**IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF GEORGIA
ATLANTA DIVISION**

GEORGIA STATE CONFERENCE OF THE
NAACP; GEORGIA COALITION FOR THE
PEOPLE'S AGENDA, INC.; GALEO
LATINO COMMUNITY DEVELOPMENT
FUND, INC.,

Plaintiffs,

v.

STATE OF GEORGIA; BRIAN KEMP, in his
official capacity as the Governor of the State of
Georgia; BRAD RAFFENSPERGER, in his
official capacity as the Secretary of State of
Georgia,

Defendants.

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Civil Case No. 21-c5338-
ELB-SCJ-SDG

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STATEMENT OF MATERIAL FACTS WHICH PRESENT A DISPUTE OF FACTS IN OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

Plaintiffs respectfully submit this statement of material facts that present a dispute of facts in opposition to Defendants' motion for summary judgment.

I.   Standing

A. Associational Standing

1.   The NAACP was founded on February 12, 1909, and is the oldest, largest and most widely recognized grassroots-based civil rights organization. *See* Declaration of Jacob Canter ("Canter Decl.") ¶ 2 (Gerald Griggs ("Griggs Decl.") at ¶ 3).

2.   The Georgia State Conference of the NAACP ("GA NAACP"), a unit of the National NAACP, is the oldest and one of the largest, most significant organizations promoting and protecting the civil rights of African Americans and other racial and ethnic minorities in Georgia. *Id.* at ¶ 4.

3.   The GA NAACP is a non-partisan, interracial, nonprofit membership organization with a mission to "eliminate racial discrimination through democratic processes and ensure the equal political, educational, social, and economic rights of all persons, in particular African Americans." Protecting and promoting the voting

rights of Black voters, other voters of color, and underserved communities is essential to this mission. *Id.* at ¶ 5.

4.   The GA NAACP is dedicated to protecting voting rights through legislative advocacy, communication, and outreach, including work to promote voter registration, voter education, GOTV efforts, and election protection. The GA NAACP advocates for census participation and fair redistricting maps. *Id.* at ¶ 6.

5.   The, the GA NAACP has approximately 10,000 members across approximately 180 local units, residing in at least 120 counties in Georgia. *Id.* at ¶¶ 7-9; *see also* Griggs Dep. 34: 4-6.

6.   The GA NAACP has numerous—often hundreds—of members in each district challenged as a racial gerrymander. Griggs Decl. at ¶¶ 10-11.

7.   In each voting rights cluster analyzed by Plaintiffs' mapping expert, Dr. Moon Duchin, the GA NAACP has numerous—often hundreds—of members who reside in majority-white districts in the enacted cluster, but in majority-minority illustrative districts in the same cluster in one of Dr. Duchin's illustrative maps. *Id.* at 12. *See also* Canter Decl. ¶ 3 (Expert Report of Moon Duchin ("Duchin Rep.") at 25-39).

8.   GALEO Latino Community Development Fund, Inc. ("GALEO") was founded in 2004 and works to "increase civic engagement and leadership

development of the Latinx community across Georgia." *See* Canter Decl. ¶ 4 (Declaration of Gerardo Gonzalez ("Gonzalez Decl.") at ¶ 3); *see also* Declaration of Crinesha Berry ("Berry Decl.") at ¶ 14 (Ex. 8).

9.   Protecting and promoting the voting rights of Georgia's Latinx U.S. citizens is essential to this mission. The organization devotes significant time and resources to conducting voter registration drives, voter outreach, assistance with voter ID and "Get Out The Vote" efforts to increase turnout of Latinx voters, and advocacy for census participation and fair redistricting maps. *See* Gonzalez Decl. at ¶ 4; Berry Decl. at ¶ 14 (Ex. 8).

10.   GALEO has over 230 members in Georgia, in over 35 counties and 70 cities. *See* Gonzalez Decl. at ¶ 5-7.

11.   GALEO has at least one member in certain districts challenged as a racial gerrymander, including enacted Congressional Districts 2, 3, 4, 6, 8, 10, 13, 14; enacted Senate Districts 2, 4, 14, 48; and enacted House Districts 44, 48, 52, 104. *Id.* at ¶ 8.

12.   The Georgia Coalition for the People's Agenda ("GCPA"), is a Georgia not-for-profit corporation with its principal place of business located in Atlanta, Georgia. *See* Canter Decl. ¶ 5 (Declaration of Helen Butler ("Butler Decl.") at ¶ 3).

13.   The GCPA encourages voter registration and participation, particularly among Black and other underrepresented communities. The GCPA's support of voting rights is central to its mission. The organization has committed and continues to commit, time, and resources to conducting voter registration drives, voter education, voter ID assistance, election protection, census participation, fair redistricting maps, other get out the vote ("GOTV") efforts in Georgia, such as "Souls to the Polls," "Pews to the Polls" and other initiatives designed to encourage voter turnout, and impact litigation involving voting rights issues. *Id.* at ¶ 4; Berry Decl. at ¶ 14 (Ex. 7).

14.   The GCPA is a coalition of more than 30 organizations, which collectively have more than 5,000 individual members across the state of Georgia in various cities and counties. *See* Butler Decl. at ¶ 5.

15.   The GCPA has at least one member in certain districts challenged as racial gerrymanders, including: Congressional Districts 2, 3, 4, 8, 13 and Senate Districts 2 and 26. *Id.* at ¶ 8.

16.   The GCPA has at least one member who resides in majority-white Congressional district 3 in the enacted plan but would reside in majority-minority CD 3 in one of Plaintiffs' mapping expert's illustrative plans. *Id*. at ¶ 9.

B. Organizational Standing

17.   On November 14, 2022, counsel for Plaintiffs informed counsel for Defendants via email that "Plaintiffs agree to waive any argument that they can support organizational standing by showing financial diversion, on the condition that the State withdraws Interrogatory No. 3 and RFPs 10-12 and agrees not to seek similar evidence, i.e. via deposition questions on financial diversion." *See* Berry Decl. at ¶ 10 (Exhibit 6).

18.   Counsel for Plaintiffs further noted that "Plaintiffs still intend to support organizational standing by showing diversion of non-financial resources, such as activities specifically for the redistricting plans that divert time, personnel, and other non-financial resources from Plaintiffs' usual activities." *See id*. (Exhibit 6).

19.   On November 9, 2022, counsel for Defendants agreed to this. *See id*.

20.   Each Plaintiff organization had to divert resources from core projects and activities as a result of the enactment of the redistricting plans. *See* Canter Decl. ¶ 6 (Deposition of Helen Butler ("Butler Dep.") 23:22-36:14; 50:04-54:09 (describing resources diverted from the GCPA's core activities and projects)); *see also* Canter Decl. ¶ 7 (Deposition of Cynthia Battles ("Battles Dep.") 16:08-24:11 (same)); Canter Decl. ¶ 8 (Deposition of Gerald Griggs ("Griggs Dep.") 26:03-33:14; 47:24-48:24 (describing resources diverted from the NAACP's core activities

and projects)); Canter Decl. ¶ 9 (Deposition of Gerardo Gonzalez ("Gonzalez Dep.") 41:05-59:24 (describing resources diverted from GALEO's core activities and projects)).

21.   President Gerald Griggs of the GA NAACP testified during his deposition that "[t]o the best of [his] knowledge, prior to [his] time as the president and up till now, [GA NAACP has] had to shift [its] organizational philosophy and resources to [make] sure that the impact of the new maps [did] not substantially reduce the voting power of black people in communities of color throughout the State." Griggs Dep. 26: 8-13.

22.   He also testified that the GA NAACP had to "shift [its] resources from [its] main pillars to focus directly on combating the significant impact of [redistricting]." *See* Griggs Dep. 26: 22-24.

23.   He further testified that the GA NAACP "… had to shift resources from [its] focus, which was racial discrimination, civil rights violations, to focusing on making sure there was no dilution through the [redistricting] plan and implementation." *See* Griggs Dep. 28: 17-21.

24.   With respect to voter education programs, President Griggs testified that GA NAACP had to "… shift [its] messaging strategy and our overall strategy to get people to understand that[…] many of the congressional districts that they now

live in will be drastically changed, so polling precincts will be changed, their

representatives will be changed, and that they need to understand what the impact

that would have on them. Voter registration drives, if you were registered to vote,

especially with the voting purges, you would have to make sure your registration is

still up to date and good, and that you have to make sure that you are still in whatever

district you were in or you may have be moved to another district. So [GA NAACP]

had to educate people, and […] had to make sure people were aware, and […] had

to make sure people understood that they still had the opportunity, through the Town

Halls and through the hearings, to be present to give voice to what was about to

happen, but also be prepared for the outcome of what would happen. None of that

[GA NAACP] would be doing but for the issue of re-districting…" *See* Griggs Dep.

29:23-30:20; *see also* 30:20-31:1 (describing activities GA NAACP would have

done instead of focusing on redistricting).

25.   President Griggs testified that a "substantial" number of volunteers

were diverted from GA NAACP's normal efforts to combating effects of

redistricting. *See* Griggs Dep. 31:9-17.

26.   President Griggs further testified that GA NAACP had employees that

"primarily focused on getting the message out and planning the programming around

pushing back on [redistricting,] [s]o […] they were working on that more than they

were working on anything else that [was] a part of the pillars of [the GA NAACP] strategy to make sure we advance the lives of colored people in the State." *See* Griggs Dep. 32: 8-14.

27.   Finally, President Griggs testified that without having to engage with redistricting the GA NAACP "… would have dedicated more resources to the actual voter mobilization and get out to vote earlier than [it] did, because [it was] focused on [redistricting] while in the middle of the municipal races. So [the GA NAACP] had to shift significant resources away from GOTV for municipal races to deal with special session as well as voter education of what was happening during that period in 2021." *See* Griggs Dep. 34: 13-21.

28.   Gerardo Gonzalez, Chief Executive Officer (CEO) of the GALEO, testified during his deposition that after the enactment of the maps GALEO engaged in the effort to "educate and inform [its] community about the Georgia legislative efforts to diminish the voting strength of minority communities across the state of Georgia by unfairly cracking and packing [its] communities to dilute the growth of communities power in the legislative process through the redistricting process." Gonzales Dep. 43: 18-25; *see also* 44: 19-23 (testifying that GALEO had to educate its members "…about the impact that [the redistricting had] on [its] community with the cracking and packing and why [GALEO] believed that happened." He also

testified that GALEO had to "inform and educate [its] community about the new districts in which they were going to be voting").

29.   He further testified that in response to the enactment of the maps GALEO's messaging had to change "adding another topic to what [they] were talking to voters about [was] a diversion of resources that [they were] doing associated with the work that [they were] doing" because "had the districts not changed, that's not something [GALEO] would have talked about because [its members] would be able to exercise their right to vote without having to understand that there was a new district that they were voting in." Gonzales Dep. 48:3-12.

30.   He also testified that following the enactment of the maps, among other hostile legislative actions, GALEO "increase[d] [its] outreach efforts" which was a change or expansion in the number of volunteers GALEO utilizes in outreach efforts. Specifically noting that GALEO "had to increase [its] number of volunteers in [its] targeted outreach to [its] community to ensure that [it was] adequately educating and informing [its] community about the changes in districts, as well as changes in law." Gonzales Dep. 56:1-12; 56:17-21.

31.   Finally, he testified that since the 2020 census, GALEO staff has increased from four people to fifteen, and that as a result of efforts by the Georgia legislature to dilute the ability of the minority community to exercise its right to vote

GALEO had to "increase … staff resource allocation to ensure [it] can continue to engage and educate [its] community about exercising the right to vote, given the changes in the law…" including, but not limited to, the redistricting process. Gonzales Dep. 58: 13-24.

33. 32.   Helen Butler, Executive Director of GCPA, testified during her deposition that GCPA"…[has] a very limited staff…[and] had to assign and prioritize the activities of [its] staff and volunteers that work with [them] to be able to accomplish a lot of things that were impacted by the redistricting[, which…] took [GCPA's] time and energies away from doing … other activities [like…] trying to get our citizen review boards adopted throughout the state." Butler Dep. 24:15-22.

33.   She further testified that GCPA had to "try to prioritize [its] efforts that [it] normally [did] in a normal election cycle with voter registration, education, mobilization, and election protection [while …] trying to accomplish educating the public about the redistricting process, how it was happening, how it would impact the communities [such that GCPA] had to really reorganize and reprioritize [its] limited staff and volunteers that could do the work." Butler Dep. 24:24-25; 25:1-7.

34.   While not able to list a specific percentage, Ms. Butler testified that "a large portion of [GCPA] activities had to be diverted to holding different town hall hearings" and that at least one employee had to "spend most of her time at hearings,

trying to get people educated about the process, how they could have an impact, trying to help people know -- get tools to really draw their own maps to be engaged in the redistricting process because [it was] critical." Butler Dep. 25:13-21; *see also* Battles Dep. 16:08-17:22 (describing changes in responsibilities in light of redistricting).

35.   She also testified that a "…large portion of that, our time and resources, were diverted to ... [d]oing the meetings, developing materials, all of those things that we [GCPA] had to do, that could have been spent on the other issues that [GCPA does], like criminal justice, like education equity, like improving our economic equity in the [] the state [such that GCPA] could not do those effectively [because GCPA] had to devote more time to the redistricting process." Butler Dep. 26:6-13.

36.   She added that while GCPA sometimes host townhalls, since redistricting "[GCPA has] been doing, more frequently, town halls with regards to redistricting to make sure [GCPA] reach[es] the people so that they know who is representing them and how it impacts their communities." Butler Dep. 35:13-17.

37.   She further explained that while GCPA generally engages in phone banking and texting "… the messaging has [had] to be diverted to other things, not issues like education equity, not like criminal justice… [g]etting those citizen review boards that [GCPA has] been trying to do or economic justice equity issues, [instead

GCPA was] spending more time doing [phone banking and texting with] regards to polling changes and […] how redistricting has impacted the communities." Butler Dep. 35:23-36:7.

38.   Ms. Butler testified that programs that the GCPA would not be able to commit to due to its work combating the effects of the redistricting maps included "education initiatives, working with parents with regards to schools and involvement in schools getting community schools[,]" "economic empowerment [initiatives]" and "getting Medicaid expansion for health care." Butler Dep. 52:13-53:17.

II.   The Sequence of Events Leading to the Passage of the Redistricting Plans and Procedural and Substantives Departures.

A. Historical Background

39.   There is a long history of discrimination in Georgia affecting voting. *See* Canter Decl. ¶ 10 (Expert Report of Dr. Peyton McCrary ("McCrary Rep.") ¶ 11).

40.   Since 1945, numerous redistricting plans in Georgia have been struck down as racially discriminatory. *See* McCrary Rep. ¶¶ 11, 17-18, 21-26. Canter Decl. ¶ 11 (Expert Report of Dr. Joseph Bagley ("Bagley Rep.") at 13-31, 33-34).

41.   Between 1965 and 2013, the Department of Justice blocked 177 proposed changes to election law by Georgia and its counties and municipalities

Under Section 5 of the Voting Rights Act. McCrary Rep. ¶ 31. Of these Section 5

objections, 48 blocked redistricting plans. *Id*.

42.   In 2018, a three-judge panel sitting in the Northern District of Georgia

concluded that plaintiffs in a racial gerrymandering action had introduced

"compelling evidence" that "race predominated the redistricting process," through

testimonial and documentary evidence related to the conduct of Dir. Wright and

others that work at the LCRO. Bagley Rep. 39-40; *see also Georgia State Conf. of

NAACP v. Georgia*, 312 F. Supp. 3d 1357, 1364-65 (N.D. Ga. 2018).

B. The "Town Halls"

43.   Dr. Joseph Bagley is an Assistant Professor of History at Georgia State

University, Perimeter College. Bagley Rep. at 3.

44.   Dr. Bagley's specific areas of study are United States constitutional and

legal history, politics, and race relations, with a focus on the Deep South. *Id*.

45.   Dr. Bagley analyzed, among other things, the sequence of events and

legislative history leading to the passage of the redistricting plans. *Id*. at 6.

46.   During   the   summer   of   2021,   the   Senate   Committee   on

Reapportionment and Redistricting and the House Committee on Reapportionment

and Redistricting formed a joint Reapportionment Committee for the purpose of

holding a series of redistricting "Town Halls." *Id*. at 43-56.

47.   Dr. Bagley reviewed the public testimony given at each of the town halls. *Id*. at 41-56.

48.   Dr. Bagley opined that throughout the town hall process: "The public was widely critical of holding these meetings before the release of the Census data and the publication of maps. They called for ample time for analysis and feedback and map-submission after the fact." *Id*. at 41.

49.   Dr. Bagley opined that throughout the town hall process: "The public was relentless in its call for a more transparent process, in general." *Id*.

50.   Dr. Bagley opined that throughout the town hall process: "The public and members of the committee wanted more of a dialogue than a one-way-street of taking community comment at hearings." *Id*. at 42.

51.   Dr. Bagley opined that throughout the town hall process: "Hearings were not held, according to members of the public and the committees, in the most populous areas of the state where they should have been." *Id*.

52.   Dr. Bagley opined that, throughout the process, members of the public testified that "[m]aps ought to reflect the growth of Georgia's minority po[p]u[la]tion." *Id*.

53.   Dr. Bagley opined that members of the public asked the Committee not to "engage in packing and cracking [of minority populations] . . . ." *Id*.

54.   Dr. Bagley opined that the Committee's refusal to change the town hall process in the face of these public complaints constitutes evidence of procedural and substantive departures. *See Id*. *See also* Bagley Dep. 118:04-118:11.

C. Legislative History

55.   On September 23, 2021, Governor Brian Kemp ordered a special session of the General Assembly to commence on November 3, 2021. Bagley Rep. at 57.

56.   Five days later, the Legislative Congressional and Reapportionment Office ("LCRO") publicly posted the first draft congressional map—sponsored by Senator Kennedy and Lieutenant Governor Duncan. *Id*.

57.   On November 2nd, 2021, just one day before the start of the special session, the LCRO published draft House and Senate plans sponsored by Chair Rich and Chair Kennedy, respectively. *Id*. at 58.

58.   Between September 23 and November 3, 2021, the legislature did not hold any town halls to solicit public feedback. *See generally,* Bagley Rep. at 43-58.

59.   The Senate Legislative and Congressional Reapportionment Committee held a hearing and solicited public comment just two days after the draft senate plan was released to the public. *Id*. at 58-62.

60.   The House Legislative and Congressional Reapportionment Committee held a hearing and solicited public comment on the same day it released a revised house map to the public. *Id*. 66-68.

61.   The Senate Legislative and Congressional Reapportionment Committee held a hearing and solicited public comment on a congressional map that had been released to the public just hours before the meeting. *Id*. at 73.

62.   SB 2EX—the congressional map—was sent to the Governor for his signature on November 30, 2021, just three weeks after the start of the special session. *See* Canter Decl. ¶ 12 https://www.legis.ga.gov/legislation/60894, related to the Congressional map, was passed by the Senate on November 9, 2021.

63.   SB 1EX—the senate map—was sent to the Governor's Office on November 30, 2021, just three weeks after the start of the special session. *See* Canter Decl. ¶ 13 https://www.legis.ga.gov/legislation/60894/.

64.   HB 1EX—the state house map—was sent to the Governor for his signature on November 29, 2021, just three weeks after the start of the special session. *See* Canter Decl. ¶ 14 https://www.legis.ga.gov/legislation/60897.

65.   The Governor delayed signing the redistricting plans for almost a month, until December 30, 2021. *See* Canter Decl. ¶ 15 (Def. Suppl. Resp. to Plaintiffs Second Set of Interrogatories at 4-5).

66.   Based on his analysis of the legislative history, *id.* at 58-88, Dr. Bagley opined that "The public made consistent demands for more transparency, but the process was still carried out behind closed doors with staff and counsel," which were ignored. Bagley Rep. at 56. He also opined that Chair Rich's statement that the VRA was "unfair" is contemporaneous evidence relevant to intentional discrimination. *Id*. at 57.

67.   The legislature used the 2001 redistricting process as an excuse for ignoring the public's calls for transparency, which Dr. Bagley opined "is both a procedural and substantive departure – substantively, there is nothing in the committee guidelines that instructs committees or the General Assembly as a whole to fashion its behavior and actions, procedurally, based on previous cycles." *Id*.

68.   Dr. Bagley opined that his analysis revealed the public was concerned with the packing and cracking of populations of color. *Id*.

69.   Dr. Bagley opined that the public was "concern[ed] that women of color, specifically… congresswoman Lucy McBath, were being targeted." *Id*.

70.   Dr. Bagley opined that members of the public were concerned that "Voters of color were being manipulated again for partisan advantage in places like Henry, Cobb, and Gwinnett counties." *Id*. at 56.

71.   Based on his analysis, Dr. Bagley opined that "Staff in the LCRO and leadership on the respective committees were not as responsive to legislators of color as they were to the majority, which was all-white save for a handful of Latino and East Asian members, and none were Black." *Id*. at 57.

D. Demographic Trends in Georgia

72.   Between 2010 and 2020 Georgia's population grew, driven almost entirely by an increase in the population of people of color. Duchin Rep. at 8

73.   The share of Black and Hispanic residents in Georgia expanded from 39.75% to 42.75%; the white population decreased from 5,413,920 to 5, 362,156 between the 2010 and 2020 census data releases; and the Georgia population is 31.73% Black. *Id.*

74.   Despite the population growth of persons of color in Georgia, the newly enacted Congressional plan reduces the number of performing districts for Black and Latino-preferred candidates from 6/14 to 5/14, and the Senate plan has the same number of performing districts for Black and Latino-preferred candidates. Duchin Rep. at 10, 19.

E. The Map Drawing Process

75.   Gina Wright, the director of the Legislative and Congressional Reapportionment Office ("LCRO"), was primarily responsible for the technical

aspects of drawing the legislative maps. Canter Decl. ¶ 16 (Deposition of Gina Wright ("Wright Dep.") 8:24-9:02).

76.   Rob Strangia is the Geographic Information Systems ("GIS") specialist at the LCRO, who participated in the mapdrawing process. Canter Decl. ¶ 17 (Deposition of Robert Strangia ("Strangia Dep." 19:14-20:24).

77.   Mr. Strangia created a formula to estimate political data at the block level, but this data is not accurate at the block level. However, the legislature had access to racial data at the block level that is accurate. *Id.* at 97:17-103:23.

78.   Director Wright testified that she did not use email to communicate about redistricting maps because she did not want to "create… a record." Wright Dep. 19:16-20:03.

79.   Dir. Wright kept drafts for all three of her maps private in her office until the drafting process was completed, and when Director Wright drew draft Congressional districts at the direction of legislators, racial data was projected onto the computer screens where the map lines were being drawn. Wright Dep. 39:17-40:1 (private in office); Wright Dep. 10:25-11:21; Wright Dep. 14:11-20 (Rep. Rich); Wright Dep. 27:17-32:4; Wright Dep. 115:25-116:16; Wright Dep. 36:14-24, Wright Dep. 63:18-21; Wright Dep. 145:11-22; Wright Dep. 149:25-150:9.

80.   When Director Wright drew draft Congressional districts with legislators, she and the legislators could immediately see how line changes impacted the racial balance of districts. Wright Dep. 115:25-118:25 (data changed on screen when making changes to maps); 126:03-127:04 (same).

81.   When Director Wright drew draft Senate districts at the direction of legislators, racial data was projected onto the computer screens where the map lines were being drawn. Wright Dep. 37:22-38:20; 40:3-41:19; 42:16-43:1; Wright Dep. 54:3-56:13; Wright Dep. 57:16-21; Wright Dep. 36:14-24, Wright Dep. 63:18-21; Wright Dep. 145:11-22; Wright Dep. 149:25-150:13.

