STATE OF NORTH CAROLINA

COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
No. 18-CVS-014001

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.

LEGISLATIVE DEFENDANTS' AND INTERVENOR DEFENDANTS' PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

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This case is before the Court after a two-week bench trial from July 15 through 26, 2019, where the Court heard evidence related to Plaintiffs' claims that the North Carolina House and Senate redistricting plans, drawn in 2017 (the "2017 Plans"), are so-called "partisan gerrymanders" in violation of various provisions of the North Carolina Constitution. The Plaintiffs are Common Cause, the North Carolina Democratic Party, and individual voters residing in various North Carolina Senate and House districts. The Defendants are state executive branch officials who administer elections and legislators who represent the General Assembly, and the State of North Carolina, in their official capacity. *See* N.C. Gen. Stat. §§ 1-72.2; 120-32.6. The North Carolina Attorney General's office represented the executive-branch officials.[1] Those officials took no position on any issues in the case. The General Assembly (sometimes called "Legislative Defendants"), were represented by outside counsel, as North Carolina law allows. *Id.* § 120-32.6(c). Legislative Defendants took the lead in defending the challenged legislation and were joined by intervenors who are Republican voters who disagree with Plaintiffs' legal and political goals. The Court granted their motion to intervene over Plaintiffs' objection.

The Court entertained post-trial briefing and received competing submissions of proposed findings by the parties. The case is now ripe for adjudication under Rule 52(a) of the North Carolina Rules of Civil Procedure. Legislative Defendants, Representative David R. Lewis, Senator Ralph E. Hise, Jr., Speaker of the North Carolina House of Representatives Timothy K. Moore, and President Pro Tempore of the North Carolina Senate, Philip E. Berger, all in their official capacities; and Intervenor-Defendants Adrain Arnett, Carolyn Elmore, Cathy Fanslau, Connor Groce, Reginald Reid, Aubrey Woodard, and Ben York, who were permitted to intervene

[1] As noted, these officials are election officials. The North Carolina Governor is not a party, nor is the Attorney General.

into this case on February 26, 2019, (Order Granting Mot. to Intervene.), propose that the Court enter judgment against Plaintiffs on every claim. The evidence and legal arguments showed that the claims lack legal foundation and, besides, have no factual basis. There is no cause of action for "partisan gerrymandering," and the Court has no ability to create one without usurping the General Assembly's constitutionally prescribed redistricting role. That the lead Plaintiff, Common Cause, admitted that the point of this case is to end that role only underscores the absence of legal authority for Plaintiffs' claims. Moreover, the evidence shows that the role of partisan considerations was muted, if not counteracted completely, given North Carolina's existing redistricting restrictions. The number of seats that *might* have been impacted by partisan gerrymandering is relatively small, and all sides agree that only a *substantial* impact could even theoretically arise to a legally cognizable claim. For these reasons, and those stated below, the only appropriate course of action is for this Court to dismiss the claims in full.

PROPOSED FINDINGS OF FACT

A. History and Development of the 2017 Plans

(1) North Carolina's Redistricting Process In 2017

1. In 2011, new census data required the General Assembly to redraw its House and Senate districts to comply with the Equal Protection Clause's one-person, one-vote principle.

2. On May 19, 2015 a group of individual plaintiffs initiated a suit (*Covington v. North Carolina*) 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 alleging that numerous legislative districts were racial gerrymanders. This case was reference at trial, the related briefs, and in these findings as the "*Covington* case" or "*Covington* litigation."

3. Because the Supreme Court has held that a "political explanation" for a "districting decision" is a "legitimate" defense to a racial-gerrymandering claim, one question that often arises in racial-gerrymandering cases is whether partisan considerations predominate over racial ones. *Easley v. Cromartie*, 532 U.S. 234, 235 (2001). In an "Analysis of Statewide Evidence," the *Covington* court addressed this issue and found "no evidence" that partisan goals "played a primary role" in 2011. *Covington*, 316 F.R.D. at 129, 139. In fact, the *Covington* court found that "the evidence suggests the opposite." *Id.* at 139. The *Covington* court relied on the statements of the redistricting chairs to conclude that "politics was an afterthought." *Id.*

4. On August 11, 2016, a three-judge panel concluded that many districts in the 2011 plans were racial gerrymanders and granted the *Covington* Plaintiffs' relief and ordered Legislative Defendants to draw new districts. An appeal ensued, and ultimately the Supreme Court vacated the District court's remedial order, and remanded the case for the District Court to fashion a schedule for the Legislature to enact new maps.

5. Shortly after the Supreme Court decision in *Covington*, legislative leaders, Senator Ralph Hise and Representative David Lewis, met and hired map drawing consultant Dr. Thomas Hofeller. (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-9 at 2-5.) Dr. Hofeller was engaged on June 27, 2017. (PTX641.)

6. On July 26, 2017, the Senate Redistricting Committee and the House Select Committee on Redistricting met jointly ("Joint Committee") for organizational and informational purposes. (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-7 at 24.) At that meeting, committee chairs made available to committee members information regarding 2010 Census population by county, the method of calculating ideal House and Senate districts for population purposes, maps submitted by Common Cause for House and Senate plans, maps that reflected the

county grouping formula that Common Cause used, and the opportunities that would be available for public comment on proposed redistricting plans to be considered by the committee. (*Id.* at 5-7.) No votes were taken at the meeting.

7. The Joint Committee then met on August 4, 2017, and received public comment about potential criteria for new maps. (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-8 at 26-69.) Among the recommendations the public made, many called for: compact and contiguous districts, to keep counties whole, to avoid dividing municipalities, and to keep racial data out of the criteria. (*Id.* at 39, 40, 41, 43-46, 53-54.)

8. The General Assembly received this feedback and incorporated it to the extent possible. For instance, public commenter William Smith noted that "Voting precincts should not be divided" (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-8 at 43), and his comment was specifically cited by Representative Lewis in explaining the criteria at a joint meeting on August 10 (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-9 at 79). Similarly, commenter Dianna Wynn asked the committee to "avoid dividing counties and municipalities where possible." (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-8 at 46.) She was later cited as a basis for the criterion limiting splitting municipalities by Representative Lewis. (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-9 at 66.)

9. On August 10, 2017, the Joint Committee met to adopt criteria to draw new maps. Input for the criteria was based on review of public comments from August 4, 2017, and through comments submitted through the General Assembly website, as well as proposed criteria submitted in writing by Senators Smith-Ingram, Blue and Clark. (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-9 at 4-5.) During the proceedings, the Joint Committee considered, and then adopted, criteria to be used in drawing new legislative plans. The criteria included:

a. "Equal Population." The Joint Committee unanimously adopted this criterion. (*Id*. at 7-13.)

b. "Contiguity." The Joint Committee adopted this criterion by a vote of 24-14 in the House and a vote of 8-4 in the Senate. (*Id*. at 58-65.)

c. "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." The Joint Committee unanimously adopted this criterion. (*Id*. at 18-24.)

d. "Compactness: The Committees shall make reasonable efforts to draw legislative districts . . . 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. 482 (1993)." (*Id*. at 24-25.) The Joint Committee adopted this criterion, called by Representative Dollar, "[t]he most precise guidelines . . . that the General Assembly's ever adopted with respect to compactness" (*Id.* at 30) by a vote of 24 to 14 in the House and 9-3 in the Senate. (*Id*. at 37-43.) When asked by members of the Democratic party why these

two methods, Representative Lewis pointed out that "these are the two best-known . . . best understood . . . two that the courts have referred to." (*Id*. at 29.)[2]

e. "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." (*Id*. at 79.) The Joint Committee adopted this criterion by a vote of 24-14 in the House, and a vote of 8-4 in the Senate. (*Id*. at 98-104.)

f. "Municipal Boundaries: The Committees may consider municipal boundaries when drawing legislative districts in the 2017 House and Senate plans." (*Id*. at 105.) The Joint Committee passed this criterion by a vote of 24-14 in the House, and a vote of 8-4 in the Senate. (*Id*. at 112-19.)

g. "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." (*Id*. at 119.) The Joint Committee passed this criterion by a vote of 24-14 in the House, and a vote of 8-4 in the Senate. (*Id*. at 125-32.) The General Assembly followed this criterion both by avoiding pairings of members of both parties and attempting to preserve, where possible, incumbents' territory and

[2] While the North Carolina State Board of Elections ("SBE") will be responsible for setting uniform standards for drawing precinct boundaries in 2020, the SBE does not impose, and did not impose on the precincts that existed throughout 2017, any uniform substantive standards on county boards of elections for drawing precinct boundaries aside from the requirement that precincts consist of contiguous territory. (*See* Affidavit of Brian Neesby, LDTX315.)

constituencies. (LDTX155; LDTX013 at 14:1–6; PTX603 at 119:2–120:7; LDTX14 at 8:17–11; *see also* Tr. 152:2–14 (Senator Blue testifying about decisions made to preserve the "territory" of incumbents); LDTX08 at 49:20–50:1 (change made to better reflect legislator's view of communities of interest); *Id*. at 54:5–67:12 (same from Senator Blue).)

h. "Election data: Political considerations and election results data may be used in the drawing of legislative districts in the 2017 House and Senate plans." (*Id*. at 132.) The Joint Committee passed this criterion by a vote of 24-13 in the House, and a vote of 8-4 in the Senate. (*Id*. at 141-48.)

i. "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." (*Id*. at 148.) The Joint Committee passed this criterion by a vote of 24-13 in the House, and a vote of 8-4 in the Senate. (*Id*. at 159-65; *see also* LDTX155.)

10. Many of these criteria were very similar to several criteria proposed by Senators Blue and Smith-Ingram. 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. 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.)

11. On August 19, 2017, the proposed 2017 House plan was released on the General Assembly website. On August 20, 2017, the proposed 2017 Senate plan was released on the

General Assembly website. On August 21, 2017, a series of statistical information and reports were released for the proposed House and Senate plans.

12. On August 22, 2017 public hearings were held in seven different locations across the state on the proposed plans. (Tr. Pub. Hearings, Aug. 22, 2017 (Raleigh Site) at 8; Doc. 184-10.) Input was also received from voters who submitted comments through the General Assembly website. *Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-9 at 4-5.) On August 22, 2017 public hearings were held in seven different locations across the state on the proposed plans. (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-10 at 8.) Input was also received from voters who submitted comments through the General Assembly website. (*Covington v. North Carolina*, 1:15-cv-00399, ECF No. 184-9 at 4-5.)

13. Despite the adopted criterion that race not be used in the drawing of districts, members of the Democratic party repeatedly pushed to draw districts based on race without submitting evidence justifying the use of race in that manner. (*See* LDTX013 at 50-52, 95-103.) When the Senate Redistricting Committee met on August 24, 2017, Senators in the Democratic party such as Senators Blue and Van Duyn advocated for a racial numerical quota during the debate, which the Senate refused to entertain in the absence of evidence of legally sufficient racially polarized voting necessary to justify the use of racial quotas. (LDTX008 at 67-77, 95-99.) Senators also emphasized prioritizing traditional redistricting principles. (*Id.* at 114-115.) Thus, when Senator Lowe advocated for the use of race in districts in Guilford County, Senator Hise explained that the district followed the city limits for Greensboro, thus adhering to a criterion to consider municipal lines in drawing districts. (*Id*. at 36.) The Senate maps were approved by the Committee and no racial data was used in the development, drawing, or assignment of voters to districts by a vote of 9-4. (*Id*. at 46, 131.)

14. The Senate met on August 25, 2017 to debate the proposed plan from the Senate Redistricting Committee. Senator Hise explained the criteria used to draw the proposed map. LDTX009 at 5-11.) During the debate, Senator Blue brought forth an amendment which adjusted two districts in Wake County. (*Id*. at 11.) During debate over the amendment Senator Blue explicitly stated that the districts "are not racially gerrymandering" and that it "cures the gerrymander that the Court found in Wake County. (*Id*. at 13-14.) Likewise, Senator Blue affirmatively stated that he did not consider the Wake County Amendment to be a political gerrymander. (*Id.* at 14-16; Tr. 145:10-14.) Senator Blue's amendment passed by a unanimous vote. (LDTX009 at 17.)

15. Representative Jackson put forth a proposed House plan on behalf of the *Covington* Plaintiffs. (LDTX013 at 46, 59.) When discussing the *Covington* Plaintiffs' maps, Representative Dollar noted that the plaintiffs' maps double-bunked 18 individuals, 12 more than the committee's proposed plan, and appeared "to be quite political and gratuitous." (*Id*. at 61.) Representative Stevens also noted that the plaintiffs' plan split at least 43 new precincts, while the committee's plan only split 19 new precincts. (*Id*. 70-73.) Representative Brawley objected to the portion of plaintiffs' map in Mecklenburg County that split the cities of Matthews and Mint Hill into three districts. (*Id*. at 93-95.) Representative Brawley also noted that the plaintiffs' proposed map in Mecklenburg County would likely "elect 11 Democrats and one Republican" and stated that it looked "like a partisan gerrymander of some of the most blatant type by breaking apart communities which have separate identities and putting them under the dominance of the City of Charlotte." (*Id*.) Representative Lewis went on to state that the map made by the *Covington* plaintiffs was "clearly [a] Democratic gerrymander." (*Id*. at 102.)

16. The committee's proposed House map was approved by the House Redistricting Committee by a vote of 25-16. (LDTX013 at 125.) On August 28, 2017, the House met to consider the House plan approved by the House Redistricting committee. Representative Lewis explained the criteria used to draw the proposed map. (LDTX014 at 4-8.) After debate on the floor, the House passed the plan by a vote of 65-47. (*Id*. at 61.)The Senate likewise passed the Senate plan by a vote of 31-15. (LDTX010 at 54-55.)

17. Both the House and Senate plans met the criteria adopted by the Joint Committee. In terms of compactness, both plans were within both the Reock and Polsby-Popper score ranges. (LDTX013 at 11-12; LDTX008 at 14.) Both plans adopted the optimum county grouping required by the Whole County Provisions Article II ("WCP"). As a result, for example, the House plan split only 40 counties. (LDTX013 at 11.) This compares to 60 split counties in the 2001 plan and 49 in the 2011 plan. (*Id.*) The House plan also had fewer municipal splits than many in prior years, with only 78 splits, compared to 123 in 2009 and 144 in 2011. (*Id.* at 11-12.) The House plan also reduced the number of split precincts with 49 total split precincts in the plan, but with 30 of those remaining from untouched districts from the 2011 plan. (*Id.* at 12-13.) Comparatively, the 2009 House plan had 285 split precincts, and the 2011 plan had 395 split precincts. (*Id.)* In addition, the Senate plan split only 12 counties. (LDTX008 at 6.) This compares to 51 split counties in the 2001 plan and 19 in the 2011 plan. (*Id*.) The Senate plan also had fewer municipal splits than many in prior years, with only 61 splits, compared to 86 in 2011. (*Id*. at 9.) The Senate plan also reduced the number of split precincts with 9 total split precincts in the plan. (*Id*. at 8.) Comparatively, the 2003 Senate plan had 55 split precincts, and the 2011 plan had 257 split precincts. (*Id*.)

18. The 2017 plans also complied with the incumbency protection criterion. Except where the WCP required the pairing of incumbents, the 2017 plans provide all incumbents of both parties a district in which that incumbent has a fair chance of being elected. (LDTX013 at 13-14.)

19. 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. (*See Covington v. North Carolina*, 1:15-cv-00399, ECF No. 187.) The *Covington* Court agreed and appointed a Special Master, Nathan Persily, to re-draw those districts. (*See Covington v. North Carolina*, 1:15-cv-00399, ECF No. 202.) Dr. Persily filed proposed altered districts for the districts *Covington* Plaintiffs alleged were still racial gerrymanders, as well as new districts for Wake and Mecklenburg Counties, along with a summary of his changes, on January 5, 2018. (*See* LDTX 159.) Legislative Defendants appealed these changes to the Supreme Court. On June 28, 2018 the United States Supreme Court issued an order affirming the Special Master's districts as they related to Senate Districts 21 and 28 and House Districts 57 and 21, but not new districts for Wake or Mecklenburg Counties. *See North Carolina v. Covington*, 138 S. Ct. 2548 (2018). Ultimately, the Special Master's Final Report altered the following districts: SD21, SD19, SD28, SD24, SD27, HD21, HD22, HD57, HD59, HD61. (LDTX159.)[3] The Special Master also specifically reviewed the 2017 Enacted Plan and chose to keep the General Assembly's version of HD58 and HD60 in his recommended changes. (*Id.*)

(2) Democratic Voters are More Concentrated Than Republican Voters

20. In the 2010 U.S. Senate race, Republican Richard Burr received 1,458,046 votes (54.81%) and Democrat Elaine Marshall received 1,145,074 votes (43.05%). Burr won a majority

[3] A more detailed version of the Special Master's plan and report can be found at North Carolina General Assembly, Special Master Report available at https://www.ncleg.gov/RnR/Redistricting/SpecialMasterReport.

of votes in 77 counties and Marshall won a majority of votes in 23 counties. (Joint Stipulations (Jt. S.) No. 9; Exs. 1, 2.)

21. In the 2012 gubernatorial race, Republican Pat McCrory received 2,440,707 votes (54.62%) and Democrat Walter Dalton received 1,931,580 votes (43.23%). McCrory won a majority of votes in 77 counties and Dalton won a majority of votes in 23 counties. (Jt. S. No. 47; Exs. 3, 4.)

22. In the 2014 U.S. Senate Race, Republican Thom Tillis received 1,423,259 votes (48.82%) and Democrat Kay Hagan received 1,377,651 votes (47.26%). Tillis won a majority of votes in 68 counties and Hagan won a majority of votes in 32 counties. (Jt. S. No. 54; Ex. 5.)

23. In the 2016 Presidential Race, Republican Donald Trump received 2,362,631 votes (49.83%) and Democrat Hillary Clinton received 2,189,316 votes (46.17%). Trump won a majority of the votes in 76 counties and Clinton won a majority of the votes in 24 counties. (Jt. S. No. 61; Ex. 6.)

24. In the 2016 U.S. Senate race, Republican Richard Burr received 2,395,376 votes (51.06%) and Democrat Deborah Ross received 2,128,165 (45.37%). Burr won a majority of votes in 77 counties and Ross won a majority of votes in 23 counties. (Jt. S. No. 62; Ex. 7.)

25. In the 2016 Gubernatorial race, Democrat Roy Cooper received 2,309,157 votes (49.02%) and Republican Pat McCrory received 2,298,880 votes (48.8%). Cooper won a majority of votes in 28 counties and McCrory won a majority of votes in 72 counties. (Jt. S. No. 63; Ex. 8.)

26. In the 2016 Lieutenant Governor race, Republican Dan Forest received 2,393,514 votes (51.81%) and Democrat Linda Coleman received 2,093,375 votes (45.32%). Forest won a majority of votes in 75 counties and Coleman won a majority of votes in 25 counties. (Jt. S. No. 64; Ex. 9.)

27. In the 2016 Attorney General race, Democrat Josh Stein received 2,303,619 votes (50.27%) and Republican Buck Newton received 2,279,006 votes (49.73%). Stein won a majority of votes in 32 counties and Newton won a majority of votes in 68 counties. (Jt. S. No. 65; Ex. 10.)

a. Divided Precincts or VTDs and Divided Precincts in Current and Prior Legislative Plans

28. Listed below are the divided precincts or VTDs, as appropriate, and the divided municipalities for the cited House and Senate Plans enacted in 2003, 2009, 2011 and 2017. The figures below include any split precincts or VTDs, as appropriate, or split municipalities that are divided across two or more districts in which a portion of the precinct or VTD or municipality in one of the districts has zero population. The figures below also include any split municipalities that are divided where the municipality is itself divided between two or more counties, which may fall into Separate county groupings.

SENATE

Senate Plan Year	Split Municipalities	Split VTDs
2003	55	55
2011	86	257
2017	63	10

HOUSE

House Plan Year	Split Municipalities	Split VTDs
2009	93	198
2009 (2010 Geography)	123	285
2011	114	395
2017	116	49

(Second Set of Stipulations ("S. St.") No. 2.)

29. The parties stipulate that, at the meeting of the House Committee on Redistricting on August 25, 2017, on pages 12:22-13:24, Representative Lewis stated that the 2009 House Plan divided 285 VTDs and 123 Municipalities. This statement by Representative Lewis was based on

counting the number of times the 2009 House Plan splits a municipality or VTD according to the 2010 geography – that is, the municipality and VTD boundaries in place in 2010, rather than the municipality and VTD boundaries that were in place when the 2009 House Plan was developed and enacted. (S. St. No. 3.)

b. Members Elected to the General Assembly in 2010, 2016, and 2018

30. The following chart shows the number of Democratic and Republican members elected to the General Assembly in 2010, 2016, and 2018.

SENATE

Year	Democratic Senators	Republican Senators
2010	19	31
2016	15	35
2018	21	29

HOUSE

Year	Democratic Reps.	Republican Reps.
2010	52	68
2016	45	75
2018	55	65

(S. St. No. 1, Exs. 1 and 2.)

31. In 2018, ten (10) African-Americans were elected to the North Carolina Senate. (S. St. No. 1, Ex. 1.)

32. In 2018, twenty-six (26) African-Americans were elected to the North Carolina House of Representatives. (S. St. No. 1, Ex. 2.)

B. Legislative Defendants' Fact Witnesses

(1) William R. Gilkeson, Jr.

33. Mr. Gilkeson worked in the Legislative Analysis Division of the General assembly as a Staff Attorney from 1985-2010. (Tr. 1704:22-1705:25.) Among his other duties as a staff

attorney, Mr. Gilkeson assisted the redistricting committee and analyzed various plans and amendments for compliance with the Voting Rights Act. (Tr. 1705:5-19; 1706:7-18; 1706:20-1708:10.) During Mr. Gilkeson's twenty-five year tenure, the Democratic party controlled the legislative redistricting cycles during 1991 and 2000. (Tr. 1706:7-18.)

34. While Mr. Gilkeson was drafting or working with drafts of redistricting plans as a staff attorney, the legislator working with Mr. Gilkeson was entitled to confidentiality of his work. (Tr. 1706:19-1707:19.) In fact, it was not unusual at all for the plans to be drafted in secret and then introduced later for the public to see. (*Id.*)

35. Mr. Gilkeson was also involved in drafting plans and amendments for the 2017 legislative redistricting cycle. (Tr. 1708:11-15.) In fact, Mr. Gilkeson drew the maps (hereinafter "Covington House" or "Covington Senate" maps) that democratic leaders introduced, that were drawn on behalf of the *Covington* Plaintiffs, working in conjunction with the *Covington* Plaintiffs' attorneys. (Tr. 1708:16-1710:5.)

36. Mr. Gilkeson did not use the publicly available computer terminals located at the General Assembly for the public to come and draw maps. (Tr. 1712:18-1713:8.) Instead, Mr. Gilkeson drew the maps privately at the office of his client, Nexus Strategies, where his work would be shielded from the public. (*Id*.)

37. Upon drafting the Covington House and Senate Maps, Mr. Gilkeson met with certain Democratic legislators regarding the maps and their respective districts. (Tr. 1713:13-24.) Despite not having any attorney/client relationship with Democratic legislators, Mr. Gilkeson met with most of the House Democratic legislators including House Minority Leader, Representative Darren Jackson, and the entire House delegations from Wake and Mecklenburg counties. (Tr. 1715:11-14; 1713:25-1714:15.) Mr. Gilkeson likewise met with almost every Democratic member

of the Senate, including Senate Minority Leader, Dan Blue. (Tr. 1714:16-21.) Instead of meeting with the legislators in their legislative offices, the meetings took place in the office of Nexus Strategies. (Tr. 1721:13-1722:1.)

38. During these legislative meetings, Mr. Gilkeson generally discussed whether each legislator could be elected in the district he drew for the Covington House or Senate maps. (Tr. 1716:11-17; 1716:25-1717:4.) Mr. Gilkeson also discussed how the Covington House map performed politically, using certain elections with Representative Darren Jackson. (Tr. 1717:12-1720:12.) In his meeting with the Wake County House delegation, Mr. Gilkeson also discussed the political performance of the Wake County House districts he drew. (Tr. 1721:13-1722:1.)

39. Furthermore, Mr. Gilkeson discussed likely election results in meetings with Senator Paul Lowe and Senator Robinson. (Tr. 1720:18-1721:9.) In fact, Senator Robinson and Mr. Gilkeson also discussed the black voting-age population, or "BVAP," level of her district and Senator Robinson wanted Mr. Gilkeson to "draw a district that she would win." (*Id*.)

40. Some legislators that Mr. Gilkeson met with had specific requests or issues with their draft districts. (Tr. 1722:5-1723:22.) Mr. Gilkeson recalls specifically that Representative Richardson from Cumberland County had a problem with the map Gilkeson drew because Representative Richardson wanted a specific precinct in his district and thought that it "would hurt him politically if the precinct wasn't in the district . . . ." (Tr. 1722:5-19.) Mr. Gilkeson also met with Senator Angela Bryant, whose district would be worse for her politically because of the change required by the county groupings formula. (Tr. 1722:20-1723:11.) This constitutional change to the county groupings also impacted Representatives George Graham and Reives, whose districts were not going to be as good for them politically as their prior districts due to the constitutionally required new groupings. (Tr. 1723:12-22.)

41. During the redistricting process, Mr. Gilkeson also assisted in drafting and reviewing simulated House and Senate maps drawn by Campbell law students as a result of a project by Common Cause. (Tr. 1725:2-15.) Once the plans were drafted, Mr. Gilkeson performed a Voting Rights Act analysis of the draft plans after they were drawn, and recommended a few changes to make the maps VRA compliant. (Tr. 1725:13-1726:5.) Mr. Gilkeson did this even though the plans were drafted by the law students without any racial data. (Tr. 1725:20-23.) In conducting his analysis, Mr. Gilkeson recommended a change that increased the BVAP of House District 7. (Tr. 1726:7-22.)

42. Mr. Gilkeson performed similar VRA analysis on the Covington House and Senate plans he drafted. (Tr. 1726:23-1727:9.) As part of this analysis Mr. Gilkeson created charts containing both political and racial data for these House and Senate maps. (Tr. 1726:23-1733:21; *see also* LDTX259, LDTX260). The chart for the House plan shows that where districts with forty percent or more BVAP went down, the number of districts carried by the Democratic candidates went up. (Tr. 1728:15-1729:10; 1731:25-1732:9.) The same occurred in nearly every instance for the analysis of the Covington Senate plan. (Tr. 1732:9-12; 1733:17-21.)

(2) Senator Harry Brown

43. Senator Harry Brown currently represents Senate District 6 in the North Carolina General Assembly. (Tr. 1991:19-24.) Senator Brown has represented Jones and Onslow Counties in the North Carolina Senate for eight terms. (Tr. 1991:23-1992:1.)

44. Senator Brown has not always been a Republican. (Tr. 1992:4-15.) In fact, Senator Brown ran for a House seat in 2002 as a Democrat and was defeated in the primary. (*Id.)* Senator Brown switched his party affiliation to Republican after in-fighting within the Democratic party, where the party itself picked sides in his primary (*Id.*)

45. Senator Brown successfully ran for his seat in 2004, in what he classified as a "tough race" due to the makeup of the district. (Tr. 1992:24-1993:3.) At that time, Senator Brown estimates there were about 10,000-11,000 more registered Democrats than Republicans. (*Id.*)

46. Senator Brown won re-election in 2006 defeating his opponent pretty handily, and ran unopposed for the next ten years, including in the 2008 and 2010 elections, under maps drawn when Democrats were the majority in the legislature. (Tr. 1994:4-25; 2021:11-14; 2023:15-18.)

47. Until 2011, Senator Brown was a member of the minority party in the Senate, but that did not mean that there was little he could do to advance the Republican agenda. (Tr. 2011:2-2012-2.) Senator Brown believes he was able to "accomplish quite a few things in the minority" as he worked to "build relationships" with other members. (Tr. 2011:12-2012:2; 2021:11-19.) In fact, Senator Brown believes that in his first year he was rated the 35th most effective legislator, even though he was a member of the minority party because he worked across party lines, and "would find common ground where [he] could get some help." (Tr. 2021:11-25.)

48. When asked about district boundaries for the Senate Districts while he was a member of the minority party, Senator Brown testified that those districts were not nearly "as clean as the districts are today" because "the districts today are really ruled by the whole county provision" which "cleaned up the map quite a bit" making it, in Senator Brown's opinion, "one of the cleanest [maps] in the nation." (Tr. 2012:16-25.) In fact, Senator Brown also testified that those districts "were what they were at that point" and that they were just what Republicans "had to live with at that point." (Tr. 2013:18-25.) Despite these districts, Senator Brown never participated in any lawsuit asking for the redistricting power to be taken away from the legislature. (Tr. 2030:13-16.)

49. But, Senator Brown does believe that those districts inspired conversations starting in 2007 about planning for the 2010 elections as Republican's knew that "it was legislator's role to draw districts…" and that "the races in 2010 would be important for Republicans to ever consider looking at how districts were drawn." (Tr. 2014:23-2015:15.) Senator Brown testified that after this realization, Republicans put a plan together on how Republicans could win the majority, to push issues that they believed were legislatively important, but also so that they had a voice in how to draw districts. (*Id.*)

50. However, once Republicans did reach a majority in the General Assembly after the 2010 elections, it does not mean that Senator Brown as a member of the Majority party, is able to accomplish everything he would like. (Tr. 2004:4-19.) Even as Senate Majority leader, Senator Brown does not get all of his bills passed in the manner he wants them passed, including a current bill that Senator Brown introduced that will die in the House for lack of support, even with a Republican majority. (*Id.)* Further, controversial bills like the State Budget, can be contentious along more than just party lines. (Tr. 2029:8-23.) For example, when Republicans controlled the House, Senate, and the Governor's seat in 2015, the budget was still not passed by the deadline. (Tr. 2029:8-23.) In fact, Senator Brown testified that he sometimes has a "bigger fight with the [Republican] leadership in the House than I do the Democrats." (*Id.*)

51. In his position as the Majority Leader, Senator Brown is familiar with many of the Republicans recently elected to the state legislature, including Senator Britt. (Tr. 1995:4-17.) Senator Brown was "surprised" when Senator Britt was first elected to Senate District 13 in Robeson and Columbus Counties in 2016, as it's the "district that probably has the fewest Republicans in it than any district in the state." (Tr. 1995:16-1996:1; 1998:22-25.) In fact, Senator Brown is unaware of any Republican being elected from that area of the state before Senator Britt.

(*Id.*) Senator Brown believes that Senator Britt was able to beat the Democrat incumbent in 2016 because Senator Britt "was a really good candidate… an attorney in Lumberton" and "very active" in the National Guard and the community. (Tr. 1996:2-25.) In fact, the Republican Senate caucus were so surprised at Senator Britt's performance in the race, that they didn't invest in the district "because it's so heavily Democrat" until they saw some late polling. (Tr. 1997:1-13.)

52. Senator Britt surprised Senator Brown and the Republican Caucus again by increasing his margin of victory in Senate District 13 in the 2018 election. (Tr. 1997:17-25.) Senator Brown believes that if Senator Britt were not running again, that it would "be a tough district for any other Republican" because there are "so few Republicans in that district." (Tr. 1998:6-14.) In regard to Senate District 13, Senator Brown testified that the makeup of Senator Britt's district "is really controlled by the whole county provision" and that if he and his Republican colleagues didn't have to follow the whole county grouping in the 2017 redistricting cycle, that they could have helped Senator Britt by drawing his district into Brunswick County, which is more Republican. (Tr. 1991:1-22.)

53. Senator Brown is also familiar with Senator John Alexander and Senate District 18 in Wake and Franklin counties. (Tr. 1999:23-2000:20.) Senator Alexander possesses other unique qualities as a candidate that Senator Brown believes helped Senator Alexander win in a close race in 2018. (*Id.*) Specifically, Senator Brown testified that Senator Alexander was a "really good candidate" for Wake County because of his active ties to the community, including the YMCA, for years. (*Id.*)

54. Another important function Senator Brown performs "pretty much every day" is constituent services. (Tr. 2000:21-25.) When performing these services, neither Senator Brown nor his staff ask the constituent his or her political affiliation. (Tr. 2001:1-6.) In fact, Senator

Brown doesn't "know any Senator that does that" because as a Senator "you represent your whole district." (*Id.*)

55. In fact, during his time as a Senator, Senator Brown sees that "very few issues are partisan" and that once bills have gone through the process it becomes more of a compromise between members of both parties as opposed to a party line. (Tr. 2002:3-5.)

56. Senator Brown has also worked on important bipartisan issues to help rural North Carolina counties receive more funding, and when he works on those bipartisan issues he reviews voting statistics to see who he might get to support his bills. (Tr. 2004:20-2007:8.) Senator Brown recently looked at those voting statistics, which revealed that the Senator who votes with the majority the *least*, still votes with the majority about eighty percent of the time, showing the largely bipartisan impact of many of the bills introduced in the Senate. (*Id.*) On the whole, Senator Brown believes that most legislators try to work across party lines, even today, and that legislators "work together on all issues if we can." (Tr. 2011:13-23.) Ultimately, though, Senator Brown admits that legislators are going to disagree at times, but he thinks "[t]hat's a good thing…" because "good debate is a good thing in the legislature." (Tr. 2011:11-23.)

(3) Representative John R. Bell, IV

57. Representative John R. Bell, IV, is the majority leader for the North Carolina House of Representatives, and represents House District 10. (Tr. 1739:16-22.)

58. As Majority Leader, Representative Bell assists the Conference chair to achieve two goals: 1) recruit candidates and 2) win elections. (Tr. 1740:5-6.)

59. In his testimony, Representative Bell highlighted four matters of importance in this litigation based on his experience as the top recruiter for candidates in the North Carolina House of Representatives: 1) the importance of candidates to winning elections; 2) the urban rural divide

that impacts candidates; 3) the importance of issues to any election; and 4) the importance of incumbency advantage to winning elections.

60. Representative Bell made it clear that he could not accomplish the goal of winning elections without successfully recruiting the right candidates—quality candidates that focus on the correct political issues for the region.

61. Representative Bell testified that his district is a conservative area focused on three key issues: 1) agriculture because of its significant economic impact on his area; 2) military issues because of the presence of Seymour Johnson Air Force Base in his area; and 3) disaster recovery in the wake of Hurricanes Matthew and Florence. (Tr. 1740:21-1741:5.)

62. These issues highlight the urban and rural divide between his region, where economic development is a major issue, in stark contrast to a city like Charlotte or Wake County, that does not suffer from population decreases, hurricane devastation, or infrastructure shortcomings. (Tr. 1741:8-1741:22; 1741:24-1742:6.)

63. He credited this distinction in issues relevant to the rural community as compared to issues relevant to the urban community as the root cause that "rural areas becoming more conservative" and "urban areas becoming more liberal." (Tr. 1742:13-15.)

64. As a result of this urban and rural distinction, Representative Bell testified that he often worked across the aisle with Democrats representing his region in the General Assembly and at the municipal level. (Tr. 1742:21-1743:14.)

65. In fact, Representative Bell testified that he could have more in common with a rural Democrat such as Representative Don Davis, than members of his own Caucus, who have "a tendency of being very independent in their thinking." (Tr. 1746:1-2.) As Representative Bell testified, issues are "just bigger than party." (Tr. 1746:20-21.)

66. He testified that this distinction actually created many situations where there would be Republican members elected to the House, but also a number of Democrats "that have actually run county wide and won" in the area where Republicans hold House seats. (Tr. 1799:2-7.)

67. For example, in District 4, the incumbent Republican is the senior Chair of the Agriculture Committee, but the local sheriff was a Democrat who ran in the same year for his seat and won. (Tr. 1807:2-14.) As Representative Bell testified time and again, candidates matter.

68. He also testified to the value in having more than one member represent a particular area or region. Specifically, he noted that split cities or counties create "more voice, more votes." (Tr. 1768:15.) Given the significant urban and rural divide, having more votes when it comes to local, rural issues matters—a reduction in members causes those issues to "lose votes." (Tr. 1768:22.)

69. Representative Bell works with other representatives in his region on common issues so that he and his colleagues can "do everything we can to better our citizens." (Tr. 1743:13-14.)

70. In one circumstance, Representative Bell supported the appointment of a Democratic mayor to the North Carolina Military Affairs Commission. (Tr. 1744:2-8.) Representative Bell did so because he was "the right person for the job." (Tr. 1743:25.)

71. In keeping with his goal to do everything he can to better the lives of citizens in his district, Representative Bell attempts to be "top notch in constituent services" because that is "the easiest way to get re-elected." (Tr. 1745:3-11.) In addition, he takes care to watch the constituent services activity of the members of his caucus. As Representative Bell testified, if he sees a member "slip in that area, we try to ask them if we can help them out." (Tr. 1745:11-12.)

72. Consequently, Representative Bell testified that he and his colleagues provide constituent services to constituents no matter their political affiliation. As Representative Bell testified, "We try to help as many people as possible . . . ." (Tr. 1745:1-2.)

73. In addition to constituent services, Representative Bell testified that incumbency advantage, "mood of the country, mood of the state, local issues that affect the local candidates, [and] candidate recruitment" are all issues that factor into which candidate can win an election. (Tr. 1747:1-14.)

74. Despite these factors, Representative Bell believes that the Democrats could take control of the House of Representatives in North Carolina if a Democrat wins the Presidency of the United States because of increased voter turnout on election day. (Tr. 1748:8-14.)

75. He believes such an outcome is possible because, based on the numerous factors involved in the success of a House campaign, he views a significant number of races as competitive in 2020.

76. And given the number of experts put forward by Plaintiffs who either refused or were unable to explain the definition of a competitive race, Representative Bell came up with a straightforward definition: "if I can win or not win." (Tr. 1752:8-9.)

77. Representative Bell testified that 35 seats could be competitive in the next election, enough to create a majority and overcome the "seawall" Plaintiffs' experts claimed Republicans put in place to retain its majority. (Tr. 1754:7-13.)

78. In addition to the fact that "incumbency plays a huge role" in those 35 races, Representative Bell testified that "local issues, voter turnout, candidate recruitment, open seats" all factored into his determination of whether a republican "can win or not." (Tr. 1754:15-18.)

79. Another factor Representative Bell testified will be important is that "Democrat candidates are very organized. They always have people at the polls. Their party headquarters is always bumping. They are very engaged in the election process." (Tr. 1757:11-14.)

80. This engagement can be seen on a county group basis, as can the impact of candidate quality and politics.

81. The county grouping comprising Representative Bell's House District includes districts 10, 21, 22, 26, 28, 51, and 53. Representative Bell testified these districts are "conservative rural areas." (Tr. 1764:6.)

82. In District 26, Representative Donna White was a "long-time serving school board member" with "a lot of name ID" in a "socially conservative area." (Tr. 1764:15-19.)

83. In District 28, Representative Larry Strickland is "a social conservative," a "long-time school board member," "active in the agriculture community," and the beneficiary of "a very robust and active Republican Party . . . ." (Tr. 1765:1-10.) He also testified that the majority of elected officials in Johnston County are Republican. (Tr. 1765:7-10.)

84. In District 51, Representative John Sauls is a "well-known minister" and former member recruited to run again. As Representative Bell testified, "He's liked by a lot of people." (Tr. 1765:15-21.)

85. This district was formerly held by a Republican, then a Democrat, and then a Republican again. Given the swing in the district over the last few election cycles, Representative Bell testified this district is "absolutely not" a lock for Republicans to win. (Tr. 1766:3-16.)

86. Representative Bell testified that District 53, the District held by Representative Lewis, is held by a long-term incumbent focused on agriculture issues. (Tr. 1766:17-1767:2.)

87. With Johnston County being a fast-growing area in the state in terms of population, Representative Bell testified that the Republican Party could potentially lose all of these seats without the benefits of incumbency. (Tr. 1767:9-23.)

88. The County Grouping encompassing Duplin and Onslow counties include Districts 4, 14, and 15.

89. In District 4, Representative Bell testified about the "social conservative" nature of the District, and the importance of hog farming to its citizens. (Tr. 1769:9-20.)

90. In fact, this District was "ground zero" for a nuisance lawsuit against the hog industry that was litigation brought by out-of-state attorneys against local farmers that would have "crippled" the hog industry. (*Id.*; 1770:3-7.)

91. Representative Jimmy Dickson, the District 4 representative, is a former farmer and local football star, and his opponent was "socially liberal and in opposition to our farmers." (Tr. 1769:9-20.)

92. In District 14, Representative George Cleveland is a long-time incumbent and former marine. (Tr. 1770:14-20.) The Democrats recruited another former marine who was "very conservative." The incumbency advantage of Representative Cleveland helped him prevail. (Tr. 1771:3-4.)

93. In District 15, Representative Phil Shepard was a "very conservative candidate" who prevailed over "a very liberal candidate" in a conservative, military focused area. (Tr. 1772:6-12.)

94. In addition to local issues dominating elections in these districts, Representative Bell testified that incumbency advantage helped Republicans retain these seats. (Tr. 1772:16-20.)

95. The County Grouping encompassing Nash and Franklin counties includes Districts 7 and 25.

96. In District 7, Representative Lisa Barnes was a "very popular County Commissioner" who prevailed in a primary and in the general election. She came to the race with a "tremendous amount of name ID" because she comes from a family of "big sweet potato farmers." (Tr. 1773:6-15.) As an open seat, this race would be competitive. (Tr. 1774:2.)

97. In District 25, Representative Bell testified he recruited a "popular minister," but Republicans "just came up short" in the face of a Democrat who was also a popular minister. (Tr. 1773:16-23.)

98. The County Grouping encompassing districts 8, 9, and 12 include Lenoir and Pitt counties. This County Grouping includes East Carolina University and the medical community. (Tr. 1774:17-20.)

99. In District 8, the Democrats prevailed by recruiting a "dynamic candidate." Representative Kandie Smith is "former Mayor, long-time city council person, very outspoken, very engaged in the community." (Tr. 1774:12-16.)

100. In District 9, Representative Gregory Murphy is a "very popular doctor, a neurologist in the community" widely supported by the medical community (Tr. 1774:20-23.)

101. In District 12, Representative Bell testified he recruited a "former County Commissioner, city council member in La Grange and popular business owner" who was able to defeat an incumbent Democrat in an area impacted by the hog nuisance lawsuit. (Tr. 1775:3-12.)

102. The incumbent in that District also had legal issues and a lack of focus on disaster recovery in an area impacted by Hurricanes Florence and Matthew. (Tr. 1775:8-19.)

103. Representative Bell testified the Republicans could lose in District 9 or 12 if they do not have an incumbency advantage in 2020. (Tr. 1776:3-5.)

104. The County Grouping including Pender, Columbus, and Robeson counties consists of districts 16, 46, and 47.

105. Representative Bell testified that, in District 16, he recruited Representative Carson Smith who is an "extremely popular" and "long-time county sheriff that had retired" for a "socially conservative" area. (Tr. 1788:16-25.)

106. Representative Bell testified that Representative Brenden Jones in District 46 "ran before and lost," but he was focused on disaster recovery in an area hard hit by Hurricanes Matthew and Florence. In fact, Representative Jones "evacuated towns during the disaster." (Tr. 1777:6-14.)

107. With respect to District 47, Representative Bell testified that he "recruited a really good opponent," but the incumbent Democrat Representative Charles Graham "does a good job representing his community." (Tr. 1777:18-23.)

108. Representative Bell testified that if District 16 or 46 were not held by incumbents, the Democrats could prevail in those districts. (Tr. 1778:1-4.)

109. The County Grouping in Buncombe County consists of Districts 114, 115, and 116. Representative Bell testified this a "progressive" area. (Tr. 1778:13.)

110. In District 115, the Republicans did not field a "great candidate." (Tr. 1778:16-17.)

111. In District 114, Representative Bell testified that it is just a "very progressive area" that is "socially liberal." (Tr. 1778:18-22.)

112. In District 116, Representative Bell testified he recruited a "very good candidate" who lost to a "very well known" incumbent. (Tr. 1778:23-1779:4.)

113. This County Grouping is difficult for Republicans to garner electoral success given the incumbency advantage and local issues important to its residents.

114. Given the closeness of these races across all of the County Groupings, Representative Bell testified that, even when it comes to redistricting legislation, he works with Democrats to pass bills. (Tr. 1779:5-20.) In fact, he testified "all Democrats supported" a recent bill on redistricting that he sponsored. (Tr. 1779:14-17.) The redistricting bill recently supported by Republicans and Democrats was a redraw of the Wake County House districts, which was redrawn based on the Covington Special Master's map of those districts. (*See* LDTX159.)[4]

115. He testified that Democrats and Republicans vote together on over 80% of all legislation in the House of Representatives. (Tr. 1782:1-8.)

116. In fact, he testified that drawing a plan that created the maximum number of Republicans would "be a very controversial [effort] and [would be] hard to get support" in the Republican caucus because Republican support "would be diluted" everywhere which would "decimate" the caucus. (Tr. 1780:13-20; Tr. 1781:17-25.)

117. Consequently, how Republicans govern on the issues, how they support their constituents with responsive constituent services, and how they focus on their close ties to their communities matters because, as Representative Bell testified, if a Democrat presidential candidate wins in North Carolina, Democrats could win the House of Representatives. (Tr. 1783:12-20.)

118. And Representative Bell's "testimony showed them the pathway" to win a majority in the House of Representatives (Tr. 1783:16-17.)

119. Because of the 1) the importance of candidates to winning elections; 2) the urban rural divide that impacts candidates; 3) the importance of issues to any election; and 4) the

[4] *See* supra fn.3.

importance of incumbency advantage to winning elections, Representative Bell testified that he and his colleagues do not discriminate against any constituents in passing legislation. (Tr. 1805:2-7; 1811:8-11.)

(4) Morgan Jackson

120. Morgan Jackson is a partner and co-founder of Nexus Strategies. (Deposition of Morgan Jackson ("Jackson Dep.") at 10:20-22, LDTX317; *see also* LDTX316, LDTX318.) Prior to co-founding Nexus Strategies in 2007, Mr. Jackson worked for the North Carolina attorney general's office, for Senator John Edwards, for the North Carolina Democratic Party ("NCDP"), and for several members of Congress from North Carolina. (Jackson Dep. 10:23-12:13.)

121. In the 2000 election cycle, Mr. Jackson was the director of party affairs for the NCDP, helping to oversee campaigns for the state legislature by assisting the local parties and house and senate caucuses with a coordinated campaign effort from the presidential race on down. (Jackson Dep. 13:18-23.) Mr. Jackson's work involved some "targeted races," which were races where the state house and state senate caucuses were investing resources—money and staff. (Jackson Dep. 16:13-19.)

122. In 2018, Mr. Jackson worked for Break the Majority. (Jackson Dep. 30:3-4.) Break the Majority was a partnership between the NCDP, the state house and senate caucuses, and Governor Roy Cooper. (Jackson Dep. 32:1-6.) Caucus directors Ryan Deeter and Casey Wilkinson, NCDP Executive Director Kimberly Reynolds, and Mr. Jackson ran the day-to-day operations of Break the Majority. (Jackson Dep. 32:23-33:3.) After Governor Cooper was elected in 2016, the NCDP's top priority was breaking the Republican majorities of the legislature in 2018, and Break the Majority was formed in mid-2017. (Jackson Dep. 33:3-18; 34:10-17; 35:14-22; 36:11-16.)

123. An NCDP press release dated July 18, 2017 distributed a POLITICO article describing Break the Majority as a "multi-million dollar, multi-year effort to knock Republicans out of the state capital." (LDTX050; Jackson Dep. 37:7-25.) Mr. Jackson confirmed that as of July 18, 2017, Governor Cooper had "quietly banked $1 million for his new group, Break the Majority, and plan[ned] to raise several million more, along with recruiting candidates and then campaigning for them in state senate and general assembly races." (LDTX050; Jackson Dep. 38:8-22.) Break the Majority raised $7 million throughout the entire 2018 election cycle (Jackson Dep. 38:8-39:1), and did in fact recruit and campaign for candidates in those legislative races. (Jackson Dep. 39:3-14.) Mr. Jackson confirmed that the money raised "cover[ed] salaries for what will effectively be a new campaign committee, with a dedicated communications director, research director, several junior staffers and cash for everything from field organizers to ads." (LDTX050; Jackson Dep. 39:15-40:4.)

124. Mr. Jackson agreed that Break the Majority's effort was "unprecedented" and was the largest effort for a legislative cycle in North Carolina history for Democrats. (Jackson Dep. 40:5-11; LDTX050.)

125. Break the Majority believed, based on polling data, that Democrats could pick up seats in the North Carolina House in Mecklenburg, Cabarrus, Forsyth, Guilford, Alamance, Wake, Lee, Harnett, and New Hanover counties. (Jackson Dep. 150:8-24.) Break the Majority competed in every media market in the state and in rural, urban, and suburban house districts. (Jackson Dep. 151:3-8.)

126. Break the Majority believed that Democrats could pick up seats in the North Carolina Senate in the Outer Banks area, and in New Hanover, Cumberland, Piedmont, Mecklenburg, Guilford, Wake, Wayne, and Lenoir counties. (Jackson Dep. 151:9-21.) In almost

every media market in the state, Break the Majority not only targeted races, but spent significant amounts of money in rural, urban, and suburban senate districts. (Jackson Dep. 151:22-152:1.)

127. In 2018, Break the Majority targeted certain races for North Carolina legislative districts held by Republicans in order to flip those seats to Democratic control. (Jackson Dep. 17:12-18; 63:7-13; 65:15-18; *see also id.* at 18:7-21.) Break the Majority targeted more districts than ever before because they believed North Carolina, and the nation, was headed towards a political tsunami for Democrats in 2018 based on several factors: that Democrats were performing well in special elections across the country in 2017 and 2018, that the party out of the presidency historically gains seats in the first midterm election of the presidency, etc. (Jackson Dep. 19:23-20:2; 20:14-22; 20:23-21:1.) Mr. Jackson believed that Democratic voters were very enthusiastic about voting in 2018, in large part in reaction to President Trump's election. He believed this was similar to the environments in 1994 or 2010 when Republicans were highly motivated to turn out in response to Presidents Clinton and Obama. (Jackson Dep. 22:12-21.) Mr. Jackson believed there would be the same kind of momentum for Democrats in North Carolina. (Jackson Dep. 22:22-25.)

128. Break the Majority's work targeting legislative races for the 2018 election began in late 2017 by focusing on recruiting candidates in all 170 races—50 in the Senate and 120 in the House. (Jackson Dep. 18:3-6; 19:1-7.) Break the Majority then identified approximately 40 districts in the House and 14 or 15 or 18 districts in the Senate that were held by Republicans for targeting. (Jackson Dep. 19:8-19.) In identifying races for targeting, Break the Majority examined past performance in earlier races and how Democrats had fared in other races at the district level, the amount of money raised by challengers and incumbents, and polling about candidates and issues motivating voters. (Jackson Dep. 19:20-23; 22:4-11.)

129. Mr. Jackson is familiar with the phrase "targeting voters," which means trying to target persuadable voters and motivating base voters. (Jackson Dep. 23:9-20.) In some elections, the size of the "middle" or persuadable groups of voters is very large, and in others, very small. (Jackson Dep. 24:2-9.) In the 2018 election in North Carolina, Mr. Jackson believed the persuadable voters group was smaller than a traditional election because only the highly motivated voters were going to turn out, and those voters generally have an opinion already of who they support. (Jackson Dep. 24:10-19.)

130. Polling data was used to identify the size of the persuadable voter group in North Carolina in 2018. (Jackson Dep. 24:24-25:2.) In some districts, the group was large, but in some, it was very small. (Jackson Dep. 24:20-23.) Polling was conducted on a district-by-district basis in the targeted districts beginning in early 2018 and continuing through the election, and was used to refine the number of persuadable voters in a district over the course of the election to educate and inform candidates on messaging and voters' reactions to issues. (Jackson Dep. 25:3-26:15; 29:18-23.) The polling was done by the state house and senate caucuses in coordination with the state Democratic party. (Jackson Dep. 28:12-16.)

131. Eventually, Break the Majority's list of targeted races for resources to be spent was narrowed down to 30 districts in the House and 14 in the Senate. (Jackson Dep. 20:3-13.)

132. Break the Majority targeted the following House districts in the 2018 election: House District 1, House District 2, House District 4, House District 6, House District 19, House District 20, House District 22, House District 35, House District 36, House District 37, House District 45, House District 51, House District 59, House District 62, House District 63, House District 64, House District 68, House District 74, House District 75, House District 82, House District 83, House District 93, House District 98, House District 103, House District 104, House

District 105, House District 113, House District 118, and House District 119. (Jackson Dep. 65:4-66:12.) In general, Break the Majority spent anywhere from a hundred thousand dollars to 1 million dollars, and in most of the targeted districts, they outspent Republicans "two or three to four or five to one." (Jackson Dep. 68:13-23.) Break the Majority made "substantial investments" in 22 of these districts—meaning more than seventy-five thousand to one hundred thousand dollars. (Jackson Dep. 106:3-15.)

