with this section after adjournment shall not become law.

(8) Return of bills after adjournment. For purposes of return of bills not approved by the Governor, each house shall designate an officer to receive returned bills during its adjournment. (1995, c. 5, s. 1.)

Sec. 23. Revenue bills.

No law shall be enacted to raise money on the credit of the State, or to pledge the faith of the State directly or indirectly for the payment of any debt, or to impose any tax upon the people of the State, or to allow the counties, cities, or towns to do so, unless the bill for the purpose shall have been read three several times in each house of the General Assembly and passed three several readings, which readings shall have been on three different days, and shall have been agreed to by each house respectively, and unless the yeas and nays on the second and third readings of the bill shall have been entered on the journal.

Sec. 24. Limitations on local, private, and special legislation.

(1) Prohibited subjects. The General Assembly shall not enact any local, private, or special act or resolution:

(a) Relating to health, sanitation, and the abatement of nuisances;
(b) Changing the names of cities, towns, and townships;
(c) Authorizing the laying out, opening, altering, maintaining, or discontinuing of highways, streets, or alleys;
(d) Relating to ferries or bridges;
(e) Relating to non-navigable streams;
(f) Relating to cemeteries;
(g) Relating to the pay of jurors;
(h) Erecting new townships, or changing township lines, or establishing or changing the lines of school districts;
(i) Remitting fines, penalties, and forfeitures, or refunding moneys legally paid into the public treasury;
(j) Regulating labor, trade, mining, or manufacturing;
(k) Extending the time for the levy or collection of taxes or otherwise relieving any collector of taxes from the due performance of his official duties or his sureties from liability;
(*l*) Giving effect to informal wills and deeds;
(m) Granting a divorce or securing alimony in any individual case;
(n) Altering the name of any person, or legitimating any person not born in lawful wedlock, or restoring to the rights of citizenship any person convicted of a felony.

(2) Repeals. Nor shall the General Assembly enact any such local, private, or special act by the partial repeal of a general law; but the General Assembly may at any time repeal local, private, or special laws enacted by it.

(3) Prohibited acts void. Any local, private, or special act or resolution enacted in violation of the provisions of this Section shall be void.

(4) General laws. The General Assembly may enact general laws regulating the matters set out in this Section.

ARTICLE III
EXECUTIVE

Section 1. Executive power.

The executive power of the State shall be vested in the Governor.

Sec. 2. Governor and Lieutenant Governor: election, term, and qualifications.

(1) Election and term. The Governor and Lieutenant Governor shall be elected by the qualified voters of the State in 1972 and every four years thereafter, at the same time and places as members of the General Assembly are elected. Their term of office shall be four years and shall commence on the first day of January next after their election and continue until their successors are elected and qualified.

(2) Qualifications. No person shall be eligible for election to the office of Governor or Lieutenant Governor unless, at the time of his election, he shall have attained the age of 30 years and shall have been a citizen of the United States for five years and a resident of this State for two years immediately preceding his election. No person elected to the office of Governor or Lieutenant Governor shall be eligible for election to more than two consecutive terms of the same office.

Sec. 3. Succession to office of Governor.

(1) Succession as Governor. The Lieutenant Governor-elect shall become Governor upon the failure of the Governor-elect to qualify. The Lieutenant Governor shall become Governor upon the death, resignation, or removal from office of the Governor. The further order of succession to the office of Governor shall be prescribed by law. A successor shall serve for the remainder of the term of the Governor whom he succeeds and until a new Governor is elected and qualified.

(2) Succession as Acting Governor. During the absence of the Governor from the State, or during the physical or mental incapacity of the Governor to perform the duties of his office, the Lieutenant Governor shall be Acting Governor. The further order of succession as Acting Governor shall be prescribed by law.

(3) Physical incapacity. The Governor may, by a written statement filed with the Attorney General, declare that he is physically incapable of performing the duties of his office, and may thereafter in the same manner declare that he is physically capable of performing the duties of his office.

(4) Mental incapacity. The mental incapacity of the Governor to perform the duties of his office shall be determined only by joint resolution adopted by a vote of two-thirds of all the members of each house of the General Assembly. Thereafter, the mental capacity of the Governor to perform the duties of his office shall be determined only by joint resolution adopted by a vote of a majority of all the members of each house of the General Assembly. In all cases, the General Assembly shall give the Governor such notice as it may deem proper and shall allow him an opportunity to be heard before a joint session of the General Assembly before it takes final action. When the General Assembly is not in session, the Council of State, a majority of its members concurring, may convene it in extra session for the purpose of proceeding under this paragraph.

(5) Impeachment. Removal of the Governor from office for any other cause shall be by impeachment.

Sec. 4. Oath of office for Governor.

The Governor, before entering upon the duties of his office, shall, before any Justice of the Supreme Court, take an oath or affirmation that he will support the Constitution and laws of the

United States and of the State of North Carolina, and that he will faithfully perform the duties pertaining to the office of governor.

Sec. 5. Duties of Governor.

(1) Residence. The Governor shall reside at the seat of government of this State.

(2) Information to General Assembly. The Governor shall from time to time give the General Assembly information of the affairs of the State and recommend to their consideration such measures as he shall deem expedient.

(3) Budget. The Governor shall prepare and recommend to the General Assembly a comprehensive budget of the anticipated revenue and proposed expenditures of the State for the ensuing fiscal period. The budget as enacted by the General Assembly shall be administered by the Governor.

The total expenditures of the State for the fiscal period covered by the budget shall not exceed the total of receipts during that fiscal period and the surplus remaining in the State Treasury at the beginning of the period. To insure that the State does not incur a deficit for any fiscal period, the Governor shall continually survey the collection of the revenue and shall effect the necessary economies in State expenditures, after first making adequate provision for the prompt payment of the principal of and interest on bonds and notes of the State according to their terms, whenever he determines that receipts during the fiscal period, when added to any surplus remaining in the State Treasury at the beginning of the period, will not be sufficient to meet budgeted expenditures. This section shall not be construed to impair the power of the State to issue its bonds and notes within the limitations imposed in Article V of this Constitution, nor to impair the obligation of bonds and notes of the State now outstanding or issued hereafter.

(4) Execution of laws. The Governor shall take care that the laws be faithfully executed.

(5) Commander in Chief. The Governor shall be Commander in Chief of the military forces of the State except when they shall be called into the service of the United States.

(6) Clemency. The Governor may grant reprieves, commutations, and pardons, after conviction, for all offenses (except in cases of impeachment), upon such conditions as he may think proper, subject to regulations prescribed by law relative to the manner of applying for pardons. The terms reprieves, commutations, and pardons shall not include paroles.

(7) Extra sessions. The Governor may, on extraordinary occasions, by and with the advice of the Council of State, convene the General Assembly in extra session by his proclamation, stating therein the purpose or purposes for which they are thus convened.

(8) Appointments. The Governor shall nominate and by and with the advice and consent of a majority of the Senators appoint all officers whose appointments are not otherwise provided for.

(9) Information. The Governor may at any time require information in writing from the head of any administrative department or agency upon any subject relating to the duties of his office.

(10) Administrative reorganization. The General Assembly shall prescribe the functions, powers, and duties of the administrative departments and agencies of the State and may alter them from time to time, but the Governor may make such changes in the allocation of offices and agencies and in the allocation of those functions, powers, and duties as he considers necessary for efficient administration. If those changes affect existing law, they shall be set forth in executive orders, which shall be submitted to the General Assembly not later than the sixtieth calendar day of its session, and shall become effective and shall have the force of law upon adjournment sine die of the session, unless specifically disapproved by resolution of either house of the General Assembly or specifically modified by joint resolution of both houses of the General Assembly.

(11) Reconvened sessions. The Governor shall, when required by Section 22 of Article II of this Constitution, reconvene a session of the General Assembly. At such reconvened session,

the General Assembly may only consider such bills as were returned by the Governor to that reconvened session for reconsideration. Such reconvened session shall begin on a date set by the Governor, but no later than 40 days after the General Assembly adjourned:

(a) For more than 30 days jointly as provided under Section 20 of Article II of this Constitution; or

(b) Sine die. If the date of reconvening the session occurs after the expiration of the terms of office of the members of the General Assembly, then the members serving for the reconvened session shall be the members for the succeeding term. (1969, c. 932, s. 1; 1977, c. 690, s. 1; 1995, c. 5, s. 2.)

Sec. 6. Duties of the Lieutenant Governor.

The Lieutenant Governor shall be President of the Senate, but shall have no vote unless the Senate is equally divided. He shall perform such additional duties as the General Assembly or the Governor may assign to him. He shall receive the compensation and allowances prescribed by law.

Sec. 7. Other elective officers.

(1) Officers. A Secretary of State, an Auditor, a Treasurer, a Superintendent of Public Instruction, an Attorney General, a Commissioner of Agriculture, a Commissioner of Labor, and a Commissioner of Insurance shall be elected by the qualified voters of the State in 1972 and every four years thereafter, at the same time and places as members of the General Assembly are elected. Their term of office shall be four years and shall commence on the first day of January next after their election and continue until their successors are elected and qualified.

(2) Duties. Their respective duties shall be prescribed by law.

(3) Vacancies. If the office of any of these officers is vacated by death, resignation, or otherwise, it shall be the duty of the Governor to appoint another to serve until his successor is elected and qualified. Every such vacancy shall be filled by election at the first election for members of the General Assembly that occurs more than 60 days after the vacancy has taken place, and the person chosen shall hold the office for the remainder of the unexpired term fixed in this Section. When a vacancy occurs in the office of any of the officers named in this Section and the term expires on the first day of January succeeding the next election for members of the General Assembly, the Governor shall appoint to fill the vacancy for the unexpired term of the office.

(4) Interim officers. Upon the occurrence of a vacancy in the office of any one of these officers for any of the causes stated in the preceding paragraph, the Governor may appoint an interim officer to perform the duties of that office until a person is appointed or elected pursuant to this Section to fill the vacancy and is qualified.

(5) Acting officers. During the physical or mental incapacity of any one of these officers to perform the duties of his office, as determined pursuant to this Section, the duties of his office shall be performed by an acting officer who shall be appointed by the Governor.

(6) Determination of incapacity. The General Assembly shall by law prescribe with respect to those officers, other than the Governor, whose offices are created by this Article, procedures for determining the physical or mental incapacity of any officer to perform the duties of his office, and for determining whether an officer who has been temporarily incapacitated has sufficiently recovered his physical or mental capacity to perform the duties of his office. Removal of those officers from office for any other cause shall be by impeachment.

(7) Special Qualifications for Attorney General. Only persons duly authorized to practice law in the courts of this State shall be eligible for appointment or election as Attorney General.

Sec. 8. Council of State.

The Council of State shall consist of the officers whose offices are established by this Article.

Sec. 9. Compensation and allowances.

The officers whose offices are established by this Article shall at stated periods receive the compensation and allowances prescribed by law, which shall not be diminished during the time for which they have been chosen.

Sec. 10. Seal of State.

There shall be a seal of the State, which shall be kept by the Governor and used by him as occasion may require, and shall be called "The Great Seal of the State of North Carolina". All grants or commissions shall be issued in the name and by the authority of the State of North Carolina, sealed with "The Great Seal of the State of North Carolina", and signed by the Governor.

Sec. 11. Administrative departments.

Not later than July 1, 1975, all administrative departments, agencies, and offices of the State and their respective functions, powers, and duties shall be allocated by law among and within not more than 25 principal administrative departments so as to group them as far as practicable according to major purposes. Regulatory, quasi-judicial, and temporary agencies may, but need not, be allocated within a principal department.

ARTICLE IV
JUDICIAL

Section 1. Judicial power.

The judicial power of the State shall, except as provided in Section 3 of this Article, be vested in a Court for the Trial of Impeachments and in a General Court of Justice. The General Assembly shall have no power to deprive the judicial department of any power or jurisdiction that rightfully pertains to it as a co-ordinate department of the government, nor shall it establish or authorize any courts other than as permitted by this Article.

Sec. 2. General Court of Justice.

The General Court of Justice shall constitute a unified judicial system for purposes of jurisdiction, operation, and administration, and shall consist of an Appellate Division, a Superior Court Division, and a District Court Division.

Sec. 3. Judicial powers of administrative agencies.

The General Assembly may vest in administrative agencies established pursuant to law such judicial powers as may be reasonably necessary as an incident to the accomplishment of the purposes for which the agencies were created. Appeals from administrative agencies shall be to the General Court of Justice.

Sec. 4. Court for the Trial of Impeachments.

The House of Representatives solely shall have the power of impeaching. The Court for the Trial of Impeachments shall be the Senate. When the Governor or Lieutenant Governor is impeached, the Chief Justice shall preside over the Court. A majority of the members shall be necessary to a quorum, and no person shall be convicted without the concurrence of two-thirds of the Senators present. Judgment upon conviction shall not extend beyond removal from and disqualification to hold office in this State, but the party shall be liable to indictment and punishment according to law.

Sec. 5. Appellate division.

The Appellate Division of the General Court of Justice shall consist of the Supreme Court and the Court of Appeals.

Sec. 6. Supreme Court.

(1) Membership. The Supreme Court shall consist of a Chief Justice and six Associate Justices, but the General Assembly may increase the number of Associate Justices to not more than eight. In the event the Chief Justice is unable, on account of absence or temporary incapacity, to perform any of the duties placed upon him, the senior Associate Justice available may discharge those duties.

(2) Sessions of the Supreme Court. The sessions of the Supreme Court shall be held in the City of Raleigh unless otherwise provided by the General Assembly.

Sec. 7. Court of Appeals.

The structure, organization, and composition of the Court of Appeals shall be determined by the General Assembly. The Court shall have not less than five members, and may be authorized to sit in divisions, or other than en banc. Sessions of the Court shall be held at such times and places as the General Assembly may prescribe.

Sec. 8. Retirement of Justices and Judges.

The General Assembly shall provide by general law for the retirement of Justices and Judges of the General Court of Justice, and may provide for the temporary recall of any retired Justice or Judge to serve on the court or courts of the division from which he was retired. The General Assembly shall also prescribe maximum age limits for service as a Justice or Judge.

Sec. 9. Superior Courts.

(1) Superior Court districts. The General Assembly shall, from time to time, divide the State into a convenient number of Superior Court judicial districts and shall provide for the election of one or more Superior Court Judges for each district. Each regular Superior Court Judge shall reside in the district for which he is elected. The General Assembly may provide by general law for the selection or appointment of special or emergency Superior Court Judges not selected for a particular judicial district.

(2) Open at all times; sessions for trial of cases. The Superior Courts shall be open at all times for the transaction of all business except the trial of issues of fact requiring a jury. Regular trial sessions of the Superior Court shall be held at times fixed pursuant to a calendar of courts promulgated by the Supreme Court. At least two sessions for the trial of jury cases shall be held annually in each county.

(3) Clerks. A Clerk of the Superior Court for each county shall be elected for a term of four years by the qualified voters thereof, at the same time and places as members of the General Assembly are elected. If the office of Clerk of the Superior Court becomes vacant otherwise than by the expiration of the term, or if the people fail to elect, the senior regular resident Judge of the Superior Court serving the county shall appoint to fill the vacancy until an election can be regularly held.

Sec. 10. District Courts.

The General Assembly shall, from time to time, divide the State into a convenient number of local court districts and shall prescribe where the District Courts shall sit, but a District Court must sit in at least one place in each county. District Judges shall be elected for each district for a term of four years, in a manner prescribed by law. When more than one District Judge is authorized and elected for a district, the Chief Justice of the Supreme Court shall designate one of the judges as Chief District Judge. Every District Judge shall reside in the district for which he is elected. For each county, the senior regular resident Judge of the Superior Court serving the county shall appoint from nominations submitted by the Clerk of the Superior Court of the county, one or more Magistrates who shall be officers of the District Court. The initial term of appointment for a magistrate shall be for two years and subsequent terms shall be for four years. The number of District Judges and Magistrates shall, from time to time, be determined by the General Assembly. Vacancies in the office of District Judge shall be filled for the unexpired term in a manner prescribed by law. Vacancies in the office of Magistrate shall be filled for the unexpired term in the manner provided for original appointment to the office, unless otherwise provided by the General Assembly. (2004-128, s. 16.)

Sec. 11. Assignment of Judges.

The Chief Justice of the Supreme Court, acting in accordance with rules of the Supreme Court, shall make assignments of Judges of the Superior Court and may transfer District Judges from one district to another for temporary or specialized duty. The principle of rotating Superior Court Judges among the various districts of a division is a salutary one and shall be observed. For this purpose the General Assembly may divide the State into a number of judicial divisions. Subject to the general supervision of the Chief Justice of the Supreme Court, assignment of District Judges within each local court district shall be made by the Chief District Judge.

Sec. 12. Jurisdiction of the General Court of Justice.

(1) Supreme Court. The Supreme Court shall have jurisdiction to review upon appeal any decision of the courts below, upon any matter of law or legal inference. The jurisdiction of the Supreme Court over "issues of fact" and "questions of fact" shall be the same exercised by it prior to the adoption of this Article, and the Court may issue any remedial writs necessary to give it general supervision and control over the proceedings of the other courts. The Supreme Court also has jurisdiction to review, when authorized by law, direct appeals from a final order or decision of the North Carolina Utilities Commission.

(2) Court of Appeals. The Court of Appeals shall have such appellate jurisdiction as the General Assembly may prescribe.

(3) Superior Court. Except as otherwise provided by the General Assembly, the Superior Court shall have original general jurisdiction throughout the State. The Clerks of the Superior Court shall have such jurisdiction and powers as the General Assembly shall prescribe by general law uniformly applicable in every county of the State.

(4) District Courts; Magistrates. The General Assembly shall, by general law uniformly applicable in every local court district of the State, prescribe the jurisdiction and powers of the District Courts and Magistrates.

(5) Waiver. The General Assembly may by general law provide that the jurisdictional limits may be waived in civil cases.

(6) Appeals. The General Assembly shall by general law provide a proper system of appeals. Appeals from Magistrates shall be heard de novo, with the right of trial by jury as defined in this Constitution and the laws of this State.

Sec. 13. Forms of action; rules of procedure.

(1) Forms of action. There shall be in this State but one form of action for the enforcement or protection of private rights or the redress of private wrongs, which shall be denominated a civil action, and in which there shall be a right to have issues of fact tried before a jury. Every action prosecuted by the people of the State as a party against a person charged with a public offense, for the punishment thereof, shall be termed a criminal action.

(2) Rules of procedure. The Supreme Court shall have exclusive authority to make rules of procedure and practice for the Appellate Division. The General Assembly may make rules of procedure and practice for the Superior Court and District Court Divisions, and the General Assembly may delegate this authority to the Supreme Court. No rule of procedure or practice shall abridge substantive rights or abrogate or limit the right of trial by jury. If the General Assembly should delegate to the Supreme Court the rule-making power, the General Assembly may, nevertheless, alter, amend, or repeal any rule of procedure or practice adopted by the Supreme Court for the Superior Court or District Court Divisions.

Sec. 14. Waiver of jury trial.

In all issues of fact joined in any court, the parties in any civil case may waive the right to have the issues determined by a jury, in which case the finding of the judge upon the facts shall have the force and effect of a verdict by a jury.

Sec. 15. Administration.

The General Assembly shall provide for an administrative office of the courts to carry out the provisions of this Article.

Sec. 16. Terms of office and election of Justices of the Supreme Court, Judges of the Court of Appeals, and Judges of the Superior Court.

Justices of the Supreme Court, Judges of the Court of Appeals, and regular Judges of the Superior Court shall be elected by the qualified voters and shall hold office for terms of eight

years and until their successors are elected and qualified. Justices of the Supreme Court and Judges of the Court of Appeals shall be elected by the qualified voters of the State. Regular Judges of the Superior Court may be elected by the qualified voters of the State or by the voters of their respective districts, as the General Assembly may prescribe.

Sec. 17. Removal of Judges, Magistrates and Clerks.

(1) Removal of Judges by the General Assembly. Any Justice or Judge of the General Court of Justice may be removed from office for mental or physical incapacity by joint resolution of two-thirds of all the members of each house of the General Assembly. Any Justice or Judge against whom the General Assembly may be about to proceed shall receive notice thereof, accompanied by a copy of the causes alleged for his removal, at least 20 days before the day on which either house of the General Assembly shall act thereon. Removal from office by the General Assembly for any other cause shall be by impeachment.

(2) Additional method of removal of Judges. The General Assembly shall prescribe a procedure, in addition to impeachment and address set forth in this Section, for the removal of a Justice or Judge of the General Court of Justice for mental or physical incapacity interfering with the performance of his duties which is, or is likely to become, permanent, and for the censure and removal of a Justice or Judge of the General Court of Justice for wilful misconduct in office, wilful and persistent failure to perform his duties, habitual intemperance, conviction of a crime involving moral turpitude, or conduct prejudicial to the administration of justice that brings the judicial office into disrepute.

(3) Removal of Magistrates. The General Assembly shall provide by general law for the removal of Magistrates for misconduct or mental or physical incapacity.

(4) Removal of Clerks. Any Clerk of the Superior Court may be removed from office for misconduct or mental or physical incapacity by the senior regular resident Superior Court Judge serving the county. Any Clerk against whom proceedings are instituted shall receive written notice of the charges against him at least 10 days before the hearing upon the charges. Any Clerk so removed from office shall be entitled to an appeal as provided by law.

Sec. 18. District Attorney and Prosecutorial Districts.

(1) District Attorneys. The General Assembly shall, from time to time, divide the State into a convenient number of prosecutorial districts, for each of which a District Attorney shall be chosen for a term of four years by the qualified voters thereof, at the same time and places as members of the General Assembly are elected. Only persons duly authorized to practice law in the courts of this State shall be eligible for election or appointment as a District Attorney. The District Attorney shall advise the officers of justice in his district, be responsible for the prosecution on behalf of the State of all criminal actions in the Superior Courts of his district, perform such duties related to appeals therefrom as the Attorney General may require, and perform such other duties as the General Assembly may prescribe.

(2) Prosecution in District Court Division. Criminal actions in the District Court Division shall be prosecuted in such manner as the General Assembly may prescribe by general law uniformly applicable in every local court district of the State.

Sec. 19. Vacancies.

Unless otherwise provided in this Article, all vacancies occurring in the offices provided for by this Article shall be filled by appointment of the Governor, and the appointees shall hold their places until the next election for members of the General Assembly that is held more than 60 days after the vacancy occurs, when elections shall be held to fill the offices. When the unexpired term of any of the offices named in this Article of the Constitution in which a vacancy has occurred, and in which it is herein provided that the Governor shall fill the vacancy, expires on the first day of January succeeding the next election for members of the General Assembly, the

Governor shall appoint to fill that vacancy for the unexpired term of the office. If any person elected or appointed to any of these offices shall fail to qualify, the office shall be appointed to, held and filled as provided in case of vacancies occurring therein. All incumbents of these offices shall hold until their successors are qualified.

Sec. 20. Revenues and expenses of the judicial department.

The General Assembly shall provide for the establishment of a schedule of court fees and costs which shall be uniform throughout the State within each division of the General Court of Justice. The operating expenses of the judicial department, other than compensation to process servers and other locally paid non-judicial officers, shall be paid from State funds.

Sec. 21. Fees, salaries, and emoluments.

The General Assembly shall prescribe and regulate the fees, salaries, and emoluments of all officers provided for in this Article, but the salaries of Judges shall not be diminished during their continuance in office. In no case shall the compensation of any Judge or Magistrate be dependent upon his decision or upon the collection of costs.

Sec. 22. Qualification of Justices and Judges.

Only persons duly authorized to practice law in the courts of this State shall be eligible for election or appointment as a Justice of the Supreme Court, Judge of the Court of Appeals, Judge of the Superior Court, or Judge of District Court. This section shall not apply to persons elected to or serving in such capacities on or before January 1, 1981.

ARTICLE V
FINANCE

Section 1. No capitation tax to be levied.

No poll or capitation tax shall be levied by the General Assembly or by any county, city or town, or other taxing unit.

Sec. 2. (Applicable to taxes beginning on or after January 1, 2019 - see note) State and local taxation.

(1) Power of taxation. The power of taxation shall be exercised in a just and equitable manner, for public purposes only, and shall never be surrendered, suspended, or contracted away.

(2) Classification. Only the General Assembly shall have the power to classify property for taxation, which power shall be exercised only on a State-wide basis and shall not be delegated. No class of property shall be taxed except by uniform rule, and every classification shall be made by general law uniformly applicable in every county, city and town, and other unit of local government.

(3) Exemptions. Property belonging to the State, counties, and municipal corporations shall be exempt from taxation. The General Assembly may exempt cemeteries and property held for educational, scientific, literary, cultural, charitable, or religious purposes, and, to a value not exceeding $300, any personal property. The General Assembly may exempt from taxation not exceeding $1,000 in value of property held and used as the place of residence of the owner. Every exemption shall be on a State-wide basis and shall be made by general law uniformly applicable in every county, city and town, and other unit of local government. No taxing authority other than the General Assembly may grant exemptions, and the General Assembly shall not delegate the powers accorded to it by this subsection.

(4) Special tax areas. Subject to the limitations imposed by Section 4, the General Assembly may enact general laws authorizing the governing body of any county, city, or town to define territorial areas and to levy taxes within those areas, in addition to those levied throughout the county, city, or town, in order to finance, provide, or maintain services, facilities, and functions in addition to or to a greater extent than those financed, provided, or maintained for the entire county, city, or town.

(5) Purposes of property tax. The General Assembly shall not authorize any county, city or town, special district, or other unit of local government to levy taxes on property, except for purposes authorized by general law uniformly applicable throughout the State, unless the tax is approved by a majority of the qualified voters of the unit who vote thereon.

(6) Income tax. The rate of tax on incomes shall not in any case exceed seven percent, and there shall be allowed personal exemptions and deductions so that only net incomes are taxed.

(7) Contracts. The General Assembly may enact laws whereby the State, any county, city or town, and any other public corporation may contract with and appropriate money to any person, association, or corporation for the accomplishment of public purposes only. (1969, c. 872, s. 1; c. 1200, s. 1; 2018-119, s. 1.)

Sec. 3. Limitations upon the increase of State debt.

(1) Authorized purposes; two-thirds limitation. The General Assembly shall have no power to contract debts secured by a pledge of the faith and credit of the State, unless approved by a majority of the qualified voters of the State who vote thereon, except for the following purposes:

(a) to fund or refund a valid existing debt;

(b) to supply an unforeseen deficiency in the revenue;

(c) to borrow in anticipation of the collection of taxes due and payable within the current fiscal year to an amount not exceeding 50 per cent of such taxes;

(d) to suppress riots or insurrections, or to repel invasions;

(e) to meet emergencies immediately threatening the public health or safety, as conclusively determined in writing by the Governor;

(f) for any other lawful purpose, to the extent of two-thirds of the amount by which the State's outstanding indebtedness shall have been reduced during the next preceding biennium.

(2) Gift or loan of credit regulated. The General Assembly shall have no power to give or lend the credit of the State in aid of any person, association, or corporation, except a corporation in which the State has a controlling interest, unless the subject is submitted to a direct vote of the people of the State, and is approved by a majority of the qualified voters who vote thereon.

(3) Definitions. A debt is incurred within the meaning of this Section when the State borrows money. A pledge of the faith and credit within the meaning of this Section is a pledge of the taxing power. A loan of credit within the meaning of this Section occurs when the State exchanges its obligations with or in any way guarantees the debts of an individual, association, or private corporation.

(4) Certain debts barred. The General Assembly shall never assume or pay any debt or obligation, express or implied, incurred in aid of insurrection or rebellion against the United States. Neither shall the General Assembly assume or pay any debt or bond incurred or issued by authority of the Convention of 1868, the special session of the General Assembly of 1868, or the General Assemblies of 1868-69 and 1869-70, unless the subject is submitted to the people of the State and is approved by a majority of all the qualified voters at a referendum held for that sole purpose.

(5) Outstanding debt. Except as provided in subsection (4), nothing in this Section shall be construed to invalidate or impair the obligation of any bond, note, or other evidence of indebtedness outstanding or authorized for issue as of July 1, 1973.

Sec. 4. Limitations upon the increase of local government debt.

(1) Regulation of borrowing and debt. The General Assembly shall enact general laws relating to the borrowing of money secured by a pledge of the faith and credit and the contracting of other debts by counties, cities and towns, special districts, and other units, authorities, and agencies of local government.

(2) Authorized purposes; two-thirds limitation. The General Assembly shall have no power to authorize any county, city or town, special district, or other unit of local government to contract debts secured by a pledge of its faith and credit unless approved by a majority of the qualified voters of the unit who vote thereon, except for the following purposes:

(a) to fund or refund a valid existing debt;

(b) to supply an unforeseen deficiency in the revenue;

(c) to borrow in anticipation of the collection of taxes due and payable within the current fiscal year to an amount not exceeding 50 per cent of such taxes;

(d) to suppress riots or insurrections;

(e) to meet emergencies immediately threatening the public health or safety, as conclusively determined in writing by the Governor;

(f) for purposes authorized by general laws uniformly applicable throughout the State, to the extent of two-thirds of the amount by which the unit's outstanding indebtedness shall have been reduced during the next preceding fiscal year.

(3) Gift or loan of credit regulated. No county, city or town, special district, or other unit of local government shall give or lend its credit in aid of any person, association, or corporation, except for public purposes as authorized by general law, and unless approved by a majority of the qualified voters of the unit who vote thereon.

(4) Certain debts barred. No county, city or town, or other unit of local government shall assume or pay any debt or the interest thereon contracted directly or indirectly in aid or support of rebellion or insurrection against the United States.

(5) Definitions. A debt is incurred within the meaning of this Section when a county, city or town, special district, or other unit, authority, or agency of local government borrows money. A pledge of faith and credit within the meaning of this Section is a pledge of the taxing power. A loan of credit within the meaning of this Section occurs when a county, city or town, special district, or other unit, authority, or agency of local government exchanges its obligations with or in any way guarantees the debts of an individual, association, or private corporation.

(6) Outstanding debt. Except as provided in subsection (4), nothing in this Section shall be construed to invalidate or impair the obligation of any bond, note, or other evidence of indebtedness outstanding or authorized for issue as of July 1, 1973.

Sec. 5. Acts levying taxes to state objects.

Every act of the General Assembly levying a tax shall state the special object to which it is to be applied, and it shall be applied to no other purpose.

Sec. 6. Inviolability of sinking funds and retirement funds.

(1) Sinking funds. The General Assembly shall not use or authorize to be used any part of the amount of any sinking fund for any purpose other than the retirement of the bonds for which the sinking fund has been created, except that these funds may be invested as authorized by law.

(2) Retirement funds. Neither the General Assembly nor any public officer, employee, or agency shall use or authorize to be used any part of the funds of the Teachers' and State Employees' Retirement System or the Local Governmental Employees' Retirement System for any purpose other than retirement system benefits and purposes, administrative expenses, and refunds; except that retirement system funds may be invested as authorized by law, subject to the investment limitation that the funds of the Teachers' and State Employees' Retirement System and the Local Governmental Employees' Retirement System shall not be applied, diverted, loaned to, or used by the State, any State agency, State officer, public officer, or public employee.

Sec. 7. Drawing public money.

(1) State treasury. No money shall be drawn from the State treasury but in consequence of appropriations made by law, and an accurate account of the receipts and expenditures of State funds shall be published annually.

(2) Local treasury. No money shall be drawn from the treasury of any county, city or town, or other unit of local government except by authority of law.

Sec. 8. Health care facilities.

Notwithstanding any other provisions of this Constitution, the General Assembly may enact general laws to authorize the State, counties, cities or towns, and other State and local governmental entities to issue revenue bonds to finance or refinance for any such governmental entity or any nonprofit private corporation, regardless of any church or religious relationship, the cost of acquiring, constructing, and financing health care facility projects to be operated to serve and benefit the public; provided, no cost incurred earlier than two years prior to the effective date of this section shall be refinanced. Such bonds shall be payable from the revenues, gross or net, of any such projects and any other health care facilities of any such governmental entity or nonprofit private corporation pledged therefor; shall not be secured by a pledge of the full faith and credit, or deemed to create an indebtedness requiring voter approval of any governmental entity; and may be secured by an agreement which may provide for the conveyance of title of, with or without consideration, any such project or facilities to the governmental entity or

nonprofit private corporation. The power of eminent domain shall not be used pursuant hereto for nonprofit private corporations.

Sec. 9. Capital projects for industry.

Notwithstanding any other provision of this Constitution, the General Assembly may enact general laws to authorize counties to create authorities to issue revenue bonds to finance, but not to refinance, the cost of capital projects consisting of industrial, manufacturing and pollution control facilities for industry and pollution control facilities for public utilities, and to refund such bonds.

In no event shall such revenue bonds be secured by or payable from any public moneys whatsoever, but such revenue bonds shall be secured by and payable only from revenues or property derived from private parties. All such capital projects and all transactions therefor shall be subject to taxation to the extent such projects and transactions would be subject to taxation if no public body were involved therewith; provided, however, that the General Assembly may provide that the interest on such revenue bonds shall be exempt from income taxes within the State.

The power of eminent domain shall not be exercised to provide any property for any such capital project.

Sec. 10. Joint ownership of generation and transmission facilities.

In addition to other powers conferred upon them by law, municipalities owning or operating facilities for the generation, transmission or distribution of electric power and energy and joint agencies formed by such municipalities for the purpose of owning or operating facilities for the generation and transmission of electric power and energy (each, respectively, "a unit of municipal government") may jointly or severally own, operate and maintain works, plants and facilities, within or without the State, for the generation and transmission of electric power and energy, or both, with any person, firm, association or corporation, public or private, engaged in the generation, transmission or distribution of electric power and energy for resale (each, respectively, "a co-owner") within this State or any state contiguous to this State, and may enter into and carry out agreements with respect to such jointly owned facilities. For the purpose of financing its share of the cost of any such jointly owned electric generation or transmission facilities, a unit of municipal government may issue its revenue bonds in the manner prescribed by the General Assembly, payable as to both principal and interest solely from and secured by a lien and charge on all or any part of the revenue derived, or to be derived, by such unit of municipal government from the ownership and operation of its electric facilities; provided, however, that no unit of municipal government shall be liable, either jointly or severally, for any acts, omissions or obligations of any co-owner, nor shall any money or property of any unit of municipal government be credited or otherwise applied to the account of any co-owner or be charged with any debt, lien or mortgage as a result of any debt or obligation of any co-owner.

Sec. 11. Capital projects for agriculture.

Notwithstanding any other provision of the Constitution the General Assembly may enact general laws to authorize the creation of an agency to issue revenue bonds to finance the cost of capital projects consisting of agricultural facilities, and to refund such bonds.

In no event shall such revenue bonds be secured by or payable from any public moneys whatsoever, but such revenue bonds shall be secured by and payable only from revenues or property derived from private parties. All such capital projects and all transactions therefor shall be subject to taxation to the extent such projects and transactions would be subject to taxation if no public body were involved therewith; provided, however, that the General Assembly may provide that the interest on such revenue bonds shall be exempt from income taxes within the State.

The power of eminent domain shall not be exercised to provide any property for any such capital project.

Sec. 12. Higher education facilities.

Notwithstanding any other provisions of this Constitution, the General Assembly may enact general laws to authorize the State or any State entity to issue revenue bonds to finance and refinance the cost of acquiring, constructing, and financing higher education facilities to be operated to serve and benefit the public for any nonprofit private corporation, regardless of any church or religious relationship provided no cost incurred earlier than five years prior to the effective date of this section shall be refinanced. Such bonds shall be payable from any revenues or assets of any such nonprofit private corporation pledged therefor, shall not be secured by a pledge of the full faith and credit of the State or such State entity or deemed to create an indebtedness requiring voter approval of the State or such entity, and, where the title to such facilities is vested in the State or any State entity, may be secured by an agreement which may provide for the conveyance of title to, with or without consideration, such facilities to the nonprofit private corporation. The power of eminent domain shall not be used pursuant hereto.

Sec. 13. Seaport and airport facilities.

(1) Notwithstanding any other provision of this Constitution, the General Assembly may enact general laws to grant to the State, counties, municipalities, and other State and local governmental entities all powers useful in connection with the development of new and existing seaports and airports, and to authorize such public bodies:

(a) to acquire, construct, own, own jointly with public and private parties, lease as lessee, mortgage, sell, lease as lessor, or otherwise dispose of lands and facilities and improvements, including undivided interest therein;

(b) to finance and refinance for public and private parties seaport and airport facilities and improvements which relate to, develop or further waterborne or airborne commerce and cargo and passenger traffic, including commercial, industrial, manufacturing, processing, mining, transportation, distribution, storage, marine, aviation and environmental facilities and improvements; and

(c) to secure any such financing or refinancing by all or any portion of their revenues, income or assets or other available monies associated with any of their seaport or airport facilities and with the facilities and improvements to be financed or refinanced, and by foreclosable liens on all or any part of their properties associated with any of their seaport or airport facilities and with the facilities and improvements to be financed or refinanced, but in no event to create a debt secured by a pledge of the faith and credit of the State or any other public body in the State.

Sec. 14. Project development financing.

Notwithstanding Section 4 of this Article, the General Assembly may enact general laws authorizing any county, city, or town to define territorial areas in the county, city, or town and borrow money to be used to finance public improvements associated with private development projects within the territorial areas, as provided in this section. The General Assembly shall set forth by statute the method for determining the size of the territorial area and the issuing unit. This method is conclusive. When a territorial area is defined pursuant to this section, the county shall determine the current assessed value of taxable real and personal property in the territorial area. Thereafter, property in the territorial area continues to be subject to taxation to the same extent and in like manner as property not in the territorial area, but the net proceeds of taxes levied on the excess, if any, of the assessed value of taxable real and personal property in the territorial area at the time the taxes are levied over the assessed value of taxable real and personal

property in the territorial area at the time the territorial area was defined may be set aside. The instruments of indebtedness authorized by this section shall be secured by these set-aside proceeds. The General Assembly may authorize a county, city, or town issuing these instruments of indebtedness to pledge, as additional security, revenues available to the issuing unit from sources other than the issuing unit's exercise of its taxing power. As long as no revenues are pledged other than the set-aside proceeds authorized by this section and the revenues authorized in the preceding sentence, these instruments of indebtedness may be issued without approval by referendum. The county, city, or town may not pledge as security for these instruments of indebtedness any property tax revenues other than the set-aside proceeds authorized in this section, or in any other manner pledge its full faith and credit as security for these instruments of indebtedness unless a vote of the people is held as required by and in compliance with the requirements of Section 4 of this Article.

Notwithstanding the provisions of Section 2 of this Article, the General Assembly may enact general laws authorizing a county, city, or town that has defined a territorial area pursuant to this section to assess property within the territorial area at a minimum value if agreed to by the owner of the property, which agreed minimum value shall be binding on the current owner and any future owners as long as the defined territorial area is in effect. (2003-403, s.1.)

ARTICLE VI
SUFFRAGE AND ELIGIBILITY TO OFFICE

Section 1. Who may vote.

Every person born in the United States and every person who has been naturalized, 18 years of age, and possessing the qualifications set out in this Article, shall be entitled to vote at any election by the people of the State, except as herein otherwise provided.

Sec. 2. Qualifications of voter.

(1) Residence period for State elections. Any person who has resided in the State of North Carolina for one year and in the precinct, ward, or other election district for 30 days next preceding an election, and possesses the other qualifications set out in this Article, shall be entitled to vote at any election held in this State. Removal from one precinct, ward, or other election district to another in this State shall not operate to deprive any person of the right to vote in the precinct, ward, or other election district from which that person has removed until 30 days after the removal.

(2) Residence period for presidential elections. The General Assembly may reduce the time of residence for persons voting in presidential elections. A person made eligible by reason of a reduction in time of residence shall possess the other qualifications set out in this Article, shall only be entitled to vote for President and Vice President of the United States or for electors for President and Vice President, and shall not thereby become eligible to hold office in this State.

(3) Disqualification of felon. No person adjudged guilty of a felony against this State or the United States, or adjudged guilty of a felony in another state that also would be a felony if it had been committed in this State, shall be permitted to vote unless that person shall be first restored to the rights of citizenship in the manner prescribed by law.

(4) Photo identification for voting in person. Voters offering to vote in person shall present photographic identification before voting. The General Assembly shall enact general laws governing the requirements of such photographic identification, which may include exceptions. (2018-128, s. 1.)

Sec. 3. Registration; Voting in Person.

(1) Every person offering to vote shall be at the time legally registered as a voter as herein prescribed and in the manner provided by law. The General Assembly shall enact general laws governing the registration of voters.

(2) Voters offering to vote in person shall present photographic identification before voting. The General Assembly shall enact general laws governing the requirements of such photographic identification, which may include exceptions. (2018-128, s. 2.)

Sec. 4. Qualification for registration.

Every person presenting himself for registration shall be able to read and write any section of the Constitution in the English language.

Sec. 5. Elections by people and General Assembly.

All elections by the people shall be by ballot, and all elections by the General Assembly shall be viva voce. A contested election for any office established by Article III of this Constitution shall be determined by joint ballot of both houses of the General Assembly in the manner prescribed by law.

Sec. 6. Eligibility to elective office.

Every qualified voter in North Carolina who is 21 years of age, except as in this Constitution disqualified, shall be eligible for election by the people to office.

Sec. 7. Oath.

Before entering upon the duties of an office, a person elected or appointed to the office shall take and subscribe the following oath:

"I, _____, do solemnly swear (or affirm) that I will support and maintain the Constitution and laws of the United States, and the Constitution and laws of North Carolina not inconsistent therewith, and that I will faithfully discharge the duties of my office as _____, so help me God."

Sec. 8. Disqualifications for office.

The following persons shall be disqualified for office:

First, any person who shall deny the being of Almighty God.

Second, with respect to any office that is filled by election by the people, any person who is not qualified to vote in an election for that office.

Third, any person who has been adjudged guilty of treason or any other felony against this State or the United States, or any person who has been adjudged guilty of a felony in another state that also would be a felony if it had been committed in this State, or any person who has been adjudged guilty of corruption or malpractice in any office, or any person who has been removed by impeachment from any office, and who has not been restored to the rights of citizenship in the manner prescribed by law.

Sec. 9. Dual office holding.

(1) Prohibitions. It is salutary that the responsibilities of self-government be widely shared among the citizens of the State and that the potential abuse of authority inherent in the holding of multiple offices by an individual be avoided. Therefore, no person who holds any office or place of trust or profit under the United States or any department thereof, or under any other state or government, shall be eligible to hold any office in this State that is filled by election by the people. No person shall hold concurrently any two offices in this State that are filled by election of the people. No person shall hold concurrently any two or more appointive offices or places of trust or profit, or any combination of elective and appointive offices or places of trust or profit, except as the General Assembly shall provide by general law.

(2) Exceptions. The provisions of this Section shall not prohibit any officer of the military forces of the State or of the United States not on active duty for an extensive period of time, any notary public, or any delegate to a Convention of the People from holding concurrently another office or place of trust or profit under this State or the United States or any department thereof.

Sec. 10. Continuation in office.

In the absence of any contrary provision, all officers in this State, whether appointed or elected, shall hold their positions until other appointments are made or, if the offices are elective, until their successors are chosen and qualified.

ARTICLE VII
LOCAL GOVERNMENT

Section 1. General Assembly to provide for local government.

The General Assembly shall provide for the organization and government and the fixing of boundaries of counties, cities and towns, and other governmental subdivisions, and, except as otherwise prohibited by this Constitution, may give such powers and duties to counties, cities and towns, and other governmental subdivisions as it may deem advisable.

The General Assembly shall not incorporate as a city or town, nor shall it authorize to be incorporated as a city or town, any territory lying within one mile of the corporate limits of any other city or town having a population of 5,000 or more according to the most recent decennial census of population taken by order of Congress, or lying within three miles of the corporate limits of any other city or town having a population of 10,000 or more according to the most recent decennial census of population taken by order of Congress, or lying within four miles of the corporate limits of any other city or town having a population of 25,000 or more according to the most recent decennial census of population taken by order of Congress, or lying within five miles of the corporate limits of any other city or town having a population of 50,000 or more according to the most recent decennial census of population taken by order of Congress. Notwithstanding the foregoing limitations, the General Assembly may incorporate a city or town by an act adopted by vote of three-fifths of all the members of each house.

Sec. 2. Sheriffs.

In each county a Sheriff shall be elected by the qualified voters thereof at the same time and places as members of the General Assembly are elected and shall hold his office for a period of four years, subject to removal for cause as provided by law. No person is eligible to serve as Sheriff if that person has been convicted of a felony against this State, the United States, or another state, whether or not that person has been restored to the rights of citizenship in the manner prescribed by law. Convicted of a felony includes the entry of a plea of guilty; a verdict or finding of guilt by a jury, judge, magistrate, or other adjudicating body, tribunal, or official, either civilian or military; or a plea of no contest, nolo contendere, or the equivalent. (2010-49, s. 1)

Sec. 3. Merged or consolidated counties.

Any unit of local government formed by the merger or consolidation of a county or counties and the cities and towns therein shall be deemed both a county and a city for the purposes of this Constitution, and may exercise any authority conferred by law on counties, or on cities and towns, or both, as the General Assembly may provide.

ARTICLE VIII
CORPORATIONS

Section 1. Corporate charters.

No corporation shall be created, nor shall its charter be extended, altered, or amended by special act, except corporations for charitable, educational, penal, or reformatory purposes that are to be and remain under the patronage and control of the State; but the General Assembly shall provide by general laws for the chartering, organization, and powers of all corporations, and for the amending, extending, and forfeiture of all charters, except those above permitted by special act. All such general acts may be altered from time to time or repealed. The General Assembly may at any time by special act repeal the charter of any corporation.

Sec. 2. Corporations defined.

The term "corporation" as used in this Section shall be construed to include all associations and joint-stock companies having any of the powers and privileges of corporations not possessed by individuals or partnerships. All corporations shall have the right to sue and shall be subject to be sued in all courts, in like cases as natural persons.

ARTICLE IX
EDUCATION

Section 1. Education encouraged.

Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools, libraries, and the means of education shall forever be encouraged.

Sec. 2. Uniform system of schools.

(1) General and uniform system: term. The General Assembly shall provide by taxation and otherwise for a general and uniform system of free public schools, which shall be maintained at least nine months in every year, and wherein equal opportunities shall be provided for all students.

(2) Local responsibility. The General Assembly may assign to units of local government such responsibility for the financial support of the free public schools as it may deem appropriate. The governing boards of units of local government with financial responsibility for public education may use local revenues to add to or supplement any public school or post-secondary school program.

Sec. 3. School attendance.

The General Assembly shall provide that every child of appropriate age and of sufficient mental and physical ability shall attend the public schools, unless educated by other means.

Sec. 4. State Board of Education.

(1) Board. The State Board of Education shall consist of the Lieutenant Governor, the Treasurer, and eleven members appointed by the Governor, subject to confirmation by the General Assembly in joint session. The General Assembly shall divide the State into eight educational districts. Of the appointive members of the Board, one shall be appointed from each of the eight educational districts and three shall be appointed from the State at large. Appointments shall be for overlapping terms of eight years. Appointments to fill vacancies shall be made by the Governor for the unexpired terms and shall not be subject to confirmation.

(2) Superintendent of Public Instruction. The Superintendent of Public Instruction shall be the secretary and chief administrative officer of the State Board of Education.

Sec. 5. Powers and duties of Board.

The State Board of Education shall supervise and administer the free public school system and the educational funds provided for its support, except the funds mentioned in Section 7 of this Article, and shall make all needed rules and regulations in relation thereto, subject to laws enacted by the General Assembly.

Sec. 6. State school fund.

The proceeds of all lands that have been or hereafter may be granted by the United States to this State, and not otherwise appropriated by this State or the United States; all moneys, stocks, bonds, and other property belonging to the State for purposes of public education; the net proceeds of all sales of the swamp lands belonging to the State; and all other grants, gifts, and devises that have been or hereafter may be made to the State, and not otherwise appropriated by the State or by the terms of the grant, gift, or devise, shall be paid into the State Treasury and, together with so much of the revenue of the State as may be set apart for that purpose, shall be faithfully appropriated and used exclusively for establishing and maintaining a uniform system of free public schools.

Sec. 7. County school fund; State fund for certain moneys.

(a) Except as provided in subsection (b) of this section, all moneys, stocks, bonds, and other property belonging to a county school fund, and the clear proceeds of all penalties and forfeitures and of all fines collected in the several counties for any breach of the penal laws of the State, shall belong to and remain in the several counties, and shall be faithfully appropriated and used exclusively for maintaining free public schools.

(b) The General Assembly may place in a State fund the clear proceeds of all civil penalties, forfeitures, and fines which are collected by State agencies and which belong to the public schools pursuant to subsection (a) of this section. Moneys in such State fund shall be faithfully appropriated by the General Assembly, on a per pupil basis, to the counties, to be used exclusively for maintaining free public schools. (2003-423, s.1.)

Sec. 8. Higher education.

The General Assembly shall maintain a public system of higher education, comprising The University of North Carolina and such other institutions of higher education as the General Assembly may deem wise. The General Assembly shall provide for the selection of trustees of The University of North Carolina and of the other institutions of higher education, in whom shall be vested all the privileges, rights, franchises, and endowments heretofore granted to or conferred upon the trustees of these institutions. The General Assembly may enact laws necessary and expedient for the maintenance and management of The University of North Carolina and the other public institutions of higher education.

Sec. 9. Benefits of public institutions of higher education.

The General Assembly shall provide that the benefits of The University of North Carolina and other public institutions of higher education, as far as practicable, be extended to the people of the State free of expense.

Sec. 10. Escheats.

(1) Escheats prior to July 1, 1971. All property that prior to July 1, 1971, accrued to the State from escheats, unclaimed dividends, or distributive shares of the estates of deceased persons shall be appropriated to the use of The University of North Carolina.

(2) Escheats after June 30, 1971. All property that, after June 30, 1971, shall accrue to the State from escheats, unclaimed dividends, or distributive shares of the estates of deceased persons shall be used to aid worthy and needy students who are residents of this State and are enrolled in public institutions of higher education in this State. The method, amount, and type of distribution shall be prescribed by law.

ARTICLE X
HOMESTEADS AND EXEMPTIONS

Section 1. Personal property exemptions.

The personal property of any resident of this State, to a value fixed by the General Assembly but not less than $500, to be selected by the resident, is exempted from sale under execution or other final process of any court, issued for the collection of any debt.

Sec. 2. Homestead exemptions.

(1) Exemption from sale; exceptions. Every homestead and the dwellings and buildings used therewith, to a value fixed by the General Assembly but not less than $1,000, to be selected by the owner thereof, or in lieu thereof, at the option of the owner, any lot in a city or town with the dwellings and buildings used thereon, and to the same value, owned and occupied by a resident of the State, shall be exempt from sale under execution or other final process obtained on any debt. But no property shall be exempt from sale for taxes, or for payment of obligations contracted for its purchase.

(2) Exemption for benefit of children. The homestead, after the death of the owner thereof, shall be exempt from the payment of any debt during the minority of the owner's children, or any of them.

(3) Exemption for benefit of surviving spouse. If the owner of a homestead dies, leaving a surviving spouse but no minor children, the homestead shall be exempt from the debts of the owner, and the rents and profits thereof shall inure to the benefit of the surviving spouse until he or she remarries, unless the surviving spouse is the owner of a separate homestead.

(4) Conveyance of homestead. Nothing contained in this Article shall operate to prevent the owner of a homestead from disposing of it by deed, but no deed made by a married owner of a homestead shall be valid without the signature and acknowledgement of his or her spouse.

Sec. 3. Mechanics' and laborers' liens.

The General Assembly shall provide by proper legislation for giving to mechanics and laborers an adequate lien on the subject-matter of their labor. The provisions of Sections 1 and 2 of this Article shall not be so construed as to prevent a laborer's lien for work done and performed for the person claiming the exemption or a mechanic's lien for work done on the premises.

Sec. 4. Property of married women secured to them.

The real and personal property of any female in this State acquired before marriage, and all property, real and personal, to which she may, after marriage, become in any manner entitled, shall be and remain the sole and separate estate and property of such female, and shall not be liable for any debts, obligations, or engagements of her husband, and may be devised and bequeathed and conveyed by her, subject to such regulations and limitations as the General Assembly may prescribe. Every married woman may exercise powers of attorney conferred upon her by her husband, including the power to execute and acknowledge deeds to property owned by herself and her husband or by her husband.

Sec. 5. Insurance.

A person may insure his or her own life for the sole use and benefit of his or her spouse or children or both, and upon his or her death the proceeds from the insurance shall be paid to or for the benefit of the spouse or children or both, or to a guardian, free from all claims of the representatives or creditors of the insured or his or her estate. Any insurance policy which insures the life of a person for the sole use and benefit of that person's spouse or children or both shall not be subject to the claims of creditors of the insured during his or her lifetime, whether or not

the policy reserves to the insured during his or her lifetime any or all rights provided for by the policy and whether or not the policy proceeds are payable to the estate of the insured in the event the beneficiary or beneficiaries predecease the insured.

ARTICLE XI
PUNISHMENTS, CORRECTIONS, AND CHARITIES

Section 1. Punishments.

The following punishments only shall be known to the laws of this State: death, imprisonment, fines, suspension of a jail or prison term with or without conditions, restitution, community service, restraints on liberty, work programs, removal from office, and disqualification to hold and enjoy any office of honor, trust, or profit under this State. (1995, c. 429, s. 2.)

Sec. 2. Death punishment.

The object of punishments being not only to satisfy justice, but also to reform the offender and thus prevent crime, murder, arson, burglary, and rape, and these only, may be punishable with death, if the General Assembly shall so enact.

Sec. 3. Charitable and correctional institutions and agencies.

Such charitable, benevolent, penal, and correctional institutions and agencies as the needs of humanity and the public good may require shall be established and operated by the State under such organization and in such manner as the General Assembly may prescribe.

Sec. 4. Welfare policy; board of public welfare.

Beneficent provision for the poor, the unfortunate, and the orphan is one of the first duties of a civilized and a Christian state. Therefore the General Assembly shall provide for and define the duties of a board of public welfare.

ARTICLE XII
MILITARY FORCES

Section 1. Governor is Commander in Chief.

The Governor shall be Commander in Chief of the military forces of the State and may call out those forces to execute the law, suppress riots and insurrections, and repel invasion.

ARTICLE XIII
CONVENTIONS; CONSTITUTIONAL AMENDMENT AND REVISION

Section 1. Convention of the People.

No Convention of the People of this State shall ever be called unless by the concurrence of two-thirds of all the members of each house of the General Assembly, and unless the proposition "Convention or No Convention" is first submitted to the qualified voters of the State at the time and in the manner prescribed by the General Assembly. If a majority of the votes cast upon the proposition are in favor of a Convention, it shall assemble on the day prescribed by the General Assembly. The General Assembly shall, in the act submitting the convention proposition, propose limitations upon the authority of the Convention; and if a majority of the votes cast upon the proposition are in favor of a Convention, those limitations shall become binding upon the Convention. Delegates to the Convention shall be elected by the qualified voters at the time and in the manner prescribed in the act of submission. The Convention shall consist of a number of delegates equal to the membership of the House of Representatives of the General Assembly that submits the convention proposition and the delegates shall be apportioned as is the House of Representatives. A Convention shall adopt no ordinance not necessary to the purpose for which the Convention has been called.

Sec. 2. Power to revise or amend Constitution reserved to people.

The people of this State reserve the power to amend this Constitution and to adopt a new or revised Constitution. This power may be exercised by either of the methods set out hereinafter in this Article, but in no other way.

Sec. 3. Revision or amendment by Convention of the People.

A Convention of the People of this State may be called pursuant to Section 1 of this Article to propose a new or revised Constitution or to propose amendments to this Constitution. Every new or revised Constitution and every constitutional amendment adopted by a Convention shall be submitted to the qualified voters of the State at the time and in the manner prescribed by the Convention. If a majority of the votes cast thereon are in favor of ratification of the new or revised Constitution or the constitutional amendment or amendments, it or they shall become effective January first next after ratification by the qualified voters unless a different effective date is prescribed by the Convention.

Sec. 4. Revision or amendment by legislative initiation.

A proposal of a new or revised Constitution or an amendment or amendments to this Constitution may be initiated by the General Assembly, but only if three-fifths of all the members of each house shall adopt an act submitting the proposal to the qualified voters of the State for their ratification or rejection. The proposal shall be submitted at the time and in the manner prescribed by the General Assembly. If a majority of the votes cast thereon are in favor of the proposed new or revised Constitution or constitutional amendment or amendments, it or they shall become effective January first next after ratification by the voters unless a different effective date is prescribed in the act submitting the proposal or proposals to the qualified voters.

ARTICLE XIV
MISCELLANEOUS

Section 1. Seat of government.

The permanent seat of government of this State shall be at the City of Raleigh.

Sec. 2. State boundaries.

The limits and boundaries of the State shall be and remain as they now are.

Sec. 3. General laws defined.

Whenever the General Assembly is directed or authorized by this Constitution to enact general laws, or general laws uniformly applicable throughout the State, or general laws uniformly applicable in every county, city and town, and other unit of local government, or in every local court district, no special or local act shall be enacted concerning the subject matter directed or authorized to be accomplished by general or uniformly applicable laws, and every amendment or repeal of any law relating to such subject matter shall also be general and uniform in its effect throughout the State. General laws may be enacted for classes defined by population or other criteria. General laws uniformly applicable throughout the State shall be made applicable without classification or exception in every unit of local government of like kind, such as every county, or every city and town, but need not be made applicable in every unit of local government in the State. General laws uniformly applicable in every county, city and town, and other unit of local government, or in every local court district, shall be made applicable without classification or exception in every unit of local government, or in every local court district, as the case may be. The General Assembly may at any time repeal any special, local, or private act.

Sec. 4. Continuity of laws; protection of office holders.

The laws of North Carolina not in conflict with this Constitution shall continue in force until lawfully altered. Except as otherwise specifically provided, the adoption of this Constitution shall not have the effect of vacating any office or term of office now filled or held by virtue of any election or appointment made under the prior Constitution of North Carolina and the laws of the State enacted pursuant thereto.

Sec. 5. Conservation of natural resources.

It shall be the policy of this State to conserve and protect its lands and waters for the benefit of all its citizenry, and to this end it shall be a proper function of the State of North Carolina and its political subdivisions to acquire and preserve park, recreational, and scenic areas, to control and limit the pollution of our air and water, to control excessive noise, and in every other appropriate way to preserve as a part of the common heritage of this State its forests, wetlands, estuaries, beaches, historical sites, openlands, and places of beauty.

To accomplish the aforementioned public purposes, the State and its counties, cities and towns, and other units of local government may acquire by purchase or gift properties or interests in properties which shall, upon their special dedication to and acceptance by a law enacted by a vote of three-fifths of the members of each house of the General Assembly for those public purposes, constitute part of the 'State Nature and Historic Preserve,' and which shall not be used for other purposes except as authorized by law enacted by a vote of three-fifths of the members of each house of the General Assembly. The General Assembly shall prescribe by general law the conditions and procedures under which such properties or interests therein shall be dedicated for the aforementioned public purposes. (1971, c. 630, s. 1; S.L. 1999-268, ss 3-5; S.L. 2001-217, s. 3; S.L. 2002-3 Extra Session.)

Sec. 6. Marriage.

Marriage between one man and one woman is the only domestic legal union that shall be valid or recognized in this State. This section does not prohibit a private party from entering into contracts with another private party; nor does this section prohibit courts from adjudicating the rights of private parties pursuant to such contracts. (2011-409, s. 1)

KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

West's North Carolina General Statutes Annotated
Chapter 120. General Assembly
Article 1. Apportionment of Members; Compensation and Allowances

N.C.G.S.A. § 120-2.4

§ 120-2.4. Opportunity for General Assembly to remedy defects

Effective: December 27, 2018
Currentness

(a) If the General Assembly enacts a plan apportioning or redistricting State legislative or congressional districts, in no event may a court impose its own substitute plan unless the court first gives the General Assembly a period of time to remedy any defects identified by the court in its findings of fact and conclusions of law. That period of time shall not be less than two weeks, provided, however, that if the General Assembly is scheduled to convene legislative session within 45 days of the date of the court order that period of time shall not be less than two weeks from the convening of that legislative session.

(a1) In the event the General Assembly does not act to remedy any identified defects to its plan within that period of time, the court may impose an interim districting plan for use in the next general election only, but that interim districting plan may differ from the districting plan enacted by the General Assembly only to the extent necessary to remedy any defects identified by the court.

(b) Notwithstanding any other provision of law or authority of the Bipartisan State Board of Elections and Ethics Enforcement under Subchapter III of Chapter 163A of the General Statutes, the Bipartisan State Board of Elections and Ethics Enforcement shall have no authority to alter, amend, correct, impose, or substitute any plan apportioning or redistricting State legislative or congressional districts other than a plan imposed by a court under this section or a plan enacted by the General Assembly.

Credits
Added by S.L. 2003-434 (Ex. Sess.), § 9, eff. Nov. 25, 2003. Amended by S.L. 2016-125, § 20(a), eff. Dec. 16, 2016; S.L. 2018-146, § 4.7, eff. Dec. 27, 2018.

Notes of Decisions (1)

N.C.G.S.A. § 120-2.4, NC ST § 120-2.4
The statutes and Constitution are current through S.L. 2021-161, of the 2021 Regular Session of the General Assembly, subject to changes made pursuant to direction of the Revisor of Statutes.

End of Document

West's North Carolina General Statutes Annotated
Chapter 7A. Judicial Department
Subchapter II. Appellate Division of the General Court of Justice
Article 5. Jurisdiction (Refs & Annos)

N.C.G.S.A. § 7A-31

§ 7A-31. Discretionary review by the Supreme Court

Effective: April 26, 2017
Currentness

(a) In any cause in which appeal is taken to the Court of Appeals, including any cause heard while the Court of Appeals was sitting en banc, except a cause appealed from the North Carolina Industrial Commission, the North Carolina State Bar pursuant to G.S. 84-28, the Property Tax Commission pursuant to G.S. 105-345, the Board of State Contract Appeals pursuant to G.S. 143-135.9,[1] the Commissioner of Insurance pursuant to G.S. 58-2-80 or G.S. 58-65-131(c), a court-martial pursuant to G.S. 127A-62, a motion for appropriate relief, or valuation of exempt property pursuant to G.S. 7A-28, the Supreme Court may, in its discretion, on motion of any party to the cause or on its own motion, certify the cause for review by the Supreme Court, either before or after it has been determined by the Court of Appeals. A cause appealed to the Court of Appeals from any of the administrative bodies listed in the preceding sentence may be certified in similar fashion, but only after determination of the cause in the Court of Appeals. The effect of such certification is to transfer the cause from the Court of Appeals to the Supreme Court for review by the Supreme Court. If the cause is certified for transfer to the Supreme Court before its determination in the Court of Appeals, review is not had in the Court of Appeals but the cause is forthwith transferred for review in the first instance by the Supreme Court. If the cause is certified for transfer to the Supreme Court after its determination by the Court of Appeals, the Supreme Court reviews the decision of the Court of Appeals.

Except in courts-martial and motions within the purview of G.S. 7A-28, the State may move for certification for review of any criminal cause, but only after determination of the cause by the Court of Appeals.

(b) In causes subject to certification under subsection (a) of this section, certification may be made by the Supreme Court before determination of the cause by the Court of Appeals when in the opinion of the Supreme Court any of the following apply:

(1) The subject matter of the appeal has significant public interest.

(2) The cause involves legal principles of major significance to the jurisprudence of the State.

(3) Delay in final adjudication is likely to result from failure to certify and thereby cause substantial harm.

(4) The work load of the courts of the appellate division is such that the expeditious administration of justice requires certification.

(5) The subject matter of the appeal is important in overseeing the jurisdiction and integrity of the court system.

(c) In causes subject to certification under subsection (a) of this section, certification may be made by the Supreme Court after determination of the cause by the Court of Appeals when in the opinion of the Supreme Court any of the following apply:

(1) The subject matter of the appeal has significant public interest.

(2) The cause involves legal principles of major significance to the jurisprudence of the State.

(3) The decision of the Court of Appeals appears likely to be in conflict with a decision of the Supreme Court.

Interlocutory determinations by the Court of Appeals, including orders remanding the cause for a new trial or for other proceedings, shall be certified for review by the Supreme Court only upon a determination by the Supreme Court that failure to certify would cause a delay in final adjudication which would probably result in substantial harm.

(d) The procedure for certification by the Supreme Court on its own motion, or upon petition of a party, shall be prescribed by rule of the Supreme Court.

Credits

Added by Laws 1967, c. 108, § 1. Amended by Laws 1969, c. 1044; Laws 1975, c. 555; Laws 1977, c. 711, § 5; Laws 1981, c. 470, § 2; Laws 1981 (Reg. Sess., 1982), c. 1224, § 17; Laws 1981 (Reg. Sess., 1982), c. 1253, § 1; Laws 1983, c. 526, § 3; Laws 1983, c. 761, § 189; S.L. 2010-193, § 19, eff. Dec. 1, 2010; S.L. 2016-125, § 22(d), eff. Dec. 16, 2016; S.L. 2017-7, § 3, eff. April 26, 2017.

Notes of Decisions (100)

Footnotes

1 So in original. The provisions for the Board of State Contract Appeals, provided for under § 143-135.10 et seq., have been repealed.

N.C.G.S.A. § 7A-31, NC ST § 7A-31

The statutes and Constitution are current through S.L. 2021-161, of the 2021 Regular Session of the General Assembly, subject to changes made pursuant to direction of the Revisor of Statutes.

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02:18:09 distort the way that the votes cast by citizens of North
02:18:13 Carolina are translated into seats in different ways. When
02:18:17 we do that aggregate analysis, it allows for that comparison
02:18:22 of vote weights across the entire state.
02:18:25 MS. RIGGS: No further questions. Thank you.
02:18:28 MR. FARR: My turn?
02:18:31 No further questions, Your Honor.
02:18:33 JUDGE SHIRLEY: All right. You may be excused,
02:18:34 sir. Thank you.
02:18:36 THE WITNESS: Thank you.
02:18:37 JUDGE SHIRLEY: You may call your next witness.
02:19:11 MR. BRADFORD: Good afternoon, Your Honor.
02:19:14 JUDGE SHIRLEY: Good afternoon.
02:19:14 MR. BRADFORD: Benjamin Bradford, Jenner & Block,
02:19:16 on behalf of the Plaintiffs. The Plaintiffs call Dr. Moon
02:19:32 Duchin next to the stand.
02:19:54 THEREUPON,
02:19:54 MOON DUCHIN, Ph.D.,
02:19:54 having been called as a witness by and for the Plaintiffs,
02:19:54 and having been duly sworn, was examined and testified as
02:19:54 follows:
02:19:54 DIRECT EXAMINATION BY MR. BRADFORD:
02:19:55 Q. Good afternoon, Professor. Can you please
02:19:57 introduce yourself today.
02:20:00 A. Sure. Hi, my name is Moon Duchin. I'm a

professor of mathematics and a senior fellow in the College of Civic Life at Tufts University.

Q. And, Dr. Duchin, you submitted an opening and rebuttal report in this matter; is that correct?

A. That's right. I think it was three submissions in all.

(Plaintiffs' Exhibit 151 identified.)

Q. Let's start with your opening report and specifically turn to the CV that you attached to that. I think that's Exhibit 151. If you'd like to turn to it too, I think we're going to get it up on the screen in a second.

As we're working on that, Professor Duchin, can you please just tell us a little bit about your professional background.

A. Sure. There it is. So I hold a bachelor's degree jointly in mathematics and women's studies from Harvard University and then a master's and Ph.D. from the University of Chicago.

Q. And can you please tell us about your professional background as well.

A. After a number of postdoctoral positions, I've been on the faculty at Tufts University since 2011. As you've heard, now I'm a professor and hold several courtesy appointments and work in the College of Civics where I also run a lab. So I'm the PI of the MGGG Redistricting Lab,

which is a interdisciplinary lab that works on redistricting problems.

Q. And do you have any areas of research that specifically are relevant to the matter at hand?

A. Yes. Broadly, I look at geometry computation in redistricting.

Q. Have you received any awards related to redistricting?

A. Yes. First, for the theoretical math research, I was named a fellow of the American Mathematical Society in 2017, and then in 2018 received fellowships from the Guggenheim Foundation and the Radcliffe Institute specifically for my work on redistricting.

Q. Have you published any peer-reviewed articles in the area of redistricting?

A. Yes, quite a few at this point. I think those are on the next few pages of the CV, but a representative selection of venues that they've appeared in would be Election Law Journal, Foundations of Data Science, Political Analysis, Statistics and Public Policy, and so on.

Q. Do you have any other experience where you've assessed the characteristics of redistricting maps?

A. Yes, I've done that widely both in publications and helping various line-drawing bodies around the country.

Q. Lastly, now that we have your CV up in front of

everyone, is this a true and accurate copy of your current CV?

A. Yes, it is.

MR. BRADFORD: I'd like to tender Dr. Moon Duchin as an expert on the area of redistricting.

MR. LEWIS: No objections from the Legislative Defendants.

JUDGE SHIRLEY: So admitted.

Q. Dr. Duchin, we previously talked about how you have a couple reports in this matter. I'd like to take you through a few of the highlights from this. In particular, what were you asked to do in this case?

A. So the principal question I was asked to study is look at the Enacted Map for the North Carolina Congress, state Senate and state House and to try to understand them particularly through the lens of partisan fairness and racial vote dilution, especially in contrast to an alternative set of maps that I called the LCV, or League of Conservation Voters, maps which, again, were at all three levels. So I looked at six maps in all.

Q. Are you familiar about ensemble analysis? We've heard a lot about that so far in this case.

A. We certainly have. Yes, I am quite familiar, and I'm a practitioner of that method.

Q. And did you do ensemble analysis in your opening

report here?

A. No, there's no -- my opening report does not rely in any way on an ensemble analysis.

Q. Okay. Why not?

A. Well, I used a different method which I take to be quite helpful for the question at hand, and that method is to take those plans that I want to study and just to overlay them on a sequence of elections.

Q. And so why is that different or -- why is it unnecessary to do an ensemble analysis for the questions that you were trying to answer?

A. Well, I think ensemble analysis can be quite helpful, as we've heard, but I'll talk about the method that I chose to focus on, why I think it's quite helpful and gives a different point of view.

There are two reasons that this overlay method works quite well here. One is that it doesn't require any assumptions about, you know, statistical modeling predictive of how elections will combine. You don't have to create one of these vote indices we've been hearing about. You simply look at naturalistically observed elections in North Carolina over the last 10 years.

What's especially sort of valuable in this case is just how many of those there are. So there are 52 statewide general elections with a partisan ID that you have to work

02:25:27 with, and that's a very rich dataset to use.

02:25:31 Q. You talked about earlier how your analysis focused

02:25:35 on evaluating two sets of maps here. What criteria did you

02:25:38 use in evaluating those maps?

02:25:41 A. Right. Well, I was examining those maps for their

02:25:43 partisan properties and for the minority opportunity to

02:25:46 elect, but in doing so was also making sure that they uphold

02:25:51 all the traditional districting principles and all the

02:25:55 principles operative in North Carolina law.

02:26:06 Q. And when you talked about the overlaying

02:26:09 methodology, have you used that methodology in the past?

02:26:15 A. Oh, certainly.

02:26:16 Q. And is it widely accepted in the field of

02:26:19 redistricting?

02:26:20 A. Yeah. I would go so far as to say it's

02:26:22 ubiquitous.

02:26:25 Q. Okay. And why did you choose to use that here?

02:26:29 A. Well, so I've already mentioned that -- some of

02:26:31 the merits of overlay specifically for North Carolina. So,

02:26:35 again, we have a rich body of elections to choose from and

02:26:39 that allows us to watch as electoral conditions vary over

02:26:43 the course of a census cycle.

02:26:48 Q. After conducting that analysis, did you reach any

02:26:52 conclusions as to -- with any reasonable degree of

02:26:59 professional certainty about the Enacted Maps?

02:27:02 A. I did. I find them to exhibit and to entrench a
02:27:07 quite large partisan skew. I find them dilutive of
02:27:12 minority, racial -- excuse me, minority and thereby racial
02:27:15 opportunity to elect candidates of choice, and I think that,
02:27:19 especially in contrast to the alternative plans, we can see
02:27:23 that those can be addressed with no cost to the other
02:27:29 important principles.
02:27:31 Q. And after conducting your analysis, did you reach
02:27:32 any conclusions with a reasonable degree of professional
02:27:35 certainty as to whether the political geography played a
02:27:39 role in selecting a map that treats Democratic and
02:27:42 Republican votes evenhandedly?
02:27:44 A. Right. I think that's a crucial element of a good
02:27:47 redistricting analysis is to try to understand the political
02:27:49 geography. And so what we mean by that is, as you've heard,
02:27:53 it can really matter where the votes fall. It's not just a
02:27:58 question of how many votes there are in the state, but since
02:28:00 redistricting is fundamentally geographical, it matters how
02:28:04 those votes are laid out, and I've seen that effect in the
02:28:08 past. And so I set out to understand if geography in North
02:28:13 Carolina was -- was mandating or in some way entailing the
02:28:18 degree of partisan skew that I found, and it does not. You
02:28:23 can see this by looking at the alternative maps, but I would
02:28:26 also contrast this with other cases that I've seen.
02:28:29 So, for instance, in a paper from 2019 in the

02:28:33 Election Law Journal, I looked at the same thing in my home
02:28:36 state of Massachusetts, and there I found an actual lockout
02:28:42 imposed by the political geography. It turns out that based
02:28:45 on where Democratic and Republican votes fall in
02:28:47 Massachusetts, even though Republicans are frequently
02:28:51 getting a third of the statewide votes in a range of
02:28:55 elections, it's actually impossible to draw a Congressional
02:28:58 district that would have a Republican majority for a wide
02:29:02 range of years, and the reason for this is sheerly
02:29:05 geographical. It's where those votes fall. And my
02:29:08 collaborators and I were able to show that it's on the nose
02:29:11 of impossible to draw a districting plan that gets that
02:29:16 Republican outcome. That's not the case here in North
02:29:18 Carolina. And the most vivid expression of that, as I focus
02:29:22 on in my reports, is the alternative plans themselves.
02:29:25 Q. Thank you.
02:29:26 I'd like to move on now. You talked about how
02:29:28 you -- the criteria that you evaluated the various maps by,
02:29:32 and let's just talk about those criteria. I think the first
02:29:36 that you've covered in your report on page 12 -- which can
02:29:40 you please bring that up -- is population balance. What
02:29:43 conclusions did you reach with regard to the Enacted Maps
02:29:48 versus the alternative maps on the population balance
02:29:51 criteria?
02:29:52 A. Sure. I'll be brief because we've already heard

about one person deviation at the Congressional level and five percent at the level of legislative districts, and you can see that all six plans meet those standards.

Q. I think the next fact you considered was contiguity, which is on page 13. What were your conclusions with regard to that?

A. Equally brief, all six plans are contiguous.

Q. The third factor you considered was compactness; is that correct?

A. That's right.

Q. What conclusions did you reach with regard to compactness, which I believe is on page 13 of your report? If that can be brought up.

A. It was on the Table 4 on the last page. It was just up. Perfect.

Q. I think you had it right there.

A. Yeah, thanks. Well, I'll say while we're bringing it up just that it turns out that the alternative plans are appreciably more compact.

Q. And is that numerically shown there in Table 4?

A. Yeah. Now, trying to understand compactness can be overwhelming because the literature contains at least 35 different metrics that you can use to measure the shapes of districts. And so here I've highlighted three, and they are three quite different kinds of compactness metrics: average

Polsby-Popper, average Reock --

(Interruption by the court reporter.)

A. I'm sorry. It's called the average Polsby-Popper score, that's P-o-l-s-b-y, P-o-p-p-e-r.

So average Polsby-Popper, that's the single-most frequently cited in redistricting. I've also got here the average Reock score, R-e-o-c-k, and that's another contour-based metric. It looks at the outline of a district, very commonly cited in redistricting. And then I have a third score here just to give a different point of view, which is called the block cut edges. And that's a plan-wide score that's more discrete. It looks at the units of redistricting.

The point I'm trying to make here is three different points of view, three different levels of comparison, same story across the board. The alternative maps, considerably more compact by all these points of view.

Q. Thank you.

And so let's just cover one more criteria that I think has been discussed a decent amount, which is the respect for political subdivisions. I think that's on page 17 of your report. What conclusions did you reach with regard to that criteria?

A. Sure. Right. So here's a table to show you the numbers, but broadly, I would say with respect to county

02:32:32 pieces, with respect to municipal pieces and with respect to
02:32:36 traversals, I see a lot of similarity here. The numbers are
02:32:40 often pretty close between the enacted and the alternative
02:32:44 plans except a few places where the alternative plans are
02:32:47 superior.
02:32:48 Q. And so, Dr. Duchin, taking all of the criteria
02:32:52 that you've considered, including the ones we've talked
02:32:54 about today, what conclusions did you draw?
02:32:57 A. Taken together, the alternative plans are at least
02:33:00 as good from all these points of view and sometimes
02:33:03 considerably better, especially when it comes to
02:33:05 compactness.
02:33:06 Q. One of the issues that you covered in your reports
02:33:11 was the relative partisanship of the Enacted Maps and the
02:33:15 alternative maps; is that right?
02:33:17 A. Yes.
02:33:20 Q. Can we turn -- Let's turn to that for discussion.
02:33:22 What issues particularly did you analyze with regard to
02:33:25 partisanship?
02:33:28 A. So what I looked at is in this large set of recent
02:33:32 elections how are votes translating to seats. That's the
02:33:36 classic question of representation. And so here's a table
02:33:39 that I hope is helpful. It's got all those 52 elections, so
02:33:44 those are the rows in this table, and it's showing you the
02:33:47 vote, and then it's showing you as you overlay those six

02:33:51 plans how many seats have more Democratic than Republican
02:33:54 votes.
02:33:57 Q. Thank you.
02:33:57 So let's focus -- it's sort of hard to read
02:34:01 because it's got a lot of rows.
02:34:03 A. I'll help you.
02:34:03 Q. Let's just focus on the top row for a second
02:34:05 because I think we can zoom in on that top row to get the
02:34:10 various headers and information. Can you walk us through
02:34:14 what's in that top row?
02:34:16 A. Sure. So these 52 elections, I've listed them
02:34:20 from the lowest to the highest Democratic vote share. So at
02:34:24 the top is the governor's race of 2012, which was the most
02:34:27 favorable to Republicans of all these elections. Democrats
02:34:30 have only 44.18 percent of the vote. Then what you see
02:34:36 across the columns is how many seats would Democrats have
02:34:40 under the different plans.
02:34:43 Q. So -- please keep going.
02:34:44 A. Okay. Thanks. So let's look at the Congressional
02:34:47 numbers. The Enacted Plan has four seats for Democrats, and
02:34:52 so too does the alternative plan. And then in the Senate
02:34:56 where there were 50 seats in the body, the number of seats
02:34:58 for Democrats is 16 in the Enacted Plan versus 18 in the
02:35:02 alternative plan. Finally, the House, which has 120 seats,
02:35:06 we see 41 or 44.

02:35:08 Q. And -- and so now, if we sort of zoom back out for
02:35:12 a second so we get a big picture of what's on there, what
02:35:15 conclusions can you draw from the table as a whole?
02:35:20 A. Here's what I see when I look at this table:
02:35:22 First, I see how close the elections have been here in North
02:35:26 Carolina over a 10-year span. So I highlighted with this
02:35:31 yellow box the ones that are a six-point margin or closer at
02:35:34 the statewide level. So that's 53-47 or closer. And as you
02:35:38 can see, that's the bulk of the elections.
02:35:41 As your eye runs down from top to bottom in this
02:35:44 table, what's happening is that the elections are getting
02:35:47 progressively more favorable to Democrats. And so if the
02:35:51 map is responding to those preferences, you should see the
02:35:54 Democratic representation start to rise as you go down the
02:35:58 list. And that is what happens in the alternative plans,
02:36:01 and that is, I think you'd say, stubbornly resisted in the
02:36:06 Enacted Plans. Particularly, let's look at the
02:36:09 Congressional level where you see that they start out both
02:36:13 giving four seats to Democrats. The alternative plan ticks
02:36:16 up to five, six, seven, and so on while that Enacted Plan
02:36:20 stays there at the level of four seats across a wide range
02:36:24 of electoral conditions.
02:36:27 Q. Dr. Duchin, you've got a big bright-yellow box in
02:36:30 there too. Why do you have that?
02:36:32 A. Oh, so as I just mentioned, that's there to

highlight just how many of those elections have a six-point margin or closer at the state level and that's really most of them.