82.   When Director Wright drew draft Senate districts with legislators, she and the legislators could immediately see how line changes impacted the racial balance of districts. Wright Dep. 116:23-118:25; 126:03-127:04.

83.   When Director Wright drew draft House districts at the direction of legislators, racial data was projected onto the computer screens where the map lines were being drawn. Wright Dep. 64:14-66; Wright Dep. 36:14-24, Wright Dep. 63:18-21; Wright Dep. 145:11-22; Wright Dep. 149:25-150:13.

84.   When Director Wright drew draft House districts with legislators, she and the legislators could immediately see how line changes impacted the racial balance of districts. Wright Dep. 116:23-118:25; 126:03-127:04.

85.   Dan O'Connor, a data analyst with the LCRO, testified during his deposition that a district in Georgia that was roughly 30% black would tend to elect Democrats and that the figure was consistent from 2014 to the present. Canter Decl. ¶ 18 (Deposition of Daniel O'Connor ("O'Connor Dep.") 30:9-33:18).

86.   He also testified that if a legislator wanted to redraw such a district so that it was more likely to elect a Republican instead of a Democrat it would be necessary to lower the amount of BVAP in that district. *Id.* at 40:23-41:11.

87.   He further testified that in order to lessen the BVAP in such a district one would need to either move BVAP out of the district and put it in another district or move WVAP into the district to dilute the amount of BVAP in the district. *Id.* at 41:12-24.

III.   Material Facts in Support of Racial Gerrymandering Claims

A. Dr. Duchin's Methodology

88.   Dr. Moon Duchin is a Professor of Mathematics and a Senior Fellow in the Jonathan M. Tisch College of Civic Life at Tufts University, where she is the Director of the MGGG Redistricting Lab, focused on geometric and computational aspects of redistricting. Duchin Rep. at 3.

89.   Dr. Duchin has been accepted as an expert in vote dilution cases on the issue of *Gingles* preconditions by a three judge panels in Alabama, and on racial

gerrymandering issues by a three-judge panel in South Carolina. *See* Canter Decl. ¶ 19 (Deposition of Moon Duchin ("Duchin Dep." Ex. 4 at 8).

90.   Dr. Duchin analyzed the Congressional, Senate, and House maps to determine whether there is evidence that race predominated over traditional redistricting principles in the drawing of certain districts. Duchin Rep. at 3-4. *See also* Duchin. Dep. 166:02-166:17.

91.   To do so, Dr. Duchin primarily used two methods: First, Dr. Duchin examined core retention and population displacement from the benchmark plan to the enacted plan in order to detect evidence of "racially imbalanced transfer[s] of population in rebalancing the districts," and whether those transfers "impact[ed] the districts' effectiveness for electing Black and Latino candidates of choice." Duchin Rep. at 67-71; Duchin. Dep. 166:02-166:08.

92.   Dr. Duchin opined that racially imbalanced population transfers in and out of a district are evidence that race predominates over traditional redistricting principles. Duchin Dep. 180:18-180:23.

93.   Second, Dr. Duchin looked at political subdivision splits—including precinct splits and county splits—to determine whether those splits provide evidence of "cracking" and "packing" that suggests race predominated over traditional

redistricting principles in the drawing of certain districts. Duchin Rep. § 10.2;
Deposition of Moon Duchin ("Duchin Dep.") 166:09-12.

94.   Dr. Duchin opined that "[i]t is extremely frequent for precinct splits to
show major racial disparity," as well as that "racially distinctive precinct splits
provide particularly strong evidence that race has predominated over other principles
in the creation of the map." Duchin Rep. at 5, 79.

95.   Dr. Duchin also analyzed community testimony to review whether
there were community of interest justifications for certain decisions that she
determined were evidence of race-conscious decision-making. Duchin Rep. at 79-
80; Duchin Dep. 166:13-166:17.

B. Core Retention and Population Displacement in the Congressional Plan

96.   CD 6 "was nearly at ideal size before the redistricting, having 771,431
residents enumerated in the census —less than seven thousand off from the target
size." Duchin Rep. at 67.

97.   CD 6 was nevertheless "subjected to major reconfiguration, with at
least 40,000 people from the benchmark district reassigned to each of districts 4, 5,
7, and 11, while at least 40,000 different people were drawn in from each of districts
7, 9, and 11." *Id.*

98.   Larger proportions of Black and Hispanic population and neighborhoods were moved out of CD 6, and population from whiter suburban areas were moved into CD 6. *Id.* at 68.

99.   The largest reassignment of population out of CD 6 went to CD 4, approximately 200,000 Georgians. *Id.*

100.   The transfer of population from CD 6 to CD 4 was 37.5% Black or Latino. *Id.*

101.   The largest transfer of population into CD 6 was from CD 7, approximately 200,000 Georgians. *Id.*

102.   The population transferred into CD 6 from CD 7 was 16.1% Black or Latino. *Id.*

103.   Under the benchmark plan, CD 6 performed for Black and Latino voters. *Id.*

104.   The changes to CD 6 added whiter suburban/exurban/rural areas to the district. *Id.* at 68, Figure 31.

105.   Dr. Duchin opined that CD 6 was cracked through "racially distinctive swaps of population" that diluted the voting power of Black and Latino voters. Duchin Dep. 173:1-173:25.

106.   Dr. Duchin opined that the racially distinctive population swaps in CD

6 are evidence that race predominated over traditional redistricting principles in the

drawing of CD 6. Duchin Dep. 182:15-182:19.

107.   Dr. Duchin determined that core retention and population displacement

in CD 14 were "distinctive in terms of density and racial composition." *Id.*

108.   CD 14 expanded into Cobb County to include two majority-Black

cities: Powder Springs and Austell. *Id.* at 68, Figure 31 (included below).

CD 14 shift   CD 6 shift
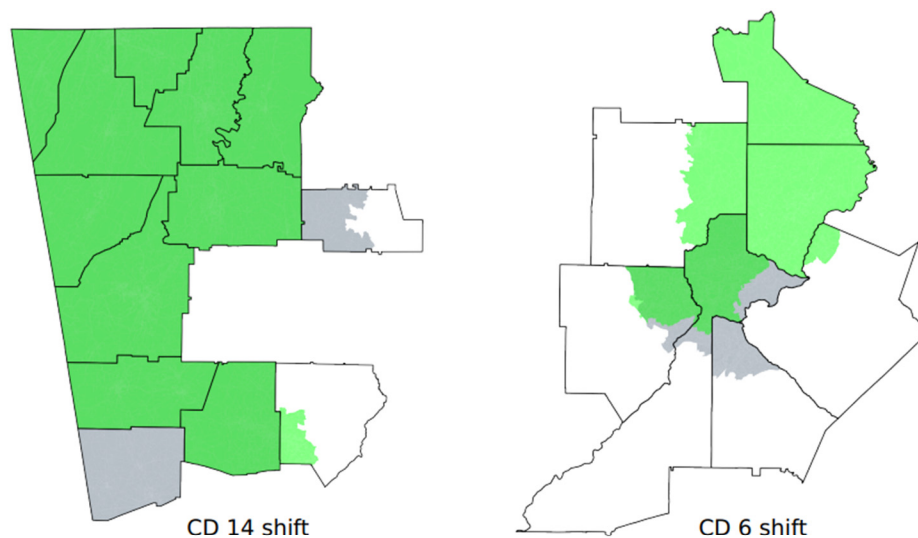
Figure 30: These before-and-after plots show benchmark configurations in gray, while new district placement is in light green. We can see that CD 14 made a new incursion into Cobb County while shedding rural Haralson and part of Pickens County. Meanwhile, CD 6 went sharply the other way, withdrawing from its metro Atlanta coverage and picking up rural counties to the north. Compare to Figure 31.

109.   Dr. Duchin opined that "incursion of CD 14 into Cobb is emphatically

not required by adherence to traditional redistricting principles." *Id.* at 69.

110.   The Duncan-Kennedy map—the first Congressional map released by the Senate Redistricting Committee—did not include Powder Springs and Austell in CD 14. *Id*. *See also* Duchin Dep. 177:14-178:15; Canter Decl. ¶ 20 (Deposition of Senator Kennedy ("Kennedy Dep.") 117:25-118:01).

111.   Dr. Duchin determined that "dense African-American neighborhoods" in Powder Springs and Austell were "submerged among more numerous, dissimilar communities [in] CD 14," which could not be justified by compactness concerns. Duchin Rep. at 68; Duchin Dep. 175:11-20.

112.   Dr. Duchin reviewed community testimony and determined that community of interest justifications could not account for including Powder Springs and Austell in CD 14. Duchin Rep. at 79-80.

113.   Dr. Duchin determined that her core retention and population displacement analysis of CD 14 provided evidence that race predominated over traditional redistricting principles in the drawing of CD 14. Duchin Dep. 182:15-19.

C. **Core Retention and Population Displacement in the Enacted Senate Plan.**

114.   Dr. Duchin analyzed core retention and population displacement in the enacted Senate Plan. Duchin Rep. at 69-70.

i. **SD 48**

115.   Benchmark SD 48 was represented by Michelle Au, who was the candidate of choice of voters of color. *Id.*

116.   Roughly two-thirds—over 130,000 people—of benchmark SD 48 was moved into enacted SD 7, of whom 37.8% were Black and Latino. *Id.*

117.   The retained population of SD 48 has only a 17.8% BHVAP share. *Id.*

118.   No territory moved into SD 48 has a BHVAP share over 23.5%. *Id.*

119.   Dr. Duchin opined that the new SD 48 is highly ineffective for Black and Latino voters. *Id.*

120.   Dr. Duchin opined that SD 48's racially imbalanced population displacement could not be explained by a desire to improve SD 48's compactness as compared to the benchmark SD 48. *Id*. at 70, Figure 32.

121.   Dr. Duchin opined that her core retention and population displacement analysis of SD 48 is evidence that race predominated over traditional redistricting principles in the drawing of SD 48. Duchin Depo. 180:18-182:14; 189:02-189:24.

1.   SD 17

122.   Dr. Duchin analyzed the core retention and population displacement of the enacted SD 17, which had previously been an effective district for Black and Latino voters. Duchin Rep. at 70.

123.   SD 17 retained only about half of its residents even though it was only mildly overpopulated. *Id.*

124.   Approximately half of the outgoing population from SD 17 was Black and Latino. *Id.*

125.   The incoming Black and Latino population to SD 17 was much lower than 50% of the incoming population. *Id.*

126.   The new SD 17 is now ineffective for Black and Latino voters. *Id.*

127.   Dr. Duchin determined that no district that received population from SD 17 thereby became effective for Black and Latino voters. *Id.*

128.   Dr. Duchin opined that a desire to create a more compact SD 17 as compared to the benchmark SD 17 cannot explain the racially imbalanced population flows to and from SD 17. *Id*., Figure 32. *See also* Wright Dep. 181:21-183:1 (describing Ex. 9); Wright Dep. Ex. 9.

129.   Dr. Duchin determined that her core retention and population displacement analysis of SD 48 is evidence that race predominated over traditional redistricting principles in the drawing of SD 48. Duchin Dep. 180:18-182:14; 189:02-189:24.

2.   SD 56

130.   Dr. Duchin analyzed the core retention and population displacement of enacted SD 56, which had recently become competitive for Black and Latino voters. Duchin Rep. at 69.

131.   Benchmark SD 56 was almost entirely placed into enacted SD 14. *Id.*

132.   However, incumbent Republican John Albers was able to remain in the district. *Id.*

133.   Dr. Duchin opined that the population flow from benchmark SD 56 to enacted SD 14 was racially imbalanced. *Id.*

134.   Approximately 35.5% of the population moved from benchmark SD 56 to enacted SD 14 was BHVAP. *Id.*

135.   Each territory moved into SD 56 contained under 19% BHVAP. *Id.*

136.   The new SD 56 is not competitive for Black and Latino voters. *Id.*

137.   Dr. Duchin determined that her core retention and population displacement analysis of SD 56 is evidence that race predominated over traditional redistricting principles in the drawing of SD 56. Duchin Dep. 180:18-182:14; 189:02-189:24.

D. Core Retention and Population Displacement in the Enacted House Plan.

1.   HDs 35, 44, 48, 49, 52, 104, and 109

138.   Dr. Duchin analyzed core retention and population displacement in the enacted House Plan. Duchin Rep. at 70-71.

139.   Dr. Duchin identified seven house districts that had become competitive for Black and Latino voters because of demographic shifts over the last ten-years: HDs 35, 44, 48, 49, 52, 104, and 109. *Id*. at 70.

140.   Dr. Duchin determined that five of these districts—HDs 44, 48, 49, 52, and 104—were "rebuilt to be ineffective for Black and Latino voters" because of "racially imbalanced population transfers." *Id*. at 70.

141.   Dr. Duchin produced a table that demonstrates the largest district-to-district reassignments for BHVAP for HDs 44, 48, 49, 52, and 104:

Benchmark HD	Outward	Inward
44	.425 (to HD 35)	.226 (from HD 20)
48	.464 (to HD 51)	.201 (from HD 49)
49	.227 (to HD 47)	.127 (from HD 48)
52	.436 (to HD 54)	.245 (from HD 79)
104	.715 (to HD 102)	.363 (from HD 103)

Table 40: This table records the BHVAP share of the largest district-to-district reassignment for the five "dismantled" House districts that were formerly swingy, now made ineffective.

Id. at 71, Table 40.

142.   Dr. Duchin opined that racially imbalanced population flows from and into HDs 44, 48, 49, 52, and 104 could neither be "explained by traditional districting principles like compactness or respect for county lines" nor by "respect for municipal boundaries." *Id*. at 71, Figure 33.

E. Political Subdivision Splits in the Congressional Plan.

143. Cobb County is split across four districts, with CD 13 and CD 14 receiving portions of Cobb that are over 60% Black and Latino by VAP, while CD 6 contains a part of Cobb that is about 18.5% BHVAP. *Id*. at 71.

144. Dr. Duchin determined this evidence is consistent with a "packing and cracking strategy." *Id*.

145. CD 2 and CD 8 split Bibb County. *Id*. at 72.

146. Dr. Duchin determined that minutely race conscious decisions were "evident along the boundary of CD 2 and CD 8 in Bibb County," as demonstrated by the figure below:

County	District	BVAP	BHVAP
Bibb	CD 2	.6349	.6710
	CD 8	.3098	.3394
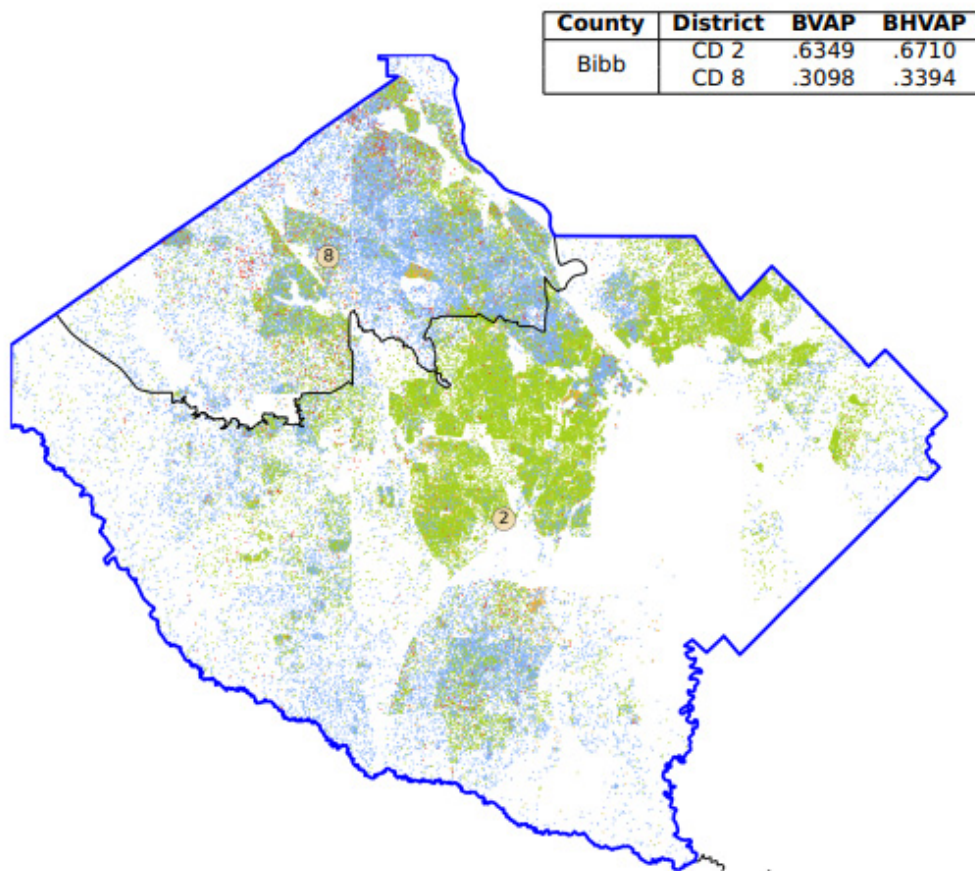
Figure 34: Minutely race-conscious decisions are evident along the boundary of CD 2 and CD 8 in Bibb County.

Asian   White   Black   Latino   ● = 1 person

Id. at 72, Figure 34; *see also* Figure 2 at 9 (containing key to dot figure.)

147.   Dr. Duchin analyzed all county splits involving CD 3, 6, 13, and 14.

Id. at 73; Table 41.

148.   Dr. Duchin determined that all of the splits—with the exception of the

Clayton County split-- are "consistent with an overall pattern of cracking in CD 3

33

and CD 6, packing in CD 13, and submerging a small and diverse urban community

in CD 14," as demonstrated below:

County	District	BVAP	BHVAP
Cherokee	CD 6	.0304	.0814
	CD 11	.0817	.1902
Clayton	CD 5	.7280	.8649
	CD 13	.7190	.8266
Cobb	CD 6	.1092	.1848
	CD 11	.2654	.3850
	CD 13	.4458	.6271
	CD 14	.4646	.5644
Douglas	CD 3	.2970	.3719
	CD 13	.5762	.6647
Fayette	CD 3	.2094	.2720
	CD 13	.5762	.6647
Fulton	CD 5	.4769	.5379
	CD 6	.1574	.2568
	CD 7	.1175	.1777
	CD 13	.8829	.9171
Gwinnett	CD 6	.1336	.2645
	CD 7	.3234	.5450
	CD 9	.2061	.3433
Henry	CD 3	.4678	.5259
	CD 10	.4414	.4948
	CD 13	.5710	.6324
Muscogee	CD 2	.5262	.5851
	CD 3	.1909	.2578

Table 41: All county splits involving CD 3, 6, 13, and 14. With the exception of the Clayton split, which is unremarkable in demographic terms, each of these is consistent with an overall pattern of cracking in CD 3 and CD 6, packing in CD 13, and submerging a small and diverse urban community in CD 14. See Appendix C for a complete list of county splits.

Id.

149.   Dr. Duchin analyzed the Newton County split involving CD 4 and CD

10. *Id.* at 74.

150.   Dr. Duchin determined that in "Newton County, CD 4 and CD 10 are

divided by a line that is consistent with packing the former district and cracking the

latter," as demonstrated by the figure below:

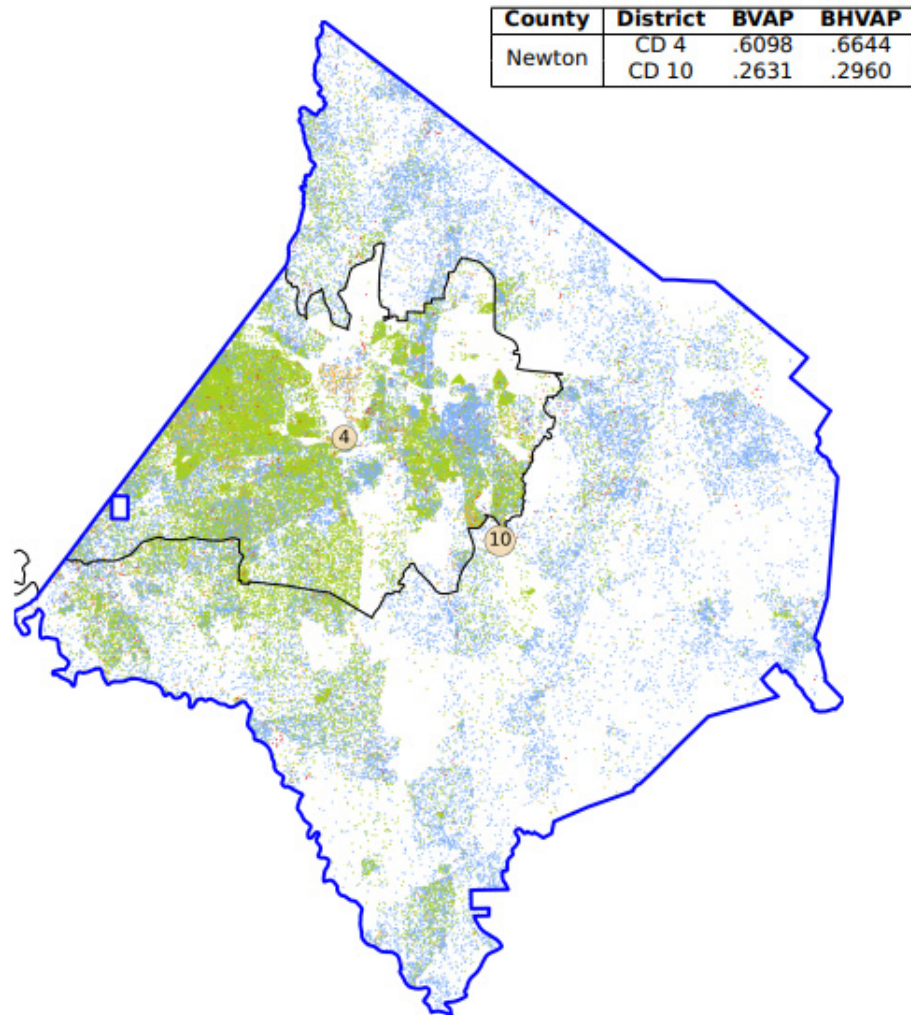| County	District	BVAP	BHVAP
Newton	CD 4	.6098	.6644
	CD 10	.2631	.2960

Figure 35: In Newton County, CD 4 and CD 10 are divided by a line that is consistent with packing the former district and cracking the latter.

Id. at 74, Figure 35.

151. Dr. Duchin also analyzed precinct splits in the Congressional map. *Id.* at 75.

152.   Dr. Duchin opined that "for the purposes of investigating racial gerrymandering, the splits to state precincts can be especially revealing: these are the units at which cast votes are reported, so finer divisions are usually made in view of demographics but not voting behavior—that is, these highlight the predominance of race over even partisan concerns." *Id*; *see also* Duchin Dep. 186: 17-23.

153.   Dr. Duchin opined that specific precinct splits on the border of CD 6 and CD 11 "show significant racial disparity consistent with an effort to diminish the electoral effectiveness of CD 6," as demonstrated by the table below:

State precinct	District	BVAP	BHVAP
MARIETTA 5A	CD 6	.1975	.4938
	CD 11	.4232	.5803
MARIETTA 6A	CD 6	.1391	.6607
	CD 11	.4738	.5464
SEWELL MILL 03	CD 6	.2225	.3042
	CD 11	.4064	.5548

Table 42: Three examples of split precincts on the CD 6 / CD 11 border that show significant racial disparity, consistent with an effort to diminish the electoral effectiveness of CD 6 for Black voters. (Note that CD 6 receives a higher share of BHVAP in Marietta 6A, but a far lower share of BVAP.)