133. Specifically, Break the Majority expended the following efforts in these districts:

a. House District 1: Spent closer to one hundred or one hundred and fifty thousand dollars, recruited very actively, funded a field effort and paid communications. (Jackson Dep. 64:16-66:12; 66:23-67:15; 68:24-69:5.)

b. House District 2: Spent closer to one hundred thousand dollars, very similar effort to District 1. (Jackson Dep. 63:7-23; 64:16-66:12; 67:16-68:23; 69:6-8.)

c. House District 4: Minimal financial spend, maybe a field operation, fell off the radar and did not merit additional resources. (Jackson Dep. 64:16-66:12; 70:5-71:12.)

d. House District 6: Spent several hundred thousand, at least two or three hundred thousand dollars, recruited candidate, utilized mail, television, and digital advertising (Jackson Dep. 64:16-66:12; 71:13-72:17.)

e. House District 19: Spent several hundred thousand dollars, recruited candidate, conducted research and polling, spent heavily on television and digital advertising. (Jackson Dep. 64:16-66:12; 72:19-74:11.)

f. House District 20: Spent over one hundred thousand dollars. (Jackson Dep. 64:16-66:12; 74:12-75:8.)

g. House District 22: Spent a few thousand dollars or tens of thousands of dollars, not hundreds, had field program but not paid communication, did not merit substantial investment. (Jackson Dep. 64:16-66:12; 80:6-16.)

h. House District 35: Spent several hundred thousand dollars, invested substantial resources on recruiting candidate, polling, television advertising, digital advertising, direct mail, field program. (Jackson Dep. 64:16-66:12; 81:13-82:5.)

i. House District 36: Spent several hundred thousand dollars, field program, digital advertising, television advertising, direct mail. (Jackson Dep. 64:16-66:12; 82:6-15.)

j. House District 37: Spent three or four hundred thousand dollars, maybe more than four hundred thousand dollars, field program, digital, television, and radio advertising. (Jackson Dep. 64:16-66:12; 82:16-83:1.)

k. House District 45: Nothing spent beyond field operation because candidate was not running a great race so shifted resources to other races. (Jackson Dep. 64:16-66:12; 83:2-84:10.)

l. House District 51: Several hundred thousand dollars, recruiting and paid communications across different mediums. (Jackson Dep. 64:16-66:12; 86:12-88:2.)

m. House District 59: Spent fifty or a hundred thousand dollars, from recruiting to paid advertising. (Jackson Dep. 64:16-66:12; 88:3-12.)

n. House District 62: Spent fifty or a hundred thousand dollars, same as District 59. (Jackson Dep. 64:16-66:12; 88:13-23.)

o. House District 63: Spent several hundred thousand dollars, ran a lot of digital advertising, television, and direct mail. (Jackson Dep. 63:7-23; 64:16-66:12; 88:24-90:3.)

p. House District 64: Initial candidate dropped out, and race was not added back in. (Jackson Dep. 64:16-66:12; 90:19-92:3.)

q. House District 68: Spent one hundred thousand dollars, plus or minus, recruited candidate. (Jackson Dep. 64:16-66:12; 92:6-94:1.)

r. House District 74: Spent two to three hundred thousand dollars, very active in recruiting candidate. (Jackson Dep. 64:16-66:12; 94:2-95:15.)

s. House District 75: Spent one hundred thousand dollars, helped recruit candidate, invested digital, mail, and television. (Jackson Dep. 64:16-66:12; 95:16-96:4.)

t. House District 82: Spent fifty or seventy-five thousand dollars, helped recruit the candidate, paid advertising. (Jackson Dep. 64:16-66:12; 96:5-97:1.)

u. House District 83: Spent more than one hundred thousand dollars, but less than two hundred dollars. (Jackson Dep. 64:16-66:12; 97:2-17.)

v. House District 93: Spent over a hundred thousand dollars, potentially over two hundred, but not three, recruited candidate, invested in paid media, field, and direct mail. (Jackson Dep. 64:16-66:12; 97:18-98:13.)

w. House District 98: Spent three to four hundred thousand dollars. (Jackson Dep. 64:16-66:12; 98:14-99:2.)

x. House District 103: Spent five or six hundred thousand dollars, maybe even seven, recruiting, paid media. (Jackson Dep. 64:16-66:12; 99:3-100:15.)

y. House District 104: Spent two or three hundred thousand dollars, recruited candidate, additional paid advertising as done in other districts. (Jackson Dep. 64:16-66:12; 100:16-101:13.)

z. House District 105: Spent two or three hundred thousand dollars, very similar to District 104. (Jackson Dep. 64:16-66:12; 101:23-102:1.)

aa. House District 113: Spent fifty or seventy-five thousand dollars, more direct mail but not on the list for substantial investment. (Jackson Dep. 64:16-66:12; 102:2-25.)

bb. House District 118: Spent fifty thousand dollars, helped recruit candidate but not on list for substantial investment. (Jackson Dep. 64:16-66:12; 104:23-105:12.)

cc. House District 119: Spent more than a hundred thousand dollars, helped recruit candidate, paid advertising, field effort. (Jackson Dep. 64:16-66:12; 105:13-105:22.)

134. Break the Majority targeted the following Senate districts in the 2018 election: Senate District 1, Senate District 7, Senate District 9, Senate District 11, Senate District 13, Senate District 17, Senate District 18, Senate District 19, Senate District 24, Senate District 25, Senate District 27, Senate District 30, Senate District 39, and Senate District 41. (Jackson Dep. 112:1-11.) Break the Majority selected these districts because, based on early polling, believed there was a potential path to victory. (Jackson Dep. 112:12-21.)

135. Specifically, Break the Majority expended the following efforts in these Senate districts:

a. Senate District 1: Spent less than one hundred thousand dollars, but over fifty thousand, actively recruited the candidate, funded ads and direct mail. (Jackson Dep. 111:9-112:11.)

b. Senate District 7: Spent fifty to one hundred thousand dollars, recruited the candidate after initial nominee dropped out. (Jackson Dep. 112:1-11, 114:9-115:9.)

c. Senate District 9: Spent several hundred thousand, helped recruit candidate, made "substantial effort." (Jackson Dep. 112:1-11; 115:10-22.)

d. Senate District 11: Spent a few thousand dollars. (Jackson Dep. 112:1-11; 116:17-117:5; 120:15-19.)

e. Senate District 13: Spent a few thousand dollars or tens of thousands, mostly a field program and no paid advertising. (Jackson Dep. 112:1-11; 120:20-122:4.)

f. Senate District 17: Spent one hundred or two hundred thousand dollars, recruited the candidate and was very involved in the race. (Jackson Dep. 112:1-11; 122:6-17.)

g. Senate District 18: Spent three to four hundred thousand dollars, recruited the candidate, ran a very aggressive field program, paid advertising. (Jackson Dep. 112:1-11; 122:18-123:2.)

h. Senate District 19: Spent three, four, or five hundred thousand dollars, recruited candidate, field operation, very substantial effort. (Jackson Dep. 112:1-11; 127:10-128:5.)

i. Senate District 24: Spent fifty or one hundred thousand dollars, recruited candidate. (Jackson Dep. 112:1-11; 128:6-13.)

j. Senate District 25: Spent fifty or one hundred thousand dollars, recruited candidate. (Jackson Dep. 112:1-11; 130:14-22.)

k. Senate District 27: Spent four or five hundred thousand dollars, recruited candidate, helped with digital and television advertising, direct mail. (Jackson Dep. 112:1-11; 134:14-135:7.)

l. Senate District 30: Spent fifty or one hundred thousand dollars, recruited candidate, helped candidate raise money, contributed field program and some paid communication, recruited candidate and invested in paid communication and field effort. (Jackson Dep. 112:1-11; 135:8-20.)

m. Senate District 39: Spent fifty or one hundred thousand dollars, very active field program. (Jackson Dep. 112:1-11; 136:19-137:5.)

n. Senate District 41: Two or three hundred thousand dollars. (Jackson Dep. 112:1-11; 148:8-16.)

136. Break the Majority made allocation decisions based on their resources, and at the end of the day chose not to spend significant amounts of money in some districts over others. (Jackson Dep. 120:25-121:9.) These decisions were based on polling, the Republican incumbents' favorability, the challenger's campaign and ability to fundraise, issues, etc., and that no one factor was the ultimate decider. (Jackson Dep. 103:13-104:19.) Field efforts, however, were not affected by the decisions to allocate more or fewer dollars to a district. (Jackson Dep. 124:15-125:8.)

137. Mr. Jackson acknowledged that additional efforts must be spent to increase the name recognition of candidates with low to no name recognition. (Jackson Dep. 76:10-14.) He also admitted that there are many factors that go into the "soup" of what makes a candidate successful. (Jackson Dep. 77:4-6.)

138. Break the Majority had 12 to 15 regional field offices out of which staff would work and cover multiple districts in the area. (Jackson Dep. 84:19-85:12; 86:8-11.) There were three or four offices in Wake County and Mecklenburg County, as well as offices in Forsyth, Guilford, Alamance, Buncombe, Durham, Cumberland, New Hanover, Pitt, Orange and Union counties. (Jackson Dep. 85:13-86:7.)

139. Other than "playing around" with an online software for congressional districts for about ten to fifteen minutes, Mr. Jackson has never drawn an electoral map before. (Jackson Dep. 46:12-47:11; 145:24-146:1.) Mr. Jackson does not specifically know how maps are drawn or been involved in the mapdrawing process. (Jackson Dep. 47:15-19.) Mr. Jackson is "vaguely" familiar with the county grouping rules in North Carolina, (Jackson Dep. 48:3-6; 49:3-13), but has no sense of the limitation placed on mapdrawers by the county grouping rules. (Jackson Dep. 133:21-24.) He does not know how the different measure of compactness are calculated. (Jackson Dep. 48:23-25.)

140. Mr. Jackson was not involved in, and had no role in, the 2017 legislative redistricting process. (Jackson Dep. 55:19-56:3.) Mr. Jackson was not involved in discussions with members of either the Republican or Democratic caucuses during the 2017 redistricting process. (Jackson Dep. 133:2-20.)

141. Mr. Jackson acknowledged that he looked at Democratic performance data from the NCDP for the legislative districts shortly after the 2017 legislative maps were introduced (or introduced and passed), and compared the data for the 2017 maps with the data for the 2011 maps. (Jackson Dep. 57:14-58:17; 149:12-24.)

142. Mr. Jackson agreed that Democrats are concentrated in some urban areas of North Carolina and that in some rural areas, Democrats do not do well – "[i]t depends on different portions of the state" because the "issues sets are very different." (Jackson Dep. 142:5-15.)

143. Mr. Jackson considers a competitive district to be between 47 and 53 percent. (Jackson Dep. 61:18-19; 61:24-62:2; 62:12-14.)

144. Break the Majority used DNC support scores for individual voters in the 2018 election for all of the districts they targeted. (Jackson Dep. 152:10-18; 155:6-8; 155:13-17.) Mr. Jackson believes past political performance, and possibly consumer and polling data, are used to create support scores. (Jackson Dep. 152:2-9.) He described how voters are assigned scores from 0 to 100 based on their support for Democrats and their likelihood to vote (and can be categorized groups of "persuadable" or "base" voters) and are targeted based on their scores. (Jackson Dep.152:23-154:3; 155:6-156:6.) Closer to 100 is more support for Democrats and closer to 0 is less. (Jackson Dep. 155:18-21.)

145. Mr. Jackson explained that voters could be calculated in a district by searching for how many voters fell within certain ranges of support and that support scores could identify "persuadable" voters to be targeted for outreach efforts. (Jackson Dep. 156:7-157:8.)

146. Mr. Jackson admitted that in 2018, he believed, and told people as much, that Break the Majority could break the Republican majorities in the North Carolina House and Senate. (Jackson Dep. 171:24-172:4; 180:1-7; 172:21-173:1; 173:24-174:14, 175:1-178:21; LDTX054 and LDTX055.) He, and Governor Cooper, were pleased to have broken Republican supermajorities in the House and Senate in 2018. (Jackson Dep. 180:20-181:7.)

C. Intervenor Defendants' Fact Witnesses

(1) Adrain Arnett

147. Adrain Arnett is a retired retail management worker who has resided at 510 Pink Hill Road, Pink Hill, North Carolina, 28572, since 1996. (Intervenor-Defs.' Trial Ex. ("ID Ex.") 67 ¶¶ 1−3.) His address is within North Carolina State House District ("HD") 4 and North Carolina State Senate District ("SD") 10. (ID Ex. 67 ¶ 3.)

148. Mr. Arnett is a registered Republican who consistently votes for Republican candidates. (ID Ex. 67 ¶ 4.) His current representatives for HD 4 and SD 10 are Republicans and were his preferred candidates in 2018. (ID Ex. 67 ¶ 5.)

149. Mr. Arnett prefers electing Republican legislators and a majority-Republican General Assembly, and believes that if a majority of the members in the General Assembly are Republican, then the policies proposed and enacted by the General Assembly would more closely resemble his personal and political views. (ID Ex. 67 ¶ 6.)

(2) Rev. Cathy Fanslau

150. Rev. Cathy Ann Williams Fanslau is active in ministry in the Lutheran Church, and has resided at 2121-A North Hills Drive, Raleigh, North Carolina, 27612, since 2016. (ID Ex. 66 ¶¶ 1−3.) Her address is in HD 34 and SD 18. (ID Ex. 66. ¶ 3.)

151. Rev. Fanslau is a registered Republican who consistently votes for Republican candidates. (ID Ex. 66 ¶ 4.) Rev. Fanslau's current House Representative is Grier Martin, a Democrat. (ID Ex. 66 ¶ 5.) Representative Martin was not her preferred candidate for North Carolina House in the last election. (*Id.*)

152. Rev. Fanslau prefers electing Republican legislators and a majority-Republican General Assembly, and believes that if a majority of the members in the General Assembly are

Republican, the policies proposed and enacted by the General Assembly would more closely resemble her personal and political views. (ID Ex. 66 ¶ 6.)

(3) Aubrey Woodard

153. Aubrey Otis Woodard is a retired sales director who has resided at 70 Cheestoonaya Court, Brevard, North Carolina, 28712, since 2007. (ID Ex. 65 ¶¶ 1−2, 4.) His address is in HD 113 and SD 48. (ID Ex. 65 ¶ 4.)

154. Mr. Woodard currently serves as chair of the Party's 11th Congressional District Executive Committee. (ID Ex. 65 ¶ 3.) At the time of his affidavit, Mr. Woodard served as acting chair of the North Carolina Republican Party. (*Id.*)

155. Mr. Woodard is a registered Republican who consistently votes for Republican candidates. (ID Ex. 65 ¶ 5.)

156. Mr. Woodard prefers electing Republican legislators and a majority-Republican General Assembly, and believes that if a majority of the members in the General Assembly are Republican, the policies proposed and enacted by the General Assembly would more closely resemble his personal and political views. (ID Ex. 65 ¶ 7.)

(4) Carolyn Elmore

157. Bettie Carolyn Elmore works for her family-owned furniture company, Elmore Furniture, and has resided at 1503 Fairview Street, Dunn, North Carolina, 28334, since 1997. (ID Ex. 100 ¶¶ 1−3.) Her address is in HD 53 and SD 11. (ID Ex. 100 ¶ 3.)

158. Ms. Elmore is a registered Republican who consistently votes for Republican candidates. (ID Ex. 100 ¶ 4.)

159. Ms. Elmore prefers electing Republican legislators and a majority-Republican General Assembly, and believes that if a majority of the members in the General Assembly are

Republican, the policies proposed and enacted by the General Assembly would more closely resemble her personal and political views. (ID Ex. 100 ¶ 6.)

160. Ms. Elmore believes that the districts should fairly represent all citizens of a state, Democrat and Republican alike, and is content with her state House and Senate districts as they are currently drawn. (Pls.' Trial Ex. 783 ("Elmore Dep.") 27:4−28:2, 29:9–15.)

161. Ms. Elmore disagrees with the Plaintiffs' argument that they have a right to be represented by someone who shares their policy preferences. While she believes she has a right to have someone represent her, and she would "like for them to have the same views," ultimately the election is determined by "however the voters vote." (Elmore Dep. 20:16–21:6.)

(5) Reginald Reid

162. Reginald Delano Reid is a customer care advocate residing in Winston-Salem, North Carolina. (ID Ex. 101 ¶¶ 1−2, 4.)

163. Mr. Reid lives in HD 72 and SD 32. (ID Ex. 101 ¶ 4.)

164. Mr. Reid ran as the Republican candidate for SD 32 in 2012, and he ran as the Republican candidate HD 72 in 2018. (ID Ex. 101 ¶ 3; Pls.' Trial Ex. 784 ("Reid Dep.") 13:5–10, 22:10–14.) Mr. Reid ran in these races despite slim chances of victory in heavy Democratic districts. (Reid Dep. 118:15−23, 119:23−120:12.)

165. Mr. Reid is a registered Republican who consistently votes for Republican candidates. (ID Ex. 101 ¶ 5.)

166. Mr. Reid prefers electing Republican legislators and a majority-Republican General Assembly, and believes that if a majority of the members in the General Assembly are Republican, the policies proposed and enacted by the General Assembly would more closely resemble his personal and political views. (ID Ex. 101 ¶ 7.)

167. Mr. Reid's current House Representative is Derwin Montgomery, a Democrat. His current Senator is Paul Lowe, a Democrat. Neither were Mr. Reid's preferred candidate in the last election. (ID Ex. 101 ¶ 6.)

168. Though Mr. Reid believes that he has a right to representation, he does not believe he has "a right for a politician to agree" with him. (Reid Dep. 66:8–68:5.) Although he would prefer a Republican representative in the General Assembly, Mr. Reid believes that the maps do not harm his right to a representative because he is "still going to call" his representative "when [he has] an issue because [he is] his constituent." (Reid Dep. 66:11–15.)

169. Mr. Reid voluntarily lives in a naturally packed Democratic area. He lives "in a neighborhood of upper middle-class hippies[,]" "of Democrats[,]" who are "wonderful people." (Reid Dep. 57:7–10.) Regardless, he chooses to live there for reasons other than whether the legislators who will represent him are more likely to be aligned with his political preferences. (Reid Dep. 58:9–20.)

170. Mr. Reid intervened in this lawsuit because he "see[s] this case as . . . a means, a steppingstone, to take . . . the redistricting process out of the hands of the people in North Carolina[,]" and he wants to "keep [] redistricting in the hands of the people of North Carolina where it belongs." (Reid Dep. 34:24–35:3, 35:8−10.)

(6) Connor Groce

171. Connor Groce is full-time student at the University of North Carolina at Chapel Hill who has resided at 1841 Curraghmore Rd. in the Village of Clemmons in Forsyth County, North Carolina, for his entire life. (Tr. 1463:14–1464:5, 1465:12–16.)

172. Mr. Groce testified that his local community consists of geographic areas consisting of southwestern Forsyth County and eastern Davie and Yadkin Counties and has been

built on associations made through church, school, and community organizations. (Tr. 1464:6–24.)

173. Mr. Groce testified that the area of Clemmons is more politically and culturally similar to eastern Davie and Yadkin counties than it is to Winston-Salem. (Tr. 1470:4–12.)

174. Mr. Groce lives within North Carolina State House District ("HD") 73 and North Carolina Senate District ("SD") 31. (Tr. 1468:14–16, 1473:3–5.)

175. Mr. Groce is a registered voter in North Carolina. He has been affiliated with the Republican Party for as long as he has been registered to vote and has no intention of changing his affiliation. He has been actively involved in Republican politics and currently holds offices within the Republican Party at both the state and local levels. (Tr. 1465:22–1466:17, 1467:6–1468:13.)

176. Mr. Groce testified that he generally supports and votes for Republican candidates because the policy platform of the Republican Party most closely resembles his own political and policy preferences. (Tr. 1466:18–1467:2, 1471:23–1472:4, 1475:2–6.)

177. Mr. Groce testified that he prefers that Republicans hold the majority of seats in each chamber of the North Carolina General Assembly because that would make it more likely that the policies proposed and enacted by the General Assembly will generally align with his own policy preferences. (Tr. 1466:18–1467:2.)

178. Although Mr. Groce generally supports and votes for Republican candidates, he testified that he has voted for Democrats when he felt that doing so was in the best interest of his local community. Mr. Groce testified that he voted for a Democrat for HD 73 in the 2018 election and a Democrat in a local election in Clemmons. (Tr. 1475:7–1467:8, 1472:13–21.)

179. Mr. Groce testified that the general shape of the district lines between SD 31 and SD 32 track political boundaries used to elect county commissioners and school board members in Forsyth County. (Tr. 1469:22–1470:3.)

180. Mr. Groce testified that voters in rural parts of Forsyth County sometimes have different policy priorities than voters in urban parts and those differences do not necessarily break down on partisan lines. As an example, Mr. Groce noted that agriculture policy issues often receive much greater priority in rural parts of the county than in urban parts. (Tr. 1470:4–24.)

181. Mr. Groce testified that he supports the way that his districts are currently drawn because his current districts allow his local community to speak with a united voice at the state level. (Tr. 1477:14–18.)

182. Mr. Groce testified that he doesn't believe in a right to be represented by someone with whom he aligns politically, but that if such a right exists, it should extend to all people regardless of where they fall on the political spectrum. (Tr. 1477:24–1478:8.)

(7) Ben York

183. Ben York is the Town Clerk for the Village of Alamance. (Tr. 2239:14–19.) In that role, he gains knowledge of the community of Alamance and the surrounding areas by interacting with people both "in the office" and "out in the community." (Tr. 2239:20–25.) Mr. York has also done work for other municipalities in Alamance, including Swepsonville and Ossippee. (Tr. 2240:1–5.)

184. Mr. York has lived in Alamance County for the past eleven years at 1720 Old Saint Marks Church Road, Apartment 71E, Burlington, North Carolina 27215. (Tr. 2240:6–13.) He intends to live there through 2020. (Tr. 2241:3–4.) He resides within House District 64 and Senate District 24. (Tr. 2247:2–4, 2251:4–6.)

185. Mr. York has been a registered voter since December 1999, and has been registered as a Republican the entire time. (Tr. 2241:5–10.)

186. Mr. York prefers for the General Assembly to be majority Republican, and finds that "fiscal" policies—a "good budget" and "lower taxes"—are the most important policies to him for the Republican majority to enact. (Tr. 2241:19–25.)

187. Mr. York is politically active, serving in a number of roles in the Republican Party, including as Chairman of the Alamance County Republican Party, which he has served as since 2015. (Tr. 2242:1–7.) As Chairman of the Alamance County Republican Party, Mr. York engages in various typical political activities across the county, including "rais[ing] money, help[ing] recruit candidates for office, mak[ing] sure our precincts are organized [sic] throughout the year and especially on election day." (Tr. 2242:8–13.)

188. In the 2018 election in particular, Mr. York and the Alamance County Republican Party engaged in a number of electioneering activities, including "phone calling[,]" "door knocking," and "trying to make sure that each precinct had someone there to staff it on election day to hand out materials." (Tr. 2242:16–22.)

189. Mr. York likes his state House and state Senate districts. (Tr. 2248:22–23, 2251:24–25.) Both districts are represented by Republicans. (Tr. 2247:1–12, 2251:2–12.) Mr. York's state Representative and state Senator were his preferred candidates in the 2018 elections, and Mr. York voted for them in those elections. (*Id.*)

190. In Mr. York's experience, candidates in Alamance County do better when there is a quality candidate. For example, in the House District 63 race, Mr. York found that Erica McAdoo, the Democratic candidate, was not a formidable opponent for incumbent Rep. Steve Ross because he did not think that "her politics generally line[d] up with the rest of Alamance

County." (Tr. 2244:5–2245:8.) One particular example of how she was out of step with the county was that, after receiving a form from the NRA, Ms. McAdoo "decided not to fill the form out, instead tore it up[,]" and subsequently posted it in the media. (*Id*.) Mr. York believes that sort of messaging does not "play[] very well in Alamance County." (*Id*.)

191. While Alamance County is typically favorable to Republicans, Democrats have had success there. Statewide Democratic candidates have won within House District 63. (Tr. 2246:20–25.) Also, in countywide races, Democratic Superior Court Judge Andy Hanford defeated Republican Pat Nadolski. (Tr. 2245:18–2246:8.) In Mr. York's opinion, it was because Judge Hanford had strong ties to the community of Alamance and was a better candidate. (Tr. 2246:9–19.)

192. Mr. York's House District keeps communities of interest and municipalities whole. (Tr. 2247:22–2248:25.) For example, Precinct 03C is split, but the place where it is split keeps the municipality of Elon whole. (Tr. 2249:4–17.) Burlington is split largely because of the large population of that municipality. (Tr. 2243:10–2244:4.) Haw River is the only other municipality that is split, and that is because a small portion of the town crosses over into another precinct. (Tr. 2248:18–21.)

193. When asked about the attempted illustration of the practical implications of the district lines on Alamance County voters testified to by Plaintiffs' expert, Dr. Christopher Cooper, Mr. York testified that it was not odd that the well-traveled road referenced in Dr. Cooper's report—known commonly in Alamance County as Church Street, rather than US Highway 70—would cross over district lines, especially because several precincts border it. (Tr. 2250:8–21.) Mr. York is unaware of anyone complaining or being confused about which House District they are in as they travel along Church Street. (Tr. 2250:22–25.)

194. Mr. York likes his state senate district because it contains all of Alamance County and portions of the eastern part of Guilford County which are rural and culturally similar to each other. (Tr. 2251:13–2252:9.) The way his senate district is drawn makes sense to him for reasons other than political ones. (Tr. 2252:10–12.)

195. Elections are complex, and district lines are just one of a large number of variables that go into who will win a given election. (Tr. 2253:18–25.)

196. Mr. York intervened in this lawsuit because he believes "the maps should be drawn by the legislature, that's who's tasked with drawing the maps and that's why I'm an intervenor-defendant in this lawsuit." (Tr. 2253:1–6.) He believes that the Plaintiffs are seeking that "the maps that are currently in place are redrawn in a manner that is more beneficial to democrats," and that this requested relief will make him less likely to be represented by a Republican. (Tr. 2252:13–25.)

D. Plaintiffs' Fact Witnesses

(1) Common Cause Representative Robert "Bob" Phillips

197. Robert Darden Phillips is a North Carolina native and educated at the University of North Carolina. (Tr. 40:14-20.) Mr. Phillips worked as a "communications director for Lieutenant Governor Dennis Wicker [Democrat] and has been the Common Cause North Carolina Executive Director for twenty years. (Tr. 40:17-41:1; 41:10-14.)

198. Common Cause North Carolina has 25,000 members and is the state chapter of the national-level Common Cause, which has over 500,000 members. (Tr. 41:12-19.)

199. Redistricting reform is part of Common Cause's mission. (Tr. 42:13-21.) Common Cause views redistricting as "significant" and "consequential" because it determines "who gets elected" and "[u]ltimately what kind of laws and policies are going to be emphasized and then what will not be, what will be ignored." (Tr. 42:23-43:4.)

200. Mr. Phillips is the individual designated to speak for Common Cause during depositions. (Tr. 62:8-10.)

a. Common Cause's Legal Fees Are Funded by a National Partisan Organization.

201. The National Redistricting Foundation is the entity paying Common Cause's legal fees for this litigation. (Tr. 84:21-25.) Mr. Phillips knew the National Redistricting Foundation is connected with a national partisan entity associated with former Attorney General Eric Holder. (Tr. 85:1-4.) Reversing his initial uncertainty, Mr. Phillips fully admitted that the financial sponsor of Common Cause for this litigation, the National Redistricting Foundation, "surely is" the 501(c)(3) affiliate of the National Democratic Redistricting Committee. (Tr. 85:8-17.)

b. Common Causes Redistricting Efforts Failed Under a Democratic-Controlled General Assembly for a Decade and Continued To Fail in a Republican-Controlled General Assembly

202. Common Cause North Carolina has attempted to pass redistricting reform in the North Carolina legislature for the past 20 years. (Tr. 43:23-44:1.) Common Cause has not been able to achieve its goal to establish independent redistricting commissions through the legislative process. (Tr. 62:1-4.)

203. Common Cause supported a number of bills throughout the years seeking to create independent redistricting commissions in North Carolina. (Tr. 61:7-11; Tr. 44:4-10; Tr. 45:17.) However, none of the bills passed the North Carolina legislature (Tr. 61:8-9), including all the bills Mr. Phillips supported during his first decade of effort with Common Cause North Carolina when "the Legislature [was] controlled by Democrats" and "none of the bills . . . passed." (Tr. 61:19-20.) Likewise, "different versions" of Common Cause's bills, although "every reform bill" has had "common language," failed to pass the Republican-controlled legislature. (Tr. 61:21-25; Tr. 44:23-25.)

204. Although Mr. Phillips believes "the Legislature would never" bring about redistricting reform, he has had "a majority of folks in both parties agree to redistricting reform, but . . . can never get them [to agree] at the same time." (Tr. 52:12-20.)

c. Common Cause Challenges the Process—Considers "Any Map" Drawn in North Carolina Unfair

205. The "central part of [Common Cause's] challenge" is "the process," (Tr. 65:7-8), although it is also "challenging the districts that have been outlined in [its] complaint as well as the map." (Tr. 64:25-65:1.) However, Mr. Phillips believes "that any map that is drawn the way we do it in North Carolina is unfair." (Tr. 65:18-19.) In fact, Mr. Phillips believes "any map drawn the way" it is done in North Carolina violates the State's constitution under the "equal protection, free speech and free elections" clauses. (Tr. 65:20-25) In fact, "[i]f the party in power is using the rules that" exist in North Carolina to draw a voting district map, then it is Common Cause's "belief that it's likely to have problems." (Tr. 68:18-25.)

206. Mr. Phillips believed the 2011 districting plans were not "fair" because the "process was allowing the party in power to draw the maps to their favor." (Tr. 69:14-16). Mr. Phillips believes "whether it's the Democrats drawing the map when they're in power or the Republicans…[a]ny time that a map is produced and you have that process allowing a party in power to draw the map," then Common Cause "would feel that it's not going to be [a] fair [map]." (Tr. 69:14-21.)

d. Common Cause Uninvolved in Selecting the Districts It "Challenges"

207. Although Common Cause "challenge[d] the districts and . . . challenge[d] the maps" enacted in North Carolina (Tr. 62:24-25), Mr. Phillips was unable to say at the time of his deposition what actual districts Common Cause was challenging. (Tr. 62:11-13).

208. Deciding which districts to highlight in the complaint "was not something that Common Cause" or Mr. Phillips "was involved in." (Tr. 64:6-14.) Although Common Cause is a plaintiff in the case, it "didn't make a decision about the districts [to challenge] in terms of the specifics." (Tr. 64:16-18.) Moreover, "it would not be accurate to say that Common Cause made the sole decision on the districts to challenge." (Tr. 63:7-8.)

e. Common Cause's Simulated Map

209. Common Cause initiated a project to demonstrate how impartial redistricting can work. (Tr. 66:12-17.) Common Cause's project produced a simulation map (LDX240) for the state House of Representatives. (Tr. 66:6-10.) Common Cause's simulated map was drawn "purely trying to do those things [Common Cause] want[ed][:] compact, contiguity, equal population respect [the] VRA[,] but take politics out of the process." (Tr. 68:1-3) Common Cause "oversaw [the] process" of creating the simulated map as explained by Mr. Phillips. (Tr. 83:9-10.) Using Common Cause's criteria, two Campbell University School of Law students drew the map with assistance provided by Common Cause "mainly" related to mapping software. (Tr. 76:19-23.) Common Cause's simulated map was drawn with an "intent . . . not to gerrymander on a partisan basis." (Tr. 67:25-68:1.) Mr. Phillips believes the simulated map resulted from an "impartial process." (Tr. 68:15-16.) Mr. Phillips admitted by "host[ing] the [map simulation] project," Common Cause took "ownership" of the maps in that sense. (Tr. 83:4-5.)

f. Common Cause's Simulated Map for "Impartial Redistricting" Produces Districts "Essentially Identical" to Enacted Districts.

210. The purpose of producing Common Cause's simulated map was to "really raise the awareness of what a[n] impartial process can do." (Tr. 54:10-11.) On Common Cause's simulated map—designed to demonstrate impartial districting—two districts in Franklin and

Nash Counties (House Districts 7 and 25) were "essentially identical" to the districts adopted by the Legislature in the same country grouping. (Tr. 66:18-67:3.) Common Cause's simulated map produced these "essentially identical" districts without "rigging the map or maps." (Tr. 67:19-20.) Mr. Phillips acknowledged these two enacted districts were "identical in the view of Common Cause." (Tr. 68:7-9.) Yet, despite being "essentially identical" to its own "impartially" produced districts, Common Cause still challenged these two districts in this litigation. (Tr. 67:4-6.)

211. Mr. Phillips "understand[s] that there were four districts in the enacted maps that were identical to what" Common Cause's simulated map "had actually drawn." (Tr. 58:22-24.)[5] Mr. Phillips also understands the duplicated portions between Common Cause's simulated map and the enacted map had "very favorable Republican performance." (Tr. 58:25-58:9.)

g. Common Cause Analyzed Racial Data in Its Simulated Map To Ensure Compliance with the VRA

212. Common Cause analyzed race in its simulated map to ensure VRA compliance. (Tr. 77:14-15.) Mr. Phillips "d[i]dn't know that [Common Cause or the Campbell University law students] really had [racial data] on the front end," but he "was not always with them [i.e. the law students]." (Tr. 77:10-20.) Mr. Phillips' "understanding and recollection" was that Common Cause "looked at [racial data] more on the back end." (Tr. 77:18-22.)

213. LDTX 230 constitutes the results of Common Cause's VRA analysis. (Tr. 84:15-17.)

h. Common Cause Submitted Its Simulated Maps to the *Covington* Court

[5] Plaintiffs' own experts confirm that the enacted House plan "ultimately included four districts that match those drawn by the Campbell Law students: HD-2 and HD-32 (from the Granville-Person-Vance-Warren County); and HD-7 and HD-25 (from the Franklin-Nash County grouping)." (*See* PTX123 at 71.)

214. Common Cause submitted its simulated map with an accompanying letter to the *Covington* court. (Tr. 77:24-78:9; Tr. 78:16-79:3.) Common Cause represented to the *Covington* court its simulated map complied with the VRA. (Tr. 78:11-13.) Common Cause knew the *Covington* court would soon be overseeing the process to redraw districts. (Tr. 78:21-24.)

215. In submitting the map, Common Cause wrote the court asserting its "process works and resulted in districts that were more compact, met the requirements of the Voting Rights Act and resulted in more competitive districts." (Tr. 79:5-8.)

216. Common Cause took "advantage of the fact that the *Covington* court was about to issue some kind of guidance to the North Carolina General Assembly regarding a new map" in deciding to submit its map to the *Covington* court (Tr. 84:6-8)—Mr. Phillips explained Common Cause is "opportunistic." (*id*.)

217. Although Mr. Phillips denied Common Cause North Carolina adopted its simulated maps for purposes of submitting them to the *Covington* court (Tr. 83:24-84:2), Common Cause "oversaw [the] process" of creating the maps (Tr. 83:9); provided the criteria to create the maps (Tr. 67:25-58:3; Tr. 53:11-14; Tr. 53:22-23); assisted with various aspects of drawing the maps (Tr. 77:19-23); and submitted them to a federal court accompanied by a letter that highlighted the maps as being more compact, meeting VRA requirements, and being more competitive (Tr. 79:4-9), omitting reference to any contribution by law students to the maps (Tr. 83:21-23). In fact, in discussing the simulated maps, Mr. Phillips offers: "[O]bviously we [i.e. Common Cause North Carolina] created these maps on the state computer using the Maptitude software," (Tr. 56:13-14), and likewise, Common Cause's own attorney refers to the simulated maps as Common Cause's map. (*See, e.g.*, Tr. 55:5 (asking about "political analysis done of *your*

maps"—referring to Mr. Phillips and Common Cause)); (Tr. 55:25 (questioning on "stat pack information about *your* map"—referring to Mr. Phillips and Common Cause).)

i. Common Cause's Simulated Map Submitted to the Legislature

218. On July 26th, Common Cause's simulated map was introduced to the General Assembly at the first joint redistricting meeting. (Tr. 54:15-19.)

219. Common Cause's simulated map was "presented as the Common Cause maps." (Tr. 54:24-55:3.) Mr. Brent Woodox requested by email for Mr. Raleigh Myers to provide the "stat pack information about [Common Cause's] map to the Legislature." (Tr. 55:5-56:2.) Common Cause had worked with Mr. Myers, a "state employee who works . . . where the state computer is" located and helps the public to use the Maptitude software. (Tr. 55:17-23.) The Common Cause simulated map was drawn on the General Assembly's computers at the legislative building (Tr. 80:4-8), so Common Cause could use the more precise Maptitude software (Tr. 80:9-16). Mr. Phillips was "surprised" the Common Cause maps were introduced to the Legislature. (Tr. 54:18:55:3.)

j. Common Cause Seeks to Force the Legislature through Litigation To Change North Carolina's Districting Process

220. Common Cause believes the "remedy lies" in the North Carolina courts through this lawsuit to enact redistricting reform. (Tr. 69:22-70:3.) It is Common Cause's "hope" that its "successful" "litigation" in this case would produce "some new standards and rules," (Tr. 70:18-19.) Common Cause feels "like litigation [is] the remedy to actually get something done" pertaining to North Carolina redistricting reform. (Tr. 52:10-11.)

221. Ostensibly, Mr. Phillips "agree[d] that the Legislature has a role" in redistricting reform and it "must also pass some kind of redistricting reform." (Tr. 69:16-18.) Indeed, Mr. Phillips declined to acknowledge Common Cause filed this lawsuit to force the Legislature to

enact redistricting reform. (Tr. 69:22-70:20.) However, in a Common Cause press release on November 13, 2018 (LDIX1), Mr. Phillips commented: "[B]ecause lawmakers stubbornly refuse to consider passing redistricting reform, we're left with no choice but to litigate." (Tr. 71:25-72:5.)

222. Mr. Phillips admitted he believed the Legislature was "never going to be able to resolve the redistricting problem," (Tr. 86:6-9), and believes it is for the courts to "vindicate[]" the consequent ramifications of maps purportedly violating "specific legal standards." (Tr. 86:5-87:11.)

k. Common Cause Fully Participates in the Development of the 2017 Plans.

223. The first meeting of the Legislature concerning the 2017 redistricting plans—a joint redistricting committee meeting—took place on July 26, 2017. (Tr. 49:20-50:1.) The Legislature allowed public comments at the meeting. (Tr. 50:2-4.) Mr. Phillips was present at the meeting and believes he spoke at the meeting as he was certain he spoke at some of the redistricting meetings. (Tr. 49:20-50:7.) Mr. Phillips spoke at multiple public redistricting meetings, along with a "long list of folks." (Tr. 50:9-51:12.)

l. Common Cause Waits Until After November 2018 Election Results To File Suit—Seeks Redistricting Reform Suitable to Itself

224. Common Cause did not bring a lawsuit against the challenged districting maps right after they were enacted in 2017 (Tr. 72:11-13), rather Common Cause brought its lawsuit after the results of the November 2018 election were known (Tr. 72:14-17).

225. Common Cause, in "part," waited to see if the North Carolina legislature would enact redistricting reform that Common Cause wanted. (Tr. 733:3-8.)

226. Although, technically, Common Cause is not "actually" "asking the court to create [and/or] turn over the redistricting process to a redistricting commission," (Tr. 87:1-5), if

the North Carolina legislature would pass a bill that provided for a citizens' redistricting commission—one of the reform "paths" Common Cause believes is "better" than the current process—then Common Cause would consider dropping the lawsuit. (Tr. 73:10-74:1.)

m. The 2017 Plans Produce Competitive Elections for the First Time in a Generation—Bucking Common Cause's Definition of Partisan Gerrymandering

227. A "fact" Common Cause looks at in defining "partisan gerrymandering" is the "gap between what the vote share statewide might be and the proportion of seats that one party has." (Tr. 74:23-75:3.) Another "fact" Common Cause looks at is the non-competitiveness of North Carolina General Assembly seats, which has "historically" been the case in the state, including when the "Democrats were in charge." (Tr. 75:3-18.) However, in the 2018 elections—the first time the 2017 enacted map was used—the Democratic Party had a candidate run in every single legislative election. (Tr. 75:23-65:2.) "Literally [each legislative district] had . . . at least two people on the ballot at the same time in every district or practically every district" for the "first time" in the twenty years Mr. Phillips has been at Common Cause. (Tr. 75:1-4; Tr. 40:17-41:1; 41:10-14.) The competition in every district, or nearly every district, occurred for the "first time in a generation"—and happened under the 2017 plan. (Tr. 76:5-8.)

n. Common Cause Lacks a Partisan Gerrymandering Standard

228. Common Cause does not have a standard by which to measure partisan gerrymandering in districting maps, nor does it intend to offer one to the court. (Tr. 74:16-19.)

(2) North Carolina Democratic Party Chairman George Wayne Goodwin

229. Mr. Goodwin's full name is George Wayne Goodwin. (Tr. 1262:7-9.) He obtained a law degree in 1992. (Tr. 1262: 18-19.) After practicing law several years, he was elected to the North Carolina legislature serving in the House for four terms: 1996, 1998, 2000, and 2002. (Tr. 1262:20-25.) He served in the North Carolina Department of Insurance, eventually serving as the

State Assistant Insurance Commissioner and then was elected as the State Insurance Commissioner in 2008 and 2012. (Tr. 1263: 3-14.) Mr. Goodwin currently practices law and serves as a consultant. (Tr. 1263: 15- 17.)

230. Mr. Goodwin is the chairman of the North Carolina Democratic Party ("NCDP") (Tr. 1263: 18- 20), serving in that capacity since on or about February 11, 2017 (Tr. 1263: 21-23). As the NCDP chairman, Mr. Goodwin testified on behalf of the North Carolina Democratic Party. (Tr. 1275: 20:25.)

a. The North Carolina Democratic Party ("NCDP") and Its Mission.

231. "The North Carolina Democratic Party is an association of like-minded individuals" (Tr. 1264:2-3.) The NCDP "support[s] and also help[s] develop policies that [its members] agree on, or that they mostly agree on." (Tr. 1264: 3-5.) "It is part of the [NCDP's] mission in every election to elect as many democrats as [it] can." (Tr. 1282:6-7.)

232. 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.)

233. The NCDP's chairman's duties includes recruiting Democratic candidates to run for elected office, to raise funds for the NCDP's mission, "to help develop a message, to help be a voice for candidates, [to] support candidates," and to "encourage voters to support [the NCDP's] candidates" and "help develop public policy." (Tr. 1264:12- 21.)

234. The NCDP has "well over two million registered Democrats in North Carolina, maybe closer to 2.3 million." (Tr. 1269:10-12.) The NCDP has the most registered voters in

North Carolina of any political party, followed by unaffiliated voters, with the Republican Party coming in third in registered voters. (Tr. 1269: 12-14.)

235. There are registered members of the NCDP in "every House district, every Senate district, and every precinct in North Carolina. (Tr. 1269:15-20.)

b. The NCDP Experiences Historic Success in Recruiting Democratic Candidates To Run for Elected Office Since Passage of the 2017 Plans.

A "basic purpose[]" of the NCDP is "to help recruit candidates," (Tr. 1265:12), and it is a duty of the NCDP Chairman to help "organize the counties and congressional districts for Democrats to help recruit candidates." (Tr. 1265:12-15.) To achieve its mission, the NCDP needs "good candidates that [it] recruit[s]" and supports. (Tr. 1265:13-17.) Before the 2017 Plans, the NCDP struggled in achieving this basic purpose—in the 2014 and 2016 there were nearly 40 "uncontested races" for the legislature in each election. (Tr. 1267:17-22.) In 2014, there were approximately 30 uncontested House races and 9 uncontested Senate races. (Tr. 1267:19-20.) In 2016, there were approximately 31 uncontested House races and 6 uncontested Senate races. (Tr. 1267:21.)

236. But in 2018, after enactment of the challenged 2017 maps, the NCDP was "able to recruit Democrats [to] run in every legislative district." (Tr. 1267:24-25; 1268:20.) This fielding of democratic candidates in all 170 legislative races in an election cycle by the NCDP was the first time to have ever happened in North Carolina's history. (Tr. 1285:16-23.)

c. The NCDP Experiences Historic Fund-raising Success Since Passage of the 2017 Plans.

237. To accomplish its mission, the NCDP "needs . . . the appropriate financial resources to get [the NCDP's] message out" and to fund the "things that are involved with elections." (Tr. 1265:19-21.) A duty of the NCDP Chairman is to "help raise funds for the mission of the North Carolina Democratic Party." (Tr. 1264:12-16.)

238. In 2018, the NCDP raised the "most funds . . . for [a] mid-term election . . . [ever] seen in North Carolina." (Tr. 1268:21-23.) In fact, the NCDP chairman acknowledge that it "appear[s] to be the case" that the NCDP raised more money in the 2018 mid-term elections than it did in the 2016—which was a presidential election year. (Tr, 1284:11-17.) In 2018, the NCDP outraised the Republic Party in the North Carolina legislature races. (Tr. 1268:22-24.) The NCDP chairman observed the NCDP did "incredibly well in fundraising" in the 2018 mid-term elections (Tr. 1283:18-19), outraising the Republican party almost two to one, or at least by "significant millions of dollars" (Tr. 1283:22.) In fact, the NCDP chairman could not name an election cycle before 2018 in which it raised the NCDP raised more than it did in 2018. (Tr. 1284:2-5.)

d. The NCDP Experiences "Tremendous" Enthusiasm for the Party.

239. To achieve its mission, the NCDP "needs . . . enthusiasm for the party and its candidates." (Tr. 1265:13-13.) The NCDP chairman believes "2018 was considered a blue wave election for the [North Carolina] legislature," (Tr. 1268:8-10), and described a "tremendous palpable level of enthusiasm" for the NCDP in the 2018 elections (Tr. 1268:18- 19.)

e. The North Carolina Democratic Party ("NCDP") Can Win an Election Without One Republican Vote.

240. The NCDP chairman admitted, based on analysis of data produced by the NCDP, Republicans makeup a majority of the registered voters in only one of North Carolina's 170 legislative districts (i.e. House District 78). (Tr. 1279:12-18.)

241. Likewise, the NCDP chairman admitted, based on analysis of data produced by the NCDP, that Democrats or a combination of Democrats and unaffiliated voters make up a majority of registered voters in 119 of the 120 North Carolina House districts. (Tr. 1279:25-1280:5.)

242. Indeed, Democrats hold a registration advantage in a majority of the seats in the North Carolina House of Representatives (Tr. 1277:23- 1278:2; 1278:8-12), controlling majorities in 61 House districts (Tr. 1277:15-22.) Conversely, Republicans hold only a registration advantage (not a majority) in only 41 of the 120 North Carolina House districts (Tr. 1278:13-17), and unaffiliated voters hold a registration advantage (not a majority) in 18 of the 120 North Carolina House districts (Tr. 1278:18-22.) The NCDP chairman acknowledged that it "would appear to be the case" that Democrats or unaffiliated voters hold a registration advantage in 69 of the 120 North Carolina House districts. (Tr. 1278:23- 1279:3.)

243. The NCDP chairman acknowledged, based on analysis of NCDP data, that a combination of Democrats or Democrats and unaffiliated voters make up a majority of registered voters in all North Carolina Senate districts. (Tr. 1281:8-14.) The NCDP chairman acknowledged there are more registered Democrats than Republican or unaffiliated voters in 24 North Carolina Senate districts (Tr. 1280:13-16), whereas Republicans hold only a registration advantage, not a majority, in 20 of the 50 North Carolina Senate districts (Tr. 1280:17-20). Consequently, Democrats or unaffiliated voters hold a registration advantage in 30 of the 50 North Carolina Senate districts. (Tr. 1280:21-25.)

244. The NCDP chairman agreed, assuming North Carolina voters voted for their registered parties and unaffiliated voters voted for the Democratic candidate, that a Democrat could be elected in 169 of the 170 North Carolina legislative districts without receiving a single vote from a registered Republican voter. (Tr, 1281:16-25.) However, the NCDP chairman thought "that [was] not going to happen" (Tr. 1281:25), believing "performance" is "key" rather than "only looking at registration" (Tr. 1280:25-1281:2). But the NCDP chairman admitted,

"[u]ltimately," "to win the day," "it's about persuading voters on policy and on the strength of good quality democratic candidates." (Tr. 1283:3-5.)

f. The NCDP Chairman Does Not Know What County Groupings or Specific Districts the NCDP Is Challenging.

245. The North Carolina Democratic Party chairman does not know which county groupings the NCDP is challenging in the 2017 plans. (Tr. 1291:3-12.) In fact, he only knows the NCDP is challenging some "individual districts" and the "maps as a whole statewide." (Tr. 1291:3-9.) For any details, he must "defer to the pleadings of the various parties," including the NCDP's pleadings. (Tr. 1291:8-12.)

g. The NCDP Election Measuring Tools: Democratic Support Scores and the Democratic Performance Index ("DPI").

246. The NCDP chairman claimed to only know "[v]ery generally" about Democratic support scores and never to have worked with them. (Tr. 1271:24-1272:4.) However, he knew they were "used for mailing, used for walking around to visit registered voters; voter contact" and "campaign purposes." (Tr. 1271:5-12.) He also confirmed that Democratic candidates are free to use them in their campaigns and the NCDP makes them available. (Tr. 1271:13-19.)

247. The NCDP uses the Democratic Performance Index ("DPI") to evaluate the partisan performance of districts. (Tr. 1272:3-6.) The NCDP chairman was "familiar" with the DPI (Tr. 1272:10-11.) The NCDP chairman explained they are important for "election purposes" because "it shows the past democratic performance based on previous election results." (Tr. 1274:17-19.)

248. PTX646 provides "snapshots" of the State Senate districts that includes data on voter registration, demographic make-up, and a block that provides the "2018 expected DPI" based on the results of past elections. (Tr. 1273:11-17.) The exhibit also contains a snapshot for each individual North Carolina Senate district. (Tr. 1273:18-22.) PTX647 contains essentially the

same information for the North Carolina House districts, to include a 2018 expected DPI score. (Tr. 1273:23-1274:14.)

249. The NCDP chairman did not answer whether the NCDP considered the DPI numbers in deciding to bring this lawsuit. (Tr. 1291:13-23.)

250. The NCDP chairman considers it "possible" for a Democratic candidate to win a district that has a DPI "under 50." (Tr. 1291:24-1292:7.) In fact, the NCDP chairman believes it is possible for a Democratic candidate to win a district that has a DPI under 45. (Tr. 1292:8-12.) The NCDP did not know "off the top [his] head" if a Democratic candidate has won a district with a DPI under 40. (Tr. 1292:18-22.)[6] A review of the DPI scores produced by the NCDP shows that Democrats won House District 103 which an Estimated DPI of 39.3. (PTX 647 p. NCDP0000069). Democrats also won multiple additional seats where the DPI was under 45, including the following: House District 36 which had an Estimated DPI of 44.1; House District 93 which had an Estimated DPI of 43.4; and Senate District 27 which had an estimated DPI of 43.8. (PTX 646 pp NCDP0000079, NCDP0000256; PTX647 p. NCDP0000024).

h. <u>The 2017 Plans Purported Negative Impact on the NCDP and Its Members Contradicted by Facts.</u>

251. The NCDP chairman claimed the 2017 plans impacted the NCDP and its members because it had to "expend extraordinary amounts of time and resources" that it would not have had to do with "fair maps." (Tr. 1270:10-14.) However, the NCDP chairman recognized a "tremendous palpable level of enthusiasm" for the NCDP in the 2018 elections (Tr. 1268:18-19) and raised a historic, all-time high in fund raising for the 2018 elections (Tr. 1268:21-23; Tr. 1268:23-24; Tr. 1283:18-19; Tr. 1283:21-23; Tr. 1284:2-5). Moreover, the NCDP chairman

[6] The transcript contains an error listing the number as "140" when, in fact, the question was whether a Democratic candidate could win a district where the DPI was under 40.

could not actually quantify how much more money was purportedly necessary to spend because of the 2017 plans—deferring to "subject matter experts" (Tr.1284:23-1285:2)—despite his position as the NCDP chairman, speaking on behalf of the NCDP (Tr. 1275:20-25).

252. The NCDP chairman claimed the Republicans drew the 2017 plans to protect "the majority and their supermajority" in the legislature by making Democratic voters' votes "worthless, (Tr.1270:19-23), despite acknowledging the Democrats defeated the Republican super majorities in the legislature in the 2018 elections (Tr. 1268:11-12). Moreover, "on the whole, there are more registered Democrats . . . than Republican or [unaffiliated voters]" in the challenged districts. (Tr. 1276:5-13.)

i. The Purported "Blue Wave" in the 2018 Elections.

253. The NCDP chairman claimed the 2018 elections were a "blue wave." (Tr. 1285:24-1286:1.) However, Democrats riding the "blue wave" of the 2018 election only received 51% of the votes, whereas Republicans in the "red wave" of 2010 received 59% of the statewide votes. (Tr. 1286:12-21.)

j. The NCDP Seeks To Take the Constitutionally Mandated Power To Draw Voting Districts from the North Carolina General Assembly.

254. The North Carolina legislature has the constitutional authority to draw districting lines. (Tr. 1287:1-8.) The NCDP and its members, in "unison" with the NCDP's "party platform," seeks a constitutional amendment to take away the Legislature's constitutional authority for redistricting by placing it in the hands of an "independent redistricting commission." (Tr. 1287:1-17.)

255. Five months into the NCDP chairman's tenure as chair for the NCDP, shortly after enactment of the 2017 plans (Tr. 1288:23-1289:8), a former NCDP executive director wrote to another former NCDP executive director and Democratic caucus directors in the North

Carolina legislature: "the power to draw districts must be taken from the legislature or democracy is doomed" (Tr. 1289:25-1290:23).

(3) Senator Dan Blue

256. Senator Daniel Blue ("Senator Blue") grew up in Robeson County, North Carolina. (Tr. 92:9-12.) Senator Blue attended undergraduate school at North Carolina Central University, majoring in mathematics before attending Duke University for law school. (Tr. 92:9-12.) Senator Blue served as a representative in the North Carolina House of Representatives from 1980 through 2003. (Tr. 92:12-14.) Senator Blue left the House in 2003, was reelected in 2006, and since 2009 has served as a State Senator. (Tr. 92:14-18.) Senator Blue currently represents Senate District 14, and serves as the Democratic leader of the North Carolina Senate. (Tr. 92:17-18.)

257. Senator Blue acknowledged that state senators' roles involve more than just working on legislation; in fact, state senators serve an ombudsman role for their constituents. (Tr. 121:18-23.)

258. Senator Blue acknowledged that state senators represent all of their constituents regardless of their political affiliation. (Tr. 122:4-10.) He believes that "the president pro tem does an excellent job in representing the interests of his district." (Tr. 123:20-22).

259. Senator Blue, as leader of the recruitment committee, met its goal to recruit "good and great candidates in all 50 districts." (Tr. 123:23 -124:18.) In fact, Senator Blue testified that in 2018 the Democrats in North Carolina broke a fund-raising record. (Tr. 124:19-24.)

260. Senator Blue was a member of the North Carolina General Assembly Senate Committee on redistricting, but his work was focused on the Senate plan, not the House plan. (Tr. 124:25-126:9.)

261. The Democratic caucus received state funds to hire its own map drawing consultant, Dr. Kareem Creighton, who helped draw the two Wake County amendments. (Tr. 127:1-24.) The Republican caucus was not provided access to Dr. Creighton. (Tr. 128:14-21.)

262. Senator Blue admitted that the 2017 House and Senate criteria did not require the passage of plans that optimized compactness, nor did the criteria require the passage of plans with the fewest split precincts as possible. (Tr. 132:17-133:15.) He also acknowledged that the criteria suggested that House and Senate Committees look at municipal boundaries when drawing legislative districts. (Tr. 133:16-22.)

a. Wake County Amendments

263. Senator Blue proposed two amendments to the Wake County senate districts that were both adopted. (Tr. 129:9-12, 135:8-15.) He believed that these two amendments fixed the racial gerrymander in Wake County. (Tr. 129:9-130:17.)