I would add one more thing about what we can see from this table. So in my report I identify two what, I think we agree, are very basic principles of how representative democracy can function well. One is majority rule. Now, importantly, that doesn't mean that the party with more votes will always get more seats, but it means that when a map is designed to thwart that, we shouldn't accept it. So majority rule, in other words, whoever has more votes should generally have more seats, and then as a correlator kind of byproduct of that, close votes should give you close seats. So when you have a narrowly even vote, as happened so often here in North Carolina, you should really hope to get a narrowly even representational outcome. And that's what we see in the alternative plans here and what the Enacted Plans just don't deliver.

Q. And so going back for one second, we talked right at the beginning about the governor 2012 election results. Are there any other governor results or anything else that we should look at for comparison sake?

A. Yeah. This is the full dataset. It does include, by the way, those judicial elections that you heard about earlier. And we could look at the three governor's races

02:37:59 1 that happened at four-year increments. Thanks.
02:38:03 2 Right. So here, highlighting governor '12,
02:38:05 3 governor '16 and '20, I'll just briefly observe what's
02:38:10 4 happening is that the Democratic vote share has -- has
02:38:12 5 ticked up from 44 to just about 50, very close to even, to
02:38:17 6 over 52 percent. And everyone here will remember this
02:38:22 7 governor's race of 2020, it's very recent, in which Governor
02:38:24 8 Cooper won, in the end fairly decisive.
02:38:29 9 What you see in the alternative Congressional plan
02:38:32 10 is that the share of the delegation that would be won by
02:38:37 11 Democrats under that vote pattern does just what you'd hope.
02:38:41 12 It goes up from four to seven and a little past seven to
02:38:44 13 eight, while the Enacted Plan just stays right there at four
02:38:47 14 seats. So that's about 28.5 percent of the representation,
02:38:51 15 if you're keeping track, even under a decisive Democratic
02:38:55 16 preference.
02:38:56 17 Q. Thank you.
02:38:59 18 Dr. Duchin, moving on from this big chart for a
02:39:02 19 second, did you create any other visualizations of this
02:39:06 20 data?
02:39:06 21 A. Yeah. And actually, you know, maybe there's one
02:39:08 22 more quick thing I --
02:39:10 23 Q. Yeah, please.
02:39:10 24 A. -- can note before we move on from this visual.
02:39:13 25 So I was emphasizing before that majority rule

doesn't mean you can secure always the majority outcome. And I would actually note what you can see here is that the alternative plans, while they tend to give the majority of the body -- the majority of the seats to the party with the majority of the votes, notice that in that governor '16 race, which is that really close one, 50.11, there's still only 58 Democratic seats at the House level where 60 is half of the body. So you're not going to be able to design a map that gives the majority outcome all of the time, but as we're about to see, you can do that in the main, and you should.

Q. Okay. Well, please take us there. Is this your other visualizations?

A. Yeah. So if we go to the next page, the exact same data is plotted. Great. And let's -- yes, thank you. Let's focus on this Congressional map first.

So what you're seeing here is just all of that same information at the Congressional level, but now visual. And so the maroon dots are the data points when you overlay the Enacted Plan on elections and the green dots for the League of Conservation Voters, the alternative plan.

Q. And just for the record, we're looking at one of the graphs from Figure 2 of your report; is that correct?

A. If memory serves.

Q. Okay. And so, Dr. Duchin, you have these big,

thick, gray lines. What do those represent?

A. Right. Well, first what you see on the X axis here is the vote share. So that's that question Democrats secured what share of the statewide vote. And so you can see it usually falling between about 44 and about 54. And then on the Y axis you see the number of Democratic seats. And so what are those thick lines? They're halfway in each of those two axes. So one is marked at the 50 percent vote share and one at 50 percent of the Congressional delegation, which is seven seats.

Q. Okay. And then separately you have those diagonal lines. What are those?

A. Right. So those are just straight lines of various slopes through that central point. And what they're doing here is to emphasize there are various norms out there for partisan fairness. For instance, proportionality, which tells you that you should follow a line of a certain slope. Some people like the efficiency gap standard, which centers on a line of a different slope. And really they're here to say that that's not the norm that I focused on. I'm not choosing between those competing norms. Reasonable people can have different preferences. Instead, I focused on something that all those norms have in common, which is that close votes should secure close seats.

The way to see that here is to look at that kind

of bull's-eye in the center. It says that for things that are -- for elections that are sufficiently close in vote terms, you shouldn't consistently miss that target to the north or the south, and it's even more telling if you're always missing it to one side. And that's exactly what you see with the Enacted Plans. That's those maroon dots. If they're trying to aim for the center, their aim is off because they're always missing it to the south, in other words, depressed electoral opportunity for Democrats.

Q. Okay. And then, Dr. Duchin, we looked previously -- we discussed previously that governor 2020 election. Can you find that on this chart for us?

A. Yes, I can. So that's the recent election that had just over 52 percent vote share. So start with that maroon dot -- yep, bottom row. Exactly, that's the one. So you can see that that's the corresponding dot for the Enacted Map because it's over 52 percent vote share and it's four seats, which is exactly what we remember from the Enacted Plan's performance.

Q. And then is there a corresponding green dot for that?

A. There is. So for every election there is a pair. And so we can find that at the eight-seat outcome and just about -- perfect. And then one way to confirm that we've got the right pairing here is to drop a long box down and

02:43:25 just make sure that they line up, and they do. Thank you so
02:43:27 much. And so we can see here same vote share and then a
02:43:32 four-seat gap in the seats that would be secured.
02:43:36 Q. Okay. Between the Enacted Plan and the
02:43:38 alternative plan?
02:43:38 A. Yes, exactly. Thank you.
02:43:41 Q. Dr. Duchin, now that we've sort of talked through
02:43:44 what's shown in this figure, what conclusions, if any, did
02:43:47 you draw from looking at it?
02:43:49 A. Right. I think that the high-level conclusion
02:43:52 from this figure is one of both the magnitude of the
02:43:57 difference between the plans, the persistence of that effect
02:44:01 over a wide range of electoral conditions and, frankly, the
02:44:06 success that this alternative map has at upholding that
02:44:10 close votes-close seats principle.
02:44:15 Q. And so did you create other maps like this for the
02:44:20 Senate and the House?
02:44:21 A. I did. Those are the ones just below.
02:44:27 Q. What do these figures show at a high level?
02:44:30 A. Okay. Again, at a high level, I think we see that
02:44:33 bull's-eye effect in the alternative plans is fairly clear.
02:44:37 So it's certainly possible to make maps where close votes
02:44:41 give you close seats. And then by contrast, we see like a
02:44:44 gravitational pull on the Enacted Plan so that those maroon
02:44:49 dots are falling pretty consistently to the south.

02:44:52 I mean, I find that when I look at that House
02:44:55 outcome, I really see a big gap. It almost looks like two
02:44:59 parallel lines. And what that's saying is I've got a close
02:45:02 votes-close seats map in the alternative map in green, and
02:45:05 then I've got one that's designed to give a shortfall of, it
02:45:09 looks like, eight to 10 seats for Democrats just across the
02:45:13 board, across the range of electoral conditions in a decade.
02:45:18 Q. Dr. Duchin, in sort of a related point, did you
02:45:21 also reach any conclusions about whether the Enacted Maps or
02:45:24 the alternative NCLCV maps yield more competitive elections?
02:45:29 A. I did. Actually, though, before we switch away
02:45:31 from these --
02:45:32 Q. Sure.
02:45:32 A. -- one more observation, if I -- if I could.
02:45:35 So notice how all those sloped lines, those are in
02:45:39 just two of the quadrants and we totally missed the other
02:45:42 two. I just wanted to kind of make a quick comment on that.
02:45:46 That's because those other two quadrants, they're kind of
02:45:49 no-go zones for fairness. Those are the quadrants where one
02:45:53 party has a majority of the votes but a minority of the
02:45:55 seats. And so I also think it's notable just how much of
02:45:59 the time the Enacted Plans are in that anti-majority
02:46:03 territory.
02:46:05 Q. Thank you.
02:46:07 So then moving on to what conclusions did you

reach, if any, about the competitiveness --

A. Sure.

Q. -- under either sets of map?

A. Yeah, I think this is addressed later in the report.

Q. I think it's page 20.

MR. BRADFORD: Can we go there.

A. So it is, thanks.

I did look at competitiveness, and I did that in more than one way, but to be brief, let's look at this figure on top, which is showing competitive contests at the Congressional level. So here what I did is, again, simple, it's overlay method once again. So here I'm taking the 14 districts in the Congressional Plan and looking at those with respect to the 52 elections. Now, 14 times 52 is over 700. So lots of opportunities for district-level outcome observations. And all I'm asking is at the district level was the race close.

This is another way to think about the political geography that we talked about because you could certainly imagine that a race that was competitive at the state level because of self-sorting, it's hard to draw districts that are competitive. You could imagine that that's the case.

Another thing that often happens and I think for all of us as we're watching redistricting unfold around the

02:47:24 country, we're hearing a narrative that competitive seats
02:47:28 are going away, competitive districts are going away. And
02:47:32 often that's how mapmakers with good intentions are securing
02:47:38 a close votes-close seats type of map is by locking down
02:47:43 some seats for each side at the expense of competitiveness.
02:47:46 So I was particularly curious whether the
02:47:49 performance in the alternative plans was secured at the
02:47:52 expense of competitive contests. And we see here it is not.
02:47:57 The alternative plans actually fare better in terms of these
02:48:03 close races at all three levels, at all three margins that I
02:48:07 looked at, how many contests within 10 points, how many
02:48:10 contests within six points, how many contests within two
02:48:13 points. They're quite a bit better than the Enacted Plans.
02:48:16 Q. And just as a reminder, which color represents
02:48:19 which set of maps?
02:48:20 A. Thanks. So the -- the Enacted Plans are shown in
02:48:24 maroon again, it's the same color scheme, and the
02:48:27 alternative or LCV plans in green. So those are the ones
02:48:30 with more competitive contests.
02:48:32 Q. And besides the several reasons that you provided
02:48:35 already, are there any other reasons why having competitive
02:48:39 contests are important?
02:48:40 A. Yeah. It's a really frequently cited good
02:48:43 government principle. I think that in terms of impact on
02:48:48 individual voters, it can be really important to feel that

you live in a district where the outcome is in question. It means that candidates have to make the case. It means that neighbors try to persuade neighbors. So just -- just on that general kind of grounds, I think competitiveness is important, but as I also mentioned before, I also think this is something that's very often sacrificed to get at certain partisan fairness metrics if you're just too focused on the metrics. And that's why it's an encouraging, you know, badge of quality here for the alternative plans.

Q. And so how does that relative lack of competitiveness relate to your overall evaluation of the Enacted Maps?

A. Well, it gives us a little bit of insight into how they're getting that resilient effect. By -- by having fewer close contests, that's how you make your plan withstand shifting preferences.

Q. In your report you referenced and elsewhere today you've referenced the fact that the Enacted Maps have, I think you say, an egregious partisan imbalance to them. Can you explain what you mean by that?

A. Sure. By "egregious," I'm signifying magnitude, just the number of seats at issue is large.

Q. And then elsewhere you've said that the Enacted Plans behave as though they're built to resiliently safeguard electoral advantage for Republican candidates.

02:50:17 Can you please explain what you mean by that?
02:50:21 A. Sure. Resilience, that's the durability as the
02:50:25 conditions shift.
02:50:26 Q. And so based on that egregiousness and resiliency
02:50:31 that you just talked about, is there a reasonable inference
02:50:33 that you can discern?
02:50:34 A. Yes. I don't think you get that large and durable
02:50:37 of an effect by accident.
02:50:40 Q. Moving on, Dr. Duchin, you also compared the
02:50:45 effects of race for the Enacted Plans and the NCLCV plans
02:50:51 specifically on the impact on minority voters; is that
02:50:55 correct?
02:50:55 A. That's right. I looked at minority opportunity to
02:50:57 elect.
02:50:58 Q. And why did you perform that analysis?
02:51:01 A. Because I take it to be the case that minority
02:51:05 opportunity to elect candidates of choice is safeguarded
02:51:08 both in federal and in state law.
02:51:12 Q. Which minority groups did you look at
02:51:14 specifically?
02:51:14 A. I principally focused on Black North Carolinians,
02:51:18 who are a substantial and important voting constituency.
02:51:24 Q. Your analysis is set forth in your report, but at
02:51:26 a high level, what did you do?
02:51:30 A. So to analyze opportunity to elect, I came up with

02:51:33 a quantitative way to label certain districts as effective.
02:51:38 And so here effective, that's shorthand for an effective
02:51:43 opportunity to elect. So I'll emphasize now, and maybe
02:51:47 again, that these districts aren't meant to be a lock, to
02:51:51 provide any kind of guarantee of seating Black elected
02:51:54 officials or even Black candidates of choice, but only to
02:51:57 provide realistic opportunity.
02:52:00 Q. And so the analysis you just described and you
02:52:04 describe in your report, is that a type of analysis you
02:52:06 performed in the past?
02:52:08 A. Certainly. For one thing, in part, it includes a
02:52:11 racially polarized voting analysis, or RPV, which is
02:52:16 something that I've published papers about and assisted
02:52:19 several line-drawing bodies in measuring.
02:52:22 Q. On page 11 of your report, which if we can bring
02:52:25 up, and just recently you mentioned the idea of an effective
02:52:28 district. Can you please sort of go into a little bit more
02:52:31 detail of what you mean by that.
02:52:33 A. Yeah, I'd be happy to. So there's basically three
02:52:38 components to understanding how I labeled districts as
02:52:41 effective. First, I took all those elections that we talked
02:52:45 about, the 52 statewide generals, over 30 Democratic
02:52:50 primaries that were contested, and from all of those
02:52:53 elections I did that RPV analysis that I just mentioned to
02:52:58 select ones that are especially informative or probative to

02:53:02 the question of Black electoral opportunity.

02:53:06 I could talk more about how that's done, but
02:53:09 briefly, once I've identified those elections -- and maybe
02:53:11 we could highlight. Yeah, terrific. Thank you. Thank you
02:53:14 so much.

02:53:16 So from that large set of elections, I identify
02:53:19 these eight, four primaries and four general elections, as
02:53:23 being especially informative. And the factors by which I
02:53:27 did so are listed here. I can discuss that if that comes
02:53:32 up, but they're, I would say, extremely widely accepted ways
02:53:36 that in voting rights cases one assesses which elections are
02:53:41 more probative.

02:53:42 Q. And so I was going to ask based on your analysis
02:53:46 and your identification of these races, what conclusions did
02:53:49 you draw about the Enacted Plans?

02:53:52 A. Sure. To get to the conclusions, let me say just
02:53:54 a little bit more here.

02:53:56 Q. Sure.

02:53:56 A. So I've got these eight races, and then what I'm
02:54:00 able to do is in a proposed district, I can just add up the
02:54:03 votes and I can see how many of these eight times did the
02:54:06 Black candidate of choice prevail. And so that tells me how
02:54:09 aligned the district is with the preferences of the Black
02:54:12 voters. And I'll just briefly mention after that,
02:54:14 there's -- there's a check of demographics, and I did that

02:54:19 by making sure the districts were at least 25 percent Black
02:54:23 voting age population. And I want to emphasize that this is
02:54:27 in no way an estimate of what level of Black population is
02:54:30 needed. I don't have to do that because I've already looked
02:54:33 at the electoral alignment. Right? That's a way of making
02:54:37 sure -- if we're trying to measure opportunity for Black
02:54:40 voters, there need to be Black voters there to benefit from
02:54:43 that opportunity, and we wouldn't want to call a district
02:54:45 effective for Black voters no matter how it votes if it
02:54:48 doesn't have any Black voters in it.
02:54:50 Q. And so then ultimately what conclusions did you
02:54:53 draw about the Enacted Maps?
02:54:55 A. Terrific. Well, I hope that wasn't too
02:54:57 complicated, but we have this compound notion of
02:54:59 effectiveness and then you can simply count. And so if we
02:55:02 go to the next page of the report, you can see my top-line
02:55:08 conclusions here. There's just a lot more opportunity for
02:55:12 Black voters to seat their candidates of choice in the
02:55:15 alternative plans. So two districts versus four at the
02:55:18 Congressional level when compared to the Enacted Plans,
02:55:23 eight versus 12, 24 versus 36.
02:55:26 Q. Did you reach any conclusions about whether or not
02:55:29 the Enacted Plans were dilutive of minority votes?
02:55:33 A. Yes. From this, I conclude that both with respect
02:55:37 to population proportionality and with respect to this

viable alternative that's highly respectful of all the other principles, you can see the Enacted Plans are dilutive.

Q. Dr. Duchin, I'd like to move on to one more topic with you here today. Did you review the expert report of the Legislative Defendants' expert Dr. Barber?

A. I did. And I filed a rebuttal report on that topic.

Q. And do you understand what Dr. Barber did in his report?

A. Yes, I think I understand it very well.

Q. Could you briefly summarize that for us, or at least your understanding of it?

A. Sure. So Dr. Barber's report focuses on the legislature, on the Senate and the House. And what he does is he takes the county clusters that we've been hearing about, the groupings of counties from the Enacted Plan, and then for the ones that constitute more than a district, he creates an ensemble of alternative plans using a sampling method that, again, I think I understand pretty well. So he makes 50,000 alternative maps in every cluster and mostly restricts his analysis to looking at a single cluster at a time, although there are a few references to what would happen if you put it all together.

Q. Your rebuttal report, which you just mentioned, has several criticisms of Dr. Barber's methodology. I'll

02:57:07 ask you to keep it brief. Are there a couple that you would
02:57:10 like to highlight today for the Court?
02:57:12 A. There are two that I think are really important.
02:57:15 One is that there is -- it feels like there's hiding the
02:57:21 ball on the cumulative effect statewide. So after all,
02:57:25 since we're assessing legislative plans, it matters how that
02:57:29 composition looks in total. And while there are some total
02:57:32 rows which, as Dr. Pegden quite correctly noted, involve a
02:57:39 mathematical mistake, still there is an attempt at
02:57:42 describing the cumulative effect, but no pictures. And so
02:57:48 I, I hope helpfully, reconstructed those pictures. I'm
02:57:53 pleased to say that in the very short time frame, I and my
02:57:56 research assistants were able to actually pull all of
02:57:59 Dr. Barber's maps and statistics, and so I'm able to show
02:58:03 you the results of his sampling. And I think maybe we can
02:58:08 pull that up?
02:58:09 Q. Yeah. Before we get there, let's just talk -- you
02:58:11 said you had two criticisms --
02:58:13 A. Sure.
02:58:13 Q. -- of Dr. Barber.
02:58:15 Just for completeness, let's get the other one out
02:58:17 on the table.
02:58:18 A. Let's do that. We'll see them both in these
02:58:20 figures. So one is a focus on the clusters individually to
02:58:23 the detriment of the whole picture, but the other is a

really significant thumb on the scale in each cluster. And here what I mean by that is even though the algorithm being used here to sample maps already has a preference for compactness, in addition, Dr. Barber has chosen to simply discard all the maps that he produced that aren't as compact as the Enacted Plan in each individual cluster. Right? And sometimes this takes a set of 50,000 maps and actually just discards so many that we're left with six, four, two or, in one case, no maps at all. And so since no maps at all, obviously, doesn't give a suitable comparison, in an ad hoc way, he expands it 2,047 -- or 2,407 in that -- in that cluster.

So the reason, to be clear, that I think this is so illegitimate just as question of mathematical modeling is that, one, in the name of looking at things that are at least as compact as the Enacted Plan, he's actually thrown out most things that are at least as compact as the Enacted Plan. For example, the alternative maps which, as we've seen, are more compact would actually be disqualified for Dr. Barber if in even one cluster they're not scoring as high, which is the case. So actually, his discarding most of the maps would throw out very good competitors, such as the alternative maps, for a reason that I think doesn't fit with the claims that he makes in his rebuttal report.

(Plaintiffs' Exhibit 235 identified.)

03:00:07 Q. Okay. Now, let's move on to what you were talking
03:00:09 about in your rebuttal report, and I think this was the
03:00:13 exhibit that -- which is Exhibit 235.
03:00:18 A. Great. And then maybe we can highlight that
03:00:20 second chart. Okay.
03:00:23 Q. Can you please explain what's shown in that chart.
03:00:26 A. Absolutely. So, as I just described, in
03:00:28 individual clusters we're discarding most of the maps. And
03:00:34 remember, you know, in case -- I can explain again why
03:00:38 that's problematic. Dr. Barber's goal is to say that the
03:00:42 Enacted Plan is normal, is not an outlier, but before
03:00:46 declaring it normal, he's first going to throw out an
03:00:48 enormous number of competitors. And once he's taken only
03:00:52 the things most like the Enacted Plan, then he'll say now
03:00:55 they look normal among the two things that are left. Right?
03:00:58 I think that's self-evidently problematic, but now we can
03:01:01 see how that stacks up when you put all those results
03:01:04 together, which is something that he did not display.
03:01:07 So in gray in this picture you see Dr. Barber's
03:01:11 maps, not mine. That's his full ensemble, which is an
03:01:15 extremely large number of maps, 50,000 to the 26th power,
03:01:19 because that's all the different clusters that he has here
03:01:22 for the House. Now, what are the effects of his aggressive
03:01:25 filtering? That's the blue histogram that you see. So by
03:01:30 putting that thumb on the scale, he's kind of creating an

effect that's used to move the universe of possibilities more towards the Enacted Plan.

The Enacted Plan is at that maroon color, that SL-175, and the alternative plan is marked here in green. Statewide voting, that's that nearly 50/50 preference at the state level for the elections that he considers. I am using all his methods here granting him his methodology. So statewide voting, by his way of counting, would amount to 59 seats, again, in this 120-seat body, so nearly half the seats. And so those effects of political geography are evident here. You see that the bell curve doesn't often get all the way to the statewide voting level.

However, what's true across the board whether you use the full ensemble or the much smaller one is look at SL-175. It's a blatant partisan outlier in the Democratic-leaning seats measure devised by Dr. Barber. The alternative plan is not. It hits the ensemble in what I like to call the meaty part of the bell curve and even fails to be an outlier under the common social scientific definitions of outlier even if you allow that filtering to the blue curve.

Q. So just -- I want to make sure we're clear on one thing. Did you use Dr. Barber's own methodology for when you generated Figure 5?

A. Yeah. This isn't just his methodology, these are

his maps.

Q. Okay. And the difference between the blue and the gray histogram is what?

A. That's whether you filter or discard all those maps in the individual clusters or not. I was able to recover his full dataset from his backup materials.

Q. Based on the criteria that Dr. Barber set himself?

A. Yes. All of this, again, Barber's maps.

Q. Okay. And so it's been alleged that the NCLCV map was optimized for Democrats. What does the analysis that we see here show in that regard?

A. Well, by these lines if it was optimized for Democrats, that wasn't done very well because you can see here that the alternative plan is leaving quite a bit of Democratic opportunity on the table. It's not even getting all the way to statewide voting. It's still squarely hitting the distribution that's entailed by the rules and geography, that's what you're seeing in the distribution, while -- while getting on the side of the curve where the statewide voting is in its -- that's how you can see that it's in the main upholding close votes, close seats.

Q. Okay. And so this map in Figure 5 that we're looking at -- or this graph is for the House. Did you do something similar for the Senate?

A. I did.

03:04:17 Q. Can we bring that up, please.
03:04:23 A. Very similar picture.
03:04:25 Q. Please explain what we see here.
03:04:28 A. Gray is the full ensemble, blue is filtered. I'll just notice when I call it aggressive filtering, what was discarded makes the collection of maps smaller by a factor of trillions. I think it's 503 trillion in this case. So that's -- that's why I call it aggressive filtering.
03:04:49 Broadly, similar story, the Enacted Map is a clear outlier. Again, Barber's maps. Here statewide voting is at nearly 25, as we'd expect at the Senate level, and you can see the alternative map is there at 24.
03:05:07 Q. And Dr. Barber said his Enacted Map is less of an outlier than the NCLCV map. Is that true?
03:05:16 A. I don't think that that's what can be correctly concluded from his own methods and analysis.
03:05:25 Q. And, again, as alleged, is the NCLCV map optimized in any way for Democrats?
03:05:31 A. No. You can see that even Barber's methods found a large number of maps with 25- and 26-seat outcomes.
03:05:39 Q. Okay. And then lastly, did you do a similar analysis for the Congressional map?
03:05:47 A. I did. When I was reading Dr. Barber's report, I took that to be a conspicuous omission that there was no Congressional-level analysis. So we can actually see that

here. It's a little earlier.

(Plaintiffs' Exhibit 234 identified.)

Q. Yeah, I think that's Exhibit 234, page 8.

A. And so what I did was -- and, again, I was pretty proud with the speed in which we were able to do this. I was able to run his own code. So this isn't, you know, yet another ensemble method. This is Barber's method, running his code, using all the same data, using all the same definitions of what is a Democratic-leaning seat and so on.

The only difference here -- there are a few minor differences because I had to adjust to a different body. I tightened the population deviation from five percent to one, and time -- because of time considerations only was able to produce 20,000 maps. I want to emphasize this whole thing was done in about two hours. With another hour I could have gotten to that 50,000. So this isn't an extraordinarily time-consuming variation on what Dr. Barber had already done.

Q. Okay. And what conclusions can you draw from this figure?

A. Yeah, I think any reasonable observer would conclude that the Enacted Plan is a partisan outlier in this construction and pretty clearly the alternative plan is not.

Q. Okay. So, Dr. Duchin, just to wrap this all up, in your expert opinion, what is your view, you know, based

03:07:19 on all your analysis of the Enacted Maps by the North
03:07:22 Carolina legislature?
03:07:24 A. I find the Enacted Maps to be significantly skewed
03:07:29 in a partisan way in favor of Republicans that produces a
03:07:34 resilient effect that makes it very difficult for Democrats
03:07:38 to gain control of more seats even when they have more votes
03:07:44 in the state. I also find the Enacted Plans to be dilutive
03:07:48 of minority opportunity to elect candidates of choice in
03:07:52 North Carolina. And all of this is thrown into relief by
03:07:56 the set of alternative plans, which are at least as good and
03:08:01 sometimes significantly better on all the redistricting
03:08:03 criteria that I understand to be in play, while remediating
03:08:09 the partisan skew and producing significantly more minority
03:08:13 opportunity to elect.
03:08:14 (Plaintiffs' Exhibits 150, 152-201, 236-241
03:08:14 identified.)
03:08:14 MR. BRADFORD: I have no further questions at this
03:08:16 time. I do move to enter into evidence Dr. Duchin's opening
03:08:21 report, Exhibit -- opening report, which is Exhibits 150 to
03:08:24 201, and her rebuttal report, which is Exhibits 234 to 241.
03:08:29 JUDGE SHIRLEY: Any objection?
03:08:30 MR. LEWIS: Your Honor, we do object to the
03:08:32 introduction of the admission of the rebuttal report to the
03:08:36 extent it discusses the Congressional. We addressed this in
03:08:39 our motion. I understand the Court's rule on that motion.

03:08:42 We just want to renew that objection for the record.

03:08:44 JUDGE SHIRLEY: All right. Objection is noted.

03:08:46 Exhibits are admitted.

03:08:48 MR. BRADFORD: Thank you, Your Honor.

03:08:48 (Plaintiffs' Exhibits 150-201, 234-241 were

03:08:48 admitted into evidence.)

03:08:48 JUDGE SHIRLEY: We'll be in recess until 3:25.

03:08:52 (Court in recess from 3:08 p.m. to 3:26 p.m.)

03:26:52 JUDGE SHIRLEY: All right. Cross-examination?

03:26:54 CROSS-EXAMINATION BY MR. LEWIS:

03:27:02 Q. Dr. Duchin, good afternoon. Patrick Lewis on

03:27:04 behalf of the Legislative Defendants.

03:27:09 Dr. Duchin, in your professional work you've

03:27:10 somewhat frequently used the ensemble method to study

03:27:15 redistricting plans; is that correct?

03:27:16 A. Yes.

03:27:22 Q. And I believe I heard you testify on direct

03:27:24 examination that you were able to perform an ensemble

03:27:32 analysis of the Congressional Plan using Dr. Barber's source

03:27:37 code in the span of two hours, correct?

03:27:41 A. That's right. To be clear, that was using the

03:27:43 code and specifications.

03:27:46 Q. Sure. Now, you were hired in this case in early

03:27:52 August of 2021; is that right?

03:27:54 A. I think that's right.

03:28:00 Q. And yet in your primary report in this case,
03:28:03 Dr. Duchin, you didn't perform an ensemble analysis; is that
03:28:07 right?
03:28:07 A. Yes, it is.
03:28:13 Q. And you simply compared a series of properties
03:28:16 that you've talked about on direct examination between the
03:28:20 Enacted Plans and the NCLCV optimized maps; is that right?
03:28:25 A. That was the primary focus.
03:28:32 Q. Now, your ensemble techniques don't just compare
03:28:36 one set of maps to another; is that right?
03:28:38 A. Right. Ensemble techniques work by comparing to a
03:28:41 collection.
03:28:44 Q. Is it fair to say that the strength of that method
03:28:47 of comparing to that and I understand it to be a
03:28:50 representative random sample of comparison maps that adhere
03:28:54 to the nonpartisan redistricting criteria you're looking to
03:28:58 study; is that right?
03:28:58 A. That's the gold standard.
03:29:00 Q. Okay. You didn't follow the gold standard in this
03:29:03 case, did you?
03:29:04 A. Well, to be clear, that's the gold standard for
03:29:06 ensemble analysis, which, as I said, wasn't the method that
03:29:09 I used here.
03:29:11 Q. Now, because you didn't perform the ensemble
03:29:15 analysis, you can't make any -- in fact, you did not make

03:29:19 any claims in your December 23rd, 2021, report in this case
03:29:23 about where the Enacted Plans lie in the distribution of
03:29:28 possible plans adhering to the legislators' nonpartisan
03:29:35 criteria; is that right?
03:29:36 A. That's right. That was my -- that was not in my
03:29:37 report.
03:29:44 Q. So rather I think, if I understand correctly, your
03:29:47 analysis is asking the question is it possible for a map to
03:29:53 exist that exhibits the fairness and competitiveness
03:29:58 properties that you believe are desirable, correct?
03:30:03 A. I took the question to be do the rules of
03:30:07 geography force a certain outcome, and the answer is no.
03:30:12 Q. And the answer is no because you have one
03:30:15 counterexample, right?
03:30:16 A. Right. I'm a mathematician, and if you want to
03:30:19 execute a disproof, then one counterexample does so.
03:30:30 Q. But, again, based on your report, your
03:30:32 December 23rd report, you also make no claim about how
03:30:35 likely the NCLCV alternative plans were to emerge from a
03:30:41 nonpartisan process, right?
03:30:43 A. Agreed. There is no assessment of typicality.
03:30:49 Q. I want to briefly discuss some aspects of these
03:30:54 NCLCV optimized maps with you. Dr. Duchin, when you wrote
03:30:57 your December 23rd report, did you know who created the
03:31:02 NCLCV optimized maps?

03:31:03 A. I did not.
03:31:04 Q. Okay. But you now know who drew them, right?
03:31:07 A. Yes. I've seen a letter dated December 23rd identifying something about how the maps were created.
03:31:19 Q. And do you understand, based on that letter, that the NCLCV maps were created by Mr. Sam Hirsch, Dr. Amariah Becker and Dr. Dana Gold?
03:31:34 A. Dr. Dara Gold.
03:31:36 Q. Dara, excuse me.
03:31:38 A. That's right.
03:31:38 (Legislative Defendants' Exhibit 160 identified.)
03:31:39 Q. I'd like to put up on the screen what we have marked as Exhibit LDTX-160. And, Dr. Duchin, this is an article titled "Computational Redistricting and the Voting Rights Act" that was published in the Election Law Journal in 2021; is that right?
03:32:12 A. Yes, that's right.
03:32:12 Q. And that was an article that you wrote with Doctors Becker, Gold, and Mr. Hirsch, correct?
03:32:17 A. Yes.
03:32:22 Q. Now, Dr. Duchin, Dr. Gold, she worked in your redistricting lab at Tufts University until December 2020, isn't that right?
03:32:31 A. Yes. I wouldn't have the exact date, but both Doctors Gold and Becker at the time of writing this article

03:32:38 worked for me in the redistricting lab.

03:32:41 Q. I see. And if I'm recalling correctly, I believe
03:32:50 Dr. Becker worked in your redistricting lab at Tufts until
03:32:54 July of 2021, correct?

03:32:56 A. Right. If memory serves, I think Dara left the
03:32:58 lab in December and Amy in July.

03:33:00 Q. Okay. And then, of course, you were hired to work
03:33:08 in this matter in early August of '21, right?

03:33:10 A. That's my best estimate.

03:33:11 Q. Okay. And as you sit here today, Dr. Duchin, do
03:33:24 you find it a bit strange that all three of your coauthors
03:33:27 in the computational redistricting and Voting Rights Act
03:33:31 case drew the map and then essentially hired you to just
03:33:34 analyze that map?

03:33:37 A. No, not at all. Could you clarify why that would
03:33:39 be strange?

03:33:44 Q. Well, your -- the focus of your article
03:33:50 "Computational Redistricting and the Voting Rights Act" is
03:33:53 about the use of ensemble methods to -- you know, I'll just
03:34:01 read out if -- we have the abstract at the bottom. You're
03:34:04 saying in -- Isn't this article about repurposing ensemble
03:34:10 algorithms to find plans that, quote, dramatically increase
03:34:14 minority electoral opportunities, right?

03:34:17 A. I would call that the secondary application in our
03:34:20 paper. I won't go on at length, but just briefly, the

03:34:23 1 primary application is to be able to build ensembles that
03:34:26 2 take the VRA into account.
03:34:43 3 Q. So when you studied these maps, these optimized
03:34:48 4 maps and you wrote your report, did you know anything about
03:34:52 5 how those maps were created?
03:34:54 6 A. I didn't.
03:34:55 7 Q. What agendas the mapmaker may have had?
03:34:57 8 A. Nothing of the kind.
03:35:02 9 Q. Had you been told at the time you prepared your
03:35:04 10 December 23rd, 2021, report that NCLCV had identified these
03:35:11 11 as optimized maps?
03:35:16 12 A. I think I knew that they were called that in the
03:35:19 13 brief. You'll notice I declined to call them that in my
03:35:21 14 reports, or I call them alternative maps.
03:35:28 15 Q. Aren't things like a mapmaker's agenda and the
03:35:32 16 manner in which a map may or may not, quote, have been
03:35:35 17 optimized things you should know if you're claiming to draw
03:35:38 18 conclusions about the General Assembly's Enacted Plans based
03:35:41 19 on a comparison to the optimized plans?
03:35:44 20 A. Oh, I'm glad you asked that. So I think the
03:35:47 21 method that I'm using really works the opposite way. You
03:35:50 22 don't need to know the intent to apply the quantitative
03:35:53 23 method. You learn something about the intent from the
03:35:56 24 quantitative method. So it's an output, not an input to the
03:36:00 25 process.

03:36:08 Q. But if your -- but if your objective is to
03:36:15 determine -- let me ask -- let me ask the question this way.
03:36:20 Based upon the analysis you performed in your opening
03:36:22 report, are you purporting to offer an opinion about the
03:36:26 intent of the General Assembly in enacting these plans?
03:36:31 A. I am. I think we discussed this in deposition. I
03:36:35 think the phrases "egregious" and "resilient" are tantamount
03:36:40 to a finding of intent. I think that's the question, right?
03:36:46 Q. So it's your -- So you do believe that your
03:36:49 analysis comparing the optimized maps to the Enacted Maps
03:36:53 allows you to draw a conclusion about the legislature's
03:36:55 intent?
03:36:56 A. Yeah, I would say that conclusion emerges from the
03:36:59 full analysis, which partly looks at the plans in their own
03:37:03 right and then examines whether that cause -- whether that
03:37:07 effect is caused by rules in geography.
03:37:15 Q. I believe I heard you on direct examination make
03:37:17 the claim that, quote, the large and durable effect of those
03:37:22 plans was not by accident. Do you recall that?
03:37:25 A. Yes, that sounds about right. I couldn't swear to
03:37:27 the exact phrasing.
03:37:30 Q. I took notes the best I could, Dr. Duchin.
03:37:32 A. Great, I trust you.
03:37:34 Q. All right. But, again, isn't that type of
03:37:38 analysis to determine if a plan's configuration was drawn by

03:37:43 1 accident, isn't that something that as a redistricting
03:37:46 2 expert you would normally employ an ensemble analysis to
03:37:50 3 answer?
03:37:51 4 A. Well, I would say different tools are better
03:37:53 5 suited to different specific questions. So, as you know, I
03:37:56 6 have a number of papers and projects that use ensemble
03:38:00 7 analysis and a number, like that Massachusetts study I
03:38:03 8 talked about before, that don't need it to do what they're
03:38:06 9 trying to do.
03:38:07 10 Q. Okay.
03:38:17 11 A. I'll add, if I could, that I was under the, I
03:38:22 12 hope, reasonable and, as it turns out, justified impression
03:38:24 13 that there would be a plethora of ensemble analysis
03:38:27 14 available to the Court in this case.
03:38:34 15 Q. Well, we still haven't -- I don't remember exactly
03:38:37 16 how many maps we've looked at, but we still haven't
03:38:39 17 approached the total universe of possible ways to draw
03:38:44 18 redistricting maps.
03:38:46 19 A. I would have to agree.
03:38:46 20 Q. All right. Barely scratched the surface.
03:38:49 21 All right. I'd like to put up on the screen, we
03:38:52 22 have -- this is an article you wrote in 2019 with Daryl
03:38:56 23 DeFord and Justin Solomon.
03:39:10 24 All right. This article appears to have been
03:39:12 25 published in arXiv, if I've got that right?

03:39:15 A. Oh, no, let me clarify.

03:39:18 Q. Okay.

03:39:18 A. So this is a preprint.

03:39:18 Q. Okay.

03:39:18 A. This isn't the published form. "Archive," that's how you say that, by the way, ArXiv is where mathematicians and other physical scientists put our prepublications, but this has since appeared in the Harvard Data Science Review. So there's a slightly different published version. I think it appeared in 2020.

03:39:36 Q. I see. Did the text change, do you know?

03:39:39 A. It certainly did in the editorial process.

03:39:41 Q. It did, okay.

03:39:45 But is it fair to say that as part of this article you studied the Virginia House of Delegates following the Bethune-Hill lawsuit?

03:39:58 A. Right. This -- the right way to say it is that this article includes in its supplement plots from an earlier case study motivated by Bethune-Hill, that's right.

03:40:10 Q. Okay. And you understand Bethune-Hill to be a racial gerrymandering case, right?

03:40:16 A. I'm going to defer to the legal experts on what all the legal issues were in play in that case, but certainly it revolved around questions of race, yes.

03:40:26 Q. Okay. And -- and if I understand correctly, a

question that you wanted to look at in this article -- in this case study was the question whether BVAP, or Black voting age population, was excessively elevated in districts in the House of Delegates; is that fair?

A. I wouldn't say that's complete. So the question was one of packing and cracking. It was if you look at plans where BVAP is sometimes elevated, where is the cost in other districts since, after all, Black voting age population is a fixed sum across the state. So if it's elevated here, where is it depressed, that was the question.

Q. I see. If we could turn to page 20 -- 21 of this article. I'm sorry. Staring at my monitor, which is not on 21, but no cat filter today, so we're good.

All right. And so here -- and I'm reading from -- I'm looking at the first paragraph at the top of page 21.

A. Sure.

Q. And you mention that, quote, to assess the possibility that the BVAP is excessively elevated in the top 12 districts without algorithmic support to help, other human-made plans can be used for comparison even though these are limited in number and their designers may have had their own agendas. Do you see that?

A. I do.

Q. Okay. And then you conclude -- then you identify a separate method where you sort of look at how -- you know,

sort of the jump in BVAP between certain districts, but ultimately, at the end of the paragraph, is it fair to say that you conclude that neither of those sort of alternate methods adequately controls for the effects of the actual distribution of Black population across the state geography? Do you see that?

A. (Nods.)

Q. And in this case, Dr. Duchin, again, you're -- when you analyzed the racial vote dilutive effects of these maps, again, you didn't look at an ensemble analysis to identify the range of electoral opportunity in the North Carolina maps compared to an ensemble, right?

A. Right. And sorry by "these maps," you mean North Carolina, not Virginia?

Q. That's correct. North Carolina, this case.

A. Right. In this case did I use an ensemble to study the effects of racial -- say it again, sorry.

Q. Of minority electoral opportunity in North Carolina.

A. No, I did not.

Q. Okay. So you'd agree with me, then, that just relying on the NCLCV optimized maps for comparison would not allow you to adequately control for the actual distribution of Black voters within the state of North Carolina, right?

A. Well, to be clear, I think the questions being

asked are subtlely different. So if I could try to differentiate them just very briefly.

I would say here we're trying to understand what I just flagged a moment ago, which is the packing and cracking patterns. So if you're raising BVAP in these districts, in which districts is it depressed. And for that I judged an ensemble analysis to be the best and most effective tool.

I'm actually doing something quite different here in this case in looking at the number of districts that are effective, which isn't a concept you'll find anywhere in the paper that we're looking at today.

So they really are asking different questions, and, as I said a moment ago, I think a good redistricting analyst uses different tools for different questions.

Q. Now, Dr. Duchin, I believe one of the elements that you reviewed in your report was the pairing of incumbents; is that correct?

A. And now we're back to North Carolina, right?

Q. Yes, we're on North Carolina. We can take -- we can take the article off the screen.

A. Thank you.

Q. If we can go to your -- I'm sure at some point we'll refer to your report, so why don't we pull it up. That is PX-150.

A. Sure. I did look -- I did look at the pairing of

incumbents.

(Legislative Defendants' Exhibit 191 identified.)

Q. Okay. All right. So I'd now like to put up what we have identified as Legislative Defendants' Trial Exhibit 191.

Okay. Now, Dr. Duchin, I'll represent to you that this is a rendering of a portion of the NCLCV optimized House district plan in Caldwell and Watauga Counties. Do you see that?

A. Sure. And just to orient me, from what report or brief is this drawn?

Q. This was used in -- this was produced by Sean Trende, and this was used in Mr. Hirsch's deposition last week.

A. Got it, thanks.

Q. So I will just ask you -- I'm not asking you to draw conclusions about the accuracy of the rendering. I'll just ask you --

A. Great, I wouldn't want to.

Q. -- to accept our representation. Thank you.

And do you see the border, Dr. Duchin, between House District 93 and House District 87?

A. Yes, I do.

Q. Now, House District 93, that's represented by a Republican House member, Ray Pickett. Do you understand

03:46:33 1 that to be true?
03:46:34 2 A. I will take your word for it.
03:46:35 3 Q. You'll take my word, okay.
03:46:37 4 A. It would be wonderful if I knew all of these by
03:46:40 5 heart.
03:46:40 6 Q. All right. Now, I will represent to you that he
03:46:44 7 lives in the Town of Blowing Rock, Dr. Duchin, and will
03:46:50 8 further represent to you that if you look at the raised
03:46:52 9 portion of the border between District 93 and District 87,
03:46:57 10 do you see that little blue circle?
03:46:59 11 A. I do.
03:47:00 12 Q. I'll represent to you that that is, in fact, the
03:47:03 13 Town of Blowing Rock. Now, Representative -- are you
03:47:12 14 familiar with Representative Destin Hall?
03:47:14 15 A. I know the name.
03:47:16 16 Q. He's, in fact, the named defendant in this case,
03:47:18 17 is he not?
03:47:19 18 A. I believe you.
03:47:20 19 Q. Okay. I'll represent to you, Dr. Duchin, that he
03:47:28 20 is the incumbent representative for what would be District
03:47:32 21 87 in this plan. Now, do you see the thin gray lines that
03:47:42 22 appear throughout this map?
03:47:44 23 A. Yes, I think I know which you mean.
03:47:48 24 Q. Okay. You identify -- do they appear to you to be
03:47:53 25 VTD lines?

03:47:55 A. That seems reasonable.

03:47:56 Q. Okay. Now, do you see how the VTD around Blowing Rock, North Carolina, is split to put Blowing Rock into District 87?

03:48:12 A. It's hard to tell whether there's a VTD boundary underneath the district boundary, if you see what I mean, but I accept it if you tell me that that is the case.

03:48:26 Q. Doesn't that strike you, as an expert in the field of redistricting, as a little suspicious that Representative Pickett is paired with Representative Hall and it appears that a VTD had to be split to make a pairing?

03:48:44 A. And by "suspicious," you mean as indicative of intent?

03:48:47 Q. Yes.

03:48:48 A. Not necessarily. I think, as you know, a number of VTDs have to be split in North Carolina in order to uphold the various rules. If this kind of thing were observed systematically, if that were one of the things I had studied, that might allow me to form a conclusion about intent, but in a vacuum, I don't find this to be a smoking gun.

03:49:19 Q. Now, Dr. Duchin, with respect to your partisan fairness analysis, do you offer a baseline of -- against which to compare the Enacted Plan's performance?

03:49:35 A. Well, I do in the form of a norm that I call close

03:49:40 votes, close seats.

03:49:48 Q. But ultimately the basis of comparison is to the
03:49:51 NCLCV optimized maps; is that right?

03:49:53 A. Well, I think the way I would put it is the basis
03:49:56 of comparison is to that norm. And then I asked the
03:49:59 secondary question of whether that norm is put out of reach
03:50:02 by the rules of geography. That's the question the
03:50:05 alternative maps let me answer.

03:50:12 Q. Dr. Duchin, I'd like to now turn briefly to your
03:50:14 racial vote dilution analysis.

03:50:17 A. Sure.

03:50:17 Q. So if we could turn to page 11 of your report.

03:50:26 Okay. Now, you first looked at racial
03:50:34 polarization between Black and white voters on a statewide
03:50:38 basis; is that right?

03:50:39 A. That's right. I did what's called an R by C
03:50:43 ecological inference analysis. So I split out the
03:50:46 electorate into Black, white and other.

03:50:51 Q. And I believe your -- your conclusion was
03:50:53 statewide that up to -- or I should say at least -- excuse
03:50:59 me, at least 61 percent of white voters vote for Republican
03:51:03 candidates; is that correct?

03:51:04 A. Oh, that's not my top-line conclusion, but that is
03:51:08 what I found in those 52 general elections before reference.
03:51:14 So looking through every single one of those elections, I

found an estimated rate -- and we're talking about the point estimate, an estimated rate of white support for the Republican of over 61 each time.

Q. So that means that up to 39 percent of white voters are voting for the Democratic candidate in generals, right?

A. Right. So the way this works is that 61 is a minimum. So that means that at least once there's over 38 percent white support for the Democrat, if I said that right. I hope I did.

Q. All right. And that would be an example of what's known as crossover voting, right?

A. Right. So I think we also addressed this in deposition. Crossover is a pretty general term, but in this case, I think it's fair to say that there's a bloc white support for Republicans in general elections. And so in the context of that bloc voting, sure, you could call that crossover.

Q. Okay. So for your definition of creating -- or of identifying what you call effective Black districts, you take I believe it was a total of 82 elections, 52 general, 30 primary?

A. It's more than 30 primary. I don't have the exact number.

Q. More than 30 primary, okay. So at least 82

03:52:35 elections you looked at statewide. And you whittled it down
03:52:38 to a total of eight, correct?
03:52:40 A. Absolutely.
03:52:40 Q. All right. Now, you could have identified a
03:52:43 larger set of probative elections, couldn't you have?
03:52:46 A. Uh-huh.
03:52:47 Q. All right. And then you impose a second
03:52:52 constraint where you require the Black-preferred candidate
03:52:55 of choice to win at least -- to win the district at least
03:52:58 six out of eight times before you define the district as
03:53:02 effective, right?
03:53:03 A. I think that's the first constraint is six out of
03:53:05 eight. That's what gives me what I'm calling electoral
03:53:08 alignment.
03:53:09 Q. Electoral alignment, okay.
03:53:12 I believe I heard you on direct examination give a
03:53:16 caveat that you believe that this six out of eight did
03:53:19 not -- was not creating, quote, a lock in a district to make
03:53:25 it an effective district, right?
03:53:28 A. That's right. The compound definition of
03:53:30 effectiveness isn't a guarantee of performance.
03:53:33 Q. In politics, though, isn't it if you're winning
03:53:37 75 percent of the time, aren't you getting a little close to
03:53:40 a lock?
03:53:41 A. Oh, no. Maybe that's just my mathematical

03:53:43 background, but to me a lock is a -- is a guarantee.
03:53:54 Q. All right. Now, in your computational
03:53:57 redistricting article we looked at briefly, you studied
03:54:01 Texas in that instance; is that correct?
03:54:04 A. Mostly Texas, and we looked a little bit at
03:54:07 Louisiana as well.
03:54:08 Q. Okay. And in that case you only required a
03:54:11 60 percent win rate to be an effective district, right?
03:54:14 A. Yeah, not exactly. So should I explain that a
03:54:19 little bit? You can let me know how I'm doing with depth.
03:54:22 Q. I may just -- but if -- Did you require a
03:54:26 60 percent win rate?
03:54:27 A. No, that's not right.
03:54:28 Q. What win rate did you require?
03:54:31 A. Okay. I'm glad you asked. So that's a two-part
03:54:34 process. So first a raw effectiveness score is calculated,
03:54:38 but then it's calibrated against the ground truth. And I'll
03:54:44 just -- I don't want to go too far into the weeds, but let
03:54:47 me just give you a sentence about that because I think it's
03:54:50 really helpful to understand what's happening here.
03:54:52 When you come up with these quantitative
03:54:57 indicators, you try to give a label of effectiveness. If
03:55:00 you're a responsible modeler, you want to know how you're
03:55:03 doing, and so you compare your label of effectiveness
03:55:06 against ground truth. In this case that would be you look

at the actual districts, you see whether you would have labeled them effective, and then you see how they performed. And if your label of effectiveness is very poorly aligned with ground truth, you haven't done a good job.

I think a responsible modeler will always do a check like that. And as you heard in deposition, I did an informal calibration of that kind here in the North Carolina work as well that I'd be happy to describe.

The bearing that it has on your question is that the 60 percent was post calibration, which in the paper we did with a logistic correction, and that means that there is -- there is no percentage cutoff for how often the candidate had to win that corresponded to effectiveness. We did a step to calibrate that to the ground truth.

Q. Okay. So this -- so the 60 percent -- but it was ultimately -- post calibration, the ultimate requirement was the win rate had to be 60 percent or it was not effective?

A. That's not a win rate, sorry. I just want to be very precise. It's a probability of performance. So the probability of performance we said should be at least 60 percent, which is different from the win rate.

Q. All right.

A. Probability of performance of at least 60 percent was what we called effective for the purposes of that article.

03:56:25 Q. Okay. And in this case what's the probability of
03:56:27 performance you're requiring?
03:56:29 A. Right. And so I didn't do a logistic regression.
03:56:32 I did an informal calibration to ground truth that I'm happy
03:56:36 to describe. Shall I describe it?
03:56:39 Q. Please do.
03:56:40 A. Okay, great. Thanks. I just want to make sure.
03:56:43 So here's what I did. I took this effectiveness
03:56:45 label and I said did it work. And to assess that I looked
03:56:50 at the maps as they existed when North Carolinians voted in
03:56:54 2020. So those maps were put in place in 2019, as you will
03:56:59 recall. And then I took my six out of eight and 25 percent
03:57:04 standard and I asked how many effective districts are there
03:57:07 at each level. And what I found is my method identified
03:57:10 three effective districts in Congress. And, as we all
03:57:14 probably know, there are two Black representatives today
03:57:18 from North Carolina. And that third district that I
03:57:22 identified as effective, that would be the Sixth District
03:57:26 where I believe the representative is Kathy Manning, who
03:57:29 faced four Black opponents in the primary, somewhat split
03:57:35 the vote. And so I think it was quite reasonable to label
03:57:37 that district effective even though, as we see, it didn't
03:57:40 guarantee a win for the Black candidate of choice. That's
03:57:43 the method performing as you would expect.
03:57:45 And then I won't go on, I promise, but just to

03:57:47 1 briefly round that out, the same thing at the Senate level
03:57:51 2 and the House level showed -- I predicted 11 effective
03:57:56 3 districts in the Senate, ten performed. I predicted 24
03:58:01 4 effective districts in the House, 25 performed. And this
03:58:06 5 gave me a good degree of professional confidence that my
03:58:10 6 effectiveness label was really tracking with opportunity for
03:58:13 7 Black candidates of choice.
03:58:17 8 Q. But an important variable in your definition of
03:58:20 9 ground truth was the race of the prevailing candidate,
03:58:25 10 correct? You were looking if the candidate prevailing was
03:58:28 11 Black identified, right?
03:58:29 12 A. Oh, that's right. And so that's an imperfect
03:58:32 13 proxy for a Black candidate of choice, but it's a good test
03:58:35 14 for calibration that your method isn't totally off the wall.
03:58:41 15 Q. Now, Dr. Duchin, you also applied a 25 percent
03:58:45 16 BVAP floor for -- in order to count a district as effective,
03:58:50 17 correct?
03:58:51 18 A. I did.
03:58:55 19 Q. And if I recall -- now, you could have chosen that
03:59:02 20 BVAP target or floor in the low thirties, correct?
03:59:07 21 A. So targets and floors sound pretty different to
03:59:09 22 me, so I just want to be clear.
03:59:10 23 Q. Well, let me rephrase that then in the interest of
03:59:12 24 time, then. You could have chosen a BVAP floor in the low
03:59:16 25 thirties, correct?

03:59:17 A. Sure. That's -- it's a choice that you make, but
03:59:20 I just want to emphasize the role of that BVAP threshold --
03:59:24 I know you've heard this from me before -- isn't to try to
03:59:28 guess how many Black people you need to get a certain
03:59:31 electoral outcome. I don't need to do that because I'm
03:59:34 separately looking at how people vote. The role of that
03:59:38 floor is to confirm that there are enough Black people in
03:59:41 the district to benefit from the expanded electoral
03:59:45 opportunity.
03:59:47 Q. And just to be clear on one point, Dr. Duchin, do
03:59:51 you agree that Black voters in North Carolina do not require
03:59:55 a district anywhere that contains at least 50 percent BVAP
03:59:59 to have an equal opportunity to elect representatives of
04:00:03 their choice?
04:00:03 A. I didn't actually assess the level that's
04:00:05 necessary. And as you probably know from my published
04:00:09 paper, I don't think it's possible to really capture the
04:00:13 complicated mechanics of what we were calling crossover
04:00:18 voting with just a statewide percentage.
04:00:20 Q. So you're not offering an opinion in this case
04:00:22 that Black voters require a district anywhere in the state
04:00:26 of North Carolina with at least 50 percent BVAP, correct?
04:00:29 A. That's certainly right.
04:00:30 Q. Okay. I just want to finish with one or two
04:00:32 questions from your rebuttal report. So if we could go to

04:00:35 PX-234.

04:00:44 Okay. Specifically, I just want to ask just two
04:00:47 quick questions about your criticism of Dr. Barber's
04:00:53 methodology. The algorithm that Dr. Barber ran was not
04:01:01 configured with an option that required the software to draw
04:01:06 only comparison plans with a certain range of compactness;
04:01:09 is that fair?

04:01:14 A. Let's see, I'm just going to see if I can follow
04:01:16 that. You're asking whether in the end his comparison plans
04:01:21 had to have a certain level of compactness?

04:01:23 Q. Well, let me ask the question a different way.
04:01:25 You mentioned -- You criticized Dr. Barber for turning on a
04:01:30 feature on his algorithm to favor compactness and then
04:01:35 subsequently applying a filter to remove comparison maps
04:01:40 that had a compactness floor beneath that of the Enacted
04:01:45 Plan, correct?

04:01:46 A. I think in particular that the filtering was --
04:01:48 was manifestly improper.

04:01:52 Q. You agree with me that compactness was a
04:01:55 redistricting criteria, correct?

04:01:57 A. Oh, no question about that.

04:01:59 Q. Okay. So it's not as if Dr. Barber applied an ad
04:02:02 hoc criteria like, for example, filtering out districts
04:02:06 that, you know, had a net elevation change of less than a
04:02:14 thousand feet or plans that did not split telephone area

codes, right?

A. Somewhere here the area codes matter, but I will not make that case today.

Q. Okay.

A. No, it's not that the metric is improper. Let me try to be clear. It's that by applying it to each individual cluster as a hard, bright-line threshold, that has the effect of throwing out many plans that are better overall than the Enacted Plan, better on traversals, better on compactness, better in the other ways that he measures.

Q. Sure.

A. So the part that I'm identifying as problematic, first of all, I do think it's redundant to have the -- the objective function and the thresholding, but beyond that, mainly it's that if you want to argue that that Enacted Plan is normal or typical, as he does, if you want to argue that it's not an outlier, then in 12 ways or 28 ways to throw out all of the things that aren't like it is -- is going to make it impossible to reasonably draw the conclusion that you're typical. If you first get to throw out everything that's not like you and then say, hey, look, now I'm typical, I do regard that to be improper.

Q. Just to be clear, the setting in his algorithm to favor compact plans does not itself impose a requirement that the computer only consider alternative maps within a

04:03:37 1 certain range of compactness, right?
04:03:39 2 A. That's definitely right.
04:03:41 3 Q. Okay. And my final question is on page 11, which
04:03:44 4 I believe is Figure 6 of your rebuttal. And here you
04:03:50 5 indicate that the filtered ensemble is smaller than the
04:03:56 6 unfiltered ensemble by a factor of trillions, isn't that
04:03:59 7 right?
04:04:00 8 A. Sure. Can we see that page?
04:04:01 9 Q. Sure. Oh, I'm sorry. Page 11.
04:04:03 10 A. Yes.
04:04:04 11 Q. Okay. If we could -- there, I should have it on
04:04:09 12 the screen for you. Do you see that, the text that
04:04:11 13 accompanying Figure 6?
04:04:12 14 A. I do. As I mentioned before, if memory serves,
04:04:14 15 it's a little over 503 trillion.
04:04:19 16 Q. So as I understand it, the total number of
04:04:23 17 ensemble -- the total size of the unfiltered ensembles is on
04:04:27 18 the order of 2.4 times 10 to the 56th maps; is that correct?
04:04:32 19 A. Yep. I don't even know the name of that number.
04:04:35 20 Q. All right. And so 503 trillion would be, what,
04:04:37 21 5.3 times 10 to which power?
04:04:42 22 A. I'm not going to try that on the spot.
04:04:44 23 Q. All right. But a number a lot smaller than 56,
04:04:46 24 right?
04:04:47 25 A. Sure. Oh, I want to be clear, though, it's not

that they're throwing away -- that he's throwing away 503 trillion maps. It's that he's only retaining one in every 503 trillion. That's how restrictive the filtering is. It's a factor, it's a multiplicative factor.

MR. LEWIS: Dr. Duchin, that's all I have for you.

THE WITNESS: Okay. Thank you.

JUDGE SHIRLEY: Any cross-examination by any of the other Plaintiffs?

MS. KLEIN: No, Your Honor.

JUDGE SHIRLEY: All right. Redirect?

MR. BRADFORD: No further questions, Your Honor.

JUDGE SHIRLEY: I've got a couple questions for clarification.

EXAMINATION BY THE COURT, JUDGE SHIRLEY:

Q. When you talk about effective districts, is that the equivalent of a majority minority district?

A. Oh, certainly not.

Q. Okay. So you haven't -- you know what the *Gingles* analysis is?

A. I do indeed.

Q. So you didn't do a *Gingles* analysis?

A. That's right. Well, to be clear, I did do *Gingles* two and three by doing an RPV analysis, but I didn't do *Gingles* one.

Q. But your -- *Gingles* three is on a statewide basis,

not on a district-wide basis; is that correct?

A. Not exactly, just to be perfectly accurate. So the EI is run on a statewide basis, but it -- it makes inferences about every precinct's preferences.

Q. All right. And you used the 2020 governor's race; is that correct?

A. That's one of many.

Q. And I know you used judicial races as well.

A. I did.

Q. And while some people accuse us of legislating and others ask us to legislate, none of the races you used, at least, were legislative races, were they?

A. No, that's right. I didn't use legislative races, didn't use districted in general.

Q. The governor performs a different function than the legislature, don't they?

A. I think so.

Q. Okay. All right. Just as the auditor performs a different function, as the judges perform different functions?

A. I certainly agree.

Q. Okay. And so would you agree that voters may look for different qualities depending upon the office for which they're voting?

A. Yeah. Not only do I agree, that's actually one of

04:07:19 the reasons that I'm so fond of looking at this wide range
04:07:23 of different elections because you have not only different
04:07:26 offices, different personalities, incumbency effects,
04:07:31 whether it was raining on the day of the election, all of
04:07:35 those factors get to be washed out a little bit when you
04:07:37 look at such a wide range of elections.
04:07:39 Q. Have you done work in Virginia?
04:07:41 A. Have I done work in Virginia?
04:07:44 Q. Or work for Virginia?
04:07:47 A. I have not worked for the state.
04:07:48 Q. Okay. But you did a paper on, I guess,
04:07:51 gerrymandering in Virginia?
04:07:52 A. A few.
04:07:54 Q. Would it be safe to say that their history is as
04:07:57 notorious as our history here in North Carolina?
04:08:02 A. I think it's safe to say that.
04:08:03 Q. Do you know how they have addressed their
04:08:05 political gerrymandering?
04:08:07 A. Their political gerrymandering, yes. Recently
04:08:12 voters approved a constitutional amendment, and that was the
04:08:15 last step after two reads by the legislature in creating an
04:08:20 independent commission, a nominally independent commission,
04:08:23 which in fact had legislators involved.
04:08:27 Q. And they also passed legislation limiting partisan
04:08:34 criteria, I believe. Is that your understanding?

A. It's true, yes, the constitutional amendment did also shift the redistricting criteria.

Q. And how has that worked out for them, do you know?

A. I am very opinionated about that matter.

Q. It's actually had to go to the second level. The bipartisan commission couldn't get it worked out and it's now in the courts, isn't it?

A. It -- it was quite ugly.

JUDGE SHIRLEY: Okay. All right. Any questions based off my questions?

MR. BRADFORD: No, Your Honor.

JUDGE SHIRLEY: Any based on my questions?

MR. LEWIS: No, Your Honor.

JUDGE SHIRLEY: You may step down. Thank you very much.

THE WITNESS: Thank you.

JUDGE SHIRLEY: All right. You may call your next witness.

MS. THEODORE: The Harper plaintiffs have no more -- have no more live witnesses. I believe that's true for all the Plaintiffs. We do have agreement with the Defendants. We all have some exhibits to move in. We'd like to hold our cases -- our cases open to move in exhibits tomorrow because we're going to confer to try to reduce objections.

No. 413PA21 TENTH DISTRICT

SUPREME COURT OF NORTH CAROLINA

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NORTH CAROLINA LEAGUE OF CONSERVATION VOTERS, INC.; HENRY M. MICHAUX, JR., et al., Plaintiffs, REBECCA HARPER, et al., Plaintiffs, COMMON CAUSE, Plaintiff-Intervenor, v. REPRESENTATIVE DESTIN HALL, in his official capacity as Chair of the House Standing Committee on Redistricting, et al.,	From Wake County

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ADDENDUM OF PLAINTIFFS-APPELLANTS NORTH CAROLINA LEAGUE OF CONSERVATION VOTERS, INC., ET AL.

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CONTENTS OF ADDENDUM

2019 WL 4569584 (N.C.Super.) (Trial Order)
Superior Court of North Carolina.
Wake County

COMMON CAUSE, et al., Plaintiffs,

v.

Representative David R. LEWIS, in his official capacity as Senior Chairman of the House Select Committee on Redistricting, et al., Defendants.

No. 18 CVS 014001.
September 3, 2019.

Judgment

Paul C. Ridgeway, Judge.
Joseph N. Crosswhite, Judge.
Alma L. Hinton, Judge.

TABLE OF CONTENTS

***1** The People of North Carolina have delegated, through the State's Constitution, the drawing of the State's legislative districts to the General Assembly. The delegation of this task, however, is not so unconstrained that legislative discretion is unfettered. Rather, the power entrusted by the People to the General Assembly to draw districts is constrained by other constitutional provisions that the People have also ordained. Some of these constitutional constraints are explicit—for example, the Whole County Provision of the Constitution limits a mapmaker's discretion to traverse county boundaries. But other constitutional constraints that limit the legislative process of map drawing are not explicit or limited in applicability only to map drawing—some constraints apply to all acts of the General Assembly, and indeed all acts of government. These principles include the obligation that our government provide all people with equal protection under law, that our government not restrict all peoples' rights of association and political expression, and that our government allow for free elections. Plaintiffs in this case challenge the legislative districts enacted by the General Assembly in 2017 and assert that the General Assembly has exceeded the map drawing discretion afforded to it by the People by creating maps that impermissibly infringe upon the equal protection, speech, association, and free election rights of citizens.

The People of North Carolina have also entrusted, through the State's Constitution, the task of reviewing acts of other branches of government to the judicial branch. While it is solely the province of the General Assembly to make law reflecting the policy choices of the People, it is the province—and indeed the duty—of the courts of our State through judicial review to ensure that enacted law comports with the State's Constitution. The Court cannot indiscriminately wield this power because the Court is also appropriately constrained by long-standing principles of law. Significantly, the Court must presume the constitutionality of acts of the General Assembly and must declare acts unconstitutional only when such a conclusion is so clear that no reasonable doubt can arise or the statute cannot be upheld on any ground.[1]

The voters of this state, since 2011, have been subjected to a dizzying succession of litigation over North Carolina's legislative and Congressional districts in state and federal courts. Today marks the third time this trial court has entered judgment. Two times, the North Carolina Supreme Court has spoken. Eight times, the United States Supreme Court has ruled. Yet, as we near the end of the decade, and with another decennial census and round of redistricting legislation ahead, the litigation rages on with little clarity or consensus. The conclusions of this Court today reflect the unanimous and best efforts of the undersigned trial judges—each hailing from different geographic regions and each with differing ideological and political outlooks—to apply core constitutional principles to this complex and divisive topic. We are aided by advances in data analytics that illuminate the evidence; we are aided by learned experts who inform our analysis; and, we are aided by skilled lawyers who have masterfully advanced the positions of their clients. But, at the end, we are guided, and must be guided, by what we conclude the North Carolina Constitution requires.

***2** The issue before the Court is distilled to simply this: whether the constitutional rights of North Carolina citizens are infringed when the General Assembly, for the purpose of retaining power, draws district maps with a predominant intent to favor voters aligned with one political party at the expense of other voters, and in fact achieves results that manifest this intent and cannot be explained by other non-partisan considerations. In this case, as is set out in detail below, the Court finds as fact that Plaintiffs have met their burden of proof on several critical points. Plaintiffs have established that:

- the General Assembly, in enacting the 2017 legislative maps, had a partisan intent to create legislative districts that perpetuated a Republican-controlled General Assembly;

- the General Assembly deployed this intent with surgical precision to carefully craft maps that grouped many voters into districts predominantly based upon partisan criteria by packing and cracking Democratic voters to dilute their collective voting strength, thereby creating partisan gerrymandered legislative maps;

- the 2017 legislative maps throughout the state and on a district-by-district level, when compared on a district-by-district level to virtually all other possible maps that could be drawn with neutral, non-partisan criteria, are, in many instances, "extreme outliers" on a partisan scale to the advantage of the Republican party;

- partisan intent predominated over all other redistricting criteria resulting in extreme partisan gerrymandered legislative maps; and,

- the effect of these carefully crafted partisan maps is that, in all but the most unusual election scenarios, the Republican party will control a majority of both chambers of the General Assembly.

In other words, the Court finds that in many election environments, it is the carefully crafted maps, and not the will of the voters, that dictate the election outcomes in a significant number of legislative districts and, ultimately, the majority control of the General Assembly. Faced with these facts, as proven by the evidence, the Court must now say whether this conduct violates the constitutional guarantees afforded to all citizens—Democrats, Republicans, and others—of equal protection, the right to associate, to speak freely through voting, and to participate in free elections.

Recently, the United States Supreme Court, in *Rucho v. Common Cause,* 139 S. Ct. 2484 (2019), held that even where enacted maps – *i.e.*, North Carolina's 2016 Congressional Map – were "blatant examples of partisanship driving districting decisions," challenges of partisan gerrymandering were "beyond the reach of the federal courts" because the federal Constitution provides no "constitutional directive or legal standard" to guide the courts. *Id.* at 2507-08. However, the Supreme Court added that "our conclusion does not condone excessive partisan gerrymandering" and does not "condemn complaints about redistricting to echo into a void." *Id.* at 2507. Rather, the Supreme Court observed that provisions of "state constitutions can provide standards and guidance for state courts to apply." *Id.* The case before this Court asserts only North Carolina constitutional challenges to the enacted legislative maps. Hence, this Court considers whether the North Carolina Constitution provides the "standards and guidance" necessary to address extreme partisan gerrymandering.

Of particular significance to this Court is Article I, § 10 of the North Carolina Constitution. This provision, originally enacted in 1776 and contained in the "Declaration of Rights" of our Constitution, simply states that "[a]ll elections shall be free." The North Carolina Supreme Court has long and consistently held that "our government is founded on the will of the people," that "their will is expressed by the ballot," *People ex rel. Van Bokkelen v. Canady,* 73 N.C. 198, 220 (1875), and "the object of all elections is to ascertain, fairly and truthfully the will of the people," *Hill v. Skinner*, 169 N.C. 405, 415, 86 S.E. 351, 356 (1915) (quotation omitted). The Court has also held that it is a "compelling interest" of the state "in having fair, honest elections." *State v. Petersilie*, 334 N.C. 169, 184, 432 S.E.2d 832, 840 (1993). This Court concludes, for these and other reasons more fully set out below, that the Free Elections Clause of the North Carolina Constitution guarantees that all elections must be conducted freely and honestly to ascertain, fairly and truthfully, the will of the People and that this is a fundamental right of North Carolina citizens, a compelling governmental interest, and a cornerstone of our democratic form of government.

***3** Our understanding of the Free Elections Clause shapes the application of the Equal Protection Clause, N.C. Const. art. I, § 19, the Freedom of Speech Clause, *id.* at art. I, § 12, and the Freedom of Assembly Clause, *id.* at art. I, § 14, to instances of extreme partisan gerrymandering. In the context of the constitutional guarantee that elections must be conducted freely and honestly to ascertain, fairly and truthfully, the will of the People, these clauses provide significant constraints against governmental conduct that disfavors certain groups of voters or creates barriers to the free ascertainment and expression of the will of the People.

Six years ago, this three-judge panel observed, perhaps presciently, the competing principles that are at the heart of the case before it today: "Political losses and partisan disadvantage are not the proper subject for judicial review, and those whose power or influence is stripped away by shifting political winds cannot seek a remedy from courts of law, but they must find relief from courts of public opinion in future elections." *Dickson v. Rucho*, No. 11 CVS 16896 (N.C. Super Ct. July 8, 2013). This, the Court believes, is as true today as it was then. It is not the province of the Court to pick political winners or losers. It is, however, most certainly the province of the Court to ensure that "future elections" in the "courts of public opinion" are ones that freely and truthfully express the will of the People. All elections shall be free—without that guarantee, there is no remedy or relief at all.

This Court is acutely aware that the process employed by the General Assembly in crafting the 2017 Enacted House and Senate maps is a process that has been used for decades—albeit in less precise and granular detail—by Democrats and Republicans alike. However, long standing, and even widespread, historical practices do not immunize governmental action from constitutional scrutiny. *See, e.g., Citizens United v. FEC*, 558 U.S. 310, 365, 130 S. Ct. 876, 913 (2010); *Reynolds v. Sims*, 377 U.S. 533, 582, 84 S. Ct. 1362, 1392 (1964) (holding that malapportionment of state legislative districts violates the Equal Protection Clause, notwithstanding that malapportionment was widespread in the Nineteenth and early Twentieth Centuries).

With this as our guide, this Court, in exercising its duty of reviewing acts of other branches of government to ensure that those governmental acts comport with the rights of North Carolina citizens guaranteed by the North Carolina Constitution, concludes that the 2017 Enacted House and Senate Maps are significantly tainted in that they unconstitutionally deprive every citizen of the right to elections for members of the General Assembly conducted freely and honestly to ascertain, fairly and truthfully, the will of the People. The Court bases this on the inescapable conclusion that the 2017 Enacted Maps, as drawn, do not permit voters to freely choose their representative, but rather representatives are choosing voters based upon sophisticated partisan sorting. It is not the free will of the People that is fairly ascertained through extreme partisan gerrymandering. Rather, it is the carefully crafted will of the map drawer that predominates. This Court further concludes that the 2017 Enacted Maps are tainted by an unconstitutional deprivation of all citizens' rights to equal protection of law, freedom of speech, and freedom of assembly. These conclusions are more fully set out in the following Findings of Fact and Conclusions of Law.

FINDINGS OF FACT

A. Republicans Drew the 2017 Plans to Maximize Their Political Power

1. Republican Mapmakers Drew the 2011 Plans

***4** 1. In the 2010 elections, as part of a national Republican effort to flip state legislative chambers in order to gain control of redistricting after the 2010 Census, Republicans won majorities in the North Carolina House of Representatives and the North Carolina Senate for the first time since 1870. PX587 ¶ 5; Tr. 867.

2. With their newfound control of both chambers of the General Assembly, Republican legislative leaders set out to redraw the boundaries of the State's legislative districts. In North Carolina, legislative redistricting is performed exclusively by the General Assembly. The Governor cannot veto redistricting bills. N.C. Const. art. II, § 22(5)(b),(c).

3. Legislative Defendant Representative David Lewis and Senator Robert Rucho oversaw the drawing of the 2011 state House and state Senate plans (the "2011 Plans"). PX587 ¶ 8 (Leg. Defs.' Responses to Requests for Admission); Tr. 95:17-21 (Sen.

Blue). They hired Dr. Thomas Hofeller to draw the plans. *Id.* ¶ 7; Tr. 95:8-9. Dr. Hofeller and his team drew the plans at the North Carolina Republican Party's headquarters in Raleigh using mapmaking software licensed by the North Carolina Republican Party. PX587 ¶¶ 10-11.

4. Legislative Defendants did not make Dr. Hofeller available to Democratic members of the General Assembly during the 2011 redistricting process, nor did Dr. Hofeller communicate with any Democratic members in developing the 2011 Plans. PX587 ¶¶ 12-13. No Democratic member of the General Assembly saw any part of any draft of the 2011 Plans before they were publicly released. *Id.* ¶ 14.

5. Legislative Defendants have stated in court filings that the 2011 Plans were "designed to ensure Republican majorities in the House and Senate." PX575 at 55 (Defs.-Appellees' Br. on Remand, *Dickson v. Rucho*, No. 201PA12-3, 2015 WL 4456364 (N.C. July 13, 2015)); *see id.* at 16 ("Political considerations played a significant role in the enacted [2011] plans."). Legislative Defendants asserted that they were "perfectly free" to engage in constitutional partisan gerrymandering, and that they did so in constructing the 2011 Plans. PX574 at 60 (Defs.-Appellees' Br., *Dickson v. Rucho*, No. 201PA12-2, 2013 WL 6710857 (N.C. Dec. 9, 2013)).

6. To "ensure Republican majorities in the House and Senate," PX575 at 55, Legislative Defendants and Dr. Hofeller used prior election results to construct the district boundaries to advantage Republicans. PX587 ¶¶ 6, 17. "[T]he recommendation of Tom Hofeller" was to "create a master database that would contain all [statewide] NC elections from the past decade … , each processed into a form that matches up with the 2010 VTD geography." PX769 at 3 (Jan. 14, 2011 memorandum to Senator Rucho). Legislative Defendants obtained Census block-level election results from "all statewide election contests for each general election [from] 2004-2010." PX760.

7. When reviewing the draft plans, all members of the General Assembly had access to a "Stat Pack" containing data on how the districts would perform using the results of prior statewide elections. Tr. 98:4-99:9 (Sen. Blue). Specifically, the Stat Pack showed the partisan vote share for each drafted district for each specific prior election. *Id.* Members of the General Assembly viewed the Stat Pack as containing "pretty reliable predictors of how [draft] districts would perform in the future based on how they performed in the past." Tr. 99:6-9 (Sen. Blue).

***5** 8. In July 2011, the General Assembly enacted the 2011 Plans. N.C. Sess. Laws 2011-404 (House), 2011-402 (Senate). No Democrat voted for either plan, and only one Republican voted against them. PX587 ¶¶ 23-24.

9. In the 2012 elections, the parties' vote shares for the House were nearly evenly split across the state, with Democrats receiving 48.4% of the two-party statewide vote. Joint Stipulation of Facts ("JSF") ¶ 41. But Democrats won only 43 of 120 seats (36%). *Id.* ¶ 42. Republicans thus won a veto-proof majority in the state House—64% of the seats (77 of 120)—despite winning just a bare majority of the statewide vote. In the Senate, Democrats won nearly half of the statewide vote (48.8%) but won only 17 of 50 seats (34%). *Id.* ¶¶ 44-45.

10. In 2014, Republican candidates for the House won 54.4% of the statewide vote, and again won a super-majority of seats (74 of 120, or 61.6%). JSF ¶ 66. In the 2014 Senate elections, Republicans won 54.3% of statewide vote and 68% of the seats (34 of 50). *Id.* ¶ 66.

11. In 2016, Republicans again won 74 of 120 House seats, or 61.6%, this time with 52.6% of the statewide vote. *Id.* ¶ 66. In the 2016 Senate elections, Republicans won 55.9% of the statewide vote and 70% of the seats (35 of 50). *Id.* ¶ 66.

2. The *Covington* Court Struck Down Certain 2011 Districts as Unconstitutional Racial Gerrymanders

12. On May 19, 2015, a group of individual plaintiffs initiated a lawsuit—*Covington v. North Carolina*, No. 1:15-CV-00399 (M.D.N.C.)—against the State Board of Elections, Speaker Timothy Moore, President Pro Tempore Philip Berger, Chair of the

Senate Redistricting Committee, Robert Rucho, and Chair of the House Redistricting Committee, David Lewis challenging 28 total House and Senate districts under the 2011 Plans as unconstitutional racial gerrymanders. This case was referenced at trial, the related briefs, and in these findings as the "*Covington* case" or "*Covington* litigation."

13. On August 11, 2016, the federal district court ruled for the plaintiffs as to all of the challenged districts. *Covington v. North Carolina*, 316 F.R.D. 117 (M.D.N.C. 2016). The *Covington* court found that racial considerations rather than political considerations "played a primary role" with respect to the specific 28 "challenged districts" in *Covington*. 316 F.R.D. at 139. The *Covington* litigation did not involve any of the districts drawn in 2011 that are at issue in the present case.

14. Following appeal, on June 5, 2017, the U.S. Supreme Court summarily affirmed the district court's decision invalidating the 28 challenged districts as racial gerrymanders. 137 S. Ct. 2211 (mem.).

15. The district court subsequently ordered briefing on whether to order enactment of remedial maps under a timeline that would enable special elections in 2017. Ultimately, the court declined to order special elections in 2017 and instead allowed a longer timeline for the General Assembly to enact remedial plans. *Covington v. North Carolina*, 267 F. Supp. 3d 664 (M.D.N.C. 2017).

3. The General Assembly Enacted the 2017 Plans

16. On June 30, 2017, Senator Berger appointed 15 senators—10 Republicans and 5 Democrats—to the Senate Committee on Redistricting. PX587 ¶ 44. Senator Hise was appointed Chair. *Id.* Also on June 30, 2017, Representative Moore appointed 41 House members—28 Republicans and 13 Democrats—to the House Select Committee on Redistricting. PX629 at 4-5. Representative Lewis was appointed Senior Chair. PX587 ¶ 45.