Duchin Rep. at 75, Table 42.

154.   Dr. Duchin opined that several precinct splits on the CD 4 and CD 10 border "stand out both in demographic and geographic terms," which provide evidence of the "packing of CD 4 and cracking of CD 10," as demonstrated by the table below:

State precinct	District	BVAP	BHVAP
ALCOVY	CD 4	.4010	.4499
	CD 10	.0512	.0620
CITY POND	CD 4	.5912	.6554
	CD 10	.3923	.4192
OXFORD	CD 4	.6444	.6932
	CD 10	.0929	.1213
DOWNS	CD 4	.6429	.7024
	CD 10	.4429	.4930

Table 43: Four examples of split precincts on the CD 4 / CD 10 border, all consistent with packing of CD 4 and cracking of CD 10.

Id. at 75, Table 43.

F. Political Subdivision Splits in the Senate Plan.

155.   In the enacted Senate Plan, fourteen counties have at least a 20-point BHVAP disparity in BHVAP across county splits. *Id*. at 77.

156.   Dr. Duchin analyzed the split of Bibb County involving SD 18, SD 25, and SD 26. *Id*., Figure 37.

157.   Dr. Duchin determined that the racial disparities in the split of Bibb County involving SD 18, SD 25, and SD 26 are evidence that SD 26 was packed, as demonstrated by the table below:
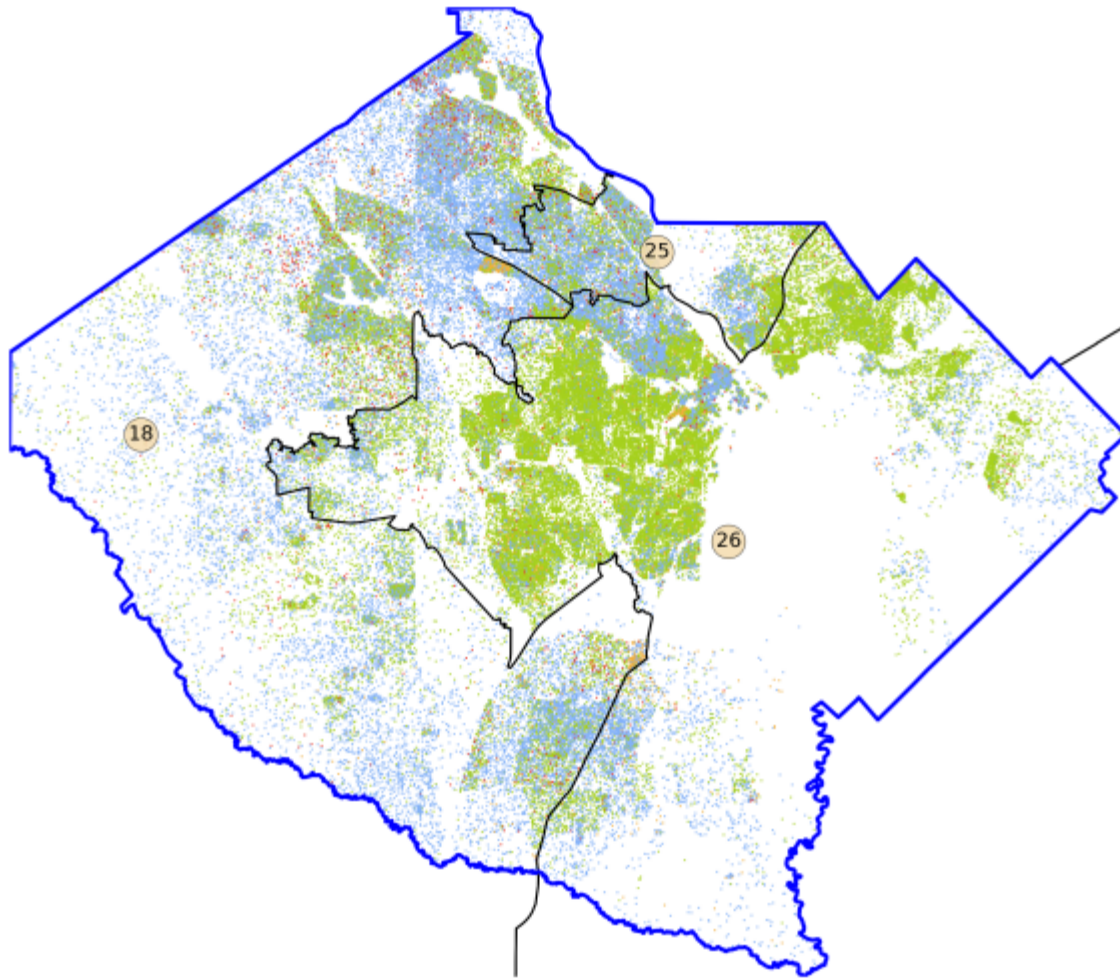
Figure 37: This figure shows the separation of Bibb County in a way that packs SD 26.

Id.

158.   Dr. Duchin analyzed the split of Chatham County involving SDs 1, 2,

and 4. *Id.* at 78, Figure 38

159.   SD 2 is an effective district for Black and Latino Voters, and SDs 1 and

4 are not. *Id.*

160.   Dr. Duchin determined that the "pieces of Chatham County look to be clearly racially sorted into Senate districts in a way that ensures that Black and Latino voters can only have effective influence in one of the constituent district," as demonstrated below:

Figure 38: The pieces of Chatham County look to be clearly racially sorted into Senate districts in a way that ensures that Black and Latino voters can only have effective influence in one of the constituent districts. Indeed, SD 2 is an effective district, while SD 1 and SD 4 are not.

Id.

G. Dr. Duchin Concluded Race Was Used to Achieve Partisan Outcomes in the State's Enacted Plans.

161.   Dr. Duchin examined, among other things, the claims from certain Defendant witnesses that partisan politics, and not 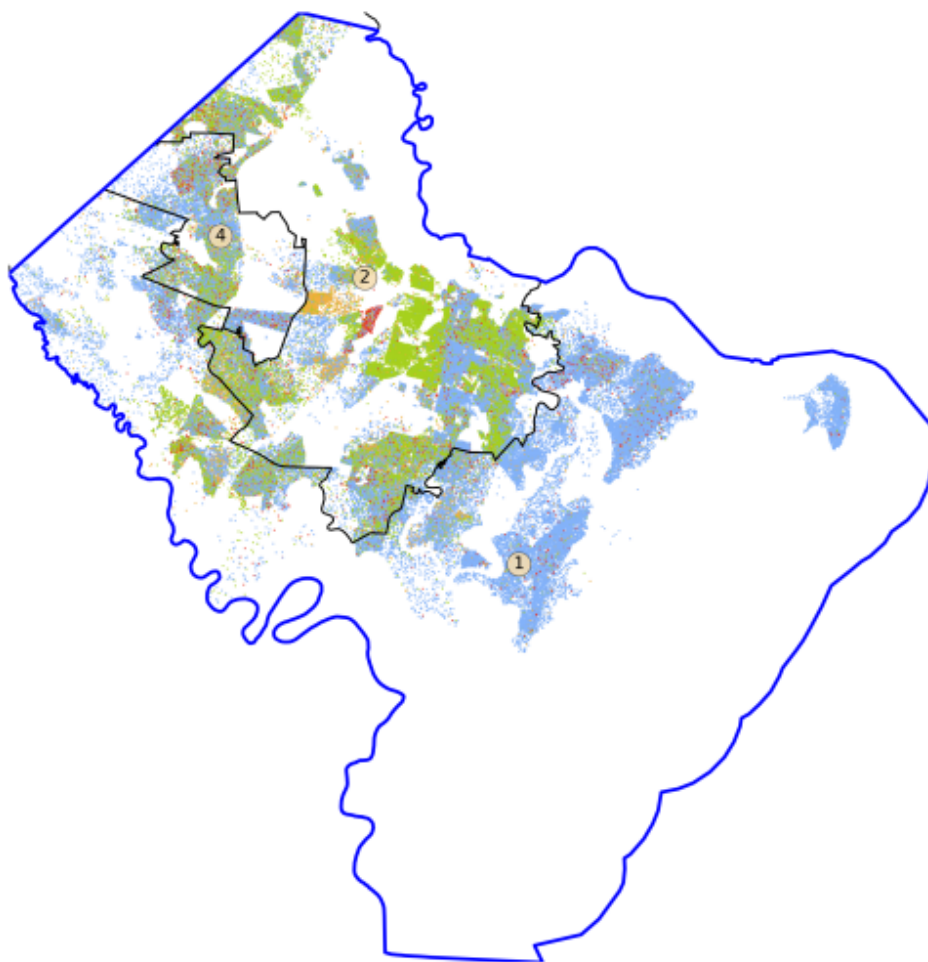race, motivated the legislature in drawing certain congressional, senate, and house districts.   Canter Decl. ¶ 21 (Duchin Rebuttal & Supplemental Report ("Duchin Rebuttal Rep.") at 6-10).

162.   Dr. Duchin ran algorithmic experiments to test the hypothesis that the legislature drew the congressional, senate, and house maps based not upon race but upon pursuing partisan advantage.   *Id.* at 7-9.

163.   To examine the effects of partisanship, Dr. Duchin "generated 100,000 statewide plans at each level of redistricting with an exploratory algorithm seeking larger numbers of Trump-favoring districts from the 2020 Presidential election." *Id.* at 7.

164.   These alternative partisan-advantage plans were drawn respectful of traditional districting principles, including compactness, population balance and county preservation, but did not include race data. *Id.*

165.   Because Dr. Duchin did not input race data into her algorithm, she was able to explore "whether plans selected for partisanship—but with no race data— tend to have the same hallmarks of racial sorting that [she] found in the enacted plans." *Id.*

166.   Dr. Duchin then plotted the Black Voting Age Population in each of the districts in the enacted plans against the sets of partisan advantage districts created by her algorithms. *Id.* at 8.

167.   Dr. Duchin opined that "if a plan were drawn by using minority racial population to secure partisan advantage in a state with roughly 50-50 partisan support," we would expect to see "cracking" of the minority group in those districts in the middle range of partisan advantage. *Id.*

168.   Dr. Duchin's experiment did show that, in the middle range of partisan advantage districts in congressional, state Senate, and state House, the enacted plan's Black VAP showed clear signs or "cracking," i.e., "reduced Black population relative to the comparison plans. *Id*.

169.   Dr. Duchin opined that her algorithmic experiment suggests that the legislature did not pursue a "race neutral advantage [in the congressional map], but rather a highly race-conscious pursuit of partisan advantage." *Id*. at 8, Figure 5.

170.   Dr. Duchin reached the same conclusion as to the Senate and House maps, finding that "The same signature of cracking is visible here as in the Congressional boxplot." *Id.* at 9.

171.   Dr. Duchin then drew random congressional, Senate, and House plans from the middle-range districts of her Trump-favoring collections and compared the BVAP in those districts to the middle-range districts of the enacted plan. *Id.* at 10.

172.   Dr. Duchin concluded that the enacted plan had lower BVAP than all of the randomly selected congressional plans and virtually all of the randomly selected Senate and House plans. *Id.*

173.   Dr. Duchin concluded that, based on her experiments, there were many thousands of examples with even greater partisan tilt than in the enacted plan that could have been drawn, but which did "not show the marked signs of racial sorting that are found in the enacted plan." *Id.*

174.   Dr. Duchin calculated that the probability of the enacted plan being as low in BVAP compared to the randomly-selected congressional plans was less than .00007. *Id.*

175.   Dr. Duchin calculated that the probability of the enacted plan being as low in BVAP compared to the randomly-selected Senate plans was less than .00000004. *Id.*

176.   Dr. Duchin calculated that the probability of the enacted plan being as low in BVAP compared to the randomly-selected House plans was less than .00000000006. *Id.*

177. Dr. Duchin also found indications corroborating the hypothesis that race was used to achieve partisan outcomes in the state's enacted plans in the high numbers of split precincts, because vote history is not available at a sub-precinct level. *Id.*

IV. The First *Gingles* Precondition

A. Dr. Duchin's Methodology

178. Dr. Duchin examined whether Plaintiffs could meet the first *Gingles* precondition. Duchin Dep. 28:07-30:02; Duchin Rep. at 3-4. To do so, Dr. Duchin analyzed whether it was possible to draw additional majority minority districts in Georgia's congressional, senate, and house maps while respecting traditional redistricting principles. Duchin Rep. at 3-4.

179. In drawing her maps, Dr. Duchin first used a method called "computational redistricting," which uses computer programs to generate various maps. Duchin Dep. 18:15-19:02. Dr. Duchin runs this "algorithmic exploration" to serve as a base for latter mapping in order to "get a sense of what's possible in different parts of" Georgia. *Id.* 19:03-19:14.

180. After the "algorithmic exploration" generated base maps, Dr. Duchin hand drew maps in order to balance traditional redistricting principles and create

maps that are "remediable."   Duchin Dep. 65:06-77:12; 121:01-121:12; 123:13-123:15.

181.   Dr. Duchin examined quantifiable and unquantifiable traditional redistricting principles.   Duchin Dep. 28:12-28:20; 65:10-71:06; 79:13-79:17; 155:12-155:21; Duchin Rep. at 20-24, 79-80.

182.   Dr. Duchin used the redistricting guidelines published by both chambers of the Georgia legislature to select which quantifiable and unquantifiable redistricting principles to analyze, as reflected by the figure below:

```
A. GENERAL PRINCIPLES FOR DRAFTING PLANS
1. Each congressional district should be drawn with a total population of plus
   or minus one person from the ideal district size.
2. Each legislative district of the General Assembly should be drawn to
   achieve a total population that is substantially equal as practicable,
   considering the principles listed below.
3. All plans adopted by the Committee will comply with Section 2 of the
   Voting Rights Act of 1965, as amended.
4. All plans adopted by the Committee will comply with the United States
   and Georgia Constitutions.
5. Districts shall be composed of contiguous geography. Districts that
   connect on a single point are not contiguous.
6. No multi-member districts shall be drawn on any legislative redistricting plan.
7. The Committee should consider:
   a.  The boundaries of counties and precincts;
   b.  Compactness; and
   c.  Communities of interest.
8. Efforts should be made to avoid the unnecessary pairing of incumbents.
9. The identifying of these criteria is not intended to limit the consideration
   of any other principles or factors that the Committee deems appropriate.
```

Duchin Rep. at 20.

183.   Some of these principles are mandatory, such as compliance with the population balance for congressional and legislative districts, compliance with the Voting Rights Act, compliance with the U.S. and Georgia Constitutions, contiguity,

and ensuring that there are no multi-member districts. *Id.* Others are not mandatory, such as consideration of the boundaries of counties, compactness, communities of interest; the last is to make "efforts" to avoid the "unnecessary" pairing of incumbents. *Id.*

184. To determine communities of interest, Dr. Duchin analyzed a voluminous record of public testimony. Duchin Dep. 68:18-69:10. This community of interest testimony informed Dr. Duchin's hand-drawing process. *Id.* 70:08-70:71:06; 79:09-79:16; 163:15-163:25.

185. This testimony included public input reflecting concerns that the ultimately-enacted CD 6 would be blending communities that have interests more common in rural communities—such as the Army Corp. of Engineers—with communities that have interests more common in suburban areas—such as public transportation. Duchin Rep. 79-80.

186. This testimony also included public input reflected concerns that the ultimately-enacted CD 14 would be blending communities that have interests more common in rural communities—such as manufacturing and agriculture—with communities that have interests more common in urban areas—such as housing. *Id.*

187. For her demonstrative Congressional plan, Dr. Duchin drew an alternative map covering the entire state. Duchin Dep. 21:01-21:13.

188.   For her demonstrative senate and house plans, Dr. Duchin divided the Enacted Plan into modules.   Under this modular approach, Dr. Duchin drew alternative maps in geographic areas covered by certain clusters of districts within certain modules in the enacted plan. Duchin Dep. 60:05-60:22; Duchin Rep. at 13, 14-15.

B. Numerosity

1.   Dr. Duchin Drew Additional Majority Minority Congressional Districts.

189.   The enacted congressional plan contained two majority BVAP districts (CD 4 and CD 13). Duchin Rep. at 25 (Table 11).

190.   Three additional districts in the enacted congressional plan are majority Black and Hispanic voting age population ("BHVAP") (CD 2, CD 5, and CD 7). *Id.* CD 7 is not majority Black and Hispanic Citizen Voting Age Population ("BHCVAP"). *Id. See also id.* at 11, Figure 3.
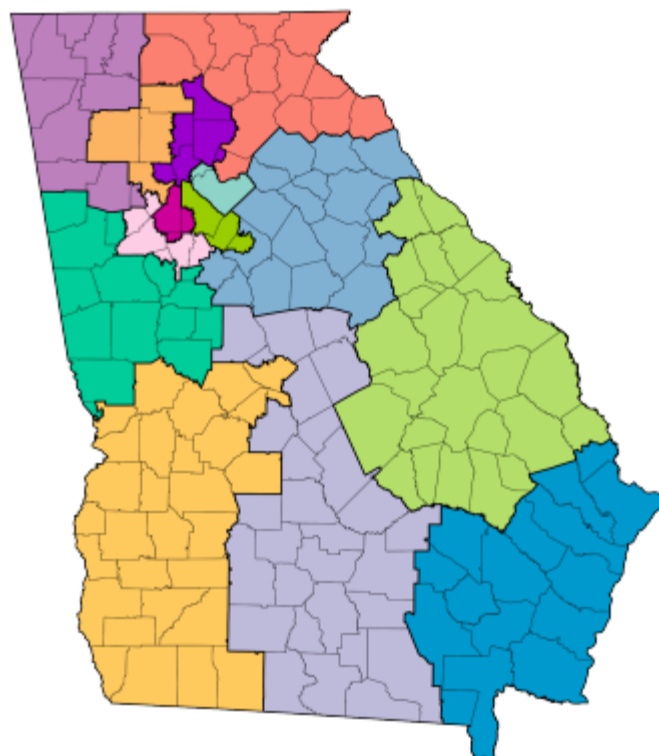
Enacted

191.   Dr. Duchin provided one alternative congressional plan ("Alt 1 CD")

that created additional majority-minority districts when compared to the enacted

plan. *Id*. *See also id.* at 11, Figure 3.

Congress Alt
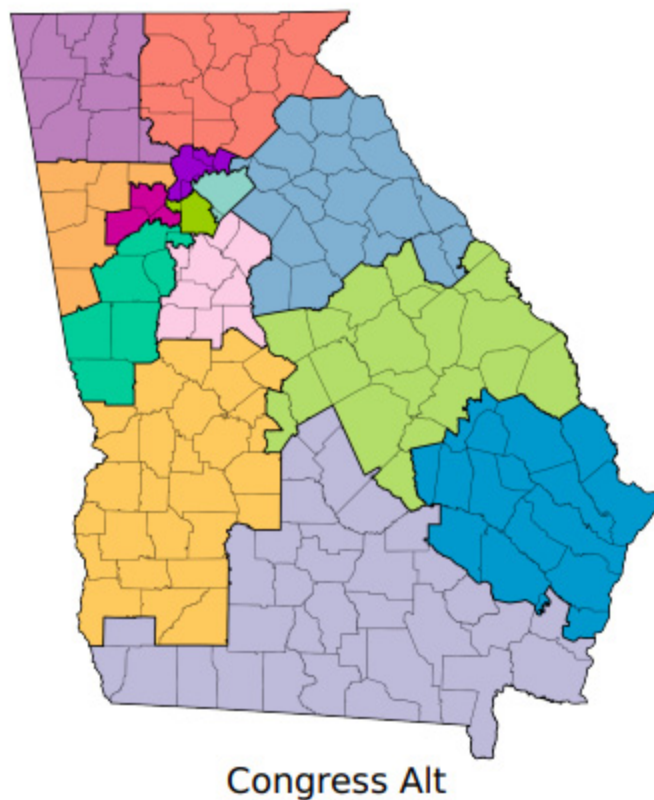
192.   Alt 1 CD creates four majority BVAP districts (Alt 1 CDs 3, 4, 5, 13).

Duchin Rep.at 25 (Table 11).

193.   Alt 1 CD also creates two majority BHVAP districts, (Alt 1 CDs 2 and

7). *Id.*

194. Each of the majority BHVAP districts in Alt 1 CD are also majority

BHCVAP districts. *Id.*

195. Alt 1 CD thus creates an additional majority-minority district: Alt 1CD

3, as demonstrated by the chart and figure below. *Id.*

CD	CD Enacted (Statewide)						CD Alt 1					
	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
1	28.2%	6.8%	35.0%	60.4%	0.285	0.456	30.3%	6.9%	37.2%	58.5%	0.312	0.633
2	49.3%	5.1%	54.4%	42.7%	0.267	0.458	47.7%	4.7%	52.4%	44.5%	0.315	0.494
3	23.3%	5.3%	28.6%	66.8%	0.275	0.461	51.2%	7.2%	58.4%	37.4%	0.278	0.411
4	54.5%	10.1%	64.6%	28.3%	0.246	0.307	50.6%	8.2%	58.8%	33.8%	0.295	0.481
5	49.6%	6.7%	56.3%	37.9%	0.322	0.512	50.1%	11.4%	61.5%	33.4%	0.216	0.424
6	9.9%	9.1%	19.0%	66.6%	0.198	0.424	13.7%	10.9%	24.6%	57.1%	0.232	0.346
7	29.8%	21.3%	51.1%	32.8%	0.386	0.496	34.3%	22.4%	56.7%	29.4%	0.351	0.518
8	30.0%	6.1%	36.1%	60.5%	0.210	0.338	27.3%	6.9%	34.2%	63.0%	0.227	0.377
9	10.4%	12.9%	23.3%	68.3%	0.253	0.380	4.6%	11.5%	16.1%	77.9%	0.403	0.512
10	22.6%	6.5%	29.1%	66.2%	0.284	0.558	17.6%	6.9%	24.5%	69.8%	0.335	0.576
11	17.9%	11.2%	29.1%	64.0%	0.207	0.480	17.6%	7.6%	25.2%	68.1%	0.283	0.364
12	36.7%	4.9%	41.6%	54.6%	0.278	0.502	39.2%	4.6%	43.8%	51.9%	0.181	0.489
13	66.7%	10.5%	77.2%	18.8%	0.157	0.380	52.0%	6.8%	58.8%	37.8%	0.276	0.510
14	14.3%	10.6%	24.9%	71.3%	0.373	0.426	7.6%	11.0%	18.6%	77.0%	0.514	0.484
Avg					0.267	0.441					0.301	0.473

196. Defendants' mapping expert, Dr. Morgan, testified he had no basis to

dispute that it was possible to draw additional majority-minority districts in the

Congressional plan. Canter Decl. ¶ 22 (Deposition of John Morgan ("Morgan Dep.")

20:22-23:25).

197. This chart, and others like it, reflect voting age population ("VAP")

comparisons by district in the enacted plans and Dr. Duchin's created illustrative

plans. Duchin Rep. at 25; *see also Id.* at 81.

198. This chart, and others like it, compare the enacted and illustrative plans

on a variety of metrics including Black voting age population ("BVAP"), Hispanic

voting age population ("HVAP"), White voting age population ("WVAP"), citizen voting age population ("CVAP"). Duchin Dep. 22:7-16; 46:6-7; Duchin Rep. at 7, 25, 81.

199.   This chart, and others like it, compare the enacted and illustrative plans, using the two most common compactness metrics are the Polsby-Popper score and the Reock score. These are both contour-based scores that rely on the outline of the district on a map. Polsby-Popper is a ratio formed by comparing the district's area to its perimeter via the formula $4\,\pi A/P^2$. Reock considers how much of the smallest bounding circle is filled out by the district's area. Duchin Rep. at 21.