264. Both amendments draw five senate districts inside Wake County; senate districts 14, 15, 16, 17, and 18. (Tr. 135:25-136:8.) Senator Blue believed that of these five senate districts, two were strong Democratic districts, two were strong Republican districts, and one was a competitive leaning Democratic district. (Tr. 136:10-138:15.)

265. In the 2018 election, Democrats won four out of these five seats. (Tr. 140:20-22.) The Democrats garnered 71.36 percent of the vote in district 14, 73.1 percent of the vote in district 15, 65.28 percent of the vote in district 16, and 50.6 percent of the vote in district 17. (Tr. 142:4-22.) In district 18, a district defined by Senator Blue as a strong Republican district, the Republican only garnered 49.9 percent of the vote edging out the Democratic candidate by only 2.5 percent. (Tr. 142:23-143:10.)

266. He believed that his second amendment cured any potential political gerrymandering in Wake County. (Tr. 145:2-6.) Specifically, he testified that under the present

criteria that "[he] didn't think that a political gerrymander just isolated on Wake County… [could] be sustained." (Tr. 145:10-14.)

267. Regarding the "choke point" or "Costco Passageway," Senator Blue proposed this narrow portion of district 15 because he needed to pick up non-African American voters from North Raleigh to add to district 15 after moving African-American voters out of district 14. (Tr. 148:10-149:15.) "[W]hatever the configuration is that happened when we blended those two districts together was not intended to be any kind of gerrymander at all. It was intended to move voters from one district to the other to address the question of an over population by design of African Americans in a district in Wake County when the need for that or the justification for it had not been shown through the studies." (Tr. 153:2-153:7.)

(4) Dr. Kareem Crayton

268. Dr. Kareem Crayton was hired by the North Carolina State Senate Minority Leader, Dan Blue, during the summer of 2017 to assist with legislative redistricting. (LDTX 320 "Crayton Dep." at 13:6-15.) Dr. Crayton was paid $25,000.00 for his work for the Senate Minority leader, which was appropriated by the Legislature. (Crayton Dep. 16:17-17:1, 22:12-16.)

269. Dr. Crayton admitted that while drawing legislative maps and amendments he was familiar with the demographics of Charlotte and Mecklenburg County. (Crayton Dep. 31:19-24.) While drawing amendments, Dr. Crayton was aware that there is a significant African-American population within the city limits of Charlotte, and that African Americans in North Carolina "usually leans towards Democrats more often than Republicans." (Crayton Dep. 32:9-33:1.)

270. Dr. Crayton also assisted in drafting amendments regarding the configuration of districts in Guilford County. (Crayton Dep. 45:14-16, 46:2-4.) When drafting districts in Guilford County, Dr. Crayton tried to preserve the city of Greensboro. (Crayton Dep. 47:1-6.)

(5) Representative Graig Meyer

271. Representative Meyer was first appointed to a vacant seat in the General Assembly in 2013 and has been reelected every term since that time. (Tr. 159:2-5.)

272. He testified that as a member of the General Assembly he has an "ombudsman role" in which he provides a variety of constituent services. (Tr. 168:23-169:4.) He views constituent services as a nonpartisan activity. (Tr. 169:5-7.) The party of a voter requesting constituent services or other help does not matter to Representative Meyer. (Tr. 169:8-24.)

273. Representative Meyer represents a district with both Republican and Democratic voters, and believes he represents all of his constituents no matter their political affiliation. (Tr. 169:14-24.)

274. Representative Meyer had no experience with redistricting or the redistricting process in North Carolina prior to the redistricting performed in 2017. (Tr. 168:2-5.)

275. He admitted that the redistricting process used by the Republicans in 2017 was not fundamentally different than the process used by the Democratic Party who controlled the redistricting process in North Carolina from the end of reconstruction until 2011. (Tr. 168:6-20.)

276. Save for the consideration of partisanship, Representative Meyer believes that the redistricting criteria adopted by the General Assembly complied with the North Carolina Supreme Court's ruling in the *Stephenson* case. (Tr. 177:18-179:5.) Representative Meyer agreed that sixty-three percent (63%) of the state House Districts are assigned automatically by the Country Groupings provision adopted by the Court in *Stephenson*. (Tr. 179:6-11.)

277. Representative Meyer admitted that the Whole County Provision and the County Groupings Provision "impede" the legislature's ability to gerrymander its districting plans. (Tr. 179:19-180:4.)

278. He also acknowledged that the 2017 enacted Plans split fewer VTDs than the prior redistricting plan. (Tr. 180:5-12.)

279. Representative Meyer admitted that as the recruitment and finance chairs for the Democratic caucus during the 2018 election one of his, and the Democratic Party's goals was to break the Republican Party's super majority in the state legislature. (Tr. 162:16-19; 162:20-163:2; 163:17-20.) He admitted that the Democratic Party was able to accomplish that goal under the 2018 enacted Plan. (Tr. 163:21-22.)

280. As recruitment chair he was successful, under the 2017 enacted Plan, in recruiting a candidate for every district in the North Carolina House—something that he could not recall ever happening before. (Tr. 170:6-13.)

281. In a number of races, Democratic candidates recruited by Representative Meyer were able to defeat incumbent Republican legislators even under the 2017 enacted Plan. (Tr. 176:7-18.)

282. Representative Meyer agrees that Democratic voters are more concentrated in urban areas than Republican voters. (Tr. 183:11-13.)

283. Representative Meyer acknowledged that the Plaintiffs challenged House District 114 in Asheville as a Republican gerrymander even though Democratic candidates won the district along with the other districts in its county grouping, HD 116 and HD 115. (Tr. 187:7-19.) He admitted that HD 114 could not be redrawn "in a way that would elect more Democrats than are presently there." (Tr. 187:20-23.) However, he believes HD 114 is "unfair to Democrats" because it is allegedly a "packed" district. (Tr. 188:6-9.) He would like to divide up the City of Asheville, and its heavily Democratic population, and put "a little bit of Asheville in the other [neighboring] districts" in order to make them "easier to win for Democrats." (Tr. 188:9-17.) However, he

acknowledged that splitting up Asheville would "run counter to" the redistricting criteria of "keeping a municipality together." (Tr. 188:18-20.)

284. Representative Meyer also acknowledged that Plaintiffs were challenging all eleven (11) House Districts in Mecklenburg County despite the fact that the Democrats control every seat in the County. (Tr. 188:21-189:7.)

285. Representative Meyer does not believe the shape of districts is the best prediction of whether gerrymandering has occurred in a district. (Tr. 191:12-25.)

(6) Stephanie Hofeller Lizon

286. On August 16, 2018, Dr. Hofeller passed away after a long struggle with cancer. He was survived by his wife, Kathleen, who lived with him in his North Carolina residence. Dr. Hofeller was also survived by his estranged daughter, Stephanie Hofeller Lizon.

287. The last contact Ms. Lizon had with her father was in July 2014, more than four years before Dr. Hofeller's death. (PTX781 "Lizon Dep." 41:21–23.) As a result, Ms. Lizon has no personal knowledge of any of Dr. Hofeller's work from July 2014 up until his death, including any electronic files and documents he may have created during that time frame.

288. When Dr. Hofeller passed away, Kathleen Hofeller did not contact her daughter, Ms. Lizon, to inform her. (Lizon Dep. 169:25–170:13.) Ms. Lizon did not attend her father's funeral and only learned of her father's passing through reading an obituary in the *New York Times*. (*Id.* at 169:3–10.)

a. Ms. Lizon Takes Possession of Dr. Hofeller's Files

289. Two months after her father's passing, Ms. Lizon for the first time visited the apartment where her mother was living and took from her late father's room the external hard drives and thumb drives that she ultimately produced to Common Cause in this litigation.(Lizon Dep. 22:4–7; 23:10–24:11; 52:6–10.)

290. Ms. Lizon asked Mrs. Hofeller if she could take the drives because she was looking for pictures and other documents of hers that she thought might be on the drives. (Lizon Dep. 25:11–26:10; 50:12–20.)

291. When Ms. Lizon took the external hard drives and thumb drives from her late father's room, she assumed that there would be work files on the devices, and she was not surprised when she found such work materials on the drive. (Lizon Dep. 55:3–18.)

292. This occurred roughly two weeks before a petition for a guardian was filed in the General Court of Justice seeking to protect Mrs. Hofeller from her daughter. (LDTX065, Pet. for a Guardian ("Petition"), *In re Kathleen Hofeller* (Oct. 29, 2018).) In the Petition, Ms. Lizon was accused of being physically threatening to her mother's book keeper and taking advantage of her mother, who had been diagnosed with a cognitive disorder with suspected early Alzheimer's dementia, to obtain money from her mother's bank account. (*Id.* ¶ 3.)

b. Ms. Lizon Brings Dr. Hofeller's Files To The Attention Of Common Cause

293. Ms. Lizon knew that Common Cause had been antagonistic to the redistricting work of her father in North Carolina when she reached out to Common Cause in October or November of 2018. (Lizon Dep. 91:3-7.)

294. Ms. Lizon testified that she approached Common Cause to obtain a lawyer for her mother in the competency proceedings. (Lizon Dep. 31:12–19.) When speaking with Common Cause, Ms. Lizon shared that she had a large number of her father's hard drives. (*Id.* at 34:6–7.)

295. Ms. Lizon thought Common Cause might be interested in her father's files because she had read an article by David Daley, a senior fellow at Common Cause, in which Daley stated that, now that Tom Hofeller is dead, somewhere there is a trove of his documents on a hard drive that could be a gift for some state legislators. (Lizon Dep. 32:14–25.)

296. Ms. Lizon testified that she originally spoke with Bob Phillips at Common Cause in early November, 2018 by phone. (Lizon Dep. 89:8–23.) Mr. Phillips then put Ms. Lizon in touch with Jane Pinsky, another employee of Common Cause. (*Id.* 31:24–32:3.)

297. Based on her conversations with Ms. Pinsky. Ms. Lizon understood that there was a current litigation case about North Carolina state legislative districts that would be accepting new evidence. (Lizon Dep. 33:20–35:15.)

298. Ms. Lizon shared with Pinsky that she thought her father's files might be pertinent to Common Cause's action. (Lizon Dep. 35:6.)

c. Plaintiffs' Counsel Advises Ms. Lizon To Turn Over All Materials Without Restriction or Review and Advise Her That Only North Carolina-Related Documents Would Be Reviewed

299. Plaintiffs and their counsel spoke with Ms. Lizon, a non-lawyer, on multiple occasions and encouraged her to hand over all of her late father's files that she had taken from his home, regardless of whether they were relevant to North Carolina redistricting. (Lizon Dep. 38:10–20; 64:9-65:3; 67:7-18; 79:19-25; 108:22–110:10; 115:8–117:8; 127-15-129:13.)

300. Although Mrs. Hofeller had an interim guardian over her person and her estate from November 6, 2018 through February 7, 2019, Ms. Lizon never spoke with Mrs. Hofeller's guardians at all, let alone regarding her intention to turn over the external hard drives and thumb drives that contained her father's business records as well as the personal financial and medical files of her parents. (Lizon Dep. 188:12–189:11.)

301. Ms. Lizon did not conduct any review of the documents for relevance to this litigation or for privilege protection. Ms. Lizon also did not communicate with any other persons, such as Dr. Hofeller's partner Dale Oldham, regarding the files she intended to turn over to Common Cause. (Lizon Dep. 75:3–76:7.)

302. Only after Ms. Lizon agreed to hand over all of Dr. Hofeller's files did Plaintiffs prepare and serve her with a subpoena. (Lizon Dep. 125:9-129:4; LDTX061.)

d. The Hofeller Documents (PTX. 124- 170; 240- 252; 329-356; 561-573; 724- 756) Are Irrelevant

303. Since Ms. Lizon's last contact with her father was in July 2014, Ms. Lizon has no personal knowledge of when the Hofeller documents (PTX124- 170; 240- 252; 329-356; 561-573; 724- 756) were created, why they were created and who, if anyone, other than Dr. Hofeller had access to or ever saw the documents before Ms. Lizon took them from her father's home office and produced them to Common Cause.

304. There is no evidence that any of the Legislative Defendants ever saw the Hofeller documents or knew of their existence before they were produced in this litigation, much less as of June 2017.

305. The mere existence of the Hofeller documents does not contradict the Legislative Defendants' testimony that they did not know one way or the other of Dr. Hofeller's map-drawing activities.

306. The Hofeller documents are irrelevant to Plaintiffs' claims.

(7) Plaintiff Joshua Perry Brown

307. Plaintiff Joshua Perry Brown lives at 826 East Lexington Avenue, High Point, North Carolina, 27262. (Tr. 827:19-25.) He has lived at this address for approximately ten years. (Tr. 828:1-2.)

308. Mr. Brown has been a registered Democrat for as long as he has been registered to vote. (Tr. 828:18-21.)

309. Mr. Brown has voted in every presidential election since being registered to vote and in many other elections since then. (Tr. 828:22-25.) Starting in 2016, Mr. Brown became a regular primary voter, and a regular voter in local elections. (Tr. 828:25-829:2.)

310. Mr. Brown has served in a number of positions within the Democratic Party. (Tr. 829:7-10.) Mr. Brown considers himself very involved with the Guilford County Democratic Party. (Tr. 836:16-18.) He became "most significantly" involved with the Guilford County Democratic Party within the last few years. (Tr. 836:19-21.) Since 2017, he has been able to continue to serve in several officer roles within the Guilford County Democratic Party. (Tr. 836:22-837:3.)

311. Mr. Brown previously served as the chair of his precinct and is currently the vice chair. (Tr. 820:12-14.) Mr. Brown previously served as the vice chair for the Guilford County Democratic Party and currently serves on the state executive committee for the North Carolina Democratic Party, the council of review representing the 13th Congressional District for the North Carolina Democratic Party, and as the chairman of the state judicial board of the progressive caucus for the North Carolina Democratic Party. (Tr. 829:15-21.)

312. In 2017, 2018, and 2019, Mr. Brown served as a delegate to various Democratic conventions. (Tr. 837:4-6.) In 2017 and 2018, Mr. Brown "constantly" volunteered on behalf of the Guilford County Democratic Party. (Tr. 837:7-10.) He also recruited volunteers for the county party, including for rides to the polls, poll observers, etc. (Tr. 837:11-14.) In 2017 and 2018, Mr. Brown helped organize phone banking in support of get out the vote efforts. (Tr. 837:15-18.)

313. Mr. Brown is aware that the redistricting process for state legislative districts is done by the legislature. (Tr. 837:19-22.) However, during the 2017 redistricting process for the

state legislative districts, Mr. Brown never contacted anyone at the legislature about the way he wanted his districts to look. (Tr. 837:23-838:3.) Mr. Brown never attended any public hearings regarding the 2017 redistricting process for state legislative districts, either. (Tr. 838:4-8.)

314. Mr. Brown is challenging his state senate district, Senate District 26, as a partisan gerrymander. Mr. Brown does not like that High Point is divided across multiple state senate districts. (Tr. 842:8-22; *see also* Tr. 833:15-21.) But Mr. Brown is aware that Guilford County, Randolph County and Alamance County are grouped together in one county grouping for North Carolina's state senate districts. (Tr. 841:2-5.) Within that grouping are Senate Districts 24, 26, 27, and 28. (Tr. 841:7-16; *see also* LDTX 184 and PTX281.) Mr. Brown acknowledges that part of High Point is in Senate District 27. (Tr. 841:21-23, 842:25-843:2.) Mr. Brown also acknowledges that Senate District 26 is bordered by Senate District 24. (Tr. 843:6-8.) Mr. Brown is aware that Senate Districts 24, 27, and 28 were changed by the special master in the *Covington* litigation. (Tr. 843:3-5, 841:24-842:2.)

315. Mr. Brown testified that he could not think of any reason other than gerrymandering for why High Point is included in Senate District 26 with Randolph County. (*See* Tr. 831:10-20.) But Mr. Brown acknowledges that some counties must be grouped together for equal population purposes. (Tr. 843:9-13.) Mr. Brown also acknowledges that Randolph County must be combined with a portion of another surrounding county for equal population purposes. (Tr. 843:14-17.) Mr. Brown does not know whether the decision to group Guilford, Randolph, and Alamance counties together is being challenged in this case (Tr. 843:24-844:4) and is not a professional mapmaker and cannot determine "how far to go into another county" Randolph County should be grouped (Tr. 843:21-23). Mr. Brown acknowledges that part of Randolph County is bordered by Senate Districts 27 and 24. (Tr. 844:4-10.) Mr. Brown is aware

that Senate Districts 24, 27, and 28 were changed by the special master in the *Covington* litigation. (Tr. 843:3-5, 841:24-842:2.)

316. Mr. Brown's current state senator for Senate District 26 is Jerry Tillman. (Tr. 844:11-13.) Mr. Brown has never contacted or attempted to contact Senator Tillman on any policy issues. (Tr. 844:14-16, 844:21-23.) Mr. Brown has never sought help with any constituent services matters from his state senator or state representative. (Tr. 844:24-845:4.)

317. Mr. Brown knows Senator Michael Garrett, who represents Senate District 27, and has met him on several occasions. (Tr. 845:5-8.) Senator Garrett is a Democrat. (Tr. 845:9-10.) Mr. Brown is able to contact Senator Garrett to make Mr. Brown's views known. (Tr. 845:11-13.)

318. Mr. Brown is challenging his house district, House District 60, as a partisan gerrymander. Mr. Brown does not like that High Point is divided into multiple House Districts. (Tr. 839:14-17.) High Point is located in the southwest corner of Guilford County. (Tr. 838:13-15.) Guilford County contains six state house districts—House District 57, 58, 59, 60, 61, and 62. (*See* LDTX 183; *see* also Tr. 838:17-839:1.) Part of High Point is located in House District 62, which is on the western and northern borders of House District 60. (Tr. 839:7-12.) Mr. Brown is aware that House Districts 57, 61, and 62 were redrawn by the special master in the *Covington* lawsuit and are not being challenged in this case. (Tr. 839:18-840:2; *see also* PTX310 and Tr. 840:3-12.)

319. Mr. Brown claims that his ability to participate politically is affected by his state house district because Democrats from surrounding districts have been pulled into one district so that the odds of surrounding districts electing a Democrat is reduced. (Tr. 833:22-834:2.) But Mr.

Brown admits that he is "only worried about" the district he lives in "quite frankly." (Tr. 840:1-2.)

320. Mr. Brown's current state representative for House District 60 is Representative Cecil Brockman. (Tr. 845:15-17.) Representative Brockman is a Democrat. (Tr. 832:11-12, 846:10-11.) The Democratic candidate is Mr. Brown's candidate of choice. (Tr. 846:14-16.) Mr. Brown "happily" voted for Representative Brockman in 2018. (Tr. 846:12-13; *see also* Tr. 832:13-14.) Representative Brockman comes to Mr. Brown's district regularly. (Tr. 845:18-20.) If Mr. Brown needs to speak with Representative Brockman, he sees him enough that he could, and does, talk with him about issues. (Tr. 845:21-24; *see also* Tr. 845:1-4.) Mr. Brown acknowledges that Representative Brockman listens to his concerns, and represents the majority of his policy preferences in the legislature and is responsive to those preferences. (Tr. 845:21-846:9.)

(8) Plaintiff Rebecca Johnson

321. Plaintiff Rebecca Kay Johnson ("Ms. Johnson") currently resides at 809 Clovelly Road, Winston-Salem, North Carolina 27609. (LDTX 324, "Johnson Dep." 9:11-16; PLTX 708, "Johnson Aff." ¶ 3.) Her residence is located in House District 74 which is represented by Debra Conrad. (Johnson Dep. 45:8-11; Johnson Aff. ¶ 5.) At her deposition, she was unaware of exactly in which Senate District she resides, but knew that Joyce Krawiec is her state senator; however, in her affidavit, she was able to determine that she lives in Senate District 31. (Johnson Dep. 51:4-8; Johnson Aff. ¶ 5.)

322. Ms. Johnson is a registered Democrat who claims she has "a preference for electing Democratic legislators and a majority-Democratic General Assembly," yet she testified that she votes for Democratic candidates approximately 70 percent of the time. (Johnson Dep. 43:3-9; 117:22-23; Johnson Aff. ¶ 6.) Furthermore, Ms. Johnson does not consider partisan

affiliation in races in which she knows both candidates. (Johnson Dep. 32:3-10.) For example, she did not make a "political decision" in voting for Democrat Terri Legrand over Republican "Debra Conrad Schrader" in her state House election in 2018. (Johnson Dep. 32:13-18.)

323. Ms. Johnson admitted that her vote is counted when she casts a vote for a Democratic candidate even though her district is Republican-leaning. (Johnson Dep. 53:22-54:6.) She admits that the way House District 74 is drawn does not make it any less likely for her to vote. (Johnson Dep. 89:24-90:6.) She further admits that Winston-Salem must be divided because of population requirements. (Johnson Dep. 90:22-91:3.)

324. Ms. Johnson ran for State House as a Democrat in 2002, but lost to Bill McGee. (Johnson Dep. 46:1-47:7.)

325. Ms. Johnson does not believe that there are districts in North Carolina where it is only possible for one party to win. (Johnson Dep. 102:2-9.) She acknowledged that she has seen seats flip under both Democratic and Republican maps. (Johnson Dep. 108:3-12.)

326. Ms. Johnson contends that the current maps make it so elected representatives "pay no heed to [her] views and interests," but concedes that elected officials have the right to make choices and represent their constituents in the best way that they see fit. (Johnson Dep. 109:25-11:17.)

327. Before the 2017 plans were adopted, Ms. Johnson admits that she did not attempt to "implement the Party's policy preferences through legislative action," register voters, attract volunteers, raise money for state legislative candidates or engage in get-out-the-vote efforts with respect to legislative races. (Johnson Dep. 118:5-119:8.) Ms. Johnson testified that the 2017 maps have actually increased her political involvement by making it more likely for her to participate in Common Cause's activities. (Johnson Dep. 120:8-11.)

328. Ms. Johnson acknowledged that, in her view, the Intervenors in this case have the same constitutional rights as her – the right to vote for representatives of their choosing – and that we will not know "after the maps have played" whether those rights are harmed by the outcome of this lawsuit. (Johnson Dep. 123:24-124:4.) She noted, however, that if the Intervenors like their districts but they are changed in a way they do not like as a result of this lawsuit, "sometimes you win and sometimes you lose." (Johnson Dep. 123:12-18.) She further admitted that if somebody else in Forsyth County has a difference in opinion as to how to keep communities of interest together then that person's opinion is no less valid than hers. (Johnson Dep. 124:19-125:1)

(9) Plaintiff Derrick Miller

329. Plaintiff Derrick Miller lives at 409 S. Seventh Street in Wilmington, North Carolina. (Tr. 199:13-14). He has lived at this address for approximately ten (10) years. (Tr. 199:15-16.)

330. Mr. Miller has been a registered Democrat for over twenty (20) years. (Tr. 200:3-7.)

331. Mr. Miller does "not think it is [his] right" to be represented by his representative of choice in the North Carolina General Assembly. (Tr. 206:12-17.)

332. Mr. Miller is challenging his house district, HD 18, as a partisan gerrymander. However, when Mr. Miller goes to vote for his state house representative in HD 18, he does so with the intention of electing a Democrat. (Tr. 208:8-12.) And Mr. Miller is represented by his candidate of choice, Representative Deb Butler a Democrat, in House District 18. (Tr. 207:13-208:1.)

333. Mr. Miller has never voted for a Republican candidate in HD 18 and "in this current climate it would be hard for [him] to ever imagine a situation where [he] would be able to make the choice for a Republican candidate" for HD 18. (Tr. 209:13-21.)

334. Mr. Miller lives in the same neighborhood as Representative Butler and believes she is a good representative. (Tr. 210:24-211:1; 211:5-7.) She has been responsive and engaged with him on numerous occasions in HD 18 and on social media. (Tr. 211:2-4; 211:8-10; 211:16-212:7.) According to Mr. Miller, Representative Butler "always makes [him] feel like she's happy to hear from" him. (Tr. 211:12-15.)

335. As a North Carolinian, "it is clear" to Mr. Miller "how badly" the state legislature needs to be "taken…out of Republican hands." (Tr. 213:7-214:17.) He takes issue with the fact that Representative Butler is not in the majority and it is his goal to see a Democratic majority in the state legislature. (Tr. 208:11-12; 212:9-17.)

336. Mr. Miller takes issue with the fact that Representative Butler won with sixty percent (60%) of the vote in HD 18. However, he admits that in in 2004, 2008, and 2010 HD 18 elected Democrat candidates with sixty percent (60%) or more of the vote under redistricting plans drawn by a Democrat-controlled General Assembly. (Tr. 214:24- 215:17.) Mr. Miller agrees that over the last decade HD 18 has consistently been represented by a Democratic candidate who has won with a comfortable margin long before the 2017 Plan was enacted. (Tr. 215:18- 21.)

337. Mr. Miller also challenges his senate district, SD 8, claiming it is a "cracked" district. (Tr. 216:1-7.) Mr. Miller is not represented by a Democrat in SD 8 and would like to be, in stark contrast to HD 18 where he takes issue with the district even though he is represented by a Democrat candidate. (Tr. 216:8-14.)

338. Mr. Miller claims that he is "extracted" from SD 9 and placed in SD 8 to waste his vote and make SD 9 favorable to Republicans. (Tr. 216:19- 217:11.) However, Mr. Miller admitted a Democrat candidate won SD 9, unseating a multi-term Republican incumbent, under the 2017 enacted Plan. (Tr. 217:11-16; 217:24-218:31.)

339. Mr. Miller refers to where he lives in SD 8 as the "Wilmington Notch." (Tr. 218:4-219:10.) While Mr. Miller told his attorneys that "other than gerrymandering" there could not be any other reason for the "Notch" to be drawn where it is, he admitted that he is not an expert map drawer and has no experience with districting or redistricting. (Tr. 219:11-23.)

340. Mr. Miller is not familiar with the redistricting criteria the North Carolina legislators were forced to consider when they were drawing the 2017 enacted Plan. (Tr. 219:24-220:4.) He also did not know that, as a result of population requirements, some population had to be removed from New Hanover County and placed into a neighboring senate district, as was done by including him and others in SD 8. (Tr. 220:5-14.)

341. If a "notch" had to be cut out of New Hanover County and placed in a neighboring senate district, Mr. Miller does not have any opinions about where that "notch" should have been drawn other than where it was drawn. (Tr. 220:15-18.)

(10) Plaintiff Lily Nicole Quick

342. Plaintiff Nicole Quick lives at 4388 Clovelly Drive, Greensboro, North Carolina. (LDTX 322, Quick Dep. at 7:21-23.) She has lived at this address for approximately twenty (20) years. (Quick Dep. 8:1-2.) Ms. Quick characterizes her neighborhood as a suburban area, "just outside the city limits" of Greensboro. (Quick Dep. 8:3-7.)

343. Ms. Quick has been a registered Democrat as long as she has been registered to vote, and always votes in the Democratic primaries. (Quick Dep. 32:13-18; 33:2-7.) Despite being a registered Democrat, Ms. Quick has voted for Republican candidates in judicial elections and for sheriff. (Quick Dep. 32:18-23.)

344. Ms. Quick testified that she believes a representative "has a duty, to some extent, to represent all of his constituents and listen to their concerns" but that "any representative is going to be more responsive or in line with the concerns of the constituents of his own party…" because

"a representative generally represents the majority who voted him in." (Quick Dep. 76:9-17; 76:25-6.) Ms. Quick believes that while a representative may be more "in line" with constituents of his own party that a good representative should listen to the concerns of all his constituents. (Quick Dep. 76:12-30.) Ms. Quick admits that her own representative, Representative Hardister, listens to her concerns. (Quick Dep. 76:25-77:6.)

345. Ms. Quick believes that she is challenging the redistricting plan "as a whole" as a partisan gerrymander but is "able to relate more" to her "specific district" of House District 59. (Quick Dep. 8:10-14; 67:5-14; 128:5-10.)

346. As a plaintiff in this lawsuit, Ms. Quick is seeking "fair districts" where "there is the possibility for either side to win" (Quick Dep. 67:18-20; 68:24-3.) Ms. Quick also believes that fair districts are competitive districts, and that a fair district would have no greater than a four-point swing in each election. (Quick Dep. 68:4-12.)

347. When redistricting, Ms. Quick believes that the legislature should keep precinct, municipality and county lines whole when possible. (Quick Dep. 70:11-18.) Despite this belief, Ms. Quick complains that her suburban neighborhood is no longer part of a district containing the city of Greensboro.

348. Ms. Quick alleges that when drawing the 2017 plan, the "General Assembly packed House Districts 58 and 60 to ensure that Republicans win House district 59." (Quick Dep. 72:1-3.) However, unlike her parameters for competitive races, Ms. Quick does not know when a district becomes packed. Instead, Ms. Quick thinks that districts "above 60, 70 percent" are "suspicious" (Quick Dep. 73:25-74:7.) Curiously, Ms. Quick agrees that the "harm" of packing is not new, and that when she was living in a district from the early 2000s to 2017 that elected a Democratic

candidate at above 60 percent, she was harmed in the same way as she alleges voters in HD 58 and HD 60 are harmed now. (Quick Dep. 118:16-119:112.)

(11) Plaintiff Leon Schaller

349. Plaintiff Leon Schaller ("Mr. Schaller") has resided for the past eight years in Alamance County, North Carolina, at 3819 Asbury Ct., Burlington, NC 27215, within House District 64 and Senate District 24. (PLTX 700, "Schaller Aff." ¶ 3.)

350. Mr. Schaller has been registered unaffiliated since 2004. (*Id.* ¶ 4.) However, he primarily bases his voting decisions on party affiliation, and he typically votes with the Democratic Party. (*Id.*; LDTX 326, "Schaller Dep." 17:9-16.) He does not believe he has ever voted for a Republican candidate in North Carolina, and wishes North Carolina "move[d] in the direction of the Democratic Party." (LDTX 326, "Schaller Dep." 17:9-16; 21:22-24; 22:3-10; 27:3-6.) He prefers to elect Democratic legislators and a majority-Democratic General Assembly. (Schaller Aff. ¶ 6.) Mr. Schaller has made contributions to the Democratic National Committee and Common Cause. (Schaller Dep. 55:24-56:17.) Despite this, when Mr. Schaller was asked to serve as a member at large of his precinct for the local Democratic Party, he declined because doing so would require him to change his registration from unaffiliated to Democrat. (Schaller Dep. 23:8-25:1; LDTX 175.)

351. Participation in Democratic Party politics is not important to Mr. Schaller. (Schaller Dep. 24:24–25:1.) Mr. Schaller testified that because he is unaffiliated and does not register voters, recruit candidates, attract volunteers, raise money, campaign, or turn out the vote for the N.C. Democratic Party, he was not "impermissibly burdened" as alleged in the Complaint. (Schaller Dep. 73:20-74:8.)

352. Mr. Schaller admits that he does not have a constitutional right to have his policy preferences represented by his legislators, nor does he have a constitutional right to have the

legislature reflect the partisan makeup of the state. (Schaller Dep. 31:9-12; 46:23-47:1.) While Mr. Schaller believes gerrymandering "harms" his "constitutional rights," he admits that he is represented by his legislators, that the challenged maps have not deprived him of his opportunity to be represented, and that the challenged maps do not prevent voters from casting their vote in favor of their preferred candidate. (Schaller Dep. 43:24-44:6; 44:16-18; 45:1-4; 48:3-5.) Mr. Schaller admitted that every time he casts a vote, it increases the vote tally by one. (Schaller Dep. 50:20-24.) Mr. Schaller admits that the challenged maps do not burden Mr. Schaller's freedom of association or his ability to express himself. (Schaller Dep. 58:1-15.) Mr. Schaller does not believe he is expressing himself or engaging in speech when voting, volunteering, or making political donations. (*Id.* 57:11–18, 58:1-9.) Mr. Schaller feels there are benefits in having consistency in who represents him. (Schaller Dep. 53:6-25.) In terms of representation, Mr. Schaller does not agree with the statement "Republican representatives pay no heed to [Democratic] voters' views and interests once in office." (Schaller Dep. 55:1-23.) In fact, Mr. Schaller does not believe he has been personally harmed in any way by the Republicans winning House District 64 since 2012, nor does he believe he was discriminated against in the drawing of House District 64. (Schaller Dep. 62:7-12; 66:19-68:4.)

353. Mr. Schaller does not know whether his representative, Dennis Riddell, "toed the [Republican] party line" or if he has voted for Democratic legislation. (Schaller Dep. 28:23-29:6.) Mr. Schaller acknowledges that Representative Riddell would be representing his interests if he joined onto or voted for legislation that is supported by both Republicans and Democrats, and that "it's possible" that Representative Riddell has represented his interest. (Schaller Dep. 29:10-17.)

354. Mr. Schaller believes that his state senator, Rick Gunn, would be representing his interests if Senator Gunn voted for legislation that was also supported by the Democratic Party, and that Senator Gunn may have represented his interest. (Schaller Dep. 30:2-17.)

355. Mr. Schaller has never contacted his representatives for help with constituent services or any state agency, and is not aware of anything that is preventing him from doing so in the future. (Schaller Dep. 92:16-93:9.) Mr. Schaller does not believe, if he were to seek out assistance from his representatives, his representatives would ask him for his political preferences. (Schaller Dep. 92:16-93:9.)

E. Plaintiffs' Expert Witnesses

(1) Christopher Cooper, Ph.D.

356. Dr. Christopher Cooper purported to provide three analyses: (1) to assess the degree to which the North Carolina General Assembly is "out of step with statewide voting in North Carolina" (Tr.859:3-7), (2) to "examine the contours" of district lines "and also kind of overlay those over [his] knowledge of these places and their political histories," and (3) "to examine a set of files from Dr. Hofeller's hard drive, . . . and look to see to what degree he used partisanship in drawing these lines" (Tr. 857:17-858:2.)

357. All of these analyses were flawed. Dr. Cooper's approach and testimony are wholly lacking in credibility. None of his analyses assist the Court in addressing issues in this case.

a. Dr. Cooper's Analysis of the Degree of the General Assembly's "Being Out of Step" Is Irrelevant and Flawed

358. Dr. Cooper concluded that the General Assembly "is out of step" with "other elected offices in the State of North Carolina." (Tr. 862:17-24.)

359. It is not the role of one branch of the North Carolina government to monitor the political or policy stances of another. Findings on the General Assembly regarding its ideology and composition are no more appropriate than findings by the General Assembly regarding the ideology of the members of the judiciary (e.g., in an impeachment proceeding).

360. Dr. Cooper's conclusions contradict his prior writings on gerrymandering. On May 8, 2016, before he was hired in this case, Dr. Cooper wrote an editorial published in the *Asheville Citizen Times*, stating "that gerrymandering has…become the scapegoat of many of the bigger problems in American politics, most notably polarization." (Tr. 1022:6-20; LDTX150.) He stands by this article to this day.

361. Dr. Cooper's article observed that the U.S. Senate is as polarized as the House, presenting incontrovertible evidence that "redistricting reform . . . is unlikely to cure the ills of polarization." (LDTX150 at 1.) The results of elections "can be blamed as much (if not more) on the way we have settled and migrated than on the redistricting process." (LDTX150 at 1.) The same follows for the supposed irregular composition and "out of step" policy stances of the General Assembly.

362. Dr. Cooper's analysis bears no resemblance to his May 2016 editorial. Dr. Cooper's editorial stated that "[a]s America's cities have become increasingly Democratic, there are few ways – there are few ways to draw district lines that do not result in the Democrats winning a few urban districts by large numbers, therefore spreading the Republican vote out across many more districts. It is therefore hard to imagine redistricting mechanism that does not result in some difference between votes and seats, and likely a difference that benefits the grand old party." (Tr. 1024:24-1025:7; LDTX150 at 1.) By contrast, Dr. Cooper's analysis purports to show that lines through cities advantaged the Republican Party over the Democratic Party, and

he makes the same error he identified in his May 2016 editorial: failing to show how *other* lines would achieve a *different* result.

363. Dr. Cooper advised: "Let's quit hunting the boogeyman, and instead pursue reforms that can put us on a path towards a better functioning democracy." (LDTX150 at 2.)

364. Dr. Cooper was not paid to write his May 2016 article. (Tr. 1026:6-10.)

365. Dr. Cooper was paid to testify in this case. (PTX253 at 2.)

366. Taking different positions based on compensation is not a hallmark of credibility.

367. Dr. Cooper's analysis of whether General Assembly members are "out of step" lacks an appropriate comparison. Dr. Cooper did not analyze the partisan or ideological leanings of persons holding statewide offices:

a. Dr. Cooper did not analyze where on the partisan or ideological spectrum the North Carolina Governor stands—e.g., whether he is progressive, conservative, or moderate.

b. Dr. Cooper did not analyze where on the partisan or ideological spectrum the Justices of the North Carolina Supreme Court stand—e.g., whether they are progressive, conservative, or moderate.

c. Dr. Cooper did not analyze where on the partisan or ideological spectrum the Lieutenant Governor stands—e.g., whether he is progressive, conservative, or moderate.

d. Dr. Cooper did not analyze where on the partisan or ideological spectrum the Attorney General stands—e.g., whether he is progressive, conservative, or moderate.

e. Dr. Cooper did not analyze where on the partisan or ideological spectrum the Secretary of State stands—e.g., whether he is progressive, conservative, or moderate.

f. Dr. Cooper did not analyze where on the partisan or ideological spectrum the Commissioner of Labor stands—e.g., whether she is progressive, conservative, or moderate.

g. Dr. Cooper did not analyze where on the partisan or ideological spectrum the Commissioner of insurance—e.g., whether he is a progressive, conservative, or moderate.

h. Dr. Cooper did not analyze the ideological or partisan leanings of a district and that district's representative.

368. Dr. Cooper cannot credibly claim to know whether the General Assembly is out of step as compared to statewide offices without assessing the partisan or ideological leanings of those holding statewide offices.

369. Dr. Cooper asserts that "General Assembly and Congressional election results in North Carolina have consistently and overwhelmingly favored Republicans since 2010." (PTX253 at 10.) But the election in which Republicans saw the greatest gains in the General Assembly since 2001 occurred in 2010—under a redistricting plan drawn by a Democratic majority. (PTX250.) And the election in which Democrats saw the greatest gains in the General Assembly since 2001 occurred in 2018, under a plan drawn by a Republican majority. (PTX250.) Dr. Cooper's May 2016 editorial (for which he received no compensation) was right; his opinion in this case (for which he is receiving compensation) is wrong.

370. Rather than examine the partisan or ideological leanings of statewide officeholders, Dr. Cooper simply compared the partisan or ideological leanings of the General Assembly's membership with statewide *vote totals*. (*See, e.g.*, PTX255, PTX256, PTX253 at 5-6.) But this assumes that statewide vote totals indicate the partisan or ideological leanings of the winner. Dr. Cooper provides no basis for that assumption. Nor can he pretend to do so without examining the partisan or ideological leanings of other officeholders.

371. Dr. Cooper compared the Democratic victories in statewide offices (PTX256) with the Democratic victories in the General Assembly (PTX259). But no one would expect the General Assembly's partisan composition to match the statewide vote total. Dr. Cooper's assumption that these two numbers should match is a plea for proportional representation.

372. But Dr. Cooper claims *not* to desire proportional representation. (Tr. 871:4-9.)

373. Elsewhere, he suggested that he would not be satisfied with any deviation from proportional representation that was more than "a rounding error." (Tr. 868:4-12.)

374. Taking inconsistent stances based the needs of the moment is not a hallmark of credibility.

375. Dr. Cooper's own analysis shows that statewide vote share and overall partisan wins in legislative elections are closely correlated. (*Compare* PTX257 *with* PTX259.) That they do not match perfectly is not evidence of gerrymandering. (Tr.868:1-12.)

376. Dr. Cooper identifies "gross disproportionality" in the percentage of so-called wasted votes in Democratic and Republican victories under the 2017 plans. (Tr. 871:10-19.) But the number of Democratic victories at between zero and 10 percent exceeds Republican victories at the same levels. (PTX262; PTX263.) And the number of Republican victories at between 40 and 50 percent exceeds the number of Democratic victories at those levels. (PTX262; PTX263.)

Dr. Cooper simply eyeballs the charts and calls the numbers grossly disproportionate. He ignores all data that might undercut his position and offers a bald conclusion that supports it. Further, he offers no measure of what the distribution of wins at different levels *should* be and thus no way for the Court to know whether the charts indicate some type of nefarious redistricting activity.

377. Dr. Cooper identifies North Carolina's citizenry by political ideology as compared to the ideologies of other states' citizenries. (PTX258.) Dr. Cooper calls the chart "what we might imagine" of the ideological trends of all 50 states. (Tr. 873:11-16.) This is not self-evident. Why would "we . . . imagine" that Connecticut is far more progressive than California and Washington or that all three are more liberal than Minnesota? (PTX258.) Why would "we . . . imagine" that South Carolina is far less conservative than North Dakota or that Alabama is to the left of eight states? (PTX258.)

378. More fundamentally, Dr. Cooper does not compare the General Assembly's membership against other offices *within* North Carolina. There is no basis to conclude that the General Assembly's membership is out-of-step compared to other offices without measuring the ideology of the holders of those offices.

379. Dr. Cooper only analyzes the North Carolina General Assembly under 2016 numbers. That is not a measure of the 2017 plans. (Tr. 1026:21-1027:13; 1028:1-8.) The analysis is irrelevant for this reason as well.

380. Although Dr. Cooper purports to show that the North Carolina General Assembly is further to the right of the North Carolina citizenry than other state legislatures are to their citizenries (*compare* PTX261 *with* PTX258), this comparison is irrelevant. Other states see shifts between Dr. Cooper's two charts. (*Compare* PTX261 *with* PTX258.) California's citizenry is, according to Dr. Cooper, ninth from the most progressive, but California has far and away the

most progressive legislature. (*Compare* PTX261 *with* PTX258.) California's legislative redistricting plans were drawn by an independent commission. By Dr. Cooper's logic, the California commission gerrymandered the state's plans, leading to a legislature out of step with the citizenry.

381. Similarly, Colorado's citizenry appears on Dr. Cooper's chart as having almost an identical ideological composition as North Carolina's. (PTX258.) But Colorado's legislature is the fifth most progressive in the nation. (PTX261.) There is a far more dramatic difference between Colorado's legislature and citizenry than supposedly exists in North Carolina. No partisan-gerrymandering claim has been lodged against Colorado's redistricting plans.

382. Dr. Cooper used data from an entity called "Civitas Institute." (Tr. 871:21-872:10.) This is "a conservative leaning think tank." (*Id*.) Dr. Cooper made no effort to obtain data from any progressive-leaning think tank on these same issues.

383. Dr. Cooper's conclusion that the North Carolina General Assembly is "out of step" is based on nothing but eyeballing charts of outdated information and an implied expectation of proportional representation that Dr. Cooper expressly disclaimed. Dr. Cooper picks out data points that help his conclusion, ignores points that detract from his conclusion, and identifies no methodological basis for his conclusion.

384. Dr. Cooper's testimony that "it doesn't make a lot of sense to look at voter registration data in the state of North Carolina" further detracts from Dr. Cooper's conclusions. (Tr. 861:4-8.) Dr. Cooper testified "that somebody will tend to change their voting patterns before they go all the way to the board of elections and change which party they're registered for." (Tr.879:25-880:3.) But he ignores that, as a necessary prerequisite, this means that *people change their voting patterns*.

385. A person registered as a Democratic voter cannot reasonably be assumed beyond the reach of the Democratic Party—*unless* the Democratic Party's message simply does not register with that voter. That is the Democratic Party's problem, not the Court's problem.

386. The fact that people change their minds on a consistent enough basis to render registration data—which reflects the prior conscious choice of the voter—irrelevant indicates that there can be no assurance that a so-called gerrymander is durable. Dr. Cooper's analysis (like all Plaintiffs' experts' analyses) ignores that, at the heart of all this supposed math and science, is the free will of millions of individuals.

387. Dr. Cooper testified that gerrymandering is like a tug-of-war contest where one side is given a starting advantage. (*E.g.*, Tr. 881:25-882:6.) But no candidate begins the race with a cushion of votes. Moreover, the analogy fails if voters change their minds. What appeared to be a three-step-advantage is no advantage at all when the political winds shift.

b. Dr. Cooper's Analysis of District Lines Is Flawed and Irrelevant

388. In the next stage of his analysis, Dr. Cooper purported to examine district lines and discover examples of discretion exercised for the benefit of the Republican Party. Many problems plague the analysis.

389. Dr. Cooper's analysis bears no resemblance to his May 2016 editorial. Dr. Cooper's editorial stated that "[a]s America's cities have become increasingly Democratic, there are few ways – there are few ways to draw district lines that do not result in the Democrats winning a few urban districts by large numbers, therefore spreading the Republican vote out across many more districts. It is therefore hard to imagine redistricting mechanism that does not result in some difference between votes and seats, and likely a difference that benefits the grand old party." (Tr. 1024:22-1025:7.)

390. Dr. Cooper was not paid to write this article. (Tr. 1026:6-10.)

391. Dr. Cooper was paid to testify in this case. (PTX253 at 2.)

392. Dr. Cooper's testimony in this case presumes—without actually showing—that it is possible (and, in fact, desirable) to draw district lines that do not result in the Democrats winning a few urban districts by large numbers, therefore spreading the Republican vote out across many more districts.

393. Dr. Cooper has no point of comparison and thus no way to assess why any district line falls where it does. This creates fatal defects in his approach.

a. "[E]very VTD that is included in or removed from a district has some political consequence" or "partisan consequence." (Tr. 1015:23-1016:7.)

b. Moreover, any movement of territory from one district to another requires a concomitant change to ensure equality of population. Dr. Cooper testified that "I cannot speculate" without knowing "what else is happening" between and among districts. (Tr. 1052:23-1053:1; 1048:16-1049:5.)

c. But Dr. Cooper's analysis of district lines is precisely that type of speculation. He identifies a split of some geographic territory and states that it was for partisan reasons but "did not draw alternative lines" to identify other configurations. (Tr. 1029:1-2.)

d. Nor did Dr. Cooper confer in any way with Plaintiffs' map-simulation experts to understand whether the configurations he identified as problematic appeared in alternative "non-partisan" simulated maps. (Tr. 1028:21-1029:3.)

e. Thus, Dr. Cooper has no way to know whether the lines he eyeballs as a "problem" (*e.g.*, Tr.893:16-19.) have a partisan intent or effect. He simply engages in guesswork.

f. It gets worse. Dr. Cooper repeatedly testified about districting decisions he viewed—in hindsight—as a "problem" (Tr. 893:16-19.) or "problematic" (Tr. 1043:16-19.) and the like. But Dr. Cooper's approach "contains no guidelines that would be helpful for [the General Assembly] in drawing districts in the future." (Tr. 1053:21-24.)

g. Since Dr. Cooper (1) does not know what territory even *could* be used to offset the changes necessary to correct the "problems" he identifies and (2) makes no effort to assess how lines *should* be drawn, he can provide no guidance to help either this Court (in a future remedial phase) or the General Assembly (in future redistricting) in undertaking the *affirmative* task that needs to be done in redistricting.

h. Dr. Cooper can only say something is bad, not good. But that is a conceptual *non sequitur*; one cannot know it was bad without a reason to believe something better is possible and desirable. This is precisely the problem Dr. Cooper addressed in his May 2016 article. The conflict between that article—which is manifestly correct—and his testimony in this case is impossible to reconcile. It is appropriate to choose the analysis he rendered on his own time.

394. Dr. Cooper is not qualified to opine on the political motive or impact of district boundaries, at least in a jurisdiction like North Carolina that places redistricting within a political process. He has never advised or drawn lines for a legislature or for any political body. (Tr. 1004:23-1005:8.) Likewise, Dr. Cooper did not interview anyone at the General Assembly, any General Assembly employee, or any voter. (Tr. 1005:9-1006:3.)

395. Nor is Dr. Cooper testified to qualify about line drawing on the Maptitude program, which was used to prepare the 2017 plans. Dr. Cooper has never even used the program or even received training with it. (Tr. 1006:8-1007:6.) Thus, Dr. Cooper is uniquely unqualified for *ad hoc* color commentary on line drawing.

396. Dr. Cooper did not even create the images he presented to the Court as maps. He testified that Blake Esselstyn, Plaintiffs' non-testifying expert, created them under Dr. Cooper's direction. (Tr. 1007:7-12.) But Plaintiffs' Amended Complaint contains maps showing districts that Dr. Cooper testified he did not analyze. (*See* Am. Compl. ¶ 136; Tr. 1044:8-9.) They have the same style and color-coding as Blake Esselstyne's other maps. Blake Esselstyn's maps look exactly the same whether or not Dr. Cooper purported to be directing him to make those maps Mr. Esselstyn made some maps in the Amended Complaint at (supposedly) his own direction, and he made other maps (supposedly) under Dr. Cooper's direction, but all show the same things. This is implausible. It is far more likely that Mr. Esselstyn made all the maps on his own initiative (or under direction of Plaintiffs' counsel) than that Dr. Cooper directed some maps that looked the same as others he did not direct. Mr. Esselstyn's role in this case is larger than Plaintiffs let on.

397. Dr. Cooper was confused about the nature of his analysis. He kept calling the analysis "quantitative." (Tr.1018:7-9.) But he appears not to know what that word means. It means "of or relating to the describing or measuring of quantity." Quantitative means "[c]oncerned with measurement" as to "quantity or amount" or that which "is, or . . . may be, estimated by quantity." Webster's New International Dictionary 2032 (2d ed. 1957). Dr. Cooper did "not have a single number" in his analysis or any way to *quantify* his color commentary on district lines. (*See also* 1018:14-20.) "I'm not going to tell you that if some measure is greater

than 10.2 than it is a gerrymander and if [it's] less than 10.2 it's not a gerrymander." (*Id.*) The analysis is not *quantitative*.

398. Dr. Cooper does not identify egregious gerrymandering; he identifies "small decisions" (Tr. 1018:18-20.) that he believes move "the needle sometimes in very small ways" (Tr. 1046:13-14). Again and again, he identifies "small decisions" (Tr. 904:5-7) "a small split" that is "probably not a significant one" (Tr. 920:5-16) another that "is not very big" (Tr. 920:6-7) another "small split" (Tr. 927:18-19) a decision that (he subjectively believed) "move[d] the scales slightly towards the Republican Party" (Tr. 990:1-13) and so forth. These subtle changes do not amount to egregious partisan redistricting.