***6** 17. On July 26, 2017, the Senate Redistricting Committee and the House Select Committee on Redistricting met jointly ("Redistricting Committee") for organizational and informational purposes. *Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-7 at 3-4. At the meeting, Representative Lewis and Senator Hise stated that Republican leadership would again employ Dr. Hofeller to draw the new plans. PX601 at 23:3-6; *see* PX587 ¶¶ 46-47. When Democratic Senator Van Duyn asked whether Dr. Hofeller would "be available to Democrats and maybe even the Black Caucus to consult," Representative Lewis answered "no." PX601 at 22:24-23:6. Representative Lewis explained that, "with the approval of the Speaker and the President Pro Tem of the Senate," "Dr. Hofeller is working as a consultant to the Chairs," *i.e.*, as a consultant only to Legislative Defendants. *Id.* at 23:3-6; Tr. 101:6-18 (Sen. Blue).

18. In explaining the choice of Dr. Hofeller to draw the 2017 Plans, Representative Lewis stated that Dr. Hofeller was "very fluent in being able to help legislators translate their desires" into the district lines using "the [M]aptitude program." PX590 at 36:17-19.

19. On August 4, 2017, at another joint meeting of the Redistricting Committees, Representative Lewis and Senator Hise advised Committee members that the *Covington* decision invalidating 28 districts on federal constitutional grounds had rendered a large number of additional districts invalid under the Whole County Provision of the North Carolina Constitution, and those districts would also have to be redrawn. PX602 at 2:14-11:23.

20. At the same August 4, 2017, meeting, the Redistricting Committees allowed 31 citizens to speak for two minutes each. PX602 at 28:3-68:23. All speakers urged the members to adopt fair maps free of partisan bias. *See id.*

21. At another joint meeting on August 10, 2017, the House and Senate Redistricting Committees voted on criteria to govern the creation of the new plans. PX603 at 4:23-5:5.

22. Representative Lewis proposed as one criterion, "election data[:] Political consideration[s] and election results data may be used in drawing up legislative districts in the 2017 House and Senate plans." PX603 at 132:10-13. Representative Lewis

provided no further explanation or justification for this proposed criterion, stating only: "I believe this is pretty self-explanatory, and I would urge members to adopt the criteria." *Id.* at 132:13-15.

23. Democratic members pressed Representative Lewis for details on how Dr. Hofeller would use elections data and for what purpose. Democratic Senator Ben Clark asked: "You're going to collect the political data. What specifically would the Committee do with it?" PX603 at 135:11-13. Representative Lewis answered that "the Committee could look at the political data as evidence to how, perhaps, votes have been cast in the past." *Id.* at 135:15-17. When Senator Clark inquired why the Committees would consider election results if not to predict future election outcomes, Representative Lewis stated only that "the consideration of political data in terms of election results is an established districting criteria, and it's one that I propose that this committee use in drawing the map." *Id.* at 141:12-16.

24. Representative Lewis had also stated that Dr. Hofeller used ten specific prior statewide elections in drawing the 2017 Plans: the 2010 U.S. Senate election, the 2012 elections for President, Governor, and Lieutenant Governor, the 2014 U.S. Senate election, and the 2016 elections for President, U.S. Senate, Governor, Lieutenant Governor, and Attorney General. PX603 at 137:22-138:3.

25. The House and Senate Redistricting Committees adopted Representative Lewis's "election data" criterion on a straight party-line vote. PX603 at 141-48.

26. Senator Clark proposed an amendment that would prohibit the General Assembly from seeking to maintain or establish a partisan advantage for any party in redrawing the plans. PX603 at 166:9-167:3. Representative Lewis opposed the amendment, stating he "would not advocate for [its] passage." *Id.* at 167:10-11. The Redistricting Committees rejected Senator Clark's proposal, again on a straight party-line vote. *Id.* at 168-74.

***7** 27. As explained in extensive detail below, Dr. Hofeller's own files establish that he used prior elections results and partisanship formulas to draw district boundaries to maximize the number of seats that Republicans would win in the House and the Senate, and to ensure that Republicans would retain majorities in both chambers. PX123 at 48-76 (Chen Rebuttal Report); PX329 at 3-35 (Cooper Rebuttal Report); PX153, PX166; PX167; PX168; PX170; PX171; PX172; PX241; PX244; PX246; PX248; PX330; PX332; PX333; PX334; PX335; PX336; PX337; PX340; PX342; PX344; PX345; PX346; PX347; PX350; PX352; PX353; PX354; PX724; PX730; PX731; PX732; PX733; PX734; PX735; PX736; PX738; PX739; PX742; PX744; PX746; PX748; PX753; PX754; PX755; PX756.

28. As a further criterion, Representative Lewis proposed incumbency protection—namely that "reasonable efforts and political considerations may be used to avoid pairing incumbent members of the House or Senate with another incumbent in legislative districts drawn in 2017 House and Senate plans. The Committee may make reasonable efforts to ensure voters have a reasonable opportunity to elect non-paired incumbents of either party to a district in the 2017 House and Senate plans." PX603 at 119:9-17. He clarified that the second sentence of this proposed criterion meant "simply" that "the map makers may take reasonable efforts not to pair incumbents unduly." *Id.* at 122:16-18; *see* PX606 at 9:24-10:1 (Sen. Hise: "The Committee adopted criteria pledging to make reasonable efforts not to double-bunk incumbents.").

29. The House and Senate Redistricting Committees adopted Representative Lewis's incumbency-protection criterion, once more on a straight-party line vote. PX603 at 125-32.

30. The Redistricting Committees also adopted as criteria, yet again on straight party-line votes, that they (1) would make "reasonable efforts" to "improve the compactness of the current districts," PX603 at 24:24-25:2; (2) would make "reasonable efforts" to "split fewer precincts" than under the 2011 Plans, *id.* at 79:8-12; and (3) "may consider municipal boundaries" in drawing the new districts, *id.* at 66:15-16; *see id.* at 98-104, 112-19 (adopting criteria). Representative Lewis clarified that these criteria meant "trying to keep towns, cities and precincts whole where possible." PX607 at 10:5-6; *see, e.g.,* PX603 at 66:22-23 (Rep. Lewis explaining that the Committees would "consider not dividing municipalities where possible").

31. As a final criterion, Representative Lewis proposed prohibiting the consideration of racial data in drawing the new plans. PX603 at 148:11-15.

32. The full criteria adopted by the Committees for the 2017 Plans (the "Adopted Criteria") read as follows:

Equal Population. The Committees shall use the 2010 federal decennial census data as the sole basis of population for drawing legislative districts in the 2017 House and Senate plans. The number of persons in each legislative district shall comply with the +/- 5 percent population deviation standard established by *Stephenson v. Bartlett*, 355 N.C. 354, 562 S.E. 2d 377 (2002).

Contiguity. Legislative districts shall be comprised of contiguous territory. Contiguity by water is sufficient.

County Groupings and Traversals. The Committees shall draw legislative districts within county groupings as required by *Stephenson v. Bartlett*, 355 N.C. 354, 562 S.E. 2d 377 (2002) (*Stephenson I*), *Stephenson v. Bartlett*, 357 N.C. 301, 582 S.E.2d 247 (2003) (*Stephenson II*), *Dickson v. Rucho*, 367 N.C. 542, 766 S.E.2d 238 (2014) (*Dickson I*) and *Dickson v. Rucho*, 368 N.C. 481, 781 S.E.2d 460 (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*.

***8** *Compactness*. The Committees shall make reasonable efforts to draw legislative districts in the 2017 House and Senate plans that improve the compactness of the current districts. In doing so, the Committees may use as a guide the minimum Reock ("dispersion") and Polsby-Popper ("perimeter") scores identified by Richard H. Pildes and Richard G. Neimi in *Expressive Harms, "Bizarre Districts," and Voting Rights: Evaluating Election-District Appearances After Shaw v. Reno*, 92 Mich. L. Rev. 483 (1993).

Fewer Split Precincts. The Committees shall make reasonable efforts to draw legislative districts in the 2017 House and Senate plans that split fewer precincts than the current legislative redistricting plans.

Municipal Boundaries. The Committees may consider municipal boundaries when drawing legislative districts in the 2017 House and Senate plans.

Incumbency Protection. Reasonable efforts and political considerations may be used to avoid pairing incumbent members of the House or Senate with another incumbent in legislative districts drawn in the 2017 House and Senate plans. The Committees may make reasonable efforts to ensure voters have a reasonable opportunity to elect non-paired incumbents of either party to a district in the 2017 House and Senate plans.

Election Data. Political considerations and election results data may be used in the drawing of legislative districts in the 2017 House and Senate plans.

No Consideration of Racial Data. Data identifying the race of individuals or voters shall not be used in the drawing of legislative districts in the 2017 House and Senate plans.

PX587 ¶ 53; LDTX007.

33. On August 11, 2017, Representative Lewis and Senator Hise notified Dr. Hofeller of the criteria adopted by the redistricting committees and "directed him to utilize those criteria when drawing districts in the 2017 plans." PX629 at 7. The criteria were also placed on legislative websites for the public to view and comment. *Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-9 at 193.

34. Dr. Hofeller drew the 2017 Plans under the direction of Legislative Defendants and without consultation with any Democratic members. PX587 ¶¶ 48-51, 55-56. Representative Lewis claimed that he "primarily … directed how the [House] map was produced," and that he, Dr. Hofeller, and Republican Representative Nelson Dollar were the only "three people" who had even "seen it prior to its public publication." PX590 at 40:14-21. None of Legislative Defendants' meetings with Dr. Hofeller about the 2017 redistricting were public. PX587 ¶ 51. Legislative Defendants did not make Dr. Hofeller available to Democratic members during the 2017 redistricting process, nor did Dr. Hofeller communicate with any Democratic members in developing the 2017 Plans. PX587 ¶¶ 48-49; Tr. 126:16-18 (Sen. Blue). No Democratic member of the General Assembly saw any part of any draft of the 2017 Plans before they were publicly released. PX587 ¶ 50.

35. On August 19, 2017, the proposed 2017 House plan was released on the General Assembly website. PX629 at 7. The House Redistricting Committee made only minor adjustments to Dr. Hofeller's draft, swapping precincts between a few districts. PX605 at 16:2-17:16.

36. On August 20, 2017, the proposed 2017 Senate plan was released on the General Assembly website. PX629 at 7. At a Senate Redistricting Committee hearing on August 24, 2017, Senator Van Duyn asked Senator Hise how prior elections data had been used in drawing the proposed maps. PX606 at 26:4-6. Senator Hise replied that the mapmaker, Dr. Hofeller, "did make partisan considerations when drawing particular districts." *Id.* at 26:9-10.

***9** 37. The Senate Redistricting Committee adopted only two minor amendments to the district boundaries drawn by Dr. Hofeller. One change, proposed by Senator Clark, moved a small population from Senate District 19 to District 21. PX606 at 49:20-52:9. The other change, proposed by Democratic Senator Daniel Blue, swapped a few precincts between Senate Districts 14 and 15, two heavily Democratic districts in Wake County. *Id.* at 52:19-53:19. Senator Blue's amendment passed by a unanimous vote. *Id*. at 67:13-19.

38. As in 2011, Stat Packs measuring the partisan performance of the draft districts under recent elections were made available to members of the Redistricting Committees. Tr. 113:17-115:15 (Sen. Blue). The Stat Packs, released on August 21, 2017, *see* PX629 at 7, contained information for each proposed district based on the ten statewide elections that Representative Lewis had claimed would be used in drawing the 2017 Plans. PX591; PX597.

39. Following the public release of the draft House and Senate maps, Legislative Defendants held public meetings on August 22, 2017, in Raleigh and at six satellite locations across the state. PX607 at 7:22-8:11, 9:1-3. Many citizens spoke at the meetings and expressed grave concerns about the draft maps. As Senator Blue testified, "overwhelmingly they were saying that they wanted districts drawn that were not partisan in nature." Tr. 105:8-12.

40. On August 24, 2017, the Senate Redistricting Committee adopted the Senate plan drawn by Dr. Hofeller with the minor modifications discussed above. PX606 at 131:10-23. The next day, the House Redistricting Committee adopted Dr. Hofeller's proposed House plan, also with the minor modifications discussed above. PX605 at 120:2-125:25.

41. During a Floor Session Hearing on August 28, 2017, Representative Lewis proposed an amendment to modify several House districts in Wake County. PX590 at 30:13-32:2. The amendment passed on a straight party-line vote. *Id.* at 31:18-32:2.

42. On August 31, 2017, the General Assembly passed the House plan (designated HB 927) and the Senate plan (designated SB 691), with only a few minor modifications from the versions passed by the Committees. PX629 at 8-9; *see* PX627 (HB 927); PX628 (SB 691). No Democratic Senator voted in favor of either plan. PX587 ¶ 71. The lone Democratic member of the House who voted for the plans was Representative William Brisson, who switched to become a Republican several months later. *Id.*

43. The 2017 Plans altered 79 House districts and 35 Senate districts from the 2011 Plans. JSF ¶¶ 169-70.

4. The *Covington* Special Master Redrew Several Districts That Remained Racially Gerrymandered

44. On September 15, 2017, the *Covington* plaintiffs filed an objection to the 2017 draft plans, alleging that Senate Districts 21 and 28 and House Districts 57 and 21 were still racial gerrymanders. *Covington v. North Carolina*, 283 F. Supp. 3d 410, 429 (M.D.N.C. 2018). The *Covington* Court agreed. *Id.* at 429-42. The court further held that the General Assembly's changes to five House districts (36, 37, 40, 41, and 105) violated the North Carolina Constitution's prohibition on mid-decade redistricting. *Id.* at 443-45.

45. The court appointed Dr. Nathaniel Persily as a Special Master to assist in redrawing the districts for which the court had sustained the plaintiffs' objections. To cure the racially gerrymandered districts, the Special Master made adjustments to certain neighboring districts as well. *Covington*, ECF No. 220 at 46, 64. The court adopted the Special Master's recommended changes to all of these districts. 283 F. Supp. 3d at 458.

***10** 46. The Special Master also restored the districts that the court had found were redrawn in violation of the ban on mid-decade redistricting to the 2011 versions of those districts. *Covington*, 283 F. Supp. 3d at 456-58. The court adopted these changes as well. *Id.*

47. On June 28, 2018, the U.S. Supreme Court affirmed the district court's adoption of the Special Master's remedial plans for House Districts 21 and 57 (and the adjoining districts, 22, 59, 61, and 62) and Senate Districts 21 and 28 (and the adjoining districts, 19, 24, and 27). *North Carolina v. Covington*, 138 S. Ct. 2548, 2553-54 (2018). But the U.S. Supreme Court reversed the district court's adoption of the Special Master's plans for the districts allegedly enacted in violation of the mid-decade redistricting prohibition, holding that the court's remedial authority was limited to curing the racial gerrymanders and nothing more. *Id.* at 2554-55.

48. Ultimately, the Special Master's Final Report altered the following districts: Senate Districts 19, 21, 24, 27, 28; House Districts 21, 22, 57, 59, 61. LDTX159. The Special Master also reviewed the 2017 Enacted Plan and chose to keep the General Assembly's version of House Districts 58 and 60 in his recommended changes. *Id.*

49. Plaintiffs in this case do not challenge the following districts that were altered by the *Covington* Special Master: House Districts 21, 22, 57, 61, 62; Senate Districts 19, 21, 24, 28.

B. The 2017 Plans Were Designed Intentionally and Effectively to Maximize Republican Partisan Advantage on a Statewide Basis

1. Legislative Defendants Admitted That They Were Drawing the 2017 Plans for Partisan Gain

50. At trial, there was little meaningful dispute that Legislative Defendants drew the 2017 Plans to advantage Republicans and reduce the effectiveness of Democratic votes.

51. The 2017 Adopted Criteria expressly provided for the use of "election data" in drawing the 2017 Plans. LDTX007. The Joint Select Committee on Redistricting considered results from 10 statewide elections, captured in Stat Packs available to legislators when they considered whether to adopt Dr. Hofeller's draft House and Senate plans. Tr. 113:17-115:15. The Stat Packs demonstrated that, under those 10 statewide elections, Republicans would be expected to win between 72 and 82 seats in the House and between 31 and 35 seats in the Senate. PX591; PX597. In other words, Republicans would win a supermajority in both chambers of the General Assembly under each and every one of the 10 statewide elections used to evaluate the 2017 Plans (72 seats provides a supermajority in the House and 30 seats does in the Senate).

52. As Senator Blue testified, the election data used by Legislative Defendants— and in particular the performance of the proposed House and Senate plans under the range of 10 prior statewide elections—revealed that the plans were "designed specifically to preserve the supermajority" that the Republican Party had gained under the 2011 Plans. Tr. 115:19-22.

53. At the Senate Redistricting Committee hearing on August 24, 2017, Senator Hise confirmed that the mapmaker, Dr. Hofeller, "did make partisan considerations when drawing particular districts" in 2017. PX606 at 26:9-10. And as discussed above, Legislative Defendants stated in prior court filings that the districts drawn in 2011 were "designed to ensure Republican majorities in the House and Senate." PX575 at 16, 55 (*Dickson v. Rucho*, No. 201PA12-3, 2015 WL 4456364 (N.C. July 13, 2015)).

2. Dr. Hofeller's Files Establish That the Predominant Goal Was to Maximize Republican Partisan Advantage

***11** 54. Files from Dr. Hofeller's storage devices provide direct evidence of Dr. Hofeller's predominant focus on maximizing Republican partisan advantage in creating the 2017 Plans. The Court specifically finds, based upon the direct and circumstantial evidence of record, that the partisan intent demonstrated in Dr. Hofeller's files, as detailed below, is attributable to Legislative Defendants inasmuch that Dr. Hofeller, at all relevant times, worked under the direction of, and in concert with, Legislative Defendants. *See, e.g.,* FOF § F.7.

55. Plaintiffs obtained this evidence through a subpoena to Dr. Hofeller's daughter. PX676; PX781 (S. Hofeller deposition). Plaintiffs issued the subpoena to Ms. Hofeller on February 13, 2019 and provided notice to all other parties the same day. PX676. After no party objected to the subpoena, on March 13, 2019, Ms. Hofeller produced 22 electronic storage devices that had belonged to her father and that her mother gave her after Dr. Hofeller's death. PX781 at 1-43. The Hofeller files admitted into evidence at trial all came from these storage devices. PX123 at 2, 39, 48 (Chen Rebuttal Report); PX329 at 3-4 (Cooper Rebuttal Report).[2]

56. This Court granted Plaintiffs' pretrial motion *in limine* to admit the relevant files from Dr. Hofeller's storage devices, finding sufficient evidence of authenticity and chain of custody. As the Court suggested in its pretrial ruling, and now holds, these files are public records pursuant to N.C. Gen. Stat. § 120-133(a) and Dr. Hofeller's contract with the General Assembly to draw the 2017 Plans. PX641. The Court denied Legislative Defendants' motion *in limine* to exclude the Hofeller files based on purported misconduct by Plaintiffs or their counsel.

57. Dr. Hofeller maintained two folders related to the 2017 redistricting, titled "NC 2017 Redistricting" and "2017 Redistricting." Tr. 449:20-450:5. Plaintiffs' expert Dr. Chen reviewed the entire contents of these two folders and found that, other than verifying that draft districts met the equal population and county grouping requirements, the files exhibited a consistent focus on partisan considerations. PX123 at 76 (Chen Rebuttal Report); Tr. 450:6-13. Among the hundreds of files in these two folders, there were a "few files" that report on VTD and county splits, "[b]ut beyond these few files," these hundreds of files focused overwhelmingly on each party's expected vote share in the draft districts and on the identities and party affiliations of the incumbent members in each district. PX123 at 76 (Chen Rebuttal Report). The fact that these folders focused overwhelmingly on partisan considerations is persuasive evidence that partisan intent predominated in the drawing of the 2017 Plans.

a. *Dr. Hofeller's partisanship formulas*

58. The specific contents of the two folders confirm Dr. Hofeller's focus on Republican partisan advantage. In the folders, Dr. Hofeller had three partisanship formulas. First, as reflected in a Microsoft Word document titled "FORMULA FOR POLITICAL ANALYSIS OF LEGISLATIVE DISTRICTS," Dr. Hofeller used a formula that measured the average Republican vote share in each VTD across nine statewide elections from 2008 to 2014. Tr. 450:24-451:15; PX123 at 49-52 (Chen Rebuttal Report). These nine elections were different from the ten elections Representative Lewis claimed would be used. Tr. 451:20-452:6. Dr. Hofeller used this partisanship formula based on 2008-2014 elections to measure the partisanship of his draft districts through

at least July 2017, Tr. 452:7-10, by which point he had already substantially completed drawing preliminary drafts for most of the final districts, FOF § F.7. Plaintiffs' Exhibit 153 is a screenshot of Dr. Hofeller's Microsoft Word document containing this partisanship formula:

***12 Dr. Hofeller's "FORMULA FOR POLITICAL ANALYSIS OF LEGISLATIVE DISTRICTS.doc"**

FORMULA FOR POLITICAL ANALYSIS OF LEGISLATIVE DISTRICTS USING 2-PARTY VOTE

(G08P_RV+ G08G_RV+ G08S_RV+ G08K_RV+ G12P_RV+ G12G_RV+ G12O_RV_ G10S_RV+ G14S_RV)/ (G08P_DV+ G08P_RV+ G08G_DV+ G08S_DV+ G08S_DV+ G08S_RV+ G08K_DV+ G08K_RV+ G12P_DV+ G12P_RV+ G12G_DV+ G12G_RV+ G12O_DV+ G12O_RV+ G10S_DV+ G10S_RV+ G14S_DV+ G14S_RV)

2008	President
2008	Governor
2008	U.S. Senate
2008	insurance Commissioner
2010	U. S. Senate
2012	President
2012	Governor
2012	Commissioner of Labor
2014	U.S. Senate

59. Dr. Hofeller's second partisanship formula was based on the ten statewide elections from 2010-2016 that Representative Lewis claimed would be used in 2017. Tr. 452:12-453:21. Dr. Hofeller did not employ this formula, however, in the Excel worksheets where he analyzed the partisanship of his draft districts. Tr. 453:12-17.

60. Dr. Hofeller's final partisanship formula, titled "Off Year," was based on the results of statewide elections during non-Presidential election years, namely 2010 and 2014. Tr. 453:22-454:9; PX123 at 65 (Chen Rebuttal Report). It is apparent that Dr. Hofeller used this formula to evaluate how his districts might perform in non-Presidential years. Tr. 454:10-17.

61. Dr. Hofeller's "NC 2017 Redistricting" and "2017 Redistricting" folders contain numerous Microsoft Excel spreadsheets analyzing partisan considerations, using his partisanship formulas, for the draft House and Senate plans that he was developing and modifying from November 2016 through June 2017. *See* PX123 at 53-64 (Chen Rebuttal Report).

62. First, Dr. Hofeller placed a special focus on how many of his draft House and Senate districts had an average Republican vote share of 53% or higher using his partisanship formulas. For instance, in a spreadsheet last modified on November 26, 2016, analyzing a draft Senate plan, Dr. Hofeller wrote "23 Under 53%" at the bottom to indicate the number of draft districts for which Democrats had less than a 53% vote share and Republicans had a 53% or higher vote share. Tr. 456:14-20; PX248 at 2. In other words, as shown in Plaintiffs' Exhibit 248 below, Dr. Hofeller projected that 27 of the 50 districts in this draft Senate plan would have a Republican vote share at or above 53%.

Dr. Hotelier's Draft Plan File: "Senate Minimum-Partisan-Members.xlsx" (November 26, 2016)

New 2016 Senate Plan

Group Type	Dist	Avg R	Incumbent	Pty	Note	Old Ave R
New	1	52.70%	Cook	R		
Old	2	60.16%	Sanderson	R		
New	3	35.11%	Smith-Ingram	D		
New	4	37.39%	Horner	R		
New	5	45.94%	Davis	D		
Old	6	59.16%	Brown	R		
New	7	50.94%	Pate	R		
Old	S	54.69%	Rabon	R		
Old	9	53.05%	Lee	R		
New	10	55.32%	Jackson	R		
New	11	54.35%	Bryant	D		
New	12	56.83%	Rabin	R		
Old	13	41.09%	Britt	R		
Wake-Franklin	14	24.66%	Blue	D		
Wake-Franklin	15	52.45%	Alexander	R		
Wake-Franklin	16	40.50%	Chaudhuri	D		
Wake-Franklin	17	54,36%	Barringer	R		
Wake-Franklin	18	52.70%	Barefoot	R		
Cumberland	19	50.64%	Meredith	R		
New	20	27.50%	McKissick	D		
Cumberland	21	29.64%	Clark	D		
New	22	33.39%	Woodard	D		
Old	23	34.84%	Foushee	D		
New	24	56.91%	Gunn	R		
New	25	51.51%	McInnis	R		

New	26	59.18%	Berger	R		
New	27	58.05%	Wade	R		
New	28	23.67%	Robinson	D		
New	29	*13 50.90%	Tillman	R		
New	30	60.87%	Randleman, Ballard	R,R	#	
New	31	64.87%	Brock, Krawiec	R,R	#	
New	32	30.42%	Lowe	D		
Old	33	55.39%	Dunn	R		
New	34	66.29%	Vacant	R	#	
Old	35	65.63%	Tucker	R		
Old	36	61.81%	Newton	R		
Mecklenburg	37	32.84%	Vacant	D	#	
Mecklenburg	38	26.55%	Jackson	D		
Mecklenburg	39	63.97%	Bishop	R		
Mecklenburg	40	28.50%	Waddell	D		
Mecklenburg	41	49.66%	Ford, Tarte	D,R	#	
Old	42	65.81%	Wells	R		
New	43	62.82%	Jarromgtpm	R		
New	44	62.81%	Curtis	R		
New	45	64.46%	Vacant	R	#	
New	46	63.85%	Danniel	R		
Old	47	59.28%	Hise	R		
Old	48	58.81%	Edwards	R		
Old	49	40.90%	Van Duyn	D		
Old	50	56.29%	Davis	R		

Notes: # = Double Bunk or Vacant, ## = Partisan Mismatch

23 Under 53%

63. In subsequent June 2017 spreadsheets analyzing draft House and Senate plans, Dr. Hofeller color-coded the districts to differentiate between districts that had slightly-under and slightly-over a 53% expected Republican vote share. Dr. Hofeller shaded the "Avg R" column yellow for draft districts with an expected Republican vote share of 50-53%, and shaded cells in the column a peach color for districts with an expected Republican vote share of 53-55%. Tr. 460:6-461:8, 464:19-465:11; PX244; PX241; PX246; PX123 at 66 (Chen Rebuttal Report).

64. Dr. Hofeller stratified all of the Republican-leaning districts in his draft House and Senate plans using highly granular gradations. Tr. 461:1-8, 463:6-25, 465:16-466:20; PX241 at 3; PX244 at 2; PX246 at 3. As illustrated in Plaintiffs' Exhibits 244 below, Dr. Hofeller counted how many districts in each draft House and Senate plan had between a 50-53%, 53-55%, 55-60%, 60-65%, and 65%-100% expected Republican vote share. *Id.* In contrast, Dr. Hofeller did not analyze Democratic-leaning districts with such granularity. Whereas Dr. Hofeller analyzed the Republican-leaning districts in five different bands, he analyzed Democratic-leaning districts in just two bands of 0-45% Republican vote share and 45-50% Republican vote share. Tr. 466:1-20; PX241 at 3; PX244 at 2; PX246 at 3.

Dr. Hotelier's Draft Plan File: "NC Senate Minimum Partisan J-2" (June 13, 2017)

New 2016 Senate Plan

Group Type	Dist	Avg R	14 Sen %	Incumbent	Pty	Note	Old Ave R	11 ti 17
New	1	47.94%	52.31%	Cook	R		53.54%	-5.60%
Old	2	60.16%	63.13%	Sanderson	R		60.16%	0.00%
New	3	40.10%	43.10%	Smith-Ingram	D		34.18%	5.93%
New	4	37.39%	39.24%	Horner	R	##	31.88%	5.51%
New	5	45.94%	48.68%	Davis	D		36.80%	9.15%
Old	6	59.16%	64.83%	Brown	R		59.16%	0.00%
New	7	50.94%	53.60%	Pate	R		59.37%	-8.43%
Old	8	54.69%	56.14%	Rabon	R		54.69%	0.00%
Old	9	53.05%	51.05%	Lee	R		53.05%	0.00%
New	10	54.75%	57.91%	Jackson	R		57.13%	-2.38%
New	11	54.47%	56.42%	Bryant	D	##	57.61%	-3.13%
New	12	57.19%	58.83%	Rabin	R		57.19%	0.00%
Old	13	41.09%	47.12%	Britt	R	##	41.09%	0.00%
Wake-Franklin	14	25.37%	22.89%	Blue	D		25.54%	-0.17%
Wake-Franklin	15	53.04%	49.97%	Alexander			53.32%	-0.28%

Wake-Franklin	16	39.77%	35.22%	Chaudhuri	D		38.80%	0.97%
Wake-Franklin	17	54.36%	51.52%	Barringer	R		53.45%	0.91%
Wake-Franklin	18	52.57%	53.26%	Barefoot	R		52.76%	-0.19%
Cumberland	19	50.79%	53.27%	Meredith	R		49.30%	1.48%
New	20	20.93%	18.06%	McKissick	D		24.15%	-3.23%
Cumberland	21	29.52%	29.98%	Clark	D		30.53%	-1.01%
New	22	40.57%	39.77%	Woodard	D		37.71%	2.86%
Old	23	34.84%	31.50%	Foushee	D		34.84%	0.00%
New	24	56.91%	58.10%	Gunn	R		59.06%	-2.14%
New	25	51.51%	54.18%	McInnis	R		55.19%	-3.68%
New	26	59.18%	62.59%	***14** Berger	R		57.51%	1.67%
New	27	57.95%	56.89%	Wade	R		55.06%	2.90%
New	28	22.97%	22.18%	Robinson	D		18.65%	4.32%
New	29	60.90%	64.77%	Tillman	R		67.04%	-6.14%
New	30	60.87%	63.71%	Randleman,Ballard	R,R	#	66.15%	-5.28%
New	31	64.87%	65.07%	Brock, Krawiec	R,R	#	62.71%	2.16%
New	32	30.42%	29.53%	Lowe	D		31.20%	-0.78%
Old	33	65.39%	68.87%	Dunn	R		65.39%	0.00%
New	34	66.29%	67.96%	Vacant	R	#	63.53%	2.76%
Old	35	65.63%	65.84%	Tucker	R		65.36%	0.27%
Old	36	61.81%	60.28%	Newton	R		62.18%	-0.38%
Mecklenburg	37	31.35%	29.21%	Vacant	D	#	37.87%	-6.52%
Mecklenburg	38	28.06%	23.76%	Jackson	D		23.36%	4.70%
Mecklenburg	39	63.96%	59.63%	Bishop	R		61.93%	2.03%
Mecklenburg	40	29.05%	25.80%	Waddell	D		20.96%	8.09%
Mecklenburg	41	49.59%	45.44%	Ford, Tarte	D,R	# ##	57.53%	-7.94%
Old	42	65.81%	67.05%	Wells	R		65.81%	0.00%

New	43	62.82%	63.14%	Jarromgtpm	R		62.82%	0.00%
New	44	62.81%	64.31%	Curtis	R		65.66%	-2.85%
New	45	64.46%	65.33%	Vacant	R	#	61.05%	3.41%
New	46	63.85%	63.85%	Danniel	R		58.59%	5.26%
Old	47	59.28%	61.81%	Hise	R		59.28%	0.00%
Old	48	58.81%	58.70%	Edwards	R		58.81%	0.00%
Old	49	40.90%	38.15%	Van Duyn	D		40.90%	0.00%
Old	50	56.29%	58.76%	Davis	R		56.29%	0.00%

Pressure Points for GOP Incumbents:

1. Sen. Cook in District 1 (Northeast Coast) is now in a toss-up district

2. Sentors Randleman & Ballard are double-bunked in a strong GOP District 30 (Northwest of State).

3.Senators Brock & Krawiec are double-bunked in a strong GOP District 31(Davie & Forsyth)

4. Senators Tate [R] & Ford [D] are double-bunked in a leaning-Dem. District 41 (N. Mecklenburg).

5. There are 2 strong GOP and 1 Strong Dem vacant districts (34, 37 and 45).

6. 34% (12) of Republican Incumbents do not have to run in a Special Election.

7. 12% (2) Democrats do not have to run in a Special Election.

Notes: # = Double Bunk or Vacant, ## = Partisan Mismatch

Average Republican

65-100	4	4
60-65	10	14
55-60	8	22
53-55	6	28
50-53	4	32
45-50	3	35
0-45	15	50
	50	

2014 Republican Senate

65-100	7	7
60-65	9	16
55-60	9	25
53-55	4	29
50-53	3	32
45-50	4	36
0-45	14	50
	50	

65. The Court finds that Dr. Hofeller's granular sorting and analysis of Republican-leaning districts—and his particular emphasis on districts with an over-53% expected Republican vote share—provide substantial evidence of the partisan intent and effects of the 2017 plans. The evidence establishes that Dr. Hofeller drew the 2017 Plans very precisely to create as many "safe" Republican districts as possible, so that Republicans would maintain their supermajorities, or at least majorities even in a strong election year for Democrats. Tr. 456:21-457:25. For instance, Dr. Hofeller's June 13, 2017, spreadsheet above estimated that 28 of 50 draft Senate districts had an expected Republican vote share above 53%, PX244 at 2, and Dr. Hofeller's June 14, 2017 spreadsheet for a draft House map estimated that 74 of 120 districts in the draft House plan had an expected Republican vote share above 53%, PX246 at 3. The Court is persuaded that Dr. Hofeller drew the maps with an intent to preserve Republicans' control of the House and Senate.

66. As further evidence of partisan intent, using his partisanship formula, Dr. Hofeller calculated the difference in the Republican vote share between the new draft version of each district and the prior 2011 version of that district, showing precisely how his draft plans would alter the partisanship of each district. Tr. 459:8-460:5; PX241; PX244; PX246; PX248.

***15** 67. Dr. Hofeller's spreadsheets also highlighted in yellow many of North Carolina's largest and most-Democratic counties, such as Wake, Mecklenburg, Cumberland, Forsyth, and Guilford Counties. Tr. 461:9-462:2, 468:9-20; PX244; PX246. As Dr. Chen explained, the spreadsheets show Dr. Hofeller's specific focus on trying to "squeeze out" as many Republican-leaning districts as he could in these counties. *Id.*

68. For both his draft House and Senate plans, Dr. Hofeller analyzed what he described as "Pressure Points for GOP Incumbents." Tr. 462:3-463:5, 467:7-468:8; PX244 at 2; PX246 at 2. He analyzed draft districts that could create concerns or vulnerabilities for Republican incumbents. *Id.* Dr. Chen did not find any comparable analysis by Dr. Hofeller of "pressure points" for Democratic incumbents. *Id.* Dr. Hofeller's spreadsheets contradict Legislative Defendants' contention at trial that the 2017 Plans sought to place *all* incumbents in politically favorable districts. It is clear from Dr. Hofeller's files that the mapmaker predominantly focused on benefitting and electorally protecting Republican incumbents and not Democratic incumbents.

69. Dr. Hofeller's spreadsheets also reveal that he evaluated the partisanship of draft maps created by Campbell University Law students at an exercise by Common Cause. In 2017, Common Cause invited two Campbell Law students to draw new legislative maps without using political data. Bob Phillips, the Executive Director of Common Cause North Carolina, testified that the purpose of the exercise was to raise awareness and show how a nonpartisan redistricting process could occur. Tr. 53:17-54:14.

70. Emails introduced at trial reveal that, in late June 2017, an aide to Legislative Defendants asked the General Assembly's legislative services office for copies of the "block assignments files" for the simulated maps created by the Campbell Law students. PX757. Common Cause had the Campbell Law students create the maps using the General Assembly's public computer because it had Maptitude installed on it. Tr. 55:18-56:17. Within roughly a week, Dr. Hofeller had created Excel spreadsheets analyzing the partisanship of the Campbell Law students' simulated districts. Tr. 471:6-472:15; PX167; PX170; PX123 at 70-75 (Chen Rebuttal Report). In spreadsheets last modified on July 5 and 8, 2017, Dr. Hofeller scored every one of the Campbell Law students' House and Senate districts using his partisanship formula derived from the 2008-2014 statewide elections. *Id.* Dr. Hofeller then evaluated, for every district, whether Republicans could obtain a "Better Possible" district than the version the Campbell Law students had drawn, with Dr. Hofeller writing "No," "Yes," or "Little" for each district. Tr. 473:8-474:6; PX168; PX123 at 70-71 (Chen Rebuttal Report).

71. The final enacted 2017 House plan contains two county groupings, with four districts in total, that match the districts in those county groupings drawn by the Campbell Law students. Tr. 474:7-475:23; PX123 at 71. Those two groupings—Nash-Franklin and Granville-Person-Vance-Warren—are two small groupings for which there are a very limited number of ways to draw the groupings, and the Campbell Law students happened to draw these groupings in the way that is most favorable to Republicans. *Id.*

72. Dr. Chen thus concluded that Dr. Hofeller evaluated the partisanship of all of the Campbell Law students' districts and then included in the 2017 maps four districts for which the students happened to draw the districts in the way maximally favorable to Republicans. *Id.* The Court agrees with Dr. Chen's assessment, which went unrebutted by Legislative Defendants at trial.

b. *Dr. Hofeller's Maptitude files*

***16** 73. Dr. Hofeller's Maptitude files from his storage devices further demonstrate that partisanship considerations were "front and center" in his drafting of the relevant districts in both 2011 and 2017. Tr. 944:5-15, 968:4-5 (Dr. Cooper). The Maptitude files remove any doubt that Dr. Hofeller "was clearly working with partisan data on the same maps at the same time that he [was] drawing lines for our state," all to maximize Republican partisan advantage. Tr. 945:4-11.

74. As Dr. Cooper explained, the Maptitude files indicate that Dr. Hofeller used partisanship formulas, along with multiple color-coding systems to visually depict partisanship on his draft maps, in order to deliberately pack and crack Democratic voters into particular districts with precision. Tr. 939:1-940:12, 944:9-945:8; PX329 at 3-4 (Cooper Rebuttal Report).

75. In the "NC Senate J-24" Maptitude file last modified in July 2017, Dr. Hofeller calculated the Republican vote share for each North Carolina VTD based on his formula using nine statewide elections from 2008-2014. PX330; Tr. 939:9-940:2, 942:22-943:2; PX565. Dr. Hofeller then color-coded the VTDs on the "Map" window based on this partisanship formula, using more granular stratifications for competitive and Republican-leaning VTDs than for Democratic-leaning VTDs, just as he had done in his Excel spreadsheets assessing district-wide partisanship. Tr. 944:16-21. Dr. Hofeller used a "traffic light" color-coding scheme, in which he shaded Democratic-leaning VTDs pink and red, Republican-leaning VTDs green, and more competitive VTDs yellow. Tr. 940:23-941:4. Plaintiffs' Exhibit 335 below is one example of Dr. Hofeller's use of this color-coding scheme. As is apparent in the example below and discussed in more detail with respect to additional county groupings discussed below, Dr. Hofeller drew district boundaries based on this color-coded partisanship data with remarkable precision.

Figure 6: Partisan Targeting in Senate Districts 31 and 32

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76. Dr. Hofeller used the same partisanship formula in his Maptitude files containing draft 2017 House districts. Tr. 979:6-19; PX337; PX329 at 13 (Cooper Rebuttal Report). Dr. Hofeller also employed a color-coding system to visually represent the partisanship scores for each VTD in his 2017 House plan, but with the more familiar red coloring for Republican-leaning VTDs,

blue for Democratic-leaning VTDs, and yellow and green for more competitive VTDs. Tr. 979:20-980:19; PX329 at 13 (Cooper Rebuttal Report). For example, Dr. Hofeller's Maptitude file labeled "NC House J-25," which he created on June 26, 2017, and last modified on August 7, 2017, depicted boundaries (in red) of House Districts 8, 9, and 12 in the Pitt-Lenoir House county grouping. Tr. 981:2-5; PX340; PX562. Plaintiffs' Exhibit 340 below shows that Dr. Hofeller used his color-coding system to pack the bluest VTDs in Pitt County into House District 8. Tr. 982:1-7, 983:5-984:7; PX340; PX329 at 16 (Cooper Rebuttal Report).

Figure 11: Partisan Targeting in House Districts 8, 9, and 12

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77. Dr. Hofeller similarly used a partisanship formula and color-coding scheme in drawing the districts at issue in this case enacted in 2011 and kept unchanged in 2017. Tr. 991:9-992:6, 994:4-996:11; PX347; PX350; PX352; PX329 at 23, 27, 30 (Cooper Rebuttal Report). For example, Dr. Hofeller's Maptitude file titled "NC House w New Raleigh - June 28," which was last modified on June 30, 2011, contained Dr. Hofeller's drafts of the 2011 House districts at issue in this case. Tr. 995:20-997:11; PX329 at 30-35; PX564. There, Dr. Hofeller scored the partisanship of each VTD using the results of the 2008 Presidential election and then colored each VTD based on those results, with Democratic-leaning VTDs shaded blue, Republican-leaning VTDs shaded red, and competitive VTDs shaded yellow and tan. *Id.* Plaintiffs' Exhibit 353 below is an example of Dr. Hofeller's use of this partisanship data to draw the 2011 House districts—in this example, to crack Democratic voters across House Districts 55, 68, and 69.

Figure 25: Partisan Targeting in House Districts 55, 68, and 69

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***17** 78. Legislative Defendants offered no additional files from Dr. Hofeller's storage devices to rebut Dr. Chen's and Dr. Cooper's analyses. They offered no plausible alternative explanation of Dr. Hofeller's intent as he drew the State's House and Senate districts in 2011 and 2017.

3. Plaintiffs' Experts Established that the Plans Are Extreme Partisan Gerrymanders Designed to Ensure Republican Control

79. The analysis and conclusions of Plaintiffs' experts further establish that the 2017 Plans are extreme partisan outliers intentionally and carefully designed to maximize Republican advantage and to ensure Republican majorities in both chambers of the General Assembly. Three of Plaintiffs' experts—Drs. Chen, Mattingly, and Pegden—employed computer simulations to generate alternative House and Senate plans to serve as a baseline for comparison to each enacted plan. Even though these experts employed different methodologies, each expert found that the enacted plans are extreme outliers that could only have resulted from an intentional effort to secure Republican advantage on a statewide basis. Plaintiffs' fourth expert, Dr. Christopher Cooper, explained how this gerrymandering was carried out across the State. The Court gives great weight to the analysis and conclusions, to the extent set forth below, of each of Plaintiffs' experts individually, and the Court finds that the consistent findings of each of these experts, using different methodologies, powerfully reinforce that the 2017 Plans are extreme, intentional, and effective partisan gerrymanders.

a. *Dr. Jowei Chen*

80. Plaintiffs' expert Jowei Chen, Ph.D., is an Associate Professor in the Department of Political Science at the University of Michigan, Ann Arbor. Tr. 237:6-9. Dr. Chen has extensive experience in redistricting matters. Tr. 238:2-239:3 (Dr. Chen). By the admission of Intervenor Defendants' own expert, Dr. Chen is one of the "foremost political science scholars on the question of political geography" and how it can impact the partisan composition of a legislative body. Tr. 2220:14-18 (Dr. Barber). Dr.

Chen also helped pioneer the methodology of using computer simulations to evaluate the partisan bias of a redistricting plan, and he has published four peer-reviewed articles employing this approach since 2013. Tr. 240:1-241:2; PX2. The Court accepted Dr. Chen in this case as an expert in redistricting, political geography, and geographic information systems ("GIS"). Tr. 245:4-8.

81. Dr. Chen has presented expert testimony regarding his simulation methodology in numerous prior partisan gerrymandering lawsuits, and his analysis has been consistently credited and relied upon by the courts in these cases. Tr. 241:15-242:19; *see League of Women Voters v. Commonwealth*, 178 A.3d 737, 818 (Pa. 2018) (finding "Dr. Chen's expert testimony" to be "[p]erhaps the most compelling evidence" in invalidating Pennsylvania's congressional plan as an unconstitutional partisan gerrymander); *Raleigh Wake Citizens Ass'n v. Wake Cty. Bd. of Elecs.*, 827 F.3d 333, 344 (4th Cir. 2016) ("[T]he district court clearly and reversibly erred in rejecting Dr. Chen's expert testimony."); *League of Women Voters of Mich. v. Benson*, 373 F. Supp. 3d 867, 907 (E.D. Mich. 2019) ("[T]he Court has determined that Dr. Chen's data and expert findings are reliable."); *Common Cause v. Rucho*, 279 F. Supp. 3d 587, 666 (M.D.N.C.), *vacated on other grounds*, 138 S. Ct. 2679 (2018) ("Dr. Mattingly's and Dr. Chen's simulation analyses not only evidence the General Assembly's discriminatory intent, but also provide evidence of the 2016 Plan's discriminatory effects."); *City of Greensboro v. Guilford Cty. Bd. of Elecs.*, 251 F. Supp. 3d 935, 943 (M.D.N.C. 2017) (relying upon the "computer simulations by Dr. Jowei Chen" to find impermissible partisan intent).

***18** 82. Using his simulation methodology, Dr. Chen analyzed whether partisan intent predominated in the drawing of the 2017 Plans and subordinated the traditional nonpartisan districting principles of compactness and avoiding the splitting of municipalities and VTDs. Tr. 245:13-17, 248:6-18. Dr. Chen further analyzed the effects of the 2017 Plans on the number of Democratic-leaning House and Senate districts statewide. Tr. 247:6-10.

83. Based on his analysis, Dr. Chen concluded that partisan intent predominated over the traditional districting criteria in drawing the current House and Senate districts, that the Republican advantage under the 2017 Plans cannot be explained by North Carolina's political geography, and that the effect of the 2017 Plans is to produce fewer Democratic-leaning districts than would exist if the map-drawing process had followed traditional districting principles. Tr. 246:18-22, 247:12-18, 248:20-249:1; PX1 at 3-4 (Chen Report). With respect to the effects in particular, Dr. Chen found that the gap between the enacted 2017 Plans and the nonpartisan simulated plans in terms of Democratic-leaning districts gets wider in electoral environments more favorable to Democrats, and is widest around the point when Democrats would win majorities in the House or Senate under the simulated nonpartisan plans. Tr. 247:25-248:3, 296:7-24, 330:17-23. The Court gives great weight to Dr. Chen's findings and, to the extent set forth below, adopts his conclusions.

84. In what Dr. Chen described as his Simulation Set 1, Dr. Chen programmed his algorithm to follow the traditional districting principles embodied within the Adopted Criteria. Tr. 281:12-16. In addition to following the equal population and contiguity requirements, as well as conforming to the same county groupings and number of county aatraversals that exist under the 2017 Plans, Dr. Chen programmed his algorithm to prioritize the traditional districting principles set forth in the Adopted Criteria of compactness, avoiding splitting municipalities, and avoiding splitting VTDs. Tr. 251:18-259:10; PX1 at 10-18 (Chen report).

85. Dr. Chen explained that, other than the county traversals requirement, his algorithm did not attempt to "maximize or optimize" any one criterion. Tr. 262:24-263:3. Rather, the algorithm equally weighted the criteria of compactness, avoiding splitting municipalities, and avoiding splitting VTDs. Tr. 263:4-12. In creating districts within each county grouping, the algorithm considered thousands of random iterations, measuring for each proposed iteration whether the change would make the districts in the grouping better or worse on net across these three criteria. Tr. 261:18-263:19. The algorithm accepted a change only if it would improve the districts across these three criteria on net. *Id.*

86. In his Simulation Set 1, Dr. Chen ran the algorithm 1,000 times for each House county grouping and 1,000 times for each Senate county grouping, producing 1,000 unique statewide maps for both the House and the Senate. Tr. 263:23-264:16.

87. Beginning with the House, Dr. Chen compared the 1,000 simulated plans in his House Simulation Set 1 to the enacted 2017 House plan along a number of measures. First, Dr. Chen compared the number of municipalities that the simulated and enacted

plans split. The enacted House plan splits 79 municipalities. Tr. 266:22-269:15; PX1 at 38, 41 (Chen Report). The 1,000 plans in House Simulation Set 1 split a range of only 38 to 55 municipalities, with most splitting just 43 to 48 municipalities. *Id.* From this, Dr. Chen concluded with over 99.9% statistical certainty that the enacted House plan subordinates the traditional districting criterion of following municipal boundaries, and splits substantially more municipalities than would be split if the map-drawing process had prioritized, and not subordinated, this traditional districting principle. Tr. 269:21-270:4; PX1 at 38 (Chen Report).

***19** 88. Plaintiffs' Exhibit 15 depicts the number of municipalities split under the enacted plan and the 1,000 simulations in House Simulation Set 1:

Figure 5:

House Simulation Set 1 (Following Only Non-Partisan Redistricting Criteria):

Split Municipalities in 2017 House Plan Versus 1,000 Simulated Plans

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89. The Court finds that the enacted House plan subordinates to partisanship the traditional districting principle of avoiding the unnecessary splitting of municipalities. The Court finds that the current House plan splits substantially more municipalities than would be split if the map-drawing process had not subordinated to partisanship this traditional districting principle.

90. Dr. Chen also compared the number of VTDs split in the enacted 2017 House plan and the 1,000 simulations in House Simulation Set 1. Dr. Chen found that, while the simulated House plans split between 6 and 18 VTDs, the enacted House plan splits 48 VTDs, more than four times as many as the vast majority of the simulations. Tr. 270:6-271:3; PX1 at 38, 42 (Chen Report). From this, Dr. Chen concluded with over 99.9% statistical certainty that the enacted House plan subordinates the traditional districting criterion of following VTD boundaries, and splits far more VTDs than is reasonably necessary. Tr. 271:5-12.

91. Plaintiffs' Exhibit 16 depicts the number of VTDs split under the enacted House plan and the 1,000 simulations in House Simulation Set 1:

Figure 6:

House Simulation Set 1 (Following Only Non-Partisan Redistricting Criteria):

Split VTDs in 2017 House Plan Versus 1,000 Simulated Plans

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92. The Court finds that the enacted House plan subordinates to partisanship the traditional districting principle of avoiding the unnecessary splitting of VTDs. The Court finds that the current House plan splits substantially more VTDs than would be split if the map-drawing process had not subordinated to partisanship this traditional districting principle.

93. Dr. Chen found the enacted House plan is also less compact than all 1,000 of his simulations in House Simulation Set 1. Dr. Chen employed the measures of compactness set forth in the Adopted Criteria, known as Reock and Polsby-Popper scores. Tr. 271:16-273:15; PX1 at 38 (Chen Report). For both measures, a higher score indicates that a plan's districts are more compact. *Id.* Dr. Chen found that, as measured by both Reock and Polsby-Popper scores, the compactness of the enacted House plan is outside the range of scores produced by the 1,000 simulated House plans. *Id.* From this, Dr. Chen concluded with over 99% statistical certainty that the enacted House plan subordinates the traditional districting criterion of compactness, and that the

current districts are less compact than they would be under a map-drawing process that prioritizes and follows the traditional districting criteria. Tr. 273:18-274:4.

94. Plaintiffs' Exhibit 14 depicts the compactness of the enacted House plan and the 1,000 simulations in House Simulation Set 1:

Figure 4:

House Simulation Set 1 (Following Only Non-Partisan Redisricting Criteria):

Comparison of 2017 House Plan Versus 1,000 Simulated Plans on Compactness

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95. The Court finds that the enacted House plan subordinates to partisanship the traditional districting principle of compactness. The Court finds that the current House districts are less compact than they would be under a map-drawing process that had not subordinated to partisanship this traditional districting criteria.

***20** 96. To compare the partisanship of his simulated plans to the enacted House and Senate plans, Dr. Chen used Census Block-level election results from recent statewide elections in North Carolina. Tr. 274:5-275:20; PX1 at 19-20 (Chen Report). For most of his analysis, Dr. Chen used the following ten statewide elections: 2010 U.S. Senate, 2012 U.S. President, 2012 Governor, 2012 Lieutenant Governor, 2014 U.S. Senate, 2016 U.S. President, 2016 U.S. Senate, 2016 Governor, 2016 Lieutenant Governor, and 2016 Attorney General. *Id.* Dr. Chen provided several reasons for his choice of these ten statewide elections.

97. First, Representative Lewis indicated at an August 10, 2017, hearing that these ten statewide elections would be the elections that the Joint Redistricting Committees would use to evaluate the 2017 Plans. Tr. 275:8-11; PX1 at 20 (Chen Report).

98. Second, Dr. Chen testified that it is well-accepted in academic literature and in redistricting practice that statewide elections, rather than legislative elections, provide the best basis for measuring the partisanship of a district and for comparing the partisanship of districts across alternative possible plans. Tr. 276:3-27:18; PX1 at 19-20 (Chen Report). Dr. Chen explained that legislative elections, such as state House and state Senate elections, do not provide a sound basis for measuring the partisanship of Census Blocks and districts because the results of legislative elections can be skewed by various factors. *Id.* For instance, if districts are gerrymandered or otherwise uncompetitive, the results of the legislative elections can be biased by the district boundaries in a way that they would not be under an alternative plan. *Id.* As Dr. Chen noted, the General Assembly did not have Dr. Hofeller use legislative elections to measure partisanship in drawing the 2017 Plans. Tr. 277:9-14.

99. Third, Dr. Chen testified he did not use party registration to measure the partisanship of districts because it is well-known in academic literature and in the redistricting community that party registration is not a reliable indicator of actual partisan voting behavior. Tr. 277:19-278:10. That is particularly true in southern states such as North Carolina, where many registered Democrats now consistently vote for Republicans. *Id.* As Dr. Chen again noted, Legislative Defendants did not have Dr. Hofeller use party registration to measure partisanship in drawing the 2017 Plans. Tr. 278:11-15.

100. The Court finds the use of statewide elections by Plaintiffs' experts to measure the partisanship of simulated and enacted districts is a reliable methodology.

101. To measure the partisanship of his simulated districts and the enacted districts, Dr. Chen determined the set of Census Blocks that comprise each district. Tr. 278:24-283:10; PX1 at 20-22 (Chen Report). Dr. Chen then aggregated the elections results from the ten 2010-2016 statewide elections for that set of Census Blocks. *Id.* In other words, Dr. Chen calculated the total votes cast for Democratic candidates in those ten 2010-2016 statewide elections across the relevant set of Census Blocks and the total votes cast for Republican candidates in that set of Census Blocks. *Id.* If there were more votes in aggregate for the

Democratic candidates, Dr. Chen classified the district as a Democratic district, and if there were more votes for the Republican candidates, Dr. Chen classified the district as a Republican district. *Id.*

102. Using this measure of partisanship, Dr. Chen compared the number of Democratic districts under the enacted 2017 House plan and under the 1,000 simulated plans in his House Simulation Set 1. While the enacted House plan has 42 Democratic districts using the 2010-2016 statewide elections, not a single one of the 1,000 simulated plans produce so few Democratic districts. Tr. 285:15-287:8; PX1 at 29-30 (Chen Report). The vast majority of simulated plans produce 46 to 51 Democratic districts using the 2010-2016 statewide elections, with the two most common outcomes in the simulations being 46 or 47 Democratic districts—*i.e.*, four or five more Democratic districts than exist under the enacted House plan. *Id.* From these results, Dr. Chen concluded with over 99% statistical certainty that the current House plan is an extreme partisan outlier, and one that could not have occurred under a districting process that adhered to the traditional districting criteria. Tr. 287:2-8; PX1 at 29 (Chen Report).

***21** 103. Plaintiffs' Exhibit 9 depicts the distribution of Democratic seats under the enacted House plan and under the 1,000 simulations in Dr. Chen's House Simulation Set 1:

Figure 2:

House Simulation Set 1 (Following Only Non-Partisan Redistricting Criteria):

Democratic-Favoring Districts in 2017 House Plan Versus 1,000 Simulated Plans

(Measured Using 2010-2016 Election Composite)

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104. Dr. Chen explained that the number of Democratic districts estimated for his simulated plans is depressed by the fact that the 2010-2016 statewide elections he used were relatively favorable for Republicans. Tr. 284:1-285:12; PX1 at 29 (Chen Report). Three of the four elections cycles in this period—2010, 2014, and 2016—were favorable for Republicans nationally. *Id.* Consequently, the aggregate Democratic share of the two-party vote across the ten statewide elections in the 2010-2016 composite used by Dr. Chen was just 47.92%. *Id.*

105. Dr. Chen also measured the number of Democratic districts that would exist under his simulated plans and the enacted House plan under electoral environments that are more neutral or even favorable to Democrats. Tr. 287:15-22. First, Dr. Chen analyzed the number of Democratic districts using only the 2016 Attorney General election, which was a near tie. Tr. 287:19-289:14; PX1 at 29 (Chen Report). Using the 2016 Attorney General results, the enacted House plan produces 44 Democratic districts, while the 1,000 simulated House plans produce 48 to 55 Democratic districts, with the most common outcome being 52 Democratic districts. Tr. 287:24-289:14; PX119; PX1 at 29, 174, A1. The gap between the enacted House plan and the simulated plans therefore grows to eight Democratic seats in the most common outcome under the neutral electoral environment that was the 2016 Attorney General election. *Id.*

106. Dr. Chen also performed a "uniform swing" analysis to compare the enacted plan and the simulated plans under different electoral environments. Uniform swing analysis is a common technique used in academic literature and the redistricting community to measure how districts would perform under varying electoral conditions. Tr. 289:25-290:8. For his uniform swing analysis, Dr. Chen started with the Democratic vote share in every enacted and simulated district using the 2010-2016 statewide elections, and then increased or decreased the Democratic vote share uniformly in every district in 0.5% increments. Tr. 290:4-296:3.

107. Dr. Chen's uniform swing analysis revealed a "striking trend." Tr. 296:7. As the uniform swing increases in the direction of more favorable Democratic performance, the gap between the number of Democratic districts under the enacted plan and

the simulated plans grows more and more. Tr. 296:7-20. In other words, "in electoral environments that are more favorable to Democrats, the gap between the enacted plan and all of the computer-simulated plans is widened." Tr. 296:18-20.

108. Plaintiffs' Exhibit 10 below depicts Dr. Chen's uniform swing analysis for House Simulation Set 1. The starting point is the row on the vertical axis for "47.92%," which represents the statewide Democratic vote share under the ten 2010-2016 statewide elections. Tr. 290:23-296:3; PX1 at 31-33 (Chen Report). Each row above this point represents the results when increasing the Democratic vote share in every enacted and simulated district by increments of 0.5%. *Id.* The red stars in each row represent the number of Democratic districts under the enacted 2017 House plan, and the numbers to the right of each red star represent the number of simulations (out of 1,000) that produce the number of Democratic districts found on the horizontal axis below. *Id.* For instance, for the starting row of a 47.92% statewide Democratic vote share, the enacted plan (the red star) produces 42 Democratic districts, six simulated plans produce 43 Democratic districts, 48 simulated plans produce 44 Democratic districts, 172 simulated plans produce 45 Democratic districts, and so on. *Id.*

Figure U1: Number of Democratic Districts Under Alternative Uniform Swings in House Simulation Set 1 Plans

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***22** 109. Dr. Chen found that the gap between the enacted and simulated plans not only grew as the electoral environment became more favorable for Democrats, but the gap is "widest" at the point when Democrats would start winning a majority of House seats under the simulated plans. Tr. 296:20-297:21. Plaintiffs' Exhibit 11 (Figure U2) below depicts Dr. Chen's results for a uniform swing corresponding to a statewide Democratic vote share of 52.42%. In this scenario, the enacted House plan contains only 48 Democratic districts, but roughly one-third of the 1,000 simulations produce 60 or more Democratic districts, with a 60-60 tie being the second most common outcome. Tr. 298:2-299:7. Plaintiffs' Exhibit 12 (Figure U3) below depicts Dr. Chen's results for a uniform swing corresponding to a statewide Democratic vote share of 52.92%. In this scenario, there are 60 or more Democratic districts in nearly two-thirds of the simulations, and Democrats would win a majority (61 or more seats) in more than 40% of the simulations. Tr. 299:16-301:12. But Democrats would hold just 51 districts under the enacted House plan. *Id.*

Figure U2:

Number of Democratic House Districts Measured Using the 2010-2016 Election Composite With a +4.5% Uniform Swing, Corresponding to a 52.42% Statewide Democratic Vote Share

(House Simulation Set 1)

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Figure U3:

Number of Democratic House Districts Measured Using the 2010-2016 Election Composite With a +5% Uniform Swing, Corresponding to a 52.92% Statewide Democratic Vote Share

(House Simulation Set 1)

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110. Dr. Chen analyzed the type of electoral environment that would produce 55 Democratic districts under the enacted House plan, which is the number of House districts that Democrats won in 2018. Tr. 301:16-302:14. Dr. Chen found that, in the type of electoral environment that would produce 55 Democratic districts under the enacted plan in his uniform swing analysis, Democrats would win *60 or more* House districts in over 99% of his simulated plans, and would win a majority of districts in

over 98% of the simulated plans. *Id.*; PX10. In other words, while Democrats improved their seat share in 2018, they may well have won a majority had a nonpartisan plan been in place.

111. The Court finds Dr. Chen's uniform swing analysis to be substantial evidence of the intent and effects of Legislative Defendants' partisan gerrymander. The analysis establishes that the effects of the gerrymander are most extreme in electoral environments that are better for Democrats, specifically in electoral environments where Democrats could win a majority of House seats under a nonpartisan map. Dr. Chen's uniform swing analysis is persuasive evidence the enacted House plan was designed specifically to ensure that Democrats would not win a majority of House seats under any reasonably foreseeable electoral environment.

112. The Court further gives weight to Dr. Chen's overall conclusions from his House Simulation Set 1. Dr. Chen concluded with over 99% statistical certainty that partisanship predominated in the drawing of the enacted House plan and subordinated the traditional districting criteria of compactness, avoiding splitting municipalities, and avoiding splitting VTDs. Tr. 307:12-24. The Court adopts these conclusions and finds the current House districts, regardless of whether they were drawn in 2017 or 2011, subordinated these three traditional districting criteria in order to accomplish Legislative Defendants' predominant partisan goals.

113. In his House Simulation Set 2, Dr. Chen programmed his algorithm to add avoiding pairing incumbents as an additional criterion. Dr. Chen performed this analysis to determine whether a hypothetical, nonpartisan effort to avoid pairing the incumbents in place at the time each of the relevant districts was drawn could account for the extreme partisan bias and subordination of traditional districting principles that Dr. Chen found in his Simulation Set 1. Tr. 308:15-21. Dr. Chen programmed his algorithm in Simulation Set 2 to avoid pairing the maximum number of incumbents possible who were in office at the time of the relevant redistrictings, and to ensure that the very same incumbents who were not paired with another incumbent under the enacted plans were not paired in the simulations. Tr. 308:3-14, 310:21-311:16; PX1 at 43 (Chen Report).

***23** 114. The method by which Dr. Chen avoided pairing incumbents in Simulation Set 2 is consistent with the Adopted Criteria's incumbency protection provision. The Court gives no weight to Legislative Defendants' contention that the Adopted Criteria required incumbency protection beyond merely avoiding pairing incumbents; namely, that the Adopted Criteria required creating districts politically favorable to incumbents. As Representative Lewis stated, this criterion was interpreted as simply an intent to avoid pairing incumbents. *See* FOF ¶ 28. At the time of the 2017 redistricting, Republicans held supermajorities in both chambers of the General Assembly. Hence, seeking to enhance the reelection chances of every incumbent, Democrat and Republican alike, would have been a means of seeking to lock-in the Republican supermajorities. It would also have been particularly inappropriate to seek to preserve the "core" of the existing districts, as Legislative Defendants' expert Dr. Brunell suggested, since many of the existing districts had been found to constitute illegal racial gerrymanders.

115. In addition, the Court finds that Legislative Defendants did not seek to protect Democratic and Republican incumbents alike in a neutral manner. For example, in Buncombe County, the enacted plan paired two Democratic incumbents who were in office at the time these House districts were drawn in 2011, but Dr. Chen's algorithm was able to avoid pairing these two Democratic incumbents in all 1,000 of his simulations. Tr. 312:14-313:9; PX1 at 45, 47 (Chen Report). Legislative Defendants thus unnecessarily paired these two Democratic incumbents in creating the Buncombe County House districts, ensuring that one of the two would not be reelected. *Id.* Dr. Hofeller's Excel files further show that, in 2017, Dr. Hofeller focused solely on concerns for Republican incumbents and not Democratic incumbents. FOF § B.2.a. Dr. Hofeller analyzed "Pressure Points for GOP Incumbents" in both the House and the Senate, but performed no similar analysis for Democratic incumbents. *Id.*

116. Based on his House Simulation Set 2 analysis, Dr. Chen found that a nonpartisan effort to avoid pairing incumbents cannot explain the extreme partisan bias of the enacted House plan or its subordination of traditional districting criteria. Dr. Chen found that the enacted House plan is an extreme outlier with respect to the number of Democratic districts it produces, the number of municipalities and VTDs it splits, and the compactness of its districts compared to the 1,000 simulated plans in House Simulation Set 2. Tr. 313:11-317:24; PX7; PX18; PX23; PX1 at 44-56 (Chen Report). The Court gives weight to Dr.

Chen's findings in House Simulation Set 2 and finds that a nonpartisan effort to protect incumbents cannot explain the extreme partisan bias and subordination of traditional districting principles in the enacted House plan.

117. For the Senate, Dr. Chen ran two sets of 1,000 simulations just as he did for the House. Tr. 318:11-319:9. Dr. Chen's Senate Simulation Set 1 applied the same algorithm used for House Simulation Set 1, prioritizing and equally weighting the traditional districting principles within the Adopted Criteria of compactness and avoiding splitting municipalities and VTDs.[3] Dr. Chen ran his algorithm 1,000 times for each Senate county grouping, producing 1,000 unique statewide plans in Senate Simulation Set 1. Tr. 319:10-320:10.

118. With respect to municipal splits, Dr. Chen found the enacted Senate plan splits 25 municipalities, while the 1,000 simulated plans in Senate Simulation Set 1 split between just 8 and 12 municipalities. Tr. 320:12-321:9; PX1 at 69, 71 (Chen Report). From this, Dr. Chen concluded with over 99.9% statistical certainty that the enacted Senate plan subordinates the traditional districting criterion of following municipal boundaries, and splits far more municipalities than is reasonably necessary. Tr. 321:12-17.

***24** 119. Plaintiffs' Exhibit 34 depicts the number of municipalities split under the enacted Senate plan and the 1,000 simulations in Senate Simulation Set 1:

Figure 17:

Senate Simulation Set 1 (Following Only Non-Partisan Redisricting Criteria):

Split Municipalities in 2017 Senate Plan Versus 1,000 Simulated Plans

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120. The Court finds the enacted Senate plan subordinates to partisanship the traditional districting principle of avoiding the unnecessary splitting of municipalities. The Court finds the current Senate districts split substantially more municipalities than would be split if the map-drawing process had not subordinated to partisanship this traditional districting principle.

121. With respect to VTDs, Dr. Chen found the enacted Senate plan splits 5 VTDs, while his simulations split between 0 and 3 VTDs. Tr. 321:19-322:9; PX1 at 69, 72 (Chen Report). From this, Dr. Chen concluded with over 99.9% statistical certainty that the enacted Senate plan subordinates the traditional districting criterion of following VTD boundaries, and splits more VTDs than is reasonably necessary. Tr. 322:12-15.

122. Plaintiffs' Exhibit 35 depicts the number of VTDs split under the enacted Senate plan and the 1,000 simulations in Senate Simulation Set 1:

Figure 18:

Senate Simulation Set 1 (Following Only Non-Partisan Redistricting Criteria):

Split VTDs in 2017 Senate Plan Versus 1,000 Simulated Plans

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123. The Court finds the enacted Senate plan subordinates to partisanship the traditional districting principle of avoiding the unnecessary splitting of VTDs. The Court finds the current Senate districts split more VTDs than would be split if the map-drawing process had not subordinated to partisanship this traditional districting principle.

124. Dr. Chen found the enacted Senate plan is also less compact than all 1,000 of his Senate simulations. Using both the Reock and Polsby-Popper measures of compactness, all 1,000 simulated plans in Senate Simulation Set 1 are more compact than the enacted Senate plan. Tr. 322:17-324:3; PX1 at 67-69 (Chen Report). From this, Dr. Chen concluded with over 99% statistical certainty that the enacted Senate plan subordinates the traditional districting criterion of compactness, and that the current districts are less compact than they would be under a map-drawing process that prioritizes and follows the traditional districting criteria. Tr. 324:6-15.

125. Plaintiffs' Exhibit 33 depicts the compactness of the enacted Senate plan and the 1,000 simulations in Senate Simulation Set 1:

Figure 16:

Senate Simulation Set 1 (Following Only Non-Partisan Redistricting Criteria):

Comparison of 2017 Senate Plan Versus 1,000 Simulated Plans on Compactness

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

126. The Court finds the enacted Senate plan subordinates to partisanship the traditional districting principle of compactness. The Court finds the current Senate districts are less compact than they would be under a map-drawing process that had not subordinated to partisanship this traditional districting criteria.

127. As with the House, Dr. Chen compared the partisanship of his simulated Senate plans to the partisanship of the enacted Senate plan using the same ten statewide elections from 2010-2016 that Representative Lewis stated would be used. Tr. 324:16-325:5.

***25** 128. Using the 2010-2016 statewide elections, Dr. Chen found that the enacted Senate plan produces 18 Democratic districts. Tr. 325:7-326:11; PX1 at 57, 60 (Chen Report). In contrast, none of the 1,000 simulated plans produce such an outcome. *Id.* The simulated Senate plans produce 19 to 21 Democratic districts using the 2010-2016 statewide elections, with the most common outcome in the simulations being 20 Democratic districts—*i.e.*, two more Democratic districts than exist under the enacted Senate plan. *Id.* From these results, Dr. Chen concluded with over 99% statistical certainty that the current Senate plan is an extreme partisan outlier, and one that could not have occurred under a districting process that adhered to the traditional districting criteria. Tr. 326:12-21; PX1 at 59 (Chen report).

129. Plaintiffs' Exhibit 28 depicts the distribution of Democratic seats under the enacted Senate plan and under the 1,000 simulations in Senate Simulation Set 1:

Figure 14:

Senate Simulation Set 1 (Following Only Non-Partisan Redisricting Criteria):

Democratic-Favoring Districts in 2017 Senate Plan Versus 1,000 Simulated Plans

(Measured Using 2010-2016 Election Composite)

130. Like he did for the House, Dr. Chen measured the number of Democratic districts that would exist under his simulated plans and the enacted plan under electoral environments that are more neutral or even favorable to Democrats. Dr. Chen again analyzed the number of Democratic districts when using just the 2016 Attorney General election, which was a near tie. Tr. 327:8-11; PX121; PX1 at 59, 61, A3 (Chen Report). Dr. Chen found that the enacted Senate plan produces 20 Democratic districts using the 2016 Attorney General results, while the 1,000 simulated Senate plans most commonly produce 23 Democratic

districts under the 2016 Attorney General results. Tr. 328:1-13. The gap between the enacted Senate plan and the simulated plans therefore grows to three Democratic seats in the most common outcome under the neutral electoral environment of the 2016 Attorney General election. *Id.*

131. Dr. Chen also performed a uniform swing analysis to compare the enacted Senate plan to the simulated Senate plans under different electoral environments. Just as he did for the House, in his uniform swing analysis for the Senate, Dr. Chen started with the Democratic vote share in every enacted and simulated district using the 2010-2016 statewide elections and then increased or decreased the Democratic vote share uniformly in every district in 0.5% increments. Tr. 328:25-329:7.

132. Dr. Chen found the same trend in his uniform swing analysis of the Senate that he found for the House. Tr: 330:7-23. He found that as he increases the uniform swing in the more Democratic direction, the gap between the number of Democratic districts under the enacted Senate plan and the simulated plans grows. *Id.* And the gap again becomes widest around the points where Democrats would come close to gaining a majority or would actually gain a majority under the nonpartisan simulated plans. *Id.*

133. Plaintiffs' Exhibit 29 below depicts Dr. Chen's uniform swing analysis for the Senate. The red stars again reflect the number of Democratic districts under the enacted Senate plan and the numbers to the right of the red stars reflect the number of simulations (out of 1,000) that produce the number of Democratic districts listed on the horizontal axis.

Figure U7: Number of Democratic Districts Under Alternative Uniform Swings in Senate Simulation Set 1 Plans

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134. Plaintiffs' Exhibit 30 (Figure U8) below depicts Dr. Chen's Senate results for a uniform swing corresponding to a statewide Democratic vote share of 51.92%. The figure reveals that, in this scenario, the enacted Senate plan contains only 22 Democratic districts, but the vast majority of simulations would give Democrats a tie or an outright majority in the Senate. Tr. 331:2-332:23. Plaintiffs' Exhibit 31 (Figure U9) below depicts Dr. Chen's Senate results for a uniform swing corresponding to a statewide Democratic vote share of 52.42%. In this environment, Democrats would win half or more of the districts in over 95% of the simulations and would win an outright majority in over 62% of the simulations. Tr. 333:7-334:2. Yet, under the enacted Senate plan, Democrats would hold just 22 Senate districts in this scenario. *Id.*

Figure U8:

Number of Democratic Senate Districts Measured Using the 2010-2016 Election Composite With a +4% Uniform Swing, Corresponding to a 51.92% Statewide Democratic Vote Share

(Senate Simulation Set 1)

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Figure U9:

Number of Democratic Senate Districts Measured Using the 2010-2016 Election Composite With a +4.5% Uniform Swing, Corresponding to a 52.42% Statewide Democratic Vote Share

(Senate Simulation Set 1)

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***26** 135. Dr. Chen also analyzed the type of electoral environment that would produce 21 Democratic districts under the enacted plan, which is the number of Senate districts that Democrats won in 2018. Tr. 334:3-335:7. Dr. Chen found that, in the type of environment that would produce 21 Democratic districts under the enacted plan in his uniform swing analysis, Democrats would win *25 or more* Senate districts in the vast majority of simulations. *Id.*; PX29. In other words, while Democrats improved their seat share in 2018, they may well have won a majority had a nonpartisan plan been in place.

136. The Court again finds Dr. Chen's uniform swing analysis to be substantial evidence of the intent and effects of the partisan gerrymander. Dr. Chen's analysis establishes that the effects of the gerrymander are most extreme in electoral environments that are better for Democrats, and in particular in environments under which Democrats could win a majority of Senate seats under a nonpartisan map. Dr. Chen's uniform swing analysis is persuasive evidence that the enacted Senate plan was designed specifically to ensure that Democrats would not win a majority of Senate seats under any reasonably foreseeable electoral environment.

137. The Court further gives weight to Dr. Chen's overall conclusions from his Senate Simulation Set 1. Dr. Chen concluded with over 99% statistical certainty that partisanship predominated in the drawing of the enacted Senate plan and subordinated the traditional districting criteria of compactness, avoiding splitting municipalities, and avoiding splitting VTDs. Tr. 336:22-337:7. The Court adopts these conclusions and finds the current Senate districts, regardless of whether they were drawn in 2017 or 2011, subordinated these three traditional districting criteria in order to accomplish Legislative Defendants' predominant partisan goals.

138. Dr. Chen generated 1,000 more simulated plans in his Senate Simulation Set 2, adding the same incumbency criteria he used for the House. Dr. Chen found that a hypothetical, nonpartisan effort to avoid pairing the incumbents in place at the time each of the relevant districts was drawn could not explain the extreme partisan bias of the enacted Senate plan and its subordination of traditional districting principles. Tr. 341:18-342:8. Dr. Chen found the enacted Senate plan is an extreme outlier with respect to the number of Democratic districts it produces, the number of municipalities and VTDs it splits, and the compactness of its districts compared to the 1,000 simulated plans in Senate Simulation Set 2. Tr. 337:8-341:22, 26, 37, 42; PX1 at 73-85 (Chen Report). The Court gives weight to Dr. Chen's findings in Senate Simulation Set 2 and finds a nonpartisan effort to protect incumbents cannot explain the extreme partisan bias and subordination of traditional districting principles in the enacted Senate plan.

139. The Court also gives weight to and adopts Dr. Chen's conclusions that the partisan bias of the 2017 House and Senate Plans cannot be explained by North Carolina's political geography, meaning the geographic locations of Republican and Democratic voters. Tr. 307:3-11, 336:11-19. Political geography can create a natural advantage for Republicans in winning seats where, for example, Democratic voters are clustered in urban areas. Tr. 304:9-18; PX1 at 7-8 (Chen Report). But Dr. Chen designed his simulations with the specific purpose of accounting for North Carolina's political geography and any other built-in advantages either party may have in redistricting. Tr. 304:19-305:19; *see* PX1 at 7-8 (Chen Report). The simulations build districts using the *same* Census geographies and population data that existed when the enacted plans were drawn; thus, the simulated plans capture any natural advantage one party may have had based on population patterns when the General Assembly passed the enacted plans. *Id.*

***27** 140. Dr. Chen found that Republicans may have a small degree of natural advantage in winning districts in both the House and Senate; Dr. Chen's analysis suggests that even under his nonpartisan plans, Democrats may win less than 50% of the seats when they win 50% of the votes. Tr. 305:21-307:2, 335:17-336:10; PX1 at 36, 66 (Chen Report). But Dr. Chen concluded, and the Court finds, that the enacted House and Senate plans are extreme partisan outliers compared to Dr. Chen's simulations that account for political geography and any other built-in advantages Republicans may have, and thus political geography and other built-in advantages cannot explain the enacted plans' extreme partisan bias. Tr. 307:3-11, 336:11-19.

141. The Court also rejects Legislative Defendants' critiques of the way in which Dr. Chen's simulation algorithm applied the traditional districting principles of compactness and avoiding splitting municipalities and precincts.

142. Dr. Chen's interpretation and application of the traditional districting principles is fully consistent with the guidance provided by Legislative Defendants at the time of the 2017 redistricting. At the first public hearing after the draft plans were unveiled, Representative Lewis explained the Adopted Criteria meant "trying to keep towns, cities and precincts whole where possible." PX607 at 10:5-6. Representative Lewis made similar statements at the committee hearing where the Adopted Criteria were proposed and debated; he asserted, for example, that the criterion regarding municipal splits "says that the map drawer may and rightfully should consider municipality boundaries when they can." PX603 at 67:16-18. Representative Lewis added that "municipality, precinct lines are things that are all community-of-interest-type things that we're going to seek to preserve." *Id.* at 77:12-14. Representative Lewis did not qualify in these statements that the Redistricting Committees would seek only to promote these traditional principles up to a point, or would seek to intentionally split some *minimum* number of municipalities and VTDs.

143. The Court further gives weight to Dr. Chen's testimony that his application of these criteria is consistent with generally accepted redistricting principles and practice. Dr. Chen testified that no jurisdiction in the country prefers to split a *higher* number of municipalities or VTDs or wants *less* compact districts. Tr. 603:2-605:21, 774:5-21. Nor does any jurisdiction seek to split some *minimum* number of municipalities or VTDs or impose a *cap* on how compact the districts should be. *Id.*

144. Legislative Defendants did not introduce persuasive evidence of nonpartisan reasons why the enacted plans split particular municipalities or VTDs or made particular districts less compact.