2.   Dr. Duchin Drew Additional Majority Minority Senate Districts.

200.   Dr. Duchin analyzed six clusters of senate districts: SD Northwest, SD Gwinnett, SD Atlanta, SD East Black Belt, SD Southwest, and SD Southeast.
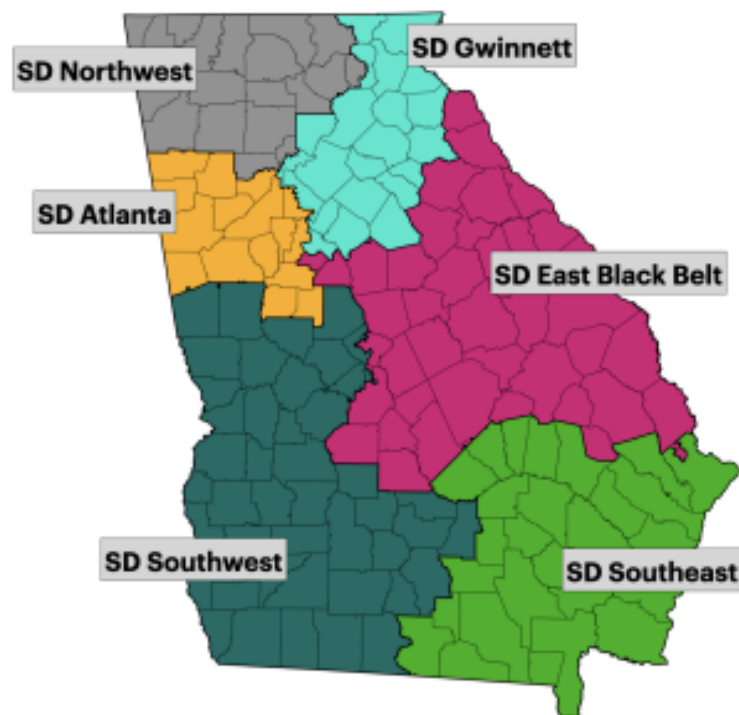
Id. at 13 (Figure 5).

201.   In the SD Atlanta region, Dr. Duchin provides two alternative maps ("SD Alt 1 Atlanta" and "SD Alt 2 Atlanta") that create additional majority-minority districts. *Id*. at 26-27.
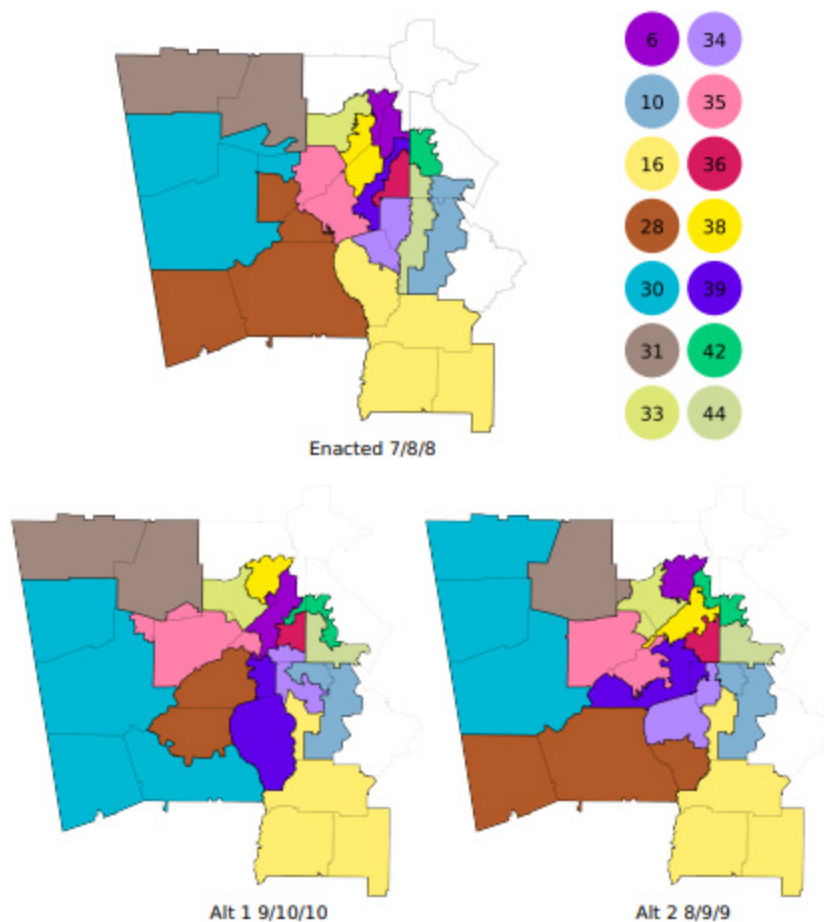
Id. at 26 (Figure 8).

202.   Defendants' expert, Dr. Morgan, testified he has no basis to dispute that

Dr. Duchin was able to draw additional majority-minority senate districts. Morgan

Dep. 24:02-24; *see also* Canter Decl. ¶ 23 (Expert Report of John Morgan ("Morgan

Rep." at 24, 27 (Charts 5 and 6)); Morgan Dep. 29:10-30:04; Morgan Dep. 79:08-

12; Morgan Dep. 82:15-18.

203.   The enacted SD Atlanta cluster contains 7 majority BVAP districts (SDs 10, 34, 35, 36, 38, 39, and 44). Duchin Rep. at 27 (Table 12 and Table 13).

204.   The enacted SD Atlanta cluster contains an additional majority BHVAP district (SD 33). *Id.*

205.   SD Alt 1 Atlanta contains 10 majority BVAP districts (SDs Alt 1 Atlanta 6, 10, 16, 28, 33, 34, 35, 36, 39, and 44). *Id.* (Table 12).

206.   SD Alt 2 Atlanta contains 8 majority BVAP districts (SDs Alt 2 Atlanta 10, 33, 34, 35, 36, 38, 39, 44) and 1 majority BHVAP district (SD Alt 2 Atlanta 16). *Id.* (Table 13).

207.   The tables below provide a comparison between the enacted senate plan and SD Alt 1 Atlanta and SD Alt 2 Atlanta:

| SD	SD Atlanta Enacted						SD Alt 1					
	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
6	23.9%	8.2%	32.1%	57.8%	0.236	0.405	50.1%	6.1%	56.2%	39.8%	0.169	0.246
10	71.5%	5.2%	76.7%	19.6%	0.231	0.281	59.5%	11.0%	70.5%	23.4%	0.238	0.420
16	22.7%	5.0%	27.7%	66.9%	0.314	0.368	50.2%	6.2%	56.4%	40.9%	0.254	0.354
28	19.5%	6.4%	25.9%	69.4%	0.246	0.445	50.6%	6.8%	57.4%	39.3%	0.335	0.489
30	20.9%	6.1%	27.0%	69.4%	0.407	0.597	14.3%	5.1%	19.4%	76.9%	0.286	0.361
31	20.7%	7.4%	28.1%	68.3%	0.379	0.366	19.7%	7.2%	26.9%	69.4%	0.470	0.395
33	43.0%	22.9%	65.9%	30.2%	0.215	0.401	50.4%	18.1%	68.5%	27.9%	0.381	0.528
34	69.5%	12.7%	82.2%	13.4%	0.335	0.451	72.2%	11.6%	83.8%	11.5%	0.163	0.326
35	71.9%	7.5%	79.4%	18.8%	0.263	0.472	50.9%	8.0%	58.9%	38.2%	0.347	0.400
36	51.3%	7.1%	58.4%	36.2%	0.305	0.321	50.0%	5.7%	55.7%	38.8%	0.339	0.452
38	65.3%	8.4%	73.7%	21.9%	0.208	0.361	27.9%	15.4%	43.3%	46.1%	0.271	0.487
39	60.7%	5.6%	66.3%	27.9%	0.128	0.166	51.2%	5.4%	56.6%	38.6%	0.277	0.357
42	30.8%	8.6%	39.4%	51.4%	0.321	0.479	35.8%	9.6%	45.4%	43.5%	0.112	0.289
44	71.3%	8.6%	79.9%	15.3%	0.185	0.180	61.6%	3.6%	65.2%	31.0%	0.237	0.356
Avg					0.270	0.378					0.277	0.390

Table 12: SD Atlanta Alt 1 splits 8 counties within the cluster compared to 7 in the enacted plan and has a better discrete compactness score, with 2017 cut edges rather than 2197, to go with comparable Polsby-Popper and superior Reock compactness.

SD	SD Atlanta Enacted						SD Alt 2					
	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
6	23.9%	8.2%	32.1%	57.8%	0.236	0.405	28.0%	14.9%	42.9%	46.7%	0.256	0.477
10	71.5%	5.2%	76.7%	19.6%	0.231	0.281	59.7%	9.8%	69.5%	23.3%	0.307	0.416
16	22.7%	5.0%	27.7%	66.9%	0.314	0.368	48.4%	6.1%	54.5%	42.4%	0.258	0.366
28	19.5%	6.4%	25.9%	69.4%	0.246	0.445	15.8%	6.1%	21.9%	72.8%	0.347	0.371
30	20.9%	6.1%	27.0%	69.4%	0.407	0.597	15.7%	6.6%	22.3%	74.2%	0.473	0.508
31	20.7%	7.4%	28.1%	68.3%	0.379	0.366	25.9%	6.7%	32.6%	63.6%	0.591	0.636
33	43.0%	22.9%	65.9%	30.2%	0.215	0.401	50.6%	18.2%	68.8%	27.4%	0.224	0.463
34	69.5%	12.7%	82.2%	13.4%	0.335	0.451	54.4%	11.9%	66.3%	27.9%	0.246	0.381
35	71.9%	7.5%	79.4%	18.8%	0.263	0.472	60.9%	7.5%	68.4%	29.3%	0.206	0.490
36	51.3%	7.1%	58.4%	36.2%	0.305	0.321	54.0%	6.8%	60.8%	33.6%	0.263	0.466
38	65.3%	8.4%	73.7%	21.9%	0.208	0.361	51.0%	5.6%	56.6%	37.6%	0.154	0.260
39	60.7%	5.6%	66.3%	27.9%	0.128	0.166	86.5%	5.5%	92.0%	7.0%	0.118	0.271
42	30.8%	8.6%	39.4%	51.4%	0.321	0.479	17.0%	10.7%	27.7%	61.4%	0.144	0.282
44	71.3%	8.6%	79.9%	15.3%	0.185	0.180	76.3%	3.2%	79.5%	18.7%	0.374	0.456
Avg					0.270	0.378					0.283	0.417

Table 13: SD Atlanta Alt 2 splits 6 counties within the cluster and has just 1985 cut edges, better than the enacted plan's 7 and 2197, while also improving on both contour-based compactness scores.

Id. (Table 12 and Table 13).

208. Dr. Duchin provided an alternative map in Gwinnett ("SD Alt 1 Gwinnett") that created additional majority-minority districts:

Enacted 3/4/4

Alt 1 4/7/6
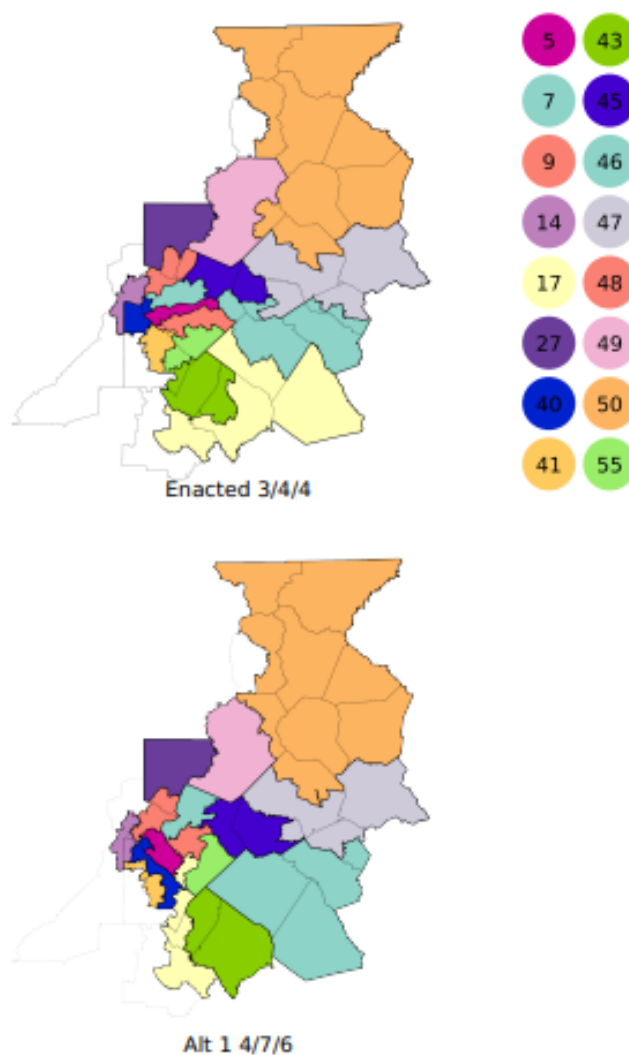
Id. at 28 (Figure 9).

209.   Defendants' expert, Dr. Morgan, testified he has no basis to dispute that

Dr. Duchin was able to draw additional majority-minority senate districts. Morgan

Dep. 24:02-20; *see also* Morgan Rep. at 24, 27 (Charts 5 and 6); Morgan Dep. 29:10-

30:4; Morgan Dep. 79:08-12; Morgan Dep. 82:15-18.

210. The enacted SD Gwinnett cluster contains 3 majority BVAP districts (SDs 41, 43, and 55) and 1 additional majority BHVAP district (SD 5). Morgan Rep. at 29 (Table 14).

211. SD Alt 1 Gwinnett creates 5 majority BVAP districts (SDs Alt 1 Gwinnett 17, 40, 41, 43, and 55), and 2 majority BHVAP districts (SDs Alt 1 Gwinnett 5 and 9). *Id*.

212. The table below compares the enacted SD Gwinnett cluster to SD Alt 1 Gwinnett:

SD	SD Gwinnett Enacted						SD Alt 1					
	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
5	29.9%	41.7%	71.6%	15.7%	0.207	0.166	20.3%	34.6%	54.9%	28.0%	0.285	0.384
7	21.4%	16.6%	38.0%	37.8%	0.339	0.344	17.1%	14.3%	31.4%	45.5%	0.278	0.401
9	29.5%	18.8%	48.3%	35.8%	0.213	0.233	29.3%	27.0%	56.3%	26.2%	0.234	0.498
14	19.0%	12.1%	31.1%	57.1%	0.242	0.273	18.1%	11.4%	29.5%	57.6%	0.208	0.296
17	32.0%	5.1%	37.1%	59.4%	0.168	0.342	51.1%	6.6%	57.7%	35.9%	0.113	0.188
27	5.0%	10.2%	15.2%	71.5%	0.456	0.499	4.7%	10.2%	14.9%	70.8%	0.500	0.497
40	19.2%	21.6%	40.8%	46.3%	0.345	0.508	50.1%	17.7%	67.8%	25.1%	0.130	0.208
41	62.6%	6.7%	69.3%	21.4%	0.302	0.509	57.3%	10.0%	67.3%	23.3%	0.149	0.279
43	64.3%	6.9%	71.2%	26.5%	0.346	0.635	52.0%	7.0%	59.0%	38.3%	0.420	0.537
45	18.6%	13.1%	31.7%	55.5%	0.305	0.350	19.8%	12.1%	31.9%	58.8%	0.226	0.380
46	16.9%	7.0%	23.9%	69.9%	0.207	0.365	16.5%	5.0%	21.5%	73.4%	0.416	0.514
47	17.4%	9.6%	27.0%	67.5%	0.187	0.353	16.7%	8.7%	25.4%	68.5%	0.176	0.326
48	9.5%	7.0%	16.5%	52.2%	0.342	0.348	10.1%	6.4%	16.5%	54.8%	0.266	0.387
49	8.0%	21.9%	29.9%	65.6%	0.341	0.461	8.1%	24.6%	32.7%	62.8%	0.382	0.573
50	5.6%	8.8%	14.4%	81.5%	0.228	0.450	5.4%	6.1%	11.5%	84.3%	0.232	0.462
55	66.0%	8.7%	74.7%	20.6%	0.271	0.333	50.0%	13.9%	63.9%	30.0%	0.419	0.451
Avg					0.281	0.386					0.277	0.399

Id.

213. Dr. Duchin provided two alternative maps for the SD East Black Belt cluster ("SD Alt 1 East Black Belt" and "SD Alt 2 East Black Belt") that create additional majority-minority districts.

7.2.3 SD East Black Belt
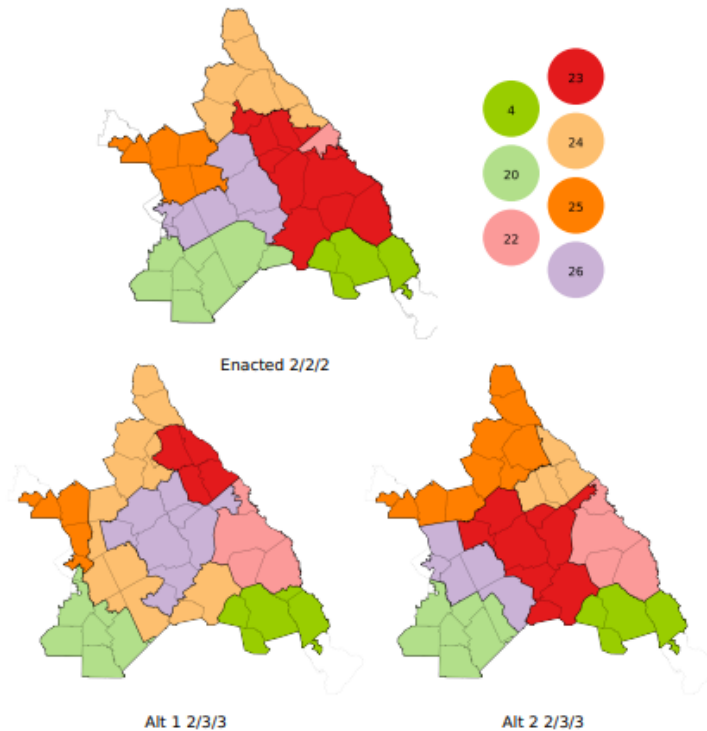
Id. at 30 (Figure 10).

214.   Defendants' expert, Dr. Morgan, testified he has no basis to dispute that Dr. Duchin was able to draw additional majority-minority senate districts. Morgan Dep. 24:02-20; *see also* Morgan Rep. at 24, 27 (Charts 5 and 6); Morgan Dep. 29:10-30:04; Morgan Dep. 79:08-12; Morgan Dep. 82:15-18.

215.   The enacted SD East Black Belt region contains two majority BVAP districts (SDs 22 and 26). *See* Duchin Rep. at 31 (Table 15 and Table 6).

216.   SD Alt 1 East Black Belt contains three majority BVAP districts (SDs Alt 1 East Black Belt 22, 25, and 26). *Id*. (Table 15).

217.   SD Alt 2 East Black Belt contains two majority BVAP districts (SDs Alt 2 East Black Belt 22 and 26) and one majority BHVAP district (SD Alt 2 East Black Belt 23). *Id.* (Table 16).

218.   The table below provides a comparison between the enacted SD East Black Belt cluster and SD Alt 1 East Black Belt and SD Alt 2 East Black Belt:

SD	SD East Black Belt Enacted						SD Alt 1					
	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
4	23.4%	5.5%	28.9%	66.8%	0.265	0.471	23.5%	5.5%	29.0%	66.7%	0.284	0.495
20	31.3%	3.5%	34.8%	61.7%	0.358	0.404	34.4%	5.1%	39.5%	56.5%	0.231	0.498
22	56.5%	5.3%	61.8%	34.4%	0.288	0.404	50.5%	3.8%	54.3%	42.6%	0.241	0.455
23	35.5%	4.5%	40.0%	56.9%	0.164	0.365	23.0%	5.6%	28.6%	64.6%	0.466	0.497
24	19.9%	4.4%	24.3%	69.8%	0.213	0.366	25.0%	3.5%	28.5%	69.1%	0.083	0.229
25	33.5%	3.7%	37.2%	59.9%	0.241	0.386	50.0%	4.0%	54.0%	43.4%	0.174	0.344
26	57.0%	4.2%	61.2%	36.6%	0.203	0.469	50.1%	3.7%	53.8%	43.4%	0.209	0.472
Avg					0.247	0.409					0.241	0.427

Table 15: SD East Black Belt Alt 1 has more cut edges than the state (1301 vs. 1021 from the enacted plan), paired with a comparable Polsby-Popper and a superior Reock score. This alternative plan splits seven counties while the state splits four within the cluster.

SD	SD East Black Belt Enacted						SD Alt 2					
	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
4	23.4%	5.5%	28.9%	66.8%	0.265	0.471	23.4%	5.5%	28.9%	66.8%	0.265	0.471
20	31.3%	3.5%	34.8%	61.7%	0.358	0.404	32.5%	4.9%	37.4%	58.7%	0.304	0.586
22	56.5%	5.3%	61.8%	34.4%	0.288	0.404	50.4%	3.5%	53.9%	42.9%	0.264	0.432
23	35.5%	4.5%	40.0%	56.9%	0.164	0.365	47.4%	4.1%	51.5%	45.8%	0.231	0.441
24	19.9%	4.4%	24.3%	69.8%	0.213	0.366	23.1%	5.6%	28.7%	64.5%	0.327	0.458
25	33.5%	3.7%	37.2%	59.9%	0.241	0.386	28.2%	4.5%	32.7%	64.3%	0.176	0.311
26	57.0%	4.2%	61.2%	36.6%	0.203	0.469	51.2%	3.1%	54.3%	43.5%	0.205	0.331
Avg					0.247	0.409					0.253	0.433

Table 16: SD East Black Belt Alt 2 has just two county splits, compared to four in the state's plan. With just 1008 cut edges, it also executes a clean sweep of compactness scores relative to the enacted plan.

Id.

3. Dr. Duchin Drew Additional Majority Minority House Districts.

219. Dr. Duchin analyzed seven House clusters: HD Atlanta, HD Cobb, HD DeKalb, HD Gwinnett, HD Southwest, HD East Black Belt, HD Southeast. *Id*. at 14-15.
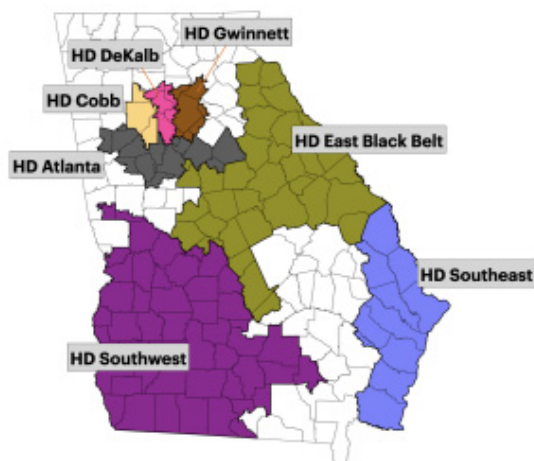

Figure 7: Seven "modular" House clusters made up of groups of enacted districts.

Id. at 15 (Figure 7).