399. Unsurprisingly, Dr. Cooper's analysis devolves into *ad hoc* ramblings infected by a bad case of confirmation bias. Confirmation bias is the mistake of interpreting information to match pre-existing beliefs and give information that supports those beliefs priority over information that does not support those beliefs. Dr. Cooper's approach is to walk through the color-coded maps—which he did not create—look for the lines that supported his theory and ignore the other lines.

a. Dr. Cooper concluded that a "notch" between HD8 and HD9 into Wilmington was created for political reasons. (PTX272; Tr. 889:11-890:2.) He did not assess, however, whether the "notch" matched the population needs, since the population of the territory drawn into HD8 appears to be denser than in surrounding areas. (PTX272.) Nor is it possible to know just how Democratic that area is compared to surrounding areas because the shading is impacted by the population density. (Tr. 888:14-889:1.) Dr. Cooper testified that other decisions would have less partisan impact, but he provides no basis to know what other decisions were even

possible. Nor did Dr. Cooper examine other lines in the districts. This is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

b. In the grouping of SD10, SD11, SD12, Dr. Cooper focused on "this bright blue dot at Rocky Mount" (Tr. 890:11-12) but Rocky Mount is in a County (Nash) that is locked in by the WCP (PTX274). Dr. Cooper believed that, without partisan intent, the line into Johnston County might have picked up very light blue shaded territory in Johnston County. (Tr. 890:17-24.) But Dr. Cooper has no way to know whether drawing it further south was even possible, since the population figures in SD10, SD11, and SD12 would all be impacted. Nor did Dr. Cooper examine other lines in the districts. This is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

c. In Wake County, Dr. Cooper complained about how Raleigh and surrounding census designated areas were split. (PTX277; 4 Tr. PM 44:3-20.) But the lines of these census designated areas are themselves very oddly shaped; many are not contiguous. (PTX277.) Dr. Cooper does not provide an alternative of how territory could be swapped to know whether more cities could be whole or what the resulting lines would look like. Nor did Dr. Cooper examine other lines in the districts. This is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.) In fact, Dr. Cooper does not know if the lines are "a sign of a gerrymander." (Tr. 894:22-23.)

d. Dr. Cooper picked a random road and concluded that gerrymandering is evidenced in that the road crosses many districts. (PTX279.) Of course, if the

lines had been elsewhere, some *other* road could have been picked that would have crossed *those* lines as evidence of gerrymandering. This is called confirmation bias. Nor did Dr. Cooper examine other lines in the districts. And this is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

e. In Gilford, Alamance, and Randolph Counties, Dr. Cooper found evidence of gerrymandering insofar as portions of High Point were placed in SD26 rather than SD27. (PTX281; Tr. 895:11-14.) But Dr. Cooper has no way to know what territory could have been drawn into HD26 instead—a problem magnified by the fact that the High Point territory is more densely populated than surrounding territory. (Tr. 1034:15-21.) It is unknown what a different configuration would look like. Nor did Dr. Cooper examine other lines in the districts. This is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:57.)

f. Dr. Cooper testified that "the Republicans won 26" and the Democratic victory in SD27 was due solely to "a big blue wave." (Tr. 896:19-25.) But Dr. Cooper did not analysis of what constitutes a "wave" election—nor was the 2018 election a "wave" election—and Dr. Cooper admitted that "things other than district lines . . . influence whether or not a candidate wins an election." (Tr. 1018:21-24.) Dr. Cooper cannot say why a Democratic candidate won SD27 or what the vote total would have been with different district lines. Nor did Dr. Cooper examine other lines in the districts.

g. Dr. Cooper testified that SD31 was purposefully drawn to reach "the most Republican part of Winston-Salem." (Tr. 897:6-16.) But the territory grabbed includes multiple Democratic VTDs, including some not necessary to draw into SD31 to reach the Republican-leaning VTDs. (PTX282.) Dr. Cooper does not know which other VTDs might be included in either SD31 or its neighbor, SD32, because he does not know what territory could be swapped with what other territory. Nor did Dr. Cooper examine other lines in the districts. This is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5)

h. Dr. Cooper also testified that SD31 reached around Winston-Salem to subsume Republican territory to its east. (Tr. 897:19-22.) But Dr. Cooper did not consider the possibility that doing so connected culturally similar areas of Forsyth County, given that suburban areas to the east and west can be more similar to each other than to the urban core of a city like Winston-Salem. Elsewhere, Dr. Cooper criticized the general assembly for joining culturally different territory. (Tr. 1033:9-17.) This only proves that *whatever* the legislature does, there is *some* basis for criticism; had the General Assembly split Winston-Salem down the middle, Dr. Cooper would have found evidence of cracking. Nor did Dr. Cooper examine other lines in the districts. This is called confirmation bias. This is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

i. Dr. Cooper testified that the Republican candidate won SD31 by 22 points. (Tr. 899:21-24.) It is hard to see why gerrymandering at a fine-tuned level would be

necessary for the Republican-leaning SD31 to remain Republican. In fact, as to other districts Dr. Cooper testified that it was speculative whether more maneuvering to reach Republican areas from a neighboring Republican district would have been useful. (Tr. 1051:9-14.) But that is what he does here. Dr. Cooper draws conclusions where it helps him, decides he cannot draw conclusions where it would not help him, and thus presents an entirely one-sided analysis. One-sided analyses transparently designed to reach a predetermined result are not credible. Nor did Dr. Cooper examine other lines in the districts.

j. Dr. Cooper testified that Mecklenburg County was an example of cracking and packing. He decided to focus on SD41. (Tr. 900:22-25.) He testified that drawing it from north to south was necessary to connect Republican areas of Mecklenburg County, but, in fact, the southern territory include only one Republican-leaning VTD (even though other Republican-leaning VTDs are on just the other side of its border). (PTX285.) The basic concept of the district existed since 2002 as a result of a court-ordered redistricting. (Tr.1037:5-19.) Dr. Cooper, however, denied that a district visibly similar was similar—yet another example of confirmation bias, the inability to see anything that might cut against his theories. (Tr. 1037:2-1038:13.) Nor did Dr. Cooper examine other lines in the districts.

k. Dr. Cooper testified that SD39 was a "pizza slice" designed to get Republican vote share from Charlotte into one district. (Tr. 901:11-12.) It is entirely unknown what the alternative is. Is Dr. Cooper's view that the Republican areas of Charlotte should be submerged in Democratic territory to ensure Democratic dominance in the grouping? Having no view about how the grouping could be

right, Dr. Cooper has no basis to say the current map is wrong. In fact, Democratic candidates won four out of five districts in the grouping in 2018. Nor did Dr. Cooper examine other lines in the districts.

l. Dr. Cooper testified that the line between SD49 and SD48 was a sign of gerrymandering. (Tr. 903:23-904:13.) But it is entirely unclear why that would be so. A Republican won SD48 (Tr. 904:14-20) and there is no visible reason why *any* line between the districts would impact that result (PTX288). A Democratic candidate won SD49 (*Id.*), and there is no visible reason why any line between the districts would impact that result (*Id.*; PTX288). The lines of HD49 do not reach around Asheville to grab Republican population on the other side, but Dr. Cooper did not weigh that fact in assessing whether this was a gerrymander. Nor did Dr. Cooper examine other lines in the districts. Dr. Cooper testified that, whatever decision he thinks was partisan (which is unclear), was a "small," not egregious. (Tr. 904:3-8.) Nor did Dr. Cooper examine other lines in the districts. All of this is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

m. Dr. Cooper testified that the line between HD2 and HD32—the only point of discretion available in the county grouping—was partisan to pack Democratic voters into SD32. (Tr. 905:13-906:8.) But Dr. Cooper provides no sense of how it could be otherwise. Oxford could not be placed in HD32 without throwing both districts out of population alignment. In fact, Plaintiffs' simulation expert Dr. Pegden could generate no configuration other than the enacted map. [Pegden Rep. 24.] Thus, Dr. Cooper simply made up an opinion with no grounding in anything

and which is demonstrably disproven. This is the same approach he applied elsewhere. He cannot be trusted on anything. Nor did Dr. Cooper examine other lines in the districts.

n. Dr. Cooper testified that a single blue-shaded VTD in his map of HD14, HD15, and HD4 was placed into HD15 rather than HD14 for partisan reasons. (Tr. 906:12-23.) But what Dr. Cooper colorfully (and arbitrarily) labeled a shark's tooth is a triangular-shaped VTD—the General Assembly did not create it—surrounded by Republican VTDs. (PTX291.) In either HD14 or HD15 it would be submerged in a Republican district. Dr. Cooper reached his conclusion with a pre-determined result in mind and worked backwards. *See also Testimony of Dr. Chen 589:4-590:9 stating that if HD 14 and 15 had to be kept intact because they were carry over districts from 2011 that the third would be predetermined.*

o. Dr. Cooper testified that the configuration of HD7 and HD25 was partisan, even though only one line was within the General Assembly's discretion. (Tr. 907:2-23.) But Plaintiffs' simulation expert Dr. Pegden could not simulate any maps other than the enacted plan. (Pegden Rep. 24.) Dr. Cooper does not know how this could be configured but speculates that other configurations would be worse for Republican electoral prospects. That is the very type of speculation Dr. Cooper conceded he cannot credibly engage in. Nor did Dr. Cooper examine other lines in the districts. In fact, a Republican candidate won HD7 by 16 percentage points, indicating that the VTDs taken from Nash County were not significant electorally. In other portions of his testimony, Dr. Cooper found the fact that the General Assembly did *not* bring Republican territory into a Republican-leaning district

insignificant because it would not change the outcome of an election. (Tr. 1051:9-14.) Inconsistency correlated with a predetermined outcome is not a hallmark of credibility.

p. Dr. Cooper testified that the line between HD8 and HD9 is evidence of gerrymandering insofar as it splits the city of Greenville and other cities. (Tr. 908:2-13.) But there is no reason to believe that line could be drawn in such a way to keep Greenville whole, and, however it is drawn, there will be red-shaded and blue-shaded VTDs on each side, as is the case in the enacted plan. (*See* PTX294.) The cities at issue are all irregularly shaped; Greenville is not even contiguous. (PTX295.) Following city lines would have resulted in odd shapes. Dr. Cooper has no alternative configuration. Nor did Dr. Cooper examine other lines in the districts. This is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

q. Dr. Cooper admitted that HD12 is "not really packed as much" and changed the subject to HD8. (Tr. 909:21-23.) This is a paradigmatic example of looking for evidence in support of a position and ignoring all else.

r. Dr. Cooper criticized the House districts in the Wake County grouping. (Tr. 910:10-912:9.) But he admitted that those districts are no longer in effect. There is no need to analyze them further. Nor did Dr. Cooper examine other lines in the districts. In all events, his testimony on this grouping is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

s. Dr. Cooper testified about "how these lines" between HD46 and HD47 "were drawn to ensure that you're packing as many of these Democratic voters as possible into HD47." (Tr. 912:19-913:3.) In fact, there is nothing clear about this. Two dark red VTDs are included in HD47 that would have improved Republican performance in HD46. (PTX301.) What's more, there are both red and blue VTDs in HD46. (PTX301.) The only reason it appears to "pack" blue-shaded VTDs in HD47 is that the VTDs are more densely populated and thus appear darker. (PTX301.) Dr. Cooper's eyeballing is unreliable, and his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

t. Dr. Cooper testified that the lines between HD18, HD19, and HD20 were "drawn with some precision around the voting," given the split of Wilmington. (Tr. 914:3-7.) It is unclear how a split of Wilmington could be avoided, since it is the population center of the three districts. (Tr. 915:1-6 (admitting that "it's kind of hard to see" Dr. Cooper's conclusion "because of all that white but a lot of those are low populated areas.").) Dr. Cooper's eyeballing is unreliable, and his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

u. Dr. Cooper testified that the split of UNC's Wilmington campus was particularly problematic because "[t]his is the exact age where we're trying to teach students that they should vote." (Tr. 916:5-8.) But Dr. Cooper identified no political advantage to splitting the campus, the split followed a VTD line that also split the campus (through no fault of the General Assembly's) (Tr. 1062:3-1604:7), and

Dr. Cooper gave no indication that anyone at UNC Wilmington registered to vote at college—many students are registered at their homes, not a college—discourage a single person from voting. This is just one example of Dr. Cooper "hunting the boogeyman" of gerrymandering (LDTX150 at 2) rather that offering an expert opinion.

v. Dr. Cooper testified that "a good [district] to focus on" in the grouping of HD42, HD43, HD44, and HD45 "is House District 45," because of its "backwards c shape." (Tr. 917:6-7.) But Dr. Cooper gave no weight to the fact that several dark red precincts are submerged in HD44, a heavily Democratic district. (Tr. 1049:22-1050:16.) This is confirmation bias. Nor did Dr. Cooper examine other lines in the districts. In fact, Democratic members hold three of four seats, well above their proportionate share of the vote. Dr. Cooper has no idea why the mapmaker would try to reach HD45 the single, lightly populated precinct on the east side of Cumberland rather than to reach the heavily populated red VTDs in the center of Cumberland. (PTX305.) One reason might be that the rural and suburban communities joined by HD45 have much in common and that the urban communities in HD44 have much in common—a non-partisan reason for the configuration. Dr. Cooper, however, cannot imagine any reason other than partisanship. (Tr. 918:3-5.) His imagination fails him when a good imagination would not help him reach his predetermined outcome.

w. Dr. Cooper testified that Monroe was split between HD68 and HD69 to crack the Democratic vote share in the city. (Tr. 917:23-918:5.) But, of course, if Monroe had been kept whole, that would concentrate the Democratic vote share in one

district—and would, then, in Dr. Cooper's rubric (applied consistently) be "packing." (PTX307.) This is confirmation bias. And his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

x. Dr. Cooper picked a random highway and found its crossing of several district boundaries to be evidence of gerrymandering. (PTX309.) But, of course, if the lines were different, he could pick some *other* road and identify its inevitable crossing of district lines to be evidence of gerrymandering. This is confirmation bias. And his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5)

y. Dr. Cooper testified that HD58, HD59, and HD60 represent "the sort of backwards c shape that we seem to see a lot." (Tr. 923:3-4.) In fact, the backwards c shape is caused by the district in Guilford drawn by the *Covington* special master (PTX310) and which Dr. Cooper said was not part of his analysis. Self-contradiction is not a hallmark of credibility. Dr. Cooper ignored that Democratic voters have better than proportional representation in the grouping. Dr. Cooper also gave no weight to the Republican-leaning VTDs submerged in Democratic districts HD60 and HD58. (PTX310.) Nor did Dr. Cooper examine other lines in the districts. This is confirmation bias. And his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

z. Dr. Cooper testified that the line between HD63 and HD64 cracks the Democratic Party vote in Alamance County. (Tr. 924:3-19.) But, had the mapmakers kept the

blue precincts together, that would be packing them in and concentrating their vote. (PTX311.) Moreover, the municipality lines Dr. Cooper testified should have been honored are highly irregular and would have resulted in highly non-compact and even non-contiguous districts. (PTX312.) Nor did Dr. Cooper examine other lines in the districts. Dr. Cooper's testimony is infected by confirmation bias. And his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

aa. Dr. Cooper identified gerrymandering in HD66, HD67, HD76, HD82, HD83. (926:18-927:5.) He focused on the split municipalities of Kannapolis and Concord, but ignores Salisbury, which is largely kept whole. (PTX314; PTX315.) When the Democratic vote share is split, it is always cracking; when it is kept whole, it is always packing. As a result, if Salisbury been split down the middle, it would be cracked (rather than, as Dr. Cooper testified, packed), and, if Kannapolis been kept whole, it would be packed. (PTX314.) Nothing the General Assembly could possibly do—short of gerrymandering for Democratic Party advantage—would satisfy Dr. Cooper. Nor did Dr. Cooper examine other lines in the districts. Dr. Cooper's testimony is infected by confirmation bias. And his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

bb. Dr. Cooper testified that the districts in Yadkin and Forsyth Counties are gerrymandered. (Tr. 928:5-21.) But HD74 and HD73 stop just short of red VTDs in Winston Salem, and blue precincts are left out of HD72 and drawn into HD74. (PTX316; *see also* PTX318 (left image).) Elsewhere, Dr. Cooper testified that,

where blue precincts are left out of a district so that blue is on each side of the line, there is no packing. (Tr. 1032:17-19.) Nor did Dr. Cooper examine other lines in the districts. Dr. Cooper's testimony is infected by confirmation bias. And his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

cc. Dr. Cooper testified that the House districts in Mecklenburg County are gerrymandered because of a "pizza slice" involving some red-shaded VTDs. (Tr. 932:1-17.) Democratic candidates won *every single district* in the grouping in 2018—even though the Civitas Institute and NCFEF rated two districts strong Republican districts and two others "lean Republican." (PTX322.) The voters chose their representatives in these districts, not the other way around. Republicans cast nearly one third of the two party vote. But Dr. Cooper testified that results are irrelevant to gerrymandering. (Tr. 932:14-17.) The Court can safely ignore that absurd view. Nor did Dr. Cooper examine other lines in the districts. Dr. Cooper's testimony is infected by confirmation bias. And his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

dd. Dr. Cooper purported to find gerrymandering in HD108, HD109, HD110, and HD111 by focusing on each "Democratic voting bloc," which Dr. Cooper deemed "important." (Tr. 933:1-2.) Dr. Cooper did not once describe any Republican voting bloc as "important." Dr. Pegden and Dr. Mattingly found these districts not to be "outliers" under their analysis. Dr. Cooper's discussion of splits fails for the same reasons already discussed: had the General Assembly grouped the

Democratic voters together, it would be "packing." Dr. Cooper gives no weight to data that harms his view (e.g., that the General Assembly kept the contiguous portions of Stanley whole (PTX325) and that drawing districts along municipal lines would have resulted in far more irregular districts than what exist (PTX325)). Nor did Dr. Cooper examine other lines in the districts. Dr. Cooper's testimony is infected by confirmation bias. And his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

ee. In HD114, HD115, and HD116, Dr. Cooper rediscovers the idea of "packing" (Tr. 934:24-25) since, instead of being split, the Democratic vote share in HD114 is combined—i.e., what would have been good in other configurations is bad here, and vice versa (*see* PTX326). Democratic members represent each district in this grouping, but Dr. Cooper ignores electoral success and focuses on the split of Asheville, a highly irregular city (PTX327) and university split (PTX328) even though there is no political advantage to splitting a university. Dr. Cooper's testimony is infected by confirmation bias. And his testimony is exactly the type of speculation that Dr. Cooper admitted he could not engage in. (Tr. 1052:1053:1; 1048:16-1049:5.)

400. Dr. Cooper is opposed to legislative discretion in redistricting.

a. Dr. Cooper testified that, under the current North Carolina Constitution, "[c]hoices may be somewhat constrained," but Dr. Cooper finds it problematic that "there are choices to be made here." (Tr. 931:22-23.) In his view, the fact that

the mapmaker "still [has] discretion" is an invitation for more constraints imposed by the judiciary. (Tr. 912:1-9.)

b. But Dr. Cooper did not make any comparison of the degree to which the General Assembly was constrained outweighs the degree to which it has discretion. There was no assessment as to whether the equal-population or county-grouping rules explained or controlled more of the lines than the General Assembly's discretion.

c. Again and again, Dr. Cooper bases his conclusion on a small handful of lines in an entire county grouping. (*See, e.g.*, PTX272; PTX274; PTX281; PTX282; PTX288l PTX291.) But Dr. Cooper ignores the remaining lines, including those controlled by the North Carolina Constitution, asking the Court to ignore the constraints and police the small amount of discretionary choices.

d. Deny it though they will, Plaintiffs simply want all redistricting authority transferred from the General Assembly to the courts.

c. Dr. Cooper's Analysis of Dr. Hofeller's Files Is Irrelevant and Flawed

401. Dr. Cooper looked at files purportedly from Dr. Hofeller's personal computer. This is a classic "hunting the boogeyman" that Dr. Cooper himself warned against before Plaintiffs were paying him. (LDTX150 at 2.)

402. Dr. Cooper concludes that "the chief architect of our maps in North Carolina had access to partisan data, had partisan data alive and active and was clearly working with partisan data." (Tr. 962:15-24.) That is wholly unremarkable. Except where law prohibits partisan considerations entirely, map-makers always have and use partisan data. Partisan data were expressly allowed by the North Carolina criteria. It is unnecessary to rummage through Dr. Hofeller's files to learn that the 2017 plans were drawn with consideration of political data.

403. The files provided to Dr. Cooper from Dr. Hofeller's computer were selected by Plaintiffs' counsel, not Dr. Cooper. (Tr. 1067:15-24.) Cherry-picking is not a hallmark of credibility.

404. Dr. Cooper knows nothing about Dr. Hofeller's files and can assess very little. He can only review "what was on Dr. Hofeller's screen when he [last] saved those files and . . . the date that he saved those files." (Tr. 1068:10-12.) Thus, Dr. Cooper cannot say what Dr. Hofeller was looking at—much less what he was thinking—when he was drawing maps. (Tr. 1068:7-13.) It is, moreover, entirely unclear what maps fit in to the drawing process and where and when. A map showing a "last modified" date in August 2017 (Tr. 981:4-15) may simply have been opened on accident on that date; it may have been opened briefly for reference; it may have been tweaked to check one or two minor possibilities; or any other number of uses are possible. Dr. Cooper has no clue when or how any map he reviewed was used.

405. Dr. Cooper cannot say why Dr. Hofeller chose the color scheme for coding VTDs. (Tr. 1067:8-14.) Undeterred, Dr. Cooper invented a comparison to traffic lights because, "like, if you are a Republican mapmaker, you're trying to draw a map to benefit one party at the expense of the other, the red is sort of saying stop. The green is saying go, the yellow is saying stop and consider." (Tr. 941:6-10.) Thus, Dr. Cooper began from the premise that "a Republican mapmaker" is necessarily "trying to draw a map to benefit one party at the expense of the other" and worked backwards to find evidence for that conclusion. This is yet another instance of confirmation bias.

406. Dr. Cooper's completely fabricated traffic-light explanation fails to account for colors that do not appear on traffic lights, such as pink, orange, white, and three shades of green

that appear on Dr. Hofeller's screens. (*See* PTX330.) And many of Dr. Hofeller's files used other color coding (for reasons Dr. Cooper does not and cannot know). (Tr. 1066:11-14.)

407. Even though Dr. Cooper's traffic-light explanation has nothing to do with anything, Dr. Cooper testified about the traffic-light colors at length and on prompting of counsel as if the traffic-light explanation were in evidence. (*See, e.g.*, Tr. 944:5-12; 947:1-5; 965:4-9; 966:7-15; 970:4-23; 976:12-24; 977:8-11; 977:16-22.) This amateurish presentation of evidence illustrates the extent to which Dr. Cooper is willing to go to fabricate information to create vague impressions, such as that, "when you get into the red VTDs of Winston-Salem," the election data say "stop." (Tr. 977:8-11; *see also* Tr. 940:19-941:10 (similar testimony).) This is just plain silly.

408. The metadata on Dr. Hofeller's files showed a series of prior files from which the files Dr. Cooper reviewed were copied. (*See, e.g.*, PTX565.) Dr. Cooper did not review any of those prior files and thus did not know what iterations had been created, what data was displayed in those files, and how much overlap there was between any districts. (*See, e.g.*, Tr. 1076:12-1078:13.)

409. Dr. Cooper has no way to know what Dr. Hofeller was looking at in any files, especially those files Dr. Cooper did not review. It is not self-evident that partisan data was front and center in the line drawing. Some files did not display partisan color coding on the territory displayed on the mapping screen. (*See, e.g.*, PTX566; PTX563; PTX568; PTX571.) These files were later copied into other files. Dr. Cooper therefore does not know at what point Dr. Hofeller looked at partisan data. It may have been during the drawing, it may have been late in the drawing process, it may have been at the very end. Dr. Cooper hasn't the foggiest idea.

410. Dr. Cooper, in fact, does not know when Dr. Hofeller did any of the work Dr. Cooper examined. There is powerful evidence that it was done years ago. The principal maps Dr.

Cooper analyzed contain no election data from 2016 and only one election from 2014. (Tr. 969:3-16.) It is highly unlikely that a competent map-drawer would draw maps in 2017 without election data from 2016. Dr. Cooper's *ad lib* observation that "I think 2016 we'll all attest was a bit of an unusual year in American politics" (Tr. 1074:24-25) forgets that Dr. Cooper used 2016 election data for all his (rather, Blake Esselstyn's) color-coded maps.

411. Dr. Cooper then represents that he cannot defend Dr. Hofeller's formula. (Tr. 1075:11-16.) But that misses the point. Rather than defend the formula, Dr. Cooper should have questioned whether he was dealing with maps drawn in 2017. As shown, that is highly doubtful. Further, Dr. Cooper should have also questioned whether the political data was loaded for the purpose of any maps drawn in 2017. It is more likely that, even if the maps were drawn in 2017, the political data was carried forward from prior files and not updated. That would cut *against* the notion that Dr. Hofeller carefully considered political data. It would seem to be more of an afterthought.

412. Dr. Cooper testified that Dr. Hofeller's formula produced maps reflecting similar partisan voting patterns. (Tr. 970:7-20.) In fact, there are differences in the voting patterns occurring in different elections. (*Compare* PTX332 *with* PTX274.) The election data Dr. Cooper used is not probative.

413. Dr. Cooper's maps do not show information available on Maptitude (such as population density), they do not control shading for population density, they do not utilize the election data reflected in the legislative history, and they are not probative in assessing partisan intent or effect.

(2) Jowei Chen, Ph.D.

414. Dr. Jowei Chen purported to evaluate four questions: (1) "whether partisan intent was the predominant factor in the drawing of the 2017 house and 2017 senate plans both at a

statewide level and with respect to certain county groupings" (Tr. 245:14-17); (2) what effect the 2017 plans had on the number of Democratic and Republican legislators elected from North Carolina, both statewide and within individual county groupings (Tr. 247:6-10); (3) whether the 2017 house and senate plans conform to the criteria adopted by the redistricting committees (Tr. 248:6-12); and (4) the partisan composition of the districts resided in by each Plaintiff (Tr. 250:19-21).

415. Dr. Chen's analysis of each question is flawed, and these errors combine to lead to nonsensical conclusions that do not aid the Court in deciding the issues before it.

a. Dr. Chen's Predominance Analysis Is Flawed

416. Dr. Chen purported to show that partisan considerations predominated over the General Assembly's adopted criteria. To do so, he compared two sets of 1,000 simulated House and Senate redistricting plans against the enacted House and Senate redistricting plans as to several data points.

417. But to be of any use, an analysis of this genre must be an apples-to-apples comparison. That is because analyzing whether the enacted plans are outliers requires a "baseline" that is a correct comparison for purposes of the analysis. It may be that one map bears statistically significant differences from other maps under some metric, but that is only meaningful if the other maps are a reliable measure of what the map under review *should* be.

418. Off the bat, Dr. Chen concedes his failure to create a sound baseline. He offers "no opinion on whether any of these simulated maps are better than or worse than . . . the General Assembly's enacted plans." (Tr. 754:6-11.) There being no assertion that either the General Assembly or the Court *should* adopt any of Dr. Chen's simulated maps, they cannot plausibly offer the right baseline comparison for judging the 2017 enacted plans. Nor is there any reason to believe the General Assembly would support any of Dr. Chen's plans, since they were created with no

public input, no input by the General Assembly's members, no consideration of any local factors that matter in redistricting—or anything else.

419. Another problem is that Dr. Chen's simulated maps contain no political considerations at all because, in his opinion, "using election data or using political consideration is kind of a definition of drawing a partisan map." (Tr. 260:3-5.) But, his personal opinions aside, the North Carolina Supreme Court has held that the General Assembly "may consider partisan advantage and incumbency protection in the application of its discretionary redistricting decisions," *Stephenson v. Bartlett*, 562 S.E.2d 377, 390 (N.C. 2002), and partisan data was one of the adopted criteria. So, even if isolating political considerations from all other redistricting criteria might make sense in judging the work of a body forbidden from political thinking, it is not a useful measure in differentiating whether a body *allowed* to consider politics did so in some type of invidious way.

420. But, even under its own premises, Dr. Chen's analysis fails because his design was flawed. To discern whether partisanship predominated (or whether a plan is a "partisan outlier"), the baseline must accurately implement the *non*-partisan goals of the map-drawer. If the baseline fails to do so, then the resulting comparison cannot be used to draw any conclusions about whether partisanship "predominated" over other criteria (some of which may correlate with partisan voting patterns), or whether the enacted plan is a partisan outlier. The baseline must accurately and completely implement the map-maker's non-partisan goals or else the analysis is meaningless.

421. The fallacy of Dr. Chen's approach becomes quickly apparent when one realizes that Dr. Chen's analysis treats districts drawn by the *Covington* special master as having *more* partisan intent than those drawn by the General Assembly.

422. For example, in HD59, a district with 17% of its population assigned by the special master (Tr. 718:19-22, Tr. 1883:18-23, LDTX314), the enacted plan provides HD59 a Democratic vote share of approximately 40%, whereas Dr. Chen's simulated, "nonpartisan" maps would give HD59 a Democratic vote share of 46% (PTX45; Tr. 720:11-721:12). Hence, as Dr. Chen admitted, his maps are "a more Democratic set" for HD59 than the Special Master drew (Tr. 721:5-7).

423. By contrast, the General Assembly's enacted districts that Dr. Chen describes as "outliers" have less than a 6% deviation between them and Dr. Chen's simulated map projections. (*See, e.g.*, PTX047 (providing HD47 enacted and projected Democratic vote share graphic).). For example, in HD47, the enacted plan has "just below 60%" Democratic vote share. (Tr. 344:8-9; *see also* PTX047.) Dr. Chen's simulated maps produce a Democratic vote share range for HD47 from 52% to 59%. (Tr. 347:3-5.) So, in some instances, the difference between the enacted HD47 and Dr. Chen's simulated map is nearly (if not) 0%—yet he classifies this as an "outlier," (*see* Tr. 347:6-14)—because the range of simulated maps produces between a 1-8% difference in vote share, with most falling around just below 55%. (PTX47; *see* Tr. 347:4-5.) In other words, approximately less than a 6% Democratic vote share difference between the enacted HD47 and Dr. Chen's simulated maps constitutes an "outlier."

424. Considering the special master's HD59 produced a constant 6% difference, —then by Dr. Chen's measure, the Special Master drew with a partisan intent because the Special Master had a larger, and more consistent difference in vote share than the purported "outlier" produced by the General Assembly.

425. It seems, according to Dr. Chen, everyone drew North Carolina maps with partisan intent except, unsurprisingly, Dr. Chen himself—a proposition that strains credulity. These kinds of spurious correlations reflect the significant shortcomings of Dr. Chen's analysis.

426. Dr. Chen also failed to implement the 2017 adopted criteria, set forth in LDTX155, properly. Although the General Assembly generally used acceptable-level thresholds in its adopted criteria, Dr. Chen instead adopted "preferential" criteria, which rendered his results useless for measuring any partisan bias in election results. (*See, e.g.*, Tr. 637:25-638 (Dr. Chen fails to "instruct [his] algorithm to do simulated maps that divided the same number of cities that were divided by the 2017 plans."); Tr. 639:18-23 (same); Tr. 643:3-16 (Dr. Chen fails to instruct algorithm to align with the 2017 plan's divided VTDs); Tr. 641:2-642:7 (Dr. Chen fails to compare divided VTDs in 2017 plans with his simulated maps).) Dr. Chen's failure to match the enacted plan's criteria undermines his results (and his credibility) because, despite his protestations that doing so "would not really make any sense," (Tr. 638:10-11; *see also, e.g.*, Tr. 643:12-13), he did that very thing in examining the challenged maps in *Rucho v. Common Cause* (Tr. 638:24-639:3 (describing running additional simulation to match counties split by enacted plan); *see also* 601:24-602:11.)

b. Dr. Chen's Simulation Methods Failed To Implement The General Assembly's Adopted Criteria.

427. Dr. Chen's simulated plans do not accurately or completely implement the General Assembly's non-partisan goals—and for elementary reasons.

i Dr. Chen Incorrectly Designed His Algorithm To Optimize/Maximize Compactness.

428. Dr. Chen's algorithm did not implement the compactness criterion properly.

429. Dr. Chen's algorithm "was designed so that, all else being equal, districts that are more compact are favored over districts with less compactness." (Tr. 257:15–18; *see also* Tr. 602:21-603:1; Tr. 613:10-13 (Dr. Chen "interpret[s]" criteria as preferential to more compact districts).) That is an interesting idea but not one the General Assembly approved, and as Dr.

Chen admitted, it was purely his "interpretation" of the criteria, Tr. 603:18-20; *see also* Tr. 613:10-13, without citing any jurisdictions that adopted his interpretation, Tr. 604:3-7.

430. Instead of using Dr. Chen's interpretation, the General Assembly set an acceptable-level threshold for compactness. The goal was to improve compactness scores from the prior map. This meant that the criterion was a minimum of 0.15 under the population-dispersion method (Reock) and 0.05 on the perimeter measure (Polsby-Popper). (Tr. 610:13–16 (identifying House Committee on Redistricting transcript); Tr. 611:2-612:7 (discussing minimum criteria).) Anything above those scores was an improvement and, hence, satisfied the criterion. But Dr. Chen did not set those as the thresholds in his algorithm—even though he could have and, in fact, had done so in prior cases. (Tr. 633:16-634:18.) Instead, he set his algorithm to favor districts with higher compactness scores over those with lower compactness scores (Tr. 613:10-13), thereby continuing to weed out possibilities that satisfied the General Assembly's criteria.

431. The difference is obvious and encountered on a daily basis. It is one thing to apply a criterion that, say, only candidates over age 18 can qualify; it is altogether different to continue to favor older persons over younger persons even above that minimum. Under the former criterion, a 25-year-old and a 30-year-old both equally satisfy the age criterion (as is the case in implementing the right to vote). Under the latter, a 30-year-old beats the 25-year-old, and the latter is excluded, even though both are over 18.

432. The General Assembly's criterion was the former type. The General Assembly's compactness criterion would not pick a dog in the fight between two districts that each exceeded the threshold. Some *other* criterion would have to settle that contest—even if one were more compact than the other—since each district would satisfy the compactness criterion. By contrast, Dr. Chen's compactness criterion continued to pick winners and losers even in excess of those

thresholds. As a result, the algorithm's compactness criterion picked some plans over others, even though the General Assembly's compactness criterion would not exclude those latter candidates.

433. In turn, the Chen's compactness criterion excluded a range of possible maps that the General Assembly's criteria treated as within bounds. By applying a more restrictive compactness test than the General Assembly applied (Tr. 673:10-16; Tr. 611:12-612:7; Tr. 612:21-613:8), Dr. Chen rigged the analysis so that more outliers were likely. The narrower the range of simulations, the greater the number of outliers and vice versa. If the total range of a data set is 20 to 30, the figure 25 is within it; if that range is narrowed to between 29 and 30, the figure 25 falls outside. That is the effect of Dr. Chen's algorithm, which, again, continued to demand more and more compact districts among choices that equally satisfied the General Assembly's threshold.

434. Dr. Chen's response that "I don't know of any jurisdiction in the country that says we want less compact districts and that's better than drawing more compact districts" (Tr. 603:9-11) attacks a straw man. It conflates a goal of purposefully creating less compact districts (which is not the General Assembly's criterion) with a *tolerance* for districts that fall short of some abstract notion of perfection (to which the General Assembly did not aspire). The criterion that all districts must improve upon the prior plans need not (and should not) be interpreted as a goal of purposefully rendering districts as *low* as possible while remaining above the threshold; it is rather a criterion of indifference to compactness once the threshold is met. Just because there are no bonus points for exceeding the target does not mean there is a goal of hitting the low end.

435. Dr. Chen's statement only reveals his ignorance that the General Assembly's approach is in the mainstream. For example, because Virginia's state constitutional compactness

criterion "does not require districts to be as compact as possible," the Virginia Supreme Court recently upheld districts because of the "legislature's efforts to ensure that the compactness scores of the districts . . . remained largely at or above the scores" of prior districts. *Vesilind v. Va. State Bd. of Elections*, 813 S.E.2d 739, 753 (Va. 2018). Likewise, the Pennsylvania Supreme Court upheld districts even though "greater compactness is possible." *Holt v. 2011 Legislative Reapportionment Comm'n*, 67 A.3d 1211, 1242 (Pa. 2013). Indeed, when redistricting laws or criteria are intended to communicate a requirement of maximizing compactness, they contain language such as "[e]ach district shall be as compact in area as possible" or "to the extent practicable." *Vesilind*, 813 S.E.2d at 750 n.9 (quoting Colorado and Arizona criteria). The General Assembly's criteria do not contain such language.

436. Dr. Chen's analysis fails yet again by averaging the compactness criterion across the plan rather than ensuring compliance with the threshold in each district. (Tr. 673:14-19; Tr. 730:2-5 (admitting compares compactness of "the entire plan"); Tr. 752:1-2 (same); Tr. 731:10-17 (admitting did not compare "divided cities" at a district level or county grouping level); Tr. 731:25-732:4 (admitting did not calculate divided VTDs at the enacted county group level); *see* Tr. 729:1-19 (admitting never compared compactness score between an enacted district and a corresponding simulated district).) But the General Assembly's compactness criterion was implemented district by district. (LDX155 (providing compactness criterion as "draw[ing] legislative districts" and "improv[ing] the compactness of the current districts"); LDTX8[7] at 14:3-8 (providing compactness criterion used on all senate districts); *id*. at 17:15-16 (Sen. Hise explaining "each individual district meets the standards of compactness."); *id*. at 7:21-24 (providing remarks of Sen. Hise evaluating redistricting map under compactness criterion,

[7] N.C. Gen. Assemb. 2017 Legis. Session, Sen. Comm. on Redistricting Meeting (Aug. 24, 2017).

explaining: “None of the districts you will find adopting this were below those minimum [compactness] standards.”); *Covington v. North Carolina,* 1:15-cv-00399, ECF No. 184-8 at 27:18 -28:9 (Rep. Lewis describing compactness tests analyze individual districts); LDTX9[8] (providing remarks of Sen. Hise describing redistricting map evaluated under compactness criterion has “all of the districts that are there meet those [Reock and Polsby-Popper] scores”).)

437. The differences in the compactness scores between Dr. Chen’s simulated sets and the enacted plan for the House and Senate are not meaningful. For the House, the difference in the average Reock score (for compactness) between Dr. Chen’s House simulation set 1 and the enacted 2017 enacted plan is a mere range of only .032–.062. (PTX7.) Likewise, the difference in Dr. Chen’s House simulation set 2 and the enacted map compactness score is an even smaller range: .027–.053. (PTX7.) The difference in compactness in Dr. Chen’s Senate renditions from the enacted plan is *even smaller*. Under Senate simulated set 1, the difference from the Reock average ranges from .011–.033; and for simulated set 2, the range is .006–.031. (PTX7.) The difference between Dr. Chen’s simulated sets and the enacted 2017 plans is similarly negligible when compared using the Polsby-Popper compactness score: the House ranges from .027–.063 for simulated set 1, and .015–.050 for simulated set 2; the Senate difference ranges from .017–.050 for set 1 and .009–.041 for set 2. (PTX26.) In short, these differences are meaningless, as the enacted map’s Reock and Polsby-Popper scores are nearly identical the scores produced by Dr. Chen’s simulated House and Senate simulated maps.

ii Dr. Chen Incorrectly Attempted to Minimize VTD (Voting Tabulation District) Splits.

438. Dr. Chen’s algorithm also did not implement the General Assembly’s VTD-split criterion properly.

[8] N.C. Gen. Assemb. 2017 Legis. Session, SB 691 (Second Reading) (Aug. 25, 2017).

439. Dr. Chen's "algorithm favored districting lines and districts that split fewer [VTDs] over ones that split more precincts all else being equal." (Tr. 257:23-258:2; *see also* Tr. 604:11-13 (same); Tr. 262:4-16 (describing process).) Dr. Chen clarified he used Voting Tabulation Districts ("VTDs" (Tr. 258:13-14)) as opposed to voting "precincts." (Tr. 258:3-12; Tr. 605:5-7.)

440. However, like the compactness criterion, the General Assembly only set a threshold, not a maximization requirement in evaluating splitting precincts. Specifically, the General Assembly directed the redistricting committee to make "reasonable efforts to draw legislative districts in the 2017 House and Senate plans that split fewer precincts than the current legislative redistricting plans." (LDTX155 (providing the 2017 House and Senate plans criteria).)

441. However, Dr. Chen ignored the General Assembly's threshold criteria and instead used his "interpret[ation]" and directed his algorithm to "prefer[]" "districting lines that split fewer precincts . . . over ones that split more precincts." (Tr. 604:14-20.) In fact, Dr. Chen never instructed his algorithm to produce an acceptable-level threshold for VTDs by matching or not exceeding the 2017 plan's number of split VTDs. (Tr. 643:3-16.)

442. Moreover, the remarks of Rep. Lewis on public record discussing the VTD-splitting criteria mentions the enacted plan only split "19 precincts," comparing it to three prior plans that had split precincts at levels of 103, 285, and 395 (Tr. 615:14-25) without mentioning any pertaining to a preference beyond splitting less precincts than previous plans, *id.*

443. By creating an algorithmic preference for maps that split fewer districts (beyond satisfying the General Assembly's threshold of splitting "fewer precincts" than the "current ... plans," Dr. Chen screened out possibilities that satisfied the General Assemblies criteria—which in turn rigged his analysis to falsely portray the enacted map as an outlier by

eliminating additional maps that would have satisfied the General Assembly's "fewer split precincts" criterion (LDTX 155).

444. Even in the face of this failure, the difference between Dr. Chen's Senate VTD splits and the enacted plans is not significant. The enacted Senate plan split five VTDs—the simulated sets had a range of 0–3 split VTDs, so a difference ranging from five to only two split VTDs (PTX26; *see also* Tr. 321:25-322:2)—not a meaningful difference, yet one that prompts Dr. Chen to "conclude" the plan is an "outlier" because it "creates more split VTDs," (Tr. 322:13-15)—a whopping two more in some instances.

iii Dr. Chen Erred By Programming His Algorithm To Minimize Municipal Splits.

445. Dr. Chen's algorithm did not implement the General Assembly's municipality criterion properly, either.

446. Dr. Chen "programmed the algorithm so that, all else being equal, the algorithm favored districts that split fewer municipalities rather than [those] that split more municipalities." (Tr. 258:22-259:1; *see also* Tr. 605:10-18.)

447. However, the General Assembly only provided the redistricting committees "may consider municipal boundaries when drawing legislative districts in the 2017 House and Senate plans." (LDTX 155.)Dr. Chen "interpret[ed] that as meaning districting plans that split fewer municipalities are preferred over districting lines that split more municipalities." (Tr. 605:16-18.) Dr. Chen testified that establishing a threshold acceptability level for the number of municipalities split to match the enacted plans' splits "wouldn't really make sense" to him. (Tr. 638:19.) In fashioning his interpretation of the "municipal boundaries" criteria, Dr. Chen never personally talked with anyone in the General Assembly about what was meant by the municipal-boundary criterion. (Tr. 605:22-25.)

448. Yet Rep. Lewis described the "municipal boundaries" criteria on public record as satisfied because the enacted plan split 78 municipalities, whereas the 2009 plan split 123 municipalities and the 2011 plan split 144 municipalities. (Tr. 616:18-24.) Neither these nor any other public remarks did described the criteria as "interpreted" by Dr. Chen.

449. Like his other errors, Dr. Chen's setting a preference for maps that split fewer municipalities, after achieving the General Assembly's threshold of simply "consider[ing] municipal boundaries" (LDTX 155), screened out possibilities that satisfied the General Assemblies criteria—which in turn rigged his analysis to falsely portray the enacted map as an outlier by eliminating additional maps that would have satisfied the General Assembly's "municipal boundaries" criterion (LDTX 155).

450. Despite being an "expert on simulated maps," Dr. Chen could not say whether his algorithm would have produced a different set of maps if he had instructed it to draw maps with an acceptable-level threshold in split-municipal districts. (Tr. 646:1-647:13.) Obviously, it would have, and Dr. Chen's testimony was disingenuous.

451. Much like the insignificant number of split VTDs between Dr. Chen's simulated maps and the enacted plans, the difference in split municipalities is meaningless. The enacted plan splits 25 municipalities in Senate districts; similarly, Dr. Chen's simulated maps split from 8 to 16 municipalities. (PTX026.)

iv Dr. Chen Failed To Implement The General Assembly's Incumbency Protection Criterion.

452. Dr. Chen's algorithm did not implement the General Assembly's incumbency criterion in a defensible manner.

453. The first set of simulations gave no incumbency protection criterion. (Tr. 259:21-25.) The second set had only a criterion that precluded the pairing of incumbents. (Tr. 261:1-5; Tr. 308:3-14.) That is not the criterion the General Assembly applied. (LDTX155.)

454. In fact, using Dr. Chen's definition of incumbency protection, incumbents in some districts in Dr. Chen's simulated maps fared worse applying his version of "incumbency protection" (Tr. 653:23-654:8), despite Dr. Chen not being "aware of any state that has a criteria of putting incumbents in new districts that are worse for them than the one that they had run in previously" (Tr. 655:3-13).

455. Dr. Chen believes "general that incumbency protection is not a traditional districting principle." (Tr. 654:20-21; *see also* Tr. 308:3-7; Tr. 311:17-23.) That is his view, not the General Assembly's (LDTX155; LDTX013 at 14:1–6; PTX603 at 119:2–120:7; LDTX14 at 8:17–11; see also Tr. 152:2–14 (Senator Blue testifying about decisions made to preserve the "territory" of incumbents) ; LDTX08 at 49:20–50:1 (change made to better reflect legislator's view of communities of interest); *id*. at 54:5–67:12 (same from Senator Blue), or the Supreme Court's, *Vieth v. Jubelirer*, 541 U.S. 267, 298 (2004) (characterizing incumbency protection as a "traditional criterion" and a "traditional and constitutionally acceptable districting principle."); *id*. at 300 (describing "the time-honored criterion of incumbent protection").

456. Moreover, Dr. Chen's explanation of incumbency protection (and his credibility as a consequence) is defeated by Dr. Chen's own discussion of incumbency protection in his earlier research in 2013. In examining proposed redistricting maps submitted by Democrats in Florida, Dr. Chen acknowledged that "[i]mportant considerations for Democratic cartographers include . . . protection of incumbents, especially those incumbents submitting the districting proposals." (Tr. 763:12-15.) However, conveniently, Dr. Chen "didn't have any particular idea in

mind about [the] form or the application" of the meaning of the protection of incumbents, but he observed: "It's just generally known that very often partisan map drawers are motivated by some general form of incumbency protection." (Tr. 763:25-764:3.)

v Dr. Chen's Excuses For Failing To Implement These Criteria Fall Flat.

457. Dr. Chen resorted to the argument that the traditional districting criteria he used are "those same criteria in [his] academic work in [his] work in other cases." (Tr. 259:8-10.) But "[t]raditional redistricting principles . . . are numerous and malleable." *Bethune-Hill v. Virginia State Bd. of Elections*, 137 S. Ct. 788, 799 (2017). How they are applied matters, and Dr. Chen went off on his free-wheeling notion of good policy—rather than utilizing the particular criteria applied in 2011. (Tr. 631:20-24 (Dr. Chen "didn't analyze the 2011 enacted plan except insofar as . . . there are some districts that were drawn in 2011 and not changed in 2017. Those districts [he] did analyze because [he] analyzed the compactness of the 2017 House plan or the current enacted House plan."); *see* Tr. 592:1-4 (discussing not using 2011 county groupings); Tr. 629:19-630:3 (Dr. Chen did not know "one way or another" if the Legislature had a compactness measure in 2011).)

458. Worse, Dr. Chen applied the 2017 criteria to districts drawn in 2011, where the criteria were different. The 2011 criteria did not include any instructions concerning municipal boundaries, preserving communities of interest, or avoiding splitting precincts. *Covington v. North Carolina*, 316 F.R.D. 117, 137 (M.D.N.C. 2016), *aff'd*, 137 S. Ct. 2211 (2017). Instead, the 2011 criteria focused on creating Voting Rights Act districts with a 50% Black Voting Age Population first, "before drawing the lines of other districts; and . . . to draw these districts everywhere there was a minority population large enough to do so and, if possible, in rough proportion to their population in the state." *Id.* at 130. Dr. Chen knew to use election data predating 2011 in analyzing

the political data involved; so, he should have used the 2011 criteria, not the 2017 criteria, to analyze those districts.

459. Dr. Chen's method produces the mirage of an "outlier" appearance of the enacted map by unfairly and intentionally restricting the number of unique maps for county groups in his simulated maps. (Tr. 735:7-20.) Simply put, not all groupings get 1,000 maps. (Tr. 264:1-10.)

460. Because Dr. Chen did not implement the criteria, he cannot opine on whether partisanship "predominated" over those criteria. They may have been subordinated to *nothing*, since Dr. Chen did not actually test the criteria used.

461. Moreover, Dr. Chen does not know if the subordination was due to political considerations or other factors. There is good reason to doubt whether politics predominated.

a. Dr. Chen concluded that one factor "subordinated" was keeping VTDs whole. (Tr. 271:5-9.) He thus concluded that partisanship predominated over maintaining VTDs.

b. But that is nonsensical. VTDs (or, more accurately, precincts) are the level at which election data is captured and reported. A VTD is created "by the Census Bureau for the states specifically for redistricting use. States send back either maps or electronic files which indicate where their election precinct boundaries are, and those boundaries are incorporated into the Census Bureau's geographic hierarchal structure." 5 Joint App. at 1609, *Cooper v. Harris*, 137 S. Ct. 1455, 1495 (2017), 2016 WL 4920772 (cited by *Cooper*, 137 S. Ct. at 1495, n.15, for explanation of VTDs) (direct examination of Dr. Hofeller). Subsequently, "the Census Bureau releases a . . . set of summary data for each VTD." *Id*. at 1610. There is no way to know where *within* a VTD voters for any candidate live.

c. Although North Carolina reported census-block level election data, the State simply disaggregated VTD-level data to each census block, attributing the VTD-level results to each block. The assumption of perfectly uniform spread of voters is nonsensical. No informed map-drawer would conclude that the census-block level data is reliable.

d. So even if the VTD criterion was subordinated to *something*, it could not have been *politics*.

e. In turn, the fact that Dr. Chen found partisan predominance on this factor where it patently could not have been partisan undercuts his *other* conclusions: because partisanship could not have predominated here, it is doubtful at best that it predominated on other criteria.

c. Dr. Chen's Analysis of Partisan Effect Is Flawed and, Besides, Demonstrates a Very Modest Effect

462. Dr. Chen's conclusions on the effect of the allegedly partisan redistricting are unreliable. Moreover, even taken at face value, they indicate no meaningful impact.

463. Dr. Chen defined: "using election data or using political consideration is kind of a definition of drawing a partisan map." (Tr. 260:3-5.) So Dr. Chen's algorithm made no use of election data. (Tr. 259:21-260:18.) But, to identify whether politics somehow went too far, where politics are *permissible*, the right approach was to compare the maps to other maps with partisan considerations. In short, Dr. Chen's method is "flawed at a very fundamental level and that flaw is that the comparison group that needs to be used is not nonpartisan districts which is what [he] used but it should be partisan districts." (Tr. 2277:16-19 (testimony of Dr. Brunell).)

464. Moreover, for reasons stated above, the comparison group must incorporate the criteria the General Assembly adopted. Failing at that, Dr. Chen's analysis is unreliable. He

testified that the "whole point" of his analysis is to account for *non*-partisan factors like political geography and non-partisan traditional districting criteria (Tr. 305:7; Tr. 304:19-305:8), but, if the criteria are different, there is no way to know whether Dr. Chen counted these factors as partisan.

i Dr. Chen's Reliance On More Restrictive Comparison Criteria Doomed his Analysis.

465. As discussed, Dr. Chen chose a more restrictive set of criteria to generate his comparison set of simulation plans to the criteria adopted by the General Assembly.

466. His compactness criterion weeded out permissible districts at compactness levels within the bounds the General Assembly deemed permissible. (Tr. 257:15–18 (Dr. Chen favoring more compact districts over less compact districts); Tr. 603:18-20 (Dr. Chen admitting he programmed his algorithm's compactness parameters using his "interpretation" of the criteria); Tr. 610:13–16; Tr. 611:2-612:7 (providing the General Assembly's use of an acceptable "minimum criteria" threshold for compactness); Tr. 613:10-13 (Dr. Chen discussing his "interpret[ation]" of the compactness criterion, despite the General Assembly's explicit standards and the House Redistricting Chair's exemplar of a "minimum criteria").)

467. His VTD-split criterion weeded out permissible districts at VTD-split levels within the bounds the General Assembly deemed permissible. (Tr. 257:23-258:2 (Dr. Chen discussing algorithm favored fewer split VTDs, omitting an acceptable-level threshold approach); LDTX155 (providing the 2017 House and Senate plans criteria); *see also* Tr. 604:11-13 (providing Dr. Chen's algorithm favored fewer split VTDs); Tr. 262:4-16 (describing algorithm's process for VTDs based on Dr. Chen's interpretation of the criteria); Tr. 604:14-20 (Dr. Chen discussing his "interpret[ation]" of the criteria and his ensuing algorithm instructions to accommodate Dr. Chen's beliefs); Tr. 643:3-16 (demonstrating Dr. Chen's failure to use an acceptable-threshold level for criteria)).

468. His municipality-split criteria weeded out permissible districts at levels within the bounds the General Assembly deemed permissible. (Tr. 258:22259:1 (Dr. Chen discussing algorithm favored fewer split municipalities); LDTX 155 (providing the 2017 House and Senate plans criteria, including drawers "may consider" municipal boundaries); Tr. 605:16-18 (describing Dr. Chen's "interpretation of the criteria); Tr. 638:19 (Dr. Chen rejecting an acceptable-level threshold approach because it "wouldn't really make sense)"; *see also* Tr. 605:10-18 (providing Dr. Chen's hierarchal approach as opposed to the criteria's acceptable-level approach).

469. His incumbency criterion ignored considerations such as constituency retention that were part of the criterion. There can be a correlation between political factors and incumbency protection. *Vieth v. Jubelirer*, 541 U.S. 267, 299–300 (2004) (rejecting dissent's test for "the unjustified use of political factors to entrench a minority in power." (emphasis removed)); *see also White v. Weiser*, 412 U.S. 783, 791, 93 S. Ct. 2348, 2352–53, 37 L. Ed. 2d 335 (1973) (finding value in "maintaining existing relationships between incumbent congressmen and their constituents and preserving the seniority the members of the State's delegation have achieved in the United States House of Representatives."). But, nonsensically, Dr. Chen's analysis concluded that the incumbency-protection criterion *harmed* Republican interests, such that his second set of maps rendered the enacted plans even *greater* outliers than would have occurred without his version of the incumbency criterion. (Tr. 653:23-654:8; *see also* Tr. 655:3-13 (Dr. Chen providing that he was not "aware of any state that has a criteri[on] of putting incumbents in new districts that are worse for them than the one that they had run in previously.".)) This proves beyond cavil that Dr. Chen misapplied this criterion.

470. As Dr. Thornton explained, by not including maps that satisfy the legislative criteria, then the analysis does "not have the full information" because one is "removing variation." (Tr. 1602:11-12).)

471. The consequence equates to one looking for car keys left in the garage but only searching the rooms in the home and ignoring the garage—of course one will not find the lost keys because they are in the garage. (Tr. 1602:12-24). Or more broadly, one does not find the keys because they are focused on rooms, whereas the keys are in the garage. Similarly, Dr. Chen focused on the wrong "rooms"—simulated maps created from his interpretative manipulation of the criteria or its omission altogether, when the "keys" were in the "garage"—maps, unlike Dr. Chen's, that would need to be produced using all the General Assembly's criteria, along with the proper definition of it (i.e. use of acceptable-level thresholds).

472. The consequence: Dr. Chen's omission or interpretative manipulation of the criteria results in his failing to generate the full range of compliant maps because he simply failed to look for them—which leads to a distorted view of what constitutes an "outlier" because the range of maps he produced lacks all the ones that would satisfy the General Assembly's criteria or would meet it had it been used by Dr. Chen.

ii Dr. Chen's Approach Is Also Unreliable Because Its Use Of Elections Data And Assumptions Has Little Bearing On Reality.

473. Utilizing a 2010–2016 statewide election composite, superimposed on his enacted plans (Tr. 326:24-327:4; Tr. 286:6-7), Dr. Chen concludes that between 43 and 51 House seats and between 19 and 21 Senate seats should be won by Democratic members. (PTX007 (House); PTX009 (House); PTX026 (Senate); PTX028 (Senate); Tr. 315:21-316:1 (describing PTX007); Tr. 340:4-11 (describing PTX026); 2 Tr, 286:3-21 (discussing House seat); Tr. 326:1-6 (discussing Senate seats).)

474. From there, Dr. Chen utilizes a uniform swing analysis to predict the number of seats that *should* be Democratic at different statewide vote levels. (PTX010 (House); Tr. 289:15-290:22; Tr. 291:15-296:3 (House); PTX029 (Senate); Tr. 328:14-330:4.) The uniform swing is a contrived set of assumptions positing that a difference in statewide vote totals will be uniform across a jurisdiction. That simply does not occur.

475. Dr. Chen admitted that he has never assessed whether North Carolina election differences tend to be uniform (nor would that be likely to occur). (Tr. 676:25–677:4.)

476. And, in fact, the error of this method is readily apparent here. Dr. Chen's analysis predicts that, if Democratic candidates receive over 51% of the statewide vote under the 2017 plan, the Democratic Party will control 46 House seats and 20 Senate seats. (PTX010 (House, set 1); PTX023 (House, set 2); PTX029 (Senate, set 1);; Tr. 669:24-670:24 (Dr. Chen confirming 46 House seats results in his analysis); *see* Tr. 655:15-656:1 (confirming none of the simulations produce a House majority winning over 51% of statewide vote).)

477. In fact, the Democratic Party won over 51% of the statewide vote in 2018. (Am. Compl. ¶ 186 (House Democratic candidates receive 51.2% statewide votes and 55 seats); *id*. ¶ 187 (Senate Democratic candidates receive 50.5% statewide votes and 21 seats); Tr. 669:14-17 (51.2% vote received), and it won 55 House and 21 Senate seats. (Amend. Compl. ¶ 186 (55 House seats); *id*. ¶ 187 (21 Senate seats); Tr. 669:7-13 (55 House seats).) In other words, the Democratic Party outperformed the uniform-swing predictions. Moreover, the actual elections results fit comfortably within the predicted results under Dr. Chen's simulated maps. PTX023 (showing 54-seat mean in instance of 51.42% Democratic vote share); PTX029 (showing 23-seat mean in instance of 51.42% Democratic vote share).