145. The Court also rejects any suggestion that Dr. Chen should not have applied these traditional districting criteria in simulating county groupings that were drawn in 2011 because these principles were not expressly stated as official criteria during the 2011 redistricting process. *See* Tr. 629:19-636:12. The principles of compactness and avoiding split municipalities and VTDs were traditional districting criteria since well before 2011. Tr. 776:8-777:8; *see, e.g.*, *Stephenson v. Bartlett*, 355 N.C. 354, 371, 562 S.E.2d 377, 389 (2002). That the General Assembly did not list these traditional districting principles as official criteria in 2011 does not change the fact that Legislative Defendants subordinated these principles to partisan considerations in drawing the 2011 districts at issue in this case. *Id.* And the fact that the General Assembly reenacted these districts without change in 2017 does not mean these districts no longer subordinate traditional districting principles to partisan considerations. *Id.*

***28** 146. Dr. Chen's analysis demonstrates the current districts subordinate these nonpartisan traditional principles to partisan intent.

b. *Dr. Mattingly*

147. Jonathan Mattingly, Ph.D., is a North Carolina native, the chairman of the Duke University Mathematics Department, and the James B. Duke Professor of Mathematics at Duke University. Tr. 1080:7-20. He also is a professor in the Duke Statistics Department. *Id.* Dr. Mattingly was accepted as an expert in applied mathematics, probability, and statistical science. Tr. 1083:1-10.

148. Dr. Mattingly developed his method of evaluating partisan gerrymandering in his academic research. Tr. 1086:20-24. He has since created a project at Duke called "Quantifying Gerrymandering." Tr. 1084:9-1085:4. In the one previous case in which Dr. Mattingly testified, a federal partisan gerrymandering case relating to North Carolina's congressional districts, the federal court credited Dr. Mattingly's testimony and concluded his analysis "provide[d] strong evidence" of partisan gerrymandering. *Rucho*, 279 F. Supp. 3d at 644. The court found his simulations "not only evidence[d] the General Assembly's discriminatory intent, but also provide[d] evidence of the 2016 Plan's discriminatory effects." *Id.* at 666.

149. For this case, Dr. Mattingly generated a collection, or "ensemble," of nonpartisan, alternative redistricting maps using the Markov chain Monte Carlo computer algorithm, which is a well-established algorithm dating back at least to the Manhattan Project. Tr. 1089:11-24; Tr. 1090:19-22. Dr. Mattingly generated approximately 1.1×10^{108} statewide maps in the House (of

which 6.6 x 10^{86} were unique), and approximately 3.7 x 10^{93} statewide maps in the Senate (of which 5.3 x 10^{30} were unique). Tr. 1090:1-14; PX359 at 4. The number of maps that Dr. Mattingly generated is greater than the number of atoms in the known universe. Tr. 1090:12-14.

150. To generate the maps, Dr. Mattingly used all of the nonpartisan redistricting criteria identified by the General Assembly in its Adopted Criteria. The Markov chain Monte Carlo algorithm that Dr. Mattingly employed ensured that the collection of maps was a random and representative sample from the distribution of nonpartisan maps that adhere to North Carolina's political geography and nonpartisan redistricting criteria. Tr. 1094:5-1095:3. All of Dr. Mattingly's simulated maps followed North Carolina's Whole County Provision and split no counties that were kept whole under the enacted plans; he ensured population deviations were within the 5% threshold; he required contiguity; and he tuned his algorithm to ensure that the nonpartisan qualities of the simulated maps were similar to the nonpartisan qualities of the enacted map with respect to compactness and the number of counties, municipalities, and precincts split. Tr. 1091:3-1093:1; PX359 at 3-4. Dr. Mattingly did not try to optimize or maximize any particular criterion such as compactness; instead, he took a random, representative sample of the distribution of all maps that are comparable to the enacted maps in terms of compactness and municipal splits. Tr. 1091:3-23.

***29** 151. The Court finds that Dr. Mattingly's simulated maps provide a reliable and statistically accurate baseline against which to compare the 2017 Plans. Tr. 1089:11-24. Dr. Mattingly's collection of nonpartisan maps tracked all the nonpartisan criteria adopted by the Committees. By comparing Dr. Mattingly's simulated plans to the enacted plans, the Court can reliably assess whether the characteristics and partisan outcomes under the enacted plans could plausibly have resulted from a nonpartisan process or be explained by North Carolina's political geography. The Court can also reliably assess whether the enacted plans reflect extreme partisan gerrymanders. The partisan bias Dr. Mattingly identified by comparing the enacted plans to his nonpartisan ensemble of plans could not be explained by political geography or natural packing. Tr. 1095:9-1096:8. Moreover, Dr. Mattingly's analysis did not rest on any assumption about proportional representation. Tr. 1132:6-1133:5; Tr. 1103:24-1104:5.

152. After creating a representative sample of hundreds of trillions of nonpartisan maps, Dr. Mattingly used votes from 17 prior North Carolina statewide elections to compare the partisan performance and characteristics of the 2017 Plans to the simulated plans. Dr. Mattingly chose all major statewide elections from 2008-2016 that were available to him, and those 17 elections demonstrated a range of Democratic support and Republican support and a range of spatial structures and vote patterns. Tr. 1097:8-1098:8; PX487 at 5.

153. The elections Dr. Mattingly considered and their statewide Democratic vote share are listed in the table below (PX778 at 7; Tr. 1097:8-1098:8):

17 Elections	Democratic Vote Share
AG08	61.06%
USS08	54.32%
CI08	53.57%
LG08	52.64%
CI12	51.81%
GV08	51.70%
AG16	50.20%
PR08	50.11%

GV16	50.04%
LG12	49.87%
USS14	49.16%
PR12	48.91%
PR16	48.02%
USS16	46.97%
LG16	46.58%
GV12	44.13%
USS10	43.98%

154. Dr. Mattingly concluded that the 2017 Plans displayed a "systematic, persistent bias toward the Republican Party, both on the statewide level and on the county cluster level." Tr. 1087:22-25. He concluded that the enacted plans were "extreme partisan outlier[s]" when compared to maps that respect the political geography of North Carolina and are similar to the enacted plans in terms of the nonpartisan Adopted Criteria such as compactness and splitting municipalities. Tr. 1088:1-7. He concluded that the "extreme partisan bias" was durable and persisted across a broad range of possible voting patterns and election results. Tr. 1088:1-7. He concluded that the gerrymander was particularly effective at preventing Democrats from breaking the Republican supermajority in both chambers when they would expect to do so under a nonpartisan plan, and from breaking the Republican majority in both chambers when they would expect to do so under a nonpartisan plan. Tr. 1088:8-11. And Dr. Mattingly concluded that the probability that the General Assembly would have enacted the 2017 Plans without intentionally searching for such a biased plan was "astronomically small." Tr. 1088:12-14, Tr. 1158:3-8. The Court gives great weight to those conclusions.

155. With respect to the Senate, Dr. Mattingly concluded that the enacted Senate plan shows a systematic bias toward the Republican Party. Tr. 1110:22-1111:3. In 15 of the 17 elections he considered, the enacted Senate plan produces an atypical bias toward the Republican Party with respect to the number of expected Democrat and Republican seats using the results of these prior statewide elections. Tr. 1116:2-12. The probability of seeing such a consistent pro-Republican bias across so many elections was 0.005%, Tr. 1116:18-21; PX487 at 23, meaning that the chance the General Assembly would have picked such a partisan map if it were not looking for it is five in a million, Tr. 1116:22-1117:2.

156. Dr. Mattingly concluded that the enacted Senate plan is an extreme outlier not just with respect to how consistently it favors Republicans, but with respect to the *amount* by which it favors Republicans. PX363 (Mattingly Report Figure 3). The enacted map caused Democrats to lose between 2 to 3 seats in the Senate in 13 of the 17 elections that Dr. Mattingly analyzed. *Id.* The Court finds this seat deviation to be significant. Tr. 1106:12-15.

***30** 157. Dr. Mattingly concluded that the 2017 Senate Plan's extreme partisan bias was responsible for creating firewalls protecting the Republican supermajority and majority in the Senate. He plotted the results of the statewide elections using the enacted Senate plan and his nonpartisan simulations (PX362). Tr. 1106:17-1110:4. He ordered the elections vertically from bottom (most Republican vote share) to top (most Democratic vote share), and then plotted the number of seats that Democrats would expect to receive under the nonpartisan plans using blue histograms. *Id.* Using nonpartisan maps, the Democratic seat count would be expected to fall in the tallest part of the blue histogram. Tr. 1108:7-24. Dr. Mattingly used purple dots to report how many seats Democrats would win in the Senate using the results of each statewide election under the enacted Senate plan. Tr. 1109:3-10. Dr. Mattingly then used three vertical dotted lines to represent the point at which Democrats would break the Republican supermajority, the Republican majority, or win a supermajority themselves. Tr. 1111:5-24.[4] If the enacted plan is

a pro-Republican outlier, the purple dot is to the left of the blue histogram (meaning the enacted plan elects fewer Democratic seats). If a purple dot is to the left of the Republican supermajority or majority line, and the bulk of the blue histogram is to the right, that is an election in which the enacted plan protects the Republican supermajority or majority where Democrats would break the firewalls in a nonpartisan plan. Tr. 1111:5-1112:24.

158. Plaintiffs' Exhibit 362 is reproduced below:

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159. Dr. Mattingly's analysis demonstrates that the enacted Senate plan creates two "firewalls," protecting Republican supermajorities and majorities which Democrats would break under a nonpartisan plan. Dr. Mattingly testified that, in elections where Democrats win enough votes that they would typically be expected to break the Republican supermajority under nonpartisan plans, the Republicans win the supermajority in the enacted plan. Tr. 1112:8-24. This is visually demonstrated by Plaintiffs' Exhibit 362, which shows that the Democratic seat count in the enacted plan consistently stays to the left of the supermajority line even as the Democratic vote share rises and the nonpartisan plans break through the Republican supermajority line. PX362. In many cases the enacted plan is completely outside the distribution of nonpartisan plans. Tr. 1112:8-24.

160. The results of the Attorney General 2016 election illustrate Dr. Mattingly's conclusion that the enacted map is an extreme, pro-Republican partisan gerrymander. Tr. 1114:9-11. This was a relatively even election where Democrats won 50.20% of the statewide vote, and in 99.999% of the nonpartisan maps, the Democrats broke the Republican supermajority. But, using the results of this election, the enacted map preserves the Republican supermajority. Tr. 1112:25-1114:11.

161. Overall, in 5 of the 17 elections that Dr. Mattingly considered, the Democrats would have almost certainly broken the Republican supermajority in the nonpartisan plans but failed to do so under the enacted plan (the 2012 Lieutenant Governor; 2016 President, 2008 President, 2016 Governor, and 2016 Attorney General elections). PX363; PX487 at 25 (Mattingly Rebuttal Report). In two others (the 2014 U.S. Senate and 2012 President elections), the Democrats would have had a chance of breaking the Republican supermajority in the nonpartisan plans, but never do in the enacted plan. PX362; PX417. In all seven of those elections where the Democrats would be expected to break the supermajority under nonpartisan plans, the enacted plan is an "extreme outlier." *See* PX363 (fifth column).

162. In elections where the Democrats won so many votes that the enacted Senate plan's Republican supermajority firewall breaks, Dr. Mattingly showed that the enacted Senate plan creates a second firewall preventing the Democrats from breaking the Republican majority. Tr. 1114:14-25. Using the results of the 2008 Commissioner of Insurance and 2008 Lieutenant Governor elections—both elections in which the Democrats won over 52.5% of the statewide vote—the enacted plan protects a Republican majority even where the overwhelming majority of nonpartisan plans would break its majority. *Id.*; PX362.

163. Dr. Mattingly found similar results for the House. Tr. 1087:22-25. Once again, in 15 of the 17 elections he considered, the enacted House Plan produced an atypical bias toward the Republican Party with respect to the number of Democrat and Republican seats. Tr. 1121:23-1122:5. The probability of seeing such a consistent pro-Republican bias across so many elections was 1.4%, Tr. 1122:6-13; PX359 at 11 (Mattingly Report), making it extremely unlikely that the General Assembly would have picked such a partisan map if it were not looking for it, Tr. 1122:14-17.

***31** 164. Dr. Mattingly concluded that the enacted House plan is an extreme outlier not just with respect to how consistently it favors the Republicans, but with respect to the *amount* by which it favors the Republicans. PX359 at 11 ("We never see any plans that favor the Republican Party to the same extent" in terms of seats); PX366 (Mattingly Report Figure 6). The House plan becomes a greater and greater pro-Republican outlier under elections that have more Democratic votes, and becomes an "incredibly extreme outlier" in such elections. Tr. 1120:4-11; Tr. 1119:14-20. The enacted map caused Democrats to lose between 2 and 11 seats in the House in 13 of the 17 elections that Dr. Mattingly analyzed. PX366. The Court finds this seat deviation to be significant.

165. Dr. Mattingly concluded that the enacted House plan's extreme partisan bias is responsible for creating firewalls protecting the Republican supermajority and majority in the House. Tr. 1120:15-1121:18. As with the Senate, Dr. Mattingly plotted the results of various statewide elections using the enacted House plan and his nonpartisan simulations in Figure 5 of his report (PX365). Tr. 1118:5-1120:14.

166. Plaintiffs' Exhibit 365 is reproduced below:

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167. As Dr. Mattingly testified, Plaintiff's Exhibit 365 illustrates how the enacted House plan becomes a greater and greater pro-Republican outlier as Democrats win more votes statewide, and how the enacted House plan creates firewalls protecting the Republican supermajority and majority which Democrats would break under a nonpartisan plan. Tr. 1120:4-1121:18. In the elections in the lower left of the figure where the Republicans have more statewide votes and have a supermajority even in the nonpartisan plans, the enacted plan is generally within the distribution of nonpartisan plans. PX365 (see, *e.g.*, the 2016 Lieutenant Governor and 2016 U.S. Senate elections). Dr. Mattingly explained that this makes sense from the mapmaker's perspective, because the mapmaker would not design the map for environments where Republicans are assured a "commanding supermajority" no matter what. Tr. 1123:17-24.

168. Plaintiffs' Exhibit 365 shows that in elections where the Democrats begin to break the Republican supermajority in the nonpartisan plans, the enacted plan becomes an outlier and consistently protects the Republican supermajority. Tr. 1120:15-1121:8. Dr. Mattingly testified that the enacted map "has a firewall that retards the advance of the Democratic Party particularly when they're about to break through and break the Republican supermajority." Tr. 1121:6-8.

169. Overall, in 4 of the 17 elections that Dr. Mattingly considered, the Democrats would have almost certainly broken the Republican supermajority in the nonpartisan plans but failed to do so under the enacted plan (2008 President, 2012 Lieutenant Governor, 2016 Attorney General, 2016 Governor). *See* PX366 (Mattingly Report Figure 6). By contrast, the enacted map never creates a Democratic supermajority in the House when one would not be expected under the nonpartisan ensemble. PX359 at 13-14.

170. In elections where the Democrats win so many votes that the enacted House plan's Republican supermajority firewall breaks, Dr. Mattingly showed that the enacted House plan creates a second firewall preventing the Democrats from breaking the Republican majority. Tr. 1119:14-20; Tr. 1121:9-18. Using the results of the 2008 U.S. Senate, 2008 Lieutenant Governor, or 2008 Commissioner of Insurance elections, where the Democrats virtually always have a majority in the collection of hundreds of trillions of nonpartisan plans and sometimes have a supermajority, the Democrats never win a majority under the enacted plan. Tr. 1121:11-18; PX365 (Mattingly Report Figure 5); PX359 at 13.

***32** 171. In a race like the 2008 U.S. Senate election—where the Democrats won 54.32% of the statewide vote—the enacted map is a particularly extreme pro-Republican outlier. Tr. 1121:11-18. Using that election, the Republicans win 11 more seats in the enacted House plan than they would expect to win under the nonpartisan collection of plans. PX366 (Mattingly Report Figure 6). In more than 40.1% of the plans in the nonpartisan collection, Democrats actually win a supermajority, but the Democrats do not even win a majority under the enacted plan. PX359 at 14; PX418 (Mattingly Report Table 4). By contrast, there were no historical elections under which the Republicans would have been expected to receive a majority under the nonpartisan House plans but would not receive a majority in the enacted House plan. PX359 at 13.

172. Dr. Mattingly also performed a uniform swing analysis that confirmed the enacted plan's persistent, durable, and extreme bias toward the Republican party. Tr. 1123:25-1131:5. Using six different historical elections ranging from very pro-Republican (e.g., 2012 Governor, where the Democrats won 44.13% of the statewide vote) to very pro-Democratic (e.g., 2008 U.S. Senate, where the Democrats won 54.32% of the statewide vote), Dr. Mattingly showed that the House plan's gerrymandered protection of the Republican supermajority and majority was highly robust over many different electoral structures and statewide vote fractions. Tr. 1127:15-18; Tr. 1129:5-1131:5; PX488 (Mattingly Rebuttal Report Figure 1). Each of the elections end up looking

"remarkably the same" as the Democratic vote share increases; in all of the elections, the enacted map creates a firewall protecting the Republican supermajority and majority. Tr. 1129:11-1130:2; Tr. 1130:23-1131:5. Dr. Mattingly concluded on the basis of his uniform swing analysis that the House plan was "designed" to "consistently protect" the Republican supermajority and majority across all of the "very different" elections he studied, which contain many different "spatial vote patterns" and "historical voting patterns from the state of North Carolina." Tr. 1130:23-1131:5.

173. In particular, under the nonpartisan maps, the Republicans do not win a supermajority when the Democratic statewide vote share rises above 50 percent, but in the enacted plan, the Republicans do. Tr. 1130:7-19. And the uniform swing analysis shows that the enacted plan becomes an especially extreme outlier whenever the Democrats would win a majority of seats under the ensemble of nonpartisan plans. Tr. 1128:12-1129:4; Tr. 1130:3-6. Dr. Mattingly's uniform swing analysis shows that the enacted map prevents Democrats from winning a majority of the seats in the House unless they have around 55% of the statewide vote. Tr. 1131:6-16. That is well more than the Democrats would need in a non-gerrymandered plan to win a majority of House seats. *See* PX488 (Mattingly Rebuttal Report Figure 1).

174. Plaintiffs' Exhibit 488 (Mattingly Rebuttal Report Figure 1) shows Dr. Mattingly's uniform swing analysis of the House plans:

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FIGURE 1. Purple dots show the enacted plan; the green dots show a plan in the ensemble. The dashed line at 60 seats shows the majority, and the dashed line at 48.5 seats shows the Republican supermajority threshold. The number of Democrats elected in the Senate which has a total of 120 seats.

175. Dr. Mattingly preferred to compare the enacted plan to nonpartisan plans election-by-election, because taking an average seat shift across a set of elections can obscure a gerrymander's effect in close elections where control of the Senate or House is at issue. Tr. 1214:8-13, 1216:16-19, 1216:22-1217:3. Even considering the average, however, Dr. Mattingly found that the enacted plan is an extreme pro-Republican outlier. Tr. 1216:4-12. Comparing the enacted Senate plan to the median Senate plan in the ensemble for each of the 17 elections, the enacted plan causes Democrats to lose on average 1.94 seats in the Senate across all 17 elections. PX363. Not a single one of Dr. Mattingly's 3.7×10^{93} statewide maps in the Senate favors the Republican Party as much as the enacted plan under this metric. PX363 (bottom right image); PX487 at 23 (Mattingly Rebuttal Report). Similarly, comparing the enacted House plan to the median House plan in the ensemble for each of the 17 elections, the enacted plan causes Democrats to lose on average 3.35 seats in the House across all 17 elections. Not a single one of Dr. Mattingly's 1.1×10^{108} statewide maps in the House favors the Republican Party as much as the enacted plan under this metric. PX366 (bottom right image); PX359 at 11 (Mattingly Report) (noting that the average seat difference in favor of the Republicans across all 17 elections is "greater than all plans in the ensemble").

***33** 176. Dr. Mattingly's separate analysis of the structure of the enacted House and Senate plans provided further confirmation that both plans are extreme partisan gerrymanders, even putting aside the effect on seat count in any particular election. He demonstrated that the General Assembly cracked and packed Democratic voters for partisan gain across the House and the Senate plans, with a particular focus on cracking Democratic voters out of the middle seats that determine supermajority and majority control of both Chambers.

177. Dr. Mattingly ordered the 120 districts in the House in his ensemble of nonpartisan plans from lowest to highest based on the Democratic vote fraction in each district. He did this for each of the 17 statewide elections he analyzed. Tr. 1159:4-15; PX483.

178. Below is an example of Dr. Mattingly's structural analysis of the 120 districts in the House using the votes from the 2016 Attorney General's Election. *See* PX483 at 13; PX778 at 33 (Mattingly PowerPoint presentation).

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179. The purple dots in the ranked-ordered box plots from Plaintiffs' Exhibit 483 represent the Democratic vote fraction in the enacted plan for each district ordered from least to most Democratic; the boxes represent the Democratic vote fraction across Dr. Mattingly's ensemble of nonpartisan plans. Tr. 1159:4-1162:1. The key in the top left-hand corner shows the statewide election and the Democratic statewide vote fraction in that election.

180. Dr. Mattingly explained that in the 40 seats in the middle—between the 40th most Democratic seat and the 80th most Democratic seat—the Democratic vote fraction in the enacted plan is far below the boxes representing the nonpartisan plans. Tr. 1162:7-25. Those "are the seats that determine who has a supermajority and who has the majority," and they are the "critical seats for the structure of the House." Tr. 1162:19-25. But in the most Democratic districts, beginning around the 99th least Democratic seat, the Democratic vote fraction is much higher in the enacted plan. Tr. 1162:7-12. In other words, across the map, Democrats have been cracked out of the districts that determine control of the House and packed into districts they would win anyway. Tr. 1162:7-25. In the 2016 Attorney General election, this structural gap between the Democratic vote share in the enacted plan and the nonpartisan plans in the critical districts means that the Republicans kept the supermajority even though they would have lost it under the ensemble of nonpartisan plans. Tr. 1163:3-25.

181. An examination of the dis tricts between the 40th least Democratic district and the 80th least Democratic district in the House using the 2016 Attorney General election further demonstrates the cracking of Democratic voters in these critical seats. (PX485 at 13; PX778 at 34):

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182. Dr. Mattingly testified that the large gap between the Democratic vote fraction in the enacted plan and in the ensemble at the 72-seat marker is the structural feature of the House map that is responsible for the firewall protecting the Republican supermajority. Tr. 1164:1-9.

183. Dr. Mattingly's ranked-ordered box plot using the results of the 2012 Presidential election revealed that same structural anomaly (PX485 at 11; PX778 at 35):

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184. Using the results of the 2012 Presidential election, Dr. Mattingly testified that again the enacted map shows a "huge depletion of Democratic voters" in these districts that matter for supermajority and majority control. Tr. 1164:17-1165:7; PX485 at 11. Dr. Mattingly explained that, although the Presidential 2012 election was a fairly Republican election where the Republicans would win a House majority even under the nonpartisan plans, the significant deviation in the Democratic vote fraction in the seats that matter most will have a "dramatic effect" in elections where the Democrats get more votes statewide. Tr. 1166:1-17.

***34** 185. Plaintiffs' Exhibit 484 contains Dr. Mattingly's ranked-ordered box plots for the Senate. Dr. Mattingly ordered all 50 Senate districts in his ensemble from lowest to highest based on the Democratic vote fraction in each district. He did this for each of the 17 statewide elections he analyzed. PX484. Below is an example of Dr. Mattingly's structural analysis of the 50 Senate districts using the 2016 Lieutenant Governor election. PX484 at 15; PX778 at 40.

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186. The ranked-ordered box plot using the 2016 Lieutenant Governor results demonstrates the same significant suppression of Democratic votes in the enacted plan in the districts that matter most—the 25th most Democratic district, which determines who wins the majority in the Senate, and the 29th least Democratic district, which the Democrats need to win to break the supermajority. Tr. 1175:12-24; PX484 at 15. Dr. Mattingly testified that the gap between the enacted plan and the ensemble

around the 25th and 29th/30th district shows that the enacted plan is an "extreme outlier." Tr. 1176:5-9. In turn, in the most Democratic districts, the enacted plan has significantly more Democrats than in the nonpartisan ensemble, PX484 at 15—representing packing of Democrats into these districts. Tr. 1175:4-9.

187. As noted, Dr. Mattingly performed this same structural analysis of the House and Senate enacted plans using all 17 of his statewide elections. PX483, PX484. He testified that all 34 of his ranked-ordered box plots overwhelmingly show the same gaps between the enacted plan and the ensemble in the Democratic vote fraction in the seats that matter most in the Senate and the House, and overwhelmingly show the firewalls protecting the Republican supermajorities and majorities. Tr. 1176:10-23. Dr. Mattingly testified that it would "almost be impossible to build this structure" in the absence of an intentional choice to do so. Tr. 1176:24-1177:2. The Court gives great weight to this conclusion.

188. In his report, Dr. Mattingly conducted a statistical analysis to quantify the statewide cracking and packing of Democratic voters in the House and Senate plans that the ranked-ordered box plots from Plaintiffs' Exhibits 483 and 484 visually illustrate. That analysis confirms to a high degree of statistical significance that the structure of the enacted plans reflects extreme bias in favor of the Republicans that will persist in election after election.

189. Specifically, in the House, Dr. Mattingly analyzed the 48th to the 72nd least Democratic districts (again, the range that determines majority and supermajority control). PX359 at 13 (Mattingly Report). Dr. Mattingly found that in 15 of the 17 elections, there is less than a 0.0005% chance of finding a plan in the ensemble that had fewer Democratic votes across those districts than did the enacted plan. *Id.*; PX359 at 13. In the remaining 2 elections, there was less than a 0.02% and 0.3% chance of finding a plan in the ensemble with as much cracking of Democrats out of the middle districts as the enacted plan. *Id.*

190. Dr. Mattingly's statewide quantification of the Senate showed the same extreme cracking of Democrats out of the districts that determine majority and supermajority control. For the Senate, Dr. Mattingly considered the 20th to 30th least Democratic districts. PX359 at 9. He found that in 14 of the 17 statewide elections, there is less than a 0.0005% chance of finding an ensemble plan with fewer Democratic votes across those districts than the enacted plan. *Id.* In two other elections, the enacted plan was still an extreme outlier, at the 0.1% level. *Id.*

***35** 191. Dr. Mattingly also created video animations of his uniform swing analysis using six different elections in both the House and Senate. PX772 (video animations). In the videos, the blue histograms represent the distribution of seats using Dr. Mattingly's nonpartisan plans; the "enacted" marker represents the enacted plan, and the three vertical lines represent the Republican supermajority, Republican majority, and Democratic supermajority lines. *Id.* Dr. Mattingly played two of the videos for the Court, representing uniform swing analysis in the House using the results of the 2012 Presidential election and 2016 Lieutenant Governor election. Tr. 1168:4-8, 1169:17-1172:15; PX778 at 37, 38 (PowerPoint slides); PX772 (video animations). The 2012 Presidential election video showed that the enacted plan started out looking fairly typical of the ensemble of nonpartisan plans; that is the video starts with a 45% Democratic vote share where Republicans retain the supermajority under the nonpartisan plans as well. Tr. 1169:17-25. As the Democratic vote fraction increases, the blue histograms representing the nonpartisan plans shifts to the right and the number of seats that Democrats win increase. Tr. 1169:25-1170:9. But the enacted plan begins to lag "dramatically" behind the nonpartisan plans. Tr. 1170:6-13. In particular, at the Republican supermajority and majority lines, the enacted plan "sticks" on the Republican side of the line even as the blue histogram representing the nonpartisan plans move completely past those lines. Tr. 1171:8-21. The gerrymander is sometimes so effective that it retains a Republican supermajority in the enacted plan even where the Democrats win a majority in the nonpartisan plans. Tr. 1172:6-10.

192. Dr. Mattingly's video animation of a uniform swing analysis of the 2016 Lieutenant Governor election showed the same thing, Tr. 1172:17-1174:20, as do Dr. Mattingly's four remaining videos, PX772.

193. The Court finds that these video animations provide significant evidence confirming Dr. Mattingly's conclusions that the enacted House and Senate maps exhibit extreme partisan bias and create partisan firewalls protecting the Republican supermajority and majority. The Court finds that Dr. Mattingly's uniform swing videos are also significant evidence that the

gerrymanders cause the enacted House and Senate maps to be largely nonresponsive to the actual votes cast in North Carolina's elections. Moreover, as Dr. Mattingly explained, the ranked-ordered box plots that he created using all 17 statewide elections showing the systematic suppression of Democratic vote fractions in the districts that matter most for the House and Senate demonstrate—without any need to conduct uniform swing analysis—that the enacted plan will be nonresponsive to the votes actually cast in North Carolina elections. Tr. 1174:25-1176:9.

194. Dr. Mattingly's findings regarding the firewall to protect the Republican majorities in the General Assembly are significantly similar to Dr. Chen's findings. Dr. Chen, like Dr. Mattingly, found that the gap between the number of Democratic districts under the enacted plans and under his simulated plans gets wider in electoral environments that are better for Democrats, and are at their widest around the point where Democrats would win a majority of seats in the House or Senate in his simulated plans. The independent findings of Drs. Chen and Mattingly strengthen and reinforce the conclusion that Legislative Defendants drew the enacted House and Senate plans with the specific goal of making it extremely difficult, if not impossible, for Democrats to take control of either chamber of the General Assembly.

195. Dr. Mattingly's county-grouping analysis, discussed in greater detail below, also allowed him to draw statistically significant conclusions about the intent of the mapmaker in creating the statewide Senate and House plans. Tr. 1157:24-1158:8. In particular, he explained that the design of each county grouping in the House and Senate plans represented an independent choice by the mapmaker, because "how you redistrict one county cluster does not affect how you redistrict the next one since you can't cross county cluster lines." Tr. 1157:17-23. Dr. Mattingly found that numerous county groupings in the House and Senate were extreme pro-Republican partisan outliers at the 100% or 99% level. PX778 at 29-30. He testified that the probability that the extreme partisan bias in the enacted maps was unintentional was "astronomically small," because the chance of making so many independent choices "with such extreme bias" in one map was "astronomically small if you are not looking for it." Tr. 1158:3-8.

196. Dr. Mattingly conducted a secondary analysis in which he only considered plans that preserved incumbents "to the same extent, or better, than they are preserved" in the enacted plan in each grouping. PX359 at 81. Dr. Mattingly found that accounting for the effects of incumbency did not change his conclusion that the enacted plans are extreme pro-Republican gerrymanders. Tr. 1093:21-1094:3. Defendants failed to offer evidence sufficient to rebut Dr. Mattingly's conclusion that the enacted plan's extreme bias could not be explained by a nonpartisan effort to avoid pairing incumbents.

***36** 197. Dr. Mattingly performed extensive robustness checks establishing that his results were insensitive to the choices he made and criteria he used to generate the distribution of nonpartisan plans. Among other things: Dr. Mattingly went through every district in every grouping he analyzed to confirm that the compactness and municipal splits in the ensemble tracked those qualities in the enacted plan. PX359 at 57-80 (Mattingly Report). He performed a secondary analysis considering only plans that were equal to or better than the enacted plan along the dimension of compactness and municipal splits and found that it did not affect his results. PX359 at 82; PX468, 472-473. He created different collections of nonpartisan maps using six different sets of weights for compactness and other nonpartisan criteria and confirmed that changing the weights did not change the results. PX487 at 11 (Mattingly Rebuttal Report). And when Defendants' experts raised various speculative critiques in their reports—asking whether changing one criterion or another would make a difference—Dr. Mattingly performed a follow-up analysis in his rebuttal report confirming that it did not. *Id.* at 6-11.

198. The Court finds that none of Legislative Defendants' objections to Dr. Mattingly's analysis calls into question its persuasive value. The fact that, in a few individual elections, the enacted plan is not an extreme outlier relative to the ensemble of plans in terms of seat count alone does not undermine Dr. Mattingly's conclusion that the enacted plans are extreme partisan gerrymanders designed to protect Republican supermajorities and majorities. Tr. 1117:9-11 (Senate); Tr. 1122:18-1123:24 (House). First, Dr. Mattingly explained that the underlying structure of the enacted plans reflected a trade-off. To crack Democrats out of districts where it matters, the mapmaker had to pack Democrats into other districts. Tr. 1123:5-24. Under certain circumstances—*i.e.*, in Republican wave elections—the packing of Democratic voters in the enacted plan causes Republicans to lose districts that they would have won in nonpartisan plans that did not pack Democratic voters into these districts. But such an electoral environment is one in which Republicans would already win a commanding supermajority. *Id.*

As Dr. Mattingly explained, someone gerrymandering a map would happily hold the supermajority or the majority in elections where their control is at risk, even if the cost is a few less seats in elections where they will always have a commanding supermajority anyway. *Id.*

199. The 2012 Governor election—a highly Republican election where the Republicans win a supermajority in Dr. Mattingly's nonpartisan plans—provides an example. When Dr. Mattingly conducted a uniform swing analysis using the 2012 Governor election, the enacted map became an "extreme outlier in favor of the Republican Party" as the statewide vote swings to the Democrats and the Democrats approached the point where they would break the Republican supermajority and majority under his nonpartisan plans. Tr. 1126:7-1127:9; PX488. Although the 2012 Governor election may not appear to be a partisan outlier for the Republicans, Dr. Mattingly testified that in fact "it is." Tr. 1127:19-1128:11.

200. During Dr. Mattingly's cross examination, Legislative Defendants suggested that he should have included other purportedly nonpartisan criteria in his simulated plans beyond the ones listed in the adopted criteria. The Court, however, gives no weight to Legislative Defendants' suggestions that secret and undisclosed nonpartisan agreements between "representatives of different political parties" might explain the partisan bias that Dr. Mattingly identified. *E.g.*, Tr. 1204:11-14. The Court also gives no weight to the suggestion that Dr. Mattingly should have accounted for "communities of interest" in a manner other than by avoiding splitting counties, cities, and towns, *see, e.g.*, Tr. 1192:19-1193:4, considering Legislative Defendants expressly declined to include "communities of interest" as a criterion for the 2017 Plans. Tr. 1223:8-1224:1; *see* PX603 at 67:14-25 (Rep. Lewis stating that "communities of interest" is not a "criteria that we have proposed" because the Committee "couldn't find a concise definition"); *id.* at 73:16-20 (Rep. Lewis stating that he opposed listing "communities of interest" as a criteria because "municipalities are defined and understood" but the Committee couldn't "agree[]" on what a community of interest was beyond that); *id.* at 77:3-25 (Rep. Lewis again rejecting the use of "communities of interest"); *id.* at 106:10-11 (Rep. Lewis stating that "I don't believe [communities of interest] belongs in this criteria").

***37** 201. When asked by interrogatory to "identify and describe all criteria that were considered or used in drawing or revising districting boundaries for the 2017 Plans," Legislative Defendants made a binding concession that the only "criteria used to draw the 2017 plans is the criteria adopted by the Redistricting Committees." PX579 at 13. As such, the Court gives little credence to Legislative Defendants' critique that Plaintiffs' experts failed to include criteria not in the Adopted Criteria, or a claim that other considerations purportedly explain the contours of the 2017 Plans.

c. *Dr. Pegden*

202. Wesley Pegden, Ph.D., is an Associate Professor in the Department of Mathematical Sciences at Carnegie Mellon University, and testified as an expert in probability. Tr. 1294:19-21, 1302:6-12; PX509. Dr. Pegden has published numerous papers on discrete mathematics and probability in high-impact, peer-reviewed journals, and has been awarded multiple prestigious grants, fellowships, and awards. Tr. 1295:4-20; PX509. He has been appointed by the Governor of Pennsylvania to that state's Redistricting Reform Commission. Tr. 1301:24-1302:5.

203. Dr. Pegden's academic work on redistricting involves Markov chains. A Markov chain is "a random walk around some abstract space." Tr. 1295:23-1296:1. For example, if a person walks around a city, and whenever she reaches an intersection, she chooses which way to turn at random, her position over time "would evolve as a Markov chain." Tr. 1296:5-7. In the context of redistricting, one can imagine taking a random walk "over the space of maps." Tr. 1296:8-14.

204. In 2017, before Dr. Pegden had ever served as an expert in redistricting litigation, he published a peer-reviewed article (PX510) entitled "Assessing Significance in a Markov Chain Without Mixing" in the Proceedings of the National Academy of Sciences—a top-ranked, science-wide journal. Tr. 1295:13-17, 1296:24-1297:1. This article provides a new way to demonstrate that a given object is an outlier compared to a set of possibilities. Tr. 1297:2-7.

205. Dr. Pegden explained that there are three ways to show that a given object is an outlier. The first, most basic way is simply to examine every single member of the entire set of possibilities, and then determine whether the object in question is different than all or most of those possibilities. The second form of outlier analysis is to take a random sample from the set of possibilities, and then compare the object in question to that sample. This type of analysis is the basis of most modern statistics, and is the form of outlier analysis used by Drs. Chen and Mattingly in generating nonpartisan simulated plans and comparing the enacted plans to those random nonpartisan plans. Tr. 1297:10-1298:11, 1309:10-18.

206. The third form of outlier analysis, developed by Dr. Pegden and his co-authors, is a kind of "sensitivity analysis" that begins with the object in question, uses a Markov chain to make a series of small, random changes to the object, and then compares the objects generated by making the small changes to the original object. Tr. 1298:16-1299:4. Dr. Pegden's article illustrates this methodology using a redistricting plan. Tr. 1299:8-18. The article demonstrates that, by using an existing plan as a starting point and then making small random changes to the district boundaries, one can prove the extent to which the existing plan is an outlier compared to all possible maps meeting certain criteria. Dr. Pegden's article proves mathematical theorems showing that this approach can establish a redistricting plan's outlier status in a way that is "completely statistically rigorously grounded in mathematics." Tr. 1299:1-4.

***38** 207. In mid-2018, before this case was filed, Dr. Pegden began working on a new article entitled "Practical Tests for Significance in Markov Chains." Tr. 1300:8-1301:4; PX511. This article further develops this new, third form of outlier analysis with new, more powerful statistical tools. Tr. 1301:5-12. Though unpublished, this second article has been vetted by the mathematical community, including through detailed presentations Dr. Pegden gave at the Duke Statistical and Applied Mathematical Sciences Institute and the Harvard Center for Mathematical Sciences and Applications. Tr. 1300:13-23.

208. In this case, Dr. Pegden used this new, third form of outlier analysis to evaluate whether and to what extent the 2017 Plans were drawn with the intentional and extreme use of partisan considerations. Tr. 1302:24-1303:1. To do so, using a computer program, Dr. Pegden began with the enacted plans, made a sequence of small random changes to the maps while respecting certain nonpartisan constraints, and then evaluated the partisan characteristics of the resulting comparison maps. Tr. 1304:1-1306:21. As explained in further detail below, Dr. Pegden found that the enacted House and Senate plans are more favorable to Republicans than 99.999% of the comparison maps his algorithm generated by making small random changes to the enacted plans. Tr. 1304:14-18, 1342:10-18, 1344:18-1345:3; PX515; PX519. And based on these results, Dr. Pegden's theorems prove that the enacted House and Senate maps are more carefully crafted to favor Republicans than at least 99.999% of all possible maps of North Carolina satisfying the nonpartisan constraints imposed in his algorithm. Tr. 1342:13-25, 1344:18-1345:7; PX515; PX519.

209. Dr. Pegden's analysis proceeded in several steps. He began with the enacted House or Senate map. His computer program then randomly selected a geographic unit on the boundary line between two districts and attempted to move or "swap" the unit from the district it is in into the neighboring district. Tr. 1309:19-24, 1311:1-5; PX508 at 9 (Pegden Report).

210. Dr. Pegden's method uses two different geographic units, VTDs and geounits. Tr. 1309:25-1310:2; PX508 at 9 (Pegden Report). His method uses VTDs when analyzing enacted maps that split few or no VTDs. Such maps include the enacted Senate map and the Senate county groupings Dr. Pegden analyzed. Tr. 1310:3-6; PX508 at 9 (Pegden Report). When analyzing enacted maps that split many VTDs—including the enacted House map and certain House county groupings Dr. Pegden analyzed—Dr. Pegden's method uses a sub-VTD geographic unit known as a "geounit." Tr. 1310:3-11; PX508 at 9 (Pegden Report). Created by a computer program, geounits are compact collections of census blocks that lie entirely within one VTD and one district, containing roughly 500-1000 people. There are roughly six or seven geounits per VTD. Tr. 1310:12-25; PX508 at 9 (Pegden Report).

211. When attempting to swap a randomly selected VTD or geounit from one district to another, Dr. Pegden allowed the swap to occur only if certain constraints were satisfied. Tr. 1311:1-8; PX508 at 7-8 (Pegden Report). These constraints were based on the 2017 Adopted Criteria, and were designed to ensure that the comparison maps generated by Dr. Pegden's algorithm are "good,

reasonable comparisons to the enacted map." Tr. 1311:9-12, 1317:25-1318:25. The constraints that Dr. Pegden imposed included contiguity, population deviation, compact districts, county preservation, municipality preservation, precinct preservation, and incumbency protection. Tr. 1311:13-1317:10; PX508 at 7-8 (Pegden Report). Dr. Pegden also froze boundary lines redrawn by the Special Master in 2017. Tr. 1319:1-22.

***39** 212. Dr. Pegden applied these constraints in a conservative way, so as to "accept choices the mapmaker made." Tr. 1312:19-22. For example, with respect to population deviation, while the 2017 enacted criteria allows districts to vary between plus-or-minus 5% from the ideal district population, the actual enacted House map does not use all of that range, and instead varies between plus 5% to minus 4.97% from ideal. Dr. Pegden accepted that choice by the mapmaker and required all of his comparison maps to fall within that slightly narrower range. Tr. 1312:1-22; PX508 at 8 (Pegden Report). Similarly, with respect to county preservation, Dr. Pegden's algorithm not only respected North Carolina's county groupings, capped the number of county traversals, and preserved the same number of counties as in the enacted map—his algorithm also preserved whole the very same counties preserved whole in the enacted plan. Tr. 1314:9-1315:3. Likewise, with respect to municipality preservation, Dr. Pegden's algorithm not only preserved the same number of municipalities preserved in the enacted map, but also preserved the very same municipalities, and preserved them within the very same districts as in the enacted plan. Tr. 1315:4-19.

213. Dr. Pegden's conservative application of these constraints "ties [his] comparisons very strongly to the enacted map itself." Tr. 1315:22-24. This makes it all the more remarkable that the enacted maps are such outliers in his analysis, even against this very similar comparison set. Tr. 1315:24-1316:2, 1331:6-10.

214. Dr. Pegden also constrained the compactness of his comparison maps. In his main analysis, Dr. Pegden required that the average compactness score for each comparison map not exceed the corresponding average for the enacted plan, with an error of up to 5%. Tr. 1312:23-1313:5; PX508 at 8 (Pegden Report). Dr. Pegden also ran robustness checks using several other compactness constraints—a 10% error, a 0% error, and a completely different measure based on total district perimeter—and found that altering the compactness constraint did not affect his results. Tr. 1313:6-1314:8; PX508 at 32-34 (Pegden Report).

215. For some county groupings, because of Dr. Pegden's conservative application of his constraints, it was impossible for his algorithm to find a swap that satisfied all of the constraints. Tr. 1319:25-1320:10. When this occurred, Dr. Pegden ran a modification of his algorithm allowing multiple swaps in one step. Tr. 1320:11-25; PX508 at 9-10 (Pegden Report).

216. For some county groupings, even with multi-move swaps, Dr. Pegden's algorithm still was unable to generate any comparison maps—or only a very small number—meeting all of his constraints. Where this occurred, Dr. Pegden was unable to draw any conclusions about the county groupings in question. Tr. 1321:1-16. Dr. Pegden, however, credibly explained that this does not mean that the maps in those groupings were *not* drawn with the intentional use of partisanship. For example, partisan considerations could have predominated in choosing which municipalities to preserve whole in which districts, a choice Dr. Pegden's comparison maps took as a given. Tr. 1321:17-25, 1349:11-1350:4; PX508 at 10-11 (Pegden Report).

217. Once Dr. Pegden's algorithm made a swap satisfying his constraints, his algorithm evaluated the partisan characteristics of the comparison map that resulted from the swap. Tr. 1322:1-6. For his main analysis, Dr. Pegden used data from the 2016 Attorney General race to analyze the whole House and Senate maps, the subset of House and Senate districts redrawn in 2017, and any House or Senate county grouping last changed in 2017. Dr. Pegden then used data from the 2008 Commissioner of Insurance race to analyze the subset of House and Senate districts last changed in 2011, as well as any House or Senate county grouping last changed in 2011. Dr. Pegden used these particular elections because they were reasonably close, statewide, down-ballot elections that were available to the General Assembly at the relevant times. Tr. 1322:7-24. Dr. Pegden explained that the "point of [his] analysis is really to get at the intent of the legislature," to "understand the decisions they made with information available to them at the time." Tr. 1322:25-1323:3.

***40** 218. Dr. Pegden also re-ran his analysis using four additional elections—the 2016 Governor election, the 2014 U.S. Senate election, the 2012 Presidential election, and the 2012 Lieutenant Governor election. Tr. 1323:4-12; PX508 at 35-36 (Pegden report). Using these different historical elections did not alter Dr. Pegden's conclusions. Tr. 1323:13-15.

219. To evaluate the partisan characteristics of each comparison map, Dr. Pegden's algorithm calculates the number of seats Republican candidates would win, on average, if a random uniform swing were repeatedly applied to the historical voting data being used. This metric captures how a given comparison map would perform over a range of electoral environments centered around the base election being used (i.e., the 2016 Attorney General's election for Dr. Pegden's primary analysis). Tr. 1324:8-1326:20.

220. Dr. Pegden also re-ran his analysis using a different partisan metric, which measures the Republican vote share in the 61st-most Republican House district, or the 26th-most Republican Senate district. This metric captures, for a given comparison map, how comfortably Republicans would win the seat that would give them the majority in the relevant chamber of the General Assembly. Put differently, this metric captures how large of a Democratic wave election the Republican House or Senate majority could withstand. Tr. 1326:21-1327:20.

221. In his rebuttal report, in response to certain criticisms by Legislative Defendants' experts, Dr. Pegden also re-ran his analysis yet again, this time using a third partisanship metric. In this analysis, Dr. Pegden's algorithm simply measured the number of seats Republicans would have won in an election precisely mirroring the 2016 Attorney General election, without any uniform swing or rank-ordering of districts by Republican vote share. Tr. 1327:21-1328:10.

222. Dr. Pegden's analysis is statistically robust across three different partisanship metrics, none of which altered his conclusions. Tr. 1326:21-1327:15.

223. Dr. Pegden's algorithm repeats the foregoing steps billions or trillions of times in sequence. The algorithm begins with the enacted map, makes a small random change complying with certain constraints, and uses historical voting data to evaluate the partisan characteristics of the resulting map. The algorithm then repeats those steps, each time using the comparison map generated by the previous change as the starting point. By repeating this process many times, Dr. Pegden's algorithm generates a large number of comparison maps in sequence, each map differing from the previous map only by one small random change. Tr. 1328:22-1329:12.

224. Each sequence of billions or trillions of small changes in Dr. Pegden's analysis is one "run." His algorithm performs multiple runs for each map being analyzed, with each run beginning with the enacted plan as the starting point. Dr. Pegden ran his algorithm with a sufficient number of steps and runs in order to generate results that are statistically significant but capable of being replicated within a reasonable time. Tr. 1329:3-22.

225. The comparison maps generated by Dr. Pegden's algorithm are not intended to provide a baseline for what neutral, nonpartisan maps of the North Carolina House or Senate should look like. Instead, Dr. Pegden's comparison maps are intended to be similar to the enacted map in question with respect to each map's relevant nonpartisan characteristics, in order to assess how carefully created the enacted plan is to maximize partisan advantage. Tr. 1308:4-12, 1309:10-18, 1329:23-1330:6, 1362:23-1363:6, 1369:25-1370:4.

***41** 226. Dr. Pegden performed two levels of analysis on the comparison maps generated by his algorithm. Dr. Pegden's first-level analysis simply "report[s] what happened" in each run when his algorithm made random swaps to the enacted plan's district boundaries. Tr. 1332:8-16. For the enacted House and Senate maps, Dr. Pegden reports that—in every run—the enacted map was more favorable to Republicans than 99.999% of the comparison maps generated by his algorithm making small random changes to the district boundaries. PX515; PX519.

227. Dr. Pegden's first-level analysis provides clear, intuitive evidence that the 2017 Plans were meticulously crafted for Republican partisan advantage.

228. Dr. Pegden provided a stark illustration from his first-level analysis of how precisely the enacted plans are drawn to maximize partisan advantage. Dr. Pegden explained that, in his runs for the Wake-Franklin county grouping in the Senate, after "the first fraction of a second," his algorithm "never again" encountered a "single comparison map as advantageous to the Republican Party as the enacted plan itself." Tr. 1308:15-1309:7.

229. Dr. Pegden's second-level analysis provides mathematically precise calculations of how "carefully crafted" the 2017 Plans are—that is, how precisely the district boundaries align with partisan voting patterns so as to advantage Republicans— when compared not just to the comparison maps generated in each run of his algorithm, but to *all possible maps of North Carolina* that satisfy his constraints. Tr. 1332:24-1335:20. In other words, Dr. Pegden is able to determine—to a mathematical certainty—the extent to which the enacted plan is an outlier relative to every single other possible House or Senate map of North Carolina that could exist meeting the contiguity, equal population, compactness, political subdivision, and Special Master constraints that his algorithm applies. For the enacted House and Senate maps, Dr. Pegden reports that under this second-level analysis the enacted map is more carefully crafted for Republican partisan advantage than at least 99.999% of all possible maps of North Carolina satisfying his constraints. PX515; PX519.

230. The results of Dr. Pegden's second-level analyses follow from his theorems, which have been validated by other mathematicians. Tr.1337:9-18. And the results of Dr. Pegden's second-level analyses are intuitive. In effect, Dr. Pegden's analysis shows that the 2017 Plans not only are quite advantageous to Republicans, but also are surrounded in the space of maps by a plethora of other maps that are *less* advantageous to Republicans. It is simply not possible, even in principle, for a typical map of North Carolina (or any other state) to be favorable to Republicans and be surrounded by maps that are less favorable. The only explanation is that the map drawer intentionally crafted the district boundaries to maximize partisan advantage. Tr. 1337:9-1340:8; *see* PX508 at 7 ("In other words, it is mathematically impossible for any state, with any political geography of voting preferences and any choice of districting criteria, to have the property that a significant fraction of the possible districtings of the state satisfying the chosen districting criteria appear carefully crafted.")

231. For both the House and the Senate, Dr. Pegden performed three different analyses. First, using voting data from the 2016 Attorney General election, Dr. Pegden analyzed the entire House and Senate maps. Second, again using voting data from the 2016 Attorney General election, Dr. Pegden analyzed only the districts that were redrawn in 2017, while freezing the districts that were last changed in 2011. Third, using voting data from the 2008 Commissioner of Insurance election, Dr. Pegden analyzed only the districts that were last changed in 2011, while freezing the districts that were redrawn in 2017. Tr. 1340:14-1341:15.

***42** 232. Dr. Pegden's statewide analyses conclusively show that the pertinent districts drawn in 2011, the districts drawn in 2017, and the maps as a whole were all drawn with the intentional and extreme use of partisan considerations. The following demonstrative chart summarizes Dr. Pegden's statewide results:

Map Analyzed	**First-level Analysis (% of algorithm maps less partisan than enacted map)**	**Second-level Analysis (% of all maps less carefully crafted than enacted map)**
	House	
Whole state	99.99984%	99.9991%
2017 districts only	99.9982%	99.99%
2011 districts only	99.9999988%	99.999993%

	Senate	
Whole state	99.99999983%	99.999999%
2017 districts only	99.99999975%	99.9999985%
2011 districts only	99.9995%	99.997%

Sources: Plaintiffs' Exhibits 515-517, 519-521

PX904; *see also* PX515-517, 519-521; Tr. 1341:18-1346:16.

233. These results cannot be explained by North Carolina's political geography. Dr. Pegden's algorithm compares the enacted map to other maps of North Carolina, with the very same political geography. And Dr. Pegden's theorems do not depend on any aspect of North Carolina's political geography—the theorems are mathematically valid for any state with any political geography. Indeed, Dr. Pegden's theorems are mathematically valid not just for redistricting plans, but for any abstract space on which one could imagine taking a random walk using a Markov chain. Tr. 1333:14-24, 1401:9-1402:5.

234. The results of Dr. Pegden's statewide analyses also conclusively show that it is possible for a North Carolina map drawer to make intentional and extreme use of partisan considerations even within the Whole County Provision and the other constraints set forth in the 2017 Adopted Criteria. All of Dr. Pegden's comparison maps respect the Whole County Provision and the other constraints set forth in the 2017 Adopted Criteria. And in his algorithm, Dr. Pegden applied those constraints in a very conservative way that respects the choices made by the map drawer with respect to compactness and the divisions and preservation of particular counties and municipalities. Even within those tight constraints, there were many different maps for a map drawer to choose from, and the enacted maps demonstrate that the map drawer intentionally chose maps that were more carefully crafted for Republican partisan advantage than at least 99.999% of all possible alternatives. Tr. 1402:15-1403:8; PX515; PX519.

235. The Court gives great weight to Dr. Pegden's testimony, analysis, and conclusions.

d. *Dr. Cooper*

236. Christopher A. Cooper, Ph.D., has resided in North Carolina for 17 years and is the Robert Lee Madison Distinguished Professor and Department Head of Political Science and Public Affairs at Western Carolina University. Tr. 848:18-849:7. Dr. Cooper was accepted as an expert in political science with a specialty in the political geography and political history of North Carolina. Tr. 861:21-862:5.

237. As Dr. Cooper explained, North Carolina is a "purple state" that, on the whole, is politically moderate. Tr. 862:21-22. In statewide elections, which are not susceptible to gerrymandering, Democratic candidates perform as well as Republican candidates. Tr. 859:14-18, 864:1-8, 865:5-18. Dr. Cooper's analysis demonstrated that North Carolina is a "two-party" state where Democrats can compete and succeed with respect to U.S. Presidential elections, Tr. 863:2-864:8; PX255; PX253 at 5-6 (Cooper Report), and elections for North Carolina's Council of State, Tr. 864:21-865:18; PX256; PX253 at 6-7 (Cooper Report).

***43** 238. Dr. Cooper also analyzed the aggregate vote share of Democratic and Republican candidates in General Assembly elections since 2012, finding that Democrats received close to or over 50% of the vote in each election. Tr. 865:23-866:16; PX257. But over the same period, Republicans controlled the North Carolina General Assembly, winning supermajorities in both chambers from 2012-2016 and majorities in 2018. Tr. 866:24-868:12; PX259. Despite winning close to or more than 50% of the statewide vote in General Assembly elections since 2012, Democrats have "never approached" a roughly corresponding percentage of seats, a sign of "gross disproportionality." Tr. 868:4-12; PX257; PX259; PX264; PX253 at 8, 11 (Cooper Report).

Percent of Republican Two-Party Vote Share in NCGA Elections 2012-2018

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Percentage of Seats Held by Democrats in the NCGA 2001-2018

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239. Dr. Cooper also used the results of the 2018 elections to show how, under the enacted House and Senate plans, Democratic votes translate to seats far less efficiently than Republican votes. Consistent with the packing and cracking of Democratic voters, when Democrats win seats in the House and Senate, they win by large margins, meaning that many votes tend to be "wasted." Republicans win by significantly narrower margins. Tr. 869:23-871:3; PX262; PX263; PX253 at 14-16 (Cooper Report).

NC State Senate Election Margins 2018

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NC State House Election Margins 2018

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240. The Court finds Dr. Cooper's analysis of the 2018 elections to be persuasive and consistent with Plaintiffs' experts' findings regarding the packing and cracking of Democratic voters within individual county groupings, described below.

C. The 2017 Plans Were Designed Intentionally and Effectively to Maximize Republican Partisan Advantage Within Specific County Groupings

241. Each of Plaintiffs' four experts analyzed seven county groupings in the Senate and 16 county groupings in the House. Plaintiffs' experts concluded that partisan gerrymandering and bias in these groupings was responsible for the extreme partisan bias that they found in their statewide analysis of the House and Senate. Tr. 1134:1-5 (Dr. Mattingly).

1. Senate County Groupings

a. *Mecklenburg*

242. The Mecklenburg Senate county grouping contains Senate Districts 37, 38, 39, 40, and 41. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

243. For each House and Senate county grouping that Plaintiffs' experts analyzed, Dr. Cooper produced a map showing the district boundaries within the grouping and the partisanship of every VTD within the grouping using the results of the 2016 Attorney General election. In each map, darker red shading indicates a larger Republican vote share in the VTD, darker blue shading indicates a larger Democratic vote share in the VTD, and lighter colors indicate VTDs that were closer to evenly split in Democratic and Republican vote shares.

244. Plaintiffs' Exhibit 285 is Dr. Cooper's map for this county grouping:

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

245. As Dr. Cooper explained, the mapmaker packed Democratic voters into Senate Districts 37, 38, and 40 to make Senate Districts 39 and 41 as favorable for Republicans as possible. Tr. 901:16-20; PX253 at 47 (Cooper Report).

246. Senate District 41 stretches from the farthest northern boundaries of Mecklenburg County all the way to the farthest south, traversing two narrow passageways. One passageway is so narrow that the district's contiguity is maintained only by the Martin Marietta Arrowood Quarry, which is less than a mile wide. Tr. 902:22-903:4; PX287; PX253 at 48 (Cooper Report). The Court is persuaded that the clear intent of this elongated district is to connect the Republican areas north of Charlotte with the Republican-leaning areas in the southern tip of Charlotte. Tr. 902:5-8.

***44** 247. Senate District 39 contains the Republican-leaning VTDs in the southern portion of Charlotte, which resemble a "pizza slice" in Dr. Cooper's maps. Tr. 901:11-15, 902:7-10; PX285; PX286. Those Republican VTDs in Charlotte are grouped with the Republican-leaning areas in the south of Mecklenburg County, outside of Charlotte, so that Senate District 39 is more favorable to Republicans. Tr. 901:18-20; PX253 at 47.

248. Dr. Cooper also illustrated the packing and cracking of Democratic voters in this grouping by focusing just on the division of Charlotte. As illustrated in Plaintiffs' Exhibit 286 below, the enacted plan places Charlotte's most Democratic VTDs in Senate Districts 37, 38, and 40, while placing all of Charlotte's Republican-leaning VTDs in Senate Districts 39 and 41. Tr. 902:1-9; PX253 at 47 (Cooper Report). As Dr. Cooper explained, with large municipalities such as Charlotte, the mapmaker's partisan intent is not apparent from the mere fact that a municipality is split, but rather from "where do those municipal splits take place and what are the partisan effects." Tr. 900:12-21; *see* Tr. 877:24-25. In the Mecklenburg Senate county grouping, the Court is persuaded the mapmaker split Charlotte strictly along partisan lines for partisan gain.

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249. Legislative Defendants' expert Dr. Johnson offered alternative explanations for the configuration of this grouping. While Dr. Johnson admitted that he had no personal knowledge as to why Dr. Hofeller or the General Assembly drew the districts this way, Tr. 1972:18-1973:6, Dr. Johnson stated that Senate District 41 was "drawn to capture as much of" the Charlotte suburbs as possible into a single district, Tr. 1844:11-12, and that Senate 39 similarly reflected an effort to "unite[] the southern suburbs" of Charlotte, LDTX289 at 4; Tr. 1845:4-9.

250. The Court rejects Dr. Johnson's explanations as it appears to be purely speculative, and in any event his speculation does not withstand minimal scrutiny. Rather than seeking to create a "suburban" district, Senate District 41 stretches to Mecklenburg County's southern tip in order to pick up areas of the City of Charlotte itself, and specifically Republican-leaning VTDs in Charlotte. Tr. 1972:7-1974:15. In so doing, Senate District 41 *avoids* suburban areas north of Charlotte, with those suburbs packed into Senate District 38 instead because they are Democratic-leaning. *Id.* Similarly, Senate District 39 cuts into the heart of Charlotte, taking all of Charlotte's most Republican-leaning areas, while avoiding suburbs in southeast Mecklenburg County. Tr. 1975:5-1976:14. The Court finds Dr. Johnson's speculative alternative explanations for the configuration of the Mecklenburg Senate county grouping not credible.

251. Dr. Johnson also opined at trial that the enacted plan version of this county grouping is not the most favorable possible configuration of this grouping for Republicans. Dr. Johnson created an alternative version of this grouping that he asserted would be even more favorable for Republicans. Tr. 1840:17-1841:19. However, Dr. Johnson's alternative map suffered from a critical error: it paired the two Republican incumbents who were in office at the time of the 2017 redistricting. Tr. 1977:2-1978:7. Clearly, the most favorable possible configuration of this grouping for Republicans would not pair the only two Republican incumbents together, and Dr. Johnson conceded that he did not analyze whether the enacted plan represents the most favorable possible configuration of this grouping possible that would not have paired those two Republican incumbents. *Id.*

***45** 252. The simulations of Plaintiffs' other experts confirm and independently establish that this county grouping is an extreme partisan gerrymander.

253. Dr. Chen analyzed individual county groupings by comparing the most Democratic district in the grouping under the enacted plan with the most Democratic district in the grouping under the simulated plans, comparing the second most Democratic district in the grouping under the enacted plan with the second most Democratic district in the grouping under the simulated plans, and so on.

254. Using this methodology, Dr. Chen found that the Mecklenburg Senate county grouping has four districts in the enacted plan that are extreme partisan outliers. PX098; *see* Tr. 377:8-14. Dr. Chen found that Senate Districts 39 and 41 have a lower Democratic vote share than their corresponding districts in all 1,000 of his simulated plans of this grouping, and that Senate Districts 37 and 40 have a higher Democratic vote share than 99.99% and 100% than their corresponding districts in his simulations. Dr. Chen's findings show the packing of Democratic voters into certain districts in this grouping and the cracking of Democratic voters in Senate Districts 39 and 41, in an effort to create two districts as favorable for Republicans as possible. The Court gives weight to Dr. Chen's findings for this county grouping, which are reflected in Plaintiffs' Exhibit 98 below:[5]

Figure 78: Senate Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Mecklenburg County Grouping

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255. Dr. Mattingly analyzed individual county groupings by plotting the Democratic vote fraction in each district in the grouping, ordered from least to most Democratic. He conducted this analysis for the enacted plan (represented by a black dot in his county-grouping-level figures) and for his ensemble of nonpartisan plans (represented by the blue histograms), using six prior statewide elections. Tr. 1134:14-1138:6. If the black dot representing the enacted plan is above the dotted black line at 50%, the Democrats win that district under the enacted plan. Tr. 1135:23-1136:6. If all or the bulk of the blue histogram representing the ensemble is above the dotted black line at 50%, the Democrats would expect to win that district under the ensemble. Tr. 1137:8-1138:6. Dr. Mattingly labeled the historical election whose statewide vote counts he was using in the upper left corner of the plots. Black dots that are at the bottom of the corresponding blue histogram represent districts that Democrats have been cracked out of, because the enacted plan has many fewer Democrats than would be expected in the nonpartisan plans; black dots that are at the top of the corresponding blue histogram represent districts that Democrats have been packed into. Tr. 1138:14-1139:4.

256. Plaintiffs' Exhibit 370 shows Dr. Mattingly's analysis of the Mecklenburg Senate county grouping:

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257. As the figure above shows, Democrats were cracked out of the two most Republican districts in this grouping, and packed into heavily Democratic districts. In the enacted plan, there is a significant jump in Democratic vote share between: (i) the two least Democratic districts (Senate Districts 39 and 41), and (ii) the three most Democratic districts (Senate Districts 40, 37, and 38). PX370; PX 359 at 16 (Mattingly Report). Dr. Mattingly testified that the jump signifies intentional gerrymandering —he called it "signature gerrymandering"—and means that elections in the grouping will be nonresponsive to the votes cast. Tr. 1139:19-21; *see* 1146:13-21; *see* PX 359 at 14-15 (Mattingly Report). As the figure above shows, the gerrymander cost Democrats one or two seats in certain electoral environments, because the black dots for Senate Districts 39 and 41 often fall below the 50% line while the blue histograms often rise above it. Tr. 1142:22-1143:1.

***46** 258. Dr. Mattingly mathematically quantified the "jump"—*i.e.*, the cracking and packing in this grouping—using all 17 statewide elections he studied. Specifically, Dr. Mattingly calculated the average Democratic vote share in the two least Democratic districts and the average Democratic vote share in the three most Democratic districts, for both the enacted plans and his ensemble plans. PX 359 at 16 (Mattingly Report). He found that the two least Democratic districts in the enacted plan had fewer Democratic voters than 100% of the comparable districts in the nonpartisan ensemble, while the three most Democratic districts in the enacted plan had more average Democratic votes than 100% of the comparable Democratic districts

in the nonpartisan ensemble, meaning that *not a single plan* in his nonpartisan ensemble showed as much of a jump—*i.e.*, as much cracking and packing—as the enacted plan. Tr. 1143:2-20. Dr. Mattingly concluded that the Mecklenburg Senate grouping is an extreme pro-Republican partisan gerrymander, Tr. 1143:21-24, and the Court gives weight to his conclusion.

259. Dr. Pegden found that the Mecklenburg Senate county grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.9985% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.995% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1356:25; PX540. The Court gives weight to Dr. Pegden's analysis and conclusions.

260. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme and intentional partisan gerrymander.

b. *Franklin-Wake*

261. The Franklin and Wake Senate county grouping contains Senate Districts 14, 15, 16, 17, and 18. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

262. Plaintiffs' Exhibit 276 is Dr. Cooper's map for this county grouping:

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263. As Dr. Cooper testified and is clear from a visual inspection, this grouping packs Democratic voters into Senate Districts 14, 15, and 16 in order to make Senate Districts 17 and 18 as favorable for Republicans as possible. Tr. 892:11-13; PX253 at 36 (Cooper Report).

264. Senate District 18 includes Franklin County and the only Republican-leaning VTDs within Raleigh, near the center of the city. Tr. 892:13-23; PX278; PX253 at 37-38 (Cooper Report).

265. As with Charlotte, the fact that Raleigh is split is not itself revealing, but how and "where Raleigh is split" illustrates the partisan intent behind the districts in this grouping. Tr. 893:16-894:21; PX253 at 37-38. Plaintiffs' Exhibit 278, reproduced below, shows how the mapmaker put the most Democratic VTDs in Raleigh in Senate Districts 14, 15, and 16, and put all of Raleigh's moderate and Republican-leaning VTDs in Senate District 18. *Id.*

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266. Senate District 17 includes all of the Republican VTDs in southern Wake County while carefully avoiding heavily Democratic areas. PX276; PX253 at 36 (Cooper Report).

267. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of Senate Districts 17 and 18. At trial, Legislative Defendants focused on an amendment that Democratic Senator Daniel Blue introduced that altered this grouping, but that amendment did *not* affect the contours of Senate Districts 17 and 18. Senator Blue testified that he was told by Republican leadership that he could not change the boundaries of Senate Districts 17 and 18, but instead could only shift population between the heavily Democratic districts in this grouping. Tr. 155:20-156:15. Senator Blue's amendment did just that, as it only shifted population between Senate Districts 14 and 15, both of which had been packed with Democratic voters. Tr. 150:5-8; PX619. Senator Blue's amendment did not result in, and cannot explain, the composition of Senate Districts 17 and 18 and their extreme partisan outlier status.

***47** 268. The simulations of Plaintiffs' other experts confirm and independently establish that this county grouping is an extreme partisan gerrymander.

269. Dr. Chen found that this county grouping contains three districts that are extreme partisan outliers. Tr. 381:2-18. Senate District 14 has a higher Democratic vote share than its corresponding district in all of the simulations, while Senate Districts 17 and 18 have lower Democratic vote shares than their corresponding districts in all of the simulations. *Id.*; PX97. Dr. Chen's findings show the packing of Democratic voters into districts in this grouping in an effort to create two districts (Senate Districts 17 and 18) that are as favorable for Republicans as possible. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 97 below.

Figure 77: Senate Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Franklin-Wake County Grouping

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270. Plaintiffs' Exhibit 372 shows Dr. Mattingly's analysis of this grouping:

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271. Dr. Mattingly's analysis shows that Democrats were cracked out of the two least Democratic districts in this grouping (Districts 17 and 18), and packed into heavily Democratic districts. PX372; Tr. 1145:2-7. In the enacted plan, there is a significant jump between the Democratic vote share in the least two Democrats districts and the three most Democratic districts. PX372. Dr. Mattingly found that not a single plan in his ensemble showed as much of a jump between these sets of districts as the enacted plan, Tr. 1145:11-14, and concluded that this grouping showed more pro-Republican advantage than 100% of the maps in his ensemble. Tr. 1153:24-1154:4. As the figure above shows, the gerrymander causes Democrats to lose two seats in this grouping in many electoral environments, because the black dots for Senate Districts 17 and 18 fall below the 50% line while the blue histograms often rise above it. *See* Tr. 1142:22-1143:1. Dr. Mattingly concluded that the Wake-Franklin Senate grouping is an extreme pro-Republican partisan gerrymander, Tr. 1153:17-23, and the Court gives weight to his conclusion.

272. Dr. Pegden found that this grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.99999995% of the maps that his algorithm encountered by making small changes to the district boundaries. Tr. 1356:23-24; PX539. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.99999985% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. *Id.* Dr. Pegden also testified that the changes made by Senator Blue to the boundaries between Senate Districts 14 and 15 cannot explain his results for this county grouping. *See* Tr. 1352:2-1354:22. The Court gives weight to Dr. Pegden's analysis and conclusions.

273. The analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

c. *Nash-Johnston-Harnett-Lee-Sampson-Duplin*

***48** 274. The Nash-Johnston-Harnett-Lee-Sampson-Duplin Senate county grouping contains Senate Districts 10, 11, and 12. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

275. Plaintiffs' Exhibit 274 is Dr. Cooper's map of this county grouping:

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276. Dr. Cooper explained how the district boundaries connect the most Republican VTDs in Johnston County with the Democratic stronghold of Rocky Mount in Senate District 11, ensuring that those Rocky Mount Democratic voters are separated from the moderate and Democratic-leaning VTDs in Johnston County, diluting the voting strength of these various Democratic voters. Tr. 890:4-891:17; PX253 at 33 (Cooper Report). Dr. Hofeller's Maptitude files further illustrate this intentional cracking of Democratic voters. Dr. Hofeller's file, below in Plaintiffs' Exhibit 332, reveals how he drew these districts with "remarkable precision" by "building a fence" around the moderate and Democratic-leaning VTDs in central Johnston County—shaded yellow and red in the image below—making sure to keep these VTDs in Senate District 10 separate from Rocky Mount's voters in Senate District 11. Tr. 968:12-969:8.

Figure 3: Partisan Targeting in Senate Districts 10, 11, and 12

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277. Dr. Hofeller's Microsoft Excel files provide evidence that Dr. Hofeller placed special attention on this country grouping and its partisan composition. In a file titled "Johnston Senate Switch," Dr. Hofeller compared two alternative drafts of this county grouping and the expected Republican performance of the three districts in this grouping under each of the two alternatives. Tr. 469:5-470:3; PX166; PX123 at 68-69 (Chen Rebuttal Report). The file analyzed no information other than partisanship considerations, demonstrating Dr. Hofeller's predominant partisan intent in constructing the districts in this grouping. *Id.*

278. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

279. The simulations of Plaintiffs' other experts confirm and independently establish that this county grouping was gerrymandered to favor Republicans.

280. Dr. Chen found that all three districts in this county grouping are extreme partisan outliers. Tr. 375:14-25. Senate District 11 has a lower Democratic vote share than its corresponding district in all the simulations, while Senate Districts 10 and 12 have a higher Democratic vote share than their corresponding districts in all the simulations. PX96. Dr. Chen's findings demonstrate the cracking of Democratic voters across all three districts in this grouping to ensure that all three districts are safe Republican seats. The most Democratic district in this grouping would be far more competitive or even Democratic-leaning under a nonpartisan plan, particular in electoral environments that are more neutral or favorable for Democrats than the 2010-2016 statewide elections. Tr. 376:1-8. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 96 below:

Figure 76: Senate Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Duplin-Harnett-Johnston-Lee-Nash-Sampson County Grouping

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***49** 281. Plaintiffs' Exhibit 382 shows Dr. Mattingly's analysis of this grouping:

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282. Dr. Mattingly concluded that this grouping reflects a pro-Republican partisan bias, Tr. 1154:20-1155:1, and the Court gives weight to Dr. Mattingly's conclusion. Dr. Mattingly's analysis shows that, in this grouping, the number of Democrats

in the districts was flattened or squeezed to advantage the Republicans. PX778 at 29; Tr. 1154:20-22. Squeezing represents pure cracking, Tr. 1150:22-1151:2. Here, Democrats were cracked out of the most Democratic district and placed in the two least Democratic districts where their presence would not affect the results. When Dr. Mattingly mathematically quantified the cracking in this grouping using all 17 statewide elections, he found that the least two Democratic districts in the enacted plan had more Democratic voters than 77.21% of the comparable districts in the nonpartisan ensemble. Although Dr. Mattingly did not label this grouping an "outlier" because he used a 90% threshold, he explained that the pro-Republican bias evidence in this grouping still contributed to the extreme pro-Republican bias he found statewide. Tr. 1151:21-1153:2, 1154:23-1155:1. Because the lines in each county grouping are independent of each other, if the mapmaker time after time makes choices that systematically bias each grouping to one party, that effect accumulates across the map. Tr. 1151:21-1153:2.

283. Moreover, while Dr. Mattingly's "jump" analysis evaluated the districts in this grouping using all 17 statewide elections, analyzing the most Democratic district in this grouping based on the more recent elections depicted in the figure above reveals the intent and effects of the gerrymander. Dr. Mattingly's figure shows that the most Democratic district in this grouping under the enacted plan, which is Senate District 11 in most of the elections shown, has less Democrats than the most Democratic district in almost all of his simulations under these more recent six statewide elections. PX382.

284. Dr. Pegden found evidence that this county grouping is an extreme partisan gerrymander. Due to Dr. Pegden's conservative methodology, his algorithm was only able to generate 18 comparison maps for this Senate county grouping. Tr. 1355:5-23; PX542. Of those 18 maps, Dr. Pegden found that the enacted map for this county grouping is more favorable to Republicans than every single one. Tr. 1356:3-8. The Court gives weight to Dr. Pegden's analysis and conclusions.

285. The analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

d. *Guilford-Alamance-Randolph*

286. The Guilford-Alamance-Randolph Senate county grouping contains Senate Districts 24, 26, 27, and 28.

287. Plaintiffs' Exhibit 281 is Dr. Cooper's map for this county grouping:

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288. For this county grouping, the *Covington* court tasked the Special Master with redrawing Senate District 28 because the General Assembly's enacted version of Senate District 28 did not cure the racial gerrymander. 2017 WL 11049096, at *1-2 (M.D.N.C. Nov. 1, 2017). In redrawing Senate District 28, the Special Master also made changes to Senate District 24. *See* LDTX159 at 19; *Covington*, ECF No. 220 at 34. Plaintiffs do not challenge Senate Districts 24 and 28 in this case and do not seek relief with respect to them.

***50** 289. Unlike Senate Districts 24 and 28, the Special Master did *not* make any changes to the General Assembly's enacted version of Senate District 26. *See Covington*, ECF No. 220 at 34 ("2017 Enacted Senate District 26 remains untouched"); Tr. 378:9-16. The Special Master made certain changes to Senate District 27 in carrying out his assignment to redraw Senate District 28, but in so doing, the Special Master did not alter any part of the border between Senate Districts 27 and 26. *See* Chen Demonstrative D6 at 3; LDTX159 at 19. According to estimates presented at trial by Legislative Defendants' expert Dr. Johnson, of the current population of Senate District 27, 77% of the population was put into the district by the General Assembly under the enacted 2017 Senate plan.

290. In drawing Senate District 26, the mapmaker cracked Democratic voters in Guilford County, placing the Democratic stronghold of High Point in Senate District 26 and separating these voters from Democratic voters in the Greensboro suburbs. Tr. 895:15-896:25; PX254 at 42-43 (Cooper Report). This has the effect of "washing out" the influence of High Point's

Democratic voters, who are joined with the heavily Republican Randolph County in a safe Republican district (Senate District 26), preventing them from influencing the competitive Senate District 27 and thereby making Senate District 27 more favorable for Republicans. *Id.*

291. Dr. Hofeller's Maptitude files confirm that he was using VTD-level partisanship data in constructing the districts in this and other county groupings. Tr. 971:16-18; 975:2-5. For example, Dr. Hofeller drew the boundaries of Senate District 26 to grab only the most Democratic VTDs on the border of Randolph County. Tr. 975:10-13, 974:19-975:5. The partisan implications of which are illustrated by Dr. Hofeller's draft map, which is Plaintiffs' Exhibit 334:

Figure 5: Partisan Targeting in Senate Districts 24, 26, 27, and 28

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292. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the decision to place High Point's most-Democratic VTDs in Senate District 26.

293. The simulations of Plaintiffs' other experts confirm and independently establish that Senate Districts 26 and 27 are extreme partisan gerrymanders.

294. Drs. Chen, Mattingly, and Pegden all froze Senate Districts 24 and 28 in this grouping. Tr. 378:17-379:19; PX359 at 23 (Mattingly Report); PX508 at 30 (Pegden Report).

295. Dr. Chen explained in unrebutted testimony that his simulations of the Alamance-Guilford-Randolph House county grouping did not make any changes to the portion of Senate District 27 added by the *Covington* Special Master, and instead altered only the southwest portion of Senate District 27 that borders Senate District 26. Tr. 773:8-22; Chen Demonstrative D6 at 4, 5; PX1 at 18-19 (Chen Report). The Court finds that because Dr. Chen's simulations altered only portions of Senate District 27 drawn by the mapmaker, and did not touch the portions of the district added by the Special Master, the mapmaker necessarily is responsible for the extreme partisan bias that Dr. Chen finds for Senate District 27.

296. Dr. Chen found that both districts in this county grouping that he did not freeze are extreme partisan outliers. Senate District 26 has a higher Democratic vote shares than its corresponding district in all of the simulations, while Senate District 27 has a lower Democratic vote share that its corresponding district in all of the simulations. Tr. 380:1-18; PX94. Dr. Chen's findings show the mapmaker's intentional placing of High Point's Democratic voters into Senate District 26 to make Senate District 27 as favorable for Republicans as possible. The Court gives weight to Dr. Chen's findings and analysis for this grouping, which are reflected in Plaintiffs' Exhibit 94 below:

Figure 74: Senate Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Alamance-Guilford-Randolph County Grouping

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***51** 297. Plaintiffs' Exhibit 380 shows Dr. Mattingly's analysis of the Guilford-Alamance-Randolph Senate county grouping:

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298. Setting aside the frozen districts, Dr. Mattingly's analysis shows that Democrats were cracked between the grouping's two remaining districts—an example of what Dr. Mattingly called flattening or squeezing. PX380; PX778 at 29; PX359 at 23. Not

a single plan in Dr. Mattingly's nonpartisan ensemble showed as much cracking of Democratic voters in the grouping as was present in the enacted plan, PX359 at 23, and thus the grouping has more pro-Republican advantage than 100% of the maps in his nonpartisan ensemble. Tr. 1153:24-1154:4. Dr. Mattingly concluded that this grouping is an extreme pro-Republican partisan gerrymander, Tr. 1153:17-23; PX778 at 29; PX359 at 23, and the Court gives weight to this conclusion.

299. Dr. Pegden found that this Senate county grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.95% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.85% of all possible districtings of this grouping that satisfy the criteria Dr. Pegden used. Tr. 1357:1; PX543. The Court gives weight to Dr. Pegden's analysis and conclusions.

300. The analyses of Plaintiffs' experts independently and together demonstrate that Senate Districts 26 and 27 are extreme partisan gerrymanders.

e. *Davie-Forsyth*

301. The Davie-Forsyth Senate county grouping contains Senate Districts 31 and 32. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

302. Plaintiffs' Exhibit 282 is Dr. Cooper's map for this county grouping:

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303. Dr. Cooper explained what is apparent from the above map: the mapmaker packed Democratic voters into Senate District 32, thereby ensuring that Senate District 31 would be a safe Republican district. Tr. 897:9-24; PX253 at 44 (Cooper Report).