220. Dr. Duchin provided two alternative maps ("HD Alt 1 Atlanta" and "HD Alt 2 Atlanta") for the HD Atlanta cluster that created additional majority-minority districts:

7.3.1   HD Atlanta

Enacted 18/18/18

Alt 1 20/20/20

Alt 2 19/20/20
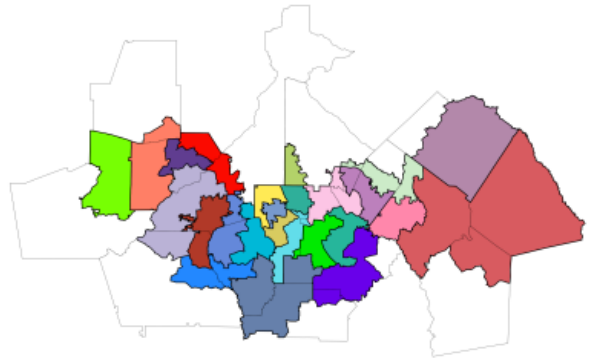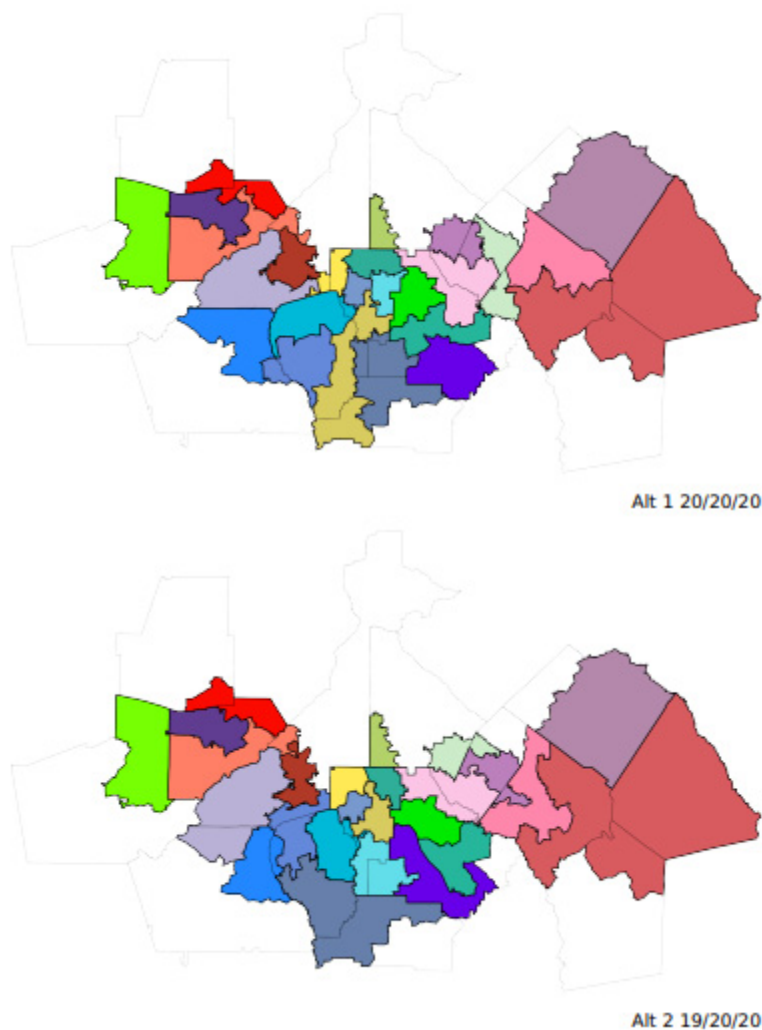
Id. at 32-33 (Figures 11 and 12).

221.   Defendants' expert Dr. Morgan testified he has no basis to dispute that it is possible to draw additional majority-minority house districts.   Morgan Dep. 24:22-24:09; *see also* Morgan Rep., 18, 21 (Charts 2 and 3); Morgan Dep. 29:10-30:04; Morgan Dep. 79:4-12; Morgan Dep. 82:15-18.

222. The enacted HD Atlanta cluster contains 18 majority BVAP districts (HDs 61, 65, 66, 67, 68, 69, 75, 76, 77, 78, 79, 90, 91, 92, 93, 113, 115, and 116). *See* Duchin Rep. at 34 (Table 17 and Table 18).

223. HD Alt 1 Atlanta contains 20 majority BVAP districts (HDs Alt 1 Atlanta 61, 64, 65, 66, 67, 69, 74, 75, 76, 77, 78, 79, 90, 91, 92, 93, 113, 115, 116, 117). *Id*. (Table 17).

224. HD Alt 2 Atlanta contains 19 majority BVAP districts (HDs Alt 2 Atlanta 64, 65, 66, 67, 68, 69, 75, 76, 77, 78, 79, 90, 91, 92, 93, 113, 115, 116, 117), and one majority BHVAP district (HD Alt 2 Atlanta 61). *Id.* (Table 18).

225. The tables below provide comparisons between HD Atlanta enacted and HD Atlanta Alt 1 and HD Atlanta Alt 2.

| HD	HD Atlanta Enacted						HD Alt 1					
	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
61	74.3%	7.6%	81.9%	16.8%	0.198	0.247	50.1%	10.0%	60.1%	37.1%	0.229	0.265
64	30.7%	7.4%	38.1%	57.8%	0.361	0.365	50.9%	6.5%	57.4%	40.0%	0.132	0.263
65	62.0%	4.5%	66.5%	31.5%	0.172	0.454	81.7%	4.7%	86.4%	12.5%	0.222	0.350
66	53.4%	9.5%	62.9%	33.9%	0.246	0.356	51.0%	9.0%	60.0%	36.2%	0.256	0.386
67	58.9%	7.8%	66.7%	30.9%	0.122	0.357	89.9%	5.4%	95.3%	4.4%	0.195	0.515
68	55.7%	6.3%	62.0%	33.9%	0.172	0.318	13.7%	6.6%	20.3%	71.5%	0.310	0.518
69	63.6%	5.4%	69.0%	26.9%	0.247	0.403	51.9%	8.8%	60.7%	34.0%	0.339	0.409
71	19.9%	6.2%	26.1%	69.8%	0.352	0.441	19.9%	6.2%	26.1%	69.8%	0.350	0.441
73	12.1%	7.0%	19.1%	72.6%	0.198	0.278	11.8%	6.4%	18.2%	75.9%	0.335	0.417
74	25.5%	5.6%	31.1%	64.4%	0.247	0.496	50.8%	6.9%	57.7%	39.7%	0.205	0.461
75	74.4%	11.3%	85.7%	11.3%	0.285	0.420	54.2%	7.7%	61.9%	34.1%	0.133	0.230
76	67.2%	13.2%	80.4%	10.5%	0.509	0.524	61.6%	20.0%	81.6%	11.2%	0.460	0.409
77	76.1%	12.2%	88.3%	7.6%	0.211	0.396	89.6%	5.0%	94.6%	3.5%	0.211	0.292
78	71.6%	8.9%	80.5%	15.0%	0.194	0.210	64.2%	11.3%	75.5%	15.4%	0.256	0.414
79	71.6%	16.0%	87.6%	7.1%	0.209	0.498	73.3%	14.6%	87.9%	8.0%	0.370	0.444
90	58.5%	4.3%	62.8%	34.0%	0.286	0.359	58.5%	4.3%	62.8%	34.0%	0.286	0.359
91	70.0%	5.9%	75.9%	22.0%	0.202	0.447	50.3%	5.2%	55.5%	40.7%	0.245	0.384
92	68.8%	4.7%	73.5%	24.1%	0.198	0.361	87.6%	3.5%	91.1%	8.3%	0.260	0.543
93	65.4%	9.6%	75.0%	22.9%	0.112	0.260	62.1%	10.4%	72.5%	25.4%	0.160	0.232
112	19.2%	3.3%	22.5%	73.7%	0.522	0.619	19.2%	3.3%	22.5%	73.7%	0.522	0.619
113	59.5%	6.7%	66.2%	31.8%	0.318	0.501	51.0%	5.1%	56.1%	41.2%	0.338	0.425
114	24.7%	3.7%	28.4%	68.8%	0.283	0.502	32.8%	4.4%	37.2%	60.3%	0.267	0.438
115	52.1%	7.0%	59.1%	36.9%	0.226	0.436	50.2%	6.0%	56.2%	38.6%	0.193	0.282
116	58.1%	7.3%	65.4%	27.2%	0.280	0.407	54.8%	8.0%	62.8%	29.6%	0.333	0.478
117	36.6%	5.4%	42.0%	54.5%	0.275	0.408	51.0%	7.2%	58.2%	39.0%	0.409	0.511
Avg					0.257	0.402					0.281	0.403

Table 17: In HD Atlanta, the enacted plan has 10 county splits and 2221 cut edges. Alt 1 maintains 10 county splits and improves to 1988 cut edges.

HD	HD Atlanta Enacted						HD Alt 2					
	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
61	74.3%	7.6%	81.9%	16.8%	0.198	0.247	47.4%	10.1%	57.5%	39.6%	0.290	0.276
64	30.7%	7.4%	38.1%	57.8%	0.361	0.365	50.5%	6.8%	57.3%	40.0%	0.201	0.271
65	62.0%	4.5%	66.5%	31.5%	0.172	0.454	67.6%	4.1%	71.7%	26.6%	0.302	0.458
66	53.4%	9.5%	62.9%	33.9%	0.246	0.356	51.2%	9.1%	60.3%	36.0%	0.336	0.407
67	58.9%	7.8%	66.7%	30.9%	0.122	0.357	90.4%	5.3%	95.7%	4.0%	0.131	0.428
68	55.7%	6.3%	62.0%	33.9%	0.172	0.318	58.2%	6.8%	65.0%	31.0%	0.168	0.329
69	63.6%	5.4%	69.0%	26.9%	0.247	0.403	54.6%	6.3%	60.9%	34.4%	0.310	0.538
71	19.9%	6.2%	26.1%	69.8%	0.352	0.441	19.9%	6.2%	26.1%	69.8%	0.352	0.441
73	12.1%	7.0%	19.1%	72.6%	0.198	0.278	11.9%	7.0%	18.9%	73.6%	0.373	0.498
74	25.5%	5.6%	31.1%	64.4%	0.247	0.496	12.8%	5.7%	18.5%	75.5%	0.192	0.320
75	74.4%	11.3%	85.7%	11.3%	0.285	0.420	61.4%	12.0%	73.4%	17.6%	0.225	0.404
76	67.2%	13.2%	80.4%	10.5%	0.509	0.524	70.4%	13.2%	83.6%	9.6%	0.352	0.416
77	76.1%	12.2%	88.3%	7.6%	0.211	0.396	77.0%	12.6%	89.6%	7.0%	0.491	0.510
78	71.6%	8.9%	80.5%	15.0%	0.194	0.210	68.6%	8.4%	77.0%	21.0%	0.325	0.540
79	71.6%	16.0%	87.6%	7.1%	0.209	0.498	73.1%	15.5%	88.6%	7.5%	0.357	0.549
90	58.5%	4.3%	62.8%	34.0%	0.286	0.359	58.5%	4.3%	62.8%	34.0%	0.286	0.359
91	70.0%	5.9%	75.9%	22.0%	0.202	0.447	53.0%	5.2%	58.2%	38.4%	0.231	0.369
92	68.8%	4.7%	73.5%	24.1%	0.198	0.361	69.6%	6.9%	76.5%	21.3%	0.174	0.330
93	65.4%	9.6%	75.0%	22.9%	0.112	0.260	85.5%	7.2%	92.7%	7.0%	0.201	0.329
112	19.2%	3.3%	22.5%	73.7%	0.522	0.619	19.2%	3.3%	22.5%	73.7%	0.522	0.619
113	59.5%	6.7%	66.2%	31.8%	0.318	0.501	53.9%	5.6%	59.5%	37.9%	0.153	0.355
114	24.7%	3.7%	28.4%	68.8%	0.283	0.502	24.9%	3.8%	28.7%	68.6%	0.235	0.487
115	52.1%	7.0%	59.1%	36.9%	0.226	0.436	50.3%	6.9%	57.2%	39.8%	0.304	0.475
116	58.1%	7.3%	65.4%	27.2%	0.280	0.407	53.2%	7.9%	61.1%	31.0%	0.382	0.452
117	36.6%	5.4%	42.0%	54.5%	0.275	0.408	50.1%	6.5%	56.6%	38.4%	0.155	0.323
Avg					0.257	0.402					0.282	0.419

Table 18: With 9 county splits and 1995 cut edges, Alt 2 dominates the enacted plan.

Id.

226. Dr. Duchin drew an alternative map for HD Southwest (HD Alt 1 Southwest) that created additional majority-minority districts:

7.3.2 HD Southwest

Enacted 6/6/6

Alt 1 8/8/8
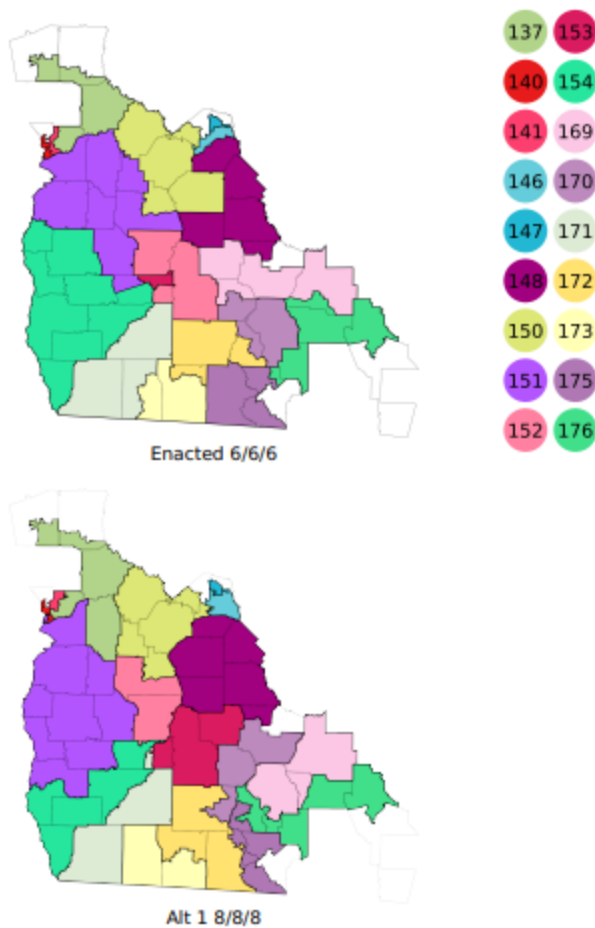
Id. at 35 (Figure 13).

227. Defendants' expert Dr. Morgan testified he has no basis to dispute that it is possible to draw additional majority-minority house districts. Morgan Dep. 24:22-24:09*; see also* Morgan Rep. 18, 21 (Charts 2 and 3); Morgan Dep. 29:10-30:04; Morgan Dep. 79:08-12; Morgan Dep. 82:15-18.

228.   The enacted HD Southwest contains six majority BVAP districts (HDs 137, 140, 141, 150, 153, and 154). Duchin Rep. at 36 (Table 19).

229.   HD Alt 1 Southwest contains eight majority BVAP districts (HDs Alt 1 Southwest 137, 140, 141, 150, 151, 153, 154, 171). *Id.* (Table 19).

230.   The table below provides a comparison between the enacted HD Southwest cluster and HD Alt 1 Southwest:

	HD Southwest Enacted						HD Alt 1					
HD	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
137	52.1%	4.5%	56.6%	40.8%	0.165	0.328	51.7%	3.7%	55.4%	42.0%	0.143	0.259
140	57.6%	8.0%	65.6%	31.7%	0.192	0.289	57.1%	7.9%	65.0%	32.4%	0.197	0.257
141	57.5%	6.6%	64.1%	31.8%	0.200	0.261	53.6%	6.7%	60.3%	35.5%	0.299	0.423
146	27.6%	4.7%	32.3%	61.8%	0.195	0.257	23.3%	4.9%	28.2%	64.4%	0.208	0.468
147	30.1%	7.2%	37.3%	55.3%	0.261	0.331	31.8%	7.2%	39.0%	55.1%	0.220	0.341
148	34.0%	3.1%	37.1%	60.4%	0.235	0.438	38.6%	3.4%	42.0%	56.1%	0.388	0.590
150	53.6%	6.1%	59.7%	38.3%	0.275	0.439	51.2%	5.3%	56.5%	41.5%	0.250	0.544
151	42.4%	7.3%	49.7%	47.2%	0.222	0.528	51.0%	7.5%	58.5%	38.6%	0.275	0.424
152	26.1%	2.3%	28.4%	67.9%	0.297	0.394	34.2%	3.2%	37.4%	58.7%	0.314	0.473
153	67.9%	2.5%	70.4%	27.7%	0.297	0.298	52.9%	2.7%	55.6%	43.0%	0.400	0.536
154	54.8%	1.7%	56.5%	42.2%	0.332	0.410	50.1%	2.1%	52.2%	45.7%	0.175	0.261
169	29.0%	7.7%	36.7%	61.0%	0.226	0.283	24.0%	9.0%	33.0%	64.6%	0.296	0.456
170	24.2%	8.7%	32.9%	64.2%	0.342	0.531	26.8%	12.5%	39.3%	57.9%	0.223	0.285
171	39.6%	4.6%	44.2%	53.9%	0.368	0.347	51.0%	4.0%	55.0%	43.4%	0.249	0.275
172	23.3%	13.4%	36.7%	61.0%	0.316	0.437	25.1%	9.4%	34.5%	63.1%	0.217	0.375
173	36.3%	5.4%	41.7%	55.7%	0.378	0.564	35.4%	5.6%	41.0%	56.4%	0.412	0.424
175	24.2%	5.0%	29.2%	66.5%	0.374	0.472	21.0%	5.7%	26.7%	68.7%	0.143	0.273
176	22.7%	8.2%	30.9%	66.2%	0.160	0.335	23.8%	6.2%	30.0%	67.1%	0.116	0.227
Avg					0.269	0.386					0.252	0.383

Table 19: HD Southwest Alt 1 splits 12 counties within the cluster, to the state's 10 split counties. Its 2290 cut edges are more than the state's 2094, though the Reock scores are nearly identical.

Id.

231.   Dr. Duchin provided two alternative HD East Black Belt maps ("HD Alt 1 East Black Belt" and "HD Alt 2 East Black Belt") that created additional majority-minority districts:

7.3.3 HD East Black Belt
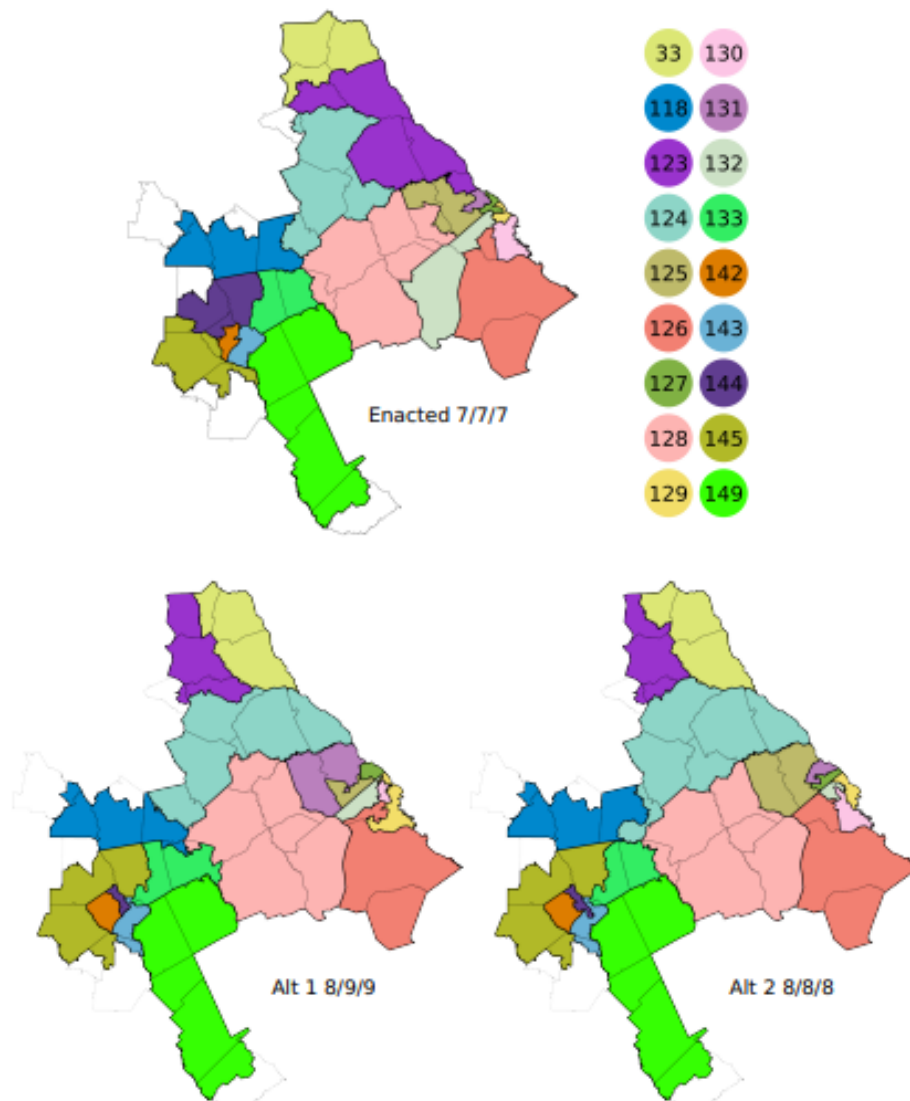
Id. at 37 (Figure 14).

232. Defendants' expert Dr. Morgan testified he has no basis to dispute that it is possible to draw additional majority-minority house districts. Morgan Dep.

24:22-24:09; *see also* Morgan Rep. 18, 21 (Charts 2 and 3); Morgan Dep. 29:10-30:04; Morgan Dep. 79:08-12; Morgan Dep. 82:15-18.

233.   The enacted HD East Black Belt contains seven majority BVAP districts (HDs 126, 128, 129, 130, 132, 142, and 143). Duchin Rep. at 38 (Table 20 and Table 21).

234.   HD Alt 1 East Black Belt contains eight majority BVAP districts (HDs Alt 1 East Black Belt 126, 128, 129, 130, 132, 142, 142, and 144). HD Alt 1 East Black also contains a majority BHVAP district (HD Alt 1 East Black Belt 133). *Id.* (Table 20)

235.   HD Alt 2 East Black Belt also contains eight majority BVAP districts (HD Alt 2 East Black Belt 126, 128, 129, 130, 132, 142, 142, 144). *Id.* (Table 21).