478. Dr. Chen's response to this problem is that it is improper to check actual House and Senate election results against his uniform swing model because the uniform swing is not designed to predict actual outcomes. (Tr. 660:2-7.) In fact, as Dr. Chen emphasizes, his swing model is "not at all making a prediction" of future election results. (Tr. 660:2-3.) In Dr. Chen's words, his swing analysis is "just saying here are a bunch of possible different hypothetical alternative electoral conditions," but those possibilities—his "analysis"—does not provide any measure of "know[ing] if [the outcomes] will happen" in an actual election (Tr. 660:5-7)—in short, they provide nothing relevant to "whether or not the Democrats can win a majority of seats under the 2017 plans" (Tr. 660:11-18). Despite all this, Dr. Chen purports to use this method to analyze partisan *effect*. But Dr. Chen's admission that his analysis does not measure actual results undercuts this conclusion—there is no way to measure effect in the abstract.

479. Indeed, Dr. Chen testified that he used the composite election data to prove partisan *intent*. (Tr. 661:8-11.) But there is no way to establish that the impact of the partisan intent is a durable *effect* without reference to real-world results, and Dr. Chen's analysis conflicts with real-world results.

480. Dr. Chen believes "Partisan intent is what causes the partisan effect of the districting plans" (Tr. 644:19-20), providing the example that "merely splitting a VTD by itself in a vacuum abstractly is not going to somehow cause a particular partisan bias unless it's done in conjunction with partisanship as a predominant intent in the drawing of the plan" (Tr. 644:19-20). He concluded, "it's partisan intent that actually causes the partisan bias." (Tr. 644:25-645:1.) However, Dr. Chen ignores the fact the Supreme Court has found government action may result in a disproportionate impact, in other words "bias," without an "partisan intent" behind it.

Washington v. Davis, 426 U.S. 229 (1976) (holding a police exam producing a disparate impact based on a neutral law without an invidious purpose constitutional).

iii Dr. Chen Fails To Properly Distinguish His Classification of Districts As "Republican" And "Democratic."

481. A separate problem inheres in Dr. Chen's classification of districts as "Republican" and "Democratic." He classifies a district as belonging to the party that receives over 50% of the vote share, or put another way, a district that provides less than 50% of the vote share to a party is categorized as belonging to the opposite party. (Tr. 278:16-281:9 (describing House district partisan categorization); Tr. 325:1-5 (describing Senate partisan classification); *see also, e.g.,* PTX119 ("More Democratic than Republican Votes" is the dividing line).)

482. For example, if the Democratic candidate receives 49.9% of the vote share in a district—so (barely) less than 50%—then the district is classified as Republican. (Tr. 280:4-19.)

483. The shortfall in this methodology is obvious—it ignores competitive districts, which fall slightly on one side of the "50% line" or the other, but winnable by either party. Party personnel distinguish the two.

484. For example, Rep. John R. Bell, IV, North Carolina House Majority Leader, with responsibilities to assist in recruiting party candidates and win elections (Tr. 1739:11-1740-6), identified the "[m]ood of the country, mood of the state, local issues that affect the local candidates, [and] candidate recruitment" all go into determining "who's going to win that election." (Tr. 1747:3-6.)

485. Specifically, for district competitiveness, Rep. Bell identified "local issues," "a good candidate or not, voter turnout, mood of the state, mood of the country, mood of the district, [and] regional issues," (Tr. 1751:24-1752:3), as well as "incumbency . . . , candidate

recruitment, [and] open seats" all go into determining whether a district is competitive (Tr. 1754:16-18). But it is unknown where these districts fall in Dr. Chen's statewide vote analyses.

486. Even taken at face value, Dr. Chen's analysis does not establish meaningful impact. In the Senate, his analysis shows a difference of only one to two seats out of 50 (18 in the enacted, 19 to 20 in most of his simulations). (PTX026.) In the House, his analysis shows a difference of four seats out of 120 (42 in the enacted, 46 in most of his simulated plans). (PTX007.) That is not an "egregious" gerrymander. *Rucho v. Common Cause*, 139 S. Ct. 2484, 2516 (2019) (Kagan, J., dissenting).

487. This lack of a meaningful impact is unsurprising given Dr. Chen could not identify a single district in the enacted plan that "flipped" from Democrat to Republican because of its compactness (Tr. 731:5-9), nor because of divided cities (Tr. 731:18-24), nor because of divided VTDs (Tr. 732:5-10).

iv Dr. Chen's Analysis Of County Groupings Is Flawed

488. Dr. Chen's analysis of county groupings is equally flawed and unhelpful to Plaintiffs' case.

489. For starters, Dr. Chen does not necessarily compare the enacted districts against corresponding simulated districts. Instead, he first ranks the enacted districts in each grouping as most, second most, third most, fourth most, and so on Democratic. (*See, e.g.*, PTX047 (depicting ranking of "most democratic" districts); Tr. 343:15-344:16 (describing process for ranking enacted districts using PTX047 as an example).) Then he ranks and plots the districts from each of the simulated maps—but there's a catch—rather than plot the corresponding district from each simulated map run against the enacted district already plotted, he picks the "most democratic" district from the first run of the simulated map, followed by the "second most democratic" district, and so on. He repeats the process for each run of his simulated maps. And that's

problem—he has no idea whether he is comparing the enacted district against the same district in the simulation or a different imaginary district. (Tr. 344:18-346:3 (describing process using PTX047 as example).) He could be comparing the enacted HD47 (all within Robeson County) against one of his imaginary districts that could be comprised of Pender Country and portions of Columbus—or perhaps the remainder of Robeson and portions of Columbus—nobody knows what the boundaries he is comparing look like, to include Dr. Chen. This matching does not ensure that there is a comparison of geography or anything else in common among the districts. This makes for yet another apples-to-oranges comparison.

490. Next, Dr. Chen fails to conduct any meaningful analysis of partisan intent or effect. He simply identifies enacted districts that fall outside the partisan range of (not-necessarily-corresponding) simulated districts and labels them outliers. But, under this rubric, a district that is more Democratic than a (not-necessarily-corresponding) simulated district is an "outlier," just as a district that is more Republican than a (not-necessarily-corresponding) simulated district is an "outlier."

491. Even more oddly, Dr. Chen labels all "outliers" equally problematic, even if it makes no sense for a map-maker seeking Republican advantage to render them outliers. At the same time, Dr. Chen identifies some districts as *not* being outliers, even though there would be a heavy incentive to render them outliers.

a. For example, Dr. Chen labels HD16 an outlier because it is the most Democratic-leaning of his (misidentified) range of districts, even though it would qualify as "cracked" and should, if the map-maker is concerned with Republican advantage, be an outlier in the *opposite direction*. (PTX047.)

b. Likewise, HD44 is deemed *not* to be an outlier even though it is a district in the Cumberland County grouping that *should* be an outlier on the heavily Republican side to gain an extra Republican seat. (PTX048.) Dr. Chen has no theory as to why HD43 is an outlier, even though it would not matter for electoral purposes if it were not an outlier, whereas HD44 is *not* an outlier where an outlier would *help* the Republican Party. (PTX048.) Similarly, although Dr. Chen posits that HD63 was placed on the Republican side of 50% where it might be on the Democratic side, the district could be far more Republican—and, hence, safer—and, as a competitive district, a Republican map-maker would have every incentive to accomplish this. (PTX055.)

c. Comparable scenarios—where the districts a Republican map-maker would most *want* to be outliers are *not* outliers—occur across Dr. Chen's data set. (*See, e.g.*, PTX049 (HD74 is not an outlier, but HD71 is); PTX052 (HD12, a competitive district, is not an outlier but the less-competitive HD8 and HD9 are); PTX054 (HD41, HD49, HD34, HD11, and HD39 are not outliers); PTX055 (neither HD63 nor HD64 are outliers, even though both could be more safely Republican); PTX056 (HD55, HD68, and HD69 could all be more safely Republican); PTX057 (HD17 and HD20 could both be more safely Republican); PTX100 (SD8, which Dr. Chen's algorithm renders Republican-friendly, is a Democratic-friendly outlier such that it is right on the edge of being flipped).)

d. Further, many districts identified as outliers have no impact on vote totals, since the simulated possibilities are all well to one side or the other of the 50% mark. Although both are deemed outliers, no version of SD48 and SD49 would cross the

50% threshold to change any election result. (PTX099; *see also* PTX101 (same scenario as to SD24, SD26, SD27, SD28); PTX102 (same as to SD31 and SD32); PTX103 (same as to SD10, SD11, and SD12)).

e. In short, Dr. Chen's analysis shows that, in districts where there would be the *greatest* incentive to gerrymander, there is no gerrymandering, and, in districts where the incentive is weak, there is gerrymandering. That defies logic. Something must have gone badly wrong along the way. And, as discussed above, there are plenty of errors that may explain this absurd result.

492. That Dr. Chen's analysis uncovers only nonsensical and practically irrelevant "gerrymandering" is evident in his tallying of districts challenged in this case. Of the 34 House districts challenged by individual Plaintiffs, 12 are "outliers" in respects irrelevant to electoral results—i.e., they would be won by one party or the other under any simulated scenario—and 11 are not "outliers" at all. (PTX115; PTX116 (similar under simulation set two); Tr. 393:3-17 (Dr. Chen identifying plaintiffs in "outlier" House districts); Tr. 395:2-22 (Dr. Chen identifying plaintiffs in "outlier" Senate districts); Tr. 387:14-395:22 (Dr. Chen discussing individual plaintiffs in "outlier" districts).). Of the 24 districts challenged by individual Plaintiffs, six are "outliers" in respects irrelevant to electoral results, two are outliers in respects that *help the Democratic Party* (Mses. Champman's and Morton's districts), and six are not outliers at all. (PTX117; PTX118 (similar results under simulation set two).)

493. Finally, Dr. Chen's own prior research in Florida upends his claim that "partisan intent" incurs "partisan bias." Dr. Chen admitted in his earlier research that showed human geography could incur a "substantial bias" on election results as opposed to any "intentional partisan [or] racial gerrymandering," (Tr. 755:11,) that is was also "conceivable that because of

the extent to which liberals are packed into urban districts, the Democratic platform, or at least its perception by Florida voters, is driven by its legislative incumbents, a small group of leftists from Miami-Dade and Broward Counties who never face Republican challengers, which in turn makes it difficult for the party to compete in the crucial moderate districts. This hypothesis may help to explain why the Democrats consistently receive higher vote shares in presidential than in state races." (Tr. 765:4-13.) Tellingly, Dr. Chen omits these possibilities in his discussions on North Carolina election results.

d. Dr. Chen's Review of Dr. Hofeller's Files Is Pure Guesswork

494. Dr. Chen's conclusions regarding files purportedly on Dr. Hofeller's personal computer are unreliable and irrelevant.

495. Most obviously, Dr. Chen does no analysis of the computer Dr. Hofeller used to draw the enacted plans. There is no evidence that his work on his personal computer was known to the General Assembly or any of its members.

i Dr. Chen's Conclusion That Dr. Hofeller Had Largely Completed The Plans By June 2017 Is Unreliable And Incorrect.

496. Chen's analysis with respect to his conclusion that Dr. Hofeller had largely completed the plans by June 2017 is unreliable. To begin, Dr. Chen improperly compared the entirety of the two plans, means he included counties drawn into districts by the WCP rules (including the traversal rule) or districts carried over from 2011. (Tr. 398:3-16 (discussing use of every single district in Hofeller maps); Tr. 399:5-15 (using entire Hofeller map district-by-district); Tr. 583:11-17 (discussing use of all districts); Tr. 583:15-21 (including Whole Country Rule districts); Tr. 584:3-8 (including locked-in country groupings); Tr. 589:3 (affirming inclusion of "every single district"); Tr. 589:9-590:8 (discussing frozen districts).) Chen's analysis is therefore not useful because he does not compare the Hofeller and enacted plans only

in districts where the map drawer retained some discretion—instead he lumps those together with all other districts that were drawn as a matter of law.

497. Dr. Chen's percentage of overlap between the plans is deeply flawed. He claims "Dr. Hofeller had already finished assigning 97.6 percent of North Carolina's census blocks, containing 95.6 percent of the state's population into their final districts" in his "draft Senate map," (Tr. 401:10-13), and assigned 90.9% of the census blocks containing 88.2% of the population in the "draft House map." (Tr. 401:18-23.) The flaw is simple: the statewide number incorporates *all* districts, including those locked in by the county-groupings, those frozen from 2011, and those re-drawn by the *Covington* special master. (Tr. 398:3-16 (discussing use of every single district in Hofeller maps); Tr. 399:5-15 (using entire Hofeller map district-by-district); Tr. 583:11-17 (discussing use of all districts); Tr. 583:15-21 (including Whole Country Rule districts); Tr. 584:3-8 (including locked-in country groupings); Tr. 589:3 (affirming inclusion of "every single district"); Tr. 589:9-590:8 (discussing frozen districts).) The statewide number is grossly inflated.

498. At the county-grouping level, Dr. Chen's analysis shows significant differences between Dr. Hofeller's plans and the enacted plans.

a. In the Alexander-Alleghany-Rockingham-Stokes-Surry-Wilkes County Grouping, one district (HD90) saw 30% change, one (HD94) saw nearly 20% change, and another (HD91) saw over 10% change. (PTX125.) The only district with substantial overlap (HD65) was locked into Rockingham County by the grouping rule. (PTX125.) Where discretion was available, it was used in ways different from Dr. Hofeller's choices. But Dr. Chen made no analysis of the degree to which decisions were limited by the grouping rule and counted all lines in his percentage overlap.

b. In the Bladen−Greene−Harnett−Johnston−Lee−Sampson−Wayne County Grouping, one district (HD26) saw over a 40% change; and one (HD28) saw over a 45% change. (PTX126.) The districts with more overlap were locked into place by the county-grouping and traversal rules.

c. In the Caswell−Orange County Grouping, a mapmaker has virtually no discretion in drawing the districts. (PTX127.)

d. In the Chatham−Durham County Grouping, one district (HD29) had nearly a 25% change; one district (HD31) had nearly a 20% change; one district (HD30) had nearly a 15% change. (PTX128.) Only one district (HD54) had a substantial overlap, and it was locked into place by the county-grouping and traversal rules. (PTX128.)

e. In the Columbus−Pender−Robeson County Grouping, one district (HD46) had over a 20% change; and one district (HD47) had over a 15% change. (PTX129.) Only one district (HD16) had meaningful overlap, and it was locked into place by the county-grouping and traversal rules. (PTX129.)

f. In the Forsyth−Yadkin County Grouping, one district (HD72) had over a 20% change and two districts (HD72 and HD74) had nearly a 20% change. (PTX131.) The remaining districts (HD75) saw a 7% change. (PTX131.)

g. In the Beaufort−Craven County Grouping, both districts (HD3 and HD79) saw a 13% change. (PTX134.)

h. In the Cabarrus−Davie−Montgomery−Richmond−Rowan−Stanly County Grouping, one district (HD83) had nearly a 55% change; one district (HD76) had nearly a 45% change; one district (HD82) had over a 40% change; one district

(HD67) had over a 30% change; one district (HD77) had over a 25% change; and one district (HD66) had over a 10% change. (PTX135.) None of the districts had a substantial overlap. (PTX135.)

i. In the Cumberland County grouping, one district (HD43) had over a 45% change; one district (HD42) had nearly a 40% change; one district (HD44) had nearly a 25% change; and one district (HD45) had nearly a 20% change. (PTX136.) None of the districts had a substantial overlap. (PTX136.)

j. In the Franklin-Nash County Grouping, both districts (HD7 and HD25) had nearly a 25% change. (PTX137.) None of the districts had a substantial overlap. (PTX137.)

k. In the Guilford County Grouping, one district (HD57) had about a 50% change; one district (HD61) had over a 30% change; one district (HD59) had over a 25% change; and two districts (HD60 and HD58) had nearly a 20% change. (PTX138.) None of the districts had a substantial overlap. (PTX138.)

l. In the Wake County Grouping, one district (HD33) had over a 50% change; two districts (HD41 and HD36) had nearly a 50% change; one district (HD37) had between over 50% and over a 45% change; one district (HD39) had nearly a 40% change; one district (HD38) had over a 25% change; two districts (HD40 and HD 34) had over a 20% change; and one district (HD35) had nearly a 15% change. (PTX139.) None of the districts had substantial overlap. (PTX139.)

m. In the Alamance−Guilford−Randolph County Grouping, two districts (HD27 and HD28) had nearly a 10% change. (PTX140.) The districts with substantial overlap (HD24 and HD26) were locked in by the county-grouping rule. (PTX140.)

n. In the Franklin-Wake County Grouping, one district (HD15) had over a 35% change; one district had over a 25% change; and two districts (HD17 and HD18) had nearly 10% or better change. (PTX146.) one district (HD16) saw a 7% change. (PTX146.)

o. In the Mecklenburg County Grouping, two districts (HD37 and HD38) had over a 30% change; and one district (HD40) had over a 20% change. (PTX147.) Two districts (HD39 and HD41) had substantial overlap. (PTX147.)

p. In other groupings, only a single line (or, possibly, two) was within the General Assembly's discretion, so the high overlap is wholly unremarkable. (PTX130; PTX132; PTX133; PTX141; PTX142; PTX143; PTX145.)

499. In remarking that there is high overlap between the maps, Dr. Chen brings no real-world expertise to support his untenable claim. He has never drawn a map to propose to a legislature for adoption; nor been hired by a redistricting commission to produce a legislative plan; nor been hired to advise members of a legislature on the process that leads up to a majority of the members in the legislature voting to enact a redistricting plan. (Tr. 592:7:19.) And even his "academic experience" falls short, as he has "never studied how members of a legislature vote for redistricting plans based upon their partisan affiliation." (Tr. 592:20-24.) Dr. Chen lack's the credentials to know how much overlap is meaningful or not.

500. Dr. Chen's lack of real-world redistricting expertise is accompanied by a lack of knowledge in real-world redistricting events. Repeatedly, Dr. Chen declared no jurisdiction would ever divide more cities and VTDs than needed. (*See, e.g.*, Tr. 604:22-25 (Dr. Chen asserts no jurisdiction would split more VTDs or precincts than needed); Tr. 605:19-21 (Dr. Chen asserts no jurisdiction would split more municipalities than needed).) For Dr. Chen, for a

jurisdiction to do so, well, "[t]hat doesn't make sense." (Tr. 604:25.) And that may be so elsewhere—but not in the jurisdiction in which Dr. Chen provided his purported expert testimony—North Carolina. (Second Set of Stipulations Regarding Affidavits and Exhibits of Raleigh Myers and R. Erika Churchill ¶ 2 (July 26, 2019) (depicting earlier redistricting plans split more municipalities and precincts/VTDs than needed).)

501. It is simply not correct that the data in Dr. Chen's analysis shows that the maps had already been drawn; his own analysis shows significant differences.

502. The dramatic changes indicated above—in some instances over 50%—also debunks Dr. Chen's claim that the enacted maps "logically" could not "receive public input, engage in internal discussions about the design of remedial districts, prepare draft remedial districts, receive public responses to those draft remedial districts and incorporate public feedback into the final plans" based on his (flawed and false) assessment that "many, many districts . . . were already complete" as provided by the Legislative Defendants on July 6, 2017, in *Covington* to support a longer remedial timeline.

ii Dr. Chen Does Not Know What He Is Looking At In Dr. Hofeller's Files.

503. Dr. Chen lacks technical expertise to evaluate the files. Dr. Chen does not have a background in computer forensics. (Tr. 540:8-10.) Dr. Chen touts he has "some experience" with Maptitude (and underwhelming description on its face), (Tr. 245:1-3), but he does not have a current license from Maptitude nor has he had one for "at least a few years." (Tr. 541:3-7.) And he has never even drawn a legislative or congressional map for any legislature using the Maptitude software. (Tr. 541:8-10.)

504. Dr. Chen does not even know if he "look[ed] at every draft map that came off of Dr. Hofeller's computer devices" because he had no "basis" to know. (Tr. 544:4-9.) Several

reasons exist for his ignorance—and emphasize he does not know what he is truly looking at in Dr. Hofeller's files. The files provided to Dr. Chen from Dr. Hofeller's computer were hand-selected by Plaintiffs' counsel, not Dr. Chen (Tr. 540:14-18)—cherry-picking is not a hallmark of credibility. And of course, Dr. Chen never personally searched Dr. Hofeller's computer devices—he never even had access to them. (Tr. 11-13; *see also* Tr. 544:19-20.)

505. Notably, no 2016 data was loaded on any of the maps "analyzed" by Dr. Chen. (*See* PTX153 (providing Dr. Hofeller's "formula" for political analysis—which does not include 2016 election data); Tr. 1867:7-18 (Johnson testimony that legislators would use the most recent election data).)

506. Dr. Chen testified that, if one opens up backup Maptitude files, one can see things related to data, such as labels (Tr. 543:19-544:3). But the appearance of labels is "not automatic" (Tr. 437:15-19), and Dr. Chen admitted it is "certainly . . . the case" that one can exclude racial and political data from a screen on Maptitude that a map drawer is viewing by simply not "creat[ing] . . . a racial label" for the districts. (Tr. 542:11-543:4.)

507. It is, moreover, entirely unclear what maps fit in to the drawing process and where and when. Maptitude is an unusual program in its file-saving protocol. Maptitude does not have a "file save" command as in Word or Excel, rather Maptitude "saves every time you click something," whereas in Microsoft Word, if "you opened a file and closed it, it wouldn't re-save, because you didn't change anything, you didn't save it." (Tr. 1860:10-13 (testimony of Dr. Johnson).) But in Maptitude, "every time you close the map, it creates a new . . . backup file just because you closed it." (Tr. 1860:13-15 (testimony of Dr. Johnson).) So, for example, a map showing a "last modified" date in August 2017 may simply have been opened on accident on that

date; it may have been opened briefly for reference; it may have been tweaked to check one or two minor possibilities; or any other number of uses are possible.

508. In short, Dr. Chen knows very little about Dr. Hofeller's files and can assess very little. He can only review "what was on Dr. Hofeller's screen when he [last] saved those files and . . . the date that he saved those files." (Tr. 1068:10-12 (testimony of Dr. Cooper).) Thus, Dr. Chen cannot say what Dr. Hofeller was looking at—much less what he was thinking—when he was drawing maps—as Dr. Chen admitted several times, he "was not sitting with Dr. Hofeller looking on as Dr. Hofeller drafted the maps." (Tr. 543:9-12; *see also* Tr. 563:20 (same).)

iii Dr. Chen Incorrectly Assumes That Dr. Hofeller Could Not Have Followed The Adopted Criteria.

509. Next, Dr. Chen contends that the enacted plans could not possibly follow the criteria. He reasons that, because they were purportedly drawn before the criteria were adopted, then "logically, Dr. Hofeller could not have been following the adopted criteria." (Tr. 249:3-9.) This is erroneous.

510. First, it assumes the plans were already drawn, when (as shown) they were not. There are significant differences between the Hofeller drafts and the enacted plans and no way to know why Dr. Hofeller drew the draft plans.

511. Second, it ignores the simple fact that the criteria are *objective* criteria, meaning the way to know whether they are satisfied is to test the enacted plans objectively against the criteria. Dr. Chen did not do this. Nor did he study if Dr. Hofeller's drafts complied with the whole county provision, traversal rules, or the adopted criteria.

a. The first criterion concerned equal population (LDTX155 (providing 2017 redistricting criteria)), and the enacted plans qualify under it.

b. The second criterion concerned contiguity (LDTX155 (providing 2017 redistricting criteria)), and the enacted plans qualify under it.

c. The third criterion concerned county-groupings and traversals (LDTX155 (providing 2017 redistricting criteria)), and the enacted plans comply.

d. The fourth criterion concerned precinct (or VTD) splitting (LDTX155 (providing 2017 redistricting criteria)), and the enacted plans comply.

e. The fifth criterion concerned compactness (LDTX155 (providing 2017 redistricting criteria)) and the enacted plans comply.

f. The sixth criterion concerned municipal boundaries (LDTX155 (providing 2017 redistricting criteria)), and the enacted plans comply.

g. The seventh criterion concerned incumbency protection (LDTX155 (providing 2017 redistricting criteria), and the enacted plans comply.

h. The eighth criterion concerned election data (LDTX155 (providing 2017 redistricting criteria)), and the enacted plans comply.

i. The ninth criterion provided that racial data would not be used (LDTX155 (providing 2017 redistricting criteria)), and the enacted plans comply. Although Dr. Chen contends that Dr. Hofeller had racial data on his computer, he cannot identify a single racial decision—not one line—made based upon race. (Tr. 558:3-6 (Dr. Chen admits "there's not a specific racial target that I saw Dr. Hofeller actually trying to achieve.").) Nor has Dr. Chen shown that racial data was considered by the General Assembly during the map-drawing. (*See, e.g.*, Tr. 547:14-548:10 (no evidence Sen. Hise had access to Hofeller files); Tr. 553:14-22 (same); Tr. 548:11-549:22 (no evidence State's redistricting computer ever received Hofeller files.)

That it was considered *after the maps were drawn* does not mean the criterion was violated. (Nor would that in any way be relevant to this case.)

512. Dr. Chen's logic is therefore superficial. Had the General Assembly violated state law, Plaintiffs could have sued for a violation of state law; but there is none, a fact they concede. Dr. Chen's point about timing, even if correct, has nothing to do with anything.

513. Finally, Dr. Chen contends that Dr. Hofeller had political data. This is both unremarkable and incorrect.

514. It is unremarkable because the criteria allowed consideration of political data. (LDTX155.) Its existence here on Dr. Hofeller's computer is irrelevant.

515. It is incorrect because Dr. Chen actually has very little idea of what political data was used or when or how. As noted, Dr. Chen can only say what occurred at the very last nanosecond of Dr. Hofeller's use of the computer. (Tr. 1068:10-12 (providing testimony of Dr. Cooper that one can only review "what was on Dr. Hofeller's screen when he [last] saved those files and . . . the date that he saved those files."); Tr. 1860:13-15 (providing testimony of Dr. Johnson that in Maptitude, "every time you close the map, it creates a new . . . backup file just because you closed it."); *see* Tr. 543:9-12 (providing Dr. Chen's admission that he "was not sitting with Dr. Hofeller looking on as Dr. Hofeller drafted the maps."); Tr. 566:20 (same).) Some prior files did not have political data coding. And what exists could as easily have been pulled up after the fact as during the map-drawing.

516. Dr. Chen did not choose which maps to review; he relied on Plaintiffs' counsel. (*See, e.g.*, Tr. 544:4-21.) That is called cherry-picking.

e. Dr. Chen's Partisan-Composition Analysis Shows That Few Plaintiffs Are Harmed

517. Dr. Chen's analysis of the partisan composition of each district fails for all the reasons stated above. But even taking it at face value, it shows that few Plaintiffs have suffered harm.

518. It shows that many Plaintiffs both (1) currently elect their preferred candidates (Democrats) and (2) would *continue* to elect their preferred candidates in Plaintiffs' hypothetical, counter-factual scenario. According to Dr. Chen's simulation charts, these Plaintiffs are, as to House districts, Virginia Walters Brien (HD102), Joshua Perry Brown (HD60), Dwight Jordan (HD25), David Dwight Brown (HD58), and William Service (HD34). (PTX115.) As to Senate districts, these Plaintiffs are Virginia Walters Brien (SD37), Joseph Tomas Gates (SD49), John Mark Turner (SD15) and John Bella (SD16). (PTX117.) Plaintiffs' analysis show that, although the partisan composition might be different (as illustrated by the gray dots), the range of possibilities does not cross the 50% line, and these Plaintiffs—who already elect Democratic members and would continue to do so in a counter-factual world—have no injury.

519. It shows that many districts live in districts that are not "partisan outliers" under Dr. Chen's own (flawed) analysis. Whatever the partisan composition, and whatever it *might* be, the evidence has failed to prove that he or she lives in a cracked or packed district. As to House districts, these Plaintiffs (not listed above)[9] are Rebecca Johnson (SD31),[10] Pamela Morton (HD100), Leon Charles Schaller (HD64), Karen Sue Holbrook (HD17), George David Gauck

[9] Some Plaintiffs fall in multiple categories and, for the sake of brevity, are not relisted.

[10] Although a smattering of simulations for SD31 would create Democratic-leaning districts, this would require the creation of a Democratic partisan outlier, as the overwhelming majority of districts are Republican. Plaintiffs cannot seriously claim the right to the intentional creation of Democratic partisan outliers.

(HD17), James Makin Nesbit (HD19), Rosalyn Sloan (HD67), Deborah Anderson Smith (HD83), Alyce Machak (HD109), Nancy Bradley (HD35), John Bella (HD34), and Aaron Wolff (HD37). PTX115. As to Senate districts, these Plaintiffs (not listed above) are Joshua Perry Brown (SD26) and Kathleen Barnes (SD48). (PTX117.)

520. It shows that many Plaintiffs who live in Republican-leaning districts that would, in all plausible events, *still* be Republican-leaning districts. Even if living in a district represented by a member of another party is a cognizable injury (it is not, see below), the Court cannot redress the injury; it could only give these Plaintiffs a somewhat different Republican-leaning district. As to House districts, these Plaintiffs (not listed above) are Julie Ann Frey (HD69), Howard Du Bose Jr. (HD2), Lesley Brook Wischmann (HD15), and Stephen Douglas McGrigor (HD7). (PTX115.) As to Senate districts, these Plaintiffs (not listed above) are Dwight Jordan (SD11), David Dwight Brown (SD27), Karen Sue Holbrook (SD8), James Mackin Nesbit (SD9), George David Gauck (SD8), Derrick Miller (SD8), and Nancy Bradley (SD14). (PTX117.)

521. It shows that many Plaintiffs live in Democratic-leaning districts that might be Republican-leaning districts under other circumstances. Although it is possible that "packing" rendered the districts less competitive than they might have otherwise been, these Plaintiffs *benefit* as to their *own* districts. Their claim of injury can only be based on the composition of the legislature as a whole—the argument being that the Democratic voters in their districts could be spread into other districts to give them more of a Democratic tilt. As to House districts, these Plaintiffs (not listed above) are Paula Ann Chapman (HD100),[11] Electa E. Person (HD43), Amy

[11] It is unclear why the two entries for HD100 show different simulation distributions. This appears to be an error.

Clare Oseroff (HD8), and Derrick Miller (HD18). (PTX115.) On the Senate side, these Plaintiffs (not listed above) are Paula Ann Chapman (SD40) and Pamela Morton (SD37). (PTX117.)

522. Moreover, many of the Plaintiffs who live in Republican-leaning districts are, in fact, represented by Democratic members. Whatever injury Plaintiffs may claim is the epitome of a hypothetical injury. The Court cannot award them representation by a Democratic member when they *already have it*—a point underscored by the fact that only one election remains under the enacted plans. As to House districts, these Plaintiffs (not listed above) are Vinod Thomas (HD98), Kristin Parker (HD103), Jackson Thomas Dunn, Jr. (HD104), Mark S. Peters (HD116), Joseph Thomas Gates (HD115), and Rebecca Harper (HD36). PTX115. As to Senate districts, these Plaintiffs (not listed above) are Vinod Thomas (SD41), Rebecca Harper (SD17), and Aaron Wolff (SD17).[12] PTX117.

523. The only remaining Plaintiffs are challenging a total of seven districts. As to House districts, these Plaintiffs are Rebecca Johnson (HD74), Lily Nicole Quite (HD59), Donald Allan Rumph (HD9), and Carlton E. Campbell Sr. (HD46). PTX115. As to Senate districts, these Plaintiffs are Kristin Parker (SD39), Jackson Thomas Dunn, Jr. (SD39),[13] Mark S. Peters (SD48), William Service (SD18), and Stephen Douglas McGrigor (SD18).[14] (PTX117.)[15] They, too, are not harmed for legal reasons discussed below.

[12] It is unclear why the two entries for SD17 show different simulation distributions. This appears to be an error.

[13] It is unclear why the two entries for SD39 show different simulation distributions. This appears to be an error.

[14] It is unclear why the two entries for SD18 show different simulation distributions. This appears to be an error.

[15] Even if the Court allowed claims to proceed against these four House and three Senate districts, it would be require to dismiss the challenges against all other districts for lack of a qualified plaintiff.

f. Dr. Chen Recognizes Human Geography Can Unintentionally Produce Partisan-biased Election Results Divorced from any Intentional Partisan or Racial Gerrymandering Efforts

524. Dr. Chen has previously recognized that "patterns of human geography" can result in "substantial bias" in "election[] results," despite "conventional wisdom" holding that "partisan bias" in election outcomes only results from "intentional partisan and racial gerrymandering." (Tr. 755:9-13.) Dr. Chen authored an article in 2013 entitled, ""Unintentional Gerrymandering, Political Geography and Electoral Bias in Legislatures." (Tr. 20-23.) Dr. Chen explained in his article, "conventional wisdom holds that partisan bias in U.S. legislative elections results from intentional partisan and racial gerrymandering," however, Dr. Chen "demonstrate[d] that substantial bias can also emerge from patterns of human geography." (Tr. 755:9-13.)

525. Dr. Chen conducted simulation research that showed "that in many states, Democrats are inefficiently concentrated in large cities and smaller industrial agglomerations such that they can expect to win fewer than 50 percent of the seats when they win 50 percent of the votes." (Tr. 755:13-17.) In discovering that the impact of human geography—separate from any intentional partisan or racial gerrymandering—produces election result bias, Dr. Chen determined that "the real-life districting plans enacted by the Republican-controlled Florida legislature in 2002 [were] all within the range of the districting plans produced by [Dr. Chen's] simulation procedures." (Tr. 760:8-11.) "Hence, because the enacted [Florida] districting plan falls within the range of plans produced by [Dr. Chen's] compact districting procedure, [Dr. Chen was] simply unable to prove beyond a doubt that the enacted districting plan represents an intentional partisan Republican gerrymander." (Tr. 760:18-23.)

526. Thus, Dr. Chen's own prior research demonstrates human geography, rather than "intentional Republican gerrymander[ing]," could have produced the (negligible) one to two seat difference between the enacted 2017 North Carolina plan and his simulations in the Senate

(PTX026), and, likewise, the (negligible) four seats out of 120 difference between the enacted House plan and Dr. Chen's simulations (PTX007).

527. North Carolina's human geography providing a partisan advantage comports with Dr. Chen's prior research. Simply put, Democrats do not win a majority of the legislative seats in North Carolina, even when state-wide election results show them winning the election. (See, e.g., LDTX259; LDTX260.)

528. Notably, in Dr. Chen's Florida research, in his effort "to determine whether an electorally neutral districting plan in Florida is achievable in real-life practice, [Dr. Chen] examine[d] the districting plans proposed by Democrats in the [Florida] state legislature." (Tr. 761:14-17.) He "remarkably" discovered that "not a single unbiased or pro-Democratic plan was submitted by any of the Democratic legislators." (Tr. 763:1-3.) Although Dr. Chen could not definitively declare that "Democrats submit biased plans solely because of the constraints generated by human geography," he admitted, "at a minimum," his research "suggests that the level of bias produced in the real world of strategic partisan cartographers, courts, and the Voting Rights Act is not radically different from that produced by human geography alone." (Tr. 763:4-9.)

529. Unsurprisingly, after this discovery, Dr. Chen opted not to "do any analysis or comparison of the plans submitted by Democrats or Common Cause [in North Carolina] similar to what [he] did in [his Florida research] for the Florida Democratic- and League of Women Voter-proposed plans." (Tr. 764:4-10.) If he had done so he would have discovered that even under maps drawn by the Democrats and Common Cause Republicans still would win a majority of legislative seats based upon the election results in all districts using either the 2016 elections for Governor or

Attorney General, state wide elections won by Democratic candidates. (*See* LDTX259 and LDTX260.)

(3) Jonathan Mattingly, Ph.D.

530. Dr. Mattingly is a mathematician and probabilist. He does not have a degree in political science. (Tr. 1178:18-21.) He was only offered as an expert in the areas of applied mathematics, statistical science and probability. (Tr. 1083:1-3.) He is not an expert in redistricting. (*Id*.)

531. Dr. Mattingly has never drawn a map for a legislative purpose. (Tr. 1203:9-11.)

532. Dr. Mattingly prepared an analysis that attempts to create a baseline of simulated maps to compare to the enacted plan. (Tr. 1178:22-1179:4; 1179:17-25.) He chose which factors did and did not go into creating his baseline maps. (Tr. 1179:5-16.)

533. Dr. Mattingly first used certain criteria to describe the distribution of maps that he would sample from to generate his baseline maps. He then applied certain threshold that restricted the maps that would be included in his sample of maps. (Tr. 1180:7-19; 1181:20-1182:1.)

534. Dr. Mattingly's criteria included maintaining the county groupings, population equality, contiguity, compactness, and preserving municipalities and precincts/VTDs. (Tr. 1090:19-1091:2.) His primary set of baseline maps against which he compares to the enacted map did not protect incumbents. (Tr. 1093:15-20.)

535. Dr. Mattingly then applied an "outlier analysis" to determine whether the enacted plan is an outlier as compared to his batch of simulated maps. (Tr. 1186:12-16.)

536. The criteria that Dr. Mattingly used to create his set of baseline maps informs the reliability of his analysis. (Tr. 1186:17-20.) Dr. Mattingly agreed that if his criteria do not create a fair baseline for comparison, he would be comparing apples to oranges. (Tr. 1186:25-1187:3.) Indeed, he admitted that "if the person using the analysis decides that the criteria that I had chosen

are not relevant to the discussion, then it would be a less relevant analysis." (Tr. 1187:3-5.) He further admitted that if his baseline was not reliable, then it is possible his analysis was not picking up some form of partisan "cheating" during the map drawing, but something else altogether. (Tr. 1187:22-1188:2.)

537. Dr. Mattingly's baseline is not reliable because he did not use all of the same non-partisan criteria employed by the map drawers. Dr. Mattingly admitted that his computer simulation did not attempt to keep communities that had been closely working together on various issues in the same districts despite testimony from Senator Dan Blue that this was a goal of the legislature. (Tr. 1191:5-16.)

538. Similarly, Senator Blue testified that the legislature used the beltline as a dividing place for some of the districts in Wake County because of the way they relate to each other within that geographical area, but Dr. Mattingly did not consider this non-partisan criteria in his baseline maps. (Tr. 1191:17-1192:6.)

539. Dr. Mattingly could not rule out the possibility that the analysis he applied in this case is registering nonpartisan decisions as partisan. Rather, he only looked at the nonpartisan criteria he selected and asked what would typically happen if you only considered those criteria. (Tr. 1195:11-20.) Thus, he cannot confirm that the partisan bias he sees in the enacted map when compared to his baseline maps is the result of other non-partisan decisions made by the legislature that he did not factor into his simulated baseline maps.

540. Dr. Mattingly did not review any of the transcripts from the House or Senate hearings, nor any of the public hearings. (Tr.1190:14-20.)

541. He admitted that although negotiation is a part of the legislative process for drawing maps, his mathematical model does not capture the nuance of the legislative negotiation. (Tr.

1204:2-10.) And he cannot identify a method to quantify the qualities of those legislative negotiations. (Tr. 1205:17-22.) Thus, he can't quantify the number of nonpartisan or bipartisan decisions made by the map drawers not included in his criteria. (Tr. 1205:23-1206:4.)

542. Moreover, Dr. Mattingly admitted that his primary analysis did nothing to protect incumbents. (Tr. 1210:2-5.) And even when factoring incumbency protection into a secondary analysis, he limited it to eliminating double bunking. He did not ensure, for example, that Senator Blue was not drawn into a district that was strongly Republican. (Tr. 1210:15-1211:2; 1212:15-19.)

543. His simulation also did nothing to preserve the cores of existing districts. (Tr. 1212:20-24.)

544. Dr. Mattingly only analyzed seven of the 29 county groupings in the Senate and those seven groupings were selected by Plaintiffs' counsel. (Tr. 1201:14-22.) Similarly, he only analyzed 16 of the 41 county groupings in the House, which were also selected by counsel. (Tr. 1201:24-1202:16.) He could not conclude that the enacted plan was an outlier in all of the groupings he analyzed. For example, Dr. Mattingly admitted that the Alamance grouping in the House was not an outlier. (Tr. 1151:10-19.) In fact, two of the seven groupings in the Senate Dr. Mattingly could not call an outlier. (Tr. 1153:17-1154:16.) Similarly, at least four of the 16 groupings in the House Dr. Mattingly could not identify as outliers. (Tr. 1155:8-1156:21.)

545. Even assuming Dr. Mattingly's simulated maps were an appropriate baseline to compare against the enacted map, they do not reflect a significant seat shift from the enacted plan. The seat shift (comparison of the median number of elected Democrats in the baseline maps with the enacted plan) on average across 17 elections for the 50 seats in Senate was just shy of two seats. (Tr. 1213:23-1214:5.) In other words, Dr. Mattingly would predict that his baseline maps

would elect less than two more Democrats than the enacted plan when averaged across the 17 historic elections he analyzed. And, Dr. Mattingly admitted that the enacted plan missed being in the range of Democratic seats for his baseline maps by less than one seat. (Tr. 1215:13-20.)

546. Similarly, the seat shift on average for the House was only 3.35 seats. (Tr. 1215:24-1216:2.) And this average seat shift of 3.35 seats is just a little over one seat outside of the average deviation range for Dr. Mattingly's baseline maps. (Tr. 1219:6-16.)

547. Moreover, Dr. Mattingly admitted that for a number of historical elections in North Carolina, "the enacted plan acts quite typically" when compared to the baseline maps. (Tr. 1216:22-1217:1.) He agreed that sometimes the enacted plan is an outlier and other times it is not. (Tr. 1217:7-9.) In fact, under some elections the enacted plan would tilt in favor of the Democrats when compared to the baseline maps. (Tr. 1110:2-6; Tr. 1122:23-1123:4.) In two of the 17 elections Dr. Mattingly analyzed, he did not find a partisan bias in favor of the Republicans in the Senate. (Tr. 1116:8-12.) The same is true in the House. (Tr. 1121:25-1122:5.)

548. Dr. Mattingly could not provide the court with a test to determine where the line is between what is an allowable amount of partisanship in drawing a map and what is too much partisanship. (Tr. 1219:17-1220:6.) He cannot identify the point where a map is no longer an outlier on partisanship. (Tr. 1220:13-16.)

(4) Wesley Pegden, Ph.D.

549. Dr. Wesley Pegden is an associate professor at Carnegie Mellon University in the Department of Mathematics and Statistics. (Tr. 1294:19-21.) He holds a Ph.D. in mathematics from Rutgers University and described his graduate studies as focusing on "discrete mathematics and probability." (*Id.* 1295:4-8.)

550. Dr. Pegden was only qualified as an expert in the field of "probability" in this case; he was not qualified as an expert in political science or redistricting. (Tr. 1302:6-12.)

551. In fact, Dr. Pegden has never drawn any map with the intent of giving it to a legislature to enact, and he never studied the process the General Assembly used to pass either the 2011 or 2017 legislative redistricting plans. (Tr. 1404:16-18, 1419:19-1420:1.)

552. Dr. Pegden described three ways of determining whether an object is an outlier compared to a set of possibilities. The first way is to compare the object to the entire set. The second way is to compare the object to a random sample drawn from the entire set. What Dr. Pegden described as his "third way" was his algorithm, which he alleges performs "a sensitivity analysis on the object that you've been given." (Tr. 1297:8-1298:18.)

553. Dr. Pegden's "sensitivity analysis" approach involves programming a computer to make trillions of swaps of small units of territory in the map, one at a time, and using a Markov chain technique to compare the partisan bias of the resulting new map(s) to the enacted plans. (Tr. 1304:1-13.)

554. Dr. Pegden conceded that his goal was "not to generate good plans for the North Carolina House and Senate," (Tr. 1404:11-14,) and testified that he "would not recommend that anyone enact the[] maps" generated by his algorithm. (Tr. 1330:2-3.)

555. Dr. Pegden's analysis used a statistical technique he developed in a 2019 unpublished manuscript, PTX511, that built on his initial work published in a 2017 paper, PTX510. (Tr. 1296:19-1297:7, 1300:6-10, 1411:9-23, 1413:17-23.) The extent of objective peer-review of Dr. Pegden's work is very limited, particularly given how recent these papers are and the fact neither has been published in a political science journal. There is no evidence before the Court to establish that Dr. Pegden's statistical technique or "sensitivity analysis" methodologies have gained acceptance in the relevant academic community.

556. Further doubt is cast on Dr. Pegden's approach because he has only applied the approach to study Republican-drawn maps in Pennsylvania, Wisconsin, and North Carolina. (Tr. 1412:9-16, 1412:25-1413:3.) Dr. Pegden has never applied his approach to a plan drawn by Democrats or by an independent redistricting commission. (*Id.* 1415:2-21.) There is, therefore, no control (like a placebo pill given to some subjects in drug trials in medical research) in Dr. Pegden's research against which he can compare his alleged findings to confirm his methodology is truly measuring what he thinks it is. (*See* Tr. 1414:21-1415:5.)

557. Moreover, the only Republican-drawn maps Dr. Pegden has ever applied his algorithms to are maps subject to partisan-gerrymandering claims where Dr. Pegden supplied expert testimony (Pennsylvania, North Carolina) or an amicus brief (Wisconsin). (*See* Tr. 1412:9-16, 1412:25-1413:3.) This is not a hallmark of expert credibility.

a. Dr. Pegden's analysis is unreliable because it is based on poor methodology.

558. On direct examination, Dr. Pegden repeatedly claimed that his method was performing an "apples-to-apples" comparison to the enacted plan, by virtue of using the same voting data, same geography, and by only comparing the enacted plan to simulated plans following the same non-partisan criteria. (Tr. 1307:17-25, 1308:11-12, 1333:17-18, 1401:13-18. *See also* Tr. 1416:22-1417:5.) But as shown below, Dr. Pegden in fact compared apples to oranges.

559. Dr. Pegden testified that when his algorithm makes a "swap" of territory, it checked if "the resulting map complie[d] with certain nonpartisan constraints" and did so "to ensure that the comparison maps we're using for our comparisons are good, reasonable comparisons to the enacted map." (Tr. 1311:6-12.) Illustrating how this methodology worked, Dr. Pegden testified that "if the algorithm considers making a swap which would result in one of the districts becoming discontiguous, it does not make the swap." (*Id.* 1311:23-25.)

560. Dr. Pegden was provided with the 2017 Adopted Criteria by Plaintiffs' counsel, and admitted that he could have programmed his algorithm to implement the criteria as written, but chose not to. (Tr. 1418:4-9, 1419:7-18, 1433:21-25.)

561. Instead, in multiple instances, Dr. Pegden applied what he termed more "restrictive" criteria than the 2017 Adopted Criteria, including:

a. **Population Equality.** While the 2017 Adopted Criteria required districts to have population deviation no more than 5% above or below ideal, Dr. Pegden instead imposed what he called a "stronger requirement" that his plans be within the population deviation observed on the enacted maps—an amount more restrictive than the legislature's criteria. (Tr. 1311:13-18, 1420:5-14.)

b. **Compactness.** The 2017 Adopted Criteria directed the legislature to make reasonable efforts to improve the compactness of existing districts, measured using the Polsby-Popper and Reock compactness measures (Tr. 1420:15-24,) but Dr. Pegden instead required the reciprocal average compactness of his districts to be within 5% of the enacted plans, calculated using a reciprocal Polsby-Popper score. (Tr. 1420:25-1421:10, 1421:23-1422:4.) Dr. Pegden admitted that his choice of compactness criteria could affect his measure: while he insisted he made "a good choice on how to constrain this compactness metric, … if I had made a worse choice, the algorithm *would not look like much of a comparison*." (Tr. 1422:10-15) (emphasis added.)

c. Dr. Pegden's reciprocal compactness measure approach does not look to improve compactness of each district individually, as the 2017 Adopted Criteria contemplated; it looks only to the "reciprocal average" of the districts. (Tr.

1421:11-22.) And by using a "reciprocal average," Dr. Pegden imposes yet another constraint not used by the legislature: he avoids creating a districting containing "a number of … fairly compact districts, but then a small number of arbitrarily noncompact districts in it." (Tr. 1421:23-1422:4.)

d. **Split Municipalities/Counties.** Unlike the 2017 Adopted Criteria, which encouraged the state to reduce the number of split counties and municipalities, Dr. Pegden instead required that his comparison maps preserve *exactly* the same municipalities and counties kept whole in the enacted plan. (Tr. 1424:8-12, 1434:22-1435:1.) Dr. Pegden conceded he did not run his simulations without that constraint. (Tr. 1425:2-5.)

e. **Incumbency Protection.** Finally, as to the 2017 Adopted Criteria's incumbency protection criterion, Dr. Pegden, like Plaintiffs' other simulations experts, only chose to apply a narrow incumbency protection scheme that avoided pairing incumbents. (Tr. 1425:20-1426:5.) He did not perform a core retention analysis on his comparison districtings to determine overlap between an incumbent's district in the enacted plan and in the simulated plans. (Tr. 1426:25-1427:9.) Therefore, as Dr. Pegden conceded, his algorithm just made sure Sen. Blue was not paired with another incumbent—it did not look to see if the simulated plans placed Sen. Blue in a district he would have a reasonable opportunity to win. (Tr. 1427:20-1428:1.)

562. Due to Dr. Pegden's failure to follow the 2017 Adopted Criteria as written, he conceded that he failed to compare the enacted plans "against all possible districtings that satisfy the 2017 legislative criteria." (Tr. 1432:18-22.) Instead, Dr. Pegden's statistical findings only apply

to a comparison set of maps satisfying *his* more restrictive criteria. (Tr. 1433:9-11; 1334:17-1335:2; 1336:1-4; 1343:19-1344:3.)

563. As an example, Dr. Pegden conceded that if he omitted a compactness constraint from his simulation, the resulting comparison maps would be "crazy-fraking nonsense" and "crazy-looking districts *that would not form a reasonable set of comparisons*." (Tr. 1359:14-19) (emphasis added.) But, by omitting a body of maps from his simulation sets that satisfied the 2017 Adopted Criteria but did not satisfy his requirements, Dr. Pegden likewise failed to compare the 2017 enacted plans to a reasonable set of comparison maps—rigging the outcome of his test.

564. Dr. Pegden attempted to deflect questioning on cross-examination as to the significance of this significant methodological failure. He insisted that his use of more "restrictive" criteria still allowed him to draw statistically rigorous findings about the level of bias in a plan drawn with less "restrictive" criteria (*see* Tr. 1433:13-20,) but he has not explained why that is so. He appears to argue that, when searching a house for missing car keys, limiting the search to the bedroom (i.e., his more restrictive criteria) *is a better choice* than searching the entire house (i.e., the legislature's criteria). Dr. Pegden's position is not credible.

565. Another flaw in Dr. Pegden's methodology is his use of "geo units" – a made-up unit of geography smaller than a VTD – as the unit of geography that his algorithm swaps for his House analysis. (Tr. 1434:11-21.) Because North Carolina does not maintain election results at lower units of geography than VTDs, Dr. Pegden had to rely on "imputed" results (i.e., where election results from a VTD are distributed proportionally to all census blocks in the VTD) to determine the political ramifications of shifting a "geo unit" from one district to the next. (Tr. 1435:9-1436:2.) Dr. Pegden therefore assumes that all voters in a VTD are politically homogeneous. But as Dr. Johnson testified, "you don't really know the partisan breakdown of the

people you are picking up when you split a VTD." (Tr. 1854:23-1855:21.) Dr. Pegden does not justify the assumption he made in using "imputed" results to calculate the political effect of swapping a "geo unit" (i.e., a split VTD).

566. A final flaw in Dr. Pegden's analysis is his use of cherry-picked statewide elections as a proxy for voting behavior. The bulk of Dr. Pegden's analysis hinges on two statewide elections – 2016 Attorney General, and 2008 Commissioner of Insurance – with the latter race only being used in analyses of districts drawn in 2011 and not redrawn in 2017. Although Dr. Pegden, in an appendix to his report, re-ran his statewide analysis using four additional statewide elections, he did not re-run his county grouping analysis using those additional elections, and he did not consider the 2016 Presidential election. (Tr. 1438:13-1439:24.)

567. Dr. Pegden used those cherrypicked elections instead of a partisan voting index like other experts had done. (Tr. 1439:1-3.) He justified his choice based on his alleged "expert opinion drawing on my work in this area," but as noted above, Dr. Pegden was *not* offered as an expert in political science or redistricting—only probability. (Tr. 1439:11-14.) It is unclear how Dr. Pegden is qualified to make a political-science judgment about election proxy choices.

b. Dr. Pegden's results are extremely limited and unhelpful in analyzing the issues before the Court.

568. Dr. Pegden reported two sets of results – one set for his analyses of the statewide maps, and another set for his analysis of select county groupings that Plaintiffs asked him to study.

569. His reporting follows a specific format. He first reports a "first level analysis" calculating the percentage of comparison maps in his simulation exercise that were allegedly less politically advantageous to Republicans than the enacted map. He then reports a "second level analysis" that calculates the degree to which the enacted map is the most "carefully crafted" of all

possible maps (not just the ones drawn by his simulation algorithm) meeting his criteria. (*See* Tr. 1340:16-1341:11, PTX515.)

570. Thus, for the House, Dr. Pegden reports that for the first level analysis in the House, 99.99984% of comparison districtings had less Republican bias than the enacted plan, and for the second level analysis, that the enacted plan was more "carefully crafted" than 99.9991% of all possible maps satisfying his criteria. (Tr. 1342:15-25.)

571. To begin, Dr. Pegden's results are unreliable because they are the product of a flawed methodology (as described above) that failed to compare the enacted plans to reasonable, comparable plans, instead comparing the enacted plans to a rigged subset of those plans, and for the other reasons set forth above.

572. Dr. Pegden's analysis fails to provide the Court with any guidance as to the *magnitude* of the alleged bias he detects. Even if the Court accepts as true his conclusion that the enacted House plan is more biased than 99.99984% of other maps, that analysis tells the Court nothing about the size of the bias. The alleged bias in the plan could cause the election of one more Republican, or four, or eight, or zero; Dr. Pegden cannot say which it is. And Dr. Pegden also does not say which specific districts are biased.

573. The reason Dr. Pegden cannot do so is, as he concedes, "a real weakness of [his] method" is that it cannot be used to "make claims about the expected range of seats in the General Assembly that Democrats…should get or would get…" (Tr. 1409:21-1410:3.) Dr. Pegden went on: "[I]f some new neutral body was trying to draw a new map of North Carolina and wanted to get a sense – and wanted to sort of doublecheck themselves and get a sense of is this map we made

within the range typical outcomes, I haven't published some random outcomes they could compare to." (Tr. 1409:3-9.)[16]

574. Similarly, although Dr. Pegden has claimed that the level of partisanship in the 2017 enacted plans is "excessive," he does not opine on the exact level at which partisanship becomes "excessive," admitting that he has not "tried to draw a line in the sand for the court." (Tr. 1447:18-21.)