304. This packing occurred not only at the grouping-level, but within Winston-Salem. The map packs all of Winston-Salem's most Democratic VTDs into Senate District 32, and puts almost all of the city's Republican-leaning VTDs in Senate District 31. Tr. 898:1-16; PX283; PX253 at 44 (Cooper Report). As shown in Plaintiffs' Exhibit 283 below, Senate District 31 wraps around Winston-Salem to avoid the Democratic-leaning VTDs in the city, while taking in the Republican-leaning VTDs on the western, northern, and eastern sides of the city:

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305. Dr. Hofeller's Maptitude files confirm his predominant partisan intent in drawing this grouping. The district boundaries are drawn “almost perfectly” so that the green areas on the map, which reflect Republican VTDs, are all placed in Senate District 31. Tr. 976:24-977:4; PX335; PX329 at 11 (Cooper Rebuttal Report). The “bite mark” on the west side of Winston-Salem, where Republican-leaning VTDs were carved out of Senate District 32, is evident on Dr. Hofeller's draft map of these districts, which is Plaintiffs' Exhibit 335:

Figure 6: Partisan Targeting in Senate Districts 31 and 32

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***52** 306. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

307. The simulations of Plaintiffs' other experts confirm and independently establish that the Davie-Forsyth county grouping is an extreme partisan gerrymander.

308. Dr. Chen found that both districts in this grouping are extreme partisan outliers. Tr. 373:18-374:12. Senate District 32 has a far higher Democratic vote share than its corresponding district in all of the simulations, while Senate District 31 has a far lower Democratic vote share than its corresponding district in all of the simulations. PX95. Dr. Chen's findings demonstrate the packing of Democratic voters into Senate District 32 in order to make Senate District 31 a safe Republican seat. As Dr. Chen explained, the less Democratic district in this grouping would be far more competitive for Democrats under a nonpartisan plan, particularly in electoral environment that are more neutral or favorable for Democrats than the 2010-2016 statewide elections. Tr. 374:13-23. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 95 below:

Figure 75: Senate Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Davie-Forsyth County Grouping

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309. Plaintiffs' Exhibit 374 shows Dr. Mattingly's analysis of this county grouping:

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310. Dr. Mattingly's analysis shows that Democrats were cracked out of the most Republican district in this county grouping, and packed into the most Democratic district. PX374; PX778 at 29. Dr. Mattingly found that not a single plan in his nonpartisan ensemble showed as much packing of Democratic voters in the Davie-Forsyth Senate grouping as was present in the enacted plan, PX359 at 18, and thus the grouping has a more pro-Republican advantage than 100% of the maps in his nonpartisan ensemble, Tr. 1153:24-1154:4. Dr. Mattingly concluded that this grouping is an extreme pro-Republican partisan gerrymander, Tr. 1153:17-23; PX778 at 29; PX359 at 18, and the Court gives weight to his conclusion.

311. Dr. Pegden found that this county grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of the grouping is more favorable to Republicans than 99.993% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that the grouping is more carefully crafted to favor Republicans than at least 99.98% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1356:25; PX538. The Court gives weight to Dr. Pegden's analysis and conclusions.

312. The analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

f. *Bladen-Pender-New Hanover-Brunswick*

313. The Bladen-Pender-New Hanover-Brunswick Senate county grouping, drawn in 2011 and left unchanged in 2017, contains Senate Districts 8 and 9. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

***53** 314. Plaintiffs' Exhibit 272 is Dr. Cooper's map of this county grouping:

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315. In this grouping, the population of New Hanover County is slightly too large to fit into one Senate district, and thus the mapmaker had to place a small portion of New Hanover in Senate District 8. Tr. 887:8-9. The mapmaker chose to take heavily Democratic VTDs in Wilmington, separating them from the rest of Wilmington (which is in Senate District 9) and grouping them

instead with heavily Republican areas in Bladen, Pender, and Brunswick counties. Tr. 887:5-888:8; PX253 at 29-31 (Cooper Report). As Dr. Cooper explained, the clear intent and effect of this decision was to waste the votes of the Democratic voters in these Wilmington VTDs, placing them in a heavily Republican district (Senate District 8) and removing them from a highly competitive district (Senate District 9) where their votes could make a difference. *Id.* Plaintiffs' Exhibit 273 provides a zoomed-in view of the cracking of the Democratic voters in these two VTDs, which has come to be known as the "Wilmington Notch":

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316. Dr. Cooper credibly testified that the enacted plan is the most maximally favorable construction of the grouping possible for Republicans. Tr. 887:24-25. This grouping illustrates Dr. Cooper's conclusion about all of the groupings he analyzed: "whenever there's discretion to be exercised, that discretion tended to go in favor of one party, in this case the Republican Party, and against the other party, in this case the Democrat party." Tr. 889:22-25.

317. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts. While they noted that some portion of New Hanover County must be placed in Senate District 9 for equal population purposes, Legislative Defendants failed to rebut the fact that alternative ways to draw the grouping would not split municipalities in the manner that the enacted plan does. Over 97% of Dr. Mattingly's simulations of this county grouping do not split Wilmington. PX429.

318. The simulations of Plaintiffs' other experts confirm that the Bladen-Brunswick-New Hanover-Pender Senate county grouping is an outlier.

319. Because this county grouping was drawn in 2011 and remained unchanged in 2017, in analyzing this individual county grouping, Dr. Chen used the statewide elections from 2004 to 2010 that the General Assembly used during the 2011 redistricting process, rather than the 2010-2016 statewide elections. Tr. 366:8-367:1, 382:23-383:11; PX720. Dr. Chen used these 2004-2010 statewide elections because, to assess the question of partisan intent, he wanted to use the same elections data that the mapmaker had available and was considering when it drew this grouping in 2011. Tr. 367:2-23; PX1 at 21-24 (Chen Report).

320. Dr. Chen found that both districts in this county grouping are extreme partisan outliers. Tr. 384:2-386:19. Senate District 9 has a lower Democratic vote share than all of its corresponding districts in all of the simulations, while Senate District 8 has a higher Democratic vote share than all of its corresponding districts in all of the simulations. *Id.*; PX100. Dr. Chen's analysis demonstrates that the moving of Democratic voters in the Wilmington Notch into Senate District 8 made Senate District 9 as favorable for Republicans as possible. The Court gives weight to Dr. Chen's findings for this county grouping, which are reflected in Plaintiffs' Exhibit 100 below:

Figure 80: Senate Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Bladen-Brunswick-New Hanover-Pender County Grouping

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***54** 321. Dr. Mattingly similarly concluded that the Bladen-Pender-New Hanover-Brunswick Senate grouping was "certainly an outlier" but when on to state that "there were some features of [the Bladen] district that meant that the type of analysis that [he] had initially chosen was not as illuminating in that district. So [he] couldn't say something is conclusive." Tr. 1154:11-16. When he mathematically quantified cracking in the Bladen grouping across all 17 statewide elections, he found that the most Democratic district in the Bladen grouping had fewer Democrats than in 92.46% of plans in the nonpartisan ensemble. PX359 at 19-20 (Mattingly Report); PX778 at 29.[6]

322. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme and intentional partisan gerrymander.

g. *Buncombe-Henderson-Transylvania*

323. The Buncombe-Henderson-Transylvania Senate county grouping, drawn in 2011 and left unchanged in 2017, contains Senate Districts 48 and 49. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

324. Plaintiffs' Exhibit 288 is Dr. Cooper's map of this county grouping:

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325. Dr. Cooper explained how these district boundaries combine the heavily Democratic VTDs in Asheville with Democratic VTDs in Black Mountain, packing those Democratic voters to create a safe Democratic district in Senate District 49, allowing Senate District 48 to comfortably favor Republicans. Tr. 903:23-904:13; PX253 at 50 (Cooper Report).

326. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

327. The simulations of Plaintiffs' other experts confirm and independently establish that this county grouping is an extreme partisan gerrymander.

328. Dr. Chen found that both districts in this county grouping are extreme partisan outliers. Tr. 383:12-19.[7] Senate District 49 has a higher Democratic vote share than its corresponding district in nearly all of the simulations, while Senate District 48 has a lower Democratic vote share than its corresponding district in nearly all of the simulations. PX99. Dr. Chen's findings demonstrate the packing of Democratic voters into Senate District 49 to make Senate District 48 a safe Republican seat. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 99 below:

Figure 79: Senate Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Buncombe-Henderson-Transylvania County Grouping

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329. Plaintiffs' Exhibit 378 shows Dr. Mattingly's analysis of the Buncombe-Transylvania-Henderson Senate county grouping:

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330. Dr. Mattingly's analysis shows that Democrats were cracked out of Senate District 48 and packed into Senate District 49. PX378; PX778 at 29; Tr. 1153:7-1154:9. Dr. Mattingly found that the least Democratic district in the enacted plan has fewer Democratic votes than in 95.44% of the plans in his ensemble, meaning that the grouping showed more pro-Republican partisan advantage than 95.44% of the nonpartisan plans. PX778 at 29; PX359 at 21-22. Dr. Mattingly concluded that this grouping reflects a pro-Republican partisan gerrymander, Tr. 1154:6-10; PX778 at 29; PX359 at 21-22, and the Court gives weight to his conclusion.

***55** 331. Dr. Pegden found that this county grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of the grouping is more favorable to Republicans than 99.8% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that the grouping is more carefully crafted to favor Republicans than at least 99.4% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1357:2; PX541. The Court gives weight to Dr. Pegden's analysis and conclusions.

332. The analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

2. House County Groupings

a. *Robeson-Columbus-Pender*

333. The Robeson-Columbus-Pender House county grouping contains House Districts 16, 46, and 47. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

334. Plaintiffs' Exhibit 301 is Dr. Cooper's map of this county grouping:

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335. Dr. Cooper explained that House District 47 packs as "many … Democratic voters as possible" into that district, including in Lumberton and the area around UNC Pembroke. The packing of Democrats in House District 47 makes House Districts 16 and 46 more favorable to Republicans. Tr. 912:19-913:3; PX253 at 70 (Cooper Report).

336. Dr. Hofeller's Maptitude files confirm he "had full knowledge of the partisan effects of drawing those lines exactly where they were drawn, essentially drawing a fence between districts 47 and 46 … between Democratic and Republican voters." Tr. 985:15-19; PX342; PX329 at 18 (Cooper Rebuttal Report). In the files for his draft House plan, Dr. Hofeller shaded more Democratic VTDs darker blue, more Republican VTDs red and orange, and moderate VTDs green and yellow. Tr. 979:20-980:19. As shown in Plaintiffs' Exhibit 342, Dr. Hofeller placed all of the Republican-leaning VTD near Lumberton (shaded orange and red) on the right side of the red line, in House District 46, rather than in House District 47:

Figure 13: Partisan Targeting in House Districts 16, 46, and 47

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337. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of the districts in this county groupings.

338. The simulations of Plaintiffs' other experts independently establish that the Columbus-Pender-Robeson county grouping is an extreme partisan gerrymander.

339. Dr. Chen found that all three House districts in this county are extreme partisan outliers. Dr. Chen found that House District 47 has a higher Democratic vote share than the corresponding districts in all of Dr. Chen's simulated plans. Tr. 346:4-347:14. Dr. Chen found that House District 46 has a lower Democratic vote share than the corresponding districts across all of Dr. Chen's simulations, while House District 16 has a higher Democratic vote share than the corresponding districts in all of Dr. Chen's simulations. Tr. 347:16-348:7. Dr. Chen's findings demonstrate the packing of Democratic voters into House District 47 and the cracking of Democratic voters across House Districts 16 and 46. Dr. Chen finds that, as a result of this packing and cracking, almost all of his simulations would produce two Democratic-leaning districts in this county grouping, while the enacted House

plan produces just one such district in this grouping. Tr. 348:8-23. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 47 below:

Figure 27: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Columbus-Pender-Robeson County Grouping

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***56** 340. Plaintiffs' Exhibit 388 shows Dr. Mattingly's analysis of the Columbus-Pender-Robeson House county grouping:

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341. Dr. Mattingly's analysis shows that Democrats were cracked in the two least Democratic districts in this grouping (Districts 16 and 46) and packed into the most Democratic district (District 47). PX388; PX359 at 28; PX778 at 30. There is a significant jump between the number of Democratic votes in the two least and the most Democratic districts in the enacted plan. *Id.* Dr. Mattingly found that the two least Democratic districts in the enacted plan have fewer Democratic voters than 97.98% of the comparable districts in the nonpartisan ensemble. *Id.* As the figure above shows, the gerrymander causes Democrats to lose a seat in this grouping in certain electoral environments. Dr. Mattingly concluded that this grouping reflects a clear pro-Republican partisan gerrymander, PX778 at 30; Tr. 1155:17-21; PX359 at 28, and the Court gives weight to Dr. Mattingly's conclusion.

342. Dr. Pegden found that this county grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 98.7% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 96% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:8; PX526. The Court gives weight to Dr. Pegden's analysis and conclusions.

343. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

b. *Cumberland*

344. The Cumberland House county grouping contains House Districts 42, 43, 44, and 45. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

345. Plaintiffs' Exhibit 305 is Dr. Cooper's map of this county grouping:

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346. Dr. Cooper described how House District 45 has a "backwards C-shape" that is "a very clear attempt to connect these Republican leaning [VTDs] all together and avoid … the Democratic leaning VTDs." Tr. 917:7-14. In such a way, the district boundaries make House District 45 more favorable for Republicans, while packing the Democratic-leaning VTDs in the Fayetteville area into House Districts 42 and 43. Tr. 917:14-16; PX253 at 76 (Cooper Report).

347. The district boundaries in this grouping, shown below in Plaintiffs' Exhibit 306, divide Fayetteville between all four districts in a way that does not correspond to Fayetteville's boundaries of or any other municipality. Tr. 917:23-918:5; PX253 at 76 (Cooper Report).

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348. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

349. The simulations of Plaintiffs' other experts independently establish that the Cumberland county grouping is an extreme partisan gerrymander.

***57** 350. Dr. Chen found that this county grouping contains three districts that are extreme partisan outliers. Dr. Chen found that House Districts 42 and 43 have a higher Democratic vote shares than their corresponding districts in all or almost all of Dr. Chen's simulated plans, while House District 45 has a much lower Democratic vote share that the corresponding district in all of the simulations. Tr. 350:2-12. Dr. Chen's findings demonstrate the packing of Democratic voters into House Districts 42 and 43 in order to make House District 45 as favorable for Republicans as possible. Indeed, the least Democratic district in this grouping would be very competitive or even Democratic-leaning in Dr. Chen's simulations. The Court gives weight to Dr. Chen's findings for this county grouping, which are reflected in Plaintiffs' Exhibit 48 below:

Figure 28: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Cumberland County Grouping

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351. Plaintiffs' Exhibit 390 shows Dr. Mattingly's analysis of the Cumberland House county grouping:

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352. Dr. Mattingly's analysis shows that the least Democratic district (District 45) show cracking of Democrats, while the two most Democratic districts (District 43 and 42) show extreme packing of Democrats, in comparison to the nonpartisan plans. PX390; PX778 at 30; PX359 at 29. He found that the two most Democratic districts in the enacted plan have more Democratic votes than 99.79% of the comparable Democratic districts in the nonpartisan ensemble. *Id.* As the figure above shows, the gerrymander causes Democrats to lose a seat in this grouping in certain electoral environments, because the black dot in House District 45 always falls below the 50% line while the blue histogram often rises above it. Dr. Mattingly concluded that the Cumberland House grouping is an extreme pro-Republican partisan gerrymander, Tr. 1155:5-16; PX778 at 30; PX359 at 29; PX390, and the Court gives weight to Dr. Mattingly's conclusion.

353. Dr. Pegden found that this grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 98.3% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 95% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:9; PX529. The Court gives weight to Dr. Pegden's analysis and conclusions.

354. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

c. *Person-Granville-Vance-Warren*

355. The Person-Granville-Vance-Warren House county grouping contains House Districts 2 and 32.

356. Plaintiffs' Exhibit 289 is Dr. Cooper's map of this county grouping:

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357. Several of Plaintiffs' experts testified that there are only a limited number of possible ways to draw this county grouping. Tr. 359:4-360:2 (Dr. Chen), 905:17-19 (Dr. Cooper); 1156:25-1157:16 (Dr. Mattingly). Because of the Whole County Provision, the only differences between the alternative ways to draw this grouping involve which of Granville County's few VTDs are placed in each of the two districts. *See id.*

358. This county grouping is one of two drawn by Campbell Law students and ultimately adopted by Dr. Hofeller. Tr. 474:7-475:23; PX123 at 71. The evidence from Dr. Hofeller's files suggests that Dr. Hofeller intentionally chose to include this configuration because it most favored Republicans, to the detriment of Democratic voters. *See* Tr. 905:21-906:8.

359. However, because of the limited possible configurations for this county grouping, and the limited statistical evidence that could be generated by Plaintiffs' experts, the Court does not find that this grouping, or the districts contained therein, constitute an extreme partisan gerrymander. *See* PX051 (Dr. Chen Figure 31 showing Democratic vote share of each district well below his extreme partisan outlier threshold); Tr. 1156:25-1157:16 (Dr. Mattingly found very few possible unique maps for this grouping that satisfied his criteria); Tr. 1349:11-1350:4; PX536 (Dr. Pegden was unable to generate any comparison districtings of this House county grouping due to his conservative methodology).

***58** 360. The Court, though, does find that this county grouping does reflect a clear pro-Republican partisan tilt that can contribute to the extreme pro-Republican bias statewide.

d. *Franklin-Nash*

361. The Franklin-Nash House county grouping contains House Districts 7 and 25. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

362. Plaintiffs' Exhibit 293 is Dr. Cooper's map of this county grouping:

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363. These district boundaries avoid grouping the more Democratic-leaning and competitive VTDs on Nash County's western border in House District 7, instead stretching House District 7 into the southeast corner of Nash County to grab the heavily Republican VTDs there. The placement of this district boundary made House District 7 more favorable to Republicans. As Dr. Cooper explained, if the mapmaker had included “any other VTD” in House District 7 from Nash County, House District 7 would have been less favorable to Republican candidates. Tr. 907:4-13; PX253 at 59 (Cooper Report).

364. The Court gives little weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts. They noted that the enacted version of this county grouping matches the draft drawn by the Campbell Law students, but the mapmaker adopted these districts because they were maximally favorable for Republicans, FOF § B.2.a., and as the simulations of Plaintiffs' experts Dr. Chen and Dr. Mattingly confirm and independently establish, the Nash-Franklin House county grouping is indeed an extreme partisan gerrymander.

365. Dr. Chen found that both districts in county grouping are extreme partisan outliers. Dr. Chen found that House District 25 has a higher Democratic vote share than its corresponding district in all of Dr. Chen's simulated plans, while House District 7 has a lower Democratic vote share that the corresponding district in all of the simulations. Tr. 356:8-17. Dr. Chen's findings demonstrate the packing of Democratic voters into House Districts 25 in order to make House District 7 a safe Republican seat. In Dr. Chen's simulations, the less Democratic district in this grouping would be more competitive for Democrats, particularly

in a more favorable electoral environment for them than the 2010-2016 statewide elections. Tr. 356:18-357:1. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 50 below:

Figure 30: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Franklin-Nash County Grouping

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366. Plaintiffs' Exhibit 402 shows Dr. Mattingly's analysis of the Nash-Franklin House county grouping:

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367. Dr. Mattingly concluded that the most Democratic district shows extreme packing of Democrats, while the most Republican district shows extreme cracking of Democrats, in comparison to the nonpartisan plans. Tr. 1149:2-9. He found that the least Democratic district in the enacted plan has fewer Democratic voters than 95.58% of the comparable districts in the nonpartisan ensemble, demonstrating packing. PX778 at 30; PX359 at 36-37. As the figure above shows, the gerrymander could cause the Democrats to lose a seat in this grouping in certain electoral environments, because the black dot for House District 7 falls below the 50% line while the blue histogram sometimes rises above it or gets very close. Dr. Mattingly concluded that the Nash-Franklin House grouping is a pro-Republican partisan gerrymander, PX778 at 30; Tr. 1155:17-21; PX359 at 36-37, and the Court gives weight to Dr. Mattingly's conclusion.[8]

***59** 368. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

e. *Pitt-Lenoir*

369. The Pitt-Lenoir House county grouping contains House Districts 8, 9, and 12. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

370. Plaintiffs' Exhibit 294 is Dr. Cooper's map of this county grouping:

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371. The districts in this county grouping split Greenville between all three House districts and even bisect East Carolina University's campus. The district lines pack the most Democratic-leaning VTDs in Greenville into House District 8, while placing all but one of the Republican-leaning VTDs into House District 9. Tr. 908:3-8, 909:23-910:8; PX253 at 61 (Cooper Report). Plaintiffs' Exhibit 295 below shows the municipalities within this county grouping and how the districts split Greenville. Tr. 908:16-23.

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372. The Maptitude files from Dr. Hofeller's hard drive confirm he used VTD-level partisanship data with “surgical precision” to construct the districts in this grouping. Tr. 983:5-984:7; PX340; PX329 at 16 (Cooper Rebuttal Report). Dr. Hofeller's Maptitude file, reproduced below in Plaintiffs' Exhibit 340, demonstrates how Dr. Hofeller meticulously packed all of Greenville's bluest VTDs into House District 8 (on the left side of the red line), in order to make House Districts 9 and 12 favorable for Republicans.

Figure 11: Partisan Targeting in House Districts 8, 9, and 12

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373. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of the districts in this county grouping.

374. The simulations of Plaintiffs' other experts independently establish that the Lenoir-Pitt county grouping is an extreme partisan gerrymander.

375. Dr. Chen found that House District 8 has a higher Democratic vote shares than its corresponding districts in all Dr. Chen's simulated plans, while House District 9 has a lower Democratic vote share than the corresponding district in all of the simulations. PX52; Tr. 360:16-22. Dr. Chen further found that the remaining district in this grouping, House District 12, is less Democratic than over 81% of the corresponding districts across Dr. Chen's simulations. *Id.* Dr. Chen's findings demonstrate the packing of Democratic voters into House District 8 and the cracking of Democratic voters in House Districts 9 and, to some extent, 12. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 52 below:

Figure 32: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Lenoir-Pitt County Grouping

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376. Plaintiffs' Exhibit 408 shows Dr. Mattingly's analysis of this grouping:

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377. Dr. Mattingly concluded that the two most Republican districts show extreme cracking of Democrats, while the most Democratic shows extreme packing of Democrats, as evidence by the "jump" between these sets of districts. PX408; PX778 at 30; PX359 at 41. Dr. Mattingly found that the two least Democratic districts in the enacted plan have fewer Democratic voters than 99.98% of the comparable districts in the nonpartisan ensemble, while the most Democratic district in the enacted plan has more Democratic votes than 99.95% of the comparable Democratic districts in the ensemble. PX778 at 30; PX359 at 43. As the figure above shows, the gerrymander causes the Democrats to lose one or possibly two seats in this grouping in certain electoral environment, because the black dot in House Districts 9 and 12 often falls below the 50% line while the blue histograms rise above it. Dr. Mattingly concluded that the Pitt-Lenoir House grouping is an extreme pro-Republican partisan gerrymander, Tr. 1155:5-16; PX778 at 30; PX359 at 41; PX408, and the Court gives weight to Dr. Mattingly's conclusion.

***60** 378. Dr. Pegden found that this grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.97% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.91% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:6; PX532. The Court gives weight to Dr. Pegden's analysis and conclusions.

379. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

f. *Guilford*

380. The Guilford House county groupings contains House Districts 57, 58, 59, 60, 61, and 62. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

381. This grouping contains several districts that were altered by the *Covington* Special Master. The *Covington* court tasked the Special Master with redrawing House District 57 after the court found that the enacted House plan did not cure the racial gerrymander of the district. *Covington*, 2017 WL 11049096, at *1-2. In directing the Special Master to redraw House District 57, the court further directed that "the redrawn lines shall also ensure that the unconstitutional racial gerrymanders in 2011 Enacted House Districts 58 and 60 are cured." *Id.* at *2. The *Covington* court did *not* direct the Special Master to redraw House District 59, and did not even mention House District 59 in its order.

382. Consistent with the court's guidance, the Special Master redrew House District 57, and in so doing, also made substantial changes to House District 61 and 62. Tr. 351:14-25; *see* LDTX 159 at 27-29 (Special Master's Recommend Plan). In redrawing these three districts, the Special Master also made what he described as "minor changes" to House District 59 to equalize population. *Covington*, ECF No. 220 at 46. The Special Master explained that he altered House District 59 "only a little." LDTX 159 at 28. Specifically, the Special Master moved one precinct from the enacted District 59 into the Special Master's District 57, and added "two additional precincts" to the northwest corner of House District 59 to equalize population. *Covington*, ECF No. 220 at 46; *see* Chen Demonstrative D5 at 3; Tr. 352:1-21. According to estimates presented at trial by Legislative Defendants' expert Dr. Johnson, of the current population of House District 59, 92% of the population was put into the district by the General Assembly under the enacted House plan. LDTX314; Tr. 1978:19-22. The Special Master did not make any changes at all to House Districts 58 and 60. Plaintiffs do not bring allegations, and do not seek relief, with respect to the three House districts that the Special Master substantially redrew, House Districts 57, 61, and 62.

383. Plaintiffs' Exhibit 310 is Dr. Cooper's map for this grouping:

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384. The mapmaker packed Democratic voters into House Districts 58 and 60 to make House District 59 favorable to Republicans. Tr. 923:3-23; PX253 at 82 (Cooper Report). House District 58 has "boot-like appendages" to grab Democratic VTDs and ensure these voters could not make House District 59 competitive or Democratic-leaning. *Id.*

385. The Maptitude files from Dr. Hofeller's hard drive confirm Dr. Hofeller drew this grouping with extreme partisan intent. Tr. 986:13-987:9. Specifically, Dr. Hofeller drew the boundaries of House Districts 58, 59, and 60 "almost like a fence" "separating [Republican voters] from the Democratic voters" in the southern portion of Guilford County. Tr. 987:20-988:5; PX344; PX329 at 20 (Cooper Rebuttal Report). Plaintiffs' Exhibit 344 depicts the Dr. Hofeller's Maptitude file showing the Guilford grouping.

Figure 15: Partisan Targeting in House Districts 58, 59, and 60

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***61** 386. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries the mapmaker drew for House Districts 58, 59, and 60.

387. The simulations of Plaintiffs' other experts independently establish that the Guilford county grouping is an extreme partisan gerrymander.

388. Drs. Chen, Mattingly, and Pegden all froze three districts in this grouping that were substantially redrawn by the *Covington* Special Master: House Districts 57, 61, and 62. Tr. 352:24-353:3; PX359 at 33 (Mattingly Report); PX508 at 19 (Pegden Report).

389. Dr. Chen explained in unrebutted testimony that his simulations of the Guilford House grouping did not make any changes to the portion of House District 59 added by the Special Master. Tr. 770:12-771:12; Chen Demonstrative D5 at 4. The Court finds that because Dr. Chen's simulations altered only portions of House District 59 drawn by the mapmaker, and did not touch the very small portions of the district added by the Special Master, the mapmaker necessarily is responsible for the extreme partisan bias that Dr. Chen finds for House District 59.

390. Dr. Chen found that all three districts in the Guilford grouping that he did not freeze are extreme partisan outliers. He found that House Districts 58 and 60 have higher Democratic vote shares than their corresponding districts in all of Dr. Chen's simulations, while House District 59 has a much lower Democratic vote share that the corresponding district in all of the simulations. Tr. 353:17-21; PX45. Dr. Chen's findings demonstrate the packing of Democratic voters into House Districts 58 and 60 to make House District 59 favorable for Republicans. Indeed, the least Democratic district in this grouping would be competitive or Democratic-leaning in Dr. Chen's simulations, whereas House District 59 under the enacted plan is much less favorable for Democrats using the 2010-2016 statewide elections. The Court gives weight to Dr. Chen's findings for this county grouping, which are reflected in Plaintiffs' Exhibit 45 below.

Figure 25: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Guilford County Grouping

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391. Plaintiffs' Exhibit 398 shows Dr. Mattingly's analysis of the Guilford grouping:

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392. Setting aside the frozen districts, Dr. Mattingly concluded that the least Democratic district (House District 59) shows extreme cracking of Democrats, while the remaining two districts (House Districts 58 and 60) shows extreme packing of Democrats, in comparison to the nonpartisan plans. PX398; PX778 at 30; PX359 at 33-34. Dr. Mattingly found that House 59 has fewer Democratic voters than 99.89% of the comparable districts in the nonpartisan ensemble, while House Districts 58 and 60 have more average Democratic votes than 99.86% of the comparable Democratic districts in the nonpartisan ensemble. PX778 at 30; PX359 at 33-34; PX398. As the figure above shows, the gerrymander could cause the Democrats to lose a seat in this grouping in certain electoral environments, because the black dot for House District 59 falls below the 50% line while the blue histogram sometimes rises above it or gets very close. Dr. Mattingly concluded that the Guilford House grouping is an extreme pro-Republican partisan gerrymander, Tr. 1155:5-16; PX778 at 30; PX359 at 33-34; PX398, and the Court gives weigh to Dr. Mattingly's conclusion.

***62** 393. Dr. Pegden found that this grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 93.9% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 82% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:10; PX527. The Court gives weight to Dr. Pegden's analysis and conclusions.

394. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

g. *Davie-Rowan-Cabarrus-Stanly-Montgomery-Richmond*

395. The Davie-Rowan-Cabarrus-Stanly-Montgomery-Richmond House county grouping contains House Districts 66, 67, 76, 77, 82, and 83. The Court gives weight to the analysis of Plaintiffs' experts and finds that significant portions of this county grouping are an extreme partisan gerrymander.

396. Plaintiffs' Exhibit 314 is Dr. Cooper's map for this county grouping:

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397. This county grouping cracks Democratic voters across its districts. In particular, Dr. Cooper explained how the mapmaker "maximize[d] partisan advantage" by splitting municipalities in "critical ways" that crack Democratic voters. Tr. 926:18-24. The cities of Kannapolis and Concord are both split across House Districts 82 and 83, cracking the Democratic voters across these districts to dilute their voting power. Tr. 926:23-927:24; PX253 at 87-88 (Cooper Report). The Democratic voters from both of these cities are kept separate from the Democratic voters in Salisbury, which is placed in House District 76. *Id.* Plaintiffs Exhibit 315 depicts the splitting and treatment of these municipalities (Concord is shaded green, Kannapolis is pink, and Salisbury is yellow).

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398. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

399. Dr. Chen found that, in his House Simulation Set 1, one of the districts in this grouping, House District 83, is an extreme partisan outlier, as it has a lower Democratic vote than its corresponding district in nearly all of the simulations. Tr. 363:6-12; PX46. Dr. Chen further found, however, that this grouping has three districts (House Districts 76, 82, and 83) that are partisan outliers in his House Simulation Set 2 that avoided pairing the incumbents in office in 2017. Tr. 363:14-364:10; PX70. Dr. Chen's findings demonstrate the cracking of Democratic voters across the districts in this grouping, particularly given Legislative Defendants' representations that the General Assembly sought to avoid pairing incumbents in 2017. *See* Tr. 364:11-22. The Court gives weight to Dr. Chen's findings for this county grouping, which are reflected in Plaintiffs' Exhibit 70 below.

Figure 50: House Simulation Set 2:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Cabarrus-Davie-Montgomery-Richmond-Rowan-Stanly County Grouping

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400. Plaintiffs' Exhibit 392 shows Dr. Mattingly's analysis of this grouping:

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401. When Dr. Mattingly mathematically quantified cracking in this grouping across all 17 statewide elections, he found that the four most Democratic districts in the Davie grouping had more Democrats than in 97.38% of plans in the nonpartisan ensemble. PX359 at 30; PX778 at 30; PX392.[9] Dr. Mattingly concluded that this grouping reflects an "anomalous structure," Tr. 1156:1-16, and the Court gives weight to that conclusion.

***63** 402. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that significant portions of this county grouping are an extreme partisan gerrymander that was drawn to dilute the votes of Democratic voters and maximize the number of Republican districts in this grouping.

h. *Yadkin-Forsyth*

403. The Yadkin-Forsyth House County grouping contains House Districts 71, 72, 73, 74, and 75. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

404. Plaintiffs' Exhibit 316 is Dr. Cooper's map for this county grouping:

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405. Legislative Defendants packed Democratic voters into House Districts 71 and 72. Tr. 928:20-21; PX253 at 90 (Cooper Report). Legislative Defendants then cracked the remaining Democratic voters in this grouping across the remaining districts, where those Democratic voters' influence is washed out by heavily Republican VTDs. House District 73 includes all of Republican-leaning Yadkin County and just two Democratic-leaning VTDs on the west side of Winston-Salem, ensuring that it will be a safe Republican district. House Districts 74 and 75 include Democratic-leaning VTDs on the northern and southern sides of Winston-Salem, respectively, but both of those districts wrap around the city to include Republican-dominated VTDs on either side of Forsyth County. Indeed, in order to join Republican VTDs, House District 75 traverses an extremely narrow passageway on the border of Forsyth County. Tr. 928:5-21; PX253 at 90-91 (Cooper Report).

406. The Maptitude files from Dr. Hofeller's hard drive illustrate the "anatomy of this gerrymander." Tr. 988:17-989:4; PX345; PX329 at 21 (Cooper Rebuttal Report). They show Dr. Hofeller's intentional packing of all of the most Democratic VTDs in Forsyth County into House Districts 71 and 72, while putting all of the moderate and Republican-leaning VTDs (shaded tan, yellow, light green, and red) into House Districts 73, 74, and 75. *Id.* Plaintiffs' Exhibit 345 shows Dr. Hofeller's Maptitude file containing this county grouping:

Figure 16: Partisan Targeting in House Districts 71 72, 73, 74, and 75

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407. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

408. The simulations of Plaintiffs' other experts independently establish that the Forsyth-Yadkin county grouping is an extreme partisan gerrymander.

409. Dr. Chen found that, in his House Simulation Set 1, two of the districts in this grouping (House Districts 71 and 75) are extreme partisan outliers above the 95% level, and another two districts in the grouping (House Districts 72 and 74) have higher or lower Democratic vote shares than over 80% of their corresponding districts. Tr. 354:1-20; PX49. Dr. Chen further found, however, that all four of these districts are extreme partisan outliers in his House Simulation Set 2 that avoided pairing the incumbents in office in 2017. Tr. 355:1-18. In Simulation Set 2, House Districts 71 and 72 have higher Democratic vote shares than nearly all of their corresponding districts in the simulations, while House Districts 74 and 75 have lower Democratic vote shares than nearly all of their corresponding districts in the simulations. *Id.* Dr. Chen's findings demonstrate the packing of Democratic voters into House Districts 71 and 72 and the cracking of Democratic voters in the remaining districts in this grouping, particularly given Legislative Defendants' representations that the General Assembly sought to avoid pairing incumbents in 2017. *See* Tr. 355:19-356:4. The Court gives weight to Dr. Chen's findings for this county grouping, which are reflected in Plaintiffs' Exhibit 67 below.

Figure 47: House Simulation Set 2:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Forsyth-Yadkin County Grouping

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***64** 410. Plaintiffs' Exhibit 414 shows Dr. Mattingly's analysis of this grouping:

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411. Dr. Mattingly concluded that the three least Democratic districts show extreme cracking of Democrats while the two most Democratic districts shows extreme packing of Democrats, as evidenced by the significant jump between these sets of districts. Tr. 1144:3-9. Dr. Mattingly's analysis showed that the three least Democratic districts in the enacted plan had fewer average Democratic votes than 99.46% of the comparable districts in the nonpartisan ensemble, while the two most Democratic districts in the enacted plan had more average Democratic votes than 99.84% of the comparable Democratic districts in the nonpartisan ensemble. PX778 at 30; PX359 at 44. As the figure above shows, the gerrymander causes the Democrats to lose one, possibly two, seats in this grouping in certain electoral environments, because the black dots for House District 74 and 75 always below the 50% line while the blue histograms sometimes rise above it. Tr. 1144:6-9. Dr. Mattingly concluded that the Yadkin-Forsyth grouping is an extreme pro-Republican partisan gerrymander, Tr. 1144:13-16, and the Court gives weight to his conclusion.

412. Dr. Pegden found that this grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.7% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.1% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:7; PX530. The Court gives weight to Dr. Pegden's analysis and conclusions.

413. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

i. *Mecklenburg*

414. The Mecklenburg House County grouping contains House Districts 88, 92, 98, 99, 100, 101, 102, 103, 104, 105, 106, and 107. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

415. Plaintiffs' Exhibit 319 is Dr. Cooper's map for this county grouping:

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416. Dr. Cooper detailed how House Districts 88, 92, and 101 pack Democratic voters on the western side of Mecklenburg County while House Districts 99, 100, 102, and 106 pack Democratic voters on the eastern and central portions of the county. There is not a single Republican-leaning VTD included in any of these packed House Districts. Tr. 930:13-24; PX253 at 93 (Cooper Report).

417. House Districts 103, 104, and 105, meanwhile, include all of the Republican-leaning VTDs on the southern side of Mecklenburg County, allowing those districts to be "as competitive as possible for Republicans." Tr. 930:25-931:7; PX253 at 93 (Cooper Report).

418. House District 98, on the northern boundary of Mecklenburg County, includes almost all Republican-leaning VTDs, avoiding the Democrat-heavy VTDs that are packed into House Districts 106 and 107. Tr. 931:7; PX253 at 93 (Cooper Report).

***65** 419. As depicted in Plaintiffs' Exhibit 320, these district boundaries split Charlotte between 11 House Districts but manage to place every Republican-leaning VTD within the city—the "red pizza" slice—into House Districts 103, 104, and 105. Tr. 932:1-17; PX320; PX253 at 93 (Cooper Report).

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420. Dr. Hofeller's Maptitude files confirm he drew the districts in this grouping to maximize partisan gain. The "pizza slice" that contains the Republican-leaning VTDs within Charlotte is evident in Dr. Hofeller's color-coded draft map, which groups those Republican-leaning VTDs into three House Districts and packs almost all of the Democratic VTDs into other districts. Tr. 990:4-21; PX329 at 22 (Cooper Rebuttal Report). Plaintiffs' Exhibit 346 shows Dr. Hofeller's Maptitude files containing this county grouping:

Figure 17: Partisan Targeting in House Districts 88, 92, 98, 99, 101, 102, 103, 104, 105, 106, and 107.

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421. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

422. The simulations of Plaintiffs' other experts independently establish that the Mecklenburg county grouping is an extreme partisan gerrymander.

423. Dr. Chen found that this county grouping contains six districts that are extreme partisan outliers above the 95% outlier level, and another three districts that are outliers above the 90% level. Tr. 361:20-22; PX53. The enacted plan packs Democratic voters into a number of districts in order to create four districts—House Districts 98, 103, 104, and 105—that are less Democratic than all of nearly of their corresponding districts in Dr. Chen's simulations. PX53. Dr. Chen's findings demonstrate the packing and cracking of Democratic voters in this grouping. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which is reflected in Plaintiffs' Exhibit 53 below.

Figure 33: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Mecklenburg County Grouping

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424. As Dr. Chen explained at trial, the fact that Democrats won House Districts 98, 103, 104, and 105 by small or extremely small margins in 2018 does not contradict his findings. Tr. 362:2-363:2; *see* JSF ¶¶ 125, 132-35. Rather, Dr. Chen's simulations suggest that Democrats very likely would have won each of these districts by larger margins if not for the gerrymander. *Id.* Moreover, Dr. Hofeller's own assessment of these districts demonstrates that he believed these districts to be Republican-leaning, and that it took the Democratic wave of 2018 to squeak out wins in them. Dr. Hofeller estimated that House District 98 would have a 62.76% Republican vote share and he characterized it as a "strong Rep. district in Mecklenburg." PX246 at 3. Dr. Hofeller similarly estimated that House Districts 103, 104, and 105 would have 62% to 64% Republican vote shares. *Id.* Dr. Hofeller's spreadsheets evidence the partisan intent behind the creation of these districts and the strong possibility that Democratic could lose them in the next election under the current district lines intended to produce that result.

425. Plaintiffs' Exhibit 400 shows Dr. Mattingly's analysis of this grouping:

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426. Dr. Mattingly concluded that the four most Republican districts showed extreme cracking of Democrats while the next four districts showed extreme packing of Democrats, as evidenced by the significant jump between these sets of districts. Tr. 1138:7-1139:4. Dr. Mattingly found that the least four Democratic districts in the enacted plan had fewer average Democratic votes than 99.9% of the comparable districts in the nonpartisan ensemble, while the eight most Democratic districts in the enacted plan had more average Democratic votes than 99.5% of the comparable Democratic districts in the nonpartisan ensemble. Tr. 1141:8-25; PX778 at 30; PX359 at 34-35. As the figure above shows, the gerrymander causes the Democrats to lose up to three, possibly four, seats in this grouping in certain electoral environments, because the black dots for House Districts 98, 103, 104, and 105 often fall below the 50% line while the blue histograms rise above it. Tr. 1140:12-1140:25. Dr. Mattingly concluded that this grouping is an extreme pro-Republican partisan gerrymander, Tr. 1142:1-4, and the Court gives weight to his conclusion.

***66** 427. Like Dr. Chen, Dr. Mattingly explained that the fact that Democrats won all the seats in the Mecklenburg grouping in the 2018 election does not undermine his conclusion that the grouping is an extreme pro-Republican partisan gerrymander. Tr. 1142:5-14. That the Democrats did well in one election and were able to prevail over the gerrymander does not change the fact that the grouping provides an extreme and atypical structural advantage to the Republicans that could cause the Democrats to lose seats in the next election. Tr. 1142:10-17.

428. Dr. Pegden found that this county grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.994% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.98% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:5-6; PX531. The Court gives weight to Dr. Pegden's analysis and conclusions.

429. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

j. *Wake*

430. The Wake House county grouping contains House Districts 11, 33, 34, 35, 36, 37, 38, 39, 40, 41, and 49.[10]

431. Plaintiffs' Exhibit 297 is Dr. Cooper's map for this county grouping:

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432. The 2017 versions of House Districts 11, 33, 38, and 49 packed Democratic voters to allow House Districts 35, 36, 37, and 40, on the north and south sides of Wake County to be more favorable to Republicans. Tr. 911:15-912:16; PX253 at 65 (Cooper Report).

433. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these 2017 districts.

434. The simulations of Plaintiffs' other experts independently establish that the 2017 enacted House plan version of the Wake grouping was an extreme partisan gerrymander.

435. Dr. Chen found that the 2017 version of this county grouping contained three districts that were extreme partisan outliers above the 95% outlier level. Tr. 365:15-366:1; PX54. The Court gives weight to Dr. Chen's analysis and findings for this county grouping.

436. Dr. Mattingly's analysis showed that the four most Republican districts in the 2017 version of this grouping show extreme cracking of Democrats, while the next four districts show extreme packing of Democrats, in comparison to the nonpartisan plans. PX412; PX778 at 30; PX359 at 43. His analysis showed that the least Democratic districts in the enacted plan had fewer Democratic voters than 99.98% of the comparable districts in the nonpartisan ensemble, while the most Democratic districts in the enacted plan had more average Democratic votes than 99.99% of the comparable Democratic districts in the ensemble. PX778 at 30; PX359 at 43; PX412. The Court gives weight to Dr. Mattingly's analysis and conclusions for this grouping.

***67** 437. Dr. Pegden found that the 2017 version of this grouping constituted an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.9997% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.9991% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:4; PX533. The Court gives weight to Dr. Pegden's analysis and conclusions.

438. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that the 2017 version of this county grouping was an extreme partisan gerrymander. While Plaintiffs do not challenge any individual House districts in Wake County as currently drawn, the Court gives weight to the findings and conclusions of Plaintiffs' experts in regard to the consistency of the partisan intent throughout the statewide map.

k. ***New Hanover-Brunswick***

439. The New Hanover-Brunswick House county grouping, drawn in 2011 and left unchanged in 2017, contains House Districts 17, 18, 19, and 20. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

440. Plaintiffs' Exhibit 302 is Dr. Cooper's map of this county grouping:

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441. As Dr. Cooper testified, House District 18 packs the most Democratic-leaning VTDs in this grouping into that district, thereby making House Districts 17, 19, and 20 more favorable to Republicans. Tr. 913:17-914:7; PX253 at 72 (Cooper Report).

442. Wilmington is split between House Districts 18, 19, and 20, with the most Democratic-leaning VTDs in that city packed into House District 18 and the Republican-leaning VTDs placed in the two adjacent districts. In order to accomplish the packing of voters in House District 18, the district boundaries split Wilmington and the UNC Wilmington campus. Tr. 914:13-20; PX253 at 73 (Cooper Report); PX303. By dividing the campus in this manner, the district boundaries enable House District 20 to connect to Republican-leaning VTDs in the Wilmington area, creating a boot-like appendage in the southwest portion of House District 20. PX253 at 75 (Cooper Report); Tr. 916:12-21. Plaintiffs' Exhibit 303 show which portions of Wilmington are placed into each of the three districts:

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443. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

444. The simulations of Plaintiffs' other experts independently establish that the Brunswick-New Hanover county grouping is an extreme partisan gerrymander.

445. Dr. Chen found that this county grouping contains three districts that are extreme partisan outliers. Tr. 369:3-7.[11] House District 18 has a higher Democratic vote share than its corresponding district in all the simulations, while House Districts 17 and 19 have lower Democratic vote shares than their corresponding districts in all or nearly all of the simulations. Dr. Chen's findings demonstrate the packing of Democratic voters in House District 18 and the cracking of Democratic voters across the other districts. The vast majority of Dr. Chen's simulations would produce up to two additional districts in this grouping that are competitive or even Democratic-leaning, compared to the enacted plan. PX57. The Court gives weight to Dr. Chen's analysis and findings for this grouping, which are reflected in Plaintiffs' Exhibit 57 below:

Figure 37: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Brunswick-New Hanover County Grouping

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***68** 446. Plaintiffs' Exhibit 404 shows Dr. Mattingly's analysis of this grouping:

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447. Dr. Mattingly concluded that the most Democratic district shows extreme packing of Democrats, while the three least Democratic districts show extreme cracking of Democrats, as evidenced by the significant jump between these sets of districts. Tr. 1145:17-1146:12. Dr. Mattingly found that the most Democratic district in the enacted plan had more Democratic voters than 92.01% of the comparable districts in the nonpartisan ensemble. PX778 at 30; PX359 at 38. As the figure above shows, the enacted map causes the Democrats to lose one seat in this grouping in certain electoral environments, because the black dot in the second most Democratic district always falls below the 50% line while the blue histograms often rise above it. Tr. 1146:5-9. Dr. Mattingly concluded that the New Hanover-Brunswick House grouping reflected a pro-Republican partisan gerrymander, Tr. 1146:22-1147:2, and the Court gives weight to his conclusion.

448. Dr. Pegden found that this county grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.97% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.91% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:6-7; PX524. The Court gives weight to Dr. Pegden's analysis and conclusions.

449. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

l. *Duplin-Onslow*

450. The Duplin-Onslow House county grouping, drawn in 2011 and left unchanged in 2017, contains House Districts 4, 14, and 15. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

451. Plaintiffs' Exhibit 291 is Dr. Cooper's map for this county grouping:

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452. Legislative Defendants split Jacksonville across House Districts 14 and 15, pairing the Democratic-leaning "shark's tooth" in Jacksonville with heavily Republican-leaning VTDs in House District 15. Tr. 906:10-23; PX253 at 53-57 (Cooper Report). The map also ensures that none of Jacksonville's voters are joined with the Democratic-leaning and moderate VTDs in Duplin County, in House District 4. *Id.* The map cracks Democratic voters across all three districts in this grouping, ensuring that House District 14 "becomes Republican and [House District 4] also stays safely Republican." *Id.*

453. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

454. The simulations of Plaintiffs' other experts independently establish that the Duplin-Onslow county grouping is an extreme partisan gerrymander.

455. Dr. Chen found that all three districts in this grouping are extreme partisan outliers. Tr. 370:16-371:1. House Districts 4 and 14 have lower Democratic vote shares than their corresponding districts in nearly all the simulations, while House District 15 has a higher Democratic vote share than its corresponding district in nearly all the simulations. PX60. Dr. Chen's findings demonstrate the cracking of Democratic voters across the three districts. The vast majority of Dr. Chen's simulations would produce two districts that are more competitive using the 2004-2010 statewide elections compared to the enacted plan. PX60. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, reflected in Plaintiffs' Exhibit 60:

Figure 40: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Duplin-Onslow County Grouping

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***69** 456. Plaintiffs' Exhibit 394 shows Dr. Mattingly's analysis of this grouping:

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457. This grouping is another example of what Dr. Mattingly called "squeezing" or "flattening," where Democrats are cracked across all of the districts in the grouping. *See* Tr. 1149:19-1150:2; Tr. 1150:22-1151:2. Dr. Mattingly's analysis showed that the two most Democratic districts in the enacted plan had fewer Democratic voters than 92.4% of the comparable districts in the nonpartisan ensemble, meaning that the Duplin-Onslow House grouping showed clear cracking of Democratic voters. PX778 at 30; PX359 at 31. As the figure above shows, the gerrymander could cause the Democrats to lose at least one seat in certain electoral environments. Dr. Mattingly concluded that this grouping reflects a clear pro-Republican partisan gerrymander, Tr. 1155:17-21, PX778 at 30, and the Court gives weight to Dr. Mattingly's conclusion.

458. Dr. Pegden found that this grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 98% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 94% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:9; PX528. The Court gives weight to Dr. Pegden's analysis and conclusions.

459. The Court finds that the analyses of all Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

m. *Anson-Union*

460. The Anson-Union county grouping, drawn in 2011 and left unchanged in 2017, contains House Districts 55, 68, and 69. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

461. Plaintiffs' Exhibit 307 is Dr. Cooper's map for this county grouping:

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462. Dr. Cooper detailed how this county grouping cracks the Democratic voters in Monroe between two districts (House Districts 68 and 69), and then ensures that none of these voters are joined with the Democratic voters in Anson County (in House District 55). The map thus dilutes the voting power of the Democratic voters in this grouping, ensuring that House Districts 68 and 69 are reliable Republican districts. Tr. 919:3-16; PX253 at 79-80 (Cooper Report). Plaintiffs' Exhibit 308 illustrates the cracking of Monroe (which is colored pink).

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463. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

464. Dr. Hofeller's Maptitude files confirm his intentional use of partisanship data to crack Democratic voters. The relevant Maptitude file, which was last modified in June 2011 and is depicted in Plaintiffs' Exhibit 353 below, shows Dr. Hofeller's use of the 2008 Presidential election results to separate Democratic VTDs across the three districts in this grouping. Tr. 995:20-998:7; PX329 at 31 (Cooper Rebuttal Report).

Figure 25: Partisan Targeting in House Districts 55, 68, and 69

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***70** 465. The simulations of Plaintiffs' other experts independently establish that this county grouping is an extreme partisan gerrymander.

466. Dr. Chen found that all three districts in this county grouping are extreme partisan outliers. Tr. 368:7-15. House District 55 has a lower Democratic vote share than its corresponding district in nearly all of the simulations, while House Districts 68 and 69 have higher Democratic vote shares than their corresponding districts in nearly all of the simulations. Dr. Chen's findings demonstrate the cracking of Democratic voters across the three districts in this grouping. In the vast majority of Dr. Chen's simulations, this county grouping would produce a district that is Democratic-leaning using the 2004-2010 statewide elections. PX56. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 56 below:

Figure 36: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Anson-Union County Grouping

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467. Plaintiffs' Exhibit 410 shows Dr. Mattingly's analysis of this grouping:

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468. This grouping is another example of what Dr. Mattingly called “squeezing” or “flattening,” where the Democrats are cracked across all of the districts in the grouping. *See* Tr. 1149:19-1150:2; Tr. 1150:22-1151:2. Dr. Mattingly's analysis showed

that the two most Democratic districts in the enacted plan had fewer Democratic voters than 100% of the comparable districts in the nonpartisan ensemble, meaning that not a single plan in his nonpartisan ensemble showed as much cracking of Democratic voters in this grouping as the enacted plan. PX778 at 30; PX359 at 42. As the figure above shows, the gerrymander causes the Democrats to lose one seat in certain electoral environment, as the black dot for House District 55 is always below the dotted line but the blue histogram often rises above it. Dr. Mattingly concluded that the Anson-Union House grouping reflected an extreme pro-Republican partisan gerrymander, Tr. 1155:8-16, PX778 at 30, and the Court gives weight to his conclusion.

469. Dr. Pegden found that this grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 98.5% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 95.5% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:8-9; PX523. The Court gives weight to Dr. Pegden's analysis and conclusions.

470. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

n. ***Alamance***

471. The Alamance House county grouping, drawn in 2011 and left unchanged in 2017, contains House Districts 63 and 64. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

***71** 472. Plaintiffs' Exhibit 311 is Dr. Cooper's map for this county grouping:

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473. Dr. Cooper described how House District 63 takes the shape of a “duck's head” in the Burlington area, cracking the Democratic voters in and around Burlington between House Districts 63 and 64 to reduce those voters' influence. Tr. 924:3-25; PX253 at 84 (Cooper Report). And the map carefully places Burlington's Republican-leaning-VTDs (in the “duck's head”) in House Districts 63, helping to ensure that House District 63 will consistently elect a Republicans. Plaintiffs' Exhibit 312 depicts the division of Burlington (shaded green):

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474. Dr. Hofeller's Maptitude files confirm the partisan intent and “partisan consequences” of cracking Democratic voters in this grouping. Tr. 998:18-19. In particular, Dr. Hofeller's draft map for House Districts 63 and 64 (which was last modified in June 2011 while this district was being drawn) demonstrates how the “duck's head” portion put Burlington's most moderate and Republican-leaning VTDs (shaded tan and light green) in House District 63, while Burlington's bluest VTDs were grouped with heavily Republican areas in northern and southern Alamance County. Tr. 998:9-25; PX354; PX329 at 32 (Cooper Rebuttal Report). Plaintiffs' Exhibit 354 shows Dr. Hofeller's Maptitude file containing the Alamance grouping.

Figure 26: Partisan Targeting in House Districts 63 and 64

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475. Election results demonstrate that the gerrymandering of this grouping has been highly effective. Although Intervenor Defendants presented testimony claiming that “candidate quality” resulted in the Democratic loss in one of the districts in 2018 (Tr. 2245:9-2246:25), in fact, Republicans have won both districts in this grouping in all four elections since the districts were drawn in 2011, across a range of candidates. JSF at Ex. 2; Tr. 2253:15-2256:10.

476. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of the districts in this county groupings.

477. The simulations of Plaintiffs' other experts independently establish that the Alamance county grouping is an extreme partisan gerrymander.

478. In his House Simulation Set 1, Dr. Chen found that House District 63 has a lower Democratic vote than its corresponding district in over 77% of the simulations while House District 64 has a higher Democratic vote share than its corresponding district in over 74.5% of the simulations. Tr. 371:10-372:6; PX55. More importantly, Dr. Chen found that both districts in this county grouping are extreme partisan outliers in House Simulation Set 2 that avoids pairing the incumbents in office at the time this grouping was drawn. Tr. 372:8-373:5; PX76. Dr. Chen thus concluded with over 99% statistical certainty that the districts in this grouping are extreme partisan outliers if the mapmaker was trying to protect incumbents in drawing the districts in the grouping. Tr. 372:23-373:5. Indeed, across the vast majority of 2,000 simulations in House Simulation Sets 1 and 2, this county grouping would produce a Democratic-leaning district in the simulations, whereas it does not in the enacted plan. PX55; PX76. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 76 below:

Figure 56: House Simulation Set 2:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Alamance County Grouping

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***72** 479. Plaintiffs' Exhibit 384 shows Dr. Mattingly's analysis of this grouping:

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480. This grouping reflects what Dr. Mattingly called “squeezing” or “flattening,” where Democratic districts are cracked across all of the districts. Tr. 1149:19-1151:2. Dr. Mattingly found that this grouping reflected more cracking of Democratic voters than 77% of the comparable districts in the nonpartisan ensemble. Tr. 1151:10-17; PX778 at 30; PX359 at 26. Although Dr. Mattingly did not label this grouping an “outlier” because he used a 90% threshold, he testified that the pro-Republican bias in the grouping still contributed to the extreme pro-Republican bias he found statewide. Tr. 1151:21-1153:2, Tr. 1154:23-1155:1. What's more, the pro-Republican tilt has a significant effect; as the figure above shows, the gerrymander causes the Democrats to lose one seat in this grouping in many electoral environments. Tr. 1151:3-9. Dr. Mattingly concluded that the Alamance House grouping reflected a clear pro-Republican partisan tilt, Tr. 1151:24-1153:2; PX778 at 30, and the Court gives weight to his conclusion.

481. Dr. Pegden found that this grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.9998% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.996% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:5; PX522. The Court gives weight to Dr. Pegden's analysis and conclusions.

482. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

o. *Cleveland-Gaston*

483. The Cleveland-Gaston House county grouping, drawn in 2011 and left unchanged in 2017, contains House Districts 108, 109, 110, and 111. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

484. Plaintiffs' Exhibit 323 is Dr. Cooper's map for this county grouping:

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485. As Dr. Cooper testified, this grouping is a textbook example of cracking. The Democratic voters in Gastonia are cracked across House Districts 108, 109, and 110, and the Democratic voters in Shelby across House Districts 110 and 111. Tr. 932:23-934:10; PX253 at 97-98 (Cooper Report). Plaintiffs' Exhibit 325 illustrates the splitting of these municipalities:

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486. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

487. The simulations of Plaintiffs' other experts independently establish that the Cleveland-Gaston county grouping is an extreme partisan gerrymander.

488. Dr. Chen found that this county grouping contains three districts that are extreme partisan outliers. Tr. 370:5-13. House Districts 109 and 111 have lower Democratic vote shares than their corresponding district in all or nearly all of the simulations, while House District 108 has a higher Democratic vote shares than its corresponding district in all of the simulations. PX59. Dr. Chen's findings demonstrate the cracking of Democratic voters across the districts in this county grouping. The Court gives weight to Dr. Chen's analysis and findings for this county grouping, which are reflected in Plaintiffs' Exhibit 59 below.

Figure 39: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Cleveland-Gaston County Grouping

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***73** 489. Plaintiffs' Exhibit 396 shows Dr. Mattingly's analysis of this grouping:

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490. This grouping reflects what Dr. Mattingly called “squeezing” or “flattening,” where Democratic voters are cracked across all of the districts. *See* Tr. 1149:19-1150:2; Tr. 1150:22-1151:2. Dr. Mattingly found that this grouping reflected more cracking of Democratic voters than 82.86% of the comparable districts in the nonpartisan ensemble. PX778 at 30; PX359 at 32. Although he did not label this grouping an “outlier” because he used a 90% threshold, he testified that the pro-Republican bias in the Gaston-Cleveland still contributed to the extreme pro-Republican bias he found statewide. *See* Tr. 1151:21-1156:21. Moreover, as the figure above shows, the gerrymander could cause Democrats to lose at least one seat in certain electoral environments. Dr. Mattingly concluded that the Gaston-Cleveland grouping reflects a clear pro-Republican partisan tilt that can contribute to the extreme pro-Republican bias statewide, Tr. 1156:17-24, PX778 at 30, and the Court gives weight to his conclusion.

491. Dr. Pegden's conservative methodology resulted in comparison maps that are very similar to the enacted plan for this grouping. Tr. 1351:17-1352:10.

492. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

p. *Buncombe*

493. The Buncombe House county grouping, drawn in 2011 and left unchanged in 2017, contains House Districts 114, 115, and 116. The Court gives weight to the analysis of Plaintiffs' experts and finds that this county grouping is an extreme partisan gerrymander.

494. Plaintiffs' Exhibit 326 is Dr. Cooper's map for this county grouping:

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495. The mapmaker packed the most Democratic VTDs in and around Asheville into House District 114, in an effort to make House Districts 115 and 116 as competitive for Republicans as possible. Tr. 934:17-935:1; PX253 at 100 (Cooper Report).

496. The Court does not give weight to any nonpartisan explanation Legislative Defendants offered with respect to the boundaries of these districts.

497. The simulations of Plaintiffs' other experts independently establish that the Buncombe county grouping is an extreme partisan gerrymander.

498. Dr. Chen found that all three districts in this county grouping are extreme partisan outliers. Tr. 369:22-370:1. House District 114 has a higher Democratic vote share than its corresponding district in all the simulations, while House Districts 115 and 116 have lower Democratic vote shares than their corresponding districts in all the simulations. Dr. Chen's findings demonstrate the packing of Democratic voters into House District 114 to make House Districts 115 and 116 as competitive for Republicans as possible. PX58. The Court gives weight to Dr. Chen's analysis and findings for this grouping, which are reflected in Plaintiffs' Exhibit 58:

Figure 38: House Simulation Set 1:

Democratic Vote Share of the Enacted and Computer-Simulated Districts Within the Buncombe County Grouping

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499. Plaintiffs' Exhibit 386 shows Dr. Mattingly's analysis of this grouping:

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***74** 500. Dr. Mattingly's analysis shows that Democrats were cracked out of the two least Democratic districts in this grouping and packed into the most Democratic district. PX778 at 30; PX359 at 27; PX386. The two least Democratic districts in the enacted plan had fewer Democratic voters than 85.45% of the comparable districts in the nonpartisan ensemble. PX778 at 30; PX359 at 27; PX386. Although Dr. Mattingly did not label this grouping an "outlier" because he used a 90% threshold, he explained that the pro-Republican bias still contributed to the extreme pro-Republican bias he found statewide. *See* Tr. 1151:21-1156:24. As the figure above shows, the gerrymandering could cause Democrats to lose one or two districts in certain electoral environments. Dr. Mattingly concluded that the Buncombe House grouping reflected a pro-Republican partisan bias, Tr. 1156:17-21, and the Court gives weight to his conclusion.

501. Dr. Pegden found that this grouping constitutes an extreme partisan gerrymander. In his first level analysis, Dr. Pegden found that the enacted plan's version of this grouping is more favorable to Republicans than 99.9997% of the maps that his algorithm encountered by making small changes to the district boundaries. In his second level analysis, Dr. Pegden found that this grouping is more carefully crafted to favor Republicans than at least 99.999% of all possible districtings of this county grouping that satisfy the criteria Dr. Pegden used. Tr. 1351:4-5; PX525. The Court gives weight to Dr. Pegden's analysis and conclusions.

502. The Court finds that the analyses of Plaintiffs' experts independently and together demonstrate that this county grouping is an extreme partisan gerrymander.

D. The 2017 Plans Protected the Republican Majorities in the 2018 Elections

503. In the 2018 House elections, Republican candidates won a minority—48.8%— of the two-party statewide vote, but still won 65 of 120 seats (54%). JSF ¶¶ 68-69. Democrats thus broke the Republican supermajority, but not the majority. *Id.*; Tr. 163:21-164:19 (Rep. Meyer).

504. In the 2018 Senate elections, Republican candidates won a minority— 49.5%—of the two-party statewide vote, but still won 29 of 50 seats (58%). JSF ¶¶ 142-43; Tr. 117:5-19 (Sen. Blue). Democrats broke the Republican supermajority by a single seat, after narrowly prevailing in Senate Districts 9 and 27 by margins of 0.1% and 0.5%. *Id.*

505. Democrats were unable to win majorities in either chamber despite strong efforts to fuel voter enthusiasm, recruit candidates, and fundraise, and despite favorable political conditions nationally and in North Carolina. Tr. 76:5-11 (Phillips); Tr. 118:19-21, 124:9-13 (Sen. Blue); Tr. 163:21-164:5 (Rep. Meyer); Tr. 1269:4-14, 1283:15-1284:1 (Goodwin). Democrats raised and spent more money than Republicans in the 2018 cycle, running the most well-funded campaign operation in the history of North Carolina. Tr. 117:20-117:25, 124:20-24 (Sen. Blue); Tr. 163:21-164:5, 171:3-6 (Rep. Meyer); Tr. 1284:11-17 (Goodwin).

506. Consistent with the findings of Drs. Chen and Mattingly, Senator Blue testified that, under the current Senate plan, Democrats would have needed to win over 55% of the statewide vote to win a majority of seats in the Senate. Tr. 119:19-120:4.

E. The 2017 Plans Harm the Organizational and Individual Plaintiffs

1. The 2017 Plans Harm the North Carolina Democratic Party

507. Elections, voting, and redistricting are central to the mission and purposes of Plaintiff the North Carolina Democratic Party (the "NCDP"). The NCDP is "an association of like-minded individuals"—"predominantly registered Democrats"—"who support and also help develop policies that they agree on." Tr. 1264:1-6 (Goodwin). As the NCDP's chair, Mr. Goodwin testified, the "basic purpose" of the NCDP is to "encourage like-minded folks to come together, to help recruit candidates and to support candidates who favor those policies and favor the development of policies that Democrats support." Tr. 1265:2-5. The NCDP "persuade[s] voters to support the nominees of the Democratic Party during the general election." Tr. 1265:7-9. The Court gives weight to Mr. Goodwin's testimony regarding the NCDP's mission and purposes.

***75** 508. The Court gives further weight to Mr. Goodwin's testimony that district lines significantly affect the NCDP's ability to fulfill its mission and purposes. To achieve its purposes, the NCDP must "have good candidates that we recruit and that we support"; it needs "enthusiasm for the party and its candidates and its message and mission"; and it needs "the appropriate financial resources to get a message [out]" and to fund all "the things that are involved with elections." Tr. 1264:15-21. All of those things are affected by district boundaries. Tr. 1265:22-24. For that reason, to "accomplish [NCDP's] mission," it is "vital" that the NCDP have "fair, nondiscriminatory district lines for the candidates that run in districts across the State." *Id.*

509. The current district lines have harmed the NCDP and will continue to do so. The lines drawn in 2011 "had a tremendously negative impact on the ability of the North Carolina Democratic Party to achieve the purposes for which it exists." Tr. 1266:9-16. Under the 2011 districts, "it was more difficult to recruit candidates, it was more difficult to raise the funds necessar[]y, [and] enthusiasm was down tremendously because of … unfair []districts." *Id.*

510. Upon enactment of the 2017 Plans, the NCDP "knew it was still going to be a difficult, difficult race because of … [the] district lines." Tr. 1267:11-13. Because of the 2017 Plans, the NCDP "had to expend extraordinary amounts of time and resources and the like in a way that, in a set of fair maps across the State, [it] wouldn't have had to do." Tr. 1270:10-14; *see* Tr. 1284:18-22. The NCDP had to spend more money than it would have under nonpartisan maps, both statewide and in individual districts. For example, in House District 103 in Mecklenburg County, "to make that election competitive," Democrats had to recruit the daughter of former Governor Jim Hunt and "her election had to be financed at a level that no previous House election had ever been financed in the history of state elections," with Democrats spending over a million dollars in support of Ms. Hunt. Tr. 189:17-190:23 (Rep. Meyer). Even then, Ms. Hunt won the election by fewer than 100 votes. *Id.* The simulations of Drs. Chen and Mattingly each establish that, under nonpartisan maps, House District 103 in Mecklenburg County would be more favorable for Democrats than it is under the current House plan, FOF § C.2.*i*., meaning that Democrats would not need to devote as many resources to this district and would be able to spend those resources in other districts across the State instead. The Court finds that the NCDP has established that the current districts have injured the NCDP as an organization by requiring it to spend and divert more financial resources than it would have under nonpartisan maps, both statewide and in individual districts

511. The Court finds that the current districts have injured the NCDP in other ways. As Mr. Goodwin testified, "notwithstanding the tremendous[,] palpable level of enthusiasm" for Democratic candidates nationwide and in North Carolina in 2018, "notwithstanding raising the most funds ever raised for a mid-term election for the [D]emocratic [P]arty," and "notwithstanding the fact that … there was a [D]emocratic [G]overnor and [a] unique partnership" with the Governor, the NCDP's "efforts and enthusiasm and … money did not translate into seats." Tr. 1268:16-1269:3. "[D]espite everyone going [the NCDP's] way, the lines were drawn in such a way that [the NCDP] could not breach that seawall that protected the [R]epublican majority." Tr. 1268:13-15.

512. The Court finds that the current districts will also continue to injure the NCDP in the 2020 elections absent judicial relief. The NCDP will continue to need to spend and divert financial resources as a result of the gerrymanders, and it will continue to be extremely unlikely that Democratic candidates will be able to win majorities in either chamber of the General Assembly under the current districts. Moreover, although the NCDP was able to recruit a candidate in every district the favorable national environment that existed for Democrats in 2018 recruitment is more difficult under partisan plans. As Mr. Goodwin explained, unfair districts make it "more difficult to recruit candidates." Tr. 1266:12-13.

***76** 513. In addition to harming the NCDP itself, the enacted plans also have harmed the NCDP's members, and continue to do so. The NCDP's members include every registered Democratic voter in North Carolina. Tr. 1269:8-17. There are "well over two million registered Democrats in North Carolina." Tr. 1269:10-11. "There are registered Democrats in every precinct in the State, every House District, [and] every Senate District." Tr. 1269:15-20. The NCDP thus has members in every House and Senate district at issue in this case, and those members are harmed by the enacted plans. The gerrymanders dilute the voting power of the NCDP's members by intentionally making it more difficult for some Democratic voters to elect candidates of their choice and making it extremely difficult for Democratic voters statewide to obtain Democratic majorities in the General Assembly. *See* FOF § E.3.

514. The NCDP's "support scores" do not undermine the harms that the 2017 Plans cause the NCDP and its members. As Democratic Representative Graig Meyer testified, "support scores" are purchased scores that are assigned to all registered voters based on "a combination of consumer data as well as geographic and other factors that give you a sense of the likelihood someone is going to support a Democratic candidate." Tr. 164:22-165:12. These scores are made available by the NCDP to Democratic candidates' campaigns, Tr. 1270:24-1271:19 (Goodwin), which then, in their discretion, may use them "to determine which voters [they] should target for paid communications, such as digital or mail, or for individual communications, such as

canvassing and knocking on voters' doors," Tr. 164:23-165:2 (Rep. Meyer). Even then, Democratic campaigns "almost always use [support scores] in conjunction with other measures, such as a turnout score, which tells you how likely someone is to actually vote." Tr. 165:13-15.

515. Several of Legislative Defendants' Exhibits purportedly show—based on support scores that are aggregated on a district-by-district basis—that Democratic candidates should be competitive, and in fact could win, in a comfortable majority of House and Senate districts under the 2017 Plans. *See* LDTX 145-147, 278; *see* Tr. 2072:21-2074:22 (Dr. Hood).

516. The Court gives little weight to Defendants' arguments related to aggregated district-level support scores. Neither the NCDP nor any Democratic campaign or candidate "ever use[s] … aggregated support scores for any purpose," Tr. 1271:20-24 (Goodwin), and they do not use them "to determine the electability of a district," Tr. 194:1-2 (Rep. Meyer). Support scores are "not reliable in the aggregate," Tr. 167:5-6 (Rep. Meyer), and "[a]ggregated support scores wouldn't be all that helpful because individual support scores can be misleading," Tr. 165:24-166:1 (Rep. Meyer). "They're imprecise measures, and then if you aggregate imprecise measures like that they tend to get less and less precise in the aggregate." Tr. 166:7-9 (Rep. Meyer). Moreover, the aggregated support scores include all *registered* voters in a district, not likely or actual voters, which tends to overstate Democratic support. Tr. 2091:6-2092:14 (Dr. Hood). Rather than use aggregated support scores, the NCDP uses other metrics to assess a district's competitiveness, such as the "Democratic Performance Index" (DPI) or the results of specific recent statewide elections. Tr. 1272:3-11 (Goodwin); Tr. 177:3-11 (Rep. Meyer).

517. Additionally, Legislative Defendants' expert Dr. Hood, who presented an analysis based on the aggregated support scores, conceded that he is not aware of anyone who has ever "used those scores to make predictions" of how a district will perform in an election. Tr. 2092:3-24. Nor did Dr. Hood present any analysis to substantiate any claim that aggregated support scores are accurate predictors of a district's competitiveness, and Representative Meyer credibly explained that they are not. Representative Meyer gave several examples where the district-level aggregated support scores differ considerably from actual election results, demonstrating why the NCDP and Democratic campaigns "don't use support scores to determine electability of a district." Tr. 194:1-2; *see* Tr. 193:17-196:12.

***77** 518. Defendants presented no persuasive evidence that Democrats have a realistic possibility of winning majorities in the General Assembly under the metrics that are used to assess a district's likely performance, such as the DPI and prior statewide elections results.

519. The total number of registered Democrats in particular districts likewise does not undermine the harm the enacted plans cause the NCDP and its members. Legislative Defendants' Exhibit 280 purportedly indicates that Democrats and unaffiliated voters, when combined together, hold a registration advantage over Republicans in all Senate districts and all House districts but one. *See* Tr. 1279:25-1281:15 (Goodwin). The Court gives little weight to Legislative Defendants' arguments based on statewide party registration numbers.

520. As Mr. Goodwin explained, Legislative Defendants' Exhibit 280 presents "an extreme hypothetical assuming that everyone who's registered for his or her respective party actually vote and vote only based on their party registration, and assuming that unaffiliateds all vote for the Democratic candidate. That is not going to happen." Tr. 1281:21:25. The notion that Democrats could win 169 of 170 total seats in the General Assembly is not credible.

521. As Dr. Chen further explained, party registration has been "studied in the academic literature[,] and it's well known that in a lot of different Southern states, including in some parts of North Carolina, party registration is not necessarily a reliable indicator of one's actual partisan voting habits." Tr. 277:22-278:1. For example, "there are conservative Democrats, or what we call blue dog democrats sometimes, who in the past used to vote Democratic and have, for the last couple of decades, switched over to voting Republican, but their party registration may still remain as Democrats." Tr. 278:3-10.

522. The Court finds that party registration is not a reliable indicator of the competitiveness of any individual district or of the enacted plans as a whole.

2. The 2017 Plans Harm Common Cause

523. Redistricting is central to the mission and purposes of Plaintiff Common Cause. Bob Phillips—Executive Director of Common Cause's local chapter, Common Cause North Carolina—testified that Common Cause advocates for "[s]trengthening democracy" and "for more open, honest and accountable government." Tr. 40:23-41:1, 41:10-16, 42:13-17. And "there is nothing … that's really more significant, consequential in a legislative session than redistricting." Tr. 42:23-25. Redistricting "really locks in … everything" "for the next decade," including "who gets elected and what the power share will be" and "[u]ltimately what kind of laws and policies are going to be emphasized and then [] will not be, what will be ignored." Tr. 42:25-43:4. The Court gives weight to Mr. Phillips's testimony.

524. Common Cause has long advocated to end partisan gerrymandering in North Carolina. Tr. 43:10-52:20. The 2017 Plans harm Common Cause as an organization by substantially impeding this longtime goal because, as Mr. Phillips testified, majorities in the General Assembly, as the beneficiaries of gerrymandered plans, are unlikely to adopt meaningful redistricting reform. Tr. 52:1-20.

525. The enacted plans also harm Common Cause by impeding its mission and objectives in other ways. As Mr. Phillips explained, "[o]ne of the central missions to Common Cause is to help citizens understand that they do have an obligation and that they can hold their elects accountable. How do you do that when so many—90 percent of our legislative seats are preordained … ?" Tr. 48:8-12. When "we already know [on] the filing date, basically, who is going to win," it is "hard to get citizens, voters[,] to participate, to think that their vote really matters." Tr. 48:25-49:3.

***78** 526. In addition to Common Cause itself, the enacted plans also harm Common Cause's members. Common Cause has 25,000 members across North Carolina, including in the districts at issue here. *See* Tr. 41:17-42:12; PX644 (listing Common Cause members by district). The enacted plans harm Common Cause's members in the same ways they harm the NCDP's members and the individual voter-plaintiffs in this case.

3. The 2017 Plans Harm the Individual Plaintiffs

527. The Individual Plaintiffs are thirty-seven individual North Carolina voters who prefer Democratic candidates and have consistently voted for Democratic candidates running for the North Carolina General Assembly. *See* PX678-714.

528. The evidence demonstrates that the 2017 Plans disadvantage the Individual Plaintiffs and other Democratic voters across North Carolina. Two of the Individual Plaintiffs testified live at trial, and the remaining 35 testified through affidavits. PX678-714.[12]

529. Plaintiff Derrick Miller testified live at trial. Dr. Miller, a professor of German at the University of North Carolina Wilmington, resides in Senate District 8 in the "Wilmington Notch." Tr. 202:11-14. Dr. Miller testified that by splitting off this small portion of Wilmington where he lives, the General Assembly has "made it impossible for [him] and [his] Democratic neighbors to elect a Democrat, a candidate of our choice, in Senate District 8." Tr. 205:9-19. In 2018, the Republican candidate won Senate District 8 with around 60% of the vote. Tr. 204:3-4. As a fifth-generation North Carolinian, Dr. Miller cares deeply about issues such as public education and preserving North Carolina's natural resources, and he believes that "Democrats much more reliably and [a] Democratic majority much more reliably would protect those resources, the educational resources and the natural resources of our state." Tr. 206:8-12.

530. Dr. Miller also lives in House District 18, Tr. 204:5-7, where the General Assembly packed Democrats in Wilmington and Leland into a single, reliably Democratic district, PX302. Dr. Miller testified that while such packing does assure him a Democratic representative in House District 18, "it does so at the expense of multiple safe districts for Republicans along the … neighboring districts," Tr. 205:9-19, making it more likely that the Republicans would gain control of the General Assembly.

531. The other Individual Plaintiff who testified at trial, Joshua Brown, is a locksmith apprentice from High Point who resides in Senate District 26. Tr. 830:7-12. As shown in Plaintiffs' Exhibit 281, the General Assembly split off the most heavily Democratic area of Guilford County where Mr. Brown lives and appended it to conservative Randolph County:

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532. Mr. Brown testified that by drawing his Senate District in this manner, the General Assembly "clearly dilute[d] the ability of Democrats to even attempt to run a fair race." Tr. 833:19-21. Like Dr. Miller, Mr. Brown cares about a number of issues before the General Assembly, including a living wage, the environment, and Medicaid expansion. Tr. 834:5-6. Mr. Brown's mother was recently hospitalized, and he believes that she would not be facing certain health issues if North Carolina had approved the Medicaid expansion. Tr. 834:15-835:3. He believes that the Republican Party in the General Assembly today has "opposing" stances on these issues that he cares about. Tr. 835:4-7.

***79** 533. Mr. Brown also lives in House District 60, where Democrats such as Mr. Brown are packed to create an overwhelmingly Democratic district. *See* Tr. 833:25-834:2; PX310. Mr. Brown testified that by packing Democrats in this manner, the General Assembly "reduced the odds of surrounding districts electing a Democrat," Tr. 833:25-834:2, making it more difficult for Democrats to gain control of the General Assembly.

534. The affidavits submitted by the remaining thirty-five Individual Plaintiffs establish that each of these Individual Plaintiffs (i) has voted for the Democratic candidate running for the North Carolina General Assembly in each year that such an election was held since at least 2011, (ii) has a preference for electing Democratic legislators and a majority-Democratic General Assembly, and (iii) believes that if the Democratic Party made up a majority of the members in the General Assembly, the policies proposed and enacted would more closely represent the Plaintiff's personal and political views. PX678-713.

535. Plaintiffs' expert Dr. Chen quantified the effects of the gerrymander on the partisan composition of the districts in which each Individual Plaintiffs resides. For each of his 4,000 simulations (2,000 in the House and 2,000 in the Senate), Dr. Chen determined the House or Senate district in which each Individual Plaintiff would live based on that Plaintiff's residential address. Tr. 387:14-388:6; PX1 at 167-68 (Chen Report). Dr. Chen then compared the Democratic vote share of the districts in which a particular Plaintiff would live under his simulations to the Democratic vote share of the Plaintiff's districts under the enacted plans. *Id.*

536. Plaintiffs' Exhibit 238 (reproduced below) shows Dr. Chen's results for his House Simulation Set 1. In each row, the red star represents the Democratic vote share in the Individual Plaintiff's House district under the enacted plan using the ten 2010-2016 statewide elections, while the gray circles represent the Democratic vote share of that Plaintiff's district under each of the 1,000 simulated plans in House Simulation Set 1. Tr. 388:14-389:12. For instance, the figure shows that Rebecca Johnson's House district in the enacted plan has a roughly 40% Democratic vote share using the 2010-2016 statewide elections, but Ms. Johnson would live in a House district with a higher Democratic vote share in 99% of the simulations, with most of the simulations putting her in a district with an over 50% Democratic vote share. Tr. 390:6-391:20.