236.   The tables below compare the enacted East Black Belt clusters with HD Alt 1 East Black Belt and HD Alt 2 East Black Belt:

	HD East Black Belt Enacted						HD Alt 1					
HD	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
33	11.2%	3.1%	14.3%	82.3%	0.371	0.487	18.7%	3.8%	22.5%	74.6%	0.405	0.343
118	23.6%	3.7%	27.3%	69.7%	0.223	0.350	23.2%	3.1%	26.3%	70.6%	0.218	0.329
123	24.3%	4.3%	28.6%	68.1%	0.178	0.295	13.3%	5.8%	19.1%	76.3%	0.281	0.357
124	25.6%	6.2%	31.8%	65.0%	0.233	0.442	28.4%	4.7%	33.1%	64.4%	0.224	0.362
125	23.7%	7.7%	31.4%	63.0%	0.173	0.409	24.1%	8.0%	32.1%	61.5%	0.255	0.328
126	54.5%	3.2%	57.7%	40.0%	0.414	0.516	52.5%	3.5%	56.0%	41.6%	0.322	0.534
127	18.5%	4.8%	23.3%	68.1%	0.201	0.351	14.6%	4.9%	19.5%	70.1%	0.585	0.546
128	50.4%	1.7%	52.1%	46.5%	0.319	0.601	50.1%	1.6%	51.7%	46.7%	0.357	0.628
129	54.9%	4.3%	59.2%	37.2%	0.254	0.482	51.9%	3.5%	55.4%	40.7%	0.108	0.314
130	59.9%	3.9%	63.8%	33.7%	0.255	0.508	54.4%	4.3%	58.7%	38.7%	0.253	0.451
131	17.6%	5.9%	23.5%	68.2%	0.283	0.377	27.1%	5.1%	32.2%	63.3%	0.285	0.604
132	52.3%	7.8%	60.1%	35.6%	0.296	0.270	53.6%	8.2%	61.8%	33.1%	0.293	0.243
133	36.8%	2.1%	38.9%	58.4%	0.415	0.543	48.7%	2.0%	50.7%	47.2%	0.178	0.385
142	59.5%	3.7%	63.2%	34.8%	0.229	0.353	50.8%	3.7%	54.5%	42.3%	0.539	0.605
143	60.8%	4.7%	65.5%	32.3%	0.299	0.502	52.4%	6.3%	58.7%	38.4%	0.176	0.332
144	29.3%	2.6%	31.9%	63.0%	0.325	0.510	50.4%	4.3%	54.7%	41.3%	0.299	0.298
145	35.7%	5.9%	41.6%	55.1%	0.194	0.376	23.1%	2.8%	25.9%	71.1%	0.204	0.422
149	32.1%	5.7%	37.8%	61.0%	0.223	0.325	32.1%	5.7%	37.8%	61.0%	0.223	0.325
Avg					0.271	0.428					0.289	0.411

Table 20: The Alt 1 map has 10 split counties within the HD East Black Belt cluster, while the enacted plan has 9. Its 1775 cut edges improves on the state's 1887, while also being more compact by Polsby-Popper.

	HD East Black Belt Enacted						HD Alt 2					
HD	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
33	11.2%	3.1%	14.3%	82.3%	0.371	0.487	18.3%	3.5%	21.8%	75.2%	0.370	0.323
118	23.6%	3.7%	27.3%	69.7%	0.223	0.350	27.0%	4.1%	31.1%	65.9%	0.229	0.342
123	24.3%	4.3%	28.6%	68.1%	0.178	0.295	13.7%	6.0%	19.7%	75.8%	0.293	0.395
124	25.6%	6.2%	31.8%	65.0%	0.233	0.442	25.5%	3.8%	29.3%	68.1%	0.234	0.381
125	23.7%	7.7%	31.4%	63.0%	0.173	0.409	30.2%	6.1%	36.3%	60.1%	0.396	0.670
126	54.5%	3.2%	57.7%	40.0%	0.414	0.516	50.7%	4.2%	54.9%	42.3%	0.394	0.494
127	18.5%	4.8%	23.3%	68.1%	0.201	0.351	17.6%	6.2%	23.8%	67.2%	0.267	0.264
128	50.4%	1.7%	52.1%	46.5%	0.319	0.601	50.2%	1.5%	51.7%	46.8%	0.409	0.672
129	54.9%	4.3%	59.2%	37.2%	0.254	0.482	50.4%	3.6%	54.0%	41.8%	0.248	0.323
130	59.9%	3.9%	63.8%	33.7%	0.255	0.508	57.1%	4.7%	61.8%	35.4%	0.231	0.325
131	17.6%	5.9%	23.5%	68.2%	0.283	0.377	17.6%	5.7%	23.3%	67.8%	0.318	0.373
132	52.3%	7.8%	60.1%	35.6%	0.296	0.270	54.4%	7.1%	61.5%	34.1%	0.219	0.278
133	36.8%	2.1%	38.9%	58.4%	0.415	0.543	46.6%	2.1%	48.7%	49.0%	0.296	0.438
142	59.5%	3.7%	63.2%	34.8%	0.229	0.353	50.1%	3.8%	53.9%	42.9%	0.436	0.605
143	60.8%	4.7%	65.5%	32.3%	0.299	0.502	52.9%	6.3%	59.2%	38.0%	0.143	0.316
144	29.3%	2.6%	31.9%	63.0%	0.325	0.510	51.0%	4.2%	55.2%	40.8%	0.226	0.243
145	35.7%	5.9%	41.6%	55.1%	0.194	0.376	23.1%	2.8%	25.9%	71.1%	0.190	0.359
149	32.1%	5.7%	37.8%	61.0%	0.223	0.325	32.1%	5.7%	37.8%	61.0%	0.223	0.325
Avg					0.271	0.428					0.285	0.396

Table 21: Alt 2 eliminates one county split relative to the enacted plan and has a sharply improved 1604 cut edges.

Id. (Table 20 and Table 21).

237.   Dr. Duchin also provided alternative maps for the HD Southeast cluster ("HD Alt 1 Southeast") that contains additional majority-minority districts:
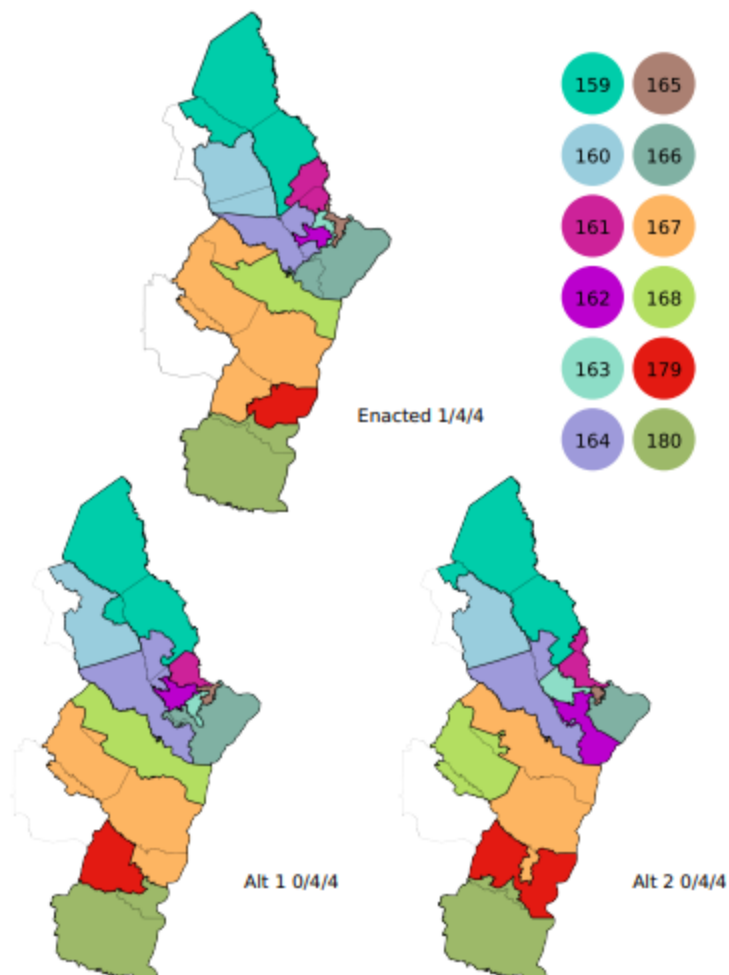
68

Figure 15: HD Southeast (12 districts).

Id. at 39 (Figure 15).

238.   Defendants' expert Dr. Morgan testified he has no basis to dispute that it is possible to draw additional majority-minority house districts. Morgan Dep. 24:22-24:09; *see also* Morgan Rep. at 24, 27 (Charts 2 and 3); Morgan Dep. 29:10-30:04; Morgan Dep. 79:08-12; Morgan Dep. 82:15-18.

239.   Enacted HD Southeast contains one majority BVAP district (HD 165) and three majority BHVAP districts (HDs 162, 163, 168). Duchin Rep. at 40 (Table 22 and Table 23).

240.   HD Alt 1 Southeast contains five majority BHVAP districts (HDs Alt 1 Southeast 161, 162, 163, 165 and 168). *Id.* (Table 22).

241.   HD Alt 2 Southeast also contains five majority BHVAP districts (HDs Alt 2 Southeast 161, 162, 163, 165 and 168). *Id*. (Table 23).

242.   The table below provides a comparison of the enacted HD Southeast cluster and HD Alt 1 Southeast and HD Alt 2 Southeast:

	HD Southeast Enacted						HD Alt 1					
HD	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
159	24.5%	2.9%	27.4%	69.4%	0.219	0.345	22.2%	3.7%	25.9%	70.5%	0.204	0.358
160	22.6%	5.0%	27.6%	68.5%	0.369	0.483	26.6%	5.1%	31.7%	64.7%	0.242	0.373
161	27.1%	6.8%	33.9%	60.2%	0.306	0.511	42.1%	8.8%	50.9%	42.7%	0.359	0.475
162	43.7%	9.6%	53.3%	40.6%	0.211	0.366	39.9%	10.5%	50.4%	42.6%	0.147	0.372
163	45.5%	7.4%	52.9%	41.9%	0.175	0.271	44.0%	6.9%	50.9%	43.7%	0.244	0.335
164	23.5%	8.5%	32.0%	60.6%	0.167	0.299	12.9%	5.1%	18.0%	76.5%	0.143	0.309
165	50.3%	5.3%	55.6%	39.2%	0.162	0.230	47.3%	4.7%	52.0%	42.9%	0.189	0.380
166	5.7%	4.1%	9.8%	84.7%	0.364	0.429	7.2%	4.7%	11.9%	82.4%	0.245	0.459
167	22.3%	7.4%	29.7%	66.0%	0.192	0.417	20.0%	6.2%	26.2%	70.1%	0.266	0.327
168	46.3%	10.3%	56.6%	39.3%	0.258	0.243	45.9%	10.7%	56.6%	39.2%	0.236	0.246
179	27.0%	6.4%	33.4%	63.7%	0.417	0.451	32.0%	7.5%	39.5%	56.9%	0.433	0.539
180	18.2%	5.6%	23.8%	71.2%	0.396	0.606	17.0%	5.4%	22.4%	72.8%	0.348	0.594
Avg					0.270	0.388					0.255	0.397

Table 22: HD Southeast Alt 1 has fewer county splits (5 vs. 6) and a better cut edges score (1122 vs. 1245) than the enacted plan.

	HD Southeast Enacted						HD Alt 2					
HD	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock	Black VAP	Hisp VAP	BH VAP	White VAP	Polsby Popper	Reock
159	24.5%	2.9%	27.4%	69.4%	0.219	0.345	22.0%	3.6%	25.6%	70.7%	0.192	0.356
160	22.6%	5.0%	27.6%	68.5%	0.369	0.483	26.3%	5.1%	31.4%	64.9%	0.333	0.515
161	27.1%	6.8%	33.9%	60.2%	0.306	0.511	41.6%	10.0%	51.6%	42.2%	0.180	0.332
162	43.7%	9.6%	53.3%	40.6%	0.211	0.366	43.0%	8.5%	51.5%	42.5%	0.191	0.341
163	45.5%	7.4%	52.9%	41.9%	0.175	0.271	42.7%	7.7%	50.4%	43.1%	0.282	0.411
164	23.5%	8.5%	32.0%	60.6%	0.167	0.299	13.4%	5.5%	18.9%	75.6%	0.168	0.290
165	50.3%	5.3%	55.6%	39.2%	0.162	0.230	45.5%	5.0%	50.5%	44.4%	0.229	0.501
166	5.7%	4.1%	9.8%	84.7%	0.364	0.429	7.2%	4.1%	11.3%	83.0%	0.391	0.653
167	22.3%	7.4%	29.7%	66.0%	0.192	0.417	36.5%	7.4%	43.9%	52.5%	0.204	0.331
168	46.3%	10.3%	56.6%	39.3%	0.258	0.243	40.9%	10.8%	51.7%	44.3%	0.327	0.555
179	27.0%	6.4%	33.4%	63.7%	0.417	0.451	18.7%	6.0%	24.7%	71.6%	0.196	0.454
180	18.2%	5.6%	23.8%	71.2%	0.396	0.606	18.6%	5.7%	24.3%	70.7%	0.346	0.577
Avg					0.270	0.388					0.253	0.443

Table 23: Alt 2 also has just 5 county splits, to go with 1263 cut edges.

Id. (Table 22 and Table 23).

C. Compactness and Traditional Redistricting Principles

243.   Dr. Duchin concluded that it is possible to draw these additional majority-minority districts in the congressional, senate, and house plans while comporting with traditional redistricting principles. Duchin Rep. at 5; Duchin Dep. 65:06-66:09.

71

244. Defendants' expert Dr. Morgan testified that he has no basis to dispute that Dr. Duchin's illustrative majority-minority districts are "reasonably configured." Morgan Dep. at 21:12-28:08; *see also* Morgan Rep. at 18, 21-22, 24, 27-28 (Charts 2, 3, 5, 6, and 7).

245. Dr. Duchin testified that throughout the map-drawing process, she balanced these redistricting principles. Duchin Dep. 122:08-18.

246. Dr. Duchin examined several of the qualitative and quantitative redistricting principles codified by the Georgia legislature. Duchin Rep. at 20-24.

247. All of the districts in all of Dr. Duchin's illustrative congressional, senate, and house district are contiguous. Duchin Rep. at 20.

248. As demonstrated by the chart below, Dr. Duchin tightly balanced the populations of each of her illustrative congressional, senate, and house maps:

	Maximum positive deviation	Maximum negative deviation	Top-to-bottom deviation
EnactedCD	+1	−1	2
DuncanKennedy	+2	−1	3
CD Alt	+1	−1	2
EnactedSD	+1879	−1964	3843 (2.01%)
SD Alt Eff 1	+2457	−2598	5055 (2.64%)
SD Alt Eff 2	+2547	−2490	5037 (2.63%)
SD Alt Eff 3	+3200	−3305	6505 (3.40%)
EnactedHD	+797	−833	1630 (2.74%)
HD Alt Eff 1	+1194	−1176	2370 (3.98%)
HD Alt Eff 2	+1222	−1097	2319 (3.90%)
HD Alt Eff 3	+1173	−1026	2199 (3.70%)

Id. at 20 (Table 7).

249.   Dr. Duchin compared the overall average district compactness scores of the enacted plans and each of her illustrative plans under the Polsby-Popper, Reock, and "cut edges" approach, as demonstrated by the chart below:

	avg Polsby-Popper (higher is better)	avg Reock (higher is better)	Block cut edges (lower is better)
BenchmarkCD	0.238	0.452	5775
EnactedCD	0.267	0.441	5075
DuncanKennedy	0.295	0.471	4665
CD Alt	0.301	0.473	4665
BenchmarkSD	0.250	0.421	12,549
EnactedSD	0.287	0.418	11,005
SD Alt Eff 1	0.287	0.427	10,897
SD Alt Eff 2	0.296	0.440	10,349
SD Alt EFf 3	0.295	0.431	10,479
BenchmarkHD	0.244	0.382	24,001
EnactedHD	0.278	0.391	22,014
HD Alt Eff 1	0.261	0.391	21,843
HD Alt Eff 2	0.263	0.399	21,907
HD Alt Eff 3	0.279	0.403	20,917

Table 8: Compactness scores for each plan submitted with January 13 Report.

Canter Decl ¶ 28 (Moon Duchin Notice of Errata ("Duchin Errata") at 2 (April 26, 2023)).

250.   Dr. Duchin opined that overall compactness scores of her illustrative districts are comparable or better than the enacted plan, as demonstrated by the tables above. Duchin Rep. at 6 (Figure 1) and 21 (Table 8); Duchin Dep. 103:09-106:05; Duchin Rep. at 25 (Table 11); Duchin Rep. at 27 (Table 12); *Id*. (Table 13); *Id*. at 29 (Table 14); *Id*. at 31 (Table 15); *Id*. (Table 16); *Id*. (Table 17); *Id*. (Table 18); *Id*. at

36 (Table 19); *Id*. at 38 (Table 20); *Id*. (Table 21); *Id*. at 40 (Table 22); *Id*. (Table 23).

251. Dr. Duchin also compared the compactness scores of each of the individual districts in the district clusters she examined as part of her *Gingles* 1 analysis and determined that each of the clusters were as compact or comparable, and that each of the districts in those clusters were as compact or comparable. Duchin Rep. at 25- 40 (Tables 11-23).

252. Dr. Morgan testified that Dr. Duchin's illustrative plans were as compact or comparable. *See* Morgan Dep. 79:13-82:18.

253. Dr. Duchin also opined that her alternative plans respect the integrity of political subdivisions such as counties, cities, and voting precincts. Duchin Rep. 5, 22.

254. The chart below compares the number of political subdivisions splits in the enacted plans with Dr. Duchin's illustrative plans:

	County Splits (out of 159)	County Pieces	Muni Splits (out of 538)	Muni Pieces	Precinct Splits (out of 2685)	Precinct Pieces
BenchmarkCD	16	38	67	141	67	134
EnactedCD	15	36	64	136	86	172
DuncanKennedy	15	36	53	114	66	132
CD Alt	13	30	58	127	47	95
BenchmarkSD	37	100	114	269	154	309
EnactedSD	29	89	109	266	144	289
SD Alt Eff 1	33	95	112	275	110	221
SD Alt Eff 2	26	78	108	264	97	196
SD Alt Eff 3	29	84	108	264	106	213
BenchmarkHD	72	284	169	506	303	630
EnactedHD	69	278	166	494	352	724
HD Alt Eff 1	73	276	164	492	279	570
HD Alt Eff 2	69	266	168	494	276	567
HD Alt Eff 3	69	265	165	478	277	567

Id. at 22 (Table 9). *See also* Duncan Errata at 3.

255. Although Dr. Duchin did not have access to incumbent addresses, she did examine incumbency through analyzing core retention. *Id*. at 24.

256. Defendants' mapping expert explained that "protecting incumbents, including preserving cores of districts, is a traditional redistricting principle. Continuity of district representation is a traditional districting factor. Voters and residents establish relationships with their elected representatives." Morgan Rep. at 8-9.

257. Dr. Duchin determined that the legislature "placed a low priority on core retention, i.e., on maintaining voters in the same districts as they belonged to in the benchmark "congressional, senate, and house plans. Duchin Rep. at 24; Duchin

Dep. 115:06-119:10. Dr. Duchin determined that core retention was particularly poor in the enacted house plan. Duchin Rep. at 24.

258.   Dr. Duchin reviewed a voluminous record of public testimony. Duchin Dep. 68:18-69:10. This community of interest testimony informed Dr. Duchin's hand-drawing process. *Id*. 70:08-70:71:06; 79:09-79:16; 163:15-163:25. *See also* Duchin Rep. at 79-80. *See also* Bagley Rep. at 48, 50, 52, 53.

V.   *Gingles* 2: Minority Group Political Cohesion in Georgia.

A. Contemporary Evidence of Minority Group Cohesive Voting

259.   Plaintiffs' expert Dr. Benjamin Schneer completed a racially polarized voting ("RPV") analysis. *See generally* Canter Decl. ¶ 24 (Expert Report of Benjamin Schneer ("Schneer Rep.")).

260.   "To identify instances of RPV in Georgia," Dr. Schneer "examine[d] (1) whether members of a minority group of interest appear to be *cohesive* in their electoral support for a candidate of choice (Specifically, does more than half of a given minority group support the same candidate?); and, (2) whether White voters oppose this candidate (Specifically, do more than half of White voters oppose the minority candidate of choice?)." Schneer Rep. at 6.

261.   Dr. Schneer's analysis relied on historical voting data in Georgia going back to 2012. *Id*. at 6-7.

1.   Statewide Evidence of Minority Group Cohesive Voting

262.   Dr. Schneer opined that "Black and Hispanic voters' past behavior in statewide elections reveals that these groups had a clear candidate of choice in each election, with large majorities of these voters supporting the same candidate in each election and voting cohesively." *Id*. at 17; *id*. at 18 (Figure 1).

263.   Defendants' expert Dr. Alford does not dispute any of these individual findings. In Dr. Alfords report he noted that Dr. Schneer "… provide[d] analysis that demonstrates that Black voters provide uniformly high levels of support for Democratic candidates and white voters provide uniformly high levels of support for Republican candidates." Canter Decl. ¶ 25 (Expert Report of John Alford ("Alford Rep.") at 4).

Figure 1: Ecological Inference Results — Statewide (Historical Elections, Two-Party Vote Shares), 3 Racial Groups
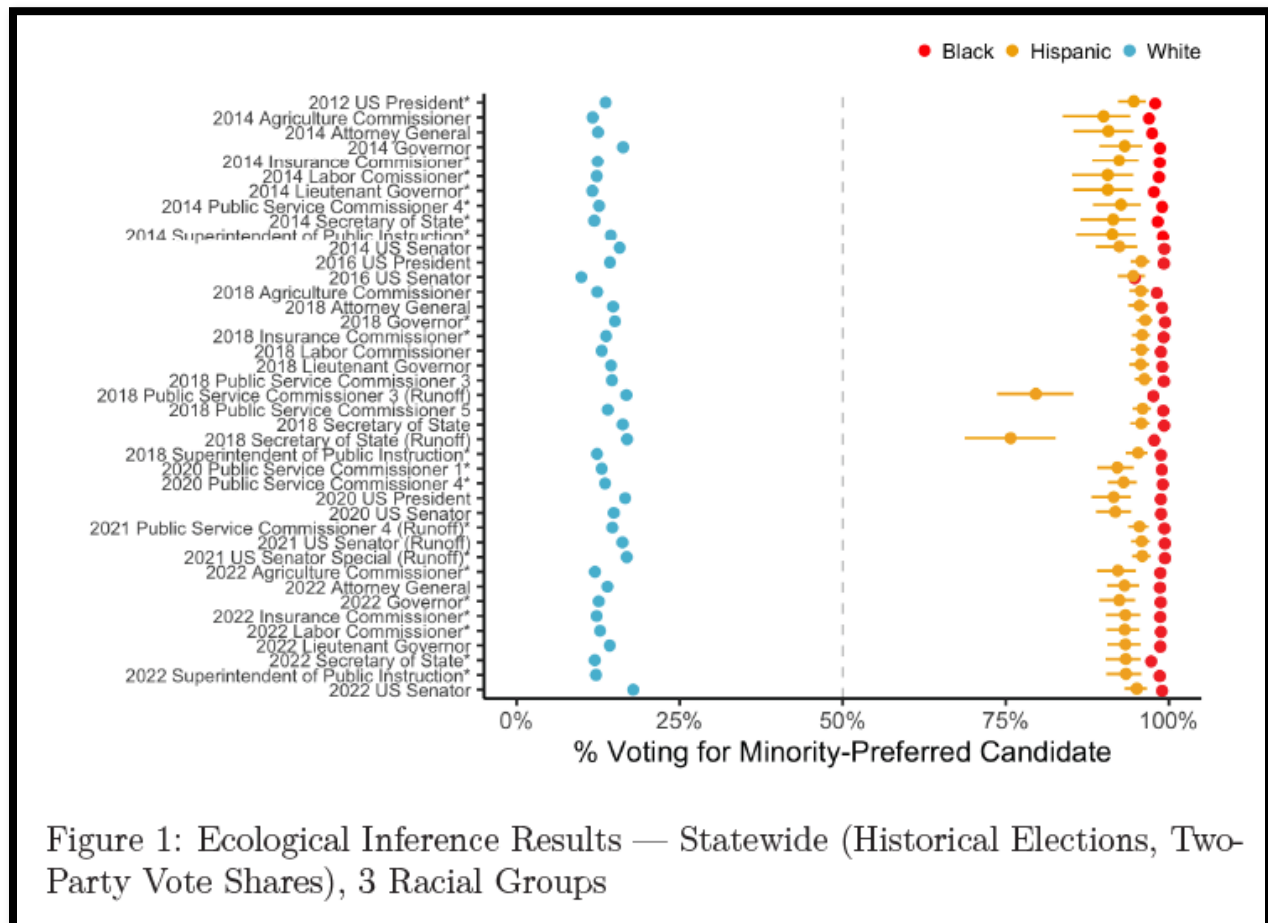
264.   During his deposition, Dr. Alford, further testified, "I reach the same conclusion [as Dr. Schneer and Dr. Brunell] with regard to if the standard is simply that two racial groups are voting in opposite directions then it abundantly clear from everything that's in evidence in this case."   See Canter Decl. ¶ 26 (Deposition of John Alford ("Alford Dep.") 126:22-127:21).