575. In fact, on cross-examination, Dr. Pegden even criticized the basic methodology underlying all the simulation exercises. He testified: "Like this is not a real concept, right, this idea of like take some historical voting data, which isn't legislative elections, it's just some data that we're using as some sort of estimate of historical voting patterns and then simply counting up seats. That's not a real measure of anything; right? There's no guarantee that any election will ever perform like that, right?" (Tr. 1410:19-1411:1.) He further conceded that "I can't predict the result of a future election." (Tr. 1411:3-4.) But in fact, Dr. Pegden's algorithm takes historical statewide election results, adjusted using a uniform partisan swing, and then adds up seats to evaluate partisan bias. (Tr. 1324:8-17.) To say these two statements are in tension is an understatement.

576. The inability to estimate the magnitude of the bias is made even more acute by the fact Dr. Pegden's approach cannot estimate the degree to which the rigorous constraints imposed

[16]In his direct examination, Dr. Pegden criticized Legislative Defendants' expert Dr. Janet Thornton for running his simulation algorithm and reporting the number of expected Democratic seats, using Dr. Pegden's algorithm and methodology, for the enacted plan versus the simulated plans. Among other issues, Dr. Pegden criticized the comparison of the range of seat shares encountered by his algorithm to the enacted plan because his algorithm was not a "good way to generate a baseline" for that comparison. (Tr. 1362:19-22.) But he then went on to analyze her recitation of the comparison, which showed only a slight increase in expected Republican seats, to draw conclusions about bias in the plan. (Tr. 1369:22-1370:18.) Dr. Pegden cannot have it both ways; either the comparison yields useful data or it does not.

on mapmaker discretion in North Carolina, including the county grouping rules, limit the ability of a mapmaker to district for partisan advantage. (Tr. 1448:22-1449:12.)

577. Another problem plaguing Dr. Pegden's statewide votes is that he cannot disaggregate the effect of alleged partisan bias from districts Plaintiffs are *not* challenging in this litigation from the districts Plaintiffs are challenging. (Tr. 1436:24-1437:12.) In fact, Dr. Pegden admitted he did not know which districts Plaintiffs challenged in this case. (Tr. 1436:17-19.) Accordingly, Dr. Pegden's statewide bias calculations are not helpful to the Court.

578. Dr. Pegden then presents county grouping-level results for several county groupings in the House and Senate. To begin, Dr. Pegden conceded that his algorithm was unable to demonstrate that the following House county groupings were partisan outliers: Gaston, Cleveland, Richmond, Montgomery, etc.; Person, Vance, Granville, and Warren; and Franklin, Ashville. (Tr. 1457:25-1458:9.) Similarly, Dr. Pegden's algorithm did not allow him to conclude that the following Senate county groupings were partisan outliers: Lee, Sampson, etc.; and Bladen, Pender, New Brunswick, and New Hanover. (Tr. 1458:10-24.)

579. Dr. Pegden did conclude that the remaining county groupings he studied were outliers. But his findings were startling in that he found county groupings, like Wake County in the House, to be extreme partisan outliers in favor of Republicans even though in Wake County in 2018, Democrats won all eleven House seats in the grouping despite only having a 63% vote share. (Tr. 1456:11-1457:22.)[17] Dr. Pegden claimed that a Republican gerrymander in such a county grouping configuration could take the form of creating a grouping where a Republican candidate had a 45% chance of winning a single seat, whereas on a "neutral" map it would be much harder.

[17]Useful charts summarizing the seat share in the 2018 elections, the two-party vote share, and each of Plaintiffs' simulations experts' conclusions about each of the House and Senate county groupings can be found in Exhibits LDTX327 and LDTX328, respectively.

(Tr. 1454:23-1455:7.) But Dr. Pegden did not draw "neutral" maps or perform any such comparison, and he did not analyze how the creation of a 45% Republican district that a Democratic candidate won would create a legally cognizable injury to any Democrat living in the district.

F. Legislative Defendants' and Intervenor Defendants' Expert Witnesses

(1) Dr. Janet Thornton

580. Dr. Janet Thornton ("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*.)

581. 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.) She prepares all kinds of statistical analysis including whether there is a statistical bias for disparate impact regarding questions of race, gender, ethnicity, age, religion. (Tr. 1571:15-1572:3; 1574:3-21.) Dr. Thornton has prepared statistical analysis in voting cases, for example whether there are differences, statistically speaking, in voter participation rates by race and minority status. (Tr. 1574:3-21; 1576:22-1577:7.) In many of these cases, Dr. Thornton has used the binomial statistical test. (Tr. 1574:22-1575:18; 16:15-16:16-22.)

582. Dr. Thornton has taught statistics and quantitative methods for the business school at Florida State University. (Tr. 1573:12-15; LDTX 286-39.)

583. 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.)

584. Dr. Thornton has experience with samples, sample size and margins of error. (Tr. 1572:24-1573:5.) She has been asked in this case to look at data and underlying assumptions to determine if there are statistically significant differences. (Tr. 1574:3-13; 1576:12-1578:6.)

585. On a daily basis Dr. Thornton reviews data and assumptions and prepares statistical tests accordingly. (Tr. 1572:10-16; 1573:6-11; 1574:3-21; 1576:12-18.) As part of her work, she has been writing and reading computer code since the early 1980s. (Tr. 1572:17-23.) She has written code and read code. (*Id*.) There are many similarities in terms of coding environments. (*Id*.)

586. Dr. Thornton is an expert in the field 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*.)

a. <u>The Simulation Approaches Of Drs. Chen, Mattingly, and Pegden Are All Unreliable Due To Their Failure To Follow The General Assembly Criteria</u>

587. As Dr. Thornton testified, Drs. Chen, Mattingly, and Pegden each fail to follow the criteria used by the General Assembly in creating their respective simulations. (Tr. 1592:11-23; 1599:14-21; 1602:25-1603:2; 1607:5-12.) By doing so, these experts compared "apples to oranges" and their work is unreliable and invalid. (*Id*.)

588. Computer simulations such as those proffered by Drs. Chen, Mattingly, and Pegden do not always generate neutral outcomes. (Tr. 1592:11-1593:1.) The computer code that produces the simulations can be influenced by the human biases of the individual developing the code. (*Id*.) The computer code conveys the biased instructions to the computer which can result in a biased outcome depending on the choices made. (*Id*.) When the individual writing the code changes the criteria, imposes constraints, or optimizes the code in different ways to memorialize the inherent biases of the code writer, the resulting simulations will be biased in the same way as the individual

writing the code. (*Id.*) In this way, an individual can write a set of computer code to obtain the result he is seeking. Drs. Chen, Mattingly and Pegden obtained just that scenario when they wrote sets of computer code which only accepts a narrowly defined set of maps that have little variation among the maps themselves. (Tr. 1594:1-5; 1598:14-1599:13; 1601:22-1602:24; 1605:16-166:25.) This results in a garbage in, garbage out scenario. (Tr. 1592:11-1593:1.)

589. Dr. Chen's code clearly reflects the biases of its creator. To create his simulations, Dr. Chen picks a place within a cluster and then grows the map by always looking for a lower, "better" score. (Tr. 1593:2-25.) In order to search for the "better" score, Dr. Chen applies a variable in his code called a "T-score." (*Id.*) His T-score is a variable that is computed numerically in Dr. Chen's code, whereby Dr. Chen adds up the number of municipal and VTD splits, population density, and a made-up numerical value that subtracts the Reock and Polsby Popper scores from 1.75.

590. Dr. Chen then uses this T-score variable to build his simulated maps where the districts are constructed to have a lower T-score relative to other compliant maps that he rejects. (*Id.*) While Dr. Chen adjusts his simulated maps at the end to satisfy other constraints, all the maps he selects from will always have a lower T-score relative to other compliant maps. (Tr. 1594:1-5; 1599:20-1600:3;1642:9-1643:20.) This results in an artificially narrow set of district mappings because, in using the T-score value for map acceptance, Dr. Chen fails to include in his simulations, representative maps that comply with the General Assembly's actual criteria on compactness, divided VTDs and divided cities ("compliant maps") (Tr. 1599:14-1600:23; 1642:9-1643:20.)

591. By always constructing and accepting maps with a lower T-score than other compliant maps, Dr. Chen's simulated maps artificially represent a very small subset of all possible compliant maps. (Tr. 1594:1-5; 1598:3-10; 1599:14-1600:23; 1642:9-1643:20). Dr. Chen's

computation of the T-score variable will avoid selecting maps that have both multiple numbers of splits and low compactness, even if both the number of splits and compactness values were within the legal limit. (*Id*.) This results in Dr. Chen's algorithm tending to select the same maps repeatedly. (Tr. 1594:1-5; 1599:14-1600:23.) In fact, rarely does Dr. Chen actually create 1,000 unique maps for a given county grouping or cluster. (Tr. 1594:1-5; 1597:13-24; *see also* Tr. 256:6-10; 357:24-358:10; 319:16-320:1; 735:7-20 (Dr. Chen admitting that he actually generated only 5 unique maps for the Franklin- Nash House county Grouping.) Curiously, the failure to produce more unique maps influences the number of Democratic seats predicted by Dr. Chen. (Tr. 1600:4-11.) When more unique maps are added to a cluster, the corresponding Democratic seat share is reduced. (Tr. 1598:1-1600:18.)

592. There are an infinite number of options for adjusting Dr. Chen's formula which could have calculated his T-score using a different formula while still satisfying the same legal constraints. (Tr. 1594:6-10; 1597:25-1598:10.) If Dr. Chen had used a different formula to compute his T-score, Dr. Chen would have likely generated a different set of maps because changing the criteria used to accept or reject potential maps obviously affects the maps that are ultimately considered by Dr. Chen. (Tr. 1598:11-1599:13; 1600:19-23.) As a result, both the mean and standard deviation of the distribution of Democratic seats predicted by Dr. Chen's maps would be different. (*Id*.) This shows how Dr. Chen's choice of map criteria, which depart from the adopted criteria used in the enacted plan, guarantees that he fails to sample from the entire universe of compliant maps. (Tr. 1599:14-1600:15.) Rather, Dr. Chen samples from his own, narrow, biased sample produced by his T-score. (*Id*.)

593. Dr. Chen's calculations of standard deviations between the mean of his Set 1 of Simulations and the enacted plan purportedly show that the enacted plan is an outlier. (Tr. 1598:14-

1599:13.) However, this calculation is not surprising because Dr. Chen's maps are only a small subset of possible compliant maps. (Tr. 1598:14-1599:13; 1600:19-23.) Due to his T-score, Dr. Chen's subset of maps is more homogenous than the entire set of compliant maps, resulting in lower variation between his simulated maps than the entire set of possible compliant maps. (Tr. 1597:25-1599:17.) Because of the enforced homogeneity in Dr. Chen's simulated maps, the enacted map appears to be more "extreme" than it actually is. (Tr. 1600:19-23.) This skew is best shown through a comparison of the difference in Democratic seat share based on Dr. Mattingly and Dr. Chen's simulations using the same ten election composite. (Tr. 1590:1-10.) When using this same ten election composite used by Dr. Chen, Dr. Mattingly finds a difference of 1.5 House Democratic seats between the enacted map and his simulations. (*Id*.) Conversely, Dr. Chen finds a difference of nearly five Democratic House seats based on the same ten elections. (Tr. 1611:17-1612:11.)

594. In contrast to Dr. Chen, Dr. Pegden produces his simulations by starting with the enacted map and using the Markov Chain Monte Carlo ("MCMC") approach to move VTDs around to construct his set of simulated maps. (Tr. 1600:24-1601:3.) The result is that Dr. Pegden generates a few trillion maps, most of which are not compliant. (Tr. 1601:4-11.) Dr. Pegden included in his description of the number of maps those that were not compliant. (1600:24-1601:18; PTX508 p.5-6.)

595. Like Dr. Chen, Dr. Pegden also does not compare the enacted map against all possible districting's that satisfy the criteria used to enact the 2017 plans. (Tr. 1601:12-1602:7.) Dr. Pegden did not start with the prior map and then apply the legislative criteria and improve upon the prior plan, but instead starts with the enacted map. (Tr. 1663:2-5.) Thus the maps that Dr. Pegden generates will likewise be limited in variation and limited to the subspace from which Dr.

Pegden generates the simulated maps. (Tr. 1601:22-1602:24.) As Dr. Thornton testified, this is akin to your lost keys being in the garage of your home and confining the search for your keys to a bedroom implies that you will never find your keys. (*Id*.)

596. Dr. Pegden's simulations also deviate from the criteria used to enact the 2017 plans. (Tr. 1602:25-1603:2.) Dr. Pegden did not follow the General Assembly's district population criteria, instead requiring that the district populations be within the same range as the enacted plan. (1603:3-12.) Additionally, Dr. Pegden does not apply the guide of the Reock score and Polsby-Popper scores that were used as a minimum threshold for the enacted map. (Tr. 1603:13-24.) Instead, Dr. Pegden requires the simulated maps to be at least as compact as the enacted map, with a plus or minus five percent error margin. (*See* LDTX286 p.13) Dr. Pegden's measure of compactness is also calculated across the county groups and statewide, as opposed to a district by district basis. (Tr. 1603:25-1604:7.) This means that Dr. Pegden can have non-compliant district compactness measures that are offset by another very compact district because he relies upon the average across the district. (*Id*.) As a result of Dr. Pegden's use of criteria that differ from that set forth by the General Assembly, the enacted plan will not be represented by the set of maps in Dr. Pegden's simulations. (Tr. 1604:10-20.)

597. Dr. Mattingly's simulations are created by a combination of the methods of Drs. Chen and Pegden. (Tr. 1605:8-15.) Similar to Dr. Chen, Dr. Mattingly starts with a particular county group or cluster, and then, similar to Dr. Pegden, he generates the simulated maps using the MCMC approach. (*Id*.)

598. Dr. Mattingly's simulated districts did not sample from the entire space of all compliant maps. (Tr. 1605:16-166:25.) Instead, Dr. Mattingly's simulations only sample from the maps that can meet his scoring function. (*Id*.) This results in the characteristics of Dr. Mattingly's

maps being limited to those his scoring function optimizes. (Id.) Therefore, one should not expect that the enacted plan would be represented by the set of maps Dr. Mattingly produces. (Tr. 1606:21-1607:9.)

599. Dr. Mattingly likewise fails to follow the General Assembly's criteria used to produce the enacted map. (Tr. 1605:16-1606:20; 1607:1-9.) In deviating from the criteria, Dr. Mattingly constructs a score function that is similar to Dr. Chen's T-score, but weighted differently. (Tr. 1607:13-19.) Dr. Mattingly's score function weights for a population score, Polsby-Popper score, and municipality split score. (Tr. 1607:17-1609:6.) Like Dr. Chen's T-score, Dr. Mattingly's score function impacts which simulated maps are considered. (Id.) When examining Dr. Mattingly's weighted score function, it is easy to see how the score deviates from the enacted plan's criteria. (Tr. 1607:13-1610:7.)

600. First, Dr. Mattingly's population score rates how the population from the simulated maps compares to the ideal, which is a deviation from the enacted plan's criteria. (Tr. 1607:20-1608:2.) Dr. Mattingly affirmatively states that he cannot generate plans with all districts between plus or minus 5% population deviation as required by the General Assembly's criteria. (Tr. 1609:24-1610:7.) As an example, the Wake County House cluster has a population threshold that is within plus or minus 12 percent, not 5 percent. (Id.)

601. Second, Dr. Mattingly's score function also weights his measure of compactness, which ignores the Reock compactness measure and does not apply the minimum values established by Pildes and Neimi which were adopted in the General Assembly's criteria. (Tr. 1607:3-12; *see also* LDTX155.)

602. Third, Dr. Mattingly's score function is weighted for municipality splits by measuring how many people in a given municipality have been separated from the district(s) that

best represent their municipality. (Tr. 1608:13-1609:6.) This weight does not appear in the adopted criteria. Lastly, Dr. Mattingly fails to use uniform weights for each component of his score. (Tr. 1609:7-23.)

603. By changing the weights or deviating from the legislative criteria, Dr. Mattingly is changing the group of simulated maps that he is selecting. (Tr. 1609:7-1610:19.) Dr. Mattingly's simulated maps do not follow the criteria used by the legislature, but instead draws maps using his own varied thresholds and score functions. (*Id*.) As a result, Dr. Mattingly will produce a different set of maps, which are not representative of the entire space of maps compliant with the legislature's criteria. (Tr. 1610:12-19.)

604. Drs. Chen, Mattingly, and Pegden failed to properly control for the legislative criterion that "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" because none of them gave weights for incumbency. (Tr. 1610:23-1611:3.) This means that none of Plaintiffs' simulation experts adjusted for the probability of an incumbent being elected as contemplated by the criteria. (Tr. 1610:23-1611:6.) Plaintiffs' simulation experts only apply a control to require that more than one incumbent would not reside in the same simulated district. (*Id*.) This does not adjust for the political makeup of an incumbent's constituents. (*Id*.) Controlling for this criterion would have altered the outcomes from the various map simulations as Democratic House and Senate members were more likely to be elected when there was not an incumbent. (*Id*.)

b. Dr. Thornton's Analysis of the Elections used by Drs. Chen, Mattingly, and Pegden

605. Dr. Thornton testified that the elections chosen by Drs. Chen, Mattingly, and Pegden to evaluate their simulation results influences the outcomes and conclusions of each of

these experts. (Tr. 1578:19-1579:16.) When a specific election has a higher Democratic vote share in comparison to the criteria set forth by the General Assembly, then the number of estimated Democratic seats will tend to be higher relative to the baseline of the enacted map. (Tr. 1580:10-16.) Therefore, the simulations provided by Plaintiffs' Experts will necessarily show a difference between the numbers of Democratic seats under the enacted map when compared with the simulated maps of each expert. (Tr. 1580:10-1582:21; 1591:4-19; LDTX303, LDTX304, LDTX305, LDTX306.) In fact, only Dr. Chen used the same ten elections as the General Assembly to analyze his simulations. (Tr. 1583:19-1584:1; 1580:23-4; 1585:20-1586:6; LDTX302.) Dr. Mattingly used seventeen elections, while Dr. Pegden used two elections in his expert report and an additional four in an appendix to his expert report. (Tr. 1580:20-1581:4; 1580:1-9; 1626:9-22; LDTX302.) This results in comparisons between Dr. Mattingly and Dr. Pegden's simulations with the enacted plan being an apples to oranges comparison. (Tr. 1583:19-1584:1; 1590:1-1591:19.)

606. Dr. Mattingly's work is a prime example of the disconnect between the General Assembly criteria for creating the enacted map and the choices made by Plaintiffs' Experts regarding the baseline elections to use for comparison to their simulations. (Tr. 1580:10-1583:5.) When Dr. Mattingly compares his simulations to the enacted map, he does not combine the elections, but rather evaluates each election separately. (*Id*.) When looking at each election individually, Dr. Thornton explained that the enacted map actually has more Democratic House seats as compared to Dr. Mattingly's simulated maps in elections where there was strong Republican turnout in North Carolina. (Tr. 1598:6-12). Examples of such elections where the enacted map actually produces more Democratic House seats as compared to Dr. Mattingly's simulated maps are the 2010 US Senate election and the 2012 election for Governor. (Tr. 1586:17-1587:9; LDTX305.)

607. Conversely, focusing on the 2016 Attorney General election (the focus of Dr. Pegden's analysis), Dr. Mattingly estimated six more Democratic House seats from his simulations relative to the enacted map. (Tr. 1587:10-16.) For the Senate, Dr. Mattingly shows no difference in the number of Democratic Senate seats between the enacted plan and his simulated plans when he applies the 2010 US Senate and 2012 Governor elections (Tr. 1581:18-1582:21; LDTX303.) But, by using the Attorney General election from 2016, Dr. Mattingly estimates 3 more Democratic Senate seats from his simulations than the enacted map. (Tr. 1583:8-18.) Clearly, the election used by Dr. Mattingly in his analysis of his simulations impacted his analysis.

608. Dr. Thornton also showed that Dr. Mattingly's choice of elections greatly impacted the overall median average difference in calculated Democratic seats between the enacted map and Dr. Mattingly's simulated maps. (1588:3-1590:18.) Using all seventeen elections utilized by Dr. Mattingly produces an overall median average difference of 3.35 Democratic seats between the enacted map and Dr. Mattingly's simulated House maps. (*Id*.) Excluding the additional seven elections considered by Dr. Mattingly and not considered by the General Assembly, the median average difference in Democratic seats falls to a mere 1.5 seats. (*Id*.) This means, in a true apples-to-apples comparison, the difference between the number of Democratic seats under the enacted map and Dr. Mattingly's simulated maps is, on average, 1.5 seats. (*Id*.)

609. Dr. Thornton also demonstrated that Pegden's choice of elections are likewise flawed. (Tr. 1592:1-10; 1604:21-1605:6.) Dr. Pegden's analysis is focused on the 2016 Attorney General election. (Tr. 1583:6-11.) Dr. Pegden briefly mentions four additional elections in his expert report appendix including the 2012 Lieutenant Governor and Presidential election, the 2014 US Senate election, and the 2016 Governor election (Tr. 1580:1-9; 1585:20-1586:6; LDTX302.)

610. Dr. Pegden's focus on the Attorney General election in his report can be explained by the fact that this election produced the largest gap between the simulated maps and the enacted map. (Tr. 1605:2-7; LDTX091.). For example, when comparing the enacted map to the simulated plans under the 2012 Lieutenant Governor election or the 2014 US Senate election, the difference is a mere two House seats. (Tr. 1587:17-23; LDTX305.) But under the 2016 Attorney General election the difference jumps to six House seats. (Tr. 1587:10-16.) Likewise, the 2012 Presidential election and the 2016 Governor election have a difference of two Senate seats as compared to the enacted plan, while the 2016 Attorney General election produces a difference of three seats (Tr. 1587:17-1588:2.)

611. Ultimately, Dr. Pegden's focused usage of the 2016 Attorney General Election results in him applying a higher Democratic vote share relative to either Drs. Chen or Mattingly. (Tr. Tr. 1605:2-7) Therefore, Dr. Pegden's assessment of his simulated maps as compared to the enacted map unsurprisingly results in a higher number of Democratic seats. (*Id*.; *see also* Figure 1 from Thornton Report, LDTX 91.)

c. Plaintiffs' Simulations Experts' Analyses Fail to Pass the "Common Sense Test"

612. When limiting Dr. Mattingly's average calculation to the ten elections used by the legislature and also used by Dr. Chen, Dr. Mattingly's calculations show an average difference of 1.5 House Democratic seats, and 1.8 Senate Democratic Seats as compared to the enacted map. (Tr. 1590:1-11; 1613:8-19.) Conversely, Dr. Chen finds a difference of nearly five Democratic House seats based on the same ten elections. (Tr. 1611:7-15.) These differences ultimately mean that you have a difference of up to 5 House seats, and less than two Senate seats, based on the calculations of Drs. Chen and Mattingly. (Tr. 1611:7-19.) From a practical standpoint, these differences based on the same numbers for Dr. Chen and Dr. Mattingly, result in seat difference

that ranges from 0% to 4% change for the House, and less than a 4% change for the Senate (Tr. 1613:23-1614:4.)

613. Unlike Drs. Chen and Mattingly, Dr. Pegden does not calculate seat shift predictions, but instead calculated whether the simulated map was more or less partisan than the enacted map. (Tr. 1614:5-13.) To articulate what Dr. Pegden actually calculated, Dr. Thornton provided an excellent example. (*Id*.) If the enacted plan had a Democratic vote share of 48%, and Dr. Pegden's simulated maps came up with 48.00001%, Dr. Pegden would indicate that the simulated map is less partisan than the enacted map, no matter how small the fractional difference is in practical terms. (*Id*.)

614. Dr. Thornton calculated the number of Democratic seats that possibly would have been won based on Dr. Pegden's simulations using his computer code produced in this litigation. (Tr. 1614:14-1615:4.) Dr. Thornton ran Dr. Pegden's code using a command line option, "-H," to generate the histogram—a histogram Dr. Pegden chose not to create. (Tr. 1615:5-10.) By running this command line option, Dr. Thornton showed a seat shift difference of four Democratic House seats, and three Senate seats. (*Id*.)

615. Ultimately, across all of Plaintiffs' simulation experts, the difference between the Democratic seats between the enacted maps and the simulated maps ranges from zero, for particular elections used by Dr. Mattingly, up to at most, five House and three Senate seats. (Tr. 1615:11-17.)

616. Dr. Thornton performed a binomial test to calculate statistical significance of these ranges and determined that these differences were not statistically significant. (Tr. 1615:18-25.) The binomial test is a test used by statisticians when there are two possible outcomes, for example, such as electing either a Republican or a Democrat, and when there is proxy data, or incomplete

or inaccurate information. (Tr. 1574:24-1575:5.) The binomial test has been used in legal proceedings, including in voting rights cases, for decades. (Tr. 1616:1-21.)

617. Despite criticism from all of Plaintiffs simulation experts, Dr. Thornton chose the appropriate binomial test for a several reasons. (Tr. 1615:18-1616:21.) First, Drs. Mattingly, Chen, and Pegden all used biased algorithms that produced biased results by deviating from the General Assembly criteria and instructing their computer code to produce a narrow set of maps that do not pull from the full sample of compliant maps. In that way, Plaintiffs' simulation experts are using proxy data. (*Id*.) As a consequence, when calculating the expected number of seats of the enacted map as compared to the simulations, the result is based on the expected number. (*Id*.) The data is all proxy data, because it is not reflective of the full range of all compliant maps. Based on the faulty simulations, the variation produced by Drs. Mattingly, Chen, and Pegden is tainted and as such is smaller than the true population of compliant maps. Therefore, the binomial distribution which is used in situations with proxy data, such as here, generates a more reliable measure of variation than Plaintiffs' simulation experts produced. (*Id*.)

618. Dr. Thornton's use of the binomial to determine that these differences were not statistically significant does something that Drs. Chen, Mattingly, and Pegden's calculations do not—it actually passes a common sense test. Drs. Chen, Mattingly, and Pegden all claim that their minute changes of less than 4%, or at most, five seats, in the House and three seats in the Senate, are significant, but this simply does not make sense in the real world. (Tr. 1613:23-1614:4; 1615:11-17.) In the real world, people vote for human candidates, who have human qualities and can make human mistakes. The minute difference in seat share, is in fact, so insignificant, that a three to five seat swing could be accounted for based on an incumbent passing away, another choosing not to run for re-election, and another being involved in a sexual harassment scandal and

losing their primary . Given today's political climate, the fact that all of these possibilities occurred in North Carolina General Assembly elections in 2018 alone, the ideas proposed by Drs. Chen, Mattingly and Pegden that a three to five seat difference is significant, simply doesn't pass the common sense test.

(2) Dr. Thomas Brunell

619. Dr. Thomas Brunell is a tenured political science professor at the University of Texas, Dallas. For over 20 years, Dr. Brunell has taught, lectured and published extensively on representational and redistricting issues, receiving many grants and awards. (LDTX292.) Dr. Brunell was accepted by the Court as an expert on redistricting and political science. (Tr. 2275:4-12.)

620. Dr. Brunell was asked to read and respond to reports of Dr. Pegden, Cooper, Mattingly and Chen. (Tr. 2276:19-20.) He did so and prepared a report with his criticisms of their approaches.

a. In Order To Be Useful, Simulation Exercises Must Compare "Apples To Apples," Which Plaintiffs' Experts' Simulations Do Not Do.

621. Three of the four reports (Chen, Pegden, Mattingly) commented on use some form of simulation to compare the enacted plan to a set of alternative simulated maps in order to determine if the enacted map is an extreme partisan outlier. To be useful, the comparison group of maps must be legitimate, apples must be compared to apples. An inapt comparison leads to a nonsensical or useless result. For example, comparing any person's IQ to the IQs of trillions of chickens would certainly identify the person as an "outlier." (LDTX291 at 2; Tr. 2277:9-20.) But that would say nothing meaningful about the person's intelligence.

622. By the same token, if the maps are not legitimate alternatives to the enacted map then, regardless if we compare a thousand, a million, or even a trillion other maps, no conclusions about the enacted map(s) can be drawn.

623. For a variety of reasons, the simulations exercises provided by Plaintiffs fail to provide an appropriate comparison.

624. The redistricting process in North Carolina is a partisan political process, as it is in most states. When a legislature is assigned the process of drawing district plans by a State Constitution and state statutes they consider election data and partisan political factors (Tr. 2278:14-2279:2.) The General Assembly expressly disclosed its use of election results and political considerations (LDTX007) in reliance on precedent confirming this approach.

625. The alternative maps by Dr. Chen, Dr. Pegden, and Dr. Mattingly are designed to be 'non-partisan,' which is to say partisan data are not part of the algorithm to draw the comparison maps. Rather, they rely on some (not all) of the traditional redistricting criteria. Political scientists and courts have recognized that partisanship does and can play a legitimate role in the drawing of districts. Plaintiffs' experts have not shown how much partisanship is too much, and it is unclear whether their analyses are divining partisan intent or something else entirely. (Tr. 2280:4-2281:23.)

626. For example, in order to show that the map is an extreme outlier, the appropriate comparison group is other partisan maps, not non-partisan maps. (Tr. 2281:6-14.) Of course, the enacted map has more partisanship than non-partisan maps because non-partisan maps do not have any partisanship. These comparisons do not speak to the relevant question: has partisanship played too big of a role in drawing the boundaries? The necessary comparison is whether or not relative to other partisan maps, the enacted map is an outlier (i.e. overly partisan). (LDTX291 at 2-3.) Only

simulations with comparison to other partisan plans could possibly address the question. (Tr. 2280:4-15.)

627. On cross-examination, Plaintiffs pointed out that Dr. Brunell, in a 2011 Nevada case, did not compare a proposed map "to any other potential partisan maps" (Tr. 2337:5-12; Tr. 2343:11–25), a point they seem to think shows hypocrisy. This is a mistake on their part. The 2011 Nevada case was an "impasse" case where the legislature failed to redistrict after the 2010 census, which forced a court to redraw the map. (Tr. 2357:17-2358:11.) Unlike in a legislative redistricting—where politics is permissible—court redistricting plans cannot be political. *Larios v. Cox*, 306 F. Supp. 2d 1214, 1218 (N.D. Ga. 2004); *Peterson v. Borst*, 789 N.E.2d 460, 463 (Ind. 2003); *Smith v. Clark*, 189 F. Supp. 2d 529, 537 (S.D. Miss. 2002); *Corbett v. Sullivan*, 202 F. Supp. 2d 972, 973–74 (E.D. Mo. 2002); *Below v. Gardner*, 963 A.2d 785, 793 (N.H. 2002). It made sense in the Nevada case for Dr. Brunell to assume a non-partisan baseline, and his testimony and position in this case are not in tension with Nevada.

628. Other problems plague Plaintiffs' experts' approaches. Another problem is that they ignore many traditional redistricting criteria. Dr. Chen, for example, used population equality, geographic compactness, contiguity, respecting county groupings, and preserving municipal and precinct boundaries. (LDTX at 3; Tr. 2282:3-2283:1.) But incumbency protection is among the adopted criteria and is not adequately addressed in Dr. Chen's simulations (or Dr. Mattingly's or Dr. Pegden's). (LDTX291 at 3; PTX603 at 119; LDTX007; Tr. 2356:18-2357:16.)

629. Incumbency protection is a typical criterion, and part of this criterion is avoiding pairings (or, as is said often in North Carolina, double-bunking). But incumbency protection is not simply avoiding the pairing of incumbents. (Tr. 2283:21-2285:52, Tr. 374:21-2375:15). Political

science has a broader understanding of what this means. (Tr. 2285:6-11). Incumbents "have a legitimate . . . claim to preserving the cores of their districts. Members should be voted out of office rather drawn out" by a computer. (Tr. 2284:20-23.) Incumbency protection normally means preserving the cores of districts so the incumbent's district is similar to the incumbent's prior district, and the incumbent's relationship with constituents is maintained. (LDTX291 at 3.)

630. Because plans must be passed by legislative bodies, it is important for map-makers to protect incumbents to gather support for passage. (Tr. 2285:12-18.)

631. None of this was accounted for in *any* of the simulations Plaintiffs' experts performed.

632. Dr. Brunell also criticized Plaintiffs' simulation experts for failing to review the maps produced by their algorithms. He testified "I really do think that's important to look at some of these maps just to make sure ... that it passes the sort of sniff test." (Tr. 2291:24-2292:2.) Put differently, the physical shapes of districts are "important in redistricting," and Dr. Brunell quoted another academic, Dr. Bernie Grofman, as describing a test for the physical appearances of districts as the "intraocular trauma test." (Tr. 2292:8-11.) Without looking at the districts in the simulated maps, an expert (or reviewing court) has no idea whether the algorithm is performing as it is expected to perform or whether the maps used for comparison have any relation to districts any citizen might expect to exist in the real world. (LDTX291 at 5.) It is not enough to sample just a few maps; at least a cursory look at *many* alone can confirm that the approach is sound. (LDTX291 at 5.)

633. Notably, the appearance of North Carolina legislative districts has improved markedly from prior decades, so it matters that the comparison districts are similarly improved. (LDTX291 at 5.)

634. Without adopting the legislature's criteria and without taking even reasonable steps to ensure that the simulated maps Plaintiffs' experts used were reasonable maps to compare to the enacted plans, Plaintiffs failed to compare apples-to-apples and their results are not valid. They counted as partisan differences between the enacted plans and the simulated plans, but the differences were actually the result of flawed inputs in the algorithms.

b. Plaintiffs' Computer Simulation Methodologies Have Not Reached General Acceptance In The Political Science Community.

635. Dr. Brunell has been involved with redistricting issues since 2000, and yet the first time he encountered the types of computer simulations used by the plaintiffs' experts has was within the last year or two and only used in lawsuits very recently. (Tr. 2293:4-10; 2292:24-2293:3.) Dr. Brunell is not familiar with any peer-review literature in the political science field that uses simulations as an evaluation for partisanship. (Tr. 2293:11-23.) While Dr. Brunell does not discount the value that mathematicians and their simulations may add to redistricting in the future, their methodologies are simply not ready for "prime time yet." (*See* Tr. 2292:12-2293:3.)

c. Dr. Brunell Aptly Criticized Plaintiffs' Experts' Unreasonable Use Of A "Uniform Partisan Swing" In Their Analyses.

636. Dr. Brunell described the "uniform partisan swing" analysis conducted by political scientists as coming "with baggage" and which makes "wrong assumptions." (Tr. 2289:5-19.) Dr. Brunell opined that "assuming all districts across the state would increase or decrease in uniform amounts when the political tide swings to the left or the right is not reliable." (LDTX291 at 4-5.) Although useful, the expert needs to be attuned to "idiosyncratic variables" that can influence how accurate uniform-swing predictions are. (LDTX291 at 4-5.) Examples include the split between Democrats and Republicans, the strength of partisan identification among residents, the proportion of independent voters, the quality of local candidates, the strength of the incumbents at issue, the mood of the country, the state, the county, or other localities, etc." (LDTX291 at 4-5.) Another

example would be the different levels of support for local Democratic candidates, such as a local sheriff, which might cause voters for a Republican presidential candidate to split the ticket for local races, rendering statewide data and uniform-swing predictions inaccurate. (Tr. 2290:23-2291:4).

637. On cross-examination, Dr. Brunell was asked about his own use of a partisan swing analysis in the Nevada "impasse" litigation. But as Dr. Brunell confirmed, a partisan swing analysis from Nevada impasse litigation where there were no enacted maps, no prior elections, no need to *strike down* an existing map, and none of the other factors present in this case. (Tr. 2357:17-2358:11). This is not comparable to the issues in this case, where there *is* a map and Plaintiffs want it invalidated based on highly speculative political science. This is not a "beauty pageant" case.

d. Criticism of Dr. Chen

638. Dr. Brunell's general criticisms apply in full force to Dr. Chen. As noted, Dr. Chen did not examine the maps his computer drew, only a sample. (LDTX291 at 5-6.) Among other problems, this means the universe of sample maps could be very small; the algorithm in many instances is drawing only slightly different versions of only a few main maps. (LDTX291 at 5-6.) This improperly restricts the scope of the comparison group.

639. Another problem is that Dr. Chen's criteria do not match the adopted criteria. Dr. Chen maximized compactness, but the General Assembly set a threshold. These were different goals and the comparison is unhelpful. (LDTX291 at 6-7; Tr. 2294:25-2295:18.)

640. The same can be said of Dr. Chen's VTD-split criterion. His program minimized splits; the General Assembly set a threshold. The comparison group does not match this neutral criterion either. (LDTX291 at 7; Tr. 2295:19-2296:3.) VTDs can be split for a number of reasons. For example, keeping a precinct together could result in splitting a municipal subdivision, a city or county. This is the kind of standard political decision done by the legislature, but how the

algorithm balances this political decision is unclear. (Tr. 2296:17-2297:17.) The choice not to minimize splits allowed for a range of choices that Dr. Chen's algorithm foreclosed.

641. Dr. Chen argues that his method allows him to draw conclusions about the intent of the map-makers. But divining intent is difficult because redistricting is complex. Many demands are work. Districts must be equally populated, compact and contiguous, meet incumbents' needs (and avoid pairing them), and so forth. The rules are even more strict in North Carolina. The complex process of redistricting makes drawing conclusions about the intent of the map-maker through statistical analyses incredibly difficult. (LDTX291at 7-8; Tr. 2299:10-2300:5.)

642. Dr. Chen's simulations, in some respects, show that the enacted map is not an outlier. Dr. Chen's predictions for his simulated map are not far from his predictions for the enacted plan. He shows that the enacted House plan has 42 Democratic districts, just one shy of 43, which is not an outlier. His Senate analysis is similar. Again, if the parameters of his simulations included more restrictions, his results may change. Further, compared to non-partisan maps, if a partisan map only yields one additional seat, this is not meaningful, maybe not an outlier. (LDTX291 at 11; Tr. 2303:10-15.)

643. This becomes even more apparent at the county-grouping level. In many groupings (such as Cumberland County and Forsyth-Yadkin), Dr. Chen's analysis shows that districts are not outliers, even by his metrics. (LDTX291 at 11-12; Tr. 2302:12-2303:21.) In fact, some groupings show that simulated districts are *more Republican* than enacted districts. (LDTX291 at 11-12; Tr. 2302:12-2303:21.)

e. Criticism Of Professor Cooper

644. Dr. Brunell also reviewed the report of Dr. Cooper, who contended that the General Assembly is out of step with the North Carolina public. Dr. Brunell criticized this approach because redistricting has been shown in political science literature to have little effect

on polarization or ideological compositions of legislatures. (LDTX291 at 12; Tr. 2304:3-14.) That is most obvious in that the U.S House and Senate have similar polarization rates; the Senate provides a type of control group to test whether the House is unusually polarized, and studies (and common sense) show that it is not. (Tr. 2304:3-14.) Additionally, if redistricting were really the culprit, polarization would be worse in the early parts of the decade than in later years, but that does not occur. (LDTX291 at 12.)

645. Dr. Brunell noted that Dr. Cooper expressed these views as his personal opinion in an editorial before he was hired in this case; Dr. Cooper's editorial views are the settled political-science view and the one Dr. Brunell holds. (Tr. 2304:3-16.) Indeed, the only respect in which redistricting *might* impact legislative polarization is where competitive districts are drawn, since lack of ideological heterogeneity makes it difficult for a representative to know where constituents stand and what positions to take. (LDTX291 at 12-13.)

646. Dr. Cooper also errs in concluding that North Carolina is a "moderate" state. Actually, he is confusing an aggregate at the statewide level with polarization in constituent parts of the state. Averaging a polarized state leads to the conclusion that, as a whole, the state is "moderate," when, in fact, there are strong ideological bents in both directions that are seen when the state is examined in its parts and regions. (LDTX291 at 13; Tr. 2304:17-2305:8.) Dr. Cooper fails to do this and provides no helpful information on the question.

(3) Dr. Douglas Johnson

647. Dr. Douglas Johnson has a Bachelor of Arts in Government from Claremont McKenna College, a Masters 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.)

648. 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.) He has supervised student research, authored numerous reports, been interviewed, and written op-ed pieces on redistricting while at the Rose Institute. (Tr. 1813:16-20.) This work has been covered by the Washington Post and the LA Times as well as numerous television networks. (Tr. 1813:20-24.) Dr. Johnson is in charge of training approximately thirty-five students who work at the Rose Institute on redistricting issues, census issues, and geographic information systems, and speaks to classes visiting the Institute. (Tr. 1814:1-6.)

649. 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.)

650. Dr. Johnson has spoken on redistricting and related subjects at numerous professional conferences, including for the League of Women Voters, the California School Board Association, and the National Conference of State Legislatures. (Tr. 1815:9-1816:3.)

651. Dr. Johnson has prepared proposed district maps to be considered for adoption by redistricting authorities hundreds of times. (Tr. 1816:4-7.) Dr. Johnson has advised state legislatures and other jurisdictions going through the districting and redistricting process. (Tr. 1816:8-15.)

652. 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.) Dr. Johnson frequently works with

Caliper, the maker of Maptitude, to provide feedback and suggestions for new features for the software. (Tr. 1816:24-1817:4.)

653. 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.)

654. Dr. Johnson has studied redistricting issues pertinent to the state of North Carolina and served as an expert on the remedial stage of the federal *Covington* lawsuit. (Tr. 1817:25-1818:6.)

655. Dr. Johnson was excepted by the Court as an expert in the fields of political science, political geography, redistricting, and Maptitude for Redistricting software. (Tr. 1818:11-20.)

656. Dr. Johnson was retained by the Legislative Defendants to apply his skills and experience to evaluate certain claims with respect to this litigation. (Tr. 1818:7-10.)

657. Dr. Johnson's initial expert report evaluates whether the 2017 legislative maps maximized Republican political power in the legislature, how North Carolina's county grouping rules compares to redistricting reform efforts in other states, and whether the county grouping rules act as a significant restraint on the ability to maximize representation for one party in redistricting. (Tr. 1819:2-17; LDTX287 at 4.)

658. Dr. Johnson's supplemental report examines how the plaintiffs' alternative maps – specifically, the map proposed by Senator Jackson – selectively employ allegedly nonpartisan criteria to achieve partisan goals, and also looks at North Carolina's unusual use of vote tabulation districts in redistricting. (Tr. 1819:20-1820:9; *see also* LDTX289 at 2.) Finally, Dr. Johnson

prepared a rebuttal report responding to certain claims made by Dr. Chen. (Tr. 1820:12-14l; *see also* LDTX290 at 3.)

659. Dr. Johnson has studied redistricting systems employed in different states as well as different efforts to reform the redistricting process throughout the country. (Tr. 1822:13-22.) States have taken two approaches to redistricting reform: 1) process reform and 2) outcome reform. (Tr. 1822:23-24, 1823:8-9.) Process reforms take redistricting power from one entity and give it to another—for example, taking the power from the legislature and giving it to an independent commission. (Tr. 1822:25-1823:7.) Outcome reforms implement requirements for how the map must look. (Tr. 1823:8-11.) Some reform efforts are a combination of both approaches. (Tr. 1823:11-12.)

660. Dr. Johnson described the county grouping rules in two steps. First, if a county can be a district by itself, or if a couple of counties can be a district or a couple of districts by themselves, then those counties must be isolated and districts must be drawn so that the counties are not divided. (Tr. 1823:13-20.) Within a county grouping, the traversals rule requires a county to be kept whole if it can be. (Tr. 1823:22-25.) The purpose of the rules is to both avoid splitting counties as much as possible and combining counties as much as possible, and keeping counties within groupings as whole as possible. (Tr. 1824:1:4.) These rules were the result of the *Stephenson* litigation following the 2001 redistricting cycle. (Tr. 1824:5-8.)

a. <u>Dr. Johnson created a "Maximum Republican Senate Test Map" to demonstrate the degree to which North Carolina's county grouping rules constrain mapmaker discretion.</u>

661. To analyze the effect of the county grouping rules on a mapmaker's ability to use partisanship to draw districts, Dr. Johnson created a "Maximum Republican Senate Test Map" for the North Carolina Senate. (Tr. 1824:9-15.) Dr. Johnson used a "Republican Advantage" ("RepAdv") measure of partisanship based on the following elections: Governor, Lieutenant

Governor, Secretary of State, State Auditor, State Treasurer, Superintendent of Public Instruction, Attorney General, Commissioner of Agriculture, Commissioner of Labor, and Commissioner of Insurance. (Tr. 1824:18-1825:24.)[18] The goal in creating this RepAdv measure was to estimate whether a district was safe for Republicans, safe for Democrats, or competitive. (Tr. 1826:12-1827:4.)

662. Dr. Johnson first tested the 2012 races for those offices, and then looked at how the measure worked for the 2018 elections, finding that the measure was a suitable indicator of the 2018 election results for the purposes of his study. (Tr. 1826:2-8.) Dr. Johnson applied his RepAdv measure to the 2018 election results for the current Senate plan, and found that if the Democrats had a 10% or more advantage under the RepAdv measure, they won the election (with one exception) and if the Republicans had a 10% or more advantage, they won (with one exception). (Tr. 1827:5-17.) Specifically, out of the 18 seats under the 2017 enacted Senate map with a RepAdv of -10% or more, Democrats won all but one of those seats in 2018. (Tr. 1827:5-13.) Out of the 20 seats under the current Senate map with a RepAdv of 10% or more, Republicans won all but one of those seats in 2018. (Tr. 1827:13-17.) There were 12 seats in between this range of -10 and 10% under the RepAdv measure that Dr. Johnson deemed "competitive." In 2018, Republicans won 9 of these seats, many of which were on the Democratic side of the measure, and Democrats won 3, most of which were on the Republican side of the measure. (Tr. 1827:18-23; *see also* Johnson Demonstrative 1, LDTX307; *see also* LDTX072.)

663. Using the 2017 enacted Senate plan as the starting point, Dr. Johnson created a Maximum Republican Senate Test Map to examine how much Republican advantage could be

[18] Dr. Johnson used these elections based on Dr. Coper's assertion that this group of elections serve as a good proxy for voter intent. (Tr. 1825:8-10.) However, because the 2012 Attorney General race was uncontested, only the seven other races were used. (Tr. 1826:9-12.)

gained if the county grouping rules and select other criteria were ignored. (Tr. 1829:1-18.) Dr. Johnson used Maptitude to draw his test map, which took 6 to 8 hours.[19] (Tr. 1829:19-1830:7.) In Maptitude, Dr. Johnson would pull up the district borders from the enacted plan and his RepAdv measure scores at the census block level. (Tr. 1830:1-7.) He would then determine whether there were districts not yet in the safe Republican category, and whether those district lines could be adjusted so that the seats would move into the safe Republican category territory. (Tr. 1830:4-74.) He also attempted to determine whether it was possible to move some of the safe Democratic seats into the competitive category. (Tr. 1830:8-14).

664. Dr. Johnson then applied his RepAdv measure score to evaluate the partisan makeup of his Maximum Republican Senate Test Map. (Tr. 1831:4-6.) Under that test map, 4 of the 18 safe Democrat seats were flipped to safe Republican seats, and all 23 of the competitive seats were moved to the safe Republican category, resulting in 14 safe Democratic seats, 0 competitive seats, and 36 safe Republican seats. (Tr. 1831:7-17; Johnson Demonstrative 2, LDTX308; *see also* LDTX073).

665. Dr. Johnson found that his test map had a very similar look to the 2001 Senate map adopted when the Democrats were in control of the General Assembly. (Tr. 1832:2-8; *see also* LDTX076.) No general elections were ever conducted under the 2001 Senate map because that plan was struck down in *Stephenson.* (Tr. 1832:11-20.)

666. Dr. Johnson compared how many counties were split between the 2017 enacted Senate map, the 2001 enacted Senate map, and Maximum Republican Senate Test Map, and found that the 2017 enacted Senate map split the fewest counties—only 12. (Tr. 1832:21-1833:4; Johnson

[19] Using Maptitude to draw maps is a largely manual process where the map is examined "area by area, block by block[.]" (Tr. 1830:20-1842:3.)

Demonstrative 3, LDTX309.) In comparison, the Maximum Republican Senate Test Map split 64 counties, and the 2001 enacted Senate map split 51. (Tr. 1833:2-4.)

667. Dr. Johnson specifically examined the Mecklenburg County Senate grouping in the 2017 enacted Senate map. (Tr. 1833:5-7; LDTX074.) Under Dr. Johnson's RepAdv measure, the 2017 enacted Senate map has 3 safe Democratic seats, 1 safe Republican seat, and 1 competitive seat in the Mecklenburg County grouping. (Tr. 1834:2-10.)

668. In his Maximum Republican Senate Test Map, Dr. Johnson drew 9 districts within the Mecklenburg County area, and only 1 entirely within the county, because that test map was not constrained by the county grouping rules. (Tr. 1834:13-1835:1; LDTX075.) The test map pulled in Republican voters from surrounding counties and blended them with 8 of the 9 districts, resulting in 1 safe Democrat seat and 8 safe Republican seats. (Tr. 1835::6-18.) The point of this exercise was to demonstrate that the county grouping rules constrained a mapmaker's ability to draw districts to maximize Republican advantage.

669. Dr. Johnson also examined the Bladen, Pender, Brunswick, and New Hanover county grouping in the 2017 enacted Senate plan. (Tr. 1835:19-1836:3; LDTX081.) New Hanover County is slightly too large to be its own district, meaning that some population had to moved out of New Hanover County to balance the population totals amongst the districts. (Tr. 1836:19.) The amount of people moved from District 9 into District 8—about 5,000 people—was not more than what was necessary to balance out the population. (Tr. 1837:2-11.) In 2018, a Democrat won District 9 by about 200 votes under the 2017 enacted Senate plan. (Tr. 1837:12-15.)

670. Dr. Johnson drew a Pro-Republican Alternative for the New Hanover County grouping in which he moved the southwestern edge of New Hanover County into District 8 and moved into District 9 some territory to the north in Pender County that is more Republican-leaning,

increasing the RepAdv score of District 9 by approximately 2.5 percent and likely keeping the seat in Republican hands. (Tr. 1837:22-1838:18; LDTX082.) While this test map stayed within the county grouping, it did not comply with the traversal rule. (Tr. 1838:19-1839:3.)

b. The Mecklenburg Senate grouping and Wake House grouping illustrate how Republican mapmakers did not maximize Republican electoral advantage even within the county grouping requirements.

671. As a further proof of concept, Dr. Johnson drew two additional test maps – one in Mecklenburg County in the Senate, and another in Wake County in the House – to illustrate that, even within the confines of the county grouping rules, Republicans did not maximize their electoral advantage in the 2017 enacted plans.

672. Dr. Johnson first drew a test map contained entirely within Mecklenburg County. (Tr. 1839:25-1840:3, 1840:12-1841:6; Johnson Demonstrative 4, LDTX310; *see also* LDTX077 and LDTX078.) This Pro-Republican Alternative for Mecklenburg County complied with the county grouping rules, but ignored VTD or municipal boundaries, did not consider incumbency protection, and simply prioritized Republican electoral advantage using his RepAdv index. (Tr. 1841:7-19.) The result was that 1 of the competitive seats in the 2017 enacted Senate map—District 41—became a safe Republican seat in the Pro-Republican Alternative map. (Tr. 1841:15-17.) The 2017 enacted Senate map only splits 1 out of the 195 VTDs in Mecklenburg County, while the Pro-Republican Alternative splits 11. (Tr. 1842:24-1843:13.)

673. Moreover, Dr. Johnson calculated that while the Pro-Republican Alternative for Mecklenburg County was more compact than its equivalent in the 2017 enacted plan using the Polsby-Popper compactness score, it was less compact under the Reock compactness score, demonstrating that compactness scores are "useful as a floor" but are "not nearly as useful as an absolute measure or looking at averages[.]" (Tr. 1842:1-16.)

674. Dr. Johnson also explained that District 41 in the 2017 enacted Senate plan follows VTD lines to create a suburban district to the north and west of Charlotte to keep Charlotte as united as possible within Districts 37, 38, and 40. (Tr. 1844:8-1845:9; LDTX085.)

675. Dr. Johnson also examined the 11 districts in the 2017 enacted House plan in Wake County. (Tr. 1848:17-1849:9.) Under Dr. Johnson's RepAdv measure, the 2017 enacted House plan for Wake County contains 1 safe Republican seats, 4 competitive seats, and 6 safe Democrat seats. (LDTX079; Tr. 1861:8-15.)

676. Dr. Johnson again drew a Pro-Republican Alternative test map within Wake County that ignored compactness, following VTDs, and keeping incumbents in their own seats, and prioritized maximizing Republican advantage. (Tr. 1849:9-1850:10; Johnson Demonstrative 5, LDTX311; *see also* LDTX079 and LDTX080.) The result was 2 safe Republican seats, 3 competitive seats, and 6 safe Democrat seats. (Tr. 1850:11-16.) Both the Reock and Polsby-Popper compactness scores were lower compared to the enacted map, and the number of split VTDs increased from 4 out of 191 in the county to 36 out of 191. (Tr. 1850:17-21.) This alternative did comply with the county grouping and traversal rules. (Tr. 1851:2-5.)

677. These specific county grouping examples show how the county grouping and traversal rules significantly limit the legislature's and mapdrawers' ability to draw districts for partisan advantage, as is done in other states without these rules. (Tr. 1839:4-24.)

678. These analyses demonstrate that the enacted maps do not maximize Republican advantage, and that the county grouping and traversal rules are a strong restriction on mapmakers and their ability to draw districts to the advantage of one party. (Tr. 1851:19-25.)

c. Dr. Johnson showed that compliance with "neutral" redistricting criteria can give a predictable partisan advantage.

679. Dr. Johnson then examined a Democratic alternative proposed by Senator Jeff Jackson during the 2017 redistricting process. Senator Jackson's alternative, introduced as an amendment to the Senate redistricting plan, "pinwheels" the city of Charlotte, slicing it up amongst all 5 districts in the county with no consideration to the differences between suburban and urban communities of interest. (Tr. 1845:18-1846:15; LDTX086.) Though Senator Jackson's alternative had a higher compactness score, its partisan effect is to move the competitive District 41 into the safe Democrat category, and one of the safe Republican seats—District 39—is very close to being a competitive seat. (Tr. 1847:131848:13; LDTX088 and LDTX087.)