Figure 54:

House Simulation Set 1

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537. Dr. Chen found that the following Plaintiffs live in House districts that are extreme partisan outliers compared to their districts in House Simulation Set 1: Vinod Thomas, Paula Ann Chapman, Kristin Parker, Julie Ann Frey, Jackson Thomas Dunn Jr., Rebecca Johnson, Lily Nicole Quick, Joshua Perry Brown, Dwight Jordan, David Dwight Brown, Electa E. Person, Donald Allan Rumph, Amy Claire Oseroff, Lesley Brook Wischmann, Derrick Miller, Carlton E. Campbell Sr., Rosalyn Sloan, Mark S. Peters, Joseph Thomas Gates, Stephen Douglas McGrigor, and Rebecca Harper. Tr. 393:9-17. Dr. Chen further found that Plaintiff Leon Schaller lives in a district that is a 68.1% outlier in House Simulation Set 1, but a 100% outlier in House Simulation Set 2. Tr. 394:2-10; *see* PX239.

538. Plaintiffs' Exhibit 117 shows the same analysis for the Senate, comparing the Democratic vote share in certain Individual Plaintiffs' districts under the enacted Senate plan to their districts under Dr. Chen's Senate Simulation Set 1.

Figure 97:

Senate Simulation Set 1

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***80** 539. Dr. Chen found that the following Plaintiffs live in Senate districts that are outliers or extreme partisan outliers compared to their districts in his Senate simulations: Vinod Thomas, Paula Anna Chapman, Pamela Morton, Kristin Parker, Jackson Tomas Dunn, Jr., Rebecca Johnson, Dwight Jordan, David Dwight Brown, Karen Sue Holbrook, James Mackin Nesbit, George David Gauck, Derrick Miller, Mark S. Peters, Joseph Thomas Gates, William Service, Stephen Douglas McGrigor, Rebecca Harper, Nancy Bradley, Aaron Wolff, and Kathleen Barnes. Tr. 395:7-22. Dr. Chen found that the same Plaintiffs lived in districts that are outliers under his Senate Simulation Set 2. Tr. 396:1-7; PX118.

540. Plaintiffs' expert Dr. Cooper further demonstrated how the 2017 Plans, as a whole, disadvantage the Individual Plaintiffs. As Dr. Cooper explained, under the 2017 Plans, Democrats cannot translate their votes into seats as efficiently as Republicans. Tr. 870:11-14.

541. One of Legislative Defendants' experts, Dr. Brunell, also testified about the ways in which partisan gerrymandering harms individual voters. Dr. Brunell testified that "the responsiveness of a legislator to the voters in the voter's district is critical to democratic representation." Tr. 23531:3-6. He testified that a change in the party representing a given district generates "a huge difference" in the policies for which the representative will vote. Tr. 2354:20-23. He also testified that partisan gerrymandering is a problem in modern redistricting because it "can distort how voter preferences get translated into public policy." Tr. 2355:7-9.

F. Defendants Offered No Meaningful Defense of the 2017 Plans

1. No Witness Denied That the Plans Are Intentional and Effective Partisan Gerrymanders

542. Defendants did not persuasively rebut Plaintiffs' extensive direct evidence that the 2017 Plans were drawn with the predominant purpose of maximizing Republican advantage.

543. Defendants presented unpersuasive evidence to rebut evidence that the Hofeller files show that Dr. Hofeller primarily focused on maximizing partisan advantage. Defendants did not identify any file showing that Dr. Hofeller was motivated by anything other than partisanship in drawing the enacted House and Senate plans. Defendants identified no file, for example, showing that Dr. Hofeller at any point during the 2011 and 2017 redistricting processes considered "communities of interest," *cf.* Tr. 1059:3-1060:5, or sought to preserve the "cores" of existing districts, *cf.* Tr. 1212:20-24, or drew or altered any district to avoid splitting a municipality or VTD or to make the district more compact, or constructed any district as a "product of the nuance of legislative negotiation," *cf.* Tr. 1204:2-1206:4.

544. Defendants' experts did not persuasively contest that the plans sought to ensure Republican control of the legislature. Defendants' experts offered no methodology to attempt to evaluate whether the enacted plans were (or were not) extreme partisan gerrymanders. None offered an opinion on that question. Rather, as explained below, Defendants' experts offered theories of why the analyses by Plaintiffs' experts was somehow incomplete or unreliable. The Court gives little weight to these criticisms.

2. Defendants' Criticisms of Plaintiffs' Experts Were Not Persuasive

a. *Dr. Thornton*

545. Legislative Defendants offered expert testimony from Dr. Janet Thornton to criticize the analyses and conclusions of Plaintiffs' simulation experts, Drs. Chen, Mattingly, and Pegden. Tr. 1618:10-13; LDTX 286 at 4 (Thornton report). Dr. Thornton offered three main critiques of Plaintiffs' experts: (a) Dr. Pegden's and Dr. Mattingly's conclusions supposedly were skewed by the particular statewide elections they used to measure the partisan lean of their simulated plans versus the enacted plans, LDTX 286 at 6-10; (b) their simulations purportedly deviated in various ways from the 2017 Adopted Criteria, *id.* at 10-19; and (c) their simulations supposedly are not statistically significantly different from the enacted plans in terms of the number of Democratic-leaning districts, *id.* at 20-29. *See* Tr. 1622:5-1623:11. But Dr. Thornton's testimony was not persuasive, her analysis is unreliable, and her opinions are given little weight.

***81** 546. Dr. Thornton has a masters and a doctorate in economics from Florida State University. Tr. 1571:6-11. She has a bachelor's degree in economic and political science from the University of Central Florida. *Id*.

547. Dr. Thornton is currently a managing director at Berkeley Research Group and has worked as an economist and applied statistician for 35 years. Tr. 1571:15-1572:3. Dr. Thornton has prepared statistical analysis in voting cases, limited, however, to analysis of statistical differences in voter participation rates by race and minority status. Tr. 1574:3-21.

548. Dr. Thornton has taught statistics and quantitative methods for the business school at Florida State University. Tr. 1573:12-15; LDTX 286 at 39.

549. Dr. Thornton is a member of the American Economic Association and the National Association of Forensic Economists. She has published in peer-reviewed publications including the Journal of Forensic Economics and the Journal of Legal Economics. Tr. 1573:16-1574:2.

550. Dr. Thornton was accepted by the Court as an expert in the fields of economic and applied statistical analysis. Tr. 1578:7-17. She has been qualified as an expert in other cases regarding these subjects. Tr. 1576:12-1577:13. Dr. Thornton has never been excluded from testifying. *Id*.

551. Dr. Thornton has no academic experience involving gerrymandering and instead specializes in expert witness testimony and other consulting-type work in various areas, including employment, insurance, and credit decisions. Tr. 1619:19-1620:20, 1621:2-17; LDTX 286 at App'x A (Thornton CV). Dr. Thornton has no degree in mathematics, no degree in statistics, and only an undergraduate degree in political science. Tr. 1620:21-1621:1. She purported to critique the work of Plaintiffs' simulations experts, each of whom is a full-time academic with years of academic experience in using computer simulations to evaluate partisan gerrymandering. Tr. 1618:14-1619:18.

552. In her report and testimony in this case, Dr. Thornton offered no methodology for determining whether a particular redistricting plan is or is not a partisan gerrymander, or whether a particular plan is or is not the product of extreme partisan considerations. Tr. 1621:18-25. Nor did Dr. Thornton offer any opinion as to whether the enacted plans were drawn as partisan gerrymanders to benefit Republicans. When asked whether she was offering such an opinion, Dr. Thornton responded, “I have no way of knowing.” Tr. 1622:1-4.

(i) Criticisms Concerning Choice of Statewide Elections

553. Dr. Thornton's criticisms of the specific statewide elections used by Drs. Pegden and Mattingly suffered from critical flaws.

554. Dr. Thornton stated in her report that Dr. Pegden "considered" only "two elections" in his analysis. LDTX 286 at 10; *see id.* 8-11; Tr. 1626:9-16. However, Dr. Pegden used six prior election results—two discussed in the body of his report, and four more summarized in an appendix. PX508 at 11, 34-37 (Pegden Report). Dr. Thornton corrected this mistake only after Dr. Pegden's rebuttal report pointed it out and she was confronted with it at deposition. Tr. 1627:22-1628:4. At trial, Dr. Thornton presented a revised version of a table from her report, in which she (without acknowledging the change during her direct testimony) had added asterisks showing that Dr. Pegden in fact used six prior elections. Tr. 1626:17-1627:3; *compare* LDTX 286 at 7 (tbl. 1) *with* LDTX 302 (Thornton Demonstrative 1). Dr. Thornton's apparent oversight of the number of elections used in Dr. Pegden's analysis led to her to conclude that "Dr. Pegden's choice of elections influence[d] his conclusions." Tr. 1604:21-1605:7; *see* Tr. 1591:20-1592:10 (presenting LDTX 91, a chart purported to show the average Democratic vote share of the elections "included by each expert," but using just the 2016 Attorney General and 2008 Commissioner of Insurance for Dr. Pegden).

***82** 555. On cross examination, Dr. Thornton did not dispute that, when Dr. Pegden tested his results using the four additional elections summarized in his appendix, he found that it did not change his results. Tr. 1628:17-1629:4. Dr. Thornton did not test Dr. Pegden's results using other prior elections. Tr. 1629:7-25.

556. Dr. Thornton criticized Dr. Mattingly for using a different and broader set of statewide elections than the 10 elections identified by Representative Lewis, and she specifically criticized Dr. Mattingly's use of several 2008 elections. Tr. 1686:10-22; LDTX 286 at 8. However, Dr. Hofeller likewise used 2008 elections—including many of the same ones as Dr. Mattingly—in the partisanship formula Dr. Hofeller used to draw the 2017 Plans. *Compare* PX153 (Hofeller partisanship formula) *with* PX359 at 4 (Mattingly Report). When asked whether she knew this fact, Dr. Thornton responded that she "do[es]n't know one way or the other," is "not aware of anything regarding Dr. Hofeller," and did not investigate what elections the mapmaker himself used in drawing the 2017 Plans. Tr. 1686:23-1689:5.

557. In any event, Dr. Thornton's critique of Dr. Mattingly's use of election results, and her analysis of various "averages" across the different elections he used, misses the point of his analysis. Dr. Mattingly analyzed, on an election-by-election basis, how the partisan bias of the enacted plan relative to the ensemble varies in different electoral environments.

(ii) Criticisms Concerning Use of the Adopted Criteria

558. Dr. Thornton's assertion that Plaintiffs' simulation experts deviated from the Adopted Criteria also suffers from critical flaws. Additionally, Dr. Thornton failed to show that any of her criticisms would have made any difference to Plaintiffs' experts' conclusions.

559. Dr. Thornton stated in her report that "[a] review of Dr. Pegden's simulation code suggests that in reality, he did not actually apply a compactness criterion." LDTX 286 at 33. However, Dr. Pegden did apply a compactness criterion. PX508 at 8, 34 (Pegden Report); Tr. 1358:11-24 (Dr. Pegden). As Dr. Pegden explained in his rebuttal report, if he had not applied a compactness criterion, his simulated plans would have looked completely different—dramatically less compact. PX551 at 17-19 (Pegden Rebuttal Report); Tr. 1358:25-1360:1 (Dr. Pegden). When asked about this mistake on cross examination, Dr. Thornton testified that "in retrospect" she "should have written it in a different way." Tr. 1623:12-25.

560. While Dr. Thornton criticized Dr. Pegden for not specifically applying a Reock compactness threshold, she did no work to assess whether adding such a threshold would change Dr. Pegden's simulations or results. Tr. 1624:23-1626:3. Nor did she do any work to test whether adding a Reock threshold would change Dr. Pegden's conclusion that the enacted plans are extreme outliers carefully crafted to favor Republicans. Tr. 1626:4-8. The Adopted Criteria state that the 2017 Plans should "improve

the compactness" over the 2011 Plans, and when asked whether Dr. Pegden's simulated plans "are, in fact, an improvement in terms of compactness over the districting in the 2011 map," Dr. Thornton responded, "I don't know." Tr. 1625:13-18. Dr. Thornton did no work to figure it out. Tr. 1625:19-1626:3.

***83** 561. Dr. Thornton testified that Dr. Pegden did not "make any adjustment for incumbency." Tr. 1604:8-9. This is incorrect. Dr. Pegden included as a criterion in all of his simulations avoiding pairing the incumbents who were in office at the time the districts were drawn. PX508 at 8 (listing "Incumbency protection" as criterion).

562. Dr. Thornton also suggested that Dr. Pegden could not draw valid conclusions about the 2017 Plans without reaching "equilibrium" in his Markov Chain—without comparing the 2017 Plans to the entire universe of potential House and Senate districtings. Tr. 1631:2-11. In this regard, Dr. Thornton analogized Dr. Pegden's analysis to looking for a lost key in a bedroom without considering that the key might be somewhere else in the house. But as Dr. Pegden explained, the purpose of his approach and the accompanying mathematical theorems he has proved is that they allow for drawing statistically significant conclusions about how the enacted plans compare to the universe of all possible plans meeting the relevant criteria without achieving "equilibrium," *i.e.*, without needing to generate a representative sample of the universe of possible maps. PX551 at 2 (Pegden Rebuttal Report); Tr. 1360:2-1361:21. Dr. Thornton acknowledged that she has no expertise in proving mathematical theorems, nor did she offer any opinion that Dr. Pegden's theorems are wrong. Tr. 1631:12-1632:9.

563. Dr. Thornton stated in her report that Dr. Mattingly "did not consider incumbency protection as defined in the 2017 enacted map criteria." LDTX 286 at 19. Dr. Thornton repeated this assertion in her direct testimony, stating that Dr. Mattingly did not "control, in any respect, for incumbency protection." Tr. 1610:20-22. This is false. Dr. Mattingly added incumbency protection as a criterion in checking the robustness of his results, and he concluded that it did not change his results. PX359 at 81-85; Tr. 1093:15-1094:4.

564. On cross examination, Dr. Thornton said that Dr. Mattingly may not have considered incumbency protection "simultaneously" "[w]ith respect to all the other factors, as I recall." Tr. 1633:14-24. This too is incorrect. Dr. Mattingly added incumbency protection as a criterion in conjunction with the criteria used to generate his primary ensemble, and he ran a separate analysis that "consider[ed] the joint effect of both ensuring incumbents are preserved and requiring more stringent redistricting criteria" with respect to the traditional districting criteria. PX359 at 81-82.

565. Dr. Thornton criticized Dr. Mattingly for using only Polsby-Popper compactness scores, and not Reock scores. Tr. 1633:25-1634:3. But she did no work to determine whether the Reock scores for his simulated plans were too low, or whether applying a Reock threshold would change his results. Tr. 1634:4-21. In his rebuttal report, Dr. Mattingly calculated Reock scores for all of his simulated districts, and he reported that there was not a single district in any of his simulated Senate plans with a Reock score less than or equal to 0.15—the threshold referenced in the Adopted Criteria. PX487 at 8-9. There were very few such districts in his simulated House plans—only 1 out of 550,000 simulated Wake districts, and 7 out of 486,588 Mecklenburg districts. PX487 at 8; Tr. 1634:22-161635:14. Dr. Mattingly concluded that removing those districts would not change his results, *id.*, and Dr. Thornton did no work of her own to determine whether he was wrong, Tr. 1635:15-25.

***84** 566. Dr. Thornton criticized Dr. Pegden's and Dr. Mattingly's weighting of the various criteria they applied to create their simulated plans. LDTX 286 at 17-18; Tr. 1636:13-24. But Dr. Thornton acknowledged that she did not know whether the legislature "did weighting" at all, or how it may have done so. Tr. 1636:25-1637:13. She did not suggest any better way than Dr. Mattingly's approach to weighting the various criteria. Tr. 1637:14-25. She did not rerun Dr. Mattingly's computer code using any different weighting system to determine if using a different weighting system could have affected Dr. Mattingly's conclusions. Tr. 1638:1-6. In his rebuttal report, Dr. Mattingly tried six different ways of weighting the various criteria, and he concluded that none changed his results. PX487 at 10-11. When asked about this analysis on cross examination, Dr. Thornton merely said, "I don't recall." Tr. 1638:7-14.

567. Dr. Thornton testified that Dr. Chen's use of a "T score" meant that his simulations did not follow the Adopted Criteria regarding compactness, avoiding splitting municipalities, and avoiding splitting VTDs. Tr. 1599:18-1600:3. Dr. Thornton suggested that Dr. Chen restricted his algorithm to only accept plans below a particular T Score, Tr. 1597:25-1598:19, and she asserted in her report that "[a] t-score evaluation was not among the actual criteria" in the Adopted Criteria, LDTX286 at 15. Dr. Thornton testified that, if Dr. Chen "changed the value of the T scores," used a "value other than 1.75" in the T score, or "added a random element," his results would have been entirely different. Tr. 1597:25-1598:19.

568. Dr. Thornton's testimony misapprehends Dr. Chen's algorithm. Dr. Chen's "T score" does not impose a numerical threshold that restricts the maps the algorithm generates. Rather, the T score is just a way of equally weighting and jointly tracking the three traditional districting criteria of compactness, avoiding municipal splits, and avoiding VTD splits. For any given county grouping, the algorithm randomly draws an initial set of districts, and then proposes a random change to the border between a random pair of adjoining districts. Tr. 261:23-262:16. If the border change would, on net, improve the districting of the grouping across the three criteria of compactness, avoiding municipal splits, and avoiding VTD splits, the algorithm accepts the change. *Id.* But if the change would make the districting worse off, on net, with respect to these criteria, the algorithm rejects the change. *Id.* The T score is merely a way of giving the three criteria equal weight and then tracking whether a proposed random change improves the districting across these criteria. Tr. 263:4-8 The algorithm considers thousands of these random changes, one at a time in an iterative fashion, in drawing districts within a given grouping. Tr. 261:18-262:23.

569. Dr. Thornton is thus incorrect that Dr. Chen's algorithm lacks a "random element." Tr. 1598:7-8. She misapprehends the T score's function in suggesting that raising or lowering the "T score value" would be less "restrictive." Tr. 1598:5-10. The T score's sole purpose is to equally weight the three criteria of compactness, avoiding split municipalities, and avoiding split VTDs. Dr. Thornton does not dispute that Dr. Chen's T score accurately gives equal weight to these three criteria.

570. Moreover, while Dr. Thornton asserted that Dr. Chen may not have found the enacted plans to be statistical outliers if he had used "different T scores," Tr. 1598:20-1599:13, Dr. Thornton offered no proof or analysis to substantiate this claim, Tr. 1645:14-1647:15.

571. Dr. Thornton also criticized Dr. Chen's approach to incumbency protection in his Simulation Set 2. Tr. 1638:15-1639:8. She acknowledged that Dr. Chen's Simulation Set 2 successfully avoided pairing incumbents, but she asserted that Dr. Chen failed to comply with the second sentence of the Adopted Criteria's incumbency protection criterion, which provided that "the committees may make reasonable efforts to ensure voters have a reasonable opportunity to elect non-paired incumbents." Tr. 1610:23-1611:3. Dr. Thornton claimed that this sentence meant the Committees should make efforts "to allow for incumbents to win" by placing them in politically favorable districts, LDTX286 at 16, and that "it would have been interesting" if Dr. Chen had applied "some sort of weighting" to carry this out, Tr. 1639:12-1640:3. Dr. Thornton's interpretation is contrary to the contemporaneous explanation of this sentence by Representative Lewis, who stated at an August 10, 2017 hearing that the sentence "is simply saying that mapmakers may take reasonable efforts to not pair incumbents unduly." PX603 at 122:4-18; Tr. 1640:16-1641:12. That direction matches Dr. Chen's approach to incumbency protection.

***85** 572. Dr. Thornton did not analyze whether any of the supposed deviations made any difference to the experts' conclusions. On cross examination, Dr. Thornton was asked whether, "for every single criticism you've leveled, there's no instance in which you took any of plaintiffs' experts' code, substituted whatever you thought was an improved criteria, ran the code with the improved criteria and showed us that it made a difference to their work; isn't it true in your report there's no place that you did that?" Tr. 1647:3-13. Dr. Thornton responded that, "given the time, [she] did not have sufficient time to do so." Tr. 1647:14-15.

(iii) Criticisms Concerning Statistical Significance

573. Dr. Thornton opined that the enacted plans are "not statistically significantly different from the simulated maps with respect to the number of Democratic districts." LDTX286 at 21 (capitalization omitted). Dr. Thornton wrote in her report that she compared "the enacted plan's number of Democratic districts and the number predicted by the simulated maps," and "determined

the number of standard deviations associated with the difference between the enacted plan and simulated number of Democratic districts." LDTX286 at 24. However, Dr. Thornton did not use the actual results of Plaintiffs' experts' "simulated plans," or the actual "standard deviation" of the simulated plans.

574. Instead, Dr. Thornton created her own distribution of the predicted number of Democratic seats won under a nonpartisan plan, using a "binomial distribution." She then calculated the "standard deviation" of her own distribution, and used that standard deviation to assess statistical significance. *See* PX551 at 10 (Pegden Rebuttal Report). Dr. Thornton used this binomial distribution methodology as the foundation for her criticisms of all three of Plaintiffs' simulation experts. LDTX286 at 22; Tr. 1685:9-22.

575. Contrary to Dr. Thornton's approach, the distribution of districting maps is not a binomial distribution, and thus it is inappropriate to use a binomial distribution in the redistricting context. When confronted with the flaws in using a binomial distribution in the redistricting context, Dr. Thornton's responses were not persuasive. The Court gives her testimony concerning statistical significance little weight.

576. It is undisputed that a binomial distribution applies only when two conditions are met: (1) each trial (in this case, each House or Senate district) is independent of one another; (2) each trial has the exact same percentage chance of producing a particular outcome (in this case, that a Democrat wins the district). Tr. 1669:4-8, 1676:1-5 (Dr. Thornton); Tr. 1378:24-1382:2 (Dr. Pegden); PX551 at 10 (Pegden Rebuttal Report); PX487 at 11-12 (Mattingly Rebuttal Report); PX123 at 171-72 (Chen Rebuttal Report). Thus, the classic example of the binomial distribution is a coin flip, because the likelihood of landing on heads on any flip of a coin is independent of the result of every other flip, and the percent chance of landing on heads is the same in each flip (50%). Tr. 1669:11-1670:5.

577. By applying a binomial-distribution methodology, Dr. Thornton assumed that district elections, like coin flips, are independent of each other, and also that Democrats have the same chance—specifically, a roughly 40% chance—of winning each and every district House or Senate district, no matter where in North Carolina the district is located. Tr. 1670:6-1671:2 (Dr. Thornton); *see* Tr. 1381:15-1382:2 (Dr. Pegden); PX551 at 10 (Pegden Rebuttal Report); PX487 at 11-12 (Mattingly Rebuttal Report); PX123 at 171-72 (Chen Rebuttal Report).

***86** 578. Both assumptions are incorrect in the redistricting context. First, unlike a coin flip, each House (or Senate) district is not independent of one another. Tr. 1379:22-1381:10 (Dr. Pegden); PX551 at 10 (Pegden Rebuttal Report). In a given county grouping, if a particular set of Democratic voters is placed in one district, then those voters cannot be put in any other district in the grouping. *Id.* The partisan makeup of the districts are thus intertwined and not independent of one another; increasing the number of Democratic voters in a particular district necessarily decreases the number of Democratic voters in neighboring districts. *Id.*

579. The second assumption underlying Dr. Thornton's binomial distribution— that Democrats have the exact same percentage chance of winning each House (or Senate) seat—is contrary to reality. Dr. Thornton assumes, for example, that Democrats have the same percentage chance of winning a House district in Wake County as in Caldwell County. Tr. 1381:15-1382:2 (Dr. Pegden); *see* PX487 at 11-12 (Mattingly Rebuttal Report); *see* PX123 at 171-72 (Chen Rebuttal Report). This is not the case.

580. The following example illustrates these flaws in Dr. Thornton's analysis. In the Alamance County House grouping, there are two districts of roughly equal population. Assuming, as a hypothetical, that Republicans will win 60% of the total vote across the County in a particular election, it is mathematically impossible for Democrats to win *both* districts in the election. Tr. 1673:14-19. But under Dr. Thornton's binomial-distribution methodology, Democrats will win both districts 16% of the time—because she assumes that Democrats have an equal and independent 40% of winning each of the two districts. Tr. 1671:10-17; *see also* Tr. 1379:1-1381:10 (Dr. Pegden). When asked about this on cross examination, Dr. Thornton repeatedly asserted that she did not "understand" the illustration. Tr. 1671:3-1673:13.

581. Dr. Thornton's binomial-distribution methodology was recently rejected by a federal court in a partisan gerrymandering case in Ohio. There, as here, Dr. Thornton used a binomial distribution in her expert analysis on behalf of the Republican legislative defendants, and the three-judge federal district court rejected her analysis. The court stated: "Dr. Thornton also performed her own analysis using a binomial distribution, but we do not give any weight to that analysis." *Ohio A. Philip Randolph Inst. v. Householder*, 373 F. Supp. 3d 978, 1056 (S.D. Ohio 2019); *see* Tr. 1673:20-1674:20. The court explained that Dr. Thornton's binomial-distribution analysis "incorporates yet another faulty assumption that each district has a 51% chance of being won by a Republican because Republicans won 51% of the congressional vote across the State; this assumption does not comport with basic understandings of congressional elections, i.e., that although some districts may be competitive (a 51% Republican to 49% Democrat district), other districts lean heavily in favor of one party or the other." *Ohio A. Philip Randolph Inst.*, 373 F. Supp. 3d at 1056; *see* Tr. 1677:23-1678:15.

582. While Dr. Thornton claimed that her use of a binomial distribution here is different from the Ohio case, Tr. 1677:19-22, the Court disagrees and finds that Dr. Thornton's methodology here suffers from the same flaws identified by the federal court in the Ohio case. Assuming that districts are independent, and that Democrats have a roughly 40% chance of winning every House and Senate district, does not comport with basic understandings and reality of North Carolina House and Senate elections. Dr. Thornton could not identify literature or precedent supporting the use of a binomial distribution in a redistricting context. Tr. 1680:6-14.

***87** 583. Dr. Thornton's use of a binomial distribution skewed her statistical significance analysis. Due to the independence and equal probability assumptions, the binomial produces a much wider distribution of the number of possible districts Democrats could win in the House or the Senate than the actual distribution produced by each expert's simulations. That wider distribution in turn results in Dr. Thornton estimating much larger standard deviations than the actual standard deviations of each expert's simulated plans, allowing Dr. Thornton to claim that the enacted plan is less than two standard deviations from each expert's average simulation and therefore purportedly not a statistically significant outlier. LDTX286 at 9-13. For instance, in Dr. Chen's House Simulation Set 1, his simulated maps produce a range of results from 43 Democratic districts to 51 Democratic districts, with 90 percent of those results between 45 and 48 Democratic districts, whereas the enacted 2017 House plan produces only 42 Democratic districts—an extreme outlier, completely off the distribution. PX234; Tr. 1647:16-1648:16. The actual standard deviation of Dr. Chen's House Simulation Set 1 is 1.36 seats, and the enacted plan is more than three standard deviations from the average simulated plan. *Id.* But Dr. Thornton's unsubstantiated binomial distribution suggests that Democrats could win as few as 30 districts and as many as 63, and has a standard deviation of 5.34 seats. PX123 at 170-76.

584. Similarly, Dr. Thornton's binomial distribution is completely different from the actual distribution of simulated plans she created using a modification of Dr. Pegden's computer code. For the House, while the simulations generated between 46 and 50 Democratic seats, Dr. Thornton's binomial distribution generated between 35 and 60 Democratic seats and a much larger standard deviation. Plaintiffs' Exhibit 554, a figure from Dr. Pegden's rebuttal report, depicts these dramatic differences:

Figure 1.3: The binomial distribution is not a reasonable approximation of the map distribution (House)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE
The gray bars again show the distribution of Dr. Thorton's simulated House plans, with respect to seat counts using the 2016 AG race. Dr. Thornton's statistical significance analysis based on the binomial test would require random House maps to be distributed instead as the blue bars, which plot the binomial distribution used by Dr. Thornton's test.

585. Dr. Thornton's binomial distribution likewise is completely different from the actual distribution of simulated plans created by Dr. Mattingly. PX495. When Dr. Mattingly used the "actual distribution" of his results to calculate statistical significance as opposed to Dr. Thornton's "grossly inaccurate seat distribution," he found that the enacted maps are "well outside two or three standard deviations" and are "extreme outliers." PX487 at 11-12.

586. Dr. Thornton made other significant methodological errors in her analysis of statistical significance. For instance, in modifying Dr. Pegden's computer code to generate simulated plans of her own, Dr. Thornton used the wrong command and froze every single district drawn in 2011 and left unchanged in 2017. Tr. 1363:7-1364:8 (Dr. Pegden); PX551 at 6 (Pegden Rebuttal Report). Dr. Thornton's suggestion that she intended to freeze the 2011 districts, Tr. 1666:16-21, is not credible, given that her report nowhere mentions this decision and in fact claims that it is analyzing the entire enacted map—all 120 House districts and all 50 Senate districts. LDTX286 at 75 (tbl. 3).

587. Dr. Thornton's freezing errors ran in both directions. In her report, Dr. Thornton presented a graph purporting to show differences in Democratic vote share between the enacted plans' districts and the districts she drew using her modified version of Dr. Pegden's code. The evident goal of these charts—titled "Comparison of the Enacted Plan and the Average Across Dr. Pegden's Simulations for Each *Non-Frozen* House [and Senate] District"—was to suggest that the vote shares in the enacted districts were not markedly different from those in the nonpartisan simulations. LDTX286 at 28-29 (emphasis added). But Dr. Thornton's charts included many districts that *were* frozen on account of the Whole County Provision, which misleadingly suggested a high degree of similarity between the enacted plan and the simulations. Tr. 1680:24-1684:9. Dr. Pegden pointed out a number of other problems with this chart—*e.g.*, using thick lines, stretching the data out over an unnecessarily long vertical axis, and needlessly connecting the data points using lines, all which served to obscure the significant gaps in vote share between the enacted and simulated districts. Tr. 1391:6-1395:19.

***88** 588. Setting aside the flaws in her analysis, Dr. Thornton's results show a statistically significant difference between the enacted 2017 Plans and the simulated plans she created using a modification of Dr. Pegden's code. As shown in Dr. Pegden's rebuttal report, only 0.001% of Dr. Thornton's simulated plans are as Republican-favorable as the enacted House plan, and only 0.182% of Dr. Thornton's simulated plans are as Republican-favorable as the enacted Senate plan. PX551 at 8-9 (Pegden Rebuttal Report); Tr. 1369:4-1371:18.

589. Thus, even including errors, Dr. Thornton's results were still consistent with the conclusions of Plaintiffs' experts. Tr. 1400:10-21 (Dr. Pegden).

b. *Dr. Brunell*

590. Legislative Defendants offered expert testimony from Dr. Thomas Brunell, who was asked to read and respond to the reports of Drs. Pegden, Cooper, Mattingly and Chen. Tr. 2276:19-20. Dr. Brunell is a tenured political science professor at the University of Texas, Dallas. For over 20 years, Dr. Brunell has taught, lectured and published on representational and redistricting issues. LDTX292. Dr. Brunell was accepted by the Court as an expert on redistricting and political science. Tr. 2275:4-12. Dr. Brunell offered no opinion on whether the 2017 Plans are partisan gerrymanders. Tr. 2316:10-12.

591. The Court finds Dr. Brunell's opinions were unpersuasive, sometimes inconsistent with prior testimony he has given, and gives them little weight.

592. Dr. Brunell testified that Plaintiffs' experts have not shown "what is too much politics in this political process." Tr. 2306:24-2307:2. However, this critique contradicts Dr. Brunell's own expert analysis and conclusions in a prior case. In 2011, Dr. Brunell opined as an expert witness for the Nevada Republican Party that state legislative maps were excessive partisan gerrymanders—based on an analysis less robust than the analyses of Plaintiffs' experts here. Tr. 2337:5-2338:23. Using two statewide elections, Dr. Brunell conducted a uniform swing analysis and concluded that the maps at issue gave Democrats 60% of the seats when Democrats won only 50% of the votes statewide. Tr. 2340:16-2345:5. Dr. Brunell concluded exclusively on the basis of that analysis that the maps were "unfair" and showed "heavy pro-Democratic bias"—"clearly a pattern of partisan bias, i.e., gerrymandering." Tr. 2342:4-2345:11. Dr. Brunell further opined, based solely on his uniform swing analysis and the disconnect between Democrats winning 60% of the seats with only 50% of the statewide vote, that he could be "absolutely conclusive" that the maps were not just partisan gerrymanders, but a "leading candidate for gerrymander of the decade." Tr. 2345:12-2346:15.

593. In this case, Dr. Brunell conceded that Plaintiffs' experts' analyses—using both uniform swing analysis and actual results of prior statewide elections—demonstrated that when Republicans get 50% of the votes in either chamber of the General Assembly, they win at least 60% of the seats. Tr. 2346:16-2350:2. Thus, under Dr. Brunell's own approach, the Court could find, in his own words, a "heavy pro-[Republican] bias" and "clearly a pattern of partisan bias *i.e.*, gerrymandering." Tr. 2350:3-8.

594. The Court also rejects Dr. Brunell's testimony that simulation methods for evaluating partisan gerrymandering have not been sufficiently vetted by academics and courts. Tr. 2292:15-2293:23. Dr. Brunell testified on direct examination that he was unaware of any peer-reviewed political science papers that provide a "basis" for "using [simulations] as an evaluation for partisanship." Tr. 2293:11-17. He testified that a 2013 paper by Dr. Chen and Dr. Jonathan Rodden "uses simulations, I think," "[b]ut in terms of using it as an evaluation for partisanship, I don't think there have been any such publications yet." Tr. 2293:11-17. Dr. Brunell later acknowledged that the 2013 Chen and Rodden paper was in fact a peer-reviewed political science paper that "uses simulation techniques to measure partisanship." Tr. 2307:19-2308:5; *see* PX1 at 179. He also acknowledged that he was unfamiliar with three other peer-reviewed political science papers by Dr. Chen published between 2015 and 2017 that use computer simulations to evaluate partisan gerrymandering. Tr. 2308:10-2309:9; PX1 at 180. Dr. Brunell was also unaware that Dr. Pegden's paper on using simulations to measure gerrymandering, published in the Proceedings of the National Academy of Sciences, was peer reviewed by a political scientist. Tr. 2309:12-22; *see* Tr. 1413:7-16.

***89** 595. Dr. Brunell was also unfamiliar with court decisions approving the use of simulations to measure partisanship. He testified on direct that "we've only just started to see [simulations] used in law suits," Tr. 2292:24-2293:1, that simulations therefore "may not be ready for prime time yet," Tr. 2292:22-24, and that he himself did not learn about the simulation method until 2017 or 2018, Tr. 2293:7-10. However, as he acknowledged, multiple courts have credited simulations by Drs. Chen, Mattingly, and Pegden as a method of establishing whether a particular map is a partisan gerrymander. Tr. 2310:8-2312:1. Dr. Brunell was "unaware" that the Fourth Circuit credited Dr. Chen's simulations in a 2016 decision, in a gerrymandering case filed in 2013. Tr. 2311:4-2312:1; *see Raleigh Wake Citizens Ass'n v. Wake Cty. Bd. of Elections*, 827 F.3d 333 (4th Cir. 2016). The court rejected the criticism Dr. Brunell makes here, namely that Dr. Chen's simulations "ignor[ed] partisanship." Tr. 2311:17-20; *see Raleigh Wake*, 827 F.3d at 344.

596. The Court rejects Dr. Brunell's testimony that simulated maps are only useful if the algorithm draws "partisan districts" as opposed to "nonpartisan districts." Tr. 2277:13-20; 2280:4-16. Dr. Brunell acknowledged that the 2017 Plans were drawn for partisan gain, but argued that simulations can tell if an enacted map is an "extreme partisan outlier" only if the simulations include some level of partisanship. LDTX291 at 3; Tr. 2277:13-20; 2280:4-16. Dr. Brunell's criticisms miss the point. Dr. Mattingly's and Dr. Chen's simulations quantify the effects of the gerrymandering and how extreme it is. Both find that the enacted plans are outside the entire distribution of their simulated plans— sometimes by many seats. For instance, Dr. Chen found in his uniform swing analysis that, in electoral environments corresponding to a 52.42% statewide Democratic vote share, Democrats win 11 to 12 fewer seats in the House and 3 to 4 fewer seats in the Senate than they would typically win under the simulated plans. *See* PX1 at 34, 65 (Chen Report). Dr. Mattingly found similar results. *See* PX359 at 12 (Mattingly Report); PX487 at 25 (Mattingly Rebuttal Report).

597. Additionally, Dr. Pegden's analysis demonstrates that the 2017 Plans are extreme partisan outliers even in comparison to other *partisan* maps. Although Dr. Brunell criticized "all three of" Plaintiffs' simulation experts for using "nonpartisan districts" as the point of comparison, Tr. 2277:13-20, this misunderstands Dr. Pegden's methodology. Dr. Pegden started with the enacted plan and made a sequence of small random changes, observing how those changes affected the partisan characteristics of the plan. Tr. 1304:3-1305:7; PX515; PX519. Dr. Pegden's comparison maps thus "are not supposed to be neutral comparison maps drawn from scratch of North Carolina," and "even against a set of extremely similar maps which were generated from the enacted map and which share all sorts of qualities with the enacted map, the enacted map is still an extreme outlier." Tr. 1304:14-1305:7. Dr. Pegden's comparison maps are "tied strongly to the enacted map" and "baked in" intentional partisan choices by the mapmaker. Tr. 1405:1-13, 1406:2-19. This makes it all the more remarkable that the enacted plans are such outliers in his analysis, even against this very similar comparison set. Tr. 1315:22-1316:2.

598. The Court gives no weight to Dr. Brunell's criticisms of uniform swing analysis. Dr. Brunell stated in his report that uniform swing analysis is "not reliable," LDTX291 at 4, and he testified that the assumption of uniform swing analysis was "clearly wrong," Tr. 2289:14-22. But again, when Dr. Brunell was evaluating partisan bias in the Nevada case in 2011, he testified that uniform swing analysis allowed him to be "absolutely conclusive" in finding legislative maps to be heavily biased and gerrymandered. Tr. 2351:19-2352:7.

***90** 599. Dr. Brunell's report and testimony contained numerous statements that were erroneous and reflect a failure to understand the work of Plaintiffs' experts. Dr. Brunell's report asserts that Dr. Pegden "use[d] the results of just two elections for his simulations" and that "both of them have Democratic winners." LDTX291 at 15. In fact, Dr. Pegden used six elections, two of which—2012 Lieutenant Governor and 2014 U.S. Senate—had Republican winners. PX508 at 34-37 (Pegden Report). On the stand, Dr. Brunell explained his assertion by stating that Dr. Pegden "does some quick checks with other elections in his appendix, but he only uses [] two elections for his full simulation," that he "uses one particular metric … but not all of it," and that he did not use "the four additional elections in his appendix to perform his entire statewide analysis." Tr. 2323:1-15. In fact, Dr. Pegden re-ran his entire statewide analysis using all six elections. PX508 at 34-37 (Pegden Report).

600. Dr. Brunell wrote in his report that he was "confused" by aspects of Dr. Pegden's analysis, Tr. 2318:19-22, that were clearly explained in Dr. Pegden's initial report. Tr. 2318:23-2319:24. Dr. Brunell criticized Dr. Pegden for failing to explain how many changes he made to the enacted map before comparing the simulated maps to the enacted map, LDTX291 at 13, but Dr. Pegden's report made clear that he evaluated the partisanship of the new map after every step, meaning every swap, PX508 at 5. Dr. Brunell also criticized Dr. Pegden for purportedly failing to explain terms like "fragility" and "carefully crafted," Tr. 2320:8-18, but Dr. Pegden's report specifically defined those terms. Tr. 2321:15-2322:2.

601. In criticizing Dr. Chen's application of the Adopted Criteria, Dr. Brunell testified that Dr. Chen's "programmatic algorithm … maximizes geographic compactness," Tr. 2295:10-16, but Dr. Brunell had not reviewed Dr. Chen's code, Tr. 2333:23-25, and he got it wrong, Tr. 262:24-263:12. When confronted with his error at trial, Dr. Brunell testified that whether Dr. Chen maximized compactness did not matter because Dr. Chen's "algorithm" was "different from the legislative criteria" in unspecified other ways relating to splitting VTDs. Tr. 2334:6-13. However, Dr. Brunell "didn't know" how Dr. Chen's algorithm "worked" with respect to other issues, Tr. 2297:9-14, and he did no work to determine whether a different weighting would have affected Dr. Chen's conclusions, Tr. 2334:18-21.

602. Dr. Brunell's report inaccurately criticized Dr. Mattingly and Dr. Pegden for failing to preserve incumbents, when both ran simulations that avoided pairing incumbents. LDTX291 at 3; Tr. 2326:13-25; Tr. 2329:2-5.

603. The Court rejects Dr. Brunell's testimony that the simulated maps are not proper comparisons to the enacted map to the extent they do not preserve the "core" of an incumbent's district. Tr. 2283:21-2284:19. Dr. Brunell acknowledged that he had "no idea if and to what extent core preservation was used" in the enacted map, Tr. 2329:21-2330:1, and no other witness testified that the 2017 Plans preserved district cores. Neither Dr. Brunell nor any other witness for Legislative Defendants analyzed whether a hypothetical effort to preserve district cores could explain the extreme partisan bias in the 2017 Plans. As Representative Lewis explained, the Adopted Criteria's incumbency protection provision referred only to "not pair[ing] incumbents unduly"—not core preservation. PX603 at 122. As Dr. Brunell acknowledged, core preservation also can be a partisan criterion, Tr. 2332:12-25, and that, when, as here, the prior plan was an unlawful racial gerrymander, preserving cores might also preserve racial gerrymanders, Tr. 2333:1-12.

604. Additionally, Plaintiffs proved that a hypothetical effort to preserve the "cores" of an incumbent's district could not explain the enacted plans' extreme partisan bias. Dr. Pegden's simulations preserved the "cores" of each incumbent's prior district. Tr. 1316:24-1317:10 (Dr. Pegden); *see* Tr. 2330:16-19.

***91** 605. The Court gives little weight to Dr. Brunell's testimony that Figure 8 and Figure 20 of Dr. Chen's report do not show that the enacted plan is an "outlier." Tr. 2302:12-2303:15. Figure 8 of Dr. Chen's report shows at least a five-seat difference between the bulk of his House simulations and the enacted plan, and shows that the enacted plan is off the distribution entirely—it elects fewer Democrats than 100% of his simulated plans. PX1 at 48 (Chen Report). The Court rejects Dr. Brunell's testimony that a five-seat difference is only a "slight[]" difference. Tr. 2302:24-2303:2. Likewise, Figure 20 of Dr. Chen's report shows a two-seat difference between the typical result of his Senate simulations and the enacted plan, and again shows that the enacted plan is off the distribution entirely—it elects fewer Democrats than 100% of his simulated plans. PX1 at 48 (Chen Report). Dr. Brunell also speculated that changing Dr. Chen's criteria "could shift this over and then this wouldn't be an outlier at all," Tr. 2303:4-9, but the Court gives no weight to Dr. Brunell's untested conjecture. The Court likewise rejects Dr. Brunell's testimony about Plaintiffs' Exhibit 48, which is Figure 28 of Dr. Chen's report and shows cracking and packing in the Cumberland House grouping. PX1 at 93. Dr. Brunell testified that this figure did not show the enacted plan to be an "outlier" because "the enacted districts are in the gray clouds," Tr. 2303:16-21, but in fact the figure demonstrates that two districts (HD-45 and HD-43) are entirely outside the "gray clouds" and show more cracking (HD-45) and packing (HD-43) of Democrats that 100% of the districts in Dr. Chen's simulations. PX1 at 93.

c. *Dr. Hood*

606. Legislative Defendants offered the testimony of Dr. M.V. (Trey) Hood III to respond to Plaintiffs' experts Dr. Cooper and Dr. Chen. LDTX 284; Tr. 2037:21-2038:3.

607. Dr. Hood is a tenured professor of political science at the University of Georgia, a position he has held for 20 years. Tr. 2032:19-2033:5. He holds three degrees in political science: a Ph.D. from Texas Tech University; a Master of Arts degree from Baylor University, and a Bachelor of Science degree from Texas A&M University. Tr. 2032:14-18.

608. Dr. Hood is also the director of the School of Public and International Affairs' Survey Research Center which performs public opinion research and polling for entities including the Atlanta Journal-Constitution. Tr. 2033:6-19.

609. Dr. Hood teaches courses in American politics and policy, Southern politics, research methods and election administration, including redistricting. Tr. 2033:20-2034:9.

610. Dr. Hood also conducts research on redistricting and has published articles in peer-reviewed journals on topics that include redistricting. Tr. 2034:10-18. Dr. Hood's work has appeared in peer-reviewed journals approximately 50 times. Tr. 2034:13-21. He currently serves on the editorial boards of Social Science Quarterly and Election Law Journal, with the latter journal dealing with issues of election administration, including redistricting. Tr. 2034:22-2035:2.

611. Dr. Hood was accepted by the Court as an expert in American politics and policy, Southern politics, quantitative political analysis, and election administration, including redistricting. Tr. 2037:13-20.

612. Dr. Hood testified about the role of the Whole County Provision and 2017 Adopted Criteria in limiting the mapmaker's discretion in drawing the 2017 Plans, the results of the 2018 elections, and North Carolina's political geography.

613. Dr. Hood's testimony was not persuasive, and the Court gives it little weight.

614. Dr. Hood's expert testimony has been rejected by courts in numerous prior redistricting and other voting rights cases. *See, e.g.*, Tr. 2095:6-2096:9 (in recent Ohio partisan gerrymandering case, stating that Dr. Hood drew "some inapt comparisons"); Tr. 2096:14-24 (in Texas voter ID case, stating that Dr. Hood's testimony and analysis was "unconvincing" and given "little weight"); Tr. 2096:25-2097:19 (in Arizona voting rights case, "afford[ing] little weight to Dr. Hood's opinions" "[f]or a number of reasons"); Tr. 2097:22-2098:6 (in Georgia voter ID case, finding that "Dr. Hood's absentee voting analysis is unreliable or not relevant to the questions the court must resolve"); Tr. 2098:9-16 (in Ohio case involving absentee ballots, affording Dr.

Hood's opinions "little weight"); Tr. 2098:22-2099:6 (in recent Virginia racial gerrymandering case, stating: "We do not credit Dr. Hood's testimony for several reasons."); Tr. 2099:9-2100:1 (in Ohio voting rights case, finding Dr. Hood's views "of little value," and explaining that "Dr. Hood's testimony and report are in large part irrelevant to the issues before the court and also reflected methodological errors that undermine his conclusions").

***92** 615. Dr. Hood did not offer—and does not have—any methodology for determining whether or not a map was drawn to create a partisan lean or bias. Tr. 2078:1-2079:3.

616. Dr. Hood's testimony supports the view that the enacted plans were drawn intentionally to favor Republicans. Dr. Hood generally agreed that "the party that controls the legislative process is going to make the maps in their favor," and that the enacted plans "were drawn to favor Republicans" using prior election results. Tr. 2079:4-2081:2.

(i) Dr. Hood's testimony about the redistricting process in North Carolina was unpersuasive

617. Dr. Hood testified that the 2017 redistricting was a "fairly formulaic process" because the Whole County Provision and 2017 Adopted Criteria "really limits the discretion, to a large extent, of the map drawers." Tr. 2038:4-2039:12; LDTX284 at 9-10 ("[T]he process is quite constrained, which greatly limits the ability of map drawers to create districts where partisan motives predominate."). However, Dr. Hood did no work to determine whether any of those criteria actually prevented the mapmaker from gerrymandering the enacted plans to advantage Republicans. Tr. 2077:10-15.

618. Dr. Hood's assertion that the Adopted Criteria "constrained" the "map drawer" is incorrect. The Adopted Criteria were not passed by the House and Senate Redistricting Committees until August 10, 2017. As discussed below, Dr. Hofeller had completed much of the General Assembly's eventually enacted House and Senate districts by June 2017, a month and a half before the Adopted Criteria were passed. FOF § F.7. Logically, Dr. Hofeller could not have been following the Adopted Criteria when he was drafting these districts by June 2017.

619. Dr. Hofeller's files further refute Dr. Hood's assertions that the 2017 redistricting process was "quite constrained" and that it is difficult to prove the partisan intent behind the 2017 Plans. PX123 at 48-49 (Chen Response Report). Those files show Dr. Hofeller's continuous efforts and exercise of his discretion to draw the district lines to maximize Republican advantage within the confines of the Whole County Provision, including various drafts that considered alternative possible districtings. FOF § B.2.b.

(ii) Dr. Hood's testimony about the 2018 elections was unpersuasive

620. For his analysis of the 2018 election results, Dr. Hood compared the number of seats Democrats actually won in 2018 to the number districts in Dr. Chen's simulated plans that lean Democratic using the 2010-2016 composite statewide election results. Tr. 2083:14-25. But that is an apples-to-oranges comparison, because the 2018 elections were different than the 2010-2016 composite statewide election results. Tr. 2084:1-5. In the 2010-2016 composite statewide election results, the Democratic vote share is 47.9%, whereas 2018 was a far more favorable environment for Democrats. Tr. 2084:12-24.

621. Dr. Hood made no attempt to perform an apples-to-apples comparison by comparing the actual 2018 election results under the enacted 2017 Plans to the performance of alternative nonpartisan plans under the 2018 election results. Tr. 2084:25-2087:19.

(iii) Dr. Hood's testimony about North Carolina's political geography was unpersuasive

***93** 622. Dr. Hood's analysis of North Carolina's political geography is unpersuasive because Dr. Hood did not attempt to determine whether the Republican lean in the enacted 2017 Plans can be explained by political geography. Tr. 2094:18-21. By contrast, Dr. Hood agreed that the work of Drs. Chen, Mattingly, and Pegden does address whether political geography could explain the extreme partisan lean of the 2017 Plans. Tr. 2094:22-2095:2.

623. For his analysis of political geography, Dr. Hood analyzed how the partisan makeup of the State of North Carolina would change if its six largest counties were removed. Tr. 2089:14-17; LDTX140. But it is not possible to remove any counties from North Carolina, much less the six largest counties. Of course, hypothetically removing North Carolina's six largest counties would make the state "[m]uch more rural," Tr. 2089:18-22, and much more Republican-leaning, just as would removing New York City from the State of New York.

d. *Dr. Barber*

624. Intervenor Defendants' expert, Dr. Michael Barber, received his Bachelor of Arts degree in International Relations with an emphasis in Political Economy from Brigham Young University in 2008, his Masters in Political Science from Princeton University in 2011, and his Ph.D. in 2014. Tr. 2106:7–22, 2107:4–13, ID Ex. 98 p. 1.

625. Dr. Barber is currently an Assistant Professor at Brigham Young University and an affiliated faculty member with the Center for the Study of Elections and Democracy. Tr. 2109:9–18.

626. Dr. Barber teaches classes on Congress and the legislative process (which includes state-level legislative research), statistical analysis, and a seminar course on contemporary research in American politics. Tr. 2110:14–2111:13.

627. Dr. Barber recently testified as an expert witness in an election law case involving a dispute over ballot order in Federal Court in Florida. Tr. 2113:10–2114:6.

628. Dr. Barber has published 11 peer-reviewed articles involving American Politics, and an additional 5 articles that have been accepted for upcoming publication. Tr. 2111:22–2112:4, 2113:6–9; ID Ex. 98 pp.1–2. Many of these articles involve political ideology, issues of campaign finance, electoral politics, survey research methodologies, [and] political polarization. Tr. 2111:24–2112:4.

629. Dr. Barber was admitted by the Court as an expert in American politics, specifically on the topics of ideology and partisanship, geography of voters, and the analysis of elections results. Tr. 2118:2–13.

630. Dr. Barber offered no opinion as to whether North Carolina's state legislative district maps were gerrymandered.

631. The Court finds that Dr. Barber's criticisms of Dr. Cooper's analysis unpersuasive and gives them little weight.

632. At the outset, the Court notes that none of Dr. Barber's academic research or published articles concern redistricting or North Carolina, nor was redistricting in North Carolina "something [he] had given a lot of thought to" before being retained by Intervenor Defendants in this case. Tr. 2169:19-2170:19. Dr. Barber admitted that he was not an expert on North Carolina's political geography, nor had he spent time in North Carolina other than two vacations in the Outer Banks and one visit to Duke's campus. Tr. 2168:12-2169:13, 2216:4-8. Most importantly, Dr. Barber did not analyze the specific district boundaries or county groupings the Court is reviewing and he could not comment on any of Dr. Cooper's extended analysis of the packing and cracking of Democratic voters in those districts and county groupings. Tr. 2117:24-2118:12, 2213:25-2214:15

***94** 633. The majority of Dr. Barber's testimony concerned the opinions Dr. Cooper offered regarding the aggregate political ideology of the North Carolina electorate and that of the General Assembly, including Dr. Cooper's comparison between the two. The Court finds it unnecessary to determine whether the General Assembly is "out of step" with the electorate and therefore, makes no findings regarding Dr. Cooper's testimony, or Dr. Barber's criticism of that testimony, relating thereto.

634. Dr. Barber also sought to rebut opinions Dr. Cooper offered regarding the disproportionality between Democratic seat share and the Democrats' statewide vote share in the General Assembly after the 2011 redistricting. Dr. Barber observed that "it's

actually not as rare as you might think" that a party wins a majority of votes for the North Carolina House or Senate statewide, but only a minority of seats. Tr. 2149:21-2150:2. But since Dr. Barber did not analyze the extent to which any of these instances of disproportionality between votes and seats were attributable to gerrymandered district boundaries, his analysis is less useful to the Court. Dr. Barber admitted that it was "very possible" that those instances from 2002-2006 where the Democrats won a minority of the statewide vote and yet a majority of seats in a chamber of the General Assembly "could have been because the Democrats did a good job of gerrymandering the maps that were in place during those elections." Tr. 2203:12-16.

635. In support of his opinion regarding the translation of seats from votes, Dr. Barber created a chart providing the "absolute difference" in percentage between the vote share and seat share for each party in House and Senate elections since 1994. IDTX23. But as Dr. Barber acknowledged, the greatest difference between the percentage of Republican vote share and seat share in the House occurred in the 2012 election, just after the 2011 redistricting. Tr. 2207:3-12. The difference in the Senate between the percentage of Republican votes received and seats won was also relatively large in 2012, and represented a significant increase from the 2010 election, just before redistricting. Tr. 2207:13-22. If anything, Dr. Barber's analysis suggests that the 2011 redistricting led to more disproportionality between votes cast and seats won, as Dr. Cooper observed. *See* Tr. 2207:23-2212:16.

636. Finally, Dr. Barber noted that there is "academic research that points to political party geography as an important factor in representation and legislatures," suggesting that the geographic distribution of voters "is something that should be investigated" in this case. Tr. 2152:10-14. Specifically, Dr. Barber referenced a 2013 article co-authored by Plaintiffs' expert, Dr. Chen, focused on the political geography of Florida and Florida's congressional districts, an article in which Dr. Chen used simulations to measure whether political geography created a natural advantage for Republicans in redistricting in Florida. Tr. 2153:2-24. Despite acknowledging that Dr. Chen's co-authored 2013 article did not include any analysis of North Carolina, Tr. 2153:25-2154:2, Dr. Barber testified that the article "invites the question as to what it would look like if we looked to see if this relationship also existed in North Carolina," Tr. 2154:5-7.

637. Dr. Chen performed that analysis in this case and concluded that North Carolina's political geography does not account for the extreme partisan bias of the enacted plans. Tr. 2216:11-2220:21. Similarly, at the time he conducted his analysis and arrived at the opinions he offered regarding the potential partisan bias of North Carolina's political geography, Dr. Barber was unaware that Dr. Chen's co-author in the same 2013 paper, Dr. Jonathan Rodden, had come to the conclusion that North Carolina's Democratic voters were relatively efficiently distributed throughout the State. Tr. 2222:9-2223:4, 2224:6-2225:8.

***95** 638. Dr. Barber did not engage in the type of analysis that Dr. Chen performed to account for and measure the extent to which "natural" partisan bias in North Carolina's political geography could account for electoral outcomes favoring Republicans, but the analysis that Dr. Barber did conduct of the distribution of North Carolina's Democratic voters actually supports Plaintiffs' claims. Dr. Barber observed a positive correlation between the population density of North Carolina's VTDs and their support for Democratic candidates, but he acknowledged that there were "a lot of other Democratic-leaning VTDs" spread across the state, even outside the urban centers of Raleigh and Charlotte. Tr. 2216:11-16. Dr. Barber's analysis fails to offer the Court any information about how the many Democratic-leaning VTDs across North Carolina fit into specific county groupings and specific districts and therefore, his analysis is not directly relevant to the questions the Court faces. Unlike Dr. Cooper, who performed an extensive analysis of North Carolina's House and Senate Districts at the county grouping level, Dr. Barber admitted that he could not offer any opinion to rebut Plaintiffs' evidence regarding gerrymandering within those county groupings. Tr. 2217:8-2218:12.

639. In light of the above shortcomings in Dr. Barber's analysis, the Court gives little weight to his testimony.

e. *Dr. Johnson*

640. Legislative Defendants' expert Dr. Douglas Johnson has a Bachelor of Arts in Government from Claremont McKenna College, a Master of Business Administration from the Anderson School at UCLA, and a Ph.D. in Political Science from Claremont Graduate University. Tr. 1812:15-21; LDTX288. The focus of Dr. Johnson's graduate studies in Political Science was American politics, and he wrote his dissertation on redistricting. Tr. 1812:22-25.

641. Dr. Johnson is a fellow at the Rose Institute of State and Local Government at Claremont McKenna College. Tr. 1813:1-6. In that role, he leads the Institute's research into census and redistricting issues. Tr. 1813:1-6.

642. Dr. Johnson is also the President of National Demographics Corporation ("NDC"), where he has been employed full-time since 2001. Tr. 1814:7-19. NDC is engaged in redistricting work, including liability analyses, polarized voting studies, and other related redistricting issues. Tr. 1814:20-25.

643. Dr. Johnson has used Maptitude for Redistricting software ("Maptitude") for his work for 20 to 30 hours a week since 2001. Tr. 1816:16-23.

644. Dr. Johnson has served as an expert witness in redistricting litigation numerous times; specifically, he has been involved in hundreds of challenges to at-large elections for city councils, school boards, counties, etc. Tr. 1817:5-7; 1817:14-21. Dr. Johnson has also served as an expert witness in challenges to state redistricting plans. Tr. 1817:22-24. Dr. Johnson has never been excluded as an expert witness by any court. Tr. 1817:8-10.

645. Dr. Johnson was accepted by the Court as an expert in the fields of political science, political geography, redistricting, and Maptitude for Redistricting software. Tr. 1818:11-20.

646. Dr. Johnson offered primarily two sets of opinions in this case. First, Dr. Johnson purported to show that one could draw a Senate map even more favorable to Republicans if one ignored the North Carolina Constitution's Whole County Provision. Second, Dr. Johnson attempted to critique Dr. Chen's analysis of Dr. Hofeller's files.

647. The Court finds Dr. Johnson's analysis unpersuasive and gives his opinions little weight.

648. Dr. Johnson has testified as a live expert witness in four cases previously, and the courts in all four cases have rejected his analysis. Tr. 1886:21-1891:14; *see Covington*, 283 F. Supp. 3d at 450 (finding "Dr. Johnson's analysis and opinion … unreliable and not persuasive"); *Luna v. Cnty. of Kern*, 291 F. Supp. 3d 1088, 1137 (E.D. Cal. 2018) (holding that defendants' argument based on Dr. Johnson's analysis "lacks merits"); *Garrett v City of Highland*, 2016 WL 3693498, at *2 (Cal. Super. Apr. 06, 2016) (finding Dr. Johnson's methodology "inappropriate"); *Jauregui v City of Palmdale*, No. BC483039, 2013 WL 7018375, at *2 (Cal. Super. Dec. 23, 2013) (describing Dr. Johnson's work in the case was "unsuitable" and "troubling"). This Court joins these other courts in rejecting Dr. Johnson's methodologies, analyses, and conclusions.

***96** 649. Dr. Johnson created a "test map" for the North Carolina Senate that ignored the Whole County Provision entirely. Tr. 1892:21-1893:4. Based on this test map, Dr. Johnson purported to find that one could draw a Senate map even more favorable for Republicans than the enacted Senate plan if one were to ignore the county groupings and traversal rules. Tr. 1893:17-22. The Court finds Dr. Johnson's analysis using his test map to be of little probative value to the legal and factual issues in this case.

650. Dr. Johnson performed no statewide analysis of the House or the Senate to determine the extent to which, *within* the confines of the Whole County Provision, the enacted House and Senate plans constitute the most favorable maps for Republicans possible. Tr. 1894:13-1896:7. The only individual county groupings for which Dr. Johnson performed partisanship analysis within the confines of the Whole County Provision were Mecklenburg County in the Senate, *id.,* and Wake County in the House, and Dr. Johnson's partisanship analysis of the Mecklenburg Senate districts was erroneous and not credible for the reasons already explained. *See supra,* para 251. Dr. Johnson did not analyze any other individual House or Senate county grouping to determine whether the enacted plans' version of that grouping is the most favorable configuration of the grouping possible for Republicans. *Id.* Dr. Johnson thus offered no rebuttal to the testimony of Plaintiffs' experts demonstrating that the enacted plans constitute extreme partisan gerrymanders of specific county groupings.

651. Dr. Johnson instead ignored the Whole County Provision in creating his Senate test map, but as he acknowledged, the Whole County Provision is a state constitutional requirement. Tr. 1896:8-10. The General Assembly lacks authority to ignore the state constitutional county groupings and traversals requirements in creating redistricting plans. Dr. Johnson's test map analysis is thus no more relevant or helpful than would be a test map that ignores other constitutional requirements, such as the equal population requirement for districts. One could draw a map ignoring the equal population requirement that is even more favorable for Republicans than Dr. Johnson's test map, and certainly more favorable for Republicans than the enacted plan. Tr. 1896:11-1900:21. But the fact that one could draw such a hypothetical map in no way sheds light on whether the enacted plan is an extreme partisan gerrymander. *See id.* It provides no information as to whether the General Assembly acted within extreme partisan intent in drawing districts within the confines of the accepted constitutional requirements, and it provides no information as to the effects of the gerrymander on the number of Republican and Democratic-leaning districts relative to a nonpartisan plan. *See id.* Dr. Johnson's test map analysis is of little probative value to the legal or factual issues in this case.

652. With respect to Dr. Johnson's testimony regarding Dr. Hofeller's files, as described above, the Court struck all of Dr. Johnson's affirmative analysis of Dr. Hofeller's 2017 draft House and Senate plans and the extent to which they overlap with other plans including the final enacted plans. Tr. 1988:11-1990:4. The Court struck this testimony and all related portions of Dr. Johnson's rebuttal report under Rule 702 and Rule 403 after it was uncovered on cross-examination that Dr. Johnson had made a series of significant errors. *Id.*

3. Dr. Karen Owen's Testimony on "Representation" and "Competitive Elections" and Representative John Bell's Testimony on Competitive Districts Was Unpersuasive

a. *Dr. Karen Owen*

***97** 653. Legislative Defendants offered expert testimony of Dr. Karen Owen on the issues of "representation" and "competitive elections" in North Carolina. Tr. 1488:6-22; LDTX 293 (Owen report).

654. Dr. Owen is an assistant professor of political science at West Georgia University, and focuses on southern politics, political representation, legislative politics, campaigns and elections and research methodology, and developed her expertise through both academic and professional work. Tr. 1481:18-22, 1483:16-24, 1484:2-1485:24, 1486:4-11; LDTX293 at 1-2, 28-34.

655. Dr. Owen has particular expertise in the area of southern politics; she has presented papers and been a lead discussant at the Citadel's Symposium on Southern Politics for over 10 years, she has taught and studied courses in southern politics. Tr. 1480:15-1481:4.

656. Dr. Owen's work in southern politics has included writing and presenting a paper in 2016 titled "Growth and Geography in the South: Representation in the North Carolina and Texas State Legislatures." Tr. 1481:5-11; LDTX293 at 31.

657. The Court admitted Dr. Owen as an expert. Tr. 1487:24-1488:1.

658. Dr. Owen has very little experience or expertise with politics, elections, or representation in North Carolina specifically. Dr. Owen has never lived or worked in North Carolina. LDTX 293 at 28-29. With the exception of the aforementioned paper, she has never written or published about North Carolina politics, elections, or representation. Tr. 1555:19-1557:25. She has never participated in or spoken at any conference about North Carolina politics, elections, or representation. Tr. 1558:1-1559:16. She has never been interviewed by any media outlet about North Carolina politics, elections, or representation. Tr. 1559:17-25. She has never taught a class focused on North Carolina politics, elections, or representation—the closest she came was teaching a single course in "Southern Politics" three years ago. LDTX 293 at 32; Tr. 1560:11-24.

659. The methodologies Dr. Owen employed to evaluate "representation" and "competitive elections" in North Carolina were unpersuasive. In conducting her research and analysis for this case, Dr. Owen did not speak to any current or former North

Carolina legislator, or any winning or losing North Carolina candidate, or any North Carolina voter. Tr. 1561:7-1564:14. Nor did she consult any North Carolina polling data or survey data. Tr. 1564:15-19. Instead, Dr. Owen's analysis of representation in North Carolina was based on her conversations with several staff members in the General Assembly's Legislative Services Commission. Tr. 1561:7-1562:1. Her analysis of competitive elections in North Carolina was based on her reading of newspaper articles and a website called "Real Facts North Carolina." Tr. 1566:5-13.

660. Based on her lack of relevant expertise and the inadequate methodologies she employed in this case, the Court gives little weight to Dr. Owen's opinions about "representation" and "competitive elections" in North Carolina.

661. In addition, as described below, Dr. Owen's analysis and opinions are unhelpful in resolving the issues in this case.

i. Dr. Owen's analysis of "representation" was unpersuasive

***98** 662. In support of her opinion that Republican members of the General Assembly meaningfully "represent" their Democratic constituents, Dr. Owen emphasized that the members "are noticeably involved in more than producing and passing laws," LDTX 293 at 22, and that they provide "constituent services" to Republican and Democratic voters alike, regardless of their political beliefs, party affiliation, or past votes. Tr. 1567:15-1568:18; *see also* Tr. 1801:17-1803:2 (similar testimony by Rep. Bell); Tr. 2000:21-2001:6 (Sen. Brown).

663. The Court finds, however, that the mere provision of constituent services does not mean that voters of one particularly party are meaningfully "represented" by a member of the other party political and does not mean the voter receives the same "representation" that the voter would if he or she could elect the candidate of that voter's choice. Constituent services are only one part of a legislator's responsibilities. In addition to providing constituent services, members of the North Carolina House and Senate participate in enacting the State's laws and policies. Tr. 1803:3-9 (Rep. Bell). Legislative Defendants' own expert, Dr. Brunell, testified that, among the ways in which a legislator "represents" his or her constituents, providing constituent services may be "an important part, but if you are sort of, you know, worried about the hierarchy of the things that they do, I think that how they vote on the major issues of the day is more important." Tr. 2353:11-2354:4. Dr. Brunell agreed that "policy responsiveness" is a "higher form of representation" and "more critical to the notion of representing someone." Tr. 2354:5-10; *see* Tr. 2353:3-6 (agreeing that "the responsiveness of a legislator to the voters on questions on policy in particular is critical to Democratic representation"). As "just one example of the many issues from which policy responsiveness is the more central form of representing the people in the legislature," Dr. Brunell agreed that if a legislator casts a vote for gun control, the legislator is "not giving good representation to the voters in [his or her] district who don't want gun control." Tr. 2354:11-19. Thus, as Dr. Brunell agreed, "a change in the party that represents a given district generates a huge difference in the policies for which the representative of that district will vote." Tr. 2354:20-23. Another witness for Legislative Defendants, Senator Harry Brown, also testified that "in order to push legislation that we thought was important to this state," a political party must "be in the majority." Tr. 2023:20-22.

664. Other purported indicia of "representation" discussed by Dr. Owen likewise were unhelpful. For example. Dr. Owen pointed to a form "welcome letter" that members of the General Assembly can send to new voters in their districts. LDTX 293 at 22; Tr. 1514:4-1516:23. But sending a form letter does not signify meaningful representation.

ii. Dr. Owen's analysis of "competitive elections" was unpersuasive

665. In her analysis of "competitive elections," Dr. Owen suggested that Democrats' failure to win certain House and Senate races in 2018 was the result of poor "candidate quality," rather than the district boundaries. Tr. 1540:13-1542:9; LDTX 293 at 6-7. Dr. Owen's methodology was unreliable, and her conclusions were unpersuasive.

666. The sole criterion that Dr. Owen applied for assessing candidate quality turns on whether the candidate "had held prior elected office." Tr. 1533:5-21. Under this "dichotomous measure," any person who has previously held elective office is a "quality" candidate, and any person without prior experience holding elective office is not "quality." LDTX 293 at 10. This approach ignores other important factors and is an unreliable measure of whether a person is a quality candidate.

***99** 667. For instance, Dr. Owen classified a Democratic candidate who is a U.S. Army Colonel as a "nonquality" candidate. Tr. 1566:18-25; LDTX 293 at 12. She classified another Democratic candidate who is a "small business owner" and "community leader" as a "nonquality" candidate. Tr. 1567:1-7; LDTX 293 at 12. And she classified a "young Air Force veteran and attorney" as a non-quality candidate. LDTX 293 at 16. These examples illustrate the shortcomings in Dr. Owen's methodologies.

b. *Representative John Bell*

668. Legislative Defendants also offered the testimony of Representative John Bell, IV, who testified about the competitiveness of various House districts.

669. Representative Bell is the majority leader for the North Carolina House of Representatives and represents House District 10. Tr. 1739:16-22.

670. As Majority Leader, Representative Bell assists the Conference chair to achieve two goals: 1) recruit candidates and 2) win elections. Tr. 1740:5-6.

671. Representative Bell also pointed to candidate quality as a purported factor in House districts he claimed might be "competitive" in 2020. Tr. 1752:13-1754:18. But Representative Bell's claim that certain House districts could be "competitive" in 2020, and only were not close in 2018 due to purported candidate quality issues is not persuasive. Representative Bell included on his list of purportedly competitive districts numerous districts that were not only extremely lopsided in the 2018 state House elections, but that feature similarly lopsided vote shares under the results of prior statewide elections, including the 2012 Presidential election, the 2016 Presidential election, and the 2016 Governor election. Tr. 1788:5-1801:16. Representative Bell included on his list of purportedly competitive districts a handful of districts in which the Republican candidate won over 60% of the vote share in the district across all of these various elections. *Id.* Moreover, for many of the districts he identified, Representative Bell testified that the race could be competitive only if it was an "open seat"—that is, if the incumbent Republican member either retires or does not run again in 2020. Tr. 1767:3-23, 1772:16-20, 1773:24-1774:2. However, there is no evidence that any of those Republicans members will not run in 2020. Tr. 1786:4-10. The Court finds that Representative Bell's testimony does not provide a reliable basis for assessing the competitiveness of current House districts.

4. The Whole County Provision Did Not Prevent Systematic Gerrymandering of the Plans for Partisan Gain

672. Throughout trial, Legislative Defendants and their experts emphasized the existence of the North Carolina Constitution's Whole County Provision, which the North Carolina Supreme Court has held requires dividing the State into discrete county groupings and restricting the traversal of county lines for districts within a county grouping. Tr. 252:17-257:10. The Court finds that Legislative Defendants overstate the constraints imposed by the Whole County Provision, and that Legislative Defendants intentionally and effectively gerrymandered the enacted plans for partisan gain within the confines of the Whole County Provision.

673. Legislative Defendants overstate the impact of the Whole County Provision. Dr. Chen explained in unrebutted testimony that the Whole County Provision dictates the contours of only 13 of 120 House districts and 17 of 50 Senate districts. Tr. 782:2-783:1. Legislative Defendants thus had discretion in drawing 107 of 120 House districts and 33 of 50 Senate districts—constituting over 82% of all districts across both enacted plans. *Id.*

***100** 674. As detailed above, the evidence establishes that Legislative Defendants engaged in systematic gerrymandering for partisan gain in the districts in which they did have discretion. All four of Plaintiffs' experts concluded that Legislative Defendants acted with extreme partisan intent within the confines of the Whole County Provision. Plaintiffs' simulations experts—Drs. Chen, Mattingly, and Pegden—simulated plans that adhered to the existing House and Senate county groupings, and all three experts found that the enacted plans are extreme outliers compared to nonpartisan plans that follow the same county groupings. And all three experts found that specific county groupings are extreme outliers compared to other, simulated versions of the same county grouping that contain the same number of traversals as the enacted plan in that grouping. Dr. Cooper independently established—in unrebutted testimony—that the enacted plans pack and crack Democratic voters within specific county groupings.

5. Plaintiffs Do Not Seek Proportional Representation

675. Contrary to Legislative Defendants' claim, Plaintiffs do not seek proportional representation. As described in more detail below, Plaintiffs assert that the General Assembly may not intentionally discriminate against voters and may not attempt to predetermine election outcomes and control of the General Assembly. Dr. Chen and Dr. Mattingly established through their simulations that nonpartisan plans that do not intentionally discriminate against Democratic voters may well *not* provide for proportional representation. Under Dr. Chen's and Dr. Mattingly's simulations, there are scenarios where Democrats would win 50% of the statewide vote but less than 50% of the seats in either chamber. Tr. 306:16-307:2 (Dr. Chen); Tr. 1103:24-1104:5, 1132:6-1133:13 (Dr. Mattingly). Dr. Pegden's simulations also did not rely on any notion of proportional representation. Tr. 1306:22-24.

676. Legislative Defendants' presentation regarding the proportionality of seats to votes in specific county groupings like Wake and Mecklenburg Counties, Tr. 2068:10-2069:13, was not persuasive. As Dr. Pegden explained, analyzing proportionality at the local level of a county grouping is "completely useless" and can be misleading in the context of a gerrymandered map. Tr. 1452:17-1454:18. In a county grouping that contains a small number of districts and in which one party wins an overwhelming share of the vote across the grouping, one would expect that party to win a disproportionate share of the seats under a nonpartisan map, and likely all of the seats. Tr. 1452:23-1453:12. Under a Republican gerrymander, however, Republican mapmakers will allow that natural outcome to occur in county groupings that strongly favor Republicans but will gerrymander the more Democratic county groupings in a way that may result in proportional outcomes just in those Democratic county groupings—*e.g.*, by gerrymandering the grouping to elect one or two Republican seats. Tr. 1452:17:22-1454:18. Thus, the fact that the enacted plans may have resulted in proportional seats-to-votes outcomes in individual county groupings that are heavily Democratic is not evidence of a lack of gerrymandering.

6. Legislative Defendants Did Not Seek to Comply with the VRA and Did Not Show Nonpartisan Plans Would Violate the VRA

677. Defendants did not present persuasive evidence at trial to substantiate any federal defense under the Voting Rights Act or Fourteenth or Fifteenth Amendments. Defendants did not introduce persuasive evidence at trial to establish any of the prerequisites to application of the Voting Rights Act under *Thornburg v. Gingles*, 478 U.S. 30 (1986). For example, Defendants presented no expert testimony or any other evidence to establish the existence of legally sufficient racially polarized voting in any area of North Carolina, or any particular state House or state Senate district. Nor did Defendants introduce any evidence to establish the minimum African-American percentage of the voting age population ("BVAP") needed in any particular area of the State for the African American community to be able to elect the candidate of its choice.

***101** 678. Notably, Legislative Defendants retained Dr. Jeffrey Lewis, a political scientist from UCLA, who analyzed and provided estimates of the minimum BVAP needed in certain county groupings for African-American-preferred candidates to win. *See* PX773 (Amended Table 4 from Lewis Report). But Legislative Defendants chose not to have Dr. Lewis testify at trial. At the conclusion of trial, Legislative Defendants attempted to introduce expert reports that a different political scientist

(Dr. Alan Lichtman) had prepared on behalf of different parties in previous lawsuits in North Carolina years ago, but the Court sustained Plaintiffs' objections to the admission of these reports. Tr. 2376:2-3. The Court excluded these reports as inadmissible hearsay and undisclosed expert work, particularly given that Plaintiffs dispute Legislative Defendants' characterization of those reports. Tr. 2363:16-2364:25.

679. Defendants did not demonstrate that the relief Plaintiffs seek would violate the VRA or federal equal protection requirements. Plaintiffs established that it would not. Using Dr. Lewis's estimates of the minimum BVAP needed in certain county groupings for an African-American-preferred candidate to win a state House or Senate election, Dr. Chen determined how many of his simulations of those county groupings contained districts exceeding Dr. Lewis's BVAP-threshold estimates. Tr. 512:15-517:6. Dr. Chen determined that for every county grouping that Dr. Lewis analyzed except one in the House and one in the Senate, all of Dr. Chen's simulations produce at least as many districts above Dr. Lewis's BVAP-threshold estimate as does the enacted House or Senate plan. *Id.*; *see* PX775; PX776. For the two remaining county groupings, which are Forsyth-Yadkin in the House and Davie-Forsyth in the Senate, a majority of Dr. Chen's simulations of each grouping produce at least as many districts above Dr. Lewis's BVAP-threshold estimate as the enacted plan. *Id.*; *see* PX775; PX776. The evidence at trial thus demonstrated that, based on the BVAP-threshold estimates of Legislative Defendants' own expert, adopting nonpartisan House and Senate plans would not diminish the ability of African Americans to elect the candidate of their choice.

680. While Defendants' failure to introduce any evidence at trial necessary to the legal elements of a racial vote dilution defense is dispositive of any such defense, the Court further finds that—as a factual matter—Legislative Defendants did not draw or adopt any district under the 2017 Plans in an effort to comply with the VRA.

681. One of the Adopted Criteria, titled "No Consideration of Racial Data," stated that "[d]ata identifying the race of individuals or voters shall not be used in the drawing of legislative districts in the 2017 House and Senate plans." LDTX155. When submitting the plans to the *Covington* court for approval, Legislative Defendants stated that "[d]ata regarding race was not used in the drawing of districts for the 2017 House and Senate redistricting plans." PX629 at 10.

682. Legislative Defendants have claimed in this case that, even though they did not use racial data in drawing the districts, they purportedly checked the racial demographics of the districts on the "back end" to ensure that "the VRA was satisfied." *See, e.g.*, Leg. Defs.' Pre-Trial Brief at 44. Legislative Defendants presented no testimony at trial to substantiate this assertion, and the Court finds the assertion not credible for multiple reasons.

683. Throughout the 2017 redistricting process, Legislative Defendants asserted that the reason they were ignoring racial considerations entirely in drawing the new districts was because they had concluded that the "third *Gingles* factor" was not "present" anywhere in the State of North Carolina. PX593 at 52 (statement of Sen. Berger); *see also id.* ("we cannot prove the third *Gingles* factor") (statement of Sen. Berger). Legislative Defendants repeatedly told the *Covington* court that they could not "justify the use of race in drawing districts" in the 2017 Plans—and thus could not seek to hit a "racial numerical quota" for any district—because they had insufficient evidence of "legally sufficient racially polarized voting." *Covington*, No. 15-cv-399, ECF No. 184 at 10; ECF No. 192 at 12; *see also* ECF No. 184-17 at 12.

***102** 684. The existence of legally sufficient racially polarized voting is a "prerequisite[]" to VRA liability; if any *Gingles* factor is not met, "§ 2 simply does not apply." *Cooper v. Harris*, 137 S. Ct. 1455, 1472 (2017). Hence, when Legislative Defendants concluded that the third *Gingles* factor was not met, they necessarily concluded that the VRA did not impose requirements for the racial composition of any state House or state Senate district. Any assertion by Legislative Defendants now that they sought to "satisfy" the VRA in adopting the 2017 Plans does not make sense as a legal or factual matter given their assertions at the time.