2.   Cluster-Level Evidence of Minority Group Cohesive Voting

265.   Dr. Schneer concluded that "[a]cross [SD Atlanta, SD Gwinnet, and SD East Black Belt, there is] RPV between White and Black voters. For each cluster, Black voters cohesively support a candidate of choice." *Id*.

266.   Dr. Schneer also concluded that "in the Atlanta and Gwinnett clusters, Hispanic voters cohesively support the same candidate of choice as Black voters and the lower confidence interval on the vote share estimate does not overlap with[] the 50% threshold in all elections where a minority candidate runs against a non-minority candidate." *Id*.

267.   Dr. Schneer also concluded that in the East Black Belt cluster, Hispanic voters… systematically support the same candidates of choice as Black voters," although the "estimates for elections before 2016 tend to be more uncertain, with the confidence including the 50% threshold." *Id*.

268.   The figure below reflects the results of Dr. Schneer's racially polarized voting analysis for each of these clusters.

Figure 19: Ecological Inference Results — State Senate Clusters (Historical Elections, Two-Party Vote Shares)
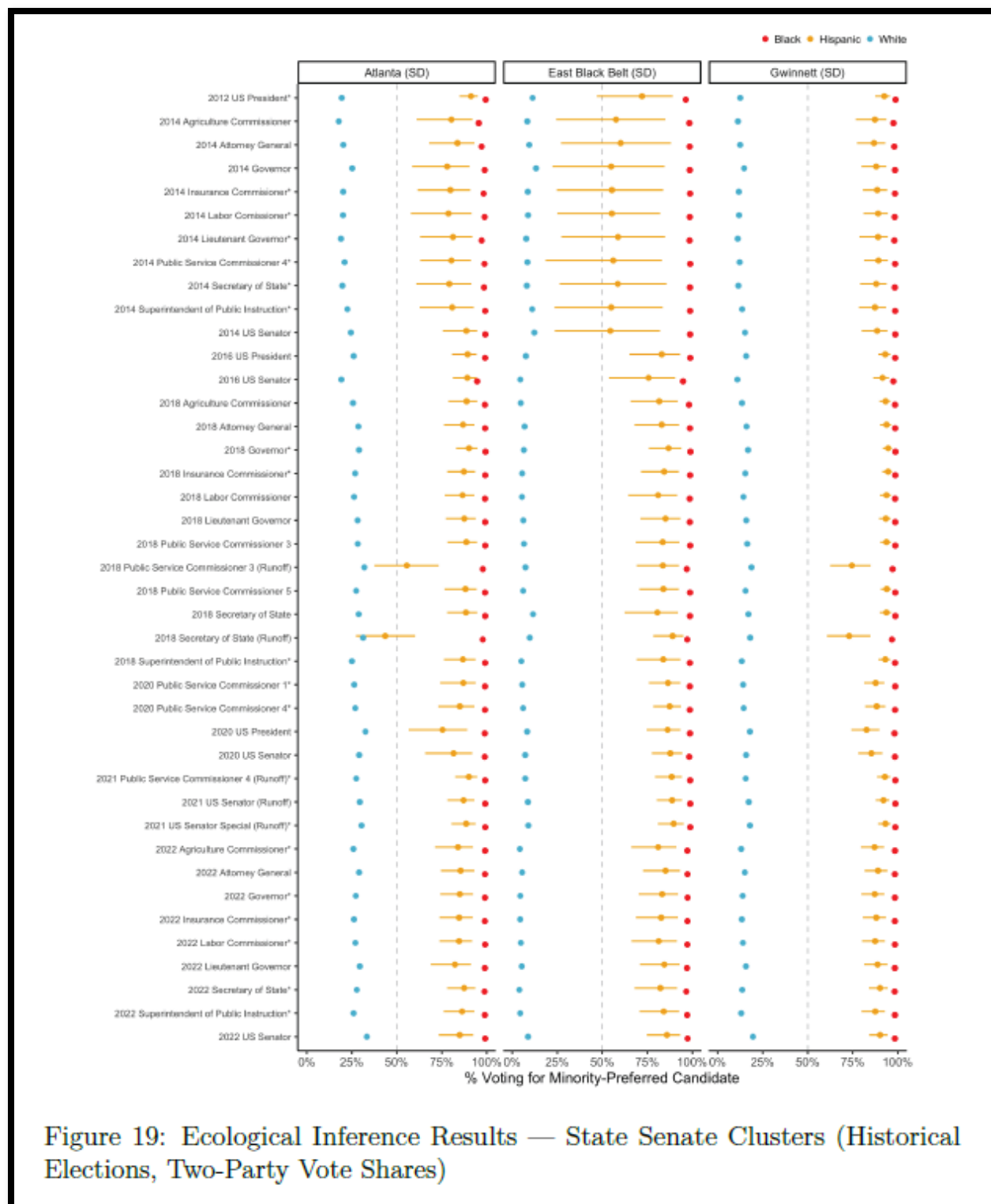
Id. at 47 (Figure 19).

269.   Dr. Schneer concluded that there is "evidence of RPV between White and Black voters across all state House clusters I examine[d]. Black voters cohesively support a candidate of choice[.]" *Id.*

270.   Dr. Schneer also concluded that "Hispanic voters join black voters in supporting the same candidate of choice in each [house district] cluster." *Id.*

271.   The figure below reflects the results of Dr. Schneer's racially polarized voting analysis for HD Atlanta, HD Southwest, HD East Black Belt, and HD Southeast. *Id.* at 48 (Figure 20).

Figure 20: Ecological Inference Results — State House Clusters (Historical Elections, Two-Party Vote Shares)
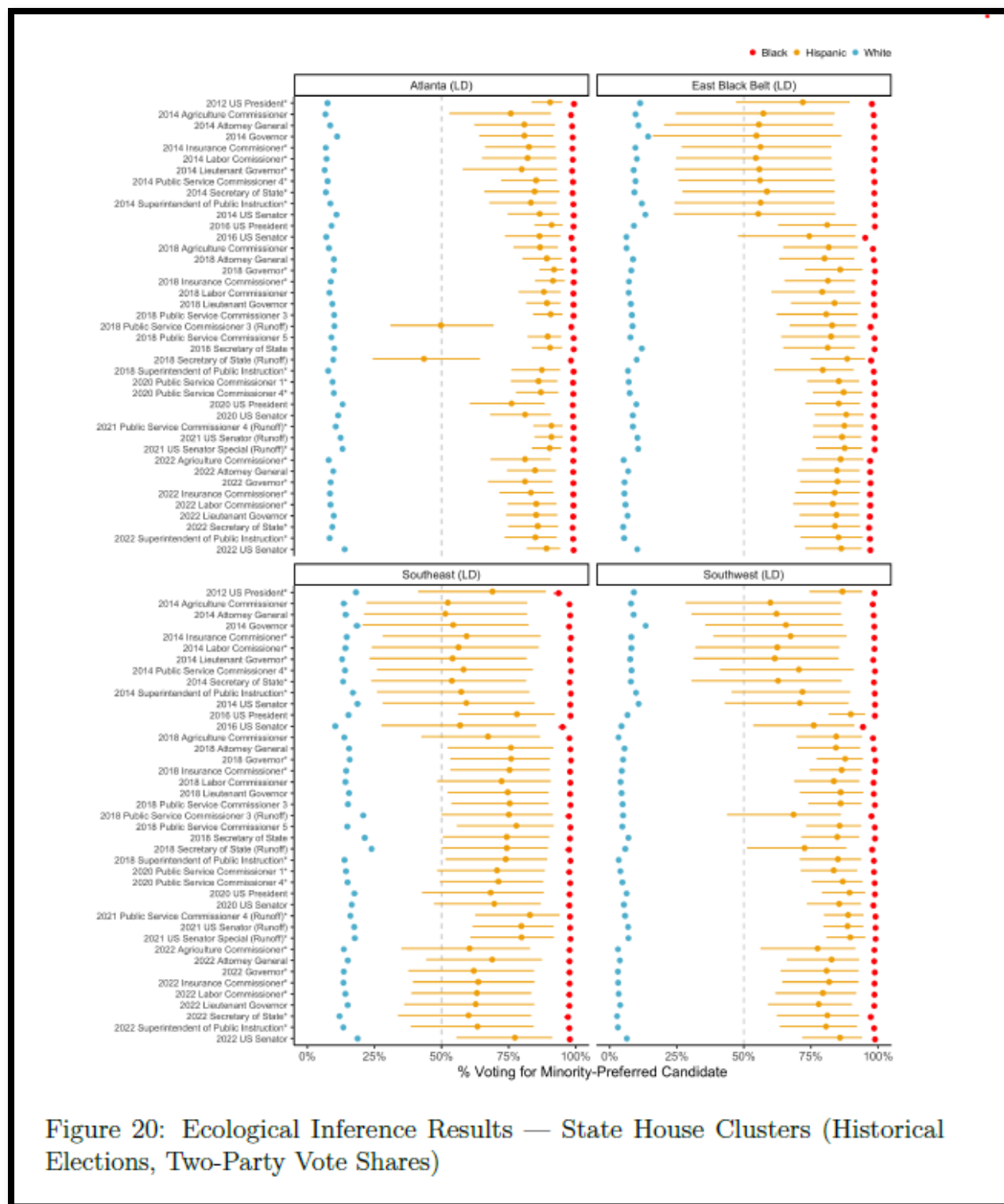
Id. at 48 (Figure 20)

3. Congressional District-Level Evidence of Minority Group Cohesive Voting

272. Dr. Schneer concluded that there is "RPV between Black voters on the one hand and White voters on the other hand when pooling across all [of the districts in the Enacted Congressional Map] (e.g., statewide) as well as specifically for all [districts in the Enacted Congressional Map] other than CD 5." *Id*. at 21.

273. Dr. Schneer stated that "[i]n [enacted Congressional districts] 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13 and 14, Black voters supported, by an overwhelming margin, the minority candidate in all historical elections in which they ran." *Id*. at 19.

274. Dr. Schneer stated that "CD 3 demonstrates clear evidence of RPV between White and Black voters for all elections that I examine[d]. For Black voters, I never estimate[d] a minority-preferred candidate vote share below 92.8%." *Id*. at 20.

275. Dr. Schneer stated that "CD 7 presents [a] strong example among the congressional districts of RPV, with Black voters cohering around minority candidates (and other minority-preferred candidates) . . . In every election with a minority candidate running against a non-minority candidate, minority voters supported the minority candidate, often overwhelmingly." *Id*.

276.   Dr. Schneer also produced five figures that reflect the results of his racially polarized voting analysis for all of the districts in the Enacted Congressional Map. *Id*. at 24 (Figure 3); 25 (Figure 4); 26 (Figure 5); 27 (Figure 6); 28 (Figure 7).

277.   The figures reflect that Black voters in each district in the Enacted Congressional Map vote cohesively for the same candidate of choice. *Id*. at 24 (Figure 3); 25 (Figure 4); 26 (Figure 5); 27 (Figure 6); 28 (Figure 7).
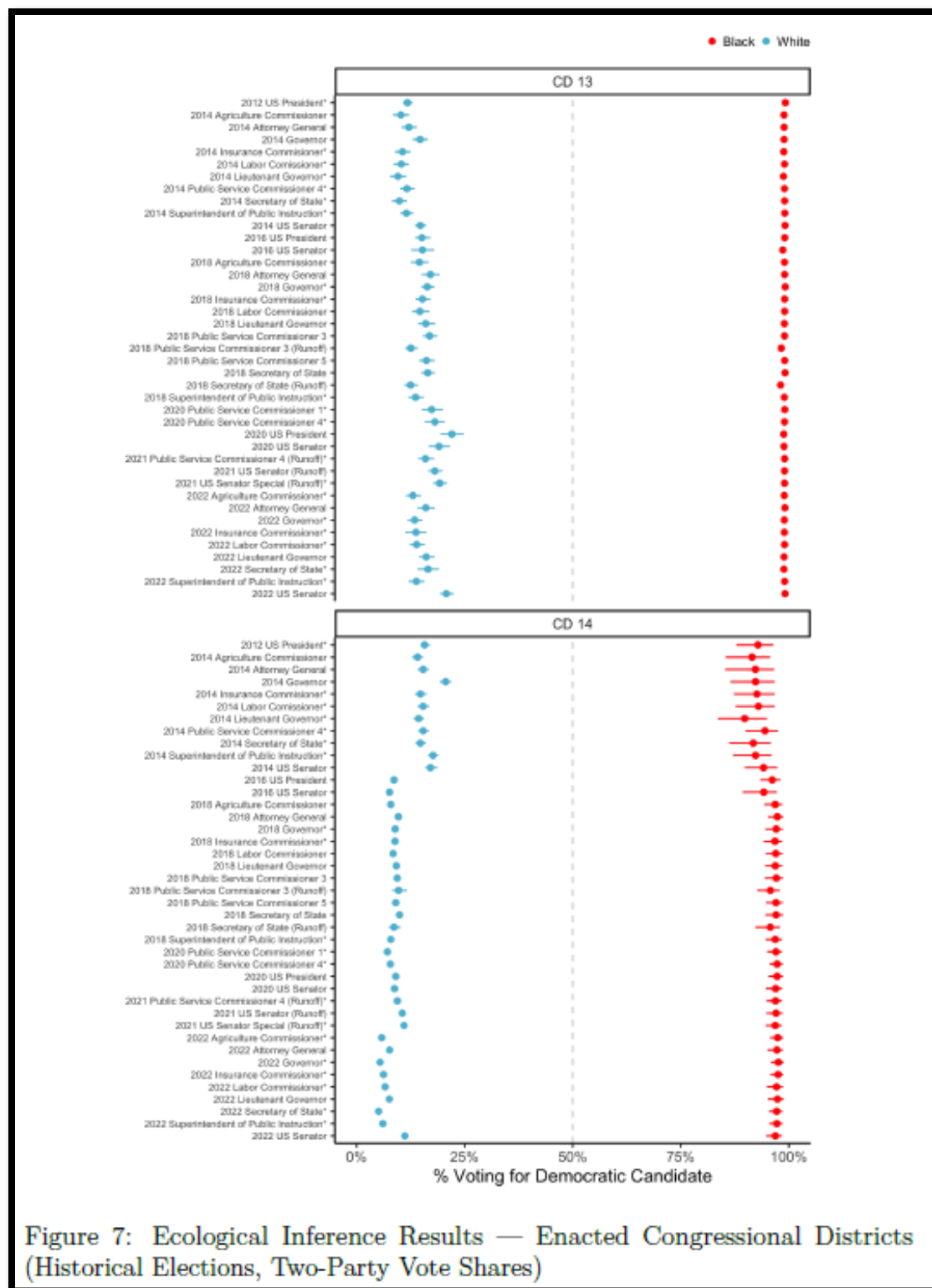
278.   The five figures from Dr. Schneer's report reflecting this information are presented on the following five pages.

Figure 3: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

Figure 4: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

Figure 5: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

Figure 6: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

Figure 7: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

Id. at 24 (Figure 3); 25 (Figure 4); 26 (Figure 5); 27 (Figure 6); 28 (Figure 7).

279. Dr. Schneer analyzed whether there is Black cohesive voting in each district that Dr. Duchin drew in her Congressional Alt 1 Map. *Id*. at 57.

280. Dr. Schneer's analysis demonstrates extremely strong cohesion—over 75%—among Black voters for every majority-Black district in the Demonstrative Congressional Map (Demonstrative CDs 3, 5, and 13), as reflected in the table below: *Id*.
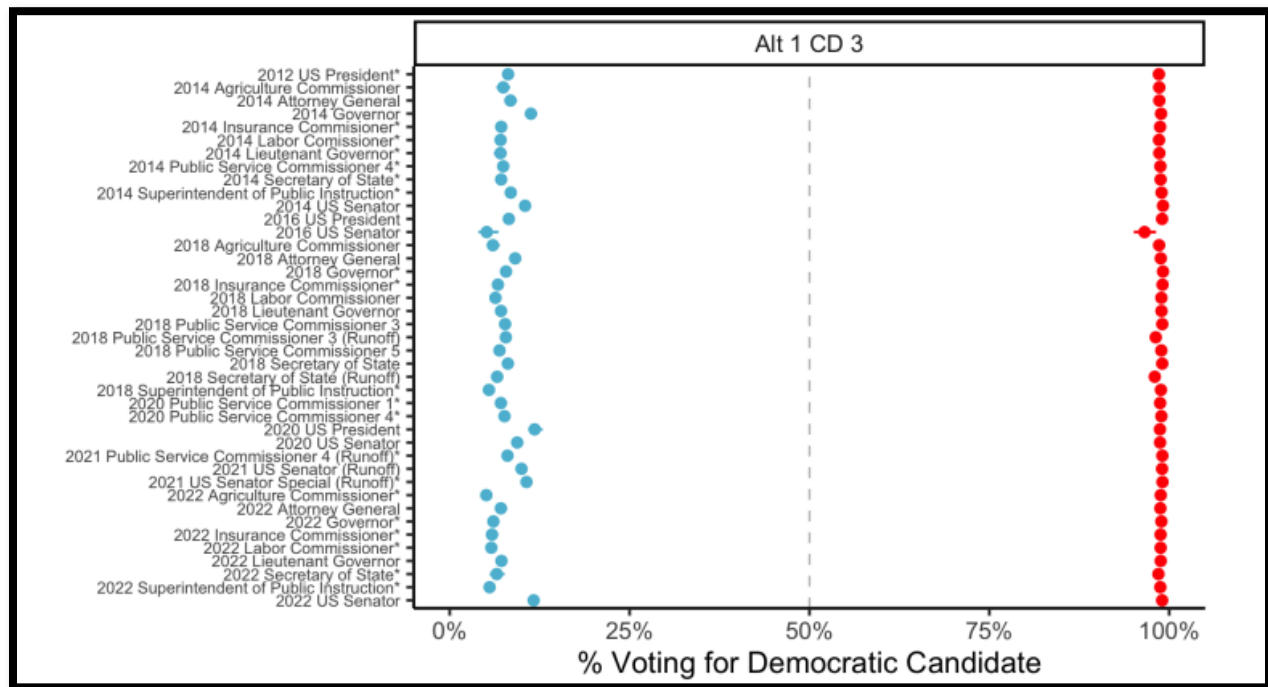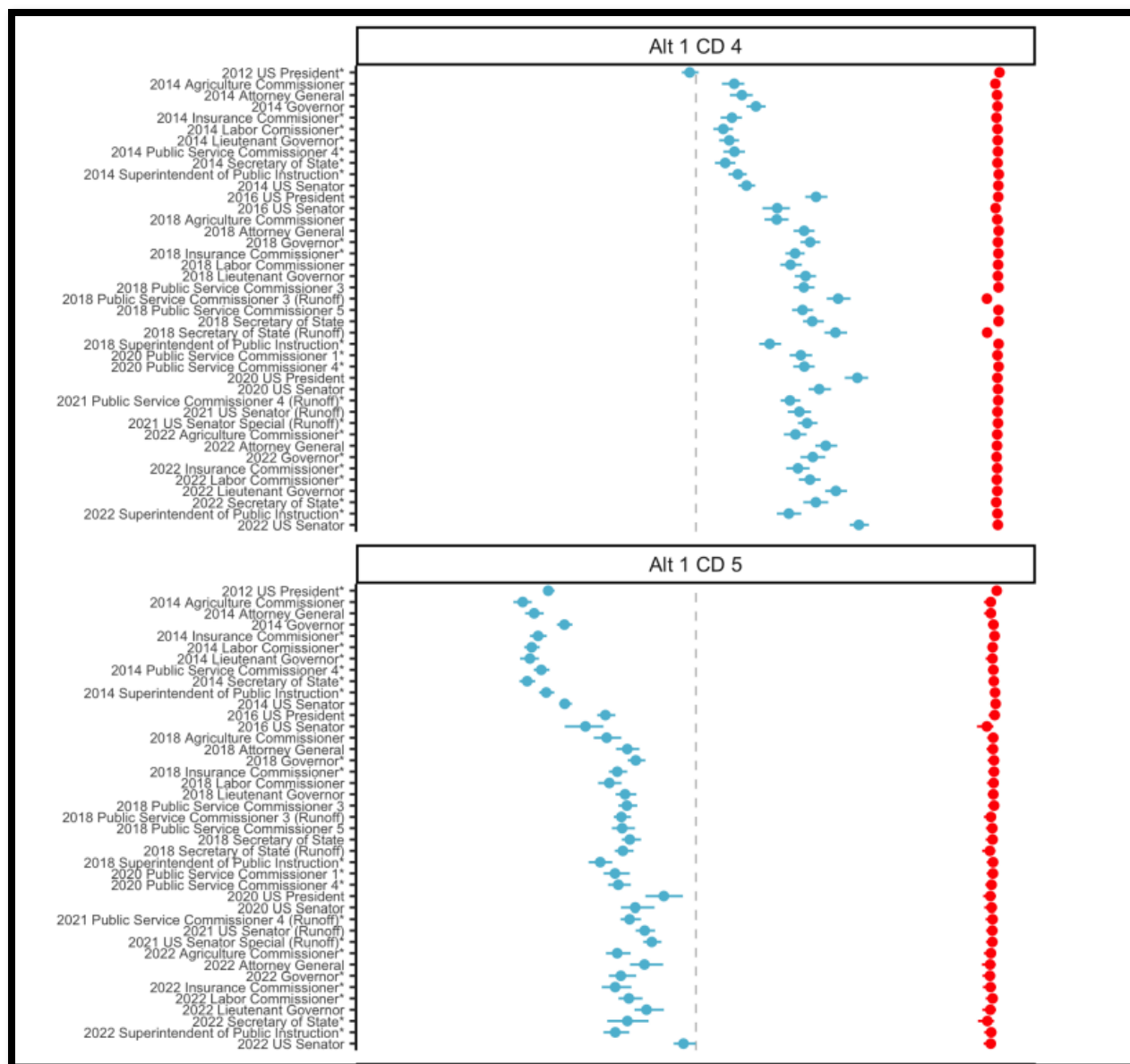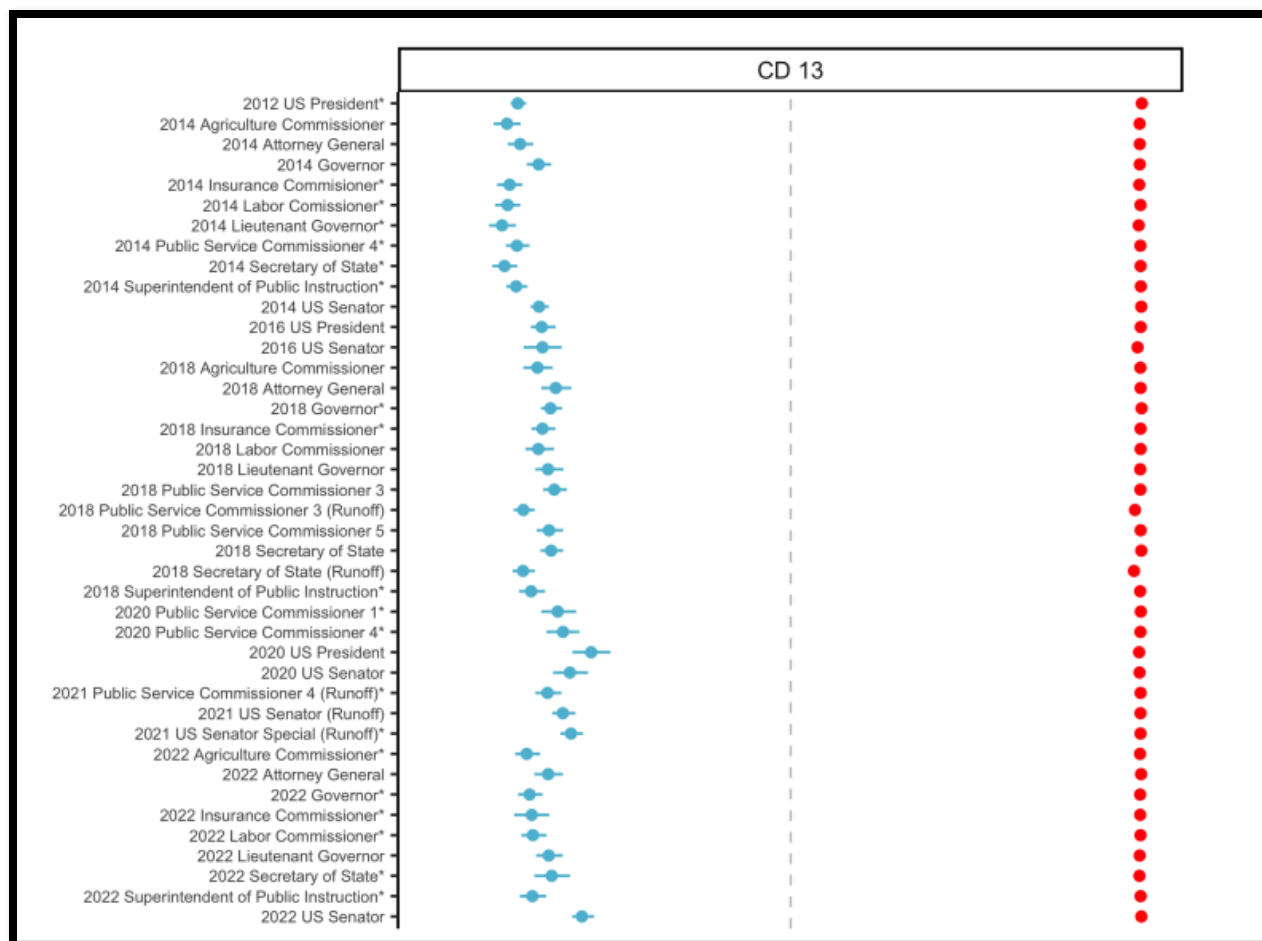
Id. at 58 (Figure 21).