680. This example showed how compliance with "neutral" redistricting criteria, like compactness, can have an obvious partisan political effect.

d. Dr. Johnson observed that most VTD splits he studied in the 2017 enacted plans appeared to be designed for incumbency protection purposes and not for partisan advantage.

681. VTDs are vote tabulation districts created for election administration that are typically the lowest level of geography at which election results are reported. (Tr. 1853:6-11.) North Carolina has a tradition of respecting VTDs, much more than in many other states. (Tr. 1853:19-21.) VTDs in North Carolina are not intended to represent the borders of municipalities or other recognized communities of interest. (Tr. 1853:24-1854:2.)

682. In his study of the Wake County House grouping and the Mecklenburg and New Hanover Senate groupings, Dr. Johnson observed that very few VTDs are split in the enacted maps. (Tr. 1854:3-17.) The few VTDs that were split were split in order to avoid pairing incumbents and to keep incumbents in districts that leaned toward the incumbents party—if the legislator was a Republican, he was kept in a Republican seat, and if they legislator was a Democrat, he was kept

in a Democrat seat. (Tr. 1854:17-22.) Dr. Johnson does not believe that the VTDs split in the enacted map did not increase or decrease the partisan leaning of the districts because election results are reported at the VTD level "[s]o you don't really know the partisan breakdown of the people you are picking up when you split the VTD." (Tr. 1854:23-1855:21.)

e. Dr. Chen's analysis of the "Hofeller files" was not credible on several key points.

683. Dr. Johnson was asked to respond to Dr. Chen's analysis of the Maptitude files allegedly recovered from Dr. Hofeller's private computer files.

684. Dr. Johnson explained that a redistricting plan in Maptitude is not just one file on a computer. (Tr. 1857:10-12.) Instead, a plan is made up of a group of files in Maptitude—there is a map, there are bin files containing data, an index file that contains the key of which census blocks go in which districts, etc. (Tr. 1857:12-17.) All of these files together make up one plan. (Tr. 1857:17-18.)

685. Dr. Johnson explained that Maptitude is unusual in because there is no "save" command like in a Word or Excel program. (Tr. 1860:4-10.) Instead, Maptitude saves files every time the user clicks within the program. (Tr. 186:10-11.) Every time a map is closed in Maptitude, a new ".bak.zip" backup file is created. (Tr. 1860:13-15.) If the "last modified date" of all of the files making up a plan are changed, that indicates that changes were made to the map for that plan. (Tr. 1860:15-20.) If only two or three files' "last modified dates" change, then those two or three files may have just been opened or closed, but no changes were made in the map. (Tr. 1860:21-25.) This means that no changes were made to a map unless the "last modified dates" of all the files in the group of files making up the plan. (Tr. 1861:1-3.) A ".bak.zip" backup file simply represents the last piece of what may have been a part of the chain of the evolution of a map, and

could just be a map that someone looked at and not even changed at the time of the last backup file. (Tr. 1861:15-20.)

686. Within Maptitude, it is much easier for a mapdrawer to start from an existing map than it is to start from scratch. (Tr. 1861:4-9.) Maptitude records in the summary fields screen when a mapdrawer makes a copy of an existing map and starts from that copy, allowing the user to see the evolution of a map going back to the original map. (Tr. 1861:9-14.)

687. It is possible that formula fields and data contained in certain map files were simply copied over from one or more predecessor files listed in the comment box in Maptitude. (Tr. 1861:21-1862:2.) Dr. Johnson explained that because adding the data is a lot of work, a mapdrawer does not usually take out data when starting a new map, even if the mapdrawer is not going to use that data. (Tr. 1862:2-13.) Instead, the "data view" can be changed or moved so that they are not on the screen without going through the trouble of removing data that may have been from an earlier map. (Tr. 1862:12-18.)

688. Here, Dr. Johnson examined the "NC House J-25003.bak.zip" file that Dr. Chen used in his direct testimony. (LDTX161; PTX569; Tr. 1862:19-1863:2.) He concluded that Dr. Chen could *not* have drawn any conclusions about when the map was drawn by simply looking at the last modified date of the map file he reviewed – one would instead need to "study all the maps along the chronology of backup files to see when the map was actually drawn versus when it was just opened and looked at." (Tr. 1862:25-1863:2.)

689. Dr. Johnson also examined the "North Carolina J24" plan file for the Senate that Dr. Chen also reviewed. (PTX572; Tr. 1863:20-1864:16.) He observed that the comment screen for this particular plan indicated the file was created in the span of 42 minutes, which in his experience was not enough time to do "a lot of mapmaking" on the "scale of North Carolina." (Tr.

1864:4-8.) He similarly concluded that, to understand how the file was created, it would be necessary to "go back through the earlier zip files of this J24 map . . . to see where the district borders were actually drawn for a final time. It's safe to say it wasn't in this map; 42 minutes." (Tr. 1864:9-16.) Dr. Chen's failure to review any of the predecessor files for the House and Senate plans he relied upon is, suffice it to say, problematic.

690. Dr. Johnson is familiar with political index formulas used in Maptitude to measure the partisanship of certain territories, and commonly works with such formulas when working with states and other jurisdictions that have partisan elections. (Tr. 1865:2-19.) Dr. Johnson observed that the particular formula in Dr. Hofeller's map files shown in PTX153 did not include any 2016 election data for the state of North Carolina. (Tr. 1867:3-6.)

691. Contrary to Dr. Chen's conclusions, Dr. Johnson opined that he would be surprised if Dr. Hofeller would draw districts in 2017 for future elections without using 2016 election data because legislators want to see the most recent election data in the database and a mapdrawer would include those results. (Tr. 1867:7-18.) This observation significantly undermines Dr. Chen's view that these files support a conclusion that Dr. Hofeller was drawing plans in June 2017 at the direction of the General Assembly.

692. Dr. Johnson also undermined Dr. Chen's claims concerning what was on Dr. Hofeller's screen when he allegedly drafted the plans Dr. Chen reviewed. Contrary to Dr. Chen's claims, as Dr. Johnson testified, no one can determine what was on Dr. Hofeller's screen when he drew the maps in questions just by looking at the ".bak.zip" files produced in this case. (*See* PTX569; Tr. 1862:19-25.) All of the maps along the entire chronology of the plan would need to be studied to see when the map was actually drawn versus when it was just opened and looked at. (Tr. 1862:25-1863:2.)

693. When a ".bak.zip" file is opened, it only shows what was on the mapdrawers' screen when the file was last closed. (Tr. 1863:7-13; 1863:16-19.) It does show anything about what was on the screen when a mapdrawer was actually working on the map. (Tr. 1863:13-15.) It is not possible to tell what a mapdrawer had on his screen when a map was drawn simply by looking at a ".bak.zip" file months or years later. (Tr. 1863:16-20.)

694. Finally, Dr. Johnson illustrated why Dr. Chen's reliance on alleged "race data" in an August 14, 2017 version of the "NC House J-25" draft House map on Dr. Hofeller's computer proves nothing about whether Dr. Hofeller considered race when drawing that map.

695. On cross-examination, Dr. Johnson was confronted with "property" screens for two files with the same "NC House J-25" file name – one dated August 7, 2017 (PTX552) and one dated August 14, 2017 (PTX570). (Tr. 1963:1-1964:7.) While these files had the same plan name, the plan could have been redrawn from the time it was closed on August 7, 2017 to the time it was opened and closed on August 14, 2017. (Tr. 1964:13-19.) Just because the files had the same name did not mean they were the same plan. (Tr. 1964:20-1965:4.)

696. Furthermore, while plaintiffs' counsel attempted to represent that the map window shown in the screenshot in PTX150 displayed BVAP numbers in the district labels when the file is opened, Dr. Johnson explained that that was not how Maptitude worked. (Tr. 1966:16-1967:17.) Dr. Johnson explained that opening a file would not show the data view shown in PTX570. (Tr. 1966:11-17.) Instead, the person who created the screenshot—Mr. Blake Esselstyn—would have to open the formula box himself when he opened the file. (Tr. 1966:11-17.) The screenshot shown in PTX150 was from Mr. Esselstyn's computer, not Dr. Hofeller's computer. (Tr. 1967:6-10.)

697. Dr. Johnson could not agree with plaintiffs' counsel's claim that Dr. Hofeller added BVAP labels at some point between August 7 and August 14, 2017 because of this discrepancy

with the formula window being opened. (Tr. 1967:18-1968:3.) Even if Dr. Johnson had reviewed the lineage of these files to determine when the BVAP numbers first appeared, it would not have told him when the data was actually added—only that the data fields were not present on August 7, 2017. (Tr. 1968:10-18.)

698. The Court finds this quite significant because Dr. Chen also concluded that the 2017 House plan had been substantially drawn by June 28, 2017—yet, on August 7, 2017, Plaintiffs concede no BVAP data were contained in the file, which cuts against their conclusion that the plans were drawn with racial considerations. Plaintiffs cannot have it both ways.

f. Dr. Johnson demonstrated that Dr. Chen dramatically understated the degree of changes the *Covington* special master changed in HD-59 and SD-27.

699. Finally, Dr. Johnson is familiar with the work of the special master in the federal *Covington* lawsuit and the districts changed by the special master, and was an expert witness in the remedial stage of that case. (Tr. 1878:20-24.) Dr. Johnson reviewed the demonstrative exhibits produced during Dr. Chen's redirect examination, identified as Chen D5 and Chen D6, which Dr. Chen used to support his decision not to "freeze" HD-59 and SD-27. (Tr. 1878:6-19.)

700. Dr. Johnson calculated the population in House District 59 that was moved in and out of the district by the special master. (Tr. 1883:11-25; Johnson Demonstrative 8, LDTX314.)[20] 8% of the population was added by the special master to the new district, and 9% was removed from the district, for a total change in population of 17%. (Tr. 1883:18-23; Johnson Demonstrative 8, LDTX314.)

[20] The Court initially accepted Legislative Defendants' offer of proof of Dr. Johnson's testimony on these Chen D5 and D6 after sustaining the plaintiffs' objection. (Tr. 1183:4-10.) After taking the testimony under further advisement, the Court accepted into evidence certain data displayed in Johnson Demonstrative 8, LDTX314. (Tr. 1969:4-1970:11.)

701. Dr. Johnson also calculated the population in Senate District 27 that was moved in and out of the district by the special master. (Tr. 1884:1-9; Johnson Demonstrative 8, LDTX314.) 23% of population was added by the special master to the new district, and 26% percent of the population was removed by the special master, for a total change in population of 49%. (Tr. 1884:7-9; Johnson Demonstrative 8, LDTX314.)

702. Dr. Johnson disagreed with Dr. Chen's characterization that the changes to the boundaries of House District 59 and Senate District 27 were "small." (Tr. 1896:9-15.) The Court accepts Dr. Johnson's conclusions as credible.

703. Dr. Johnson had already noticed and was analyzing the error in the original Chen D5 and D6 exhibits before receiving the updated versions of Chen D5 and D6 that plaintiffs' counsel represented affected only a "speck" of land. (Tr. 1894:17-1885:11). Almost 7,000 people in total were affected by Dr. Chen's error in the initial Chen D5 and D6 exhibits—2,400 in the House map and over 4,000 in the Senate map. (Tr. 1895:12-17; Johnson Demonstrative 8, LDTX314.)

(4) Dr. Michael Barber

704. Dr. 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.) Dr. Barber's Ph.D. dissertation received an award for the best dissertation in legislative politics in 2015 by the Legislative Studies Association of the American Political Science Association. (Tr. 2107:14–20.)

705. Dr. Barber currently is 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, 2112:5–22.) He is on tenure track, with his portfolio to be evaluated this upcoming academic year. (Tr. 2109:19–23.)

706. 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.)

707. 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. 2113:0–2114:6.)

708. Dr. Barber has published eleven (11) peer-reviewed articles involving American Politics, with an addition five (5) articles being accepted for publication but having yet to have been published. (Tr. 2111:22–2112:4, 2113:6–9; ID Ex. 98 pp.1–2.) Many of these articles involve ideology and partisanship, the geography of voters, and the analysis of election results. (Tr. 211:24–2112:4.)

709. Dr. Barber was admitted by the Court as an expert in this case in American politics, and specifically on the topics of ideology and partisanship, geography of voters, and the analysis of elections results. (Tr. 2118:2–13.)

a. The Scope of Dr. Barber's Analysis

710. Dr. Barber was retained by counsel for the Intervenor-Defendants in order to evaluate and comment on the expert report initially submitted by Dr. Christopher Cooper. (Tr. 2118:15–22.)

711. Dr. Barber offered an expert opinion identifying a number of flaws the conclusions reached by Dr. Cooper in this case. (ID Ex. 99.) Dr. Barber provided testimony regarding his opinions; see the afternoon transcript of July 25, 2019 (Volume IX), and morning transcript of July 26, 2019 (Volume X), for Dr. Barber's direct, cross, and redirect examinations.

712. Dr. Barber did not need specialized experience in North Carolina-specific politics to offer his opinions in this case, as the data and analysis he offered in this case were very similar to the types of data, analyses, and inferences drawn by him in other research. (Tr. 2117:14–23.)

b. Dr. Cooper's Conclusion that the Ideology of the North Carolina General Assembly Does Not Match the Ideology of the North Carolina Electorate is Based on Flawed Data

713. In his report, Dr. Cooper states that the 2017 Map district lines "create partisan outcomes that are at odds with the wishes of the voters," and concludes that "[t]hese district lines represent a partisan gerrymander." (PX0253 at p.103.)

714. Dr. Barber's testimony showed that this conclusion was not only based on flawed data, but that there are other reasons for the distribution of Republican voters being done "more efficiently," than Democrat voters in the 2017 Plan. (Tr. 2121:2–15.)

715. In order to reach his conclusion that the ideology of the North Carolina General Assembly did not match the ideology of the North Carolina electorate, Dr. Cooper testified that the North Carolina electorate is, in the aggregate, ideologically moderate (Tr. 864:1–866:16.), that the North Carolina General Assembly is ideologically quite conservative (Tr. 874:7–876:11.), and as a result the ideological leaning of North Carolina is not reflected by the General Assembly. (Tr. 862:17–24; *see also* Tr. 2137:1–23.)

716. Dr. Barber testified that each step of Dr. Cooper's analysis was flawed. (Tr. 2138:1–21.)

717. With regard to Dr. Cooper's opinion that the North Carolina electorate is, on the aggregate, moderate, Dr. Barber reviewed the Berry et al. dataset relied on by Dr. Cooper in his report, and found it to be inapplicable because that dataset used the votes of state legislators as proxies for the ideology of that respective state's citizens. (Tr. 2139:6–21.) As stated by Dr. Barber:

> The problem is that in his report, Dr. Cooper makes the argument that there is a [dis]connect [sic] between the legislature and the electorate, which by that argument, you shouldn't then use a dataset of legislative behavior to draw conclusions about the electorate. It's either one or the another. And so in that way, I just believe that that dataset is not suited to make any sort of claims about the composition of the electorate.

(Tr. 2139:22–2140:4.)

718. Dr. Cooper's opinion regarding the supposed moderation of the North Carolina electorate also relied on a dataset from Warshaw and Tausanovitch consisting of a collection of public opinion survey responses, obtained on a national basis, which were aggregated at a high level in order to come to the conclusions reached by Dr. Cooper. (Tr. 2140:5–13.) Dr. Barber testified that Warshaw and Tausanovitch took a large number of survey responses about different political topics and aggregated them together to create an average ideology score of the State overall. (Tr. 2140:13–17.) Dr. Barber testified that the problem with aggregating these responses is that you cannot draw any conclusions of what the ideology score actually means; i.e. it could be a result of most of North Carolina's voters being politically moderate on all the issues in the study, or it could mean that "voters are very conservative on some issues and very liberal on another set of issues that when averaged together produce a score of moderation." (Tr. 2140:17–2141:3.) Dr. Barber testified that there is a lot of political science research suggesting that most voters "hold a grab bag of ideological views; some conservative, some liberal." (Tr. 2141:5–7.) He stated that:

> I think if people are -- people are mixed. People have a variety of views over policy, and some of those are conservative and some of those are liberal. Even people who identify with a political party also hold a variety of political [views] [sic]. So people who identify as being Democrats often have a mixture of conservative and liberal views; voters who identify as Republicans, it's the same way. They often have a variety of views both in the conservative and the liberal direction.

(Tr. 2142:3–11). When a study combines those views in an average score, the study gets a score that looks more moderate than the voter may actually be. (Tr. 2141:7–8.)

719. Dr. Barber noted that all the Warshaw and Tausanovitch data really says is that the views of their constituents are mixed; thus, if members of the General Assembly used that data, it would tell them "nothing about on which issues [their] constituents would want [them] to vote" in a conservative or liberal way. (Tr. 2141:9–15.) Thus, the Warshaw and Tausanovitch data does not allow Dr. Cooper to draw the conclusion that the General Assembly member is not voting with the majority of his or her constituents. (Tr. 2141:15–21.) Indeed, in order to come to those conclusions, Warshaw and Tausanovitch (or some other source) would need to have district-specific information, which would allow for an analysis of whether each different member of the General Assembly matched the ideological leanings of the majority of the voters in her or his district. (Tr. 2234:21–2235:15.) Dr. Cooper did not do that analysis. (Tr. 2234:24–2235:3.)

720. Regarding Dr. Cooper's opinions on the General Assembly's moderation (or lack thereof), Dr. Barber testified that Dr. Cooper's opinion that the General Assembly has been historically moderate is not accurate. (Tr. 2160:12–2161:3.) As shown in ID Ex. 1, Democrats historically controlled majorities in the Generally Assembly with one or two limited exceptions until 2010, and that there was "a very long and persistent trend that has been occurring over the last 50 or 60 years" in which the General Assembly has "been moving from near unanimous control by the Democratic Party . . . towards [a] stronger or larger majority for the Republican Party." (Tr. 2143:4–2144:9.)

721. Dr. Barber concluded that "we can't, with what data is in front of us, draw conclusions about how well or how close or far the gap is between the electorate and the legislature." (Tr. 2194:9–12.)

c. The Seats-Votes Difference Cited by Dr. Cooper is Not a New Phenomenon in North Carolina Politics

722. Dr. Barber analyzed the concerns raised by Dr. Cooper in his report that in 2018 the Democrats received more than 50% of the statewide two-party vote for both houses of the General Assembly, but did not win majorities in either house. (Tr. 2145:7–12.) Dr. Barber referred to these types of concerns as the "seats-votes ratio" which he described as,

> [A] term we use in political science that simply talks about the translation of votes across a large geographic area into individual legislative seats, and that's -- you can use that term any time you are talking about a legislative body that's divided up into multiple districts. You can talk about that in terms of Congress in looking nationally, but you can also talk about that at a state level. And what you are doing is you're saying, well, let's look at the number of votes or the proportion of the votes that are won across the entire state by a particular party, and then let's look at the proportion of seats that are earned by that same party. And in many cases, those numbers aren't exactly the same and that's because in legislative bodies we divide the area up into various districts and the votes in each of those districts may not necessarily be the same across all of the districts.

(Tr. 2146:3–18.)

723. Dr. Barber testified that, historically, the seats-votes ratio rarely matches in North Carolina. (Tr. 2149:13-20.) He found that, in the recent history of the state's legislative elections, there were seven different elections in which one party won a majority of the statewide two-party vote but failed to win a corresponding majority of the seats in that house of the General Assembly. (Tr. 2150:1–15.) These elections were: 2000 House; 2002 Senate; 2004 House; 2004 Senate; 2006 House; 2018 House; 2018 Senate. (Tr. 2150:8–2151:3.) In all of these elections other than the 2018 Senate and House elections, the Democrats kept control of the General Assembly despite not winning a majority of the statewide vote. (*Id.*)

724. Dr. Barber testified that this information indicates that the 2018 election results are not the type of outlier Dr. Cooper suggests they are, and that this shows that "statewide votes don't always translate to a perfect mirror image of seats in the legislature." (Tr. 2169:5–13.)

d. Political Geography Also Explains the Seats-Votes Ratio Difference

725. Dr. Barber testified that he was aware of other explanations for the 2018 seats-votes ratio besides the allegations of partisan gerrymandering raised by Plaintiffs. (Tr. 2151:20–2152:14.)

726. Dr. Barber testified that a 2013 article in the Quarterly Journal of Political Science titled "Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures" by Dr. Jowei Chen and Dr. Jonathan Roden (the "Article") (LDTX 154) concluded that in many states Democrats are inefficiently concentrated in large cities and smaller industrial agglomerations such that they can expect to win fewer than 50 percent of the seats when they win 50 percent of the vote and that the Article did not analyze whether Dr. Chen and Dr. Rodden's conclusion applied to North Carolina. (Tr. 2152:15–2154:2.) Dr. Barber testified that, while he was not able to replicate everything in the Article, he "was specifically interested in the statement that they make about Democrats are inefficiently concentrated in large cities and smaller industrial agglomerations." (Tr. 2151:13–18). So Dr. Barber looked "to see if it is indeed the case that in North Carolina that places that are more densely populated also tend to be more supportive of Democratic candidates in the state." (*Id.*)

727. To test whether Democrats are inefficiently concentrated in large cities and smaller industrial agglomerations in North Carolina, Dr. Barber focused on two variables: "[t]he first is a measure of population density, and the second is a measure of partisan support." (Tr. 2154:23–24.)

728. Dr. Barber measured population density in North Carolina at both the VTD and the county level by obtaining information from the United States Census Bureau about the geographic boundaries and area of each VTD and county and then obtaining information about the registered voter population of each county by geolocating voters listed in the statewide

voterfile maintained by the North Carolina State Board of Elections. (Tr. 2155:3–19.) Dr. Barber created ID Ex. 7, which is a map showing the population density of North Carolina VTDs. (Tr. 2155:22–2156:8.) Dr. Barber drew two conclusions from ID Ex. 7: (1) much of the state is sparsely populated, and (2) the most densely populated VTDs "tend to be in the urban areas of the state." (Tr. 2156:9–23.)

729. Dr. Barber similarly created ID Ex. 8, which is a map showing the population density of North Carolina counties. (Tr. 2157:5–10; ID Ex. 8.) Dr. Barber created ID Ex. 8 to see if the patterns of population density observed in the VTD level map (ID Ex. 7) hold at the county level, and because it is informative due to North Carolina's whole county provisions. (Tr. 2158:3-12.)

730. In order to test partisan support for the same VTD and county geographic units for which Dr. Barber had measured population density of registered voters, Dr. Barber created an index of partisan support from information from the North Carolina State Board of Elections to measure the tendency of VTDs or counties to vote for Democratic candidates (Tr. 2158:13–24.)

731. Dr. Barber used the results from four statewide races in North Carolina to create his partisan index: (1) 2014 federal Senate, (2) 2012 Governor; (3) 2012 Lieutenant Governor; and (4) 2012 Secretary of State. (Tr. 2159:9–15.) To create the index,

> [Dr. Barber] simply took the average of the four elections, which means that the scale ranges from zero to 1. A value of zero would indicate a VTD or a county that unanimously supported Republican candidates. A value of 1 would indicate a VTD or county that unanimously supported all of the Democratic candidates in this measure. No VTD or county has a value of zero or 1. But it is the case that the VTDs do span a pretty big portion of the scale. There's some very strongly Republican VTDs in the state, unsurprisingly, and there's unsurprisingly some very strongly Democratic VTDs in the state as well.

(Tr. 2160:21–2161:6.)

732. Dr. Barber used the results to create ID Ex. 9, which maps out the information from the partisan index on a VTD level. (Tr. 2161:14–21.) ID Ex. 9 does not reflect any information about population density, but instead just indicates the results of the partisan index analysis. (Tr. 2162:7–12.)

733. Dr. Barber then analyzed the relationship between population density and average partisan support on both the VTD and the county levels. (Tr. 2162:18–2163:22.) He found that, at both the VTD and county levels, "we expect on average, as population density increases, support for Democratic candidates also tends to increase." (Tr. 2163:19-22.) Dr. Barber also performed a regression analysis to analyze the correlation between population density and support for Democratic candidates, and found that "for ever[y] increase in 1,000 people per square mile, we would expect to observe a 6.8 percentage point increase in an average Democratic support in the county[]" and, similarly, a 9 percentage point increase in average Democratic support for every increase in 1,000 people per square mile in VTDs. (Tr. 2164:4–24.)

734. As a result, Dr. Barber concluded that in North Carolina, "population density and the Democratic support for candidates are positively correlated with one another." (Tr. 2165:6–7.) Furthermore, Dr. Barber agreed with testimony given by Representative Graig Meyer regarding the concentration of Democratic voters in urban areas, stating that "my analysis shows that it is indeed the case that Democratic voters tend to be more strongly clustered in the urban and . . . more densely populated portions of the state." (Tr. 2166:1–25.)

(5) Dr. M.V. Hood III

a. Dr. Hood's Background

735. Dr. M.V. Hood, III 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. 2032:14-29.)

736. 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.)

737. Dr. Hood teaches courses in American politics and policy, Southern politics, research methods and election administration, including redistricting. (Tr. 2033:20-2034:9.)

738. Dr. Hood also conducts research on and has published articles in peer-reviewed journals on topics that include redistricting. (Tr. 2034:10-18.) Dr. Hood's work as 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.)

739. Dr. Hood has been accepted as an expert in approximately 20 cases, including at last six redistricting matters prior to this one, and three cases in North Carolina. (Tr. 2036:1-22.) Dr. Hood has testified on behalf of redistricting plans that were enacted by both Republicans and Democrats. (Tr. 2036:23-2037:1.)

740. 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.)

b. Dr. Hood's Analysis of the 2017 Plans

741. Redistricting of North Carolina's state legislative districts is a "fairly formulaic process" because of the whole county provision, county grouping criteria, and limitations on county traversals found in the North Carolina Constitution. (Tr. 2038:4-2039:2.) On top of that, the General Assembly adopted additional criteria that included equalizing populations, reducing

VTD splits, contiguity, increasing compactness, respecting municipal boundaries, and protecting incumbents. (Tr. 2039:3-12.) All of these factors limited the discretion of the map drawers with respect to the 2017 plans. (Tr. 2039:9-12.)

742. In accordance with the adopted criteria, the 2017 plans split fewer VTDs than the 2011 plans: 15% of VTDs were split in the 2011 plan as compared with 1.8% in the 2017 plan for the House and 9.5% of VTDs were split in the 2011 plan as compared with 0.2% in the 2017 plan for the Senate. (Tr. 2040:3-2041:9; LDTX 121.) Among the remaining split VTDs in the 2017 plans, in the House, half were in county groupings that were carried over and not redrawn from the 2011 plans and, in the Senate, three of the five remaining split VTDs were in county groupings that were redrawn and carried over from the 2011 plans. (Tr. 2041:25-2042:16; LDTX 122.)

743. In accordance with the adopted criteria, the 2017 plans were more compact that the 2011 plans as both the average Roeck score and the average Polsby-Popper score increased in both the House and Senate maps. (Tr. 2042:23-2044:8; LDTX 123-124.) In addition, all of the districts in the 2017 plans met the minimum Reock and Polsby-Popper compactness criteria in the adopted criteria. (Tr. 2042:9-18; LDTX 123-124.)

c. Dr. Hood's Analysis of the Performance of the 2017 Plans in the 2018 General Election and the Reliability of Partisan Vote Indices to Predict Election Results

744. In accordance with the adopted criteria, the 2017 left 96.7 percent of incumbents in the House unpaired and 84 percent of incumbents in the Senate unpaired. (Tr. 2044:21-2045:25; LDTX 125.) Although additional incumbents were paired in the maps used in the 2018 elections, those incumbent pairings were due to changes made by the special master in the Covington case and not decisions of the General Assembly. (Tr. 2046:1-6.)

745. Dr. Hood analyzed the 2018 election results by comparing the results in the districts specifically challenged by Plaintiffs (the "Challenged Districts") to the results in those districts

that were not specifically challenged by the Plaintiffs (the "Non-Challenged Districts") in the Amended Complaint. (Tr. 2047:15-2049:7; LDTX 126-127.) Republicans won 49.4 percent of the Challenged Districts in the House and 43.4 percent of the Challenged Districts in the Senate in 2018. (Tr. 2047:15-2049:1; LDTX 126-127.) Among the Non-Challenged Districts, Republicans won 65.8 percent in the House and 70.4 percent in the Senate. (Tr. 2049:4-7; LDTX 126-127.)

746. Dr. Hood created a partisan vote index ("PVI") using the 25 contested statewide elections that occurred between 2008 and 2016 to analyze the districts in the 2017 plans and compared the results under his PVI to the results under the 2018 elections. (Tr. 2049:8-2051:14, LDTX 128-129.) This comparison showed that, in 2018, Democrats were able to win all seats that were categorized as "strong Democrat" under the PVI and also won 60 percent of seats that were categorized as "competitive but Democratic leaning," and 15 percent on seats categorized as "strong Republican" under the PVI in the House. (Tr. 2049:8-2050:17; LDTX 128.) In the Senate, Democrats also won 100 percent of seats categorized as "strong Democrat" under the PVI, a third of "competitive but Republican leaning seats," and 20 percent of the "strong Republican" seats. (Tr. 2050:18-25; LDTX 129.) These results show that Democrats were able to pick up both "competitive" districts and make inroads in districts that were categorized as "solid Republican" under the plans. (Tr. 2051:1-5.)

747. PVIs can accurately predict election results in some cases and miss the mark in others. Dr. Hood provided examples of how some of the predictions made by Dr. Chen using a PVI did not come to fruition. (Tr. 2064:2052:19-2053:8). In his distribution, Dr. Chen predicted that Democrats would have won 42 seats in the House using his PVI, however, in reality, Democrats won 55 seats in the 2018 general election. (Tr. 2053:6-8.) Dr. Chen's prediction was so far removed from reality that it would not have even appears in the chart in Dr. Chen's report.

(Tr. 2055:5-9; PTX 27.) Similarly, Dr. Chen predicted that Democrats would win only 18 seats using his PVI but Democrats instead won 21 seats in the Senate in the 2018 general election. (Tr. 2055:25-2056:14; PTX 28.)

748. Even if the predictions made by Dr. Chen using his PVI were accurate, there was no scenario under which Democrats received a majority of seats in either chamber of the General Assembly under the purportedly non-partisan simulated maps drawn by Dr. Chen. (Tr. 2056:15-19; PTX 27-28.)

749. Although Plaintiffs contend in the Amended Complaint that the 2017 Plans deny Democratic voters "their fundamental 'right to 'vote on equal terms' with 'equal voting power'" and "an equal opportunity to translate their votes into representation," (Am Compl. ¶¶ 204, 210), Dr. Hood prepared a seats-to-votes calculation demonstrating that, in the Challenged Districts, Democratic voters were able to translate their votes to seats at roughly the same rate as Republican voters. In the House, Republican voters translated their seats to votes at a ratio of 1.06 and, in the Senate, Republican voters translated their seats to votes at a ratio of .99 in the Challenged Districts. (Tr. 2056:22-2070:15: LDTX 130.) A ratio of 1.0 means that a party's seats and votes exactly match. (Tr. 2057:10-16.) It is only in the Non-Challenged Districts that Democratic voters are translating their seats to votes at a rate lower than Republicans. In the Non-Challenged Districts, Republican voters translated their seats to votes at a ratio of 1.23 in the House and at a ratio of 1.29 in the Senate. (Tr. 2058:2-15.) This resulted in a statewide average of 1.11 in the House and 1.17 in the Senate. (Tr. 2057:17-2058:15.)

d. North Carolina's Political Geography

750. Dr. Hood also analyzed North Carolina's political geography and found that Democrats were concentrated, to a large extent, in urban areas like Charlotte, Raleigh, and Durham and in the Northeastern coastal plain region. (Tr. 2059:21-2060:9; LDTX 131,136.) To illustrate

this point further, Dr. Hood used a PVI with results from the 2016 elections which demonstrated that 77 percent of the state was comprised of Republican-leaning VTDs while 23 percent of the state's VTDs leaned Democratic. (Tr. 2061:10-19.) Dr. Hood also ran regression models that show that, with the exception of the rural Northeastern Coastal Plain region, Democratic voters are most concentrated in urban areas of North Carolina. (Tr. 2063:19-2064:9; LDTX 133, 138.)

751. The fact that Democratic voters are concentrated in North Carolina's urban counties is further demonstrated by an analysis of the statewide vote for the North Carolina General Assembly that excludes North Carolina's six largest counties. Statewide, Democrats received 50.6 % of the votes cast for State Senate in the 2018 General Election while Republicans received 49.4 % of the statewide vote. (Tr. 2065:12-24; 2066:11-2067:5; LDTX 140-1.) In the House, Democrats received 51.2% of the statewide vote while Republicans received 48.8% in 2018. (*Id*.) When the two largest counties, Wake and Mecklenburg, are removed, the percentage of the vote Democratic candidates for the General Assembly receive drops to 46.6% in the Senate and 47.2% in the House. (Tr. 2065:25-2066:2; 2067:10-2068:9; LDTX 140-1.) When the six largest counties, Wake, Mecklenburg, Forsyth, Guilford, Durham, and Cumberland, are removed, the percentage of the vote Democratic candidates for the General Assembly receive drops to 42.3% in the Senate and 43.1% in the House. (*Id*.)

752. The concentration of Democratic voters in North Carolina's urban areas is further illustrated by a review of election results from 2018 that show how Democrats were able to translate the votes they received into seats at a higher rate that Republicans in North Carolina's urban counties. In the Wake and Mecklenburg County House groupings, Republicans got 0% of the seats despite getting 36.7% of the vote in Wake County and 32.2% of the vote in Mecklenburg County. (Tr. 2068:10-2069:13; LDTX 140-2.) In the Senate county groupings that include Wake

and Mecklenburg counties, Republicans received 37.5% and 34.2% of the vote respectively but won only 20% of the available seats in those county groupings. (*Id*.)

753. Democratic incumbents fared better under the 2017 plans than Republican incumbents although incumbents of both political parties we re-elected at a high rate. In the House, 94.3% of Democratic incumbents were re-elected as were 87.5% of Republican incumbents. (Tr. 2070:5-24; LDTX 134.) In the Senate, 100 % of Democratic incumbents were re-elected as were 75.9% of Republican incumbents. (Tr. 2070:25-2071:5; LDTX 135.) In the House, Democrats won more "open" seats at a rate of 66.7 % while Republicans won 85.7% of "open" seats in the Senate. (Tr. 2070:5-2071:5; LDTX 134-135.)

e. Dr. Hood's Analysis of the Support Scores Produced by the NCDP

754. Dr. Hood also analyzed support scores produced by the NCDP. Those support scores showed that the 2017 plans are competitive, with roughly equal numbers of "strong" Democratic and Republican districts: 46 "strong" seats for each party in the House; 16 "strong" Democratic seats in the Senate; and 17 "strong" Republican seats. (Tr. 2071:24-2072:4; 2072:15-2074:22; LDTX146-147.) Dr. Hood also determined that the support scores showed there were enough "competitive" districts to allow either party to win a majority in both chambers of the General Assembly with a total of 17 "competitive" seats in the House and 29 "competitive" seats in the Senate. (*Id.)* When the "competitive" seats are added to the seats classified by Dr. Hood as "strong" for either party, Democrats can win supermajorities in either the House or the Senate under the 2017 plans because Democrats could win as many as 75 seats in the House if they won all "strong" Democratic districts and all "competitive" districts and 33 seats in the Senate of the won all "strong" Democratic districts and all "competitive" districts. Dr. Hood's analysis is consistent with the fact that there were multiple instances where Democrats won legislative

districts in the 2018 general election where the average support score in a district was under 50, including House Districts 35, 36, 37, 103, and 119. (LDTX 146).

755. A comparison of Dr. Hood's classification of the "support" scores with the 2018 election results shows that these classifications closely tracked the actual election results. Both Republican and Democratic candidates all won 100% of the seats classified by Dr. Hood as either "Strong Republican" or "Strong Democrat." (Tr. 2074:25-2076:1; LDTX 145.) In addition, Democratic candidates won 62.5% of all seats classified as "Competitive Democrat" in the House and 71.4% of all seats classified as "Competitive Democrat" in the Senate. (*Id.*) Likewise, Republicans won 76.2% of all seats classified as "Competitive Republican" in the House and 100% of all seats classified as "Competitive Republican" in the Senate. (*Id.*)

(6) Dr. Karen L. Owen

756. Dr. Karen L. Owen is a political scientist and submitted an expert report in this case analyzing and undercutting Plaintiffs' claims that they lack representation in the General Assembly and that North Carolina's State House and Senate elections are not competitive. (LDTX293.)

a. Dr. Owen is an expert in political science

757. Dr. Owen is an expert in political science including in the areas of southern politics, political representation, legislative politics, campaigns and elections and research methodology, having developed her expertise through both academic and professional work. (Tr. 1481:18-22; 1483:16-24; Tr. 1484:2-1485:2; Tr. 1485:3-24; Tr. 1486:4-11; LDTX293 at 1-2, 28-34.) The Court accepted her testimony as an expert. (Tr. 1487:24-1488:1.)

758. 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, she was a teaching assistant under

the direction of Dr. Charles S. Bullock, III, a renowned expert in southern politics, including for two courses in southern politics. (Tr. 1480:15-1481:4.)

759. Dr. Owen's work in southern politics has included a focus on politics in North Carolina including teaching, studying, researching, and writing and presenting papers about it including in a 2016 paper titled "Growth and Geography in the South: Representation in the North Carolina and Texas State Legislatures." (Tr. 1481:5-11; LDTX293-31.)

760. Plaintiffs challenged Dr. Owen's credentials at trial but, unlike Dr. Owen, Plaintiffs' only political science expert witness, Dr. Cooper, is only an academic with no actual work experience within state or federal legislatures. (PTX0254.)

761. For her work in this case, Dr. Owen studied whether North Carolina residents are "represented" by members of the General Assembly, and she analyzed competitive elections in the State House and Senate races in North Carolina in 2018. (Tr. 1488:3-22.)

b. North Carolina residents are represented by members of the General Assembly regardless of political affiliation.

762. Dr. Owen analyzed different aspects of representation in North Carolina. She conducted her review in order to address Plaintiffs' allegation that residents in North Carolina were not represented or were only partially represented when their candidates of choice did not win election. (Tr. 1488:23-1491:6.) Dr. Owen analyzed Plaintiffs' claims that they had been "egregiously" harmed by this purported lack of representation. (LDTX293-4.)

763. Dr. Owen recognizes that some voters will always feel that "their respective representative does not descriptively mirror them or substantively act for their partisan preferences and interests," but that is a limitation of our political system of representative democracy. (LDTX293-26.) "We are not entitled in this constitutional democratic republic for our preferences to always be secured and rule." (LDTX293-26.) Dr. Owen shows in her report that residents of

North Carolina are being represented in the General Assembly through descriptive representation, substantive representation and by the "ombudsmen" or constituency services roles of their members.

764. First, Dr. Owen distinguished between descriptive and substantive representation. (Tr. 1491:9-10.) Political science literature finds meaningful representation where members of a political body descriptively mirror, or share similar demographic characteristics with, the people they represent. (Tr. 1489:15-1490:11; 1491:7-22; LDTX293 at 18-20.) "Having a representative resemble a constituent's personal characteristic or characteristics is meaningful for legitimacy and trust in governmental institutions." (LDTX293-20.)

765. Dr. Owen made clear that there will always be limitations in descriptive representation; "selecting a representative from one single-member district for the legislature and even for the executive, we cannot guarantee nor are we entitled to have representatives just like us in these institutions. Our descriptive representation does not necessarily come from the member elected from our personal electoral district." (LDTX293-20.)

766. However, Dr. Owen concluded that descriptive representation exists in the North Carolina General Assembly. She reviewed the demographic characteristics of members of the General Assembly to assess whether they represent "the age of the population, gender of the population, racial components of the population." (Tr. 1489:15-1490:11; Tr. 1523:21-1526:5; LDTX166; LDTX294; LDTX295.) That type of "descriptive" representation would allow the General Assembly to be "representative of the people because it mirrors the people. It would be descriptively like them. It would be standing for them." (*Id*.)

767. Dr. Owen determined that "racial and ethnic representation continues to increase in North Carolina," and more African American members and female members were being elected

to the body. (Tr. 1492:18-1493:1; LDTX293 at 19-20.) She noted religious diversity mirroring and professional diversity, as well as professional diversity. (*Id.*) She found that this "diversity in the legislative membership does cross partisan identification; Democrats and Republicans are not monolithic of one people but include the state's differing groups." (LDTX293-20.)

768. Dr. Owen also analyzed substantive representation in the North Carolina General Assembly, which relates to how the representatives stand for their constituents; are the members representing the policy preferences and ideology or some particular issue that the voters want. (Tr. 1490:12-17.) As part of her analysis, Dr. Owen reviewed the 2017-2018 regular legislative session and found that the

> state's 170 elected officials represented constituents through bill sponsorship, amendments, committee votes, and floor action on major policy issues, including adoption and juvenile legal changes for families, preventative and enforcement measures for the heroin and opioid crisis and human trafficking, teacher pay raises and capital fund grants for public education, rural healthcare access, and the alcohol beverage control.

(LDTX293 at 23-24.)

769. Dr. Owen found that the legislature "passed 425 legislative measures, including policy bills and resolutions. Of the considered legislation during the 2017-2018 regular and special sessions, 360 bills became laws." (LDTX293-24; LDTX165.) She noted that Republicans and Democrats "overwhelmingly supported these final session laws." (Id.) Of the 360 bills, "the state House approved 72.5 percent with bipartisan support, and in the state Senate, over 69 percent of these legislative bills passed with both parties strongly favoring (*i.e.*, this bipartisanship includes a majority of the minority party caucus voting for final passage)." (*Id.*)

770. Dr. Owen found that North Carolina Republicans and Democrats, members and constituents alike, agreed on policy priorities like improving public education and responding to environmental catastrophes, but differed in details about how best to address those priorities.

(LDTX293 at 23-26.) For example, both parties support school districts reducing the maximum class sizes for school grades kindergarten through third grade because it gives younger students better outcomes. (LDTX293-24.) North Carolina lawmakers in 2016 passed legislation requiring this policy but differ on how best to implement and fund what is an expensive fix for some local districts. Similarly, North Carolina lawmakers agreed in 2013 to raise teacher pay but "have different ideas on how to do it." (LDTX293-24.) Following Hurricane Florence in September 2018, the North Carolina General Assembly, on a bipartisan basis, set aside more than $800 million for disaster relief and rebuilding. (LDTX293-25.) Following an environmental disaster in Cape Fear River involving serious chemical pollution, the General Assembly included in the 2018 appropriations act funds and state support to address environmental pollutants, which some critics found inadequate. (*Id*.) In sum, Dr. Owen found that policy priorities were shared by members and constituents, regardless of political affiliation, and those priorities were being addressed but everyone did not always agree on how. (LDTX293 at 23-26.)

771. As noted by Dr. Owen, however, citing to political literature including founding political doctrine in the Federalist Papers, "No constituent, citizen, resident or voter has a guarantee that his or her preference will be completely represented by the district's elected official or any elected official. Constituents are not entitled to have all their ideas and preferences represented by one person, by one party, by either or both parties, or by the government institutions." (LDTX293 at 25-26.)

772. Dr. Owen explained that there is variation in each political party and Republicans do not always agree with Republicans, and the same for Democratic members of the General Assembly. (Tr. 1527:12-1528:12.) "There's no one ideology within one party." (Tr. 1527:19.) She saw variation within North Carolina both within each political party and across the geographic

span of the state. (Tr. 1529:3-1530:20.) "But just one member of one party may not align perfectly with all your values but that within the legislature there should be people who are representing your preferences." (Tr. 1529:10-13.)

773. To round out her review of representation in the North Carolina General Assembly, Dr. Owen analyzed the important "ombudsmen" role of North Carolina legislators. (Tr. 1512:22-1524:18; LDTX293-24.) This ombudsmen role includes servicing what legislatures refer to as "casework," or work on specific, and individual problems that constituents face and members can help resolve. (Tr. 1513:22-1514:3.) If a constituent, say, was trying to get their state pension check paid, they could turn to their member for help. (Tr. 1519:24-1520:2.) This role also involves communicating with constituents on policy concerns and the work that the member is doing on behalf of the district. (Tr. 1514:4-18.)

774. Casework is no small part of a member's job and Dr. Owen testified about the interest that members have in getting this part of their job right: not only do they have an obligation to represent their constituents and provide oversight to government agencies but each individual member has a vested interest in servicing their constituents so as not to alienate them, get a bad reputation, and lose votes. (Tr. 1516:24-1520:2.) She testified that "members of any legislative body, they want their work to matter and to count, because they're banking on trying to run for re-elections and get re-elected and they need those votes." (Tr. 1519:14-17.) Dr. Owen had never seen, in her experience or in her review of North Carolina for this case, a situation where a legislative member denied casework services to a constituent based on their political affiliation. (Tr. 1519:18-23.)

775. Dr. Owen interviewed an officer in the North Carolina General Assembly's Legislative Services office, and reviewed the existing services offered by the legislative body to its members in order to support constituency services. (Tr. 1512:22-1524:18; LDTX293-24.)

776. Dr. Owen reported that members of the North Carolina General Assembly are each assigned a legislative assistant to help resolve constituent casework, and to help communicate with constituents. (Tr. 1513:4-15.) The North Carolina General Assembly provides additional assistance to members through the legislative division to help members share with constituents how their concerns are being addressed through legislation. (Tr. 1513:16-21.)

777. An organizational chart for the staff of the North Carolina General Assembly illustrates the levels of support provided to Assembly members, including the Legislative Services Commission, professional staff, and different divisions to help members with research requests, constituent inquiries, legal counseling, and drafting legislation, among other things. (Tr. 1520:5-1521:11; LDTX163.) Dr. Owen testified that her review showed that the North Carolina General Assembly has positioned itself as a public servant to the people of North Carolina; it is servicing its constituents with, among other things, professional staff, resources and infrastructure in place to ensure constituent needs are met. (Tr. 1521:12-1522:15.)

778. Dr. Owen concluded that Democratic voters in districts represented by Republican members are represented in the North Carolina General Assembly because, first, they have someone from their locality who understands their community of interest speaking on their behalf in the legislative chamber. (Tr. 1530:21-1531:21.) Second, they have a member, with complete professional support and resources, and with a vested interests in meeting their constituents' needs. (*Id*.)

c. Voters in North Carolina select from a diversified pool of candidates in legislative elections and candidate quality drives electoral results.

779. Dr. Owen analyzed electoral contests and candidate quality in North Carolina's 2018 elections to the General Assembly. (LDTX293 at 6-17.)

780. None of Plaintiffs' experts addressed the quality of candidates running in these electoral contests. (*See, e.g.*, PTX0254, report of Dr. Cooper addressing the shape of districts but not the quality of candidates for election.) Indeed, most of Plaintiffs' experts—Drs. Chen, Mattingly and Cooper—did not even analyze the 2018 elections, which were the only elections conducted under the challenged plan.

781. Dr. Owen reviewed "state House and state Senate elections in 2018 to determine which elections were competitive. And to determine if in these competitive elections, whatever districts they were in, if either party can win that contest." (Tr. 1532:12-16.)

782. Dr. Owen applied a standard political science definition of competitive election: any election that was within a ten point voting range between the top two candidates (i.e., between 45% and 55% voting share for the top two candidates). (Tr. 1532:20-1533:4.) She reviewed these competitive elections to determine whether one candidate of either party could have won the race. (Id.)

783. Dr. Owen's analysis was conducted in response to the allegation by Plaintiffs that the challenged districts were drawn in manner that is "rigged to predetermine electoral outcomes and guarantee one party control of the legislature." (LDTX293-6.)

784. Dr. Owen found that "electoral competition and successes for either party in North Carolina during 2018 depended upon numerous distinctive and yet interconnected variables" including candidate quality, incumbency advantage (or disadvantage in some cases), local and

national issues dominating public thought, strategic decisions by political parties and their allies about where to spend resources, among other things. (LDTX293 at 6-7.)

785. Dr. Owen reviewed the issue of candidate quality and defined quality based on how others in the political science field have defined it: whether the candidate had ever held a position in elected office before. (Tr. 1533:5-21.) She also considered the type of attention the candidate was receiving in the community, based on news reports from the time, including any negative attention from public scandals. (Tr. 1533:22-1534:2.)

786. In North Carolina House races in 2018, 119 of the 120 districts involved electoral competition (one member ran unopposed), and of those 119 there were 25 races where the vote margin was within the ten-point range of 45 to 55%. (LDTX293-9.) Personal candidate features, resources, and contextual dynamics influenced these electoral outcomes. (*Id*.)

787. Three of these races for district seats 1, 21, and 25 involved an open seat contest and Democrats were able to capitalize and win two of these races: District seats 21 and 25. (LDTX293-9.) The remaining twenty-two contests involved eighteen Democrat challengers trying to unseat a Republican incumbent as well as four Republicans seeking to defeat a Democratic incumbent. (*Id*.) Thirteen incumbents, including nine Republicans and all four Democrats, retained their seats. (*Id*.) This is a success rate of 59 percent for incumbents which is far less than the 90 percent or greater incumbency advantage experienced for legislative members. (*Id*.) Democrats were successful in defeating nine Republicans, flipping the seats in Districts 35, 36, 37, 93, 98, 103, 104, 105, and 119. (*Id*.)

788. Dr. Owen's review of House elections showed that candidate quality and fundraising drove many of these competitive victories. (LDTX293 at 8-13.) It also showed that

Democrats were competitive—and winning—in districts Plaintiffs had alleged were "rigged" against victory.

789. In North Carolina Senate races in 2018, all 50 districts involved electoral competition, and 10 of those races—in Senate Districts 1, 3, 7, 9, 17, 18, 19, 24, 27, and 39—involved vote margins within the ten-point range of 45 to 55%. (LDTX293 at 13-14.) Democratic candidates won five of those races, and Republican candidates the other five. (LDTX293-14.) Candidacy, campaigns, and contextual factors affected each of these electoral outcomes. (*Id*.)

790. Dr. Owen found that in these competitive Senate races, "Democrats were successful in defeating four Republicans, flipping the seats in Districts 9, 17, 19, and 27. Democrats won these Republican districts through their quality presentation of self and experience participating in the community." (LDTX293-14.)

791. Dr. Owen's review of Senate elections showed that candidate quality and fundraising drove many of these competitive victories. (LDTX293 at 13-17.) It also showed that Democrats were competitive—and winning—in districts Plaintiffs had alleged were "rigged" against victory.

PROPOSED CONCLUSIONS OF LAW

792. The constitutional starting point for this case is the presumption that any act of the General Assembly is constitutional. *Wayne Cty. Citizens Ass'n for Better Tax Control v. Wayne Cty. Bd. of Comm'rs*, 399 S.E.2d 311, 315 (N.C. 1991). "The Constitution is a restriction of powers and those powers not surrendered are reserved to the people to be exercised through their representatives in the General Assembly; therefore, so long as an act is not forbidden, the wisdom and expediency of the enactment is a legislative, not a judicial, decision." *Id.* (quotation marks omitted). "A statute will not be declared unconstitutional unless this conclusion is so clear that no reasonable doubt can arise, or the statute cannot be upheld on any reasonable ground." *Id.*

793. A corollary principle is that a question is a non-justiciable political question "if it involves a textually demonstrable constitutional commitment of the issue to a coordinate political department." *Bacon v. Lee*, 549 S.E.2d 840, 854 (N.C. 2001) (quotations omitted). "The courts have absolutely no authority to control or supervise the power vested by the Constitution in the General Assembly as a coordinate branch of the government." *Person v. Watts*, 115 S.E. 336, 339 (N.C. 1922).

794. As applied to redistricting, North Carolina law has developed to honor two principles that might otherwise be in tension. On the one hand, "[r]edistricting should be a legislative responsibility for the General Assembly, not a legal process for the courts." *Pender County v. Bartlett*, 649 S.E.2d 364, 373 (N.C. 2007). On the other, some redistricting schemes "implicate[] the fundamental right to vote on equal terms," a proper subject for judicial review. *Stephenson v. Bartlett*, 562 S.E.2d 377, 393 (N.C. 2002).

795. The North Carolina Constitution navigates these competing values with "bright line rule[s]" to provide the "General Assembly a safe harbor for the redistricting process." *Pender County*, 649 S.E.2d at 373. These rules, including the Whole County Provisions of Article II ("WCP"), set some of the strictest redistricting requirements in the nation. They gracefully balance legislative primacy and individual rights. The rules preserve the latter by curbing legislative discretion, thus prohibiting the General Assembly from "needlessly burden[ing] millions of citizens with unnecessarily complicated and confusing district lines." *Stephenson*, 562 S.E.2d at 392. They preserve the former by establishing discrete, objective, and clear principles so the General Assembly knows with precision the scope of its duties and discretion.

796. It is therefore settled law that, so long as the General Assembly complies with these strict principles, it "may consider partisan advantage and incumbency protection in the application

of its discretionary redistricting decisions." *Id.* at 390. "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." *Dickson v. Rucho*, No. 11 CVS 16896, 2013 WL 3376658, at *2 (N.C. Super. Ct. July 08, 2013). As the North Carolina Supreme Court held in 2014, arguments about what plan is "best for our State as a whole" are "not based upon a justiciable standard." *Dickson v. Rucho*, 766 S.E.2d 238, 260 (N.C. 2014).

797. Plaintiffs' claims fail under that governing law, and any law that might colorably govern, for five separate reasons: (A) they are non-justiciable, (B) Plaintiffs lack standing, (C) the claims are not cognizable claims under existing constitutional doctrine, (D) the claims would not arise to constitutionally meaningful levels under any colorable set of standards, were they even identified, and (E) the claims conflict with federal law.

A. Plaintiffs' Claims Are Non-Justiciable

798. An issue is non-justiciable "when either of the following circumstances are evident: (1) when the Constitution commits an issue, as here, to one branch of government; or (2) when satisfactory and manageable criteria or standards do not exist for judicial determination of the issue." *Hoke Cty. Bd. of Educ. v. State*, 599 S.E.2d 365, 391 (N.C. 2004). North Carolina courts find guidance in U.S. Supreme Court precedent in interpreting justiciability doctrine. *See id.* (citing *Baker v. Carr*, 369 U.S. 186, 210 (1962)).