685. Moreover, the mere timing of when Legislative Defendants learned of the racial composition of the new districts belies their claim that they reviewed the data to ensure VRA compliance. The Stat Packs that Legislative Defendants produced when they released the initial drafts of the House and Senate plans did not include racial data on any of the draft districts.[13] At

the August 24, 2017 hearing at which the Senate Redistricting Committee passed the Senate plan out of committee, Senator Hise insisted, "I have not seen any racial data for these districts." PX606 at 46:2-3. Representative Lewis said the same the next day at the hearing at which the House plan was passed out of the House Redistricting Committee. PX605 at 20:11-21:18. Only after this point did legislative staff produce racial data on the districts—at the request of Democratic legislators over Legislative Defendants' objections. PX600 at 11. Even then, Legislative Defendants claimed to have remained unaware of the racial composition of the districts. Representative Lewis asserted that he did not "see" any data on the racial composition of the House districts until *after* the House plan was passed by the full House chamber. *Id.* at 12. Legislative Defendants clearly did not have assure themselves that the plans satisfied the VRA by meeting particular racial thresholds when they purportedly had no knowledge of the racial composition of the districts.

686. Legislative Defendants have pointed to a single floor statement by Senator Berger near the end of the legislative process that mentioned the VRA, but that statement does not establish that Senator Berger, let alone any other Legislative Defendant, actually undertook efforts to comply with the VRA. Senator Berger made that statement immediately after declaring that the third *Gingles* factor was not met, which if true would preclude VRA application as a matter of law. PX593 at 52-54. And neither Senator Berger nor anyone else has pointed to any change that was made to any House or Senate district to ensure VRA compliance.

687. The Court finds that the General Assembly did not enact any House or Senate district under the 2017 Plans with the specific intent of complying with the VRA, and that Defendants have not established that the VRA requires maintaining any of the districts that Plaintiffs challenge in its current form.

688. Indeed, the Court finds that Legislative Defendants' stated concern that "unpacking" heavily-Democratic districts could dilute the voting power of African-Americans to be a pretext for partisan gerrymandering. Unrebutted evidence presented at trial established that Legislative Defendants themselves created districts with artificially low BVAPs when it was politically advantageous. In particular, while Legislative Defendants now accuse Plaintiffs of seeking to "crack" African American voters, the unrebutted evidence established that Legislative Defendants cracked African American voters in rural and semi-rural parts of the state where cracking Democratic voters would maximize Republican victories.

***103** 689. Dr. Chen demonstrated that, for several rural and semi-rural House county groupings, all or nearly all of his simulated plans (which ignored racial data in drawing the districts) produced a district in the grouping with a higher or much higher BVAP than any districts in that grouping under the enacted plan. Tr. 519:6-523:9. These county groupings include the Anson-Union, Cleveland-Gaston, Columbus-Pender-Robeson, and Duplin-Onslow county groupings, all of which are county groupings in which Legislative Defendants cracked Democratic voters to dilute their political power. *Id.*; *see* PX225; PX226; PX227; PX228. Dr. Chen's findings significantly undermine Legislative Defendants' claims that they seek to create higher-BVAP districts to promote the political power of African-American communities. *Id.*

7. Legislative Defendants, through Dr. Hofeller, substantially completed drafting the Enacted Maps in June 2017

690. Based on an analysis of draft maps from June 2017 found on Dr. Hofeller's storage devices, see FOF § B.2., Plaintiffs' expert Dr. Jowei Chen demonstrated that Dr. Hofeller had begun drawing the 2017 Plans prior to July 2017, and that he had already substantially completed them by that point. Dr. Chen's analysis compared the draft maps found on Dr. Hofeller's hard drive, each of which is dated by the metadata, with the Enacted 2017 House and Senate maps to determine the degree of similarity between the drafts and the Enacted Plans.

691. For the Senate, Dr. Chen analyzed a draft map that Dr. Hofeller last modified on June 24, 2017. Tr. 400:7-10, 402:5-403:8; *see also* PX572 (showing "last modified" date); PX123 at 25 (Chen Rebuttal Report). Dr. Chen found that Dr. Hofeller had already finished assigning 97.6% of the State's census blocks and 95.6% of the State's population to their final Senate districts in this June 24, 2017, draft map. Tr. 400:6-25.

692. To show the extent to which Dr. Hofeller had already completed drawing the new Senate plan, Dr. Chen compared individual Senate county groupings in the June 24, 2017, draft map to the final version of the same grouping in the enacted Senate plan. The figure below, PX142 [Chen rebuttal report, Figure 19], shows one such comparison for a Senate county grouping containing multiple districts that was redrawn in 2017. Tr. 416:15-20; PX123 at 27-38 (Chen Rebuttal Report). Dr. Chen repeated this analysis for every Senate county grouping containing multiple districts that was redrawn in 2017, and the Court adopts, by reference to Dr. Chen's trial testimony and as illustrated in his Rebuttal Report, each of those illustrations as if fully set forth herein. Tr. 404:19-417:13; PX140; PX141; PX142; PX143; PX144; PX145; PX146; PX147 [Chen rebuttal report, Figures 17-24].

693. In Dr. Chen's illustrations, as shown by the example below, the map on the bottom left is Dr. Hofeller's June 24, 2017, draft, the map on the bottom right is the final enacted plan, and the top half of the figure reports the percentage of the population in each district in Dr. Hofeller's draft (on the vertical axis) that were assigned to the corresponding district in the final enacted plan (on the horizontal axis). Tr. 405:5-407:18. For instance, the figure included below shows that 99.42% of the population assigned to Senate District 19 in Dr. Hofeller's June 24, 2017 draft was also assigned to Senate District 19 in the enacted Senate plan, while 100% of the population in Dr. Hofeller's draft Senate District 21 was assigned to Senate District 21 in the enacted plan. *Id.*

Figure 19

Cumberland-Hoke County Grouping

(Numbers indicate the percentage of population in each of Dr. Hotelier's draft 'J_24' districts that was also assigned to its most similar, corresponding district in the final Senate Bill 691 map)

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694. Based on Dr. Chen's analysis of each Senate county grouping containing multiple districts that was redrawn in 2017, the Court finds that by June 24, 2017—nearly seven weeks before the Adopted Criteria were passed on August 10, 2017—Dr. Hofeller had fully or at least substantially completed drawing every Senate county grouping redrawn in 2017. Tr. 404:23-417:13. The only Senate districts that were not an over-90% match to their final corresponding districts were a few heavily Democratic districts in Wake and Mecklenburg Counties. Tr. 412:5-414:12; *see* PX146; PX147.

***104** 695. Contrary to Legislative Defendants' contention, the North Carolina Constitution's Whole County Provision is not responsible for the high degree of overlap between Dr. Hofeller's draft Senate plan and the final enacted plan. As Dr. Chen testified, the Whole County Provision did not dictate the contours of Senate districts in counties such as Cumberland, Forsyth, Johnston, Durham, Wake, Mecklenburg, and Guilford Counties, and Dr. Hofeller's June 24, 2017 draft districts in these counties distinctly match the final versions. Tr. 408:13-416:1.

696. As with the Senate, Dr. Chen found that Dr. Hofeller had substantially completed drawing the new House plan by June 2017. Analyzing a draft House plan that Dr. Hofeller last modified on June 28, 2017, *see* PX569, Dr. Chen found that Dr. Hofeller had already finished assigning 90.9% of North Carolina's census blocks and 88.2% of the State's population into their final House districts in the June 28, 2017 draft plan. Tr. 401:15-23, 417:14-418:2, PX123 at 2-3 (Chen Rebuttal Report).

697. The figure below, PX124 [Chen rebuttal report, Figure 1], shows Dr. Chen's analysis comparing Dr. Hofeller's June 28, 2017, draft House map to the final enacted House map for a single House county grouping, in this instance, Mecklenburg County. Dr. Chen repeated this analysis for every House county grouping containing multiple districts that was redrawn in 2017, and the Court adopts, by reference to Dr. Chen's trial testimony and as illustrated in his Rebuttal Report, each of those illustrations as if fully set forth herein. Tr. 417:14-427:15; PX124; PX125; PX126; PX127; PX128; PX129; PX131; PX132; PX133 [Chen rebuttal report, Figures 1 – 6, 8-10]

Figure 1:

Mecklenburg County Grouping

(Numbers indicate the percentage of population in each of Dr. Hofeller's draft 'J_25' districts that was also assigned to its most similar, corresponding district in the final House Bill 927 map)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

698. Based on Dr. Chen's analysis, the Court finds that by June 28, 2017—over six weeks before the Adopted Criteria were passed—Dr. Hofeller had fully or at least substantially completed drawing numerous House county groupings redrawn in 2017. Tr. 419:12-427:1.

699. Contrary to Legislative Defendants' contention, the Whole County Provision is not responsible for the high degree of overlap between Dr. Hofeller's June 28, 2017 draft House plan and the final enacted House plan. Tr. 419:12-427:1. The Whole County Provision does not dictate the contours of House districts in counties such as Mecklenburg, Harnett, Wayne, Sampson, Orange, Durham, Pitt, Robeson, Granville, Forsyth, and Rockingham Counties, and Dr. Hofeller's June 28, 2017, draft House districts in these counties were near-exact matches to the final districts. *Id.*

700. The Court finds Dr. Chen's comparisons of Dr. Hofeller's June 2017 draft plans to the enacted plans to be highly credible and persuasive. Notably, Dr. Chen's analysis stands unrebutted. Legislative Defendants presented testimony from Dr. Douglas Johnson in an attempt to rebut Dr. Chen's analysis. However, the Court struck all of Dr. Johnson's analysis comparing Dr. Hofeller's draft districts and the final enacted districts after Plaintiffs' cross-examination exposed a series of significant errors and unreliable methodology. Tr. 1988:11-1990:4.

701. As for Dr. Johnson's remaining criticisms of Dr. Chen's methodology for calculating the overlap between Dr. Hofeller's June 2017 draft plans and the final enacted plans, the Court assigns them no weight. The Court finds that Dr. Chen employed a reasonable methodology to estimate the degree of similarity between the draft and final plans, by simply calculating the percentage of census blocks and population in each draft district that was also assigned to the most closely corresponding district in the final enacted House or Senate plan. *See* Tr. 398:3-399:15. Dr. Chen's methodology and findings also accord with a visual comparison of the draft House and Senate districts to the corresponding final versions. No party has disputed that the maps presented in Plaintiffs' Exhibits 124-129, 131-133, and 140-147 accurately reflect the district boundaries in Dr. Hofeller's June 2017 draft plans and the final enacted plans.

***105** 702. The Court concludes from this showing, and therefore finds, that Dr. Hofeller, and consequently the Legislative Defendants who retained him, by having largely completed the drafting of House and Senate maps by June, 2017, did so with little regard for the Adopted Criteria, or the neutral, non-partisan criteria contained therein, which were not adopted by the Senate Redistricting Committee and House Select Committee on Redistricting until August 10, 2017, and provided to Dr. Hofeller on August 11, 2017. PX 603 at 4:23-5:5; PX629. The Court finds that this is further compelling evidence of the intent of Legislative Defendants to create legislative districts by subordinating Democratic voters for partisan gain and to entrench the power of the Republican majority.

703. Since Dr. Hofeller's files came to light, Legislative Defendants have asserted that they did not know at the time that Dr. Hofeller was developing draft maps prior to August 2017 or that Plaintiffs cannot "connect" Dr. Hofeller's draft maps to the General Assembly. *See, e.g.,* Leg. Defs'. Pre-trial Brief, p. 36. The Court finds this argument unpersuasive. Dr. Hofeller was retained by the General Assembly on June 27, 2017, for the purposes of drawing the 2017 House and Senate maps. PX641. The Court finds it highly improbable that in the days leading up to his engagement, or in the nearly six weeks following, Dr. Hofeller never mentioned his draft maps to anyone connected with Legislative Defendants until after he received the Adopted Criteria on August 11, 2017— especially since, merely eight or nine days later, Legislative Defendants were able to reveal final drafts of his House and Senate maps. PX605 at 16:2-17:16; PX629 at 7.

704. The Court is troubled by representations made by Legislative Defendants, or attorneys working on their behalf, in briefs and arguments to the *Covington* Court and to General Assembly colleagues at committee meetings that affirmatively stated that no draft maps had been prepared even as late as August 4, 2017. *See, e.g., Covington*, ECF No. 161 at 2, 4, 13, and 28-29; PX601 at 11-12; PX602 at 72-73; and PX629 at 3, 4, 6 and 10 (*Covington*, ECF No. 184). For the purposes of determining liability for the claims asserted in this litigation,[14] the Court finds it unnecessary to delve further into these concerns, other than to note that the Court, as previously stated, is persuaded, and specifically finds, that Dr. Hofeller's intent and actions, as evidenced throughout his map-drawing process from at least early June 2017, are attributable in full to Legislative Defendants.

CONCLUSIONS OF LAW

I. THE STANDING OF PLAINTIFFS

1. The North Carolina Constitution provides: "All courts shall be open; every person for an injury done him in his lands, goods, person, or reputation shall have remedy by due course of law; and right and justice shall be administered without favor, denial, or delay." N.C. Const. art. I, § 18.

2. "[B]ecause North Carolina courts are not constrained by the 'case or controversy' requirement of Article III of the United States Constitution, our State's standing jurisprudence is broader than federal law." *Davis v. New Zion Baptist Church*, 811 S.E.2d 725, 727 (N.C. Ct. App. 2018) (quotation marks omitted); *accord Goldston v. State*, 361 N.C. 26, 35, 637 S.E.2d 876, 882 (2006) ("While federal standing doctrine can be instructive as to general principles … and for comparative analysis, the nuts and bolts of North Carolina standing doctrine are not coincident with federal standing doctrine."). At a minimum, a plaintiff in a North Carolina court has standing to sue when it would have standing to sue in federal court.

***106** 3. The North Carolina Supreme Court has broadly interpreted Article I, § 18 to mean that "[a]s a general matter, the North Carolina Constitution confers standing on those who suffer harm." *Mangum v. Raleigh Bd. of Adjustment*, 362 N.C. 640, 642, 669 S.E.2d 279, 281 (2008). The "gist of the question of standing" under North Carolina law is whether the party seeking relief has "alleged such a personal stake in the outcome of the controversy as to assure that concrete adverseness which sharpens the presentation of issues upon which the court so largely depends for illumination of difficult constitutional questions." *Goldston*, 361 N.C. at 30, 637 S.E.2d at 879 (quoting *Stanley v. Dep't of Conservation & Dev.*, 284 N.C. 15, 28, 199 S.E.2d 641, 650 (1973)). Although the North Carolina Supreme Court "has declined to set out specific criteria necessary to show standing in every case, [it] has emphasized two factors in its cases examining standing: (1) the presence of a legally cognizable injury; and (2) a means by which the courts can remedy that injury." *Davis*, 811 S.E.2d at 727-28.

A. The North Carolina Democratic Party Has Standing

4. The Court determines that the North Carolina Democratic Party (NCDP) has standing, both to sue on its own behalf as an organization and to sue on behalf of its members.

5. "An association may have standing in its own right to seek judicial relief from injury to itself and to vindicate whatever rights and immunities the association itself may enjoy." *River Birch Assoc. v. Raleigh*, 326 N.C. 100, 129, 388 S.E.2d 538, 555 (1990) (quoting *Warth v. Seldin*, 422 U.S. 490, 511, 95 S. Ct. 2197, 2211 (1975)). The Court finds instructive the United States Supreme Court holdings under federal standing principles that state political parties and organizations similar to the NCDP have standing to bring voting-rights challenges on their own behalf. *See, e.g., Crawford v. Marion County Election Bd.*, 553 U.S. 181, 189 n.7 (2008); *id.* at 204-09 (Scalia, J., concurring); *id.* at 209 n.2 (Souter, J., dissenting); *Gill v. Whitford*, 138 S. Ct. 1916, 1938 (2018) (Kagan, J., concurring) (explaining how these standards can apply to political parties and similar organizations in a partisan gerrymandering case); *Ohio A. Philip Randolph Inst. v. Householder*, 373 F. Supp. 3d 978, 1076 (S.D. Ohio 2019); *League of Women Voters of Mich. v. Johnson*, 352 F. Supp. 3d 777, 801 (E.D. Mich. 2018). Indeed, the federal court in *Common*

Cause v. Rucho held that the NCDP had standing to bring a partisan gerrymandering challenge on its own behalf—based in part on the testimony of Mr. Goodwin. *See*, *Common Cause v. Rucho*, 318 F. Supp. 3d 777, 830 (M.D.N.C. 2018), *vacated on other grounds*, 139 S. Ct. 2484 (2019).

6. The NCDP has standing in its own right to seek judicial relief in this case because the NCDP has sufficiently demonstrated the presence of a legally cognizable injury to NCDP and a means by which the courts of our State can remedy that injury.[15]

7. An association also "has standing to bring suit on behalf of its members when: (a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit." *River Birch Assoc.*, 326 N.C. at 130, 388 S.E.2d at 555 (quoting *Hunt v. Wash. State Apple Adver. Comm'n*, 432 U.S. 333, 343, 97 S. Ct. 2434, 2441 (1977)). An associational plaintiff need not show that *all* of its members would have standing to sue in their own right when seeking declaratory or injunctive relief; rather, it is sufficient if any "one" member would have individual standing. *Id.*; *see also State Employees Ass'n of N.C., Inc. v. State*, 357 N.C. 239, 580 S.E.2d 693 (2003) (reversing lower court decision that had required every member of association or organization to have standing). The Court finds instructive federal court holdings that organizations similar to the NCDP have standing to bring partisan gerrymandering challenges on behalf of their members. *See, e.g., League of Women Voters of Mich.*, 373 F. Supp. 3d at 933, 937-38; *Ohio A. Philip Randolph Inst.*, 373 F. Supp. 3d at 1072-73; *Rucho,* 318 F. Supp. 3d at 827, 835-36 (holding that the NCDP had standing to bring a partisan gerrymandering claim on behalf of its members).

***107** 8. The NCDP has standing to sue on behalf of its members in this case because its members—registered Democratic voters located in every state House and state Senate District across our State—otherwise have standing to sue in their own right, the interests that the NCDP seeks to protect are germane to the NCDP's purpose, and neither the claims asserted nor the declaratory and injunctive relief requested requires the participation of individual NCDP members in this lawsuit.

B. Common Cause Has Standing

9. The Court further holds that Common Cause has standing, both to sue on its own behalf as an organization and to sue on behalf of its members.

10. The Court finds instructive federal court holdings that organizations similar to Common Cause have standing to bring partisan gerrymandering challenges on their own behalves and on behalf of their members. *See, e.g., League of Women Voters of Mich.*, 373 F. Supp. 3d at 933, 937-38; *Ohio A. Philip Randolph Inst.*, 373 F. Supp. 3d at 1072-75; *Rucho* 318 F. Supp. 3d at 830-31 (holding that Common Cause had standing to bring a partisan gerrymandering challenge).

11. Like the NCDP, Common Cause has standing in its own right to seek judicial relief in this case because Common Cause has sufficiently demonstrated the presence of a legally cognizable injury to Common Cause and a means by which the courts of our State can remedy that injury.[16]

12. Common Cause also has standing to sue on behalf of its members in this case because at least one of its individual members has standing to sue in his or her own right, the interests Common Cause seeks to protect in this case are germane to Common Cause's purposes, and neither the claims asserted nor the declaratory and injunctive relief requested requires the participation of individual Common Cause members in this lawsuit.

C. The Standing of Individual Plaintiffs

13. Individual Plaintiffs also have standing to challenge each of their individual districts as well as their county groupings. All of the Individual Plaintiffs detailed below have shown "a personal stake in the outcome of the controversy," *Goldston*, 361 N.C. at 30, 637 S.E.2d at 879, and that the 2017 Plans cause them to "suffer harm," *Mangum*, 362 N.C. at 642, 669 S.E.2d at 281.

14. Certain Individual Plaintiffs have standing to challenge their own districts. Plaintiffs introduced extensive district-specific evidence demonstrating how, through cracking and packing, the 2017 Plans dilute the voting power of Individual Plaintiffs and other Democratic voters. Plaintiffs also introduced unrebutted, district-specific evidence demonstrating that twenty-two Individual Plaintiffs live in House districts that are outliers in partisan composition relative to the districts in which they live under Dr. Chen's nonpartisan simulated plans and that twenty Individual Plaintiffs live in Senate districts that are outliers in the same manner. FOF § E.3. Each of these Individual Plaintiffs thus established a personal stake in the outcome of the controversy and a specific harm directly attributable to the partisan gerrymandering of the district in which they reside. *Goldston*, 361 N.C. at 30, 637 S.E.2d at 879; *Mangum*, 362 N.C. at 642, 669 S.E.2d at 281; *see, e.g.*, *Rucho*, 318 F. Supp. 3d at 817; *Ohio A. Philip Randolph Inst.*, 373 F. Supp. 3d at 1063; *League of Women Voters of Mich.*, 373 F. Supp. 3d at 916; *Benisek*, 348 F. Supp. 3d 493, 517 (D. Md. 2018), *vacated on other grounds*, 139 S. Ct. 2484 (2019). Moreover, these Individual Plaintiffs have demonstrated, through extensive district-specific evidence, the presence of a legally cognizable injury and, as discussed in great detail below, a means by which the courts of our State can remedy that injury.

***108** 15. These Individual Plaintiffs challenge not only the individual districts in which they reside, but also the county groupings as a whole in which they reside. The United States Supreme Court has held that individual voters have standing under the federal Constitution to challenge only their own districts on partisan gerrymandering grounds, *Gill*, 138 S. Ct. at 1930-31; however, in light of the less stringent standing requirements in our State, and because the manner in which one district is drawn in a county grouping necessarily is tied to the drawing of some, and possibly all, of the other districts within that same grouping, a challenge to the entire county grouping by these Individual Plaintiffs constitutes the necessary "personal stake in the outcome of the controversy" for a plaintiff to have standing in this case. *Goldston*, 361 N.C. at 30, 637 S.E.2d at 879; *see Erfer v. Commonwealth*, 794 A.2d 325, 330 (Pa. 2002) (recognizing that a "reapportionment plan acts as an interlocking jigsaw puzzle, each piece reliant upon its neighbors to establish a picture of the whole" and that an "allegation that a litigant's district was improperly gerrymandered necessarily involves a critique of the plan beyond the borders of his district"), *abrogated on other grounds by League of Women Voters of Pa. v. Commonwealth*, 178 A.3d 737 (Pa. 2018).

16. On the other hand, several named Individual Plaintiffs do not have standing to challenge either the individual House or Senate District in which they reside because, under Dr. Chen's analysis, the district in which they would reside is not an outlier —based upon the location of that Individual Plaintiff's residence—when compared to all of Dr. Chen's nonpartisan simulated House or Senate maps.[17] Therefore, these Individual Plaintiffs have not demonstrated a cognizable injury and a means by which the Court could remedy that injury; however, with respect to the challenged districts in which these Individual Plaintiffs reside, because the NCDP has standing to bring partisan gerrymandering claims on behalf of its members, the Court concludes that Plaintiffs' challenges to these districts do not fail for lack of standing.

II. THE 2017 PLANS VIOLATE THE NORTH CAROLINA CONSTITUTION'S FREE ELECTIONS CLAUSE

17. Two months ago, in *Rucho v. Common Cause*, 139 S. Ct. 2484 (2019), the United States Supreme Court considered constitutional challenges to political gerrymandering of Congressional districts in North Carolina and Maryland.

18. The North Carolina Congressional map under consideration by the Supreme Court, adopted by the General Assembly on February 19, 2016, arose in remarkably similar circumstances as the maps under consideration by this trial court, which were adopted August 31, 2017: both the 2016 Congressional map and the 2017 legislative maps were required after a federal court declared existing maps unconstitutional; both were drawn under the direction of many of the same actors working on behalf of the Republican-controlled General Assembly; both were drawn by Dr. Thomas Hofeller; both were drawn in large part before the General Assembly's redistricting committee met and approved redistricting criteria; and both, as has been found above with

respect to the 2017 legislative maps, were drawn with the intent to maximize partisan advantage and, in fact, achieved their intended partisan effects.

19. In the majority opinion of the *Rucho* Court, the Justices found the Congressional maps before them to be "highly partisan, by any measure," *id.* at 2491, and "blatant examples of partisanship driving districting decisions," *id.* at 2505. The majority further reaffirmed that "partisan gerrymanders are incompatible with democratic principles." *Id.* at 2506 (citing *Ariz. State Legislature v. Ariz. Indep. Redistricting Comm'n*, 135 S. Ct. 2652, 2658 (U.S. 2016)).

***109** 20. Nonetheless, the Supreme Court concluded, in the majority opinion, that "partisan gerrymandering claims present political questions beyond the reach of the *federal* courts." *Rucho*, 139 S. Ct. at 2506-07 (emphasis added). The Court held that the *federal* courts "have no commission to allocate political power and influence in the absence of a constitutional directive or legal standards to guide us in the exercise of such authority," *id.* at 2508, and that the United States Constitution "confines the *federal* courts to a properly judicial role," because there is no "no plausible grant of authority in the [United States] Constitution, and no legal standards to limit and direct their decisions," *id.* at 2507 (emphasis added).

21. The Supreme Court hastened to add, however, that "our conclusion does not condone excessive partisan gerrymandering" and nor does its conclusion "condemn complaints about districting to echo into a void." *Id.*

22. Rather, the Supreme Court held, "[t]he States … are actively addressing the issue on a number of fronts," and "[p]rovisions in state statutes and *state constitutions* can provide standards and guidance for state courts to apply." *Id.* (emphasis added).

23. The North Carolina Constitution, in the Declaration of Rights, Article I, § 10, declares that "[a]ll elections shall be free."

24. The Free Elections Clause, Article I, § 10, is one of the clauses that makes the North Carolina Constitution more detailed and specific than the federal Constitution in the protection of the rights of its citizens. *Corum v. Univ. of N.C. ex rel. Bd. of Gov'rs*, 330 N.C. 761, 783, 413 S.E.2d 276, 290 (1992). The federal Constitution contains no similar counterpart to this declaration, although several other states' constitutions do.

25. The broad language of the Free Elections Clause has not heretofore been extensively interpreted by our appellate courts. However, "it is emphatically the province and duty of the judicial department to say what the law is." *Marbury v. Madison*, 5 U.S. (1 Cranch) 137, 177 (1803).

26. The North Carolina Supreme Court has long recognized the fundamental role of the will of the people in our democratic government. "Our government is founded on the will of the people. Their will is expressed by the ballot." *People ex rel. Van Bokkelen v. Canaday*, 73 N.C. 198, 220 (1875).

27. In particular, the North Carolina Supreme Court has directed that in construing provisions of the Constitution, "we should keep in mind that this is a government of the people, in which the will of the people--the majority--legally expressed, must govern." *State ex rel. Quinn v. Lattimore*, 120 N.C. 426, 428, 26 S.E. 638, 638 (1897) (citing N.C. Const. art. I, § 2).

28. Therefore, our Supreme Court continued, because elections should express the will of the people, it follows that "all acts providing for elections, should be liberally construed, that tend to promote a fair election or expression of this popular will." *Id.* "[F]air and honest elections are to prevail in this state." *McDonald v. Morrow*, 119 N.C. 666, 673, 26 S.E. 132, 134 (1896).

29. Our Supreme Court has elevated this principle to the highest legal standard, noting that it is a "compelling interest" of the State "in having fair, honest elections." *State v. Petersilie*, 334 N.C. 169, 184, 432 S.E.2d 832, 840 (1993). As to this there is little room for debate; the Court has recognized that "there is also agreement as to the compelling government interest in ensuring honest and fair elections." *Id.* (citing *Burson v. Freeman*, 504 U.S. 191, 198-99, 112 S. Ct. 1846, 1851-52 (1992)).

30. In giving meaning to the Free Elections Clause, this Court's construction of the words contained therein must therefore be broad to comport with the following Supreme Court mandate: "We think the object of all elections is to ascertain, fairly and truthfully, the will of the people--the qualified voters." *Hill v. Skinner*, 169 N.C. 405, 415, 86 S.E. 351, 356 (1915) (quoting *R. R. v. Comrs.,* 116 N.C. 563, 568, 21 S.E. 205, 207 (1895)).

***110** 31. As such, the Court concludes that the meaning of the Free Elections Clause is that elections must be conducted freely and honestly to ascertain, fairly and truthfully, the will of the people. This, the Court concludes, is a fundamental right of the citizens enshrined in our Constitution's Declaration of Rights, a compelling governmental interest, and a cornerstone of our democratic form of government.

32. The Court now turns to the issue of whether extreme partisan gerrymandering of legislative districts run afoul of the mandate of the Free Elections Clause by depriving citizens of elections that are conducted freely and honestly to ascertain, fairly and truthfully, the will of the people.

33. At its most basic level, partisan gerrymandering is defined as: "the drawing of legislative district lines to subordinate adherents of one political party and entrench a rival party in power." *Ariz. State Legislature,* 135 S. Ct. at 2658.

34. The danger of partisan gerrymandering is that it has the potential to violate "the core principle of republican government … that the voters should choose their representatives, not the other way around." *Id.* at 2677; *see* also *Powell v. McCormack*, 395 U.S. 486, 540-41, 89 S. Ct. 1944, 1974 (1969) ("[T]he true principle of a republic is, that the people should choose whom they please to govern them." (quoting Alexander Hamilton in 2 Debates of the Federal Constitution 257 (J. Elliott ed. 1876))). Moreover, it can represent "an abuse of power that, at its core, evinces a fundamental distrust of voters, serving the self-interest of the political parties at the expense of the public good." *LULAC v. Perry,* 548 U.S. 399, 456, 126 S. Ct. 2594, 2631 (2006) (Steven, J., concurring in part and dissenting in part) (quotation and citation omitted).

35. Partisan gerrymandering operates through vote dilution—the devaluation of one citizen's vote as compared to others. A mapmaker draws district lines to "pack" and "crack" voters likely to support the disfavored party. *See generally Gill*, 138 S. Ct. 1916. The mapmaker packs supermajorities of those voters into a relatively few districts, in numbers far greater than needed for their preferred candidates to prevail. Then the mapmaker cracks the rest across many more districts, spreading them so thin that their candidates will not be able to win. Whether the person is packed or cracked, his vote carries less weight—has less consequence—than it would under a neutrally drawn (non-partisan) map. *See id.,* 138 S. Ct. at 1935-36 (Kagan, J., concurring). In short, the mapmaker has made some votes count for less, because they are likely to go for the other party. *Rucho*, 2513-14 (Kagan, J., dissenting).

36. Seen in this light, it is clear to the Court that extreme partisan gerrymandering—namely redistricting plans that entrench politicians in power, that evince a fundamental distrust of voters by serving the self-interest of political parties over the public good, and that dilute and devalue votes of some citizens compared to others—is contrary to the fundamental right of North Carolina citizens to have elections conducted freely and honestly to ascertain, fairly and truthfully, the will of the people.

37. Extreme partisan gerrymandering does not fairly and truthfully ascertain the will of the people. Voters are not freely choosing their representatives. Rather, representatives are choosing their voters. It is not the will of the people that is fairly ascertained through extreme partisan gerrymandering. Rather, it is the will of the map drawers that prevails.

***111** 38. The Court is further persuaded that the history of the Free Elections Clause comports with the interpretation applied in this case.

39. The Free Elections Clause dates back to the North Carolina Declaration of Rights of 1776. The framers of the North Carolina Declaration of Rights based the Free Elections Clause on a provision of the 1689 English Bill of Rights providing that "election

of members of parliament ought to be free." Bill of Rights 1689, 1 W. & M. c. 2 (Eng.); *see* John V. Orth, *North Carolina Constitutional History*, 70 N.C. L. Rev. 1759, 1797-98 (1992).

40. This provision of the 1689 English Bill of Rights grew out of the king's efforts to manipulate parliamentary elections, including by changing the electorate in different areas to achieve "electoral advantage." J.R. Jones, *The Revolution of 1688 in England* 148 (1972). The king's attempt to maintain control of parliament by manipulating elections led to a revolution, and after dethroning the king, the revolutionaries called for a "free and lawful parliament" as a critical reform. Grey S. De Krey, *Restoration and Revolution in Britain: A Political History of the Era of Charles II and the Glorious Revolution* 241, 247-48, 250 (2007).

41. A number of states included versions of a free election clause in their early Declarations of Rights, all drawing inspiration from the 1689 English Bill of Rights. The Framers of North Carolina's Declaration of Rights in turn drew inspiration for North Carolina's Free Elections Clause from these other states, which included Pennsylvania, Maryland, and Virginia. *See* Orth, 70 N.C. L. Rev. at 1797-98.

42. Like the 1689 English Bill of Rights, North Carolina's Free Elections Clause, in conjunction with the companion provision of the State Constitution now found in Article I, § 9 concerning redress of grievances, mandates that elections in North Carolina must be "free from interference or intimidation" by the government, so that all North Carolinians are freely able, through the electoral process, to pursue a "redress of grievances and for amending and strengthening the laws." John V. Orth & Paul M. Newby, *The North Carolina State Constitution* 55-57 (2d ed. 2013) (hereinafter "Orth & Newby"). "[T]his pair of sections concerns the application of the principle of popular sovereignty." *Id.* at 55. As the North Carolina Supreme Court explained nearly a century ago, the Free Elections Clause reflects that "[o]ur government is founded on the consent of the governed," and the right to free elections "must be held inviolable to preserve our democracy." *Swaringen v. Poplin*, 211 N.C. 700, 191 S.E. 746, 747 (1937).

43. North Carolina has broadened and strengthened the Free Elections Clause since its adoption in 1776 to make these purposes clear. The original clause stated that "elections of members, to serve as Representatives in the General Assembly, ought to be free." N.C. Declaration of Rights, VI (1776). The next version of the State's Constitution, adopted in 1868, declared that "[a]ll elections ought to be free," expanding the principle to include all elections in North Carolina. N.C. Const. art. I, § 10 (1868). In the current State Constitution, adopted in 1971, the Free Elections Clause now mandates that "[a]ll elections *shall* be free." N.C. Const. art. I, § 10 (emphasis added). This change was intended to "make [it] clear" that the Free Elections Clause and the other rights secured to the people by the Declaration of Rights "are commands and not mere admonitions" to proper conduct on the part of the government. *N.C. State Bar v. DuMont*, 304 N.C. 627, 635, 639, 286 S.E.2d 89, 94, 97 (1982) (quoting Report of the N.C. State Constitution Study Comm'n to the N.C. State Bar and the N.C. Bar Ass'n, 75 (1968)).

***112** 44. The North Carolina Supreme Court has enforced the Free Elections Clause to invalidate laws that interfere with voters' ability to freely choose their representatives. In *Clark v. Meyland*, the North Carolina Supreme Court struck down a law that required voters seeking to change their party affiliation to take an oath supporting the party's nominees "in the next election and … thereafter." 261 N.C. 140, 141, 134 S.E.2d 168, 169 (1964). The Court held that this attempt to manipulate the outcome of future elections "violate[d] the constitutional provision that elections shall be free." *Id.* at 143, 134 S.E.2d at 170.

45. The partisan gerrymandering of the 2017 Plans strikes at the heart of the Free Elections Clause. Using their control of the General Assembly, Legislative Defendants manipulated district boundaries, to the greatest extent possible, to control the outcomes of individual races so as to best ensure their continued control of the legislature.

46. Plaintiffs' experts demonstrated that the 2017 Plans were designed, specifically and systematically, to maintain Republican majorities in the state House and Senate. Drs. Chen and Mattingly each independently established that the 2017 Plans were gerrymandered to be most resilient in electoral environments where Democrats could win majorities in either chamber under nonpartisan plans. FOF § B.3.a, b. Their analyses establish that it is nearly impossible for Democrats to win majorities in either

chamber in any reasonably foreseeable electoral environment. *Id.* Elections are not free when partisan actors have tainted future elections by specifically and systematically designing the contours of the election districts for partisan purposes and a desire to preserve power. In doing so, partisan actors ensure from the outset that it is nearly impossible for the will of the people—should that will be contrary to the will of the partisan actors drawing the maps—to be expressed through their votes for State legislators.

47. The 2017 Plans also unlawfully seek to predetermine election outcomes in specific districts and county groupings. Drs. Chen and Mattingly each found numerous districts and county groupings that result in safe or relatively safe Republican seats under the enacted plans but would be far more competitive or even Democratic-leaning under nonpartisan plans. In the remaining county groupings, Drs. Chen and Mattingly similarly found that Legislative Defendants placed their thumbs heavily on the scale to favor Republicans. *See* FOF § C.

48. The harm caused by this manipulation of election outcomes subverts another key purpose of the Free Elections Clause, which, in conjunction with Article I, § 9, is to facilitate the ability of North Carolina citizens to seek a "redress of grievances and for amending and strengthening the law." Orth & Newby, at 56. Democratic voters in North Carolina cannot meaningfully seek to redress their grievances or amend the laws consistent with their policy preferences when they cannot obtain a majority of the General Assembly.

49. For the foregoing reasons, the Court concludes that Plaintiffs have met their burden of showing, plainly and clearly without any reasonable doubt, that the enacted plans violate the North Carolina Constitution's guarantee of free elections in Article I, Section 10 of the North Carolina Constitution by demonstrating that Legislative Defendants, with the predominant intent to control and predetermine the outcome of legislative elections for the purpose of retaining partisan power in the General Assembly, manipulated the current district boundaries. And Plaintiffs have met their burden to establish that the manipulation of district boundaries by Legislative Defendants resulted in extreme partisan gerrymandering, subordinating traditional redistricting criteria, so that the resulting maps cracked and packed voters to achieve these partisan objectives. The 2017 Plans, individually and collectively, deprive North Carolina citizens of the right to vote for General Assembly members in elections that are conducted freely and honestly to ascertain, fairly and truthfully, the will of the people.

III. THE 2017 PLANS VIOLATE THE NORTH CAROLINA CONSTITUTION'S EQUAL PROTECTION CLAUSE

***113** 50. The Equal Protection Clause of the North Carolina Constitution guarantees to all North Carolinians that "[n]o person shall be denied the equal protection of the laws." N.C. Const., art. I, § 19.

51. Generally, partisan gerrymandering runs afoul of the State's obligation to provide all persons with equal protection of law because, by seeking to diminish the electoral power of supporters of a disfavored party, a partisan gerrymander treats individuals who support candidates of one political party less favorably than individuals who support candidates of another party. *Cf. Lehr v. Robertson*, 463 U.S. 248, 265, 103 S. Ct. 2985 (1983) ("The concept of equal justice under law requires the State to govern impartially.")

A. North Carolina's Equal Protection Clause Provides Greater Protection for Voting Rights Than its Federal Counterpart

52. North Carolina's Equal Protection Clause provides greater protection for voting rights than federal equal protection provisions. *Stephenson v. Bartlett*, 355 N.C. 354, 377-81 & n.6, 562 S.E.2d 377, 393-96 & n.6 (2002); *Blankenship v. Bartlett*, 363 N.C. 518, 522-28, 681 S.E.2d 759, 763-66 (2009). "It is beyond dispute that [North Carolina courts] ha[ve] the authority to construe [the North Carolina Constitution] differently from the construction by the United States Supreme Court of the Federal Constitution, as long as our citizens are thereby accorded no lesser rights than they are guaranteed by the parallel federal provision." *Stephenson*, 355 N.C. at 381 n.6, 562 S.E.2d at 395 n.6. North Carolina courts can and do interpret even "identical

term[s]" in the State's Constitution more broadly than their federal counterparts. *Northampton Cnty. Drainage Dist. No. One v. Bailey*, 326 N.C. 742, 749, 392 S.E.2d 352, 357 (1990).

53. The North Carolina Supreme Court has held that North Carolina's Equal Protection Clause protects "the fundamental right of each North Carolinian to *substantially equal voting power*." *Stephenson*, 355 N.C. at 379, 562 S.E.2d at 394 (emphasis added). "It is well settled in this State that 'the right to vote *on equal terms* is a fundamental right.'" *Id.* at 378, 562 S.E.2d at 393 (quoting *Northampton Cnty.*, 326 N.C. at 747, 392 S.E.2d at 356) (emphasis added). These principles apply with full force in the redistricting context, and because a fundamental right is implicated, strict scrutiny applies. *See id.* at 377-78, 562 S.E.2d at 393-94.

54. The North Carolina Supreme Court has applied this broader state constitutional protection to invalidate redistricting schemes and other elections laws under Article I, § 19, irrespective of whether they violated federal equal protection guarantees. In *Stephenson*, the Court held that use of single-member and multi-member districts in a redistricting plan violated Article I, § 19. *Id.* at 377-81 & n.6, 562 S.E.2d at 393-95 & n.6. The Court explained that, although such a redistricting scheme did not violate the United States Constitution, it restricted the "fundamental right under the State Constitution" to "substantially equal voting power and substantially equal legislative representation." *Id.* at 382, 562 S.E.2d at 396. Because the "classification of voters" between single-member and multi-member districts created an "impermissible distinction among similarly situated citizens," it "necessarily implicate[d] the fundamental right to vote on equal terms," triggering "strict scrutiny." *Id.* at 377-78, 562 S.E.2d at 393-94.

***114** 55. In *Blankenship*, the Court held that Article I, § 19 mandates one-person, one-vote in judicial elections, even though the United States Constitution does not. 363 N.C. at 522-24, 681 S.E.2d at 762-64. The Court stressed that "[t]he right to vote on equal terms in representative elections … is a fundamental right" and therefore "triggers heightened scrutiny." *Id*.

56. And in *Northampton County*, the Court applied strict scrutiny to invalidate certain rules related to voting for drainage districts, holding that the rules at issue deprived one county's residents of the "fundamental right" to "vote on equal terms" with residents of a neighboring county. 326 N.C. at 747, 392 S.E.2d at 356.

57. Although the North Carolina Constitution provides greater protection for voting rights than the federal Equal Protection Clause, our courts use the same test as federal courts in evaluating the constitutionality of challenged classifications under an equal protection analysis. *Duggins v. N.C. State Bd. of Certified Pub. Accountant Exam'rs*, 294 N.C. 120, 131, 240 S.E.2d 406, 413 (1978); *Richardson v. N.C. Dep't of Corr.,* 345 N.C. 128, 134, 478 S.E.2d 501, 505 (1996).

58. Generally, this test has three parts: (1) intent, (2) effects, and (3) causation. First, the plaintiffs challenging a districting plan must prove that state officials' "predominant purpose" in drawing district lines was to "entrench [their party] in power" by diluting the votes of citizens favoring their rival. *Ariz. State Legis.*, 135 S. Ct. at 2658. Second, the plaintiffs must establish that the lines drawn in fact have the intended effect by "substantially" diluting their votes. *Rucho*, 318 F. Supp. 3d at 861. Finally, if the plaintiffs make those showings, the State must provide a legitimate, non-partisan justification (*i.e.*, that the impermissible intent did not cause the effect) to preserve its map. *Rucho,* 139 S. Ct. at 2516 (Kagan, J., dissenting).

B. The 2017 Plans Were Created with the Intent to Discriminate Against Plaintiffs and Other Democratic Voters

59. To establish a discriminatory purpose or intent, a plaintiff need not show that the discriminatory purpose is "express or appear[s] on the face of the statute." *Washington v. Davis*, 426 U.S. 229, 241, 96 S. Ct. 2040, 2048 (1976). Rather, "an invidious discriminatory purpose may often be inferred from the totality of the relevant facts." *Id.* at 242, 96 S. Ct. at 2048.

60. The United States Supreme Court has recognized that there are certain purposes for which a state redistricting body may take into account political data or partisan considerations in drawing district lines. For example, a legislature may, under appropriate circumstances, draw district lines to avoid the pairing of incumbents. *Karcher v. Daggett*, 462 U.S. 725, 740, 103 S. Ct. 2653,

2663 (1983). Likewise, a state redistricting body does not violate the United States Constitution by seeking "to create a districting plan that would achieve a rough approximation of the statewide political strengths of the Democratic and Republican Parties." *Gaffney v. Cummings*, 412 U.S. 735, 752, 93 S. Ct. 2321, 2331 (1973). And a redistricting body may draw district lines to respect municipal boundaries or maintain communities of interest. *Abrams v. Johnson*, 521 U.S. 74, 100, 117 S. Ct. 1925, 1940 (1997). Accordingly, a plaintiff in a partisan gerrymandering case cannot satisfy the discriminatory intent requirement simply by proving that the redistricting body intended to rely on political data or to take into account political or partisan considerations. Rather, the plaintiff must show that the redistricting body intended to apply partisan classifications or deprive citizens of the right to vote on equal terms "in an invidious manner or in a way unrelated to any legitimate legislative objective." *Vieth*, 541 U.S. at 307, 124 S. Ct. at 1793 (Kennedy, J., concurring in the judgment).

***115** 61. "Blatant examples of partisanship driving districting decisions," *Rucho*, 139 S. Ct. at 2505, are unrelated to any legitimate legislative objective. Indeed, partisan gerrymanders are incompatible with democratic principles. *Vieth*, 541 U.S. at 292, 124 S. Ct. at 1785 (plurality opinion); *id.*, at 316, 124 S. Ct. at 1798 (Kennedy, J., concurring in judgment); *Ariz. State Legislature*, 135 S. Ct. at 2658.

62. Partisan gerrymanders are also contrary to the compelling governmental interests established by the North Carolina Constitution "in having fair, honest elections," *see Petersilie*, 334 N.C. at 182, 432 S.E.2d at 840, where the "will of the people" is ascertained "fairly and truthfully," *Skinner*, 169 N.C. at 415, 86 S.E. at 356. Partisan gerrymandering contravenes the legitimate purposes of redistricting because it is intended to hamper, rather than to "achiev[e,] … fair and effective representation for all citizens." *Reynolds v. Sims*, 377 U.S. 533, 565-66, 84 S. Ct. 1362, 1383 (1964).

63. Moreover, the intentional "classification of voters" based on partisanship in order to pack and crack them into districts is an "impermissible distinction among similarly situated citizens" aimed at denying equal voting power. *See Stephenson*, 355 N.C. at 377-78, 562 S.E.2d at 393-94 ("The classification of voters into both single-member and multi-member districts within plaintiffs' proposed remedial plans necessarily implicates the fundamental right to vote on equal terms … These classifications, as used within plaintiffs' proposed remedial plans, create an impermissible distinction among similarly situated citizens based upon the population density of the area in which they reside."). "A state may not dilute the strength of a person's vote to give weight to other interests." *Texfi Indus., Inc. v. Fayetteville*, 301 N.C. 1, 13, 269 S.E.2d 142, 150 (1980) (citing *Evans v. Cornman*, 398 U.S. 419, 90 S. Ct. 1752 (1970)).

64. Legislative Defendants openly admitted that they used prior election results to draw districts to benefit Republicans in both 2011 and 2017. FOF § B.1. Dr. Hofeller's own files provide even more direct evidence that the predominant goal of the 2017 Plans was to maximize Republicans' political advantage by drawing Democratic voters into districts where their votes would be diluted, and in many cases where their votes would not matter. FOF § B.2.

65. The analysis and conclusions of Plaintiffs' experts confirm the point. Dr. Chen's analysis confirms that the General Assembly intentionally subordinated traditional districting principles to maximize Republican advantage. FOF § B.3.a. Dr. Mattingly's analysis confirms that the enacted plans' extreme partisan bias could only have been intentional. FOF § B.3.b. Dr. Pegden's sensitivity analysis shows that the enacted plans are more carefully crafted to favor Republicans than 99.999% of all possible plans of North Carolina meeting the same nonpartisan criteria laid out in the Adopted Criteria. FOF § B.3.c. And Dr. Cooper demonstrated, by analyzing the district boundaries within each relevant county grouping, that the enacted plans intentionally and systematically pack and crack Democratic voters. FOF § C.

66. As such, the Court concludes that, in drawing the 2017 House and Senate Maps, Legislative Defendants acted with the intent, unrelated to any legitimate legislative objective, to classify voters and deprive citizens of the right to vote on equal terms. Legislative Defendants did so by subordinating Democratic voters to Legislative Defendants' partisan goals—in other words, by devaluing their vote as compared to the votes of Republican voters with the aim of entrenching the Republican Party in power—and the Court concludes that this intent was the predominant purpose of drawing the district lines in individual districts and statewide.

C. The 2017 Plans Deprive Plaintiffs and Other Democratic Voters of Substantially Equal Voting Power and the Right to Vote on Equal Terms

***116** 67. The United States Supreme Court has recognized that the injury associated with partisan gerrymandering "arises from the particular composition of the voter's own district, which causes his vote – having been packed or cracked – to carry less weight than it would carry in another hypothetical district." *Gill*, 138 S. Ct. at 1931. It is the "voter's placement in a 'cracked' or 'packed' district" that causes injury. *Id.*

68. Therefore, to prevail, Plaintiffs must also establish that the enacted legislative districts actually had the effect of discriminating against—or subordinating— voters who support candidates of the Democratic Party by virtue of district lines that crack or pack those voters, thereby depriving them of substantially equal voting power in an effort to entrench the Republican Party in power, in violation of Article I, § 19.

69. The manipulation of district boundaries in the enacted plans prevents Democratic voters from obtaining a majority in the House or the Senate even in election environments where Democrats would obtain a majority under virtually any nonpartisan map. Dr. Chen and Dr. Mattingly each independently found that the effects of the gerrymanders are most extreme in circumstances where Democrats could win majorities in one or both chambers under nonpartisan plans. FOF § B.3.a, b. There is nothing "equal" about the "voting power" of Democratic voters when they have a vastly less realistic chance of winning a majority in either chamber under the enacted plans. "The right to vote is the right to participate in the decision-making process of government." *Texfi Indus.*, 301 N.C. at 13, 269 S.E.2d at 150. Democratic voters are significantly hindered from meaningfully participating in the decision-making process of government when the maps are drawn to systematically prevent Democrats from obtaining a majority in either chamber of the General Assembly.

70. Beyond the issue of majority control, Dr. Chen and Dr. Mattingly also concluded that the gerrymanders deprive Democratic voters of multiple seats in the House and the Senate across a variety of electoral environments. FOF § B.3.a, b. The 2017 Plans achieve these effects by cracking and packing Democratic voters in districts contained within county grouping after county grouping. FOF § C. This packing and cracking diminishes the "voting power" of Democratic voters in these districts and groupings; packing dilutes the votes of Democratic voters such that their votes, when compared to the votes of Republican voters, are substantially less likely to ultimately matter in deciding the election results, and the entire purpose of cracking likeminded voters across multiple districts is so they do not have sufficient "voting power" to join together and elect a candidate of their choice.

71. Moreover, although not necessary to establish Plaintiffs' equal protection claim, the Court similarly concludes that the 2017 Plans not only deprive Democratic voters of equal voting power in terms of electoral outcomes, but also deprive them of substantially equal legislative representation. *See Stephenson*, 355 N.C. at 379, 562 S.E.2d at 394. Partisan gerrymandering insulates legislators from popular will and renders them unresponsive to portions of their constituencies. *See Reynolds*, 377 U.S. at 565 ("Since legislatures are responsible for enacting laws by which all citizens are to be governed, they should be bodies which are collectively responsible to the popular will."). When a district is created solely to effectuate the interests of one group, the elected official from that district is "more likely to believe that their primary obligation is to represent only the members of that group, rather than their constituency as a whole." *See Shaw I*, 509 U.S. at 648 (in the context of racial gerrymandering).

***117** 72. Just as the "political reality" is that "legislators are much more inclined to listen to and support a constituent than an outsider," *Stephenson*, 355 N.C. at 380, 562 S.E.2d at 395, the reality is that legislators are far more likely to represent the interests and policy preferences of voters of the same party. Legislative Defendants' own expert, Dr. Brunell, agreed that "a voter whose candidate of choice loses will on average be less well-represented than a voter who voted for the winning candidate." Tr. 2370:22-2371:2.

D. The 2017 Plans Cannot be Justified by any Legitimate Governmental Interest

73. Once a plaintiff establishes a *prima facia* case that boundaries of legislative districts violate the Equal Protection Clause of the North Carolina Constitution, which Plaintiffs have done in this case by establishing a discriminatory intent and a discriminatory effect, the burden shifts to Legislative Defendants to prove that a legitimate state interest or other neutral factor justified such discrimination.

74. Legislative Defendants offer limited neutral justifications for the enacted maps. They contend that the plans "satisfy the equal-population rule and the strict county-grouping and transversal rules of Article II of the State Constitution" and that "[t]he districts were far more compact than in 2011 or prior years; they split fewer VTDs than in 2011 or prior years; they … minimized incumbency pairings; and they preserved core constituency-incumbent relations." Leg. Defs.' Post-Trial Brief at p. 28.

75. While all of this may be true, these neutral justifications do not provide a sufficient justification for the substantial evidence, proffered by Plaintiffs and given substantial weight by this Court, showing that Legislative Defendants' predominant intent was to classify voters and deprive citizens of the right to vote on equal terms and substantially equally voting power. Legislative Defendants did so by subordinating Democratic voters to Legislative Defendants' partisan goals—in other words, by devaluing their vote as compared to the votes of Republican voters with the aim of entrenching the Republican Party in power—and the Court concludes that this intent was the predominant purpose of drawing the district lines in individual districts and statewide.

76. Nor do these justifications address the substantial evidence that the neutral criteria offered by Legislative Defendants, and indeed all other neutral objectives of the Adopted Criteria, were subordinated by Legislative Defendants in the map drawing process in order to attain the discriminatory effects of the resulting extreme partisan gerrymandering.

77. Because the 2017 Plans impermissibly interfere with the exercise of the fundamental right to vote, strict scrutiny applies. *See Stephenson*, 355 N.C. at 377-78, 562 S.E.2d at 393. Legislative Defendants have not established that the 2017 Plans are narrowly tailored to advance a compelling governmental interest. *See Id*. Advantaging a particular political party or discriminating against voters based on how they vote for the purposes of entrenching a political party's power is not a compelling government interest.

78. For the foregoing reasons, the Court concludes that Plaintiffs have met their burden of showing, plainly and clearly without any reasonable doubt, that the enacted plans violate the North Carolina Constitution's guarantee of equal protection in Article I, Section 19 of the North Carolina Constitution by demonstrating that (1) Legislative Defendants acted with the intent, unrelated to any legitimate legislative objective, to classify voters and deprive citizens of the right to vote on equal terms by subordinating Democratic voters to Legislative Defendants' partisan goals—in other words, by devaluing their vote as compared to the votes of Republican voters with the aim of entrenching the Republican Party in power—and this intent was the predominant purpose of drawing the district lines in individual districts and statewide; (2) that the legislative maps drawn by Legislative Defendants with this intent had the effect of depriving disfavored voters in North Carolina of substantially equal voting power and the right to vote on equal terms, as well as substantially equal legislative representation; and (3) Legislative Defendants have not provided a neutral justification or a compelling governmental rationale for their actions.

***118** 79. Specifically, voters in specific districts in the following county groupings are unlawfully deprived of equal protection under the law in violation of the North Carolina Constitution. In these districts, Plaintiffs have demonstrated through Dr. Chen, Dr. Mattingly, and Dr. Cooper, whose expert testimony has been given substantial weight by the Court, that Democratic voters were packed or cracked into extreme gerrymandered districts so that the effect upon these voters was to deprive them of substantially equal voting power and the right to vote on equal terms, as well as substantially equal legislative representation. County groupings including these districts are as follows:

Senate Districts: FOF § C.1.a (Mecklenburg); C.1.b (Franklin-Wake); C.1.c (Nash-Johnston-Harnett-Lee-Sampson-Duplin); C.1.d. (Guilford-Alamance-Randolph); C.1.e (Davie-Forsyth); C.1.g (Buncombe-Henderson-Transylvania);

House Districts: FOF § C.2.a (Robeson-Columbus-Pender); C.2.b (Cumberland); C.2.d (Franklin-Nash); C.2.e (Pitt-Lenoir); C.2.f (Guilford); C.2.g (Davie-Rowan-Cabarrus-Stanly-Montgomery-Richmond); C.2.h (Yadkin-Forsyth); C.2.i (Mecklenburg); C.2.k (New Hanover-Brunswick); C.2.l (Duplin-Onslow); C.2.m (Anson-Union); C.2.n. (Alamance); C.2.o (Cleveland-Gaston); C.2.p (Buncombe).

In the remaining county groupings challenged by Plaintiffs, Drs. Chen and Mattingly similarly found that Legislative Defendants placed their thumbs heavily on the scale to favor Republicans. *See* FOF § C.

IV. THE 2017 PLANS VIOLATE THE NORTH CAROLINA CONSTITUTION'S FREEDOM OF SPEECH AND FREEDOM OF ASSEMBLY CLAUSES

80. The Freedom of Speech Clause in Article I, § 14 of the North Carolina Constitution provides that "[f]reedom of speech and of the press are two of the great bulwarks of liberty and therefore shall never be restrained." The Freedom of Assembly Clause in Article I, § 12 provides, in relevant part, that "[t]he people have a right to assemble together to consult for their common good, to instruct their representatives, and to apply to the General Assembly for redress of grievances."

81. The 2017 Plans violate the North Carolina Constitution's guarantees of free speech and assembly, irrespective of whether the plans violate the U.S. Constitution. *See Michigan v. Long*, 463 U.S. 1032, 103 S. Ct. 3469 (1983).

A. North Carolina's Constitution Protects the Rights of Free Speech and Assembly Independently from the Federal Constitution

82. "[I]n construing provisions of the Constitution of North Carolina," the North Carolina Supreme Court "is not bound by opinions of the Supreme Court of the United States construing even identical provisions in the Constitution of the United States." *State v. Hicks*, 333 N.C. 467, 483, 428 S.E.2d 167, 176 (1993). While the North Carolina Supreme Court gives "great weight" to decisions of the United States Supreme Court that interpret corresponding provisions in the federal constitution, *Hicks*, 333 N.C. at 484, 428 S.E.2d at 176, only North Carolina courts can "answer[] with finality" questions of North Carolina constitutional law, *State v. Arrington*, 311 N.C. 633, 643, 319 S.E.2d 254, 260 (1984). North Carolina courts thus "have the authority to construe [the State's] own constitution differently from the construction by the United States Supreme Court of the Federal Constitution, as long as [its] citizens are thereby accorded no lesser rights than they are guaranteed by the parallel federal provision." *State v. Carter*, 322 N.C. 709, 713, 370 S.E.2d 553, 555 (1988).

83. The North Carolina Supreme Court has held that the North Carolina Constitution's Free Speech Clause provides broader rights than does federal law. In particular, the Court has held that the North Carolina Constitution affords a direct cause of action for damages against government officers in their official capacity for speech violations, even though federal law does not. *Corum*, 330 N.C. at 783, 413 S.E.2d at 290. Noting that "[o]ur Constitution is more detailed and specific than the federal Constitution in the protection of the rights of its citizens," the Court explained that the North Carolina courts "give our Constitution a liberal interpretation in favor of its citizens with respect to those provisions which were designed to safeguard the liberty and security of the citizens in regard to both person and property." *Id.* Indeed, in recognizing a direct cause of action under the State Constitution, the Court expressly relied on *the lack of* a federal remedy, which left plaintiffs with "no other remedy … for alleged violations of his constitutional freedom of speech rights." *Id.*

***119** 84. Similarly, in *Evans v. Cowan*, the Court of Appeals reversed a trial court that had dismissed a claim under Article I, § 14, on the erroneous ground that it was *res judicata* based on a prior dismissal of the plaintiff's claim under the federal First Amendment. 122 N.C. App. 181, 183-84, 468 S.E.2d 575, 577-78, *aff'd*, 477 S.E.2d 926 (N.C. 1996). While "both the North Carolina Constitution and the United States Constitution contain similar provisions proclaiming certain principles of liberty," North Carolina courts "are *not* bound by the opinions of the federal courts." *Id.* at 183-84, 468 S.E.2d at 577. "[A]n independent determination of plaintiff's constitutional rights under the state constitution [was] required, and the state courts

reserve the right to grant relief under the state constitution in circumstances under which no relief might be granted under the federal constitution." *Id.* at 184, 468 S.E.2d at 577 (citation and internal quotations marks omitted); *see also McLaughlin v. Bailey*, 240 N.C. App. 159, 172, 771 S.E.2d 570, 579-80 (2015), *aff'd*, 781 S.E.2d 23 (N.C. 2016); *see also Lenzer v. Flaherty*, 106 N.C. App. 496, 418 S.E.2d 276 (1992).

85. In the context of partisan gerrymandering, it is especially important that North Carolina courts give independent force to North Carolina's constitutional protections. The United States Supreme Court recently held that federal courts applying the federal constitution have no power to adjudicate claims of partisan gerrymandering. *Rucho*, 139 S. Ct. 2484. That ruling does not mean that partisan gerrymandering complies with the constitution; it means that federal courts have no power to decide *whether* the practice complies with the constitution. "Having no other remedy," the North Carolina Constitution "guarantees [P]laintiff[s] a direct action under the State Constitution for alleged violations of [their] constitutional freedom of speech rights." *Corum*, 330 N.C. at 783, 413 S.E.2d at 290.

B. Voting, Banding Together in a Political Party, and Spending on Elections Are Protected Expression and Association

86. Voting for the candidate of one's choice and associating with the political party of one's choice are core means of political expression protected by the North Carolina Constitution's Freedom of Speech and Freedom of Assembly Clauses. The 2017 Plans burden that protected expression and thus are subject to scrutiny under those clauses.

87. Voting provides citizens a direct means of expressing support for a candidate and his views. *See Buckley v. Valeo*, 424 U.S. 1, 21, 96 S. Ct. 612, 635 (1976). Indeed, if donating money to a candidate constitutes a form of protected speech, then voting for that same candidate necessarily does as well. "There is no right more basic in our democracy than the right to participate in electing our political leaders"—including, of course, the right to "vote." *McCutcheon v. FEC*, 572 U.S. 185, 191, 134 S. Ct. 1434, 1440 (2014) (plurality op.). "[P]olitical belief and association constitute the core of those activities protected by the First Amendment." *Elrod v. Burns*, 427 U.S. 347, 356, 96 S. Ct. 2673, 2681 (1976).

88. Plaintiffs' expression is no less protected "merely because it involves the 'act"' of casting a ballot. *State v. Bishop*, 368 N.C. 869, 874, 787 S.E.2d 814, 818 (2016). "[M]uch speech requires an 'act' of some variety—whether putting ink to paper or paint to canvas, or hoisting a picket sign, or donning a message-bearing jacket." *Id.* Voting, like donating money to a candidate or signing a petition for a referendum, constitutes "expressive activity" that "express[es] [a] view" about the State's laws and policies. *Winborne v. Easley*, 136 N.C. App. 191, 198, 523 S.E.2d 149, 153 (1999); *Doe v. Reed*, 561 U.S. 186, 195, 130 S. Ct. 2811, 2817 (2010). Voting's expressive force is not diminished by the fact that it "is a legally operative legislative act." *Id.* at 195; *see also Nev. Comm'n on Ethics v. Carrigan*, 564 U.S. 117, 134, 131 S. Ct. 2343, 2355 (2011) (Alito, J., concurring) ("[T]he act of voting is not drained of its expressive content when the vote has a legal effect."). Having "cho[sen] to tap the energy and the legitimizing power of the democratic process," the government "must accord the participants in that process the First Amendment rights that attach to their roles." *Republican Party of Minn. v. White*, 536 U.S. 765, 788, 122 S. Ct. 2528, 2541 (2002) (quotation omitted). The ballots cast by Plaintiffs and other Democratic voters to elect candidates to the North Carolina General Assembly are protected by North Carolina's Freedom of Speech Clause.

***120** 89. Expression aside, the Freedom of Assembly Clause independently protects Plaintiffs' voting and their association with the Democratic Party. The Freedom of Assembly Clause—part of North Carolina's original 1776 Declaration of Rights—protects the right of the people "to assemble together to consult for their common good, to instruct their representatives, and to apply to the General Assembly for redress of grievances." N.C. Const. art. I, § 12; *see* N.C. Const. art. I, § 18 (1776). In North Carolina, the right to assembly encompasses the right of association. *Feltman v. City of Wilson*, 238 N.C. App. 246, 253, 767 S.E.2d 615, 620 (2014).

90. Just as voting is a form of protected expression, banding together with likeminded citizens in a political party is a form of protected association. "[C]itizens form parties to express their political beliefs and to assist others in casting votes in alignment with those beliefs." *Libertarian Party of N.C. v. State*, 365 N.C. 41, 49, 707 S.E.2d 199, 204-05 (2011). "[F]or elections to

express the popular will, the right to assemble and consult for the common good must be guaranteed." John V. Orth, *The North Carolina State Constitution* 48 (1995).

91. A final form of relevant protected expression involves the expenditure of funds in support of candidates. It is now well-settled that "political contributions and expenditures" constitute "expressive activity" that are constitutionally protected. *Winborne*, 136 N.C. App. at 198, 523 S.E.2d at 153-54.

C. The 2017 Plans Burden Protected Expression and Association

92. The 2017 Plans are subject to strict scrutiny because they burden Plaintiffs' and Democratic voters' political expression and association.

1. The 2017 Plans Burden Protected Expression Based on Viewpoint by Making Democratic Votes Less Effective

93. It is "axiomatic" that the government may not infringe on protected activity based on the individual's viewpoint. *Rosenberger v. Rector & Visitors of Univ. of Va.*, 515 U.S. 819, 828, 115 S. Ct. 2510, 2516 (1995). "The government must abstain from regulating speech when the specific motivating ideology or the opinion or perspective of the speaker is the rationale for the restriction." *Id.* at 829, 115 S. Ct. at 2516. The guarantee of free expression "stands against attempts to disfavor certain subjects or viewpoints." *Citizens United v. FEC*, 558 U.S. 310, 340, 130 S. Ct. 876, 898 (2010).

94. Viewpoint discrimination is *most* insidious where the targeted speech is political. "[I]n the context of political speech, … [b]oth history and logic" demonstrate the perils of permitting the government to "identif[y] certain preferred speakers" while burdening the speech of "disfavored speakers." *Id.* at 340-41, 130 S. Ct. at 899. The government may not burden the "speech of some elements of our society in order to enhance the relative voice of others" in electing officials. *McCutcheon*, 572 U.S. at 207, 134 S. Ct. at 1450; *see also Winborne*, 136 N.C. App. at 198, 523 S.E.2d at 154 ("political speech" has "such a high status" that free speech protections have their "fullest and most urgent application" in this context (quotations marks omitted)).

95. Here, Legislative Defendants "identified[] certain preferred speakers" (Republican voters), while targeting certain "disfavored speakers" (Plaintiffs and other Democratic voters) for "disfavored treatment" because of disagreement with the views they express when they vote. *Citizens United*, 558 U.S. at 340-41, 130 S. Ct. at 899; *see Sorrell v. IMS Health Inc.*, 564 U.S. 552, 565, 131 S. Ct. 2653, 2663 (2011). Legislative Defendants analyzed the voting histories of every VTD in North Carolina, identified VTDs that favor Democratic candidates, and then singled out the voters in those VTDs for disfavored treatment by packing and cracking them into districts with the aim of diluting their votes and, in the case of cracked districts, ensuring that these voters are significantly less likely, in comparison to Republican voters, to be able to elect a candidate who shares their views.

***121** 96. The fact that Democratic voters can still cast ballots under gerrymandered maps changes nothing. The government unconstitutionally burdens speech where it renders disfavored speech *less effective*, even if it does not ban such speech outright. The government may not restrict a citizen's "ability to effectively exercise" their free speech rights. *Heritage Vill. Church & Missionary Fellowship, Inc. v. State*, 40 N.C. App. 429, 451, 253 S.E.2d 473, 486 (1979), *aff'd*, 299 N.C. 399, 263 S.E.2d 726 (1980). "It is thus no answer to say that petitioners can still be 'seen and heard"' if the burdens placed on their speech "have effectively stifled petitioners' message." *McCullen v. Coakley*, 573 U.S. 464, 489-90, 134 S. Ct. 2518, 2537 (2014).

97. In *McCullen*, for instance, the United States Supreme Court invalidated a law that imposed a buffer zone around abortion clinics because the law "compromise[d] [the] ability" of the plaintiffs to "initiate the close, personal conversations that they view as essential" to effectively communicate their message. 573 U.S. at 487, 134 S. Ct. at 2535. And in *Sorrell*, the United States Supreme Court invalidated on viewpoint discrimination grounds a state law that burdened drug manufacturers by denying them information that made their marketing more effective. 564 U.S. at 580, 131 S. Ct. at 2672. The Court stressed that "the

distinction between laws burdening speech is but a matter of degree and the Government's content-based burdens must satisfy the same rigorous scrutiny as its content-based bans." *Id.* at 555-56, 131 S. Ct. at 2664 (quotation marks omitted).

98. These principles apply equally to burdens on political expression. In *Davis v. FEC*, the United States Supreme Court struck down a law that disfavored candidates who self-financed their campaigns. 554 U.S. 724, 128 S. Ct. 2759 (2008). The law in question did *not* limit how much money self-financing candidates could spend, but it still unconstitutionally "diminishe[d] the effectiveness of [their] speech." *Id.* at 736, 128 S. Ct. at 2770. The Court held the same in *Ariz. Free Enterprise Club's Freedom Club PAC v. Bennett*, where it invalidated a public-matching scheme because it rendered the money spent by privately financed candidates "less effective." 564 U.S. 721, 747, 131 S. Ct. 2806, 2824 (2011); *see also Randall v. Sorrell*, 548 U.S. 230, 248-49, 126 S. Ct. 2479, 2492 (2006) (invalidating limit on campaign donations that made such donations less "effective").

99. North Carolina courts have recognized "several paths" leading to the conclusion that laws burdening protected expression are impermissibly discriminatory and thus "subject to strict scrutiny." *State v. Bishop*, 368 N.C. 869, 875, 787 S.E.2d 814, 819 (2016). A finding of discrimination "can find support in the plain text of a statute, or the animating impulse behind it, or the lack of any plausible explanation besides distaste for the subject matter or message." *Id.* The 2017 Plans thus need not explicitly mention any particular viewpoint to be impermissibly discriminatory. *See, e.g.*, *Reed v. Town of Gilbert*, 135 S. Ct. 2218, 2227 (2015).

100. Here, all paths lead to the same conclusion: the 2017 Plans reflect viewpoint discrimination against Plaintiffs and other Democratic voters that render their protected political expression less effective.

101. Overwhelming, unrebutted evidence establishes that the 2017 Plans were laced with viewpoint-driven intent. Legislative Defendants directed Dr. Hofeller to assign voters to districts using "election data" reflecting the contents of their prior votes for Democratic or Republican candidates, and Dr. Hofeller abided, using a color-coded shading system to track voters based on their partisan preferences and voting histories. FOF § C. Within county groups, Dr. Hofeller placed Democratic voters in this district or that one based *solely* on their political views. If this direct evidence left any doubt, the expert testimony showed that the mapmaker crafted the plans with partisanship as the predominant (if not sole) focus. Dr. Cooper in particular illustrated the intentional packing and cracking of specific Democratic voters and communities. FOF § C.

***122** 102. This sorting of Plaintiffs and other Democratic voters based on disfavor for their political views has burdened their speech by making their votes less effective. Many Plaintiffs and other Democratic voters live in districts where their votes are guaranteed to be less effective—either because the districts are packed such that Democratic candidates will win by astronomical margins or because the Democratic voters are cracked into seats that are safely Republican. Plaintiff Derrick Miller testified that he is one such voter: with the Wilmington Notch having been placed in Senate District 8, it is "impossible for [he] and Democratic neighbors to elect a Democrat, a candidate of our choice." Tr. 205:13-15. Plaintiff Joshua Brown similarly testified that the mapmaker's placing High Point's Democrats into Senate District 26 "clearly dilutes the ability of Democrats to even attempt to run a fair race." Tr. 833:20-21.

103. By packing and cracking Democratic voters to make it harder for them to translate votes into legislative seats, the 2017 Plans "single[] out a subset of messages for disfavor based on the views expressed." *Matal v. Tam*, 137 S. Ct. 1744, 1766 (2017) (Kennedy, J., concurring). "This is the essence of viewpoint discrimination." *Id.*

104. Even were Legislative Defendants permitted to *consider* voters' political beliefs when drawing district maps, the 2017 Plans would still be unlawful. In arenas where the government is allowed (or even required) to consider the content or viewpoint of expression that it regulates, it is still forbidden from intentionally elevating one viewpoint over the other. In *Board of Education v. Pico*, for example, the Supreme Court recognized that, while local school boards "possess significant discretion to determine the content of their school libraries," their discretion may "not be exercised in a narrowly partisan or political manner." 457 U.S. 853, 870, 102 S. Ct. 2799, 2810 (1982). As the Court observed, "[i]f a Democratic school board, motivated by party affiliation, ordered the removal of all books written by or in favor of Republicans, few would doubt that the order violated the constitutional

rights of the students denied access to those books." *Id.* at 870-71, 102 S. Ct. at 2810. So too here. Legislative Defendants did not simply look at partisan data to satisfy their curiosity. They drew the 2017 Plans in a way that deliberately minimized the effectiveness of the votes of citizens with whom they disagree.

2. The 2017 Plans Burden Plaintiffs' Ability to Associate

105. The 2017 Plans independently violate Article I, § 12 by burdening the ability of the NCDP, Common Cause, and Democratic voters to associate effectively.

106. The 2017 Plans severely burden—if not outright preclude—the ability of the NCDP, Common Cause, and Democratic voters "to instruct their representatives, and to apply to the General Assembly for redress of grievances." N.C. Const. art. I, § 12. Democratic voters who live in cracked districts have little to no ability to instruct their representatives or obtain redress from their representatives on issues important to those voters. FOF § E.3. And as a result of the gerrymanders, Democratic voters across the state, as well as the NCDP, will be unlikely to obtain redress from "the General Assembly" on important policy issues, because they will unlikely be able to obtain Democratic majorities in the General Assembly. *Id.* Common Cause likewise cannot instruct representatives or obtain redress on the issues central to its mission due to the gerrymanders. FOF § E.2. The 2017 Plans "burden[] the ability of like-minded people across the State to affiliate in a political party and carry out [their] activities and objects." *Gill*, 138 S. Ct. at 1939 (Kagan J., concurring).

107. The 2017 Plans separately violate NCDP's associational rights by "debilitat[ing] [the] party" and "weaken[ing] its ability to carry out its core functions and purposes." *Id.* Due to the unfair playing field created by the 2017 Plans, the NCDP "face[s] difficulties fundraising, registering voters, attracting volunteers, generating support from independents, and recruiting candidates to run for office." *Id.* at 1938; *see* FOF § E.1. And, even when overcoming these difficulties through extraordinary efforts, fundraising and enthusiasm, as was evidenced in the 2018 election cycle, the 2017 Plans nonetheless debilitate the NCDP and weaken its ability to translate its effort, funds and enthusiasm into a meaningful opportunity to gain majority control of the General Assembly. FOF § E.1.

3. The 2017 Plans Burden the NCDP's Expression Through Financial Support for Candidates

***123** 108. The 2017 Plans independently violate the NCDP's free expression and assembly rights under Article I, §§ 12 and 14 by burdening their campaign donations and expenditures. The NCDP must spend more money than it would need to under nonpartisan plans, both statewide and in individual races, and the money that the NCDP spends is less effective than it would be under nondiscriminatory maps. FOF § E.1. The NCDP's political opponent, the North Carolina Republican Party, faces no such burdens.

109. The operation of the 2017 Plans is analogous to the laws struck down in *Davis* and *Bennett* in this regard. Those laws did not preclude or limit any campaign expenditures, but were still held unconstitutional because they "diminishe[d] the effectiveness" of the expenditures of some candidates. *See Bennett*, 564 U.S. at 736, 131 S. Ct. at 2818 (quoting *Davis*, 554 U.S. at 736, 128 S. Ct. at 2770). The same is true here. The 2017 Plans create "a political hydra" that forces the NCDP to drain and divert resources across the State merely to avoid being relegated to a super-minority. *Id.* at 738.

D. The 2017 Plans Fail Strict Scrutiny—and Indeed Any Scrutiny

110. Because the 2017 Plans discriminate against Plaintiffs and other Democratic voters based on their protected expression and association, the burden shifts to the Legislative Defendants to establish that the 2017 Plans were narrowly tailored to achieve a compelling government interest. *See Petersilie*, 334 N.C. at 206, 432 S.E.2d at 853-54 (Mitchell, J., dissenting).

111. As noted above, COL § III.D., Legislative Defendants have offered no credible justification for their partisan discrimination. Nor could they have. Discriminating against citizens based on their political beliefs does not serve any legitimate government interest.

E. The 2017 Plans Impermissibly Retaliate Against Voters Based on Their Exercise of Protected Speech

112. The 2017 Plans violate the Freedom of Speech and Assembly Clauses for an independent reason. In addition to forbidding discrimination, those clauses also bar *retaliation* based on protected speech and expression. *See McLaughlin*, 240 N.C. App. at 172, 771 S.E.2d at 579-80. Courts carefully guard against retaliation by the party in power. *See Elrod*, 427 U.S. at 356, 96 S. Ct. at 2681; *Branti v. Finkel*, 445 U.S. 507, 100 S. Ct. 1287 (1980); *Rutan v. Republican Party of Ill.*, 497 U.S. 62, 110 S. Ct. 2729 (1990). When patronage or retaliation restrains citizens' freedoms of belief and association, it is "at war with the deeper traditions of democracy embodied in the First Amendment." *Elrod*, 427 U.S. at 357, 96 S. Ct. at 2682 (quotation marks omitted).

113. To establish a violation of the North Carolina Constitution under a retaliation theory, Plaintiffs must show, in addition to their engagement in protected expression or association, that (1) the 2017 Plans take adverse action against them, (2) the 2017 Plans were created with an intent to retaliate against their protected speech or conduct, and (3) the 2017 Plans would not have taken the adverse action but for that retaliatory intent. *See McLaughlin*, 240 N.C. App. at 172, 771 S.E.2d at 579-80. Plaintiffs proved all of these elements.

114. *First*, the 2017 Plans take adverse action against Plaintiffs. For the Individual Plaintiffs and the Organizational Plaintiffs' members, the plans dilute the weight of their votes. The enacted plans adversely affect the individual Plaintiffs' associational rights. In *relative* terms, Democratic voters under the 2017 Plans are far less able to succeed in electing candidates of their choice than they would be under plans that were not so carefully crafted to dilute their votes. And in *absolute* terms, Plaintiffs are significantly foreclosed from succeeding in electing preferred candidates or a Democratic majority.

***124** 115. *Second*, the Plans were clearly crafted with an *intent* to retaliate against Plaintiffs and other Democratic voters on the basis of their voting history. Again, Dr. Hofeller's files showed that when drafting the House and Senate maps he intentionally targeted Democratic voters based on their voting histories. Legislative Defendants cannot escape a finding of retaliatory intent by re-characterizing their actions as helping Republicans rather than hurting Democrats. In two-party elections, an intent to help one party necessarily implies an intent to hurt the other party. Nor does it matter that Legislative Defendants did not target specific individual voters. Plaintiffs were targeted for disfavored treatment because of a shared marker of political belief—their status as Democratic voters. That suffices. *See Miller v. Johnson*, 515 U.S. 900, 920, 115 S. Ct. 2475, 2490 (1995) (condemning State's targeting of areas with "dense majority-black populations").

116. *Third*, Legislative Defendants' impermissible partisan intent *caused* the burden on Plaintiffs' expression and association. The adverse effects described above would not have occurred if Legislative Defendants had not cracked and packed Democratic voters and thereby diluted their votes. In particular, Dr. Chen compared the districts in which the Individual Plaintiffs currently reside under the enacted plans with districts in which they would have resided under each of his simulated plans. Many of the Individual Plaintiffs' actual districts are extreme partisan outliers when compared with their districts under the simulated plans.

117. For the foregoing reasons, the Court concludes that Plaintiffs have met their burden of showing, plainly and clearly without any reasonable doubt, that the enacted plans violate the North Carolina Constitution's guarantees of free speech and assembly under Article I, Sections 12 and 14 of the North Carolina Constitution.