799. Both elements are met.

a. The State Constitution delegates to the General Assembly, not courts or a commission, the power to create legislative districts. N.C. Const. Art. II §§ 3, 5. It does not restrict the General Assembly's discretion of political choices, and the existence of multiple stringent express restrictions demonstrates that no such

restriction can be implied. Binding precedent holds that the General Assembly may "consider partisan advantage and incumbency protection in the application of its discretionary redistricting decision." *Stephenson*, 562 S.E.2d at 390. This is widely known and appreciated by persons involved in the redistricting process (Tr. 1717:5–1718:4; Tr. 1725:16–1728:2 (Gilkeson)) and represents the principles the Democratic Party operated under when it held the majority of the General Assembly (Tr. 168:6–20 (Meyer)). Were the Court to change these principles, it would necessarily conclude that one set of rules governs when a Democratic majority controls and another set when a Republican majority controls. That is untenable.

b. Claims asserting that a districting plan is somehow harmful to democracy are "not based upon a justiciable standard." *Dickson v. Rucho*, 766 S.E.2d 238, 260 (N.C. 2014). That is what Plaintiffs contend. Whatever the merits of their views under principles of morality, philosophy, or political science, there is no way for the Court to address these concerns under a neutral, manageable standard. Because "[p]olitics and political considerations are inseparable from districting and apportionment," *Gaffney v. Cummings*, 412 U.S. 735, 753 (1973), a "partisan gerrymandering" claim could only proceed with some reliable standard for distinguishing constitutional from unconstitutional cases. It is settled that some degree of political redistricting is constitutional. *Stephenson*, 562 S.E.2d at 390. Plaintiffs have offered no reliable standard for measuring these claims.

800. The Court is bound by over a century of precedent concluding that partisan-gerrymandering claims are non-justiciable in a myriad of contexts. *See, e.g.*, *Howell v. Howell*, 66

S.E. 571 (N.C. 1909) (rejecting partisan-gerrymandering challenge to a special-tax district); *Norfolk & S.R. Co. v. Washington Cty.*, 70 S.E. 634, 635 (N.C. 1911) (holding the General Assembly's authority to "declare and establish" the "true boundary between…counties…is a political question, and the power to so declare is vested in the General Assembly."); *see also Carolina-Virginia Coastal Highway v. Coastal Tpk. Auth*., 74 S.E.2d 310, 317 (N.C. 1953) ("[T]he power to create or establish municipal corporations…is a political function which rests solely in the legislative branch of the government."); *State ex rel. Tillett v. Mustian,* 91 S.E.2d 696, 699 (N.C. 1956) ("The power to create and dissolve municipal corporations, being political in character, is exclusively a legislative function."); *Texfi Indus., Inc. v. City of Fayetteville,* 269 S.E.2d 142, 147 (N.C. 1980) ("Annexation by a municipal corporation is a political question which is within the power of the state legislature to regulate."); *Raleigh & G.R. Co. v. Davis*, 19 N.C. (2 Dev. & Bat.) 451 (N.C. 1837) ("The necessity for the road between different points is a political question, and not a legal controversy; and it belongs to the legislature. So, also, does the particular line or route of the road…."). Plaintiffs' arguments are foreign to North Carolina's constitutional order.

801. The North Carolina Supreme Court's latest word on the subject reaffirms that precedent. *Dickson v. Rucho*, 766 S.E.2d 238, 260 (N.C. 2014). This Court's opinion is that redistricting "is an inherently political and intensely partisan process that results in political winners and, of course, political losers" and that political losers, whoever they may be, "cannot seek a remedy from courts of law." *Dickson v. Rucho*, No. 11 CVS 16896, 2013 WL 3376658, at *1 (N.C. Super. Ct. July 08, 2013). The North Carolina Supreme Court's holding is binding. *Cannon v. Miller,* 327 S.E.2d 888, 888 (N.C. 1985) (finding lower court "acted under a misapprehension of its authority to overrule decisions of the Supreme Court of North Carolina");

Respess v. Respess, 754 S.E.2d 691, 701 (N.C. Ct. App. 2014). This Court's prior decision is binding without a compelling reason to overrule it. *Dunn v. Pate*, 415 S.E.2d 102, 104 (N.C. Ct. App. 1992) ("[T]he determination of a point of law by a court will generally be followed by a court of the *same* or lower rank." (quotations omitted) (emphasis added));[21] *State v. Miller*, 702 S.E.2d 239 (N.C. Ct. App. 2010) (table) (quoting and following same). No good reason has been offered.

802. The United State Supreme Court's decision in *Rucho v. Common Cause*, 139 S. Ct. 2484 (2019), though not binding, is instructive. Finding that partisan-gerrymandering claims are non-justiciable, it emphasized that neutral standards that are reliable and avoid judge-made law on fairness have not been forthcoming. Among the standards it rejected as supplying that reliability was the standard Plaintiffs appear to rely on in this case. *Id.* at 2505–06.

803. Plaintiffs emphasize that *Rucho* is not binding (Tr. 20:3–5), but the North Carolina Constitution, like the federal Constitution, "provides no basis whatever to guide the exercise of judicial discretion" in this area. *Rucho*, 139 S. Ct. at 2506. If anything the North Carolina Constitution renders makes it even clearer than the federal Constitution that these claims are non-justiciable. By providing explicit redistricting requirements, the document impliedly removes power from judges to invent other requirements, like partisan-fairness standards. *In re Spivey*, 480 S.E.2d 693, 697 (N.C. 1997). "the General Assembly is free to implement legislation as long as that legislation does not offend some specific constitutional provision," *Cooper v. Berger*, 822 S.E.2d 286, 296 (N.C. 2018). No such principle exists here.

804. Courts have not engaged in this freewheeling policymaking before. Plaintiffs' contention that their claims are no different from one-person, one-vote or racial-gerrymandering claims fails. (Tr. 91:9–92:9.) The racial-gerrymandering decisions posit that "racial classifications

[21] *Rev'd, on other grounds*, 431 S.E.2d 178 (N.C. 1993).

are immediately suspect" because they "threaten to stigmatize individuals by reason of their membership in a racial group." *Shaw v. Reno*, 509 U.S. 630, 642 (1993). As the North Carolina Supreme Court has explained, "challenges which rest upon instances of alleged racial discrimination" are "[t]he sole exception to" the principle that creating the boundaries of political districts is non-justiciable. *Texfi Indus., Inc. v. City of Fayetteville*, 269 S.E.2d 142, 148 (N.C. 1980). Similarly, the one-person, one-vote rule follows from the principle that, because "all voters, as citizens of a State, stand in the same relation" as other citizens, there is no basis for the weight of one vote to be set over another. *Reynolds v. Sims*, 377 U.S. 533, 565–66 (1964). The decisions Plaintiffs reference do *not* forbid these practices on the ground that they are "bad for democracy." Instead, they are predicated in cornerstone individual-rights doctrine.

805. In contrast, Plaintiffs' case "is a case about group political interests, not individual legal rights." *Gill*, 138 S. Ct. at 1933. Even if Plaintiffs believe their partisan preferences are good for democracy, the courts are "not responsible for vindicating" them. Id. Plaintiffs' affiliation with political groups and views does not bring them into a suspect class like race, ethnicity, or sex. Nor have they experienced a violation of "a constitutionally protected right to vote, and to have their votes counted." Reynolds, 377 U.S. at 554–55 (citations omitted). Instead, they complain of the political impact of district lines that will, in all events, have political consequences. (*See* Tr. AM 55:4–8 (Dr. Cooper testifying that "[E]very VTD that is included in or removed from a district has some political consequence" or "partisan consequence").) The State Constitution assigns weighing those benefits and burdens to the General Assembly, rendering the question political, not legal. *See Hoke Cty. Bd. of Educ.*, 599 S.E.2d at 391.

806. It is relevant that Common Cause has repeatedly sought to achieve its goals legislatively before coming to court and practically admits that it wants this Court to legislate new

redistricting law. (*See, e.g.*, Tr. 65:4–10.) This would inflict more harm than good on democracy. That the prohibition against judicial legislation is established in binding precedent, *In re Markham*, 131 S.E.2d at 333, and in the Constitution's plain text, N.C. Const. Art. I § 6, are sufficient bases for rejecting Plaintiffs' claims. But since Plaintiffs' view this case as a teaching moment (Tr. 90:19–95:5 (Barber)) it is worth an eight-year-old civics refresher.

a. Common Cause's legislative failure is itself the product of democracy, which establishes popular, not judicial, rule. The rights to vote and petition the government do not contain the right to enact legislation. The evidence showed *bi-partisan* opposition to Common Cause's goals. And Common Cause is in good company. Most legislative initiatives fail. Most initiatives—even ones garnering press coverage—are not particularly popular with the general public. Allowing Common Cause to *win* where its efforts *failed* would be *anti*-democratic.

b. Common Cause offers a different rationale, opining that its effort failed because of the self interest of legislators. But that is pure speculation. There is not a shred of evidence by which to conclude that Common Cause's redistricting-reform initiative has garnered substantial public support. Common Cause's enthusiasm for its own message shows nothing, and the enthusiasm of a few self-selecting attendees at public hearings shows next to nothing. (And some attendees expressed opposition to Common Cause.) Nor would this Court be in any position to assess the validity of such evidence. "In short, this court is not capable of controlling the exercise of power on the part of the General Assembly , . . . and it cannot assume to do so, without putting itself in antagonism as well to the General Assembly . . . and erecting a despotism of [three judges], which is opposed to the fundamental

principles of our government and usage of all times past." *Howell v. Howell*, 66 S.E. 571, 573 (N.C. 1911). The Court must assume the "wisdom and sound judgment" of the General Assembly's members rather than seek to exercise their role. *Id.* at 574.

c. What speaks in democracy is *elections*. Whatever Common Cause thinks of the General Assembly's redistricting maps, all the legislative members are elected by living voters in equally populated districts, and, as their elected representatives, they speak on their behalf. So, when the General Assembly shut the door on Common Cause multiple times, that was the voice of the people. It is not as if a "gerrymander" elects legislators with fake votes. If Common Cause's agenda had widespread support, no amount of "packing" and "cracking" could stand in the way. These living, breathing voters—who possess free will—could at any point choose to vote for redistricting reform and send legislators to Raleigh to legislate it. The Court met one such representative at trial. (*See* Tr. 157:20–199:2 (testimony of Meyer).) The fact that there are not more is the choice of ordinary North Carolina citizens and the failure of Common Cause and its allies to persuade them. Common Cause, meanwhile, is not an elected entity, is subject to no elections, and represents the views of only a small segment of well-to-do donors.

d. The fact is that initiatives with broad popular support will be implemented legislatively, notwithstanding a legislature's self interest. An example is the Seventeenth Amendment to the U.S. Constitution, which provides for popular election of Senators, whereas the original Constitution provided for their appointment by state legislatures. The very state legislatures whose power the

> Amendment took away ratified it. *See* U.S. Const. Art. V (requiring "the legislatures of three fourths of the several states" to ratify amendments); Todd J. Zywicki, Senators and Special Interests: A Public Choice Analysis of the Seventeenth Amendment, 73 Or. L. Rev. 1007, 1027 (1994). These legislatures were elected by the general public, and their members won races based on a popular platform of reform. No mechanism prevents the general public from enacting redistricting reform in the same manner. That this has not occurred proves only that Common Cause's platform has not resonated with the public—nothing more. Awarding Common Cause's minority view would privilege it over other North Carolina citizens and their legislative goals. That is not fair.

807. Courts interpret, rather than make, law. *Godfrey v. Zoning Bd. of Adjustment of Union Cty.*, 344 S.E.2d 272, 276 (N.C. 1986). This case is a good reminder of why that is so. Plaintiffs' demands are anti-democratic, unfair, and unreasonable. They fail on this basis alone.

B. <u>Plaintiffs Lack Standing</u>

808. Plaintiffs are two organizations, Common Cause and the North Carolina Democratic Party, and many individuals residing in districts challenged as unconstitutional. The claims of all Plaintiffs fail.

(1) <u>The Individual Plaintiffs Lack Standing</u>

809. A plaintiff bears the burden to establish the following elements of standing:

> injury in fact—an invasion of a legally protected interest that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.

810. *Walker v. Hoke Cty.*, 817 S.E.2d 609, 611 (N.C. Ct. App.) (denying standing because plaintiff had "not asserted a traceable, concrete, and particularized injury"), *review*

denied, 818 S.E.2d 280 (N.C. 2018); *see also McDaniel v. Saintsing*, 817 S.E.2d 912, 914–15 (N.C. Ct. App. 2018) (same); *Arnold v. Univ. of N. Carolina at Chapel Hill*, 798 S.E.2d 442, 443 (N.C. Ct. App.) (same), *review denied*, 370 N.C. 69, 803 S.E.2d 387 (2017). Federal case law, though not binding, is instructive in interpreting these requirements.

811. Because the right to vote is individual and specific to each person, and any "interest in the composition of 'the legislature as a whole'" is "a collective political interest, not an individual legal interest," the U.S. Supreme Court unanimously held that claims of partisan vote dilution must be asserted as to each individual district.[22] *Gill v. Whitford*, 138 S. Ct. 1916, 1930, 1932 (2018). The Court also offered some basic, though not exhaustive, parameters for assessing individualized injury. One is that a "hope of achieving a Democratic [or Republican] majority in the legislature" is not a particularized harm; the voter's interest is limited to the voter's own district, where the voter votes. *Id.* at 1932. Another is that a voter's interest in a different partisan composition of the voter's district is not cognizable if a similar composition would result "under any plausible circumstance." *Id.* at 1924, 1932. A third is that injury must be proven, not merely alleged. *Id.* at 1931–32.

812. Plaintiffs' claims fail under these principles. As discussed, most Plaintiffs are plainly situated in districts where either they suffer no colorable injury or where redressibility is impossible. Some live in Democratic districts that would, in all plausible circumstances, be Democratic. *Gill*, 138 S. Ct. at 1924, 1932. Some live in districts that are not shown to be "cracked" or "packed" at all. *Id.* Some live in Republican districts that would, in all plausible circumstances,

[22] Though not binding, U.S. Supreme Court precedent is "instructive" for interpreting North Carolina standing requirements. *Wake Cares, Inc. v. Wake Cty. Bd. of Educ.*, 660 S.E.2d 217, 223 (N.C. Ct. App. 2008) (quoting *Goldston v. State*, 637 S.E.2d 876, 882 (N.C. 2006)). It is especially instructive here, where the case law is unanimous and directly on point.

be Republican-leaning districts. Some live in Democratic-leaning districts that, although they might be drawn as Republican-leaning districts, create no particularized injury for persons who prefer Democratic candidates *inside* the districts; these Plaintiffs assert only an interest in the composition of 'the legislature as a whole.'" *Gill*, 138 S. Ct. at 1932. Some Plaintiffs live in districts they contend are Republican-leaning, but are in fact represented by Democratic members.

813. That leaves only a small set of Plaintiffs, nine residing in seven districts. As to House districts, these Plaintiffs are Rebecca Johnson (HD74), Lily Nicole Quite (HD59), Donald Allan Rumph (HD9), and Carlton E. Campbell Sr. (HD46). (PTX115.) As to Senate districts, these Plaintiffs are Kristin Parker (SD39), Jackson Thomas Dunn, Jr. (SD39), Mark S. Peters (SD48), William Service (SD18), and Stephen Douglas McGrigor (SD18). (PTX117.)

814. Although these Plaintiffs have a somewhat stronger claim, it too falls short.

a. American law and democratic traditions create a presumption that a person is represented by the person's designated representative, regardless of descriptive similarity or party affiliation. *See Davis v. Bandemer*, 478 U.S. 109, 132 (1986); *Whitcomb v. Chavis*, 403 U.S. 124, 149–153 (1971). It is therefore not self-evident that those Plaintiffs are injured simply in that they are represented by a Republican or even in that the map places them in a district with constituents who prefer that Republican. (*See* Tr. 206:12–17 (Plaintiff Miller conceding he has no "right" to elect his representative of choice).)

b. A plaintiff "must demonstrate standing"; it cannot be assumed. *Walker*, 817 S.E.2d at 611 (quotation marks omitted); *see also Universal Cab Co. v. City of Charlotte*, 247 N.C. App. 479 (2016) (a plaintiff bears the burden).

c. The evidence at trial *disproved* any claim to injury. It showed that all legislators provide constituent services regardless of constituents' political affiliations or voting preferences. (Tr. 2013: 2–2014:2 (Brown); Tr. 1489:23–1490:5 (Owen); Tr. 1523:15–1531:1 (Owen); Tr. 1756:14–20 (Bell); Tr. 121:18–23; 122:4–10 (Blue); Tr. 168:23–169:4 (Meyer).) It also showed that "[v]ery few issues" on the legislative agenda "are partisan" (Tr. 2014:2), every bill is a political compromise (Tr. 2015:20–24), and each state senator votes with the majority over 80% of the time (Tr. 2018:22–2019:2). Moreover, the General Assembly is more diverse than ever, comprising legislators of both parties, various wings of the parties, both sexes, many races, and so forth. (Tr. 1535:2–1542:21.) Even if a constituent does not feel represented by the constituent's own representative, the constituent likely shares meaningful "descriptive" similarities with *some* legislator, if not many. (Tr. 1533:16–20.)

d. Nor is it even obvious that, under a different situation, any of these districts would be meaningfully different politically. Plaintiffs' simulations show that *many* possible district configurations remain Republican-leaning, and there is no guarantee that a Democratic member would win a Democratic-leaning district. Thus, these Plaintiffs' claims also fail.

(2) <u>The Organizational Plaintiffs Lack Standing</u>

815. The organizational Plaintiffs also lack standing.

816. Common Cause and the North Carolina Democratic Party cannot vote and have no colorable vote-dilution claim in their own right.

817. Nor do the 2017 plans impinge these associations' ability to speak and organize. The North Carolina Democratic Party raised more money after the 2017 plans were adopted than

ever before (Tr. 1282:4–21), and the evidence overwhelmingly shows that Democratic constituents are neither deterred nor even slightly discouraged from participating in the political process (Tr. 836:16–837:19–22). The Party fielded candidates in all but one district, and the evidence shows that it has a robust organization and advocacy effort. (Tr. 1552:8–14; *see also, e.g.*, Tr. 1554:12–1556:19.) Common Cause, meanwhile, does not run candidates, has shown no negative impact on its internal affairs or advocacy even arguably caused by the 2017 plans, and has no injury in fact from its failed legislative effort—or else every citizen could sue on the failure of every legislative initiative. Again, Plaintiffs must prove standing, and these Plaintiffs cannot prove standing on this record.

818. That leaves these organizations' claim to assert the rights of their members, and this too is unfounded. An association has representational standing only 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." *River Birch Assocs. v. City of Raleigh*, 388 S.E.2d 538, 555 (N.C. 1990) (citation omitted).

a. Neither association satisfies the first element. As shown, no individual plaintiff has standing to challenge any district, and there is no showing that any other individual not joined as a party would succeed where they have failed. As a necessary result, no association can bring a claim on any individual's behalf.

b. Common Cause, at least, does not satisfy the second element. Common Cause claims to be non-partisan and therefore has no organizational purpose of electing Democratic members. The organization's interest in "fair" elections does not

qualify because that is a paradigmatic "generally available grievance about government." *Whitford*, 138 S. Ct. at 1923 (quotation marks omitted).

c. And neither association satisfies the third element. "[A] person's right to vote is 'individual and personal in nature.'" *Id.* at 1929 (quoting *Reynolds v. Sims*, 377 U.S. 533, 561 (1964). North Carolina citizens who cast votes for Democratic candidates do not vote in their capacity as members of the Democratic Party; they vote in their capacity as citizens. There is no nexus between the Democratic Party's interests and its voters interests that allows the Democratic Party to assert their voting rights as its own. In fact, the Chairman of the Democratic Party testified that registered Democratic Party members are not reliable Democratic Party voters. (Tr. 1280:10–14.) It is, then, entirely unknown which voters the Party can claim to represent, and the Party itself appears not to know. It cannot meet its standing burden on such ephemeral and vague assertions.

819. Because no Plaintiff has standing, all claims must be dismissed on this basis alone.

C. Plaintiffs' Claims Are Not Cognizable

820. Plaintiffs claims fail to arise to a cognizable level under the State Constitution.

(1) Equal Protection Clause Does Not Support Plaintiffs' Claims

821. An equal-protection claim lies if the government chooses a "classification" that "operates to the disadvantage of a suspect class or if a classification impermissibly interferes with the exercise of a fundamental right." *Northampton Cty. Drainage Dist. No. One v. Bailey*, 392 S.E.2d 352, 355 (N.C. 1990).

822. Plaintiffs have failed to identify a suspect classification. Membership in a political party is not a suspect classification. *See Libertarian Party of N. Carolina v. State*, 707 S.E.2d 199, 206 (N.C. 2011); *Libertarian Party of North Carolina v State*, No. 05 CVS 13073, 2008 WL

8105395, at *6 (N.C. Super. Ct. May 27, 2008). The claim to this status by the Democratic Party's supporters fares no better than the same claim by others belonging to other classifications, including corporations, *Texfi Indus.*, 269 S.E.2d at 149, the disabled, *Layton v. Dep't of State Treasurer*, 827 S.E.2d 345 (N.C. Ct. App. 2019), persons living in discrete geographic locations, *White v. Pate*, 304 S.E.2d 199, 204 (N.C. 1983), out-of-state residents, *Town of Beech Mountain v. Cty. of Watauga*, 378 S.E.2d 780, 783 (N.C. 1989), persons employed in specific job funcionts, *Pangburn v. Saad*, 326 S.E.2d 365, 368 (N.C. 1985), and property owners, *Dep't of Transp. v. Rowe*, 549 S.E.2d 203, 208 (N.C. 2001). Persons who tend to vote for Democrats have "clearly suffered no oppression or disadvantage meriting particular consideration from the judiciary and display[] none of the traditional indicia of a suspect class." *Town of Beech Mountain*, 378 S.E.2d at 783.

823. Plaintiffs assert that this case concerns the fundamental right to vote. Although that right is fundamental, no impingement has been identified. *Town of Beech Mountain v. Cty. of Watauga*, 378 S.E.2d 780, 783 (N.C. 1989). The individual voters in each district are on an equal playing field, each having equal sway over elections as compared to other voters in the district and other voters in other districts. The right to vote has been evenly administered. Plaintiffs' objection is that some Republican voters are joined with other Republican voters, whereas some Democratic voters are joined with Republicans who can outvote them. That, however, is a complaint about the *private* choices of fellow citizens. If some of those Republican voters changed their minds and voted with Democratic voters, the "gerrymander" would vanish. Those voters, just like Plaintiffs, are free to make their own choices, which are not challengeable state action. *See, e.g.*, *Weston v. Carolina Medicorp, Inc.*, 402 S.E.2d 653, 658 (N.C. 1991) (rejecting the argument that legal regime in which private decisions are made confers cognizable state action on private choices).

824. This case is unlike prior cases finding an impingement of the right to vote. *Stephenson* concluded that the "use of both single-member and multi-member districts within the same redistricting plan violates the Equal Protection Clause of the State Constitution." 562 S.E.2d at 395. It reasoned that individuals in the single-member districts can vote for a smaller percentage of the electoral body—i.e., the multi-member district residents would have a say over a larger percentage of elections than those residents in single-member districts. *Id.* at 395–98. The other case Plaintiffs cite, *Blankenship v. Bartlett*, 681 S.E.2d 759, 766 (N.C. 2009), was a straightforward equal-population case condemning a scheme in which voters in one district "elect one judge for every 32,199 residents" and voters in another "elect one judge per every 140,747 residents, 158,812, and 123,143 residents, respectively." *Id.* That is simple vote dilution. Here, the *individual* right to vote is preserved; Plaintiffs assert a generic (and highly amorphous) group right that is not cognizable.

825. Because there is no suspect classification, rational-basis review applies. The 2017 plans pass. They were drawn with the rational bases of equalizing populations, remedying a federal constitutional infirmity, complying with the State Constitution, and other criteria. Whatever political motive may (or may not) have accompanied these choices is irrelevant. Under rational-basis review, the Court does not examine motive, and *any rational basis* justifies the legislation.

(2) The Free Elections Clause Does Not Support Plaintiffs' Claims

826. The Free Elections Clause provides "[a]ll elections shall be free." Art. I § 10.

827. "The meaning [of North Carolina's Free Elections Clause] is plain: free from interference or intimidation." John Orth & Paul Newby, The North Carolina State Constitution ("Orth") 56 (2d ed. 2013). The free elections clause simply bars any act that would deny a voter the ability to freely cast a vote or seek candidacy. *See Clark v. Meyland*, 134 S.E.2d 168, 170 (N.C. 1964).

828. Plaintiffs presented no evidence that any voter is prohibited from voting or faces intimidation likely to deter the exercise of this right. All eligible voters can vote. Their votes are counted. Their votes decide the races. Nothing *except* their votes decide the races. No ballot boxes are being stuffed. No eligible voter is denied a vote. No voter is required to take a loyalty oath. Plaintiffs believe they should be grouped differently into legislative districts to enable them to elect their preferred candidates. But the right to win or assistance in winning is not encompassed by this provision. *Royal v. State*, 570 S.E.2d 738, 741 (N.C. Ct. App. 2002) (ruling the free elections clause does not require public financing of campaigns).

829. Reading the Free Elections Clause to contain such rights would be ahistorical and counter-productive to free elections. *See Stephenson*, 562 S.E.2d at 389 (looking to "history of the questioned provision and its antecedents" in interpreting the State Constitution). The Free Elections Clause derives from the English Declaration of Rights of 1689, which provided that "election of members of Parliament ought to be free." Orth 56.[23] No one thought that this contained a prohibition against "partisan gerrymandering." Elections to the English Parliament were often conducted in so-called rotten boroughs—districts far and away more gerrymandered than anything possible now because they could be created with only a handful of constituents. Rotten boroughs were not eliminated in England until the Reform Act of 1832, so the notion that they were somehow outlawed in England in 1689 (or, in North Carolina, in 1776) is untenable.

830. What the free-elections provision of the English Declaration of Rights *did* do was prohibit other branches of government from meddling with elections to Parliament. King James II

[23] *See also* English Bill of Rights 1689: An Act Declaring the Rights and Liberties of the Subject and Settling the Succession of the Crown ("English Declaration of Rights"), Yale Law School: The Avalon Project, https://avalon.law.yale.edu/17th_century/england.asp (last visited August 7, 2019).

had worked to control the composition of Parliament through executive interference with parliamentary elections, the goal being to pack Parliament with sympathetic members. Steven C. A. Pincus, 1688: The First Modern Revolution 156–62 (2009). The idea was not new. "[T]he Tudor sovereigns systematically pursued the policy of creating insignificant boroughs…for the express purpose of corruptly supporting the influence of the Crown in the House of Commons." Thomas Pitt Taswell-Langmead, English Constitutional History 565–66 (Philip A. Ashworth ed., 6th ed. 1905). This was viewed as an affront to legislative control over internal affairs, so the "House of Commons took the issue of writs into its own hands" after the English Civil War. *Id.*; *see also* Rudolf Gneist, The English Parliament in Its Transformations Through a Thousand Years 241 (R. Jenery Shee trans., 1886) ("Now," at the reign of Charles II, "the right of the Crown to create new boroughs disappears.").

831. The declaration that elections would be "free" vindicated these separation-of-powers concerns. Going forward, Parliament controlled the "methods of proceeding" as to the "time and place of election" to Parliament. 1 William Blackstone, Commentaries 163, 177–179 (George Tucker ed., 1803); 4 E. Coke, Institutes of Laws of England 48 (Brooke, 5th ed. 1797). Neither house would "permit the subordinate courts of law to examine the merits" of an election dispute, and the House of Commons denied "any right" of any officer outside that body "to interfere in the election of commoners" or "intermeddle in elections." 1 William Blackstone, Commentaries 163, 179 (George Tucker ed., 1803); *see also id.* at 179 (stating that to the house of commons "alone belongs the power of determining contested elections"); George Philips, Lex Parliamentaria 9, 36–37, 70–80 (1689). The House of Commons was not shy to protect its exclusive jurisdiction in this domain. It, for example, declared a quo warranto writ from "any Court" that sent burgesses to parliament based on time, place, and manner adjudications to be

"illegal and void," and it further opined that the "Occasioners, Procurers, and Judges in such Quo Warranto's" may be punished for jurisdictional usurpation. George Philips, *supra* at 80.

832. Plaintiffs' requested relief would violate these principles and, in addition, the independently codified separation-of-powers principles. N.C. Const. Art. I § 6. This Court is not permitted to tamper with the political composition of the General Assembly, it is not permitted to assist private parties in changing that composition, it is not permitted to evaluate whether the General Assembly is "out of step" with the general public, and it is not permitted to usurp the General Assembly's legislative authority as its own. Plaintiffs want all of these things, and their request is untenable.

(3) The Free Speech and Assembly Clauses Do Not Support Plaintiffs' Claims

833. A free-speech or assembly plaintiff must show that some state action places "restrictions . . . on the espousal of a particular viewpoint," *State v. Petersilie,* 432 S.E.2d 832, 840 (N.C. 1993), or "would likely chill a person of ordinary firmness from continuing to engage" in expressive activity, *Toomer v. Garrett*, 574 S.E.2d 76, 89 (N.C. 2002). Plaintiffs have not shown either.

834. "[T]here are no restrictions on speech, association, or any other First Amendment activities in the districting plans at issue. The plaintiffs are free to engage in those activities no matter what the effect of a plan may be on their district." *Rucho,* 139 S. Ct. at 2504. The U.S. Supreme Court observed that a claim to a free-speech burden is not even "serious" in this context. *Id.*

835. Nor is there any evidence that persons of ordinary firmness are likely to forego protected activity out of fear of the 2017 plans. The evidence shows that Common Cause, the North Carolina Democratic Party, and their respective members and supporters experience no prohibition on speaking, associating or raising money and experience no fear at all for reprisal in retaliation

for those activities. (Tr. 1282:4–21, Tr. 836:16–837:19–22, Tr. 1552:8–14, *see also*, *e.g.*, Tr. 1554:12–1556:19.)

836. Plaintiffs are claiming a free-speech right to live in districts composed of a majority of people they perceive are easier to persuade to vote for their own preferred candidates. This is not a free-speech right at all. There is no right to an equal opportunity to persuade neighbors or even the government itself. *Minnesota State Bd. for Cmty. Colleges v. Knight*, 465 U.S. 271, 287 (1984) ("When government makes general policy, it is under no greater constitutional obligation to listen to any specially affected class than it is to listen to the public at large"); *Smith v. Arkansas State Highway Employees, Local 1315*, 441 U.S. 463, 464–466 (1979) (same).

D. The Evidence Could Not Establish a Claim Under Any Potentially Colorable Standard

837. For reasons stated above, the Court is bound by precedent and settled legal principles to reject these claims. But even if that were not so, they would still fail.

838. If partisan-gerrymandering standards were to be concocted those standards would need to meet the following criteria: (a) they would not permit "courts to rely on their own ideas of electoral fairness" and (b) they would "limit courts to correcting only egregious gerrymanders." *Rucho*, 139 S. Ct. at 2509 (Kagan, J., dissenting). The evidence shows that the 2017 plans are not "egregious gerrymanders" and may not be gerrymanders at all. Any other finding would require this Court to "rely on [its] own ideas of electoral fairness"—which, if taken from Plaintiffs' papers, would be a right to Democratic Party preference and dominance.

(1) The Cumulative Evidence Shows That the Plans Are Fair

839. No point of ordinary redistricting data even hints that the 2017 plans are unfair; rather, the information all suggests the opposite.

840. The Democratic Party's own support scores show that the 2017 plans are competitive, with roughly equal numbers of "strong" Democratic and Republican districts and "competitive" districts. (LDTX146.) As shown above, the Party's contention that it ignores information it paid good money for—and against the testimony of Morgan Jackson—is not credible. As a matter of law, the scores are powerful evidence that the plans are not "egregious" and may be quite fair from a partisan perspective.

841. The Democratic Party enjoys a remarkable registration advantage across the plan. Only one of 170 districts has a Republican registration majority, whereas 47 districts have Democratic majorities. Though not dispositive on its own, the evidence shows that voters are persuadable by the Democratic Party, if it chooses to try to persuade them and meet them where they are. What matters is *opportunity*; the Court cannot guarantee electoral success—nor would that even be desirable. *See, e.g.*, *Smith v. Brunswick Cty., Va., Bd. of Sup'rs*, 984 F.2d 1393, 1400 (4th Cir. 1993); *Uno v. City of Holyoke*, 72 F.3d 973, 982 (1st Cir. 1995). Someone registered as a Democrat represents a winnable vote, as does an independent voter. The fact that many districts are dominated by registered Democrats and many more are open to either side is relevant in assessing whether the map is winnable by the Democratic Party.

842. The Democratic Party has better than proportional representation in Senate challenged districts and near proportional representation in House challenged districts. (LDTX130.) The slight lag in proportional representation statewide is the result of districts that are not challenged and that cannot be challenged because they are locked into place. Although no group can claim a *right* to proportional representation, a group's proportionality is a *defense* to claims of vote dilution. *Johnson v. De Grandy*, 512 U.S. 997, 1000 (1994).

843. Although the Democratic Party did not win a majority in 2018 with 51% of the statewide vote, there is no reason to expect it should have won a majority.

a. A party's number of seats rarely matches its statewide vote total in North Carolina (or anywhere) because the parties' constituents are rarely dispersed evenly in any jurisdiction. (Tr. 2167:13–20 (Barber).) Currently, the Democratic Party's appeal is restricted to a few locales—in particular, the large metropolitan areas. (Tr. 2173:22–2174:8; Tr. 2180:18–2181:22; Tr. 2182:4–24; Tr. 2183:6–7; ITX7; ITX9; *see also* Tr. 183:8–12 (Meyer).)

b. Statewide Democratic Party candidates won a small fraction of North Carolina counties (*see* Joint Stipulations 9, 47, 54, 61–65), and removing the most populous counties from the vote counts disproportionately draws down the Democratic vote share (LDTX117; LDTX118; Tr. 2300:15–2302:11 (Brunell)).

c. Because legislative elections occur in districts covering discrete geography, there is a natural "packing" of Democratic voters. The way for the Democratic Party to overcome this is to broaden its appeal in rural areas, taking note of the needs and concerns of rural voters. But the Democratic Party struggles even to recruit candidates in rural areas (Tr. 183:7–18), and the point of this lawsuit is to achieve court assistance in winning elections while *ignoring* everything but North Carolina's cities. The Democratic Party has the right to ignore these voters, but its claim to a right to win while doing so is, to put it mildly, unfounded.

d. So what is remarkable here is not that the Democratic Party lacks proportional representation, but that it is quite close under the circumstances. More importantly, it is closest to (if not at) proportionality in those areas of the map where legislative

discretion is available; it lacks proportionality most in areas locked into place—proving further that gerrymandering is not the Party's problem. (LDTX130.)

e. Plaintiffs retort that their expert mapping simulations control for geography (*see, e.g.*, Tr. 304:19–305:7), but their simulations show that they should get what they *already have*. As discussed more below (§ II), under a 51% vote share, the simulations show that natural geography (and no politics) would afford them 54 House and 20 Senate seats. (PTX23; PTX42.) They have 55 House and 21 Senate seats. Besides, their simulations are flawed for reasons set forth below.

844. The 2017 plans paired no Democratic incumbents and several sets of Republican incumbents (LDTX125; LDTX25 ¶¶ 7–8; Tr. 2057:13–20), and Democratic incumbents fared better than Republican incumbents under them (LTDX134; Tr. 2082:17–2083:4). Plaintiffs do not, and cannot, explain how *preferential* treatment for Democratic incumbents is consistent with a plan to impair that party's electoral fortunes.

845. The trial evidence proved that the Democratic Party is vibrant, active, and competitive and that, with the right candidates, has a fair opportunity to win. Senator Blue testified that "we spent more money than we had ever spent because we were able to raise more money than we had ever raised." (Tr. 117:22–25.) It raised $15.6 million in 2018 compared to $10 million by the North Carolina Republican Party in 2018 and $4.9 million by the North Carolina Democratic Party in 2014. In fact, the North Carolina Democratic Party's fundraising haul in the 2018 cycle was greater than any other mid-term election cycle in its history. Every legislative seat save one was contested in 2018. More than 20% of elections were within a margin of 10 percentage points and were, as understood in political science, competitive. Eleven races were decided by a margin of less than 2% and five by less than 1%. The Democratic Party succeeded in flipping 10 House

and six Senate seats. In contests where Republican candidates were successful, there was frequently a candidate-quality advantage—e.g., an advantage in experience or incumbency. That is not the mark of non-competitive races or predetermined results where votes do not "make a difference." Pls' Br. 11.

846. There is no meaningful direct evidence of "gerrymandering." There was, for example, no "Partisan Advantage" criterion. *Rucho*, 139 S. Ct. at 2510 (Kagan, J., dissenting). And the bill sponsors made clear that "no such goal" was set (PTX603 at 138), and that there was "no direct outcome target in mind" (LDTX14 at 21 (remarks of Rep. Lewis)). Nor are Plaintiffs credible in contending that partisan motive from 2011 was carried forward into the 2017 plans; a federal court looked at the 2011 maps on a statewide basis and concluded that "politics was an afterthought." *Covington v. North Carolina*, 316 F.R.D. 117, 139 (M.D.N.C. 2016).

847. All of these pieces of evidence are relevant to assessing whether the plans are "egregious gerrymanders," and each point of information indicates, alone and cumulatively, that they are not egregious and may well be fair.

(2) Plaintiffs' Strenuous Efforts to Manufacture Evidence of Gerrymandering Fails

848. Plaintiffs' elaborate presentation is unpersuasive. That they need to go to such lengths as manufacturing more simulated maps than there are "atoms in the known universe" (Tr. 1090:11–14) proves that there is no simple, readily apparent evidence of gerrymandering.

849. Taken at face value, Plaintiffs' simulation experts show that maybe five seats out of 170 that are projected as being Republican under the enacted plans would be Democratic under Plaintiffs' experts' non-partisan simulated plans. (Tr. 1214:4–1215:20; PTX359 at 7; Tr. 1215:21–1216:12; PTX359 at 11; PTX26; PTX07.) As noted, a colorable standard would "limit courts to correcting only egregious gerrymanders." *Rucho*, 139 S. Ct. at 2509 (Kagan, J., dissenting). That swing is not egregious. Moreover, it is not even real: more than the number of seats *projected* as

being Republican in the enacted plans *were won by Democratic candidates in 2018*. Plaintiffs' analysis is entirely hypothetical.

850. Plaintiffs' contentions for ignoring these simple facts are unpersuasive.

a. Their contention that the 2017 plans are "outliers" in a sense that is "statistically significant" conflates statistical significance with legal significance (and, indeed, real-world significance). As explained below, the data points used for comparison present a range of options that carries no real-world or legal significance.

b. Plaintiffs find it problematic that the Republican legislature might have chosen the most Republican configurations available. The evidence is not uniform on this. (*See, e.g.*, Tr. 1151:10–19 (Dr. Mattingly admitting that county grouping is not an "outlier") *id.* 1153:17–1154:16 (other examples of same).)

c. In all events, the evidence shows that the most Republican plan available simply was not that Republican in a meaningful sense. That Plaintiffs' experts' call a difference of five or six of 170 seats an "outlier" scenario shows only that their analyses are highly sensitive, not that the enacted plans are truly "egregious." Plaintiffs' experts ignored the fact that redistricting options are constrained by law and therefore measured a very fine degree of granularity, finding very subtle districting decisions to be "outliers." These analyses are too sensitive to be legally significant.

d. Indeed, Plaintiffs' experts appear to have focused primarily, if not exclusively, on legislative *intent*. But, because politics is not a suspect classification, any viable claim requires an "egregious" impact on real-world elections. "As long as redistricting is done by a legislature, it should not be very difficult to prove that the

likely political consequences of the reapportionment were intended." *Davis v. Bandemer*, 478 U.S. 109, 129 (1986) (plurality opinion).

e. Plaintiffs' reliance on election-modeling, and failure to account in any way for actual results, further cuts against the significance of their analyses. They would have the Court strike down legislative districts with no reference to legislative election results and solely on superimposed results from statewide races. Worse, much of the analysis depends on uniform-swing tests that do not match the reality of elections. Dr. Chen admitted that he has never assessed whether North Carolina election differences tend to be uniform (nor would that be likely to occur). (Tr. 676:25–677:4.) Even if this is *relevant* it cannot carry Plaintiffs' burden of showing that the plans are "egregious gerrymanders."

851. Moreover, Plaintiffs' expert analyses are unreliable for a myriad of reasons discussed above. Most importantly, they do not match the legislative criteria. Only if the simulations track "a State's *own* criteria" do they provide an even arguably appropriate "baseline." *Rucho*, 129 S. Ct. at 2516 (Kagan, J., dissenting). These and other errors render the analyses incapable of forming the basis of viable claims.

852. Dr. Cooper's report and testimony are wholly lacking in credibility for reasons stated above. The Court is therefore unable to make any conclusion of law based on his work. Even if it were, he identifies only "small decisions" (Tr. AM 57:25) that are insufficient to show that the 2017 plans are "egregious" in any sense.

853. Plaintiffs' reliance on Dr. Hofeller's files is similarly unhelpful. As discussed above, that reliance is founded on factual errors. And, at most, it would only go to the question of partisan intent, but Plaintiffs have failed to show a meaningful impact.

(3) Plaintiffs Do Not and Cannot Show What Changes Should Be Made To Cure the Purported Violation

854. North Carolina law requires that "[e]very order or judgment declaring unconstitutional or otherwise invalid" any redistricting plan must (1) "find with specificity all facts supporting that declaration," (2) "shall state separately and with specificity the court's conclusions of law on that declaration, and shall, with specific reference to those findings of fact and conclusions of law," and (3) "identify every defect found by the court, both as to the plan as a whole and as to individual districts." N.C. Gen. Stat. § 120-2.3.

855. Plaintiffs' claims fail because they do not assist the Court in this task. They cannot identify how any district *should* be drawn and principally challenge legislative *motive* and hypothetical, simulated results that cannot and will not occur—not "defect[s]" in actual districts. Unable to fulfill this obligation, the Court cannot strike down any district, much less the 2017 plans.

(4) Plaintiffs Waited Too Long To File This Case To Obtain Relief For 2018

856. In *Pender Cty. v. Bartlett*, 361 N.C. 491, 508, 649 S.E.2d 364, 375 (2007), *aff'd sub nom. Bartlett v. Strickland*, 556 U.S. 1 (2009), the State Supreme Court concluded that a decision issued on August 24, 2007, striking down a handful of legislative districts came too late to impact the 2008 elections.

857. A final appellate decision in this case cannot come meaningfully before—and will most likely occur well after—that date in this election cycle. Accordingly, it is too late to afford meaningful relief to Plaintiffs.

858. They can blame only themselves. The plans were enacted in 2017, and many districts are no different from what they were in 2011. Plaintiffs' delay is the cause of their inability to impact the 2020 elections.

E. Plaintiffs' Claims Conflict with Federal Law

859. It is dispositive that Plaintiffs' claims lack merit under North Carolina law. But, even if they somehow had merit, they would conflict with federal law and be preempted by virtue of federal supremacy. This is so for several reasons.

(1) The *Covington* Order

860. Departing from the 2017 plans would conflict with the final order in *Covington*, which contained an express command that the 2017 plans be used in future elections. A state-law obligation cannot trump a federal-court order. The *Covington* court's final judgment ordered North Carolina to use in future elections many of the districts challenged in this case. After 28 districts were invalidated because race (i.e., the goal of creating majority-minority districts) predominated and the General Assembly did not collect sufficient data to justify the majority-minority goal, the *Covington* court supervised the General Assembly's enactment of the very districts challenged here. The *Covington* court supplemented a handful of those districts with districts drawn by a special master. That package—the legislatively drawn and special-master-supplemented districts—was adopted by the Covington court for future elections. *Covington v. North Carolina*, 283 F. Supp. 3d 410, 458 (M.D.N.C. 2018). Plaintiffs are asking for widespread departure from these maps, creating a conflict with federal law.

861. Indeed, at trial, Plaintiffs demonstrated several instances where districts drawn by the special master in *Covington* were adjusted in their simulations. This means they envision the Court striking down districts drawn by the special master, which would, in turn, need to be redrawn. Neither the General Assembly nor this Court can do that.

(2) Federal Civil Rights Law

862. Plaintiffs' theories would require the State to dismantle performing minority crossover districts in violation of the federal Constitution and the Voting Rights Act. The

Democratic Party's goal in the redistricting was to spread African American voters thin "because that could in turn create more democratic districts." LDTX14 at 48 (remarks by Rep. Jackson).

863. Now, they are asking the Court to do that work for them. Plaintiffs complain that the current map contains two types of districts, neither of which suits their state-law propositions: there are districts "packed" with Democratic constituents at high percentages, and there are districts that "crack" Democratic constituents across several districts at low percentages. Their assertion is that the North Carolina Constitution requires a more balanced share of Democratic voters so that the two major political parties have "substantially equal voting power," Am. Compl. ¶ 200 (quotations omitted), or, in other words, so that "Plaintiffs and other Democratic voters…[have] an equal opportunity to translate their votes into representation," *id.* ¶ 210.

864. But the request for intentional unpacking of the Democratic districts for partisan gain is not different from the request to crack the African American vote. There is an "inextricable link between race and politics in North Carolina." *N.C. State Conference of NAACP v. McCrory*, 831 F.3d 204, 214 (4th Cir. 2016). African American voters vote overwhelmingly Democratic. The General Assembly has no way of remedying the supposed violation in the manner suggested by Plaintiffs' pleadings (which, again, bear little resemblance to their remand filings) without drawing down black voting-age population, or "BVAP." Or else, drawing down Democratic vote share while maintaining current BVAP levels would require astonishing racial precision—requiring the General Assembly to keep black voters in the districts and segregate the white Democratic constituents out.

865. The civil-rights implications of enacting and enforcing this remedy are profound. The supposedly packed districts are ones that currently empower North Carolina's black communities to elect their preferred candidates, a central guarantee of the VRA and (in a more

limited way) the Fourteenth and Fifteenth Amendments. Because (1) BVAP in these districts is near or above 40% and (2) voting patterns reflected in the reports relied on by the General Assembly enable African American-preferred candidates to win in districts near or above 40% BVAP, they qualify as performing minority "crossover" districts. Plaintiffs do not explain how Democratic constituents can be removed without drawing down BVAP. Nor would any such explanation make sense when tampering with Democratic vote share necessarily means tampering with the minority community's electoral prospects. Plaintiffs' theory means BVAP can only go down in these districts.

866. This raises conflicts with federal law.

a. Fourteenth and Fifteenth Amendments

867. A crossover district is one in which "the minority population, at least potentially, is large enough to elect the candidate of its choice with help from voters who are members of the majority and who cross over to support the minority's preferred candidate." *Bartlett v. Strickland*, 556 U.S. 1, 13 (2009). These districts need not be created on purpose; like any type of district, they can occur naturally by operation of non-racial criteria. However they are formed, the Supreme Court has warned that "a showing that a State intentionally drew district lines in order to destroy otherwise effective crossover districts…would raise serious questions under both the Fourteenth and Fifteenth Amendments." *Id.* at 24. That is because an intentional state decision to enact legislation with the effect of "minimizing, cancelling out or diluting the voting strength of racial elements in the voting population" violates the Fourteenth and Fifteenth Amendments. *Rogers v. Lodge*, 458 U.S. 613, 617 (1982); *see also Reno v. Bossier Parish Sch. Bd.*, 520 U.S. 471, 481–482 (1997). *Bartlett* warns that this prohibition applies to the deliberate choice to dismantle a performing crossover district just as it does to the deliberate choice to dismantle a performing majority-minority district.

868. The intent element of this constitutional violation would be met under these circumstances. That element does not require "any evidence of race-based hatred." *N.C. State Conference of NAACP*, 831 F.3d at 222. Under federal court precedent, a motive to impact one party's political power, where race and politics correlate—as it does in North Carolina— qualifies as racial intent. *Id.* Nor would the compulsory order of the state court immunize the resulting redistricting legislation from an intent-based claim. *See Abbot v. Perez*, 138 S. Ct. 2305, 2327 (2018).

869. Thus, if the General Assembly enacted legislation deliberately "unpacking" the "packed" Democratic Party districts, it would very likely violate these provisions. It would act under a substantial motivating factor to dismantle minority crossover districts and thereby dilute minority voting strength.

b. The Voting Rights Act

870. Many of the districts the Plaintiffs challenge as "packed" with Democratic constituents enable the minority community to elect its preferred candidates. As a result, even unintentionally dismantling them—were that even possible—would create a conflict under VRA § 2. Although no Section 2 plaintiff could force the state to create crossover districts, see Strickland, 556 U.S. at 19–20, the Supreme Court in Strickland made clear that a state can cite crossover districts in its plan as a defense to a VRA § 2 claim seeking a majority-minority district. Id. at 24 ("States can—and in proper cases should—defend against alleged § 2 violations by pointing to crossover voting patterns and to effective crossover districts.").

871. These districts are therefore critical under Section 2. That is especially so since separate federal-court rulings have squeezed North Carolina into a tight corner. On the one hand, the *Covington* court found that the State erred in creating majority-minority districts without sufficient evidence of legally significant racially polarized voting to justify 50% BVAP districts.

On the other hand, *N.C. State Conference of NAACP v. McCrory* ("NAACP"), 831 F.3d 204 (4th Cir. 2016) found "that racially polarized voting between African Americans and whites remains prevalent in North Carolina." *Id.* at 225. These holdings place the state between the proverbial rock and hard place: Section 2 plaintiffs can cite *NAACP's* finding of severe polarized voting and, presumably, mount evidence to support that finding, and Equal Protection Clause plaintiffs can cite *Covington's* finding that North Carolina lacks sufficient evidence of legally significant polarized voting to justify 50% BVAP districts. These rulings expose the state to "the competing hazards of liability under the Voting Rights Act and the Equal Protection Clause." *Bethune-Hill*, 137 S. Ct. at 802 (quotations omitted).

872. The 2017 plans, however, navigate the tension between *Covington* and *NAACP* by maintaining approximately two dozen crossover districts of near or above 40% BVAP. These districts are a shield to VRA § 2 claims by affording the equal opportunity the statute guarantees. They also are a shield to racial-gerrymandering claims because (1) the General Assembly did not use racial data to create them and (2) they maintain BVAP levels identified by reports the General Assembly relied on as appropriate to afford racial equality in voting at current levels of polarized and crossover voting. (PTX593 at 53:23–54:11.) But Plaintiffs' demand that the General Assembly drop BVAP in these districts because they are (in Plaintiffs' view) "packed" with Democratic constituents undermines this proper exercise of "legislative choice or discretion," *Strickland*, 556 U.S. at 23, and exposes the State to a VRA § 2 claim by any plaintiff willing and able to prove legally significant polarized voting. Or else, it exposes the State to an equal-protection claim if the General Assembly uses racial data to target only white voters for removal from these districts. Further, in *Pender County v Bartlett*, 649 SE2d 364, 367 (N.C. 2007), affirmed sub nom, *Bartlett v Strickland*, 356 U.S. 1 (2009), the North Carolina Supreme

Court ruled that a BVAP of at least 38.37% is needed to form an African American opportunity district. A significant number of districts approach this level under the 2018 election plans.

873. To be sure, the General Assembly did not use racial data during the line-drawing process, but that is irrelevant. VRA protection turns on the actual opportunity a district affords minority voters, not on legislative intent in line-drawing. *See, e.g.*, *Strickland*, 556 U.S at 10; *Thornburg v. Gingles*, 478 U.S. 30, 62 (1986). Indeed, considering racial data during line-drawing creates the very problem necessitating the 2017 redistricting in the first instance: an equal-protection violation. What matters, then, is that the districts currently exist as minority crossover districts, and they cannot continue to exist as such under Plaintiffs' demand for reduced Democratic vote share.

874. Moreover, after the lines were drawn, the General Assembly did consider race; the General Assembly entered reports into the legislative record and concluded that the VRA was satisfied because of the many districts with BVAP in the range identified as necessary to preserve minority electoral opportunity. (PTX593 at 53:23–54:11.) That is the correct way of navigating the "competing hazards" of VRA and equal-protection requirements. *Abbott*, 138 S. Ct. at 2315.

875. In 2018, 10 African American candidates were elected to the North Carolina Senate and 26 to the House. Second Stipulations No. 1, Exs. 1 and 2. The plans currently provide an equal minority electoral opportunity. Plaintiffs' redistricting preferences are likely to deprive the black communities in North Carolina of that opportunity.

(3) The Fundamental Right to Vote

876. Plaintiffs' proffered theories of North Carolina law and demanded relief also conflict with the fundamental right to vote. The Fourteenth Amendment forbids "arbitrary and disparate treatment of the members of [the] electorate." *Bush v. Gore*, 531 U.S. 98, 105 (2000). Here, for more than 200 years, the North Carolina Constitution has delegated to a political entity—

the North Carolina General Assembly—the exclusive right to draw legislative districts. That prerogative was exercised by Democratic-controlled legislatures for most of that history. During that time period, the North Carolina Supreme Court held that political considerations are appropriate so long as the express guidelines of Article II of the State Constitution are met. *Stephenson*, 562 S.E.2d at 390. But now that, for the first time in history, voters of the Republican Party succeeded in electing a majority, Plaintiffs' position is that those Republican voters' votes should not count on equal terms. The courts should seize the redistricting authority for themselves on political grounds and with a blatantly political effect and for political reasons. Now that Republicans control the majority, the courts should draw the lines under rules favoring the Democratic Party. The right to vote for Democrats and Republicans is, in Plaintiffs' view, to be treated differently. This, in turn, burdens the rights of voters who prefer Republican candidates to associate for the purpose of electing a Republican majority in the General Assembly.

877. Worse, Plaintiffs contend that the Court must "unpack" and "uncrack" Democratic voters by packing and cracking Republicans. It must impose proportional representation in some county groupings, but deprive Republican voters of *any* representation in other groups, where they lack proportional representation. "Having once granted the right to vote on equal terms, the State may not, by later arbitrary and disparate treatment, value one person's vote over that of another." *Bush*, 531 U.S. at 104–05. Plaintiffs ask for a rule of law requiring express disparate treatment under the State Constitution for similarly situated voters.

878. Unlike the criteria under Article II of the State Constitution (e.g., the WCP), Plaintiffs' propose an amorphous and inherently political standard encouraging usurpation of political decisions from elected officials. The requirement that judicial regulation of districting decisions must be based on judicially manageable standards—that apply to all voters and not just

those of the favored party—conforms to the narrow-tailoring requirements for any court decision that infringes on the rights of the people to exercise freedom of association. The Democratic Party's insistence that it is a favored political entity has no place in federal or North Carolina law.

CONCLUSION

For these reasons, the Court should enter judgment for Legislative Defendants on all counts of the Amended Complaint.

This, the 7th day of August, 2019.

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