V. PARTISAN GERRYMANDERING CLAIMS ARE JUSTICIABLE UNDER THE NORTH CAROLINA CONSTITUTION

118. In all but the most exceptional circumstances, North Carolina courts are duty-bound to say what the law of this State is and to adjudicate cases on the merits.

119. In cases brought under the North Carolina Constitution, "[i]t has long been understood that it is the duty of the courts to determine the meaning of the requirements of our Constitution." *Leandro v. State*, 346 N.C. 336, 345, 488 S.E.2d 249, 253 (1997). "When a government action is challenged as unconstitutional, the courts have a duty to determine whether that action exceeds constitutional limits." *Id.* "It is the duty of this Court to ascertain and declare the intent of the framers of the Constitution and to reject any act in conflict therewith." *Maready v. City of Winston-Salem*, 342 N.C. 708, 716, 467 S.E.2d 615, 620 (1996).

120. State courts' duty to decide constitutional cases applies with full force in the redistricting context. Although the North Carolina Constitution directs the General Assembly to revise and reapportion districts after each census, "[t]he people of North Carolina chose to place several explicit limitations upon the General Assembly's execution of the legislative reapportionment process," which state courts have not hesitated to enforce. *Stephenson*, 355 N.C. at 370, 562 S.E.2d at 389. North Carolina courts have adjudicated claims that redistricting plans violated the Whole County Provision, the mid-decade redistricting bar, the Equal Protection Clause, and other provisions of the North Carolina Constitution. *See Stephenson*, 355 N.C. at 376, 380-81, 562 S.E.2d at 392, 395; *State ex rel. Martin v. Preston*, 325 N.C. 438, 385 S.E.2d 473 (1989); *NAACP v. Lewis*, 18 CVS 2322 (N.C. Super. Ct. Nov. 2, 2018). "[W]ithin the context of … redistricting and reapportionment disputes, it is well within the power of the judiciary of [this] State to require valid reapportionment or to formulate a valid redistricting plan." *Stephenson*, 355 N.C. at 362, 562 S.E.2d at 384 (quotation marks omitted).

***125** 121. Courts of other states have decided constitutional challenges to redistricting plans, including partisan gerrymandering claims, on the merits. In adjudicating a recent partisan gerrymandering suit, the Pennsylvania Supreme Court held that "it is the duty of the Court, as a co-equal branch of government, to declare, when appropriate, certain acts unconstitutional." *League of Women Voters of Pa.*, 178 A.3d at 822. The Florida Supreme Court similarly held that "there can hardly be a more compelling interest than the public interest in ensuring that the Legislature does not engage in unconstitutional partisan political gerrymandering." *League of Women Voters of Fla. v. Detzner*, 172 So. 3d 363, 416 (Fla. 2015). And in another constitutional redistricting challenge, the Texas Supreme Court held that "[t]he judiciary … is both empowered and, when properly called upon, obliged to declare whether an apportionment statute enacted by the Legislature is valid." *Terrazas v. Ramirez*, 829 S.W.2d 712, 717 (Tex. 1991). "A judicial determination that an apportionment statute violates a constitutional provision is no more an encroachment on the prerogative of the Legislature than the same determination with respect to some other statute." *Id.*; *see also, e.g.*, *Johnson v. State*, 366 S.W.3d 11, 23 (Mo. 2012) (similar).

122. Indeed, state courts are particularly well-positioned to adjudicate redistricting disputes, as the public may "more readily accept state court intervention … than … federal intervention in matters of state government." *Brooks v. Hobbie*, 631 So. 2d 883, 890 (Ala. 1993). "The power of the judiciary of a State to require valid reapportionment or to formulate a valid redistricting plan has not only been recognized by th[e United States Supreme] Court but … has been specifically encouraged." *Scott v. Germano*, 381 U.S. 407, 409 (1965). In *Rucho*, the United States Supreme Court recently made clear that partisan gerrymandering claims are not "condemn[ed] … to echo in the void," because although the federal courthouse doors may be closed, "state constitutions can provide standards and guidance for state courts to apply." 139 S. Ct. at 2507.

123. If unconstitutional partisan gerrymandering is not checked and balanced by judicial oversight, legislators elected under one partisan gerrymander will enact new gerrymanders after each decennial census, entrenching themselves in power anew decade after decade. When the North Carolina Supreme Court first recognized the power to declare state statutes unconstitutional, it presciently noted that absent judicial review, members of the General Assembly could "render themselves the Legislators of the State for life, without any further election of the people." *Bayard v. Singleton*, 1 N.C. 5, 7 (1787). Those legislators could even "from thence transmit the dignity and authority of legislation down to their heirs male forever." *Id.* Extreme partisan gerrymandering reflects just such an effort by a legislative majority to permanently entrench themselves in power in perpetuity.

124. The fact that the process employed by the Legislative Defendant in crafting the 2017 Maps is a process that has been used in North Carolina for decades—albeit in less precise and granular detail—by Democrats and Republicans alike does render political gerrymandering nonjusticiable. Long standing, and even widespread historical practices do not immunize governmental action from constitutional scrutiny. *See e.g.,* *Citizens United v. FEC*, 558 U.S. 310, 365 (2010); *Reynolds v. Sims*, 377 U.S. 533, 582 (1964) (holding that malapportionment of state legislative districts violates Equal Protection Clause, notwithstanding that malapportionment was widespread in the Nineteenth and early Twentieth Centuries.)

125. In rare instances, North Carolina courts have held that certain exceptional cases are non-justiciable because they present a "political question." "The political question doctrine controls, essentially, when a question becomes not justiciable because of the separation of powers provided by the Constitution." *Cooper v. Berger*, 370 N.C. 392, 407, 809 S.E.2d 98, 107 (2018) (quotation marks omitted; cleaned up). "The doctrine excludes from judicial review those controversies which revolve around policy choices and value determinations constitutionally committed for resolution to the legislative or executive branches of government." *Id.* at 408, 809 S.E.2d at 107 (quotation marks omitted; cleaned up). The "dominant considerations" in determining whether the political question doctrine applies are "the appropriateness under our system of government of attributing finality to the action of the political departments and also the lack of satisfactory criteria for a judicial determination." *Id.* (quotation marks omitted).

***126** 126. The Court concludes that partisan gerrymandering claims are justiciable under the North Carolina Constitution. Such claims fall within the broad, default category of constitutional cases the North Carolina courts are empowered and obliged to decide on the merits, and not within the narrow category of exceptional cases covered by the political question doctrine.

127. The Court concludes that partisan gerrymandering does not "involve a textually demonstrable constitutional commitment of the issue to a coordinate political department." *Bacon v. Lee*, 353 N.C. 696, 717, 549 S.E.2d 840, 854 (2001) (quotation marks omitted).

128. Although Article II, §§ 3 and 5, of the North Carolina Constitution direct the General Assembly to revise and reapportion state House and Senate districts after each decennial census, North Carolina courts often decide constitutional challenges to state redistricting plans. COL ¶ 125 (citing cases). These cases conclusively refute any notion that redistricting is "committed to the *sole* discretion of the General Assembly" without judicial review by the courts. *Cooper*, 370 N.C. at 409, 809 S.E.2d at 108 (emphasis added).

129. "[T]he General Assembly's authority pursuant to [Article II, §§ 3 and 5] is necessarily constrained by the limits placed upon that authority by other provisions." *Cooper*, 370 N.C. at 410, 809 S.E.2d at 109. The North Carolina Supreme Court has held that the State Constitution's Equal Protection Clause constrains the General Assembly's exercise of its redistricting authority pursuant to Article II, §§ 3 and 5. *Stephenson*, 355 N.C. at 376-82, 562 S.E.2d at 392-96. The people of North Carolina amended the Free Elections Clause to mandate that "all elections" not only "ought to be" but "*shall* be free." N.C. Const. art. I, § 10 (emphasis added). This change "ma[d]e [it] clear" that the Free Elections Clause is a "command[] and not mere[ly] [an] admonition" to proper conduct on the part of the government. *DuMont*, 304 N.C. at 639, 286 S.E.2d at 97 (quotation marks omitted). And the North Carolina Supreme Court has held that North Carolinians must have a judicial "remedy for the violation of plaintiff's constitutionally protected right of free speech." *Corum*, 330 N.C. at 784, 413 S.E.2d at 290.

130. In North Carolina, cases presenting "a conflict between … competing constitutional provisions" involve proper "constitutional interpretation, … rather than a nonjusticiable political question arising from nothing more than a policy dispute." *Cooper*, 370 N.C. at 412, 809 S.E.2d at 110. The Court held in *Cooper* that a challenge to a statute creating a new State Board of Elections and Ethics Enforcement did not present a political question, because the General Assembly's authority over the functions and powers of administrative agencies was limited by the Governor's constitutional duty to "take care that the laws be faithfully executed." *Id.* at 417-18, 809 S.E.2d at 113-14. Similarly, in *News & Observer Publ'g Co. v. Easley*, the Court held that a suit seeking public records related to clemency applications was not a political question, because the Governor's power over clemency was limited by the General Assembly's power to enact laws "relative to the manner of applying for pardons."

182 N.C. App. 14, 16, 641 S.E.2d 698, 700 (2007). So too, partisan gerrymandering claims do not present a political question because the General Assembly's redistricting authority under Article II, §§ 3 and 5 is limited by the Equal Protection Clause, the Free Elections Clause, and the Freedom of Speech and Assembly Clauses. This Court's task is "to identify where the line should be drawn" between these provisions. *Id.* at 15-16, 641 S.E.2d at 700. "There can be no doubt that [the Court has] the power and the responsibility to do so." *Id.*

***127** 131. This case bears no resemblance to cases in which North Carolina courts have applied the political question doctrine. In *Bacon v. Lee*, for example, the North Carolina Supreme Court rejected a claim seeking a disinterested arbiter for a clemency application because the North Carolina Constitution "expressly commits the substance of the clemency power to the *sole discretion* of the Governor." 353 N.C. at 698, 717, 549 S.E.2d at 843, 854 (emphasis added). Similarly, in *Hoke Cnty. Bd. of Educ. v. State*, the Supreme Court rejected a challenge to a statute setting the proper age for children to attend public school because the Constitution placed "the determination of the proper age for school children … squarely … in the hands of the General Assembly." 358 N.C. 605, 639, 599 S.E.2d 365, 391 (2004). These cases centered on the appropriate exercise of authority under a single constitutional provision that was committed to the sole discretion of one of the political branches. Other cases cited by Legislative Defendants are similarly inapposite. *See* Leg. Defs.' Pre-Trial Brief at 17 (citing cases).

132. The Court also concludes that "satisfactory and manageable criteria [and] standards … exist" for adjudicating partisan gerrymandering claims under the North Carolina Constitution. *Hoke*, 358 N.C. at 639, 599 S.E.2d at 391. Plaintiffs have articulated satisfactory, manageable standards for each of their claims for relief.

133. The standard for Plaintiffs' claim under the Free Elections Clause is based on the venerable history of that clause, as well as the commonsense insight that elections are not "free" where the partisan will of the mapmaker predominates over the ascertainment of the fair and truthful will of the voters. COL § II. The Court concludes this standard is satisfactory and manageable.

134. The standard for Plaintiffs' claim under the Equal Protection Clause is based on the fundamental right to "substantially equal voting power" and to "vote on equal terms." *Stephenson*, 355 N.C. at 378-79, 562 S.E.2d at 393-94. The North Carolina Supreme Court has previously applied this long-recognized standard, including in redistricting cases. *See id.*; *Blankenship*, 363 N.C. at 522-24, 681 S.E.2d at 762-64; *Northampton Cnty.*, 326 N.C. at 747, 392 S.E.2d at 356. This standard is not only "manageable"—the North Carolina Supreme Court has already managed to apply it to resolve actual cases. The Court concludes that this standard is satisfactory and manageable.

135. The standards for Plaintiffs' claims under the Free Speech and Free Assembly Clauses are based on longstanding doctrine, which recognizes that (1) voting is an expressive and associative act, and (2) government actions that burden or discriminate against protected expression or association, are subject to strict scrutiny. COL § IV.B-D. Plaintiffs also rely on longstanding retaliation doctrine, which prohibits the government from taking adverse actions based on protected expression or association. COL § IV.E. North Carolina courts routinely apply these standards to numerous government actions and programs in various contexts. The Court concludes that these standards are satisfactory and manageable.

136. Plaintiffs' claims are justiciable notwithstanding that they arise under broad constitutional provisions that require interpretation. Courts routinely interpret broad constitutional text, adopt legal standards to operationalize such text, and then apply those legal standards to adjudicate the constitutionality of statutes. That is exactly what the North Carolina Supreme Court did in *Stephenson*. There, the Court interpreted a broad constitutional requirement that "[n]o county shall be divided in the formation of a [district]," N.C. Const. art. II, §§ 3 and 5, to require a detailed, multi-step procedure for redistricting, 355 N.C. at 383-84, 562 S.E.2d at 396-97. In adopting this standard, the Court explained that it was "not permitted to construe the [Whole County Provision] mandate as now being in some fashion unmanageable." *Id.* at 382, 562 S.E.2d at 396. "Any attempt to do so," the Court explained, "would be an abrogation of the Court's duty to follow a reasonable, workable, and effective interpretation that maintains the people's express wishes." *Id.* So too here, it is the Court's responsibility to distill the Free

Elections Clause, the Equal Protection Clause, and Free Speech and Free Assembly Clauses into a "reasonable, workable, and effective interpretation."

***128** 137. In *Stephenson*, the North Carolina Supreme Court also noted that "[p]rogress demands that government should be further refined in order to best respond to changing conditions." *Id.* (quotation marks omitted). Like the Whole County Provision, the constitutional provisions invoked by Plaintiffs in this case "provide the elasticity which ensures the responsive operation of government." *Id.* (quotation marks omitted). As the North Carolina Supreme Court asked rhetorically more than a century ago: "Is it true that we are living in a popular government, depending upon free and fair elections, and have a constitution that prohibits the legislature from authorizing a judge or a justice of the supreme court to investigate alleged irregularities of the election officers? If this were so, elections would become a farce, and free government a failure. But, fortunately for the people and the government, in our opinion, this is not true, and fair and honest elections are to prevail in this state." *McDonald*, 119 N.C. at 666, 26 S.E. at 134.

138. Legislative Defendants, joined by the Intervening Defendants, assert that this matter is not justiciable because when a claim, like they contend Plaintiffs' to be, is that a districting plan is "somehow harmful to democracy," there is "no way for the Court to address these concerns under a neutral, manageable standard." Leg. Defs.' and Int. Defs.' Proposed Findings of Fact and Conclusions of Law at para. 800. They further suggest that judicial review of political redistricting claims will amount to "freewheeling policymaking," *id.* at 803, and that "this court is not capable of controlling the exercise of power on the part of the General Assembly," *id*. at 806 (citing *Howell v. Howell,* 66 S.E. 571, 573 (N.C. 1911)).

139. However, this is not a case where this Court is called upon to answer whether partisan gerrymandering is harmful to democracy (although the United States Supreme Court has certainly suggested that partisan gerrymandering is indeed harmful to democracy. *See, Veith v. Jubelirer,* 541 U.S. 267, 292, 124 S. Ct. 1769, 1785 (plurality opinion); *id.* at 316, 124 S. Ct. at 1798 (Kennedy, J., concurring); *Ariz. State Legislature*, 135 S. Ct. at 2658.). Nor is it a case where this Court is called upon to engage in policy-making by comparing the enacted maps with others that might be "ideally fair" under some judicially-envisioned criteria. It is not a case that threatens the General Assembly's broad discretionary powers to create legislative districts, or threatens the General Assembly's consideration of political data for legitimate purposes when crafting such districts. Rather this is a case where the Court is called upon to take the Adopted Criteria that the General Assembly itself, in its sole discretion, established, and compare the resulting maps with those criteria to see "how far the State had gone off that track because of its politicians' effort to entrench themselves in office." *Rucho*, 139 S. Ct. at 2521 (Kagan, J., dissenting).

140. Allowing the General Assembly discretion to establish its own redistricting criteria and craft maps accordingly is what the North Carolina Constitution requires; systematically packing and cracking voters to the extent that their votes are subordinated and devalued for no legitimate governmental purpose, but rather the purposes of entrenching a political party in power, is what the North Carolina Constitution forbids. When the Court is presented with evidence of the scope and quality proffered by Plaintiffs that shows widespread and extreme partisan gerrymandering—multiple districts showing a greater partisan skew than any of 3,000 randomly generated maps (all with the State's political geography and districting criteria built in)—the standard is indeed clear and manageable. Such extreme partisan gerrymanders violate the fundamental constitutional rights of free elections, equal protection, speech, assembly and association. It is the Court's duty to say so.

***129** 141. The separation of powers—which is expressly guaranteed by the North Carolina Constitution, art. I, § 6, and which underlies the political question doctrine— underscores the Court's obligation to craft manageable judicial standards to adjudicate partisan gerrymandering claims. Each of the constitutional provisions invoked by Plaintiffs in this case appears in the Declaration of Rights in Article I of the North Carolina Constitution. And "[t]he civil rights guaranteed by the Declaration of Rights in Article I of our Constitution are individual and personal rights entitled to protection against state action." *Corum*, 330 N.C. at 782, 413 S.E.2d at 289. "The very purpose of the Declaration of Rights is to ensure that the violation of these rights is never permitted by anyone who might be invested under the Constitution with the powers of the State." *Id.* at 783, 413 S.E.2d at 290. And "[i]t is the state judiciary that has the responsibility to protect the state constitutional rights of the citizens." *Id.* Indeed, "this obligation to protect the fundamental rights of individuals is as old as the State." *Id.*

142. This Court is not bound by dicta from *Stephenson* that "[t]he General Assembly may consider partisan advantage and incumbency protection in the application of its discretionary redistricting decisions." 355 N.C. at 371, 562 S.E.2d at 390. To begin with, the Supreme Court in *Stephenson* stated that any such considerations "must" be "in conformity with the State Constitution." *Id.* In this case, Plaintiffs allege that partisan gerrymandering of the 2017 Plans violates provisions of the State Constitution, and there is an extensive trial record concerning those allegations. By contrast, *Stephenson* did not involve any partisan gerrymandering claim—let alone partisan gerrymandering claims under the constitutional provisions Plaintiffs invoke here—nor was there any record concerning partisan gerrymandering. The statements in *Stephenson* were "mere obiter dictum and [are] not binding on this Court or any other." *Taylor v. J.P. Stevens & Co.*, 300 N.C. 94, 100-01, 265 S.E.2d 144, 148 (1980). In a case with such important consequences, the Court will decide Plaintiffs' claims on the basis of the record and arguments presented by the parties here, rather than follow dicta from prior cases involving different claims and evidence.

143. In order to reject Defendants' invocation of the political question doctrine, this Court need not decide that the legal standards governing Plaintiffs' claims would apply in all future cases, including a hypothetical close case. This case is not close. The extreme, intentional, and systematic gerrymandering of the 2017 Plans runs far afoul of the legal standards set forth above, or any other conceivable legal standard that could govern Plaintiffs' constitutional claims. As Dr. Pegden testified, "[t]hese maps are so gerrymandered that no matter how you do the analysis, no matter who does the analysis, no matter which side is doing the analysis, you reach the same answer." Tr. 1400:18-21.

144. The Court concludes that partisan gerrymandering claims are justiciable under the North Carolina Constitution.

VI. ANY LACHES DEFENSE LACKS MERIT

145. To the extent Defendants contend that Plaintiffs' claims are barred by laches, that defense lacks merit. North Carolina courts have recognized that laches is inapplicable to continuing obligations. *See Malinak v. Malinak*, 242 N.C. App. 609, 612-13, 775 S.E.2d 915, 917 (2015). State and federal courts alike routinely refuse to apply laches in voting-rights and other constitutional cases seeking solely prospective relief. *E.g.*, *Sprague v. Casey*, 550 A.2d 184, 188-89 (Pa. 1988); *Garza v. Cnty. of Los Angeles*, 918 F.2d 763, 772 (9th Cir. 1990); *Am. Trucking Ass'ns, Inc. v. N.Y. State Thruway Auth.*, 199 F. Supp. 3d 855, 872 (S.D.N.Y. 2016), *vacated on other grounds*, 238 F. Supp. 3d 527 (S.D.N.Y. 2017); *Miller v. Bd. of Comm'rs of Miller Cnty.*, 45 F. Supp. 2d 1369, 1373 (M.D. Ga. 1998). Multiple federal courts have held that laches does not apply to partisan gerrymandering claims as a matter of law. *See League of Women Voters of Mich.*, 373 F. Supp. 3d at 909; *Ohio A. Philip Randolph Inst. v. Smith*, 335 F. Supp. 3d 988, 1001-02 (S.D. Ohio 2018).

***130** 146. Moreover, "laches is an affirmative defense which the pleading party bears the burden of proving." *Malinak*, 242 N.C. App. at 611, 775 S.E.2d at 916. Defendants presented no evidence at trial supporting laches.

147. Defendants offered no evidence of any "unreasonable" delay in filing this case. *Id.* at 612, 775 S.E.2d at 916. Plaintiffs commenced this case just fourteen months after the 2017 Plans were enacted.

148. Even if there had been any delay, Defendants presented no evidence that it "worked to the[ir] disadvantage, injury or prejudice." *Id.* While Defendants have suggested that the time pressures of this case prevented their experts from conducting additional or more thorough analyses, any limitation on the time for Defendants' expert reports was not the result of any delay by Plaintiffs. Rather, any such limitation resulted from Defendants' own discovery misconduct in this case, which led the Court to extend the time for Plaintiffs' expert reports at the expense of the time for Defendants. *See* Order of Mar. 25, 2019. And the Court later granted Defendants a one-week extension to file their expert reports. Order of May 1, 2019.

VII. DEFENDANTS' FEDERAL DEFENSES LACK MERIT

149. Legislative Defendants and Intervenor Defendants raise a series of defenses under federal law, but none of these defenses has merit.

A. The *Covington* Remedial Order Does Not Bar Changes to the 2017 Plans

150. Legislative Defendants contend that the *Covington* court's remedial order in January 2018 precludes *any* changes being made to the current House and Senate plans. Legislative Defendants argue that the *Covington* remedial order contained an "express command that the 2017 plans be used in future elections," so as to purportedly immunize the 2017 Plans from any state-law challenge. Leg. Defs.' Pre-Trial Br. at 39.

151. Legislative Defendants made this same argument when they removed this case to federal court in December 2017, and the federal district court rejected it. The federal court held that the *Covington* remedial order "does not mandate the specific existing apportionment to the exclusion of no others." *Common Cause v. Lewis*, 358 F. Supp. 3d 505, 512 (E.D.N.C. 2019). That holding constitutes law-of-the-case, or at minimum is entitled to controlling deference.

152. In any event, the federal court's holding was clearly correct. In the very same remedial order that Legislative Defendants now cite, the *Covington* district court made clear that the 2017 Plans *could be* challenged on state-law grounds in state court. At Legislative Defendants' urging, the *Covington* court declined to address state-law objections that the *Covington* plaintiffs had raised to the 2017 Plans, because those objections involved "unsettled questions of state law." *Covington v. North Carolina*, 283 F. Supp. 3d 410, 428 (M.D.N.C. 2018). In declining to address such "unsettled question of state law," the *Covington* court expressly stated that its order was "without prejudice to Plaintiffs or other litigants asserting such arguments in separate proceedings, including in "state court." *Id.* at 447 n.9. The *Covington* court even noted that any "partisan gerrymandering objection" to the 2017 Plans "would demand development of significant new evidence and therefore [would] be more appropriately addressed in a separate proceeding." *Id.* at 427. These statements squarely refute Legislative Defendants' contention that the *Covington* remedial order precludes any changes to the 2017 Plans based on state-law violations that a state court may find.

***131** 153. The United States Supreme Court's holding on appeal from the *Covington* remedial order eliminates any doubt on this score. The Court held that "[t]he District Court's remedial authority was … limited to ensuring that the plaintiffs were relieved of the burden of voting in racially gerrymandered legislative districts." 138 S. Ct. 2548, 2554 (2018). The Court explained: "Once the District Court had ensured that the racial gerrymanders at issue in this case were remedied, its proper role in North Carolina's legislative districting process was at an end." *Id.* at 2555. The *Covington* district court thus had no authority to do anything other than ensure the curing of the prior racial gerrymandering. It did not and could not immunize the plans from future challenge.

154. The *Covington* remedial order does not preclude North Carolina courts from invalidating the 2017 Plans for violations of state law and ordering the creation of new plans.

B. There Is No Conflict with Federal Civil Rights Laws

155. The Court also rejects Legislative Defendants' arguments that affording Plaintiffs relief on their claims would necessarily violate federal civil rights laws.

156. As described, Legislative Defendants introduced no evidence at trial to establish that any of the three *Gingles* factors, including the existence of legally sufficient racially polarized voting, is present in any area of the State or any particular districts. Legislative Defendants' failure to present any evidence to establish that the *Gingles* factors are met is "is fatal to [any] Section 2 defense" under the VRA. *Covington v. North Carolina*, 316 F.R.D. 117, 169 (M.D.N.C. 2016), *aff'd*, 137 S. Ct. 2211 (2017).

157. Indeed, Legislative Defendants affirmatively represented throughout the 2017 redistricting process that the third *Gingles* factor was *not* met. FOF § F.6. Legislative Defendants have presented no evidentiary basis for any change in that position. The Court concludes that Legislative Defendants have not established that the VRA justifies the current House or Senate districts or precludes granting Plaintiffs relief on their claims.

158. Legislative Defendants also have not established any defense under the Fourteenth or Fifteenth Amendment. Legislative Defendants argue that affording Plaintiffs relief would require intentionally lowering the BVAP in purported "crossover" districts below the level necessary to elect candidates of choice of African Americans, but Legislative Defendants again have advanced no evidence to substantiate this claim. They provided no evidence to establish any district qualifies as a "crossover district," or that remedying the partisan gerrymander in any district or grouping would require lowering the BVAP of any crossover district below the level necessary for African Americans to elect candidates of their choice.

159. Indeed, Legislative Defendants' own expert Dr. Lewis generated estimates of the minimum BVAP needed in certain county groupings for African-American-preferred candidate to win, and Dr. Chen demonstrated that his nonpartisan simulations produce districts within each such county grouping with BVAPs above Dr. Lewis's estimates. FOF § F.6.

160. Legislative Defendants' federal equal protection defense suffers from another fatal defect—it requires a showing of an intent to discriminate against African Americans. To establish a Fourteenth or Fifteenth Amendment violation, there must be "racially discriminatory intent," *Lee v. Va. State Bd. of Elections*, 843 F.3d 592, 603 (4th Cir. 2016), which in the redistricting context means "intentional vote dilution," *i.e.*, "invidiously minimizing or canceling out the voting potential of racial or ethnic minorities," *Abbott v. Perez*, 138 S. Ct. 2305, 2314 (2018) (quotation marks and alterations omitted).

***132** 161. The Court finds without difficulty that Plaintiffs have no intent to discriminate against racial minorities in seeking remedial plans to replace the current plans that violate state constitutional provisions. Further, Plaintiffs alone cannot adopt or approve remedial plans in this case. The remedial plans approved or adopted in this case, as ordered below, will not intentionally dilute the voting power of any North Carolina citizens.

C. Granting Relief Will Not Violate the Fundamental Right to Vote

162. Finally, Legislative Defendants contend that affording Plaintiffs relief in this case will violate the "fundamental right to vote" under the Fourteenth Amendment. Legislative Defendants cite no federal precedent for this purported defense, but in any event it lacks merit.

163. Granting Plaintiffs relief will promote, not violate, the fundamental right to vote of North Carolina citizens. Legislative Defendants' defense operates from the misapprehension that voting rights must be a zero-sum game, such that curing discrimination against one set of citizens necessarily requires discriminating against another set of citizens. The right that Plaintiffs seek to vindicate is the right to be free from intentional discrimination, and vindicating that right in no way requires or will result in discriminating against others.

VIII. THE COURT WILL ENJOIN USE OF THE 2017 PLANS IN FUTURE ELECTIONS AND THE GENERAL ASSEMBLY IS TO IMMEDIATELY BEGIN THE PROCESS OF REDRAWING THE RELEVANT DISTRICTS

A. The Court Will Require the Redrawing of Specific County Groupings

164. For the reasons stated above, and as set forth in the decree below, the Court declares that there is no reasonable doubt the 2017 House and Senate Plans are unconstitutional under the North Carolina Constitution, and the Court enjoins their use in the 2020 primary and general elections. In particular, the Court enjoins use of the districts in the specific House and Senate county groupings as specified in the decree below.

165. The Court does not enjoin or order any relief with respect to the current House districts in Wake County. Shortly before the trial in this matter, those districts were redrawn pursuant to a separate litigation. *See NAACP v. Lewis*, No. 18 CVS 2322 (N.C. Super. Ct. Nov. 2, 2018); N.C. Sess. Laws 2019-46. Plaintiffs did not present evidence in this case regarding the new Wake County House districts and do not seek relief with respect to those districts.

166. The Court does not enjoin or order the redrawing of House Districts 57, 61, and 62 or Senate Districts 24 or 28, all of which were redrawn by the *Covington* Special Master. With respect to House District 59 and Senate District 27, for which small portions of the current districts were added by the Special Master in *Covington*, the Court will order that the remedial versions of these districts not alter any portions of these districts that were added by the Special Master, but any other portions of these districts may be redrawn. Neither House District 59 nor Senate District 27 were found by the *Covington* court to have been racially gerrymandered (under either the 2011 Plans or the 2017 Plans enacted by the General Assembly), and the *Covington* court did *not* direct the Special Master to redraw either of these districts. The Special Master nonetheless made small changes to these districts, principally to equalize population, in the course of constructing other districts he was tasked with redrawing. While this Court concludes that there is no legal impediment to redrawing any portion of House District 59 and Senate District 27, including the portions that the Special Master added, the Court nonetheless imposes the limitation set forth in this paragraph out of an abundance of caution.

B. The Court Will Require the Use of the Adopted Criteria, with certain exceptions, and Prohibit the Use of Other Criteria in Redrawing the Districts

***133** 167. As set forth in the Court's decree below, the Court will require that Remedial Maps for the House and Senate legislative district maps for the 2020 election (hereinafter "Remedial Maps") be drawn, and that the Remedial Maps comply with the criteria adopted by the General Assembly's House and Senate Redistricting Committees on August 10, 2017, with several exceptions.

168. First, with respect to "Incumbency Protection," the drafters of the Remedial Maps may take reasonable efforts to not pair incumbents unduly in the same election district. Because Representative David Lewis, Chair of the House Redistricting Committee, explained at the time of the adoption of the Adopted Criteria that the "Incumbency Protection" criteria was "simply saying that mapmakers may take reasonable efforts to not pair incumbents unduly," PX603 at 122:4-18; Tr. 1640:16-1641:12, and the criteria was understood as such, *see* PX606 at 9:24-10:1 (Sen. Hise: "The Committee adopted criteria pledging to make reasonable efforts not to double-bunk incumbents"), the Remedial Maps shall comply with this explanation and understanding.

169. Second, the "Election Data" criteria shall not be permitted in the drafting of the Remedial Maps. In other words, partisan considerations and election results data *shall not* be used in the drawing of legislative districts in the Remedial Maps. The Court likewise will prohibit any intentional attempt to favor voters or candidates of one political party.

170. In redrawing the relevant districts in the Remedial Maps, the invalidated 2017 districts may not be used as a starting point for drawing new districts, and no effort may be made to preserve the cores of invalidated 2017 districts. *See Covington*, 283 F. Supp. 3d at 431-32 (holding that remedial plan could not seek to "preserve the 'cores' of unconstitutional districts").

171. Any Remedial Maps must comply with the VRA and other federal requirements concerning the racial composition of districts. The Court will afford all parties an opportunity to submit briefing, which may attach expert analysis, on whether the *Gingles* factors are met in particular counties and county groupings and/or the minimum BVAP needed in particular counties and county groupings for African-Americans to be able to elect candidates of their choice to the General Assembly. Any such submission by Legislative Defendants, however, is subject to two limitations set forth below.

a) First, if Legislative Defendants assert that the *Gingles* factors are met in any particular district or county grouping, they must not only provide evidentiary support for that assertion, but also must also show good cause why they did not compile such evidence during the 2017 redistricting process and must show good cause why they should not be held judicially

estopped from arguing that the *Gingles* factors are met given their repeated representations to the *Covington* court in 2017 that the third *Gingles* factor was not met anywhere in the State.

b) Second, for districts in counties and county groupings for which Legislative Defendants' expert Dr. Lewis estimated the minimum BVAP needed for an African-American preferred candidate to prevail in a state legislative election, Legislative Defendants may not assert that the VRA or the United States Constitution requires or justifies making the BVAP of any such district higher than the minimum BVAP threshold estimated by Dr. Lewis in his Amended Table 4 (which was admitted into evidence at trial) for the relevant county or county grouping. PX773. For districts in counties and county groupings that Dr. Lewis did not analyze, Legislative Defendants may not assert that the VRA or the United States Constitution requires or justifies any minimum BVAP for the districts in that county or county grouping. The Court holds that Legislative Defendants are bound by the BVAP threshold-estimates generated by the expert they retained in this case and are estopped from departing from those estimates, which were relied upon by Plaintiffs' experts, at this late stage of the litigation.

***134** 172. The Court will afford the General Assembly two weeks from the date of this Order, namely through September 18, 2019, to enact Remedial Maps in conformity with this Order. *See* N.C.G.S. § 120-2.4.

173. The Court concludes that this two week period is consistent with N.C.G.S. § 120-2.4, which states that "in no event may a court impose its own substitute plan unless the court first gives the General Assembly a period of time to remedy any defects identified by the court in its findings of fact and conclusions of law. That period of time shall not be less than two weeks." Although § 120-2.4 goes on to state that a longer period of time might be required in some instances, that longer period, the Court concludes, is applicable only if the General Assembly is not currently in session. *See* N.C. Sess. Laws 2018-146, § 4.7. The Court notes that the General Assembly, as of the date of this Order, is in session.

174. The Court will require Legislative Defendants and their agents to conduct the entire remedial process in full public view. At a minimum, that would require all map drawing to occur at public hearings, with any relevant computer screen visible to legislators and public observers. Given what transpired in 2017, the Court will prohibit Legislative Defendants and their agents from undertaking any steps to draw or revise the new districts outside of public view.

175. If Legislative Defendants wish to retain one or more individuals who are not current legislative employees to assist in the map-drawing process, the Court will require Legislative Defendants to obtain approval from the Court to engage any such individuals.

176. Notwithstanding the General Assembly having the opportunity to draw Remedial Maps in the first instance, the Court will still immediately appoint a Referee to (1) assist the Court in reviewing any Remedial Maps enacted by the General Assembly; and (2) to develop remedial maps for the Court should the General Assembly fail to enact lawful Remedial Maps within the time allowed.

C. The Court Will Not Stay the Remedial Process Pending Appeal

177. The Court orders that the remedial process commence immediately upon entry of this Order, and the Court will not grant a stay of the remedial process pending appeal.

178. The central inquiry in deciding whether to grant a stay of relief pending appeal is a balancing of the prejudice and risk of irreparable harm to the parties. *See 130 of Chatham, LLC v. Rutherford Elec. Mbrshp. Corp.*, 2014 WL 3809066, at *9 (N.C. Super. Ct. July 31, 2014).

179. Here, the balance of the equities weighs definitively against any stay. "[C]ourts evaluating redistricting challenges have generally denied motions for a stay pending appeal." *Harris v. McCrory*, 2016 WL 6920368, at *1 n.1 (M.D.N.C. Feb. 9, 2016)

(citing cases and denying stay pending appeal). In such cases, a stay pending appeal could "risk that the State would not be able to implement" the remedial plans "in time for the [next] elections in the event that the [appellate courts] affirm[] this Court's judgment." *Covington*, 2018 WL 604732, at *6 (denying stay pending appeal). "The risk of harm is particularly acute where Plaintiffs and other North Carolina voters have already cast their ballots under unconstitutional district plans" in every election this decade. *Id.* The prejudice to Plaintiffs here would be magnified because the state legislators elected in 2020 will redraw the state House and Senate districts in 2021 following the Decennial Census, substantially compounding the effects of allowing the current unconstitutional plans to be used in the 2020 elections.

***135** 180. In contrast, Legislative Defendants will suffer little if any prejudice from refusing any stay pending appeal. If Legislative Defendants ultimately prevail in an appeal, then the current districts will remain in place for the 2020 elections, and there will be no tangible harm from having allowed the remedial process to move forward while the appeal was pending. On balance, the equities and the public interest counsel strongly against a stay.

D. The Court Retains Discretion to Move the Primary Dates

181. Finally, the Court holds that the remedial schedule and process that the Court has set forth in this Order should ensure that remedial plans will be in place sufficiently in advance of the current primary date of March 3, 2020. However, the Court retains authority and discretion to move the primary date for the General Assembly elections, or all of the State's 2020 primaries, including for offices other than the General Assembly, should doing so become necessary to provide effective relief in this case.

182. While the Court concludes that moving the 2020 primaries is not needed at this date, the Court may consider doing so if necessary to grant effective relief in this case.

DECREE

Having considered all of the evidence, the memoranda and arguments of counsel, and the record proper, the Court ORDERS the following:

1. The Court declares that the 2017 House and Senate Plans are unconstitutional and invalid because there is no reasonable doubt each plan violates the rights of Plaintiffs and other Democratic voters under the North Carolina Constitution's Equal Protection Clause, art. I, § 19; the Free Elections Clause, art. I, § 10; and the Freedom of Speech and Freedom of Assembly Clauses, art. I, §§ 12 & 14.

2. Legislative Defendants and State Defendants, and their respective agents, officers, and employees, are permanently enjoined from preparing for or administering the 2020 primary and general elections for House districts in the following House county groupings:

   a. Alamance

   b. Anson-Union

   c. Brunswick-New Hanover

   d. Buncombe

   e. Cabarrus-Davie-Montgomery-Richmond-Rowan-Stanly (except that House District 66 shall not be redrawn)

   f. Cleveland-Gaston

g. Columbus-Pender-Robeson h. Cumberland

i. Duplin-Onslow

j. Franklin-Nash

k. Forsyth-Yadkin

l. Guilford (except that House Districts 57, 61, and 62 shall not be redrawn, and any portions of House District 59 added by the *Covington* Special Master shall not be altered)

m. Lenoir-Pitt

n. Mecklenburg

3. Legislative Defendants and State Defendants, and their respective agents, officers, and employees, are permanently enjoined from preparing for or administering the 2020 primary and general elections for Senate districts in the following Senate county groupings:

a) Alamance-Guilford-Randolph (except that Senate Districts 24 and 28 shall not be redrawn, and any portions of Senate District 27 added by the *Covington* Special Master shall not be altered)

b) Bladen-Brunswick-New Hanover-Pender

c) Buncombe-Henderson-Transylvania

d) Davie-Forsyth

e) Duplin-Harnett-Johnston-Lee-Nash-Sampson

f) Franklin-Wake

g) Mecklenburg

4. The Court will afford the General Assembly two weeks from the date of this Order, namely through September 18, 2019, to enact Remedial Maps for the House and Senate legislative districts for the 2020 election (hereinafter "Remedial Maps") in conformity with this Order.

5. Except as otherwise noted in this Order, the following criteria shall exclusively govern the redrawing of districts in the House and Senate county groupings set forth above:

***136** a. *Equal Population*. The mapmakers shall use the 2010 federal decennial census data as the sole basis of population for drawing legislative districts in the Remedial Maps. The number of persons in each legislative district shall comply with the +/- 5 percent population deviation standard established by *Stephenson v. Bartlett*, 355 N.C. 354, 562 S.E. 2d 377 (2002).

b. *Contiguity*. Legislative districts shall be comprised of contiguous territory. Contiguity by water is sufficient.

c. *County Groupings and Traversals*. The mapmakers shall draw legislative districts in the Remedial Maps within county groupings as required by *Stephenson v. Bartlett*, 355 N.C. 354, 562 S.E. 2d 377 (2002) (*Stephenson I*), *Stephenson v.*

Bartlett, 357 N.C. 301, 582 S.E.2d 247 (2003) (*Stephenson II*), *Dickson v. Rucho*, 367 N.C. 542, 766 S.E.2d 238 (2014) (*Dickson I*) and *Dickson v. Rucho*, 368 N.C. 481, 781 S.E.2d 460 (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*. The county groupings utilized in the 2017 House and Senate Maps shall be utilized in the Remedial Maps.

d. *Compactness*. The mapmakers shall make reasonable efforts to draw legislative districts in the Remedial Maps that improve the compactness of the districts when compared to districts in place prior to the 2017 Enacted Legislative Maps. In doing so, the mapmaker may use as a guide the minimum Reock ("dispersion") and Polsby-Popper ("perimeter") scores identified by Richard H. Pildes and Richard G. Neimi in *Expressive Harms, "Bizarre Districts," and Voting Rights: Evaluating Election-District Appearances After Shaw v. Reno*, 92 Mich. L. Rev. 483 (1993).

e. *Fewer Split Precincts*. The mapmakers shall make reasonable efforts to draw legislative districts in the Remedial Maps that split fewer precincts when compared to districts in place prior to the 2017 Enacted Legislative Maps.

f. *Municipal Boundaries*. The mapmakers may consider municipal boundaries when drawing legislative districts in the Remedial Maps.

g. *Incumbency Protection*. The mapmakers may take reasonable efforts to not pair incumbents unduly in the same election district.

h. *Election Data*. Partisan considerations and election results data *shall not* be used in the drawing of legislative districts in the Remedial Maps.

6. In redrawing the relevant districts in the Remedial Maps, the invalidated 2017 districts may not be used as a starting point for drawing new districts, and no effort may be made to preserve the cores of invalidated 2017 districts.

7. Any Remedial Maps must comply with the VRA and other federal requirements concerning the racial composition of districts. Within 14 days of this Order, all parties may submit briefing, which may attach expert analysis, on whether the *Gingles* factors are met in particular counties and county groupings and/or the minimum BVAP needed in particular counties and county groupings for African Americans to be able to elect candidates of their choice to the General Assembly. Any such submission by Legislative Defendants is subject to the limitations set forth in subparagraphs (a) and (b) immediately below.

a) If Legislative Defendants assert that the *Gingles* factors are met in any counties or county groupings, they shall not only provide evidentiary support for that assertion, but shall also show good cause why they did not compile such evidence during the 2017 redistricting process and shall show good cause why they should not be held judicially estopped from arguing that the *Gingles* factors are met given their repeated representations to the *Covington* court in 2017 that the third *Gingles* factor was not met anywhere in the State.

***137** b) For districts in counties and county groupings for which Legislative Defendants' expert Dr. Lewis estimated the minimum BVAP needed for an African-American preferred candidate to prevail in a state legislative election, Legislative Defendants shall not assert that the VRA or the United States Constitution requires or justifies making the BVAP of any such district higher than the minimum BVAP threshold estimated by Dr. Lewis in his Amended Table 4 (PX773) for the relevant county or county grouping. For districts in counties and county groupings that Dr. Lewis did not analyze, Legislative Defendants shall not assert that the VRA or the United States Constitution requires or justifies any minimum BVAP for the districts in that county or county grouping.

8. Legislative Defendants and their agents shall conduct the entire remedial process in full public view. At a minimum, this requires all map drawing to occur at public hearings, with any relevant computer screen visible to legislators and public

observers. Legislative Defendants and their agents shall not undertake any steps to draw or revise the new districts outside of public view.

9. To the extent that Legislative Defendants wish to retain one or more individuals who are not current legislative employees to assist in the map-drawing process, Legislative Defendants must seek and obtain prior approval from the Court to engage any such individuals.

10. Notwithstanding the General Assembly having the opportunity to draw Remedial Plans in the first instance, the Court, by subsequent Court Order, shall promptly appoint a Referee to (1) assist the Court in reviewing any Remedial Maps enacted by the General Assembly; and (2) to develop remedial maps for the Court should the General Assembly fail to enact lawful Remedial Maps within the time allowed.

14. No later than September 6, 2019, the parties may submit to the Court names and qualifications of suggested referees. The Court will thereafter appoint a referee by subsequent Court Order.

15. The Court orders that the remedial process will commence immediately upon entry of this Order.

17. The Court, on its own motion, denies a stay of the remedial process pending appeal.

18. The Court retains jurisdiction to move the primary date for the General Assembly elections, or all of the State's 2020 primaries, including for offices other than the General Assembly, should doing so become necessary to provide effective relief in this case.

SO ORDERED, this the 3rd day of September, 2019.

/s/ Paul C. Ridgeway

Paul C. Ridgeway, Superior Court Judge

/s/ Joseph N. Crosswhite

Joseph N. Crosswhite, Superior Court Judge

/s/ Alma L. Hinton

Alma L. Hinton, Superior Court Judge

Footnotes

1 "It is well settled in this State that the courts have the power, and it is their duty in proper cases, to declare an act of the General Assembly unconstitutional—but it must be plainly and clearly the case. If there is any reasonable doubt, it will be resolved in favor of the lawful exercise of their powers by the representatives of the people." *City of Asheville v. State*, 369 N.C. 80, 87-88, 794 S.E.2d 759, 766 (2016) (quoting *Glenn v. Bd. of Educ.*, 210 N.C. 525, 529-30, 187 S.E. 781, 784 (1936)); *State ex rel. Martin v. Preston*, 325 N.C. 438, 449, 385 S.E.2d 473, 478 (1989).

2 The Court at trial allowed the parties to admit expert reports as "corroborative evidence"—*i.e.*, as evidence that "tends to add weight or credibility" to the experts' testimony. *State v. Garcell*, 363 N.C. 10, 40, 678 S.E.2d 618, 637 (2009); *see* Tr. 537:8-538:7.

3 Dr. Chen used the same Senate county groupings that exist under the enacted Senate plan, minimized the number of county traversals, and applied the Adopted Criteria's equal population and contiguity requirements. Tr. 318:11-319:9.

4 Dr. Mattingly plotted only 13 of the 17 elections he considered in PX362 for visual clarity reasons, Tr. 1115:1-12, but he provided all the data for all 17 elections in Figure 3 (PX363) and Table 3 of his report (PX417).

5 Unless otherwise noted, Dr. Chen's results for individual House and Senate county groupings were materially the same for his Simulation Set 2 as for his Simulation Set 1. Tr. 349:12-18.

6 Dr. Pegden was unable to generate any comparison districtings of this county grouping due to his conservative methodology. Tr. 1357:12-23; PX544. As Dr. Pegden testified, the fact that his algorithm does not generate any comparison districtings for a given county grouping does *not* mean that the mapmaker did not make extreme and intentional use of partisan considerations in that county grouping. *See* Tr. 1321:17-25, 1349:11-1350:4.

7 Because this county grouping was drawn in 2011, Dr. Chen used the 2004 to 2010 statewide elections to analyze this county grouping. Tr. 383:16-22; PX99.

8 Dr. Pegden was unable to generate any comparison districtings of this House county grouping due to his conservative methodology. Tr. 1351:22-1352:10; PX537.

9 Dr. Pegden's conservative methodology resulted in comparison maps that are very similar to the enacted plan for this grouping. Tr. 1351:17-1352:10. In particular, Dr. Pegden's conservative choice to allow his algorithm to split the same municipalities that are split under the enacted plan results in his comparison maps frequently splitting the Democratic strongholds of Kannapolis and Concord. PX535; PX508 at 24 (Pegden Report).

10 Plaintiffs presented evidence at trial that the enacted 2017 version of the Wake House county grouping was a partisan gerrymander, but Plaintiffs presented no evidence regarding this grouping as revised pursuant to this Court's ruling in *North Carolina State Conference of NAACP Branches, et al. v. David Lewis, et al*. Plaintiffs do not seek a remedy for the current, revised version of this grouping. However, the analysis and findings of Plaintiffs' experts with respect to the 2017 version of this county grouping is evidence of Legislative Defendants' intentional and systematic gerrymandering across the State during the 2017 redistricting.

11 For all House county groupings drawn in 2011 and unchanged in 2017, Dr. Chen used the 2004 to 2010 statewide elections to analyze these county groupings.

12 *See, however,* COL § I.C., wherein the Court concludes that nine Individual Plaintiffs lack sufficient standing.

13 *See* https://bit.ly/2YJnaRP (Stat Pack for Senate draft plan released on August 21, 2017); https://bit.ly/2YPch0L (Stat Pack for House draft plan released on August 20, 2017).

14 In considering the appropriate remedy, the Court does take this finding into account, among others, when mandating that the remedial process be more transparent to the Court, the public, and the entire General Assembly.

15 Furthermore, even under the federal standing requirements of (1) injury, (2) causation, and (3) redressability, *see Gill v. Whitford*, 138 S. Ct. 1916, 1929 (2018), the NCDP has such a personal stake in the outcome of the controversy that it has standing under this more stringent standard.

16 Furthermore, even under the federal standing requirements of (1) injury, (2) causation, and (3) redressability, *see Gill*, 138 S. Ct. at 1929, Common Cause has such a personal stake in the outcome of the controversy that it has standing under this more stringent standard.

17 These Individual Plaintiffs without standing to challenge either their individual House or Senate district are: Virginia Walters Brien, Leon Charles Schaller, Howard Du Bose, Jr., Deborah Anderson Smith, Alyce Machak, John Balla, John Mark Turner, Ann McCracken, and Mary Ann Peden-Coviello. FOF § E.3.; PX238; PX117. The Court notes that although some Individual Plaintiffs may not have standing to challenge *both* of their House and Senate districts, they do have standing to challenge at least *a* district in which they reside.

Harper v. Lewis

Superior Court of North Carolina, Wake County

October 28, 2019, Decided; October 28, 2019, Filed

19 CVS 012667

Reporter

2019 N.C. Super. LEXIS 122 *

REBECCA HARPER, et al. Plaintiffs, v. Representative DAVID R. LEWIS, in his official capacity as Senior Chairman of the House Standing Committee on Redistricting, et al., Defendants.

Judges: **[*1]** Paul C. Ridgeway, Superior Court Judge. Joseph N. Crosswhite, Superior Court Judge. Alma L. Hinton, Superior Court Judge.

Opinion

ORDER ON INJUNCTIVE RELIEF

THIS MATTER came on for hearing on October 24, 2019, before the undersigned three-judge panel upon Plaintiffs' Motion for Preliminary Injunction, filed September 30, 2019. All adverse parties to this action received the notice required by Rule 65 of the North Carolina Rules of Civil Procedure.

Procedural History

On February 19, 2016, the current North Carolina congressional districts (hereinafter "2016 congressional districts") were established by an act of the General Assembly, N.C. Sess. Laws 2016-1 (hereinafter "S.L. 2016-1"), as a result of litigation in federal court over the congressional districts originally drawn in 2011. On September 27, 2019, Plaintiffs filed a verified complaint in Superior Court, Wake County, seeking a declaration that the 2016 congressional districts violate the rights of Plaintiffs and all Democratic voters in North Carolina under the North Carolina Constitution's Free Elections Clause, Art. I, § 10; Equal Protection Clause, Art. I, § 19; and Freedom of Speech and Freedom of Assembly Clauses, Art. I, §§ 12 & 14. Plaintiffs seek to enjoin the future use of the 2016 congressional districts. On September **[*2]** 30, 2019, this action was assigned to the undersigned panel by the Chief Justice of the Supreme Court of North Carolina.

On September 30, 2019, Plaintiffs filed a motion for a preliminary injunction seeking to bar Defendants from administering, preparing for, or moving forward with the 2020 primary and general elections in North Carolina for the United States House of Representatives using the 2016 congressional districts. Plaintiffs also filed a motion for expedited briefing and resolution of Plaintiffs' motion for a preliminary injunction. On October 2, 2019, Defendants North Carolina State Board of Elections and its members (collectively hereinafter "State Defendants") notified the Court that, among other things, candidate filing for congressional primaries is set to begin on December 2, 2019. On October 9, 2019, a motion to intervene was filed by three incumbent Congressional Representatives seeking to intervene in this action in both their capacity as Representatives and as residents and voters in three of the congressional districts

challenged in Plaintiffs' verified complaint.

On October 10, 2019, the Court granted in part Plaintiffs' motion for expedited briefing, establishing [*3] a briefing schedule on Plaintiff's motion for preliminary injunction and setting for hearing Plaintiffs' motion for preliminary injunction and the motion to intervene.

On October 14, 2019, Defendants Representative David R. Lewis, Senator Ralph E. Hise, Jr., Speaker Timothy K. Moore, President Pro Tempore Philip E. Berger, Senator Warren Daniel, and Senator Paul Newton (hereinafter "Legislative Defendants") removed this case to the United States District Court for the Eastern District of North Carolina. On October 21, 2019, State Defendants and Legislative Defendants each filed in federal court a brief in response to Plaintiffs' motion for preliminary injunction in accordance with the Court's October 10, 2019 order. Plaintiffs notified and provided to the Court the Defendants' briefs on October 22, 2019, and, on the same date, the federal court remanded this case to state court.

On October 22, 2019, the Congressional Representatives seeking to intervene in this case submitted a brief in response to Plaintiffs' motion for preliminary injunction. On October 23, 2019, Plaintiffs filed a motion to strike the Congressional Representatives' response brief, the Congressional Representatives [*4] submitted a response brief to Plaintiffs' motion, and Plaintiffs submitted a brief in reply to that response brief. Additionally, on October 23, 2019, Plaintiffs submitted a brief in reply to Legislative Defendants' brief in response to Plaintiffs' motion for preliminary injunction.

These matters came on to be heard on October 24, 2019, during which time the Court granted the Congressional Representatives (hereinafter "Intervenor-Defendants") permissive intervention and notified the parties that Intervenor-Defendants' response brief would be considered by the Court in its discretion. Plaintiffs' motion for preliminary injunction was taken under advisement.

The Court, having considered the pleadings, motions, briefs and arguments of the parties, supplemental materials submitted by the parties, pertinent case law, and the record proper and court file, hereby finds and concludes, for the purposes of this Order, as follows.

Political Question Doctrine

Legislative Defendants contend Plaintiffs' claims—challenges to the validity of an act of the General Assembly that apportions or redistricts the congressional districts of this State—present non-justiciable political questions. Such claims are [*5] within the statutorily-provided jurisdiction of this three-judge panel, N.C.G.S. § 1-267.1, and the Court concludes that partisan gerrymandering claims specifically present justiciable issues, as distinguished from non-justiciable political questions. Such claims fall within the broad, default category of constitutional cases our courts are empowered and obliged to decide on the merits, and not within the narrow category of exceptional cases covered by the political question doctrine. Indeed, as the Supreme Court of the United States recently explained, partisan gerrymandering claims are not "condemn[ed] . . . to echo in the void," because although the federal courthouse doors may be closed, "state constitutions can provide standards and guidance for state courts to apply." *Rucho v. Common Cause*, 139 S. Ct. 2484, 2507 (2019).[1]

[1] Likewise, Legislative Defendants' and Intervenor-Defendants' contentions that federal law—i.e., the Elections clause and Supremacy clause of the United States Constitution—serves as a bar in state court to Plaintiffs' action seeking to enjoin the 2016 congressional districts on state constitutional grounds is equally unavailing. Our state courts have jurisdiction to hear

Standing of Plaintiffs

Legislative Defendants and Intervenor-Defendants contend that Plaintiffs lack standing to pursue their claims in this action. The North Carolina Constitution, however, provides: "All courts shall be open; every person for an injury done him in his lands, goods, person, or reputation shall have remedy by due course of law; and right and justice shall be administered without favor, denial, or delay." N.C. Const. art. I, § 18. "[B]ecause **[*6]** North Carolina courts are not constrained by the 'case or controversy' requirement of Article III of the United States Constitution, our State's standing jurisprudence is broader than federal law." *Davis v. New Zion Baptist Church*, 811 S.E.2d 725, 727 (N.C. Ct. App. 2018) (quotation marks omitted); *accord Goldston v. State*, 361 N.C. 26, 35, 637 S.E.2d 876, 882 (2006) ("While federal standing doctrine can be instructive as to general principles . . . and for comparative analysis, the nuts and bolts of North Carolina standing doctrine are not coincident with federal standing doctrine.").

The North Carolina Supreme Court has broadly interpreted Article I, § 18 to mean that "[a]s a general matter, the North Carolina Constitution confers standing on those who suffer harm." *Mangum v. Raleigh Bd. of Adjustment*, 362 N.C. 640, 642, 669 S.E.2d 279, 281 (2008). The "gist of the question of standing" under North Carolina law is whether the party seeking relief has "alleged such a personal stake in the outcome of the controversy as to assure that concrete adverseness which sharpens the presentation of issues upon which the court so largely depends for illumination of difficult constitutional questions." *Goldston*, 361 N.C. at 30, 637 S.E.2d at 879 (quoting *Stanley v. Dep't of Conservation & Dev.*, 284 N.C. 15, 28, 199 S.E.2d 641, 650 (1973)). Although the North Carolina Supreme Court "has declined to set out specific criteria necessary to show standing in every case, [it] has emphasized two factors in its cases examining standing: (1) the presence of a legally cognizable injury; and **[*7]** (2) a means by which the courts can remedy that injury." *Davis*, 811 S.E.2d at 727-28.

Plaintiffs in this case have standing to challenge the congressional districts at issue because Plaintiffs have shown a likelihood of "a personal stake in the outcome of the controversy," *Goldston*, 361 N.C. at 30, 637 S.E.2d at 879, and a likelihood that the 2016 congressional districts cause them to "suffer harm," *Mangum*, 362 N.C. at 642, 669 S.E.2d at 281.

Applicable Legal Standards

At its most basic level, partisan gerrymandering is defined as: "the drawing of legislative district lines to subordinate adherents of one political party and entrench a rival party in power." *Ariz. State Legislature v. Ariz. Indep. Redistricting Comm'n*, 135 S. Ct. 2652, 2658 (U.S. 2016). Partisan gerrymandering operates through vote dilution—the devaluation of one citizen's vote as compared to others. A mapmaker draws district lines to "pack" and "crack" voters likely to support the disfavored party. *See generally Gill v. Whitford*, 138 S. Ct. 1916 (2018).

Plaintiffs claim the 2016 congressional districts are partisan gerrymanders that violate the rights of Plaintiffs and all Democratic voters in North Carolina under the North Carolina Constitution's Free Elections Clause, Art. I, § 10; Equal Protection Clause, Art. I, § 19; and Freedom of Speech and Freedom of Assembly Clauses, Art. I, §§ 12 & 14. Extreme partisan gerrymandering violates each of these provisions of the North Carolina Constitution. **[*8]** *See Common Cause v. Lewis*, 18-

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and decide claims that acts of the General Assembly apportioning or redistricting the congressional districts of this State run afoul of the North Carolina Constitution.

CVS-014001, slip. op. at 298-331 (N.C. Sup. Ct. Sept. 3, 2019).

Free Elections Clause

The North Carolina Constitution, in the Declaration of Rights, Article I, § 10, declares that "[a]ll elections shall be free." Our Supreme Court has long recognized the fundamental role of the will of the people in our democratic government: "Our government is founded on the will of the people. Their will is expressed by the ballot." *People ex rel. Van Bokkelen v. Canaday*, 73 N.C. 198, 220 (1875). In particular, our Supreme Court has directed that in construing provisions of the Constitution, "we should keep in mind that this is a government of the people, in which the will of the people--the majority--legally expressed, must govern." *State ex rel. Quinn v. Lattimore*, 120 N.C. 426, 428, 26 S.E. 638, 638 (1897) (citing N.C. Const. art. I, § 2). Therefore, our Supreme Court continued, because elections should express the will of the people, it follows that "all acts providing for elections, should be liberally construed, that tend to promote a fair election or expression of this popular will." *Id.* "[F]air and honest elections are to prevail in this state." *McDonald v. Morrow*, 119 N.C. 666, 673, 26 S.E. 132, 134 (1896). Moreover, in giving meaning to the Free Elections Clause, this Court's construction of the words contained therein must therefore be broad to comport with the following Supreme Court mandate: "We think the object of all elections **[*9]** is to ascertain, fairly and truthfully, the will of the people--the qualified voters." *Hill v. Skinner*, 169 N.C. 405, 415, 86 S.E. 351, 356 (1915) (quoting *R. R. v. Comrs.*, 116 N.C. 563, 568, 21 S.E. 205, 207 (1895)).

As such, the meaning of the Free Elections Clause is that elections must be conducted freely and honestly to ascertain, fairly and truthfully, the will of the people. In contrast, extreme partisan gerrymandering—namely redistricting plans that entrench politicians in power, that evince a fundamental distrust of voters by serving the self-interest of political parties over the public good, and that dilute and devalue votes of some citizens compared to others—is contrary to the fundamental right of North Carolina citizens to have elections conducted freely and honestly to ascertain, fairly and truthfully, the will of the people. *See Common Cause*, 18-CVS-014001, slip. op. at 298-307.

Equal Protection Clause

The Equal Protection Clause of the North Carolina Constitution guarantees to all North Carolinians that "[n]o person shall be denied the equal protection of the laws." N.C. Const., art. I, § 19. Our Supreme Court has held that North Carolina's Equal Protection Clause protects "the fundamental right of each North Carolinian to *substantially equal voting power." Stephenson v. Bartlett*, 355 N.C. 354, 379, 562 S.E.2d 377, 394 (2002) (emphasis added). "It is well settled in this State that 'the right to vote on *equal terms* is a fundamental right!" *Id.* at 378, 562 S.E.2d at 393 (quoting *Northampton Cnty. Drainage Dist. No. One v. Bailey*, 326 N.C. 742, 747, 392 S.E.2d 352, 356 (1990) (emphasis added)). **[*10]**

Although the North Carolina Constitution provides greater protection for voting rights than the federal Equal Protection Clause, our courts use the same test as federal courts in evaluating the constitutionality of challenged classifications under an equal protection analysis. *Duggins v. N.C. State Bd. of Certified Pub. Accountant Exam'rs*, 29-4 N.C. 120, 131, 240 S.E.2d 406, 413 (1978); *Richardson v. N.C. Dep't of Corr.*, 345 N.C. 128, 134, 478 S.E.2d 501, 505 (1996). Generally, this test has three parts: (1) intent, (2) effects, and (3) causation. First, the plaintiffs challenging a districting

plan must prove that state officials' "predominant purpose" in drawing district lines was to "entrench [their party] in power" by diluting the votes of citizens favoring their rival. *Ariz. State Legis.*, 135 S. Ct. at 2658. Second, the plaintiffs must establish that the lines drawn in fact have the intended effect by "substantially" diluting their votes. *Common Cause v. Rucho*, 318 F. Supp. 3d 777, 861 (M.D.N.C. 2018). Finally, if the plaintiffs make those showings, the State must provide a legitimate, non-partisan justification *(i.e.*, that the impermissible intent did not cause the effect) to preserve its map. *Rucho*, 139 S. Ct. at 2516 (Kagan, J., dissenting).

Generally, partisan gerrymandering runs afoul of the State's obligation to provide all persons with equal protection of law because, by seeking to diminish the electoral power of supporters of a disfavored party, a partisan gerrymander treats individuals who support candidates **[*11]** of one political party less favorably than individuals who support candidates of another party. *Cf. Lehr v. Robertson*, 463 U.S. 248, 265, 103 S. Ct. 2985 (1983) ("The concept of equal justice under law requires the State to govern impartially.")

As such, extreme partisan gerrymandering runs afoul of the North Carolina Constitution's guarantee that no person shall be denied the equal protection of the laws. *See Common Cause*, 18-CVS-014001, slip. op. at 307-17.

Freedom of Speech and Freedom of Assembly Clauses

The Freedom of Speech Clause in Article I, § 14 of the North Carolina Constitution provides that "[f]reedom of speech and of the press are two of the great bulwarks of liberty and therefore shall never be restrained." The Freedom of Assembly Clause in Article I, § 12 provides, in relevant part, that "[t]he people have a right to assemble together to consult for their common good, to instruct their representatives, and to apply to the General Assembly for redress of grievances."

"There is no right more basic in our democracy than the right to participate in electing our political leaders"—including, of course, the right to "vote." *McCutcheon v. FEC*, 572 U.S. 185, 191, 134 S. Ct. 1434, 1440 (2014) (plurality op.). "[P]olitical belief and association constitute the core of those activities protected by the First Amendment." *Elrod v. Burns*, 427 U.S. 347, 356, 96 S. Ct. 2673, 2681 (1976). In North Carolina, the right to assembly encompasses the right of association. *Feltman v. City of Wilson*, 238 N.C. App. 246, 253, 767 S.E.2d 615, 620 (2014). Moreover, **[*12]** "citizens form parties to express their political beliefs and to assist others in casting votes in alignment with those beliefs." *Libertarian Party of N.C. v. State*, 365 N.C. 41, 49, 707 S.E.2d 199, 204-05 (2011). And "for elections to express the popular will, the right to assemble and consult for the common good must be guaranteed." John V. Orth, *The North Carolina State Constitution* 48 (1995).

It is "axiomatic" that the government may not infringe on protected activity based on the individual's viewpoint. *Rosenberger v. Rector & Visitors of Univ. of* Va., 515 U.S. 819, 828, 115 S. Ct. 2510, 2516 (1995). The guarantee of free expression "stands against attempts to disfavor certain subjects or viewpoints." *Citizens United v. FEC*, 558 U.S. 310, 340, 130 S. Ct. 876, 898 (2010). Viewpoint discrimination is *most* insidious where the targeted speech is political; "in the context of political speech, . . . [b]oth history and logic" demonstrate the perils of permitting the government to "identif[y] certain preferred speakers" while burdening the speech of "disfavored speakers." *Id.* at 340-41, 130 S. Ct. at 899.

The government may not burden the "speech of some elements of our society in order to enhance the relative voice of others" in electing officials. *McCutcheon*, 572

U.S. at 20 7, 134 S. Ct. at 1450; *see also Winborne v. Easley*, 136 N.C. App. 191, 198, 523 S.E.2d 149, 154 (1999) ("political speech" has "such a high status" that free speech protections have their "fullest and most urgent application" in this context (quotations marks omitted)). The government also may not retaliate **[*13]** based on protected speech and expression. *See McLaughlin*, 240 N.C. App. at 172, 771 S.E.2d at 579-80. Courts carefully guard against retaliation by the party in power. *See Elrod*, 427 U.S. at 356, 96 S. Ct. at 2681; *Branti v. Finkel*, 445 U.S. 507, 100 S. Ct. 1287 (1980); *Rutan v. Republican Party of Ill.*, 497 U.S. 62, 110 S. Ct. 2729 (1990). When patronage or retaliation restrains citizens' freedoms of belief and association, it is "at war with the deeper traditions of democracy embodied in the First Amendment." *Elrod*, 427 U.S. at 357, 96 S. Ct. at 2682 (quotation marks omitted).

When a legislature engages in extreme partisan gerrymandering, it identifies certain preferred speakers (e.g. Republican voters) while targeting certain disfavored speakers (e.g. Democratic voters) because of disagreement with the views they express when they vote. Then, disfavored speakers are packed and cracked into legislative districts with the aim of diluting their votes and, in cracked districts, ensuring that these voters are significantly less likely, in comparison to favored voters, to be able to elect a candidate who shares their views. Moreover, a legislature that engages in extreme partisan gerrymandering burdens the associational rights of disfavored voters to "instruct their representatives, and to apply to the General Assembly for redress of grievances." N.C. Const. art. I, § 12. As such, extreme partisan gerrymandering runs afoul of these important guarantees in the North Carolina Constitution **[*14]** of the freedom of speech and the right of the people of our State to assemble together to consult for their common good, to instruct their representatives, and to apply to the General Assembly for redress of grievances. *See Common Cause*, 18-CVS-014001, slip. op. at 317-31.

Injunctive Relief

"It is well settled in this State that the courts have the power, and it is their duty in proper cases, to declare an act of the General Assembly unconstitutional—but it must be plainly and clearly the case. If there is any reasonable doubt, it will be resolved in favor of the lawful exercise of their powers by the representatives of the people." *City of Asheville v. State*, 369 N.C. 80, 87-88, 794 S.E.2d 759, 766 (2016) (quoting *Glenn v. Bd. of Educ.*, 210 N.C. 525, 529-30, 187 S.E. 781, 784 (1936)); *State ex rel. Martin v. Preston*, 325 N.C. 438, 449, 385 S.E.2d 473, 478 (1989).

"The purpose of a preliminary injunction is ordinarily to preserve the *status quo* pending trial on the merits. Its issuance is a matter of discretion to be exercised by the hearing judge after a careful balancing of the equities." *State ex rel. Edmisten v. Fayetteville Street Christian School*, 299 N.C. 351, 357, 261 S.E.2d 908, 913 (1980). A preliminary injunction is an "extraordinary remedy" and will issue "only (1) if a plaintiff is able to show *likelihood* of success on the merits of his case and (2) if a plaintiff is likely to sustain irreparable loss unless the injunction is issued, or if, in the opinion of the Court, issuance is necessary for the protection of a **[*15]** plaintiffs rights during the course of litigation." *A.E.P. Industries, Inc. v. McClure*, 308 N.C. 393, 401, 302 S.E.2d 754, 759-60 (1983) (emphasis in original); *see also* N.C.G.S. § 1A-1, Rule 65(b). When assessing the preliminary injunction factors, the trial judge "should engage in a balancing process, weighing potential harm to the plaintiff if the injunction is not issued against the potential harm to the defendant if injunctive relief is granted. In effect, the harm alleged by the plaintiff must satisfy a standard of relative substantiality as well as

irreparability." *Williams v. Greene*, 36 N.C. App. 80, 86, 243 S.E.2d 156, 160 (1978).

Status Quo

The 2011 congressional districts, enacted by the General Assembly on July 28, 2011, were struck down as unconstitutional racial gerrymanders and ordered to be redrawn on February 5, 2016. *See Harris v. McCrory*, 159 F. Supp. 3d 600, 627 (M.D.N.C. 2016). As a result, the 2016 congressional districts were then enacted by the General Assembly on February 19, 2016. N.C. Sess. Laws 2016-1. Plaintiffs' challenge to the 2016 congressional districts is a challenge to S.L. 2016-1 as enacted; hence, the status quo which Plaintiffs desire to preserve is the existing state of affairs prior to the enactment of S.L. 2016-1. Therefore, the existing state of affairs—i.e., the status quo—prior to the enactment of S.L. 2016-1 was the period in which no lawful congressional district map for **[*16]** North Carolina existed absent the enactment of a remedial map by the General Assembly.

Plaintiffs are Likely to Succeed on the Merits

Quite notably in this case, the 2016 congressional districts have already been the subject of years-long litigation in federal court arising from challenges to the districts on partisan gerrymandering grounds. *See Rucho*, 318 F. Supp. 3d 777. As such, there is a detailed record of both the partisan intent and the intended partisan effects of the 2016 congressional districts drawn with the aid of Dr. Thomas Hofeller and enacted by the General Assembly. *See Rucho*, 318 F. Supp. 3d at 803-10 (detailing the history of the drawing and enactment of the 2016 congressional districts); *see also* Declaration of Elisabeth S. Theodore (attaching as exhibits a number of documents from the record in federal court); *Rucho*, 139 S. Ct. at 2491-93.

For instance, Dr. Hofeller was directed by legislators "to use political data — precinct-level election results from all statewide elections, excluding presidential elections, dating back to January 1, 2008 — in drawing the remedial plan," and was further instructed to "use that political data to draw a map that would maintain the existing partisan makeup of the state's congressional delegation, which, as elected **[*17]** under the racially gerrymandered plan, included 10 Republicans and 3 Democrats." *Rucho*, 318 F. Supp. 3d at 805 (internal citations omitted).

As another example, the redistricting committee approved several criteria for the map-drawing process, including the use of past election data *(i.e.*, "Political Data") and another labeled "Partisan Advantage," which was defined as: "The partisan makeup of the congressional delegation under the enacted plan is 10 Republicans and 3 Democrats. The Committee shall make reasonable efforts to construct districts in the 2016 Contingent Congressional Plan to maintain the current partisan makeup of North Carolina's congressional delegation." *Id.* at 807. In explaining these two criteria, Representative David Lewis "'acknowledged freely that this would be a political gerrymander,' which he maintained was 'not against the law,'" *id.* at 808 (citation omitted), while also going on to state that he "propose[d] that [the Committee] draw the maps to give a partisan advantage to 10 Republicans and 3 Democrats because [he] d[id] not believe it[would be] possible to draw a map with 11 Republicans and 2 Democrats," *id.* (alterations in original).

Moreover, when drawing the 2016 congressional districts, Dr. Hofeller **[*18]** used "an aggregate variable he created to predict partisan performance" all while "constantly aware of the partisan characteristics of each county, precinct, and VTD." *Id.* at 805-06.

Finally, the redistricting committee, and ultimately the

General Assembly as a whole, approved the 2016 congressional districts by party-line vote. *Id.* at 809.

In light of the above, this Court agrees with Plaintiffs and finds there is a substantial likelihood that Plaintiffs will prevail on the merits of this action by showing beyond a reasonable doubt that the 2016 congressional districts are extreme partisan gerrymanders in violation of the North Carolina Constitution's Free Elections Clause, Art. I, § 10; Equal Protection Clause, Art. I, § 19; and Freedom of Speech and Freedom of Assembly Clauses, Art. I, §§ 12 & 14.

Plaintiffs Will Suffer Irreparable Loss Unless the Injunction is Issued

The loss to Plaintiffs' fundamental rights guaranteed by the North Carolina Constitution will undoubtedly be irreparable if congressional elections are allowed to proceed under the 2016 congressional districts. As discussed above, Plaintiffs' have shown a likelihood of succeeding on the merits of their claims that these districts violate multiple fundamental rights guaranteed **[*19]** by the North Carolina Constitution. And as Defendants have emphasized, the 2020 primary elections for these congressional districts—the final congressional elections of this decade before the 2020 census and subsequent decennial redistricting—are set to be held in March of 2020 with the filing period beginning December 2, 2019.

As such, this Court finds that Plaintiffs are likely to sustain irreparable loss to their fundamental rights guaranteed by the North Carolina Constitution unless the injunction is issued, and likewise, issuance is necessary for the continued protection of Plaintiffs' fundamental rights guaranteed by the North Carolina Constitution during the course of the litigation.

A Balancing of the Equities Weighs in Favor of Plaintiffs

On one hand, Legislative Defendants contend a general harm to them will result from issuing the injunction because the General Assembly will be prevented from effectuating an act of the General Assembly. On the other hand, Plaintiffs' and all North Carolinians' fundamental rights guaranteed by the North Carolina Constitution will be irreparably lost, as discussed above, if the injunction is not granted. Simply put, the people of our State will **[*20]** lose the opportunity to participate in congressional elections conducted freely and honestly to ascertain, fairly and truthfully, the will of the people. The Court finds that this specific harm to Plaintiffs absent issuance of the injunction outweighs the potential harm to Legislative Defendants if the injunction is granted.

Legislative Defendants and Intervenor Defendants also contend the issuance of the injunction will result in disruption, confusion, and uncertainty in the electoral process for them, candidates, election officials, and the voting public. But, again, such a proffered harm does not outweigh the specific harm to Plaintiffs from the irreparable loss of their fundamental rights guaranteed by the North Carolina Constitution. Moreover, while State Defendants would prefer not to move elections or otherwise change the current schedule for the 2020 congressional primary election, they recognize that proceeding under the 2016 congressional districts "would require the Board to administer an election that violates the constitutional rights of North Carolina voters" and acknowledge that the election schedule can be changed if necessary. State Defs. Response Brief at 2. In that **[*21]** vein, State Defendants agree with Plaintiffs that "it would be appropriate for this Court to issue an injunction that relieves the Board of any duty to administer elections using an unconstitutionally gerrymandered congressional redistricting plan." *Id.*

Finally, Legislative Defendants and Intervenor-Defendants contend Plaintiffs simply waited too long to bring their challenge to the 2016 congressional districts in state court. Plaintiffs, however, filed this action in state court only a matter of months after litigation reached its conclusion in federal court, at a time still prior to the candidate filing period. While the timing of Plaintiffs' action does weigh against Plaintiffs, the Court does not find that the timing of Plaintiffs' filing of this action should bar them from seeking equitable relief in the form of the requested preliminary injunction.

Consequently, after weighing the potential harm to Plaintiffs if the injunction is not issued against the potential harm to Defendants if injunctive relief is granted, this Court concludes the balance of the equities weighs in Plaintiffs' favor. Indeed, the harm alleged by Plaintiffs is both substantial and irreparable should congressional **[*22]** elections in North Carolina proceed under the 2016 congressional districts.

Conclusion

Under these circumstances, the Court, in its discretion and after a careful balancing of the equities, concludes that the requested injunctive relief shall issue in regard to the 2016 congressional districts. The Court further concludes that security is required of Plaintiffs pursuant to Rule 65(c) of the North Carolina Rules of Civil Procedure to secure the payment of costs and damages in the event it is later determined this relief has been improvidently granted.

This Court recognizes the significance and the urgency of the issues presented by this litigation, particularly when considering the impending 2020 congressional primary elections and all accompanying deadlines, details, and logistics. This Court also is mindful of its responsibility not to disturb an act of the General Assembly unless it plainly and clearly, without any reasonable doubt, runs counter to a constitutional limitation or prohibition. For these reasons, the Court will, upon the forthcoming filing of Plaintiffs' motion for summary judgment, provide for an expedited schedule so that Plaintiffs' dispositive motion may be heard prior to the close of the filing period for the 2020 primary **[*23]** election.

This Court observes that the consequences, as argued by Legislative Defendants and Intervenor-Defendants, resulting from a delay in the congressional primary—*e.g.*, decreased voter turnout, additional costs and labor for the State Board of Elections—would be both serious and probable should the primary schedule be adjusted as a result of this Order and Plaintiffs' ultimate success on the merits of this action. But as discussed above, should Plaintiffs prevail through motion or trial, these consequences pale in comparison to voters of our State proceeding to the polls to vote, yet again, in congressional elections administered pursuant to maps drawn in violation of the North Carolina Constitution.

This Court, however, notes that these disruptions to the election process need not occur, nor may an expedited schedule for summary judgment or trial even be needed, should the General Assembly, on its own initiative, act immediately and with all due haste to enact new congressional districts. This Court does not presume, at this early stage of this litigation, to have any authority to compel the General Assembly to commence a process of enacting new Congressional districts, and this **[*24]** Court recognizes that such a decision is wholly within the discretion of a co-equal branch of government. The General Assembly, however, has recently shown it has the capacity to enact new legislative districts in a short amount of time in a transparent and bipartisan manner, and that the resulting legislative districts, having been approved by this Court, are districts that are more likely to achieve the constitutional objective of allowing for elections to be

conducted more freely and honestly to ascertain, fairly and truthfully, the will of the people. *See Common Cause v. Lewis*, 18-CVS-014001 (N.C. Sup. Ct., October 28, 2019). The Court respectfully urges the General Assembly to adopt an expeditious process, as it did in response to this Court's mandate in the September 3, 2019, Judgment in *Common Cause v. Lewis*, that ensures full transparency and allows for bipartisan participation and consensus to create new congressional districts that likewise seek to achieve this fundamental constitutional objective.

Accordingly, the Court, in its discretion and for good cause shown, hereby ORDERS that Plaintiffs' motion for preliminary injunction is GRANTED as follows:

1. Legislative Defendants **[*25]** and State Defendants, their officers, agents, servants, employees and attorneys and any person in active concert or participation with them are hereby enjoined from preparing for or administering the 2020 primary and general elections for congressional districts under the 2016 congressional districts established by S.L. 2016-1.
2. Security in an amount of $1,000 shall be required of Plaintiffs pursuant to Rule 65.
3. The Court retains jurisdiction to move the primary date for the congressional elections, or all of the State's 2020 primaries, including for offices other than Congressional Representatives, should doing so become necessary to provide effective relief in this case.

SO ORDERED, this the 28th day of October, 2019.

/s/ Paul C. Ridgeway

Paul C. Ridgeway, Superior Court Judge

/s/ Joseph N. Crosswhite

Joseph N. Crosswhite, Superior Court Judge

/s/ Alma L. Hinton

Alma L. Hinton, Superior Court Judge

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