> **4.   State Senate District-Level Evidence of Minority Group Cohesive Voting**

281.   Dr. Schneer analyzed whether this is Black cohesive voting in the following districts in the Enacted State Senate Map: SD 9, SD 16, SD 17, SD 22, SD 23, SD 25, SD 26, SD 28, SD 34, SD 35, SD 40, SD 41, SD 43, SD 44, and SD 55. *Id*. 29-30.

282.   Dr. Schneer concluded that apart from SD 41 and potentially also from SD 40, "there is evidence of racially polarized voting behavior between Black and White voters in every other State Senate district I analyzed. Black voters clearly supported the minority-preferred candidate in every election under study, including those elections with a minority candidate running." *Id*. at 30.

283.   Dr. Schneer also concluded that [Enacted State Senate Map districts] 16, 22, 23, 25, 26, and 44 exhibit clear evidence of RPV with Black and Hispanic voters cohering around minority candidates[.]" *Id*. at 29-30.

284.   Dr. Schneer produced four figures that reflect the results of his racially polarized voting analysis for all of the Enacted State Senate Map districts which he analyzed (i.e., SD 9, SD 16, SD 17, SD 22, SD 23, SD 25, SD 26, SD 28, SD 34, SD 35, SD 40, SD 41, SD 43, SD 44, and SD 55). *Id*. at 32 (Figure 9); 33 (Figure 10); 34 (Figure 11); 35 (Figure 12).

285.   The four figures from Dr. Schneer's report reflecting this information are presented on the following four pages.
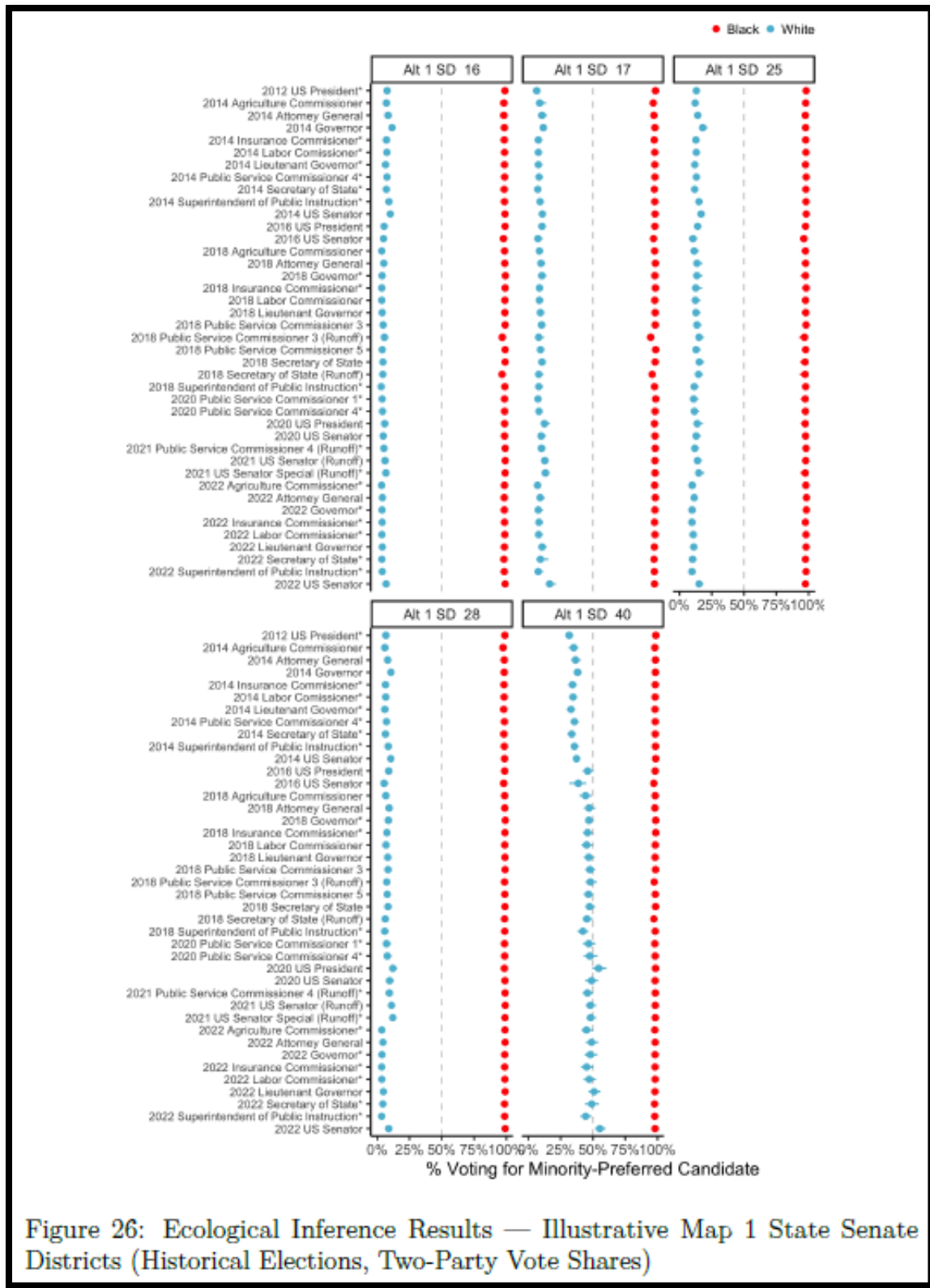
Figure 9: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

Figure 10: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

Figure 11: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

Figure 12: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

Id. at 32 (Figure 9); 33 (Figure 10); 34 (Figure 11); 35 (Figure 12).

286.   Dr. Schneer also analyzed whether there is Black cohesive voting in certain illustrative districts: SDs Alt 1 16, 17, 25, 28, and 40, and whether there was Black and Hispanic cohesive voting in SDs Alt 2, 16, and 23. *Id*. at 63.

287.   Dr. Schneer concluded that there is "evidence of RPV between Black and White voters across all past statewide elections with a minority candidate running for" SDs Alt 1 16, 17, 25, and 28." *Id*.

288.   Dr. Schneer concluded that he "observe[s] evidence of RPV with Black and Hispanic voters supporting minority-[preferred] candidates" in SDs Alt 2 16 and 23. *Id*.

289.   Dr. Schneer analyzed the results of his racially polarized voting analysis for SDs Alt 1 16, 17, 25, and 28 and for SDs Alt 2 16 and 23 in the figures below.

Figure 26: Ecological Inference Results — Illustrative Map 1 State Senate Districts (Historical Elections, Two-Party Vote Shares)

Figure 27: Ecological Inference Results — Illustrative Map 2 State Senate Districts (Historical Elections, Two-Party Vote Shares)

65

Id. at 64-65 (Figures 26-27).

5. State House District-Level Evidence of Black And Hispanic Cohesive Voting

290.   Dr. Schneer analyzed whether there is Black cohesive voting in the following districts in the Enacted State House Map: HD 61, HD 64, HD 65, HD 66, HD 74, HD 78, HD 115, HD 116, HD 117, HD 140, HD 142, HD 143, HD 151, HD 154, HD 161, HD 163, HD 165, and HD 171. *Id.* at 36-37.

291.   Dr, Schneer concluded that there is "RPV between Black and White voters in [Enacted State House Map districts] 61, 65, 74, 78, 115, 116, 117, 142, 143, 151, 154 and 171[.]" *Id.* at 37.

292.   Dr. Schneer stated that "[Enacted State House Map districts] 61, 65, 74, 115, 142, 143, 151, 154 and 171 present clear evidence of RPV with Black voters selecting the minority candidates as their candidate of choice[.]" *Id.* at 36.

293.   Dr. Schneer stated that "on balance the estimates show that Black voters supported minority candidates" in HD 78 and HD 117. *Id.* at 37.

294.   Dr. Schneer also examined whether there was cohesion between Black and Hispanic voters in enacted HDs 161, 163, and 165. *Id.* at 36.
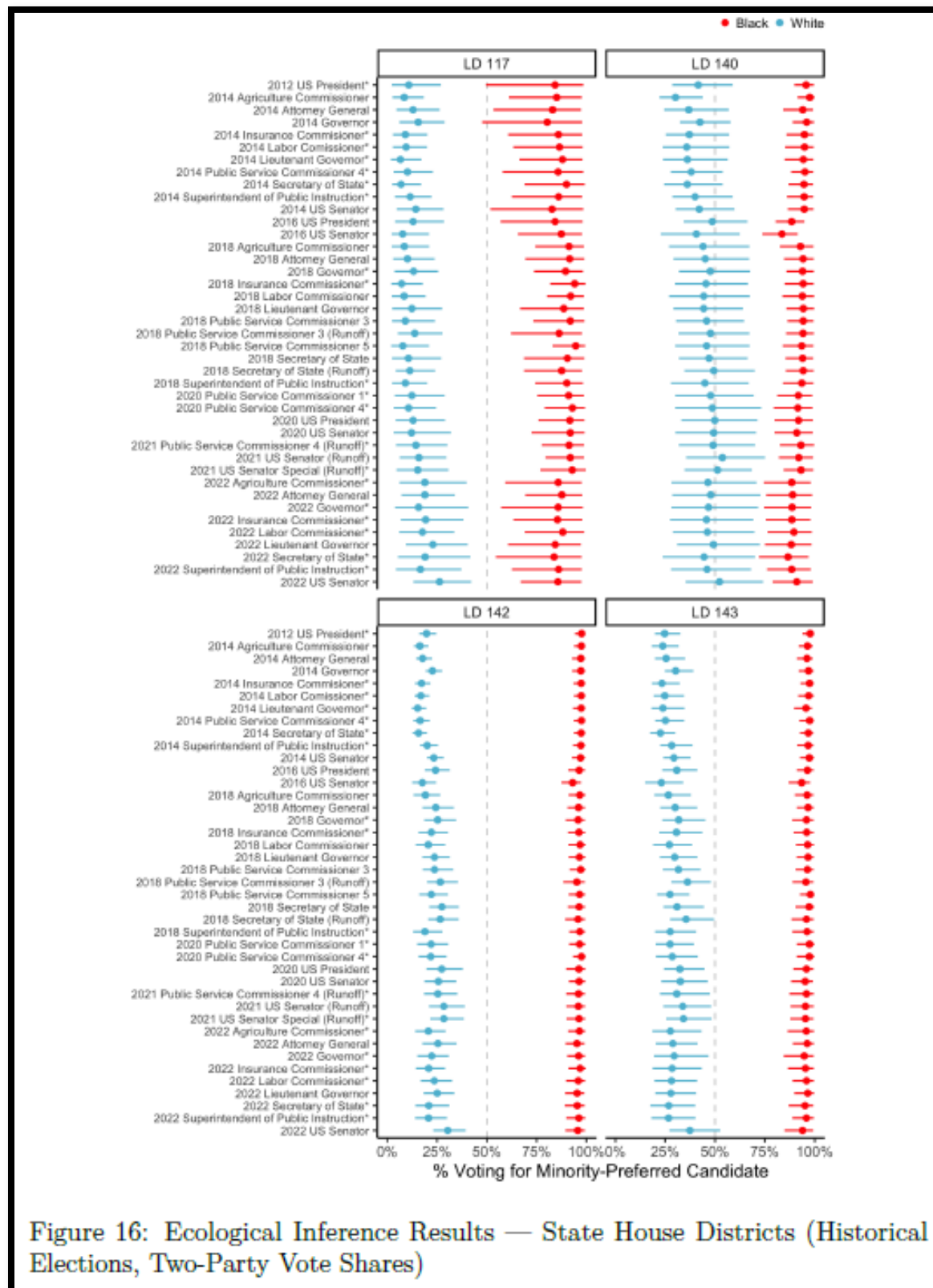
295.   Dr. Schneer determined that HDs 161, 163, and 165 present "clear of evidence of RPV with Black and Hispanic voters cohering to select the minority candidates as their candidate of choice." *Id.* at 37.
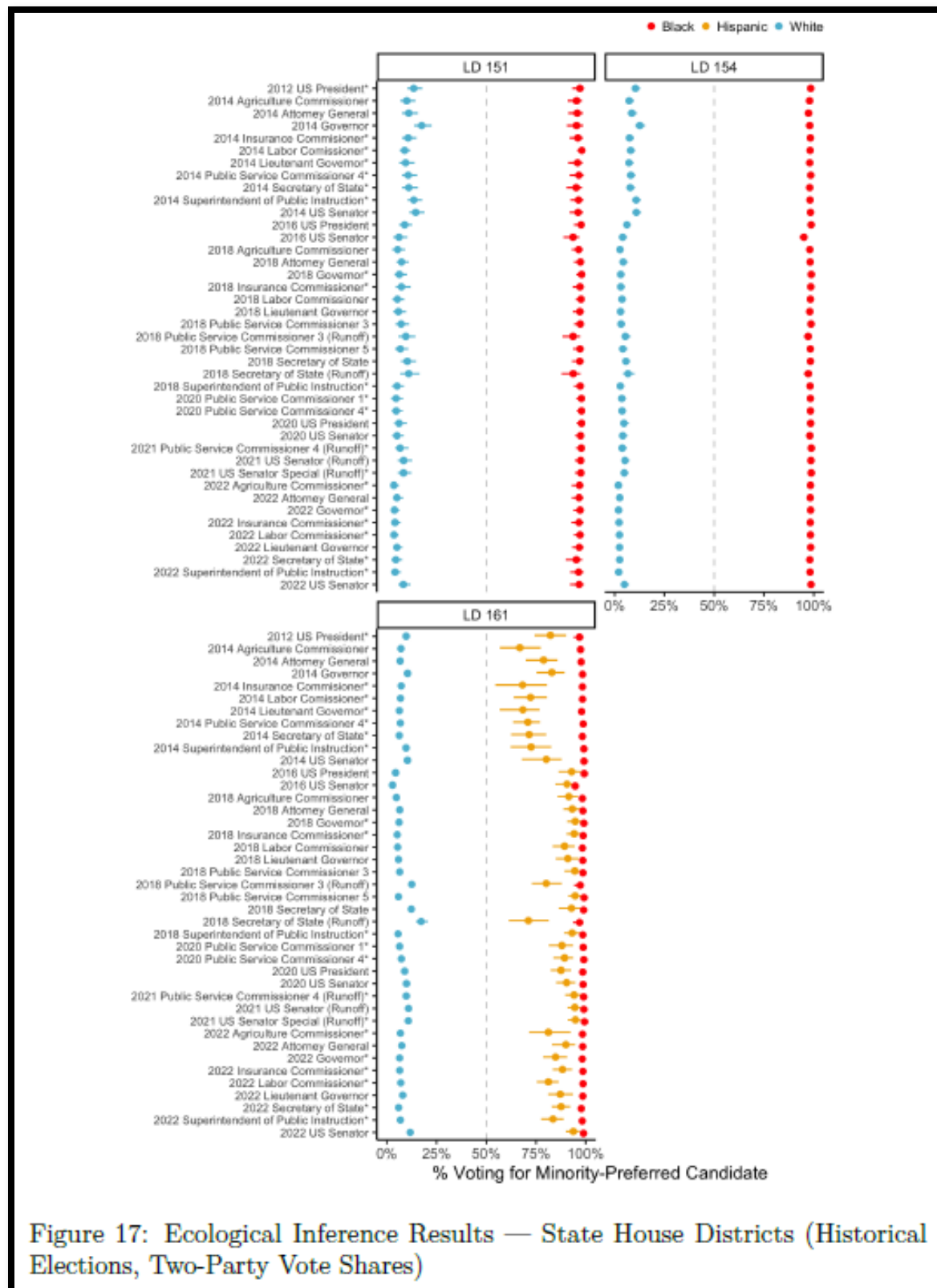
296. Dr. Schneer produced five figures that reflects the results of his racially polarized voting analysis for all of the Enacted State House Map districts which he analyzed (i.e., HD 61, HD 64, HD 65, HD 66, HD 74, HD 78, HD 115, HD 116, HD 117, HD 140, HD 142, HD 143, HD 151, HD 154, HD 161, HD 163, HD 165, and HD 171). *Id.* at 39 (Figure 14); 40 (Figure 15); 41 (Figure 16); 42 (Figure 17); 43 (Figure 18).
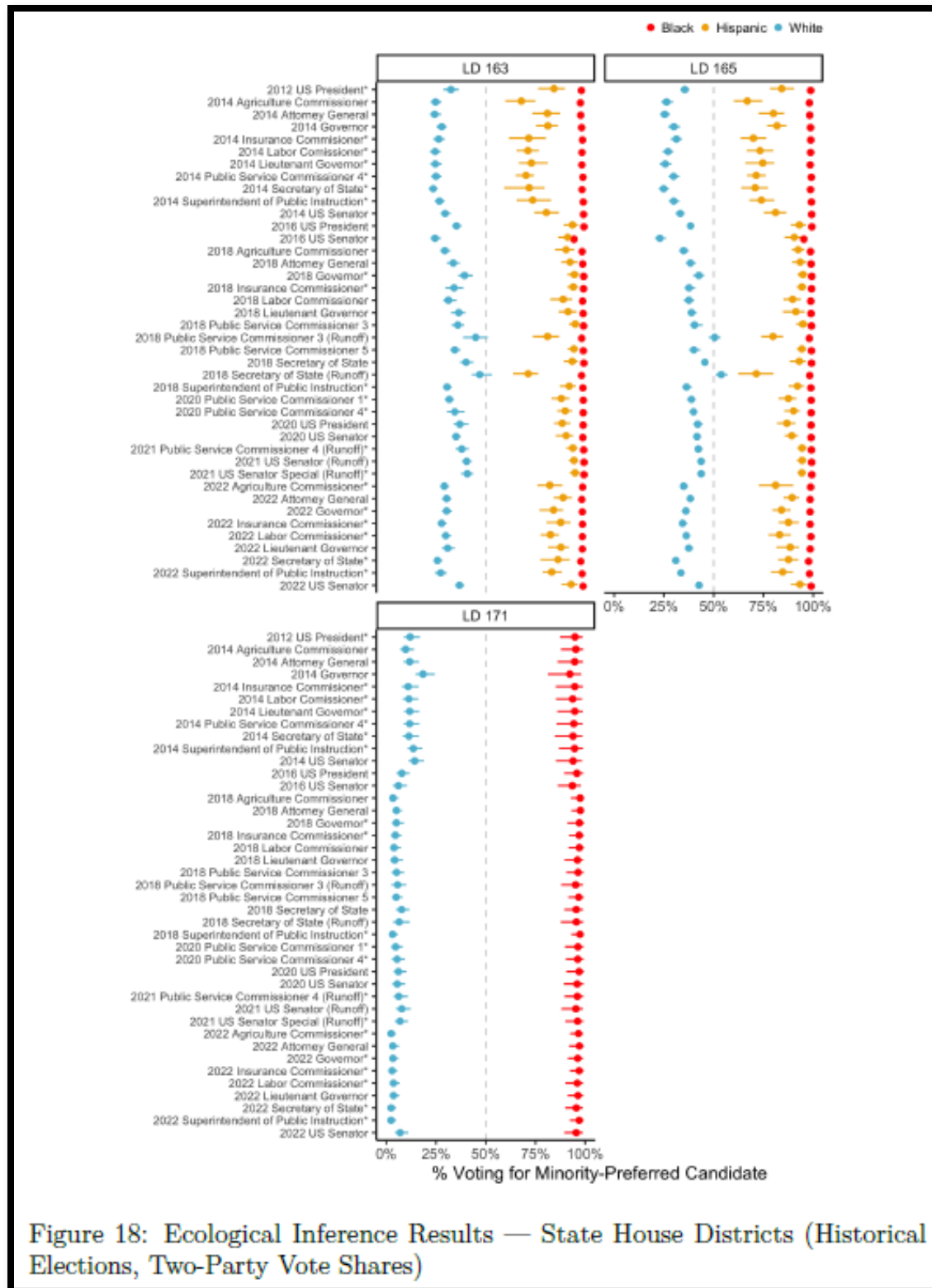
297. The five figures from Dr. Schneer's report reflecting this information are presented on the following five pages.

Figure 14: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

Figure 15: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

Figure 16: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

Figure 17: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

Figure 18: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

Id. at 39 (Figure 14); 40 (Figure 15); 41 (Figure 16); 42 (Figure 17); 43 (Figure 18).

298.   Dr. Schneer also analyzed whether there is Black cohesive voting in HDs Alt 1 64, 74, 117, 144, 151, and 171. *Id*. at 66-67.

299.   Dr. Schneer stated that there is "evidence of RPV between Black and White voters in all districts I examine[d]." *Id*. at 66.

300.   Dr. Schneer also analyzed whether there is Black and Hispanic cohesive voting in HD Alt 1 161. *Id*. at 66-67.

301.   Dr. Schneer stated that in HD Alt 1 161, there is "RPV with Black and Hispanic voters supporting minority candidates[.]" *Id*. at 66.

302.   Dr. Schneer produced a figure that reflects the results of his RPV analysis.

Figure 28: Ecological Inference Results — Illustrative Map 1 State House Districts (Historical Elections, Two-Party Vote Shares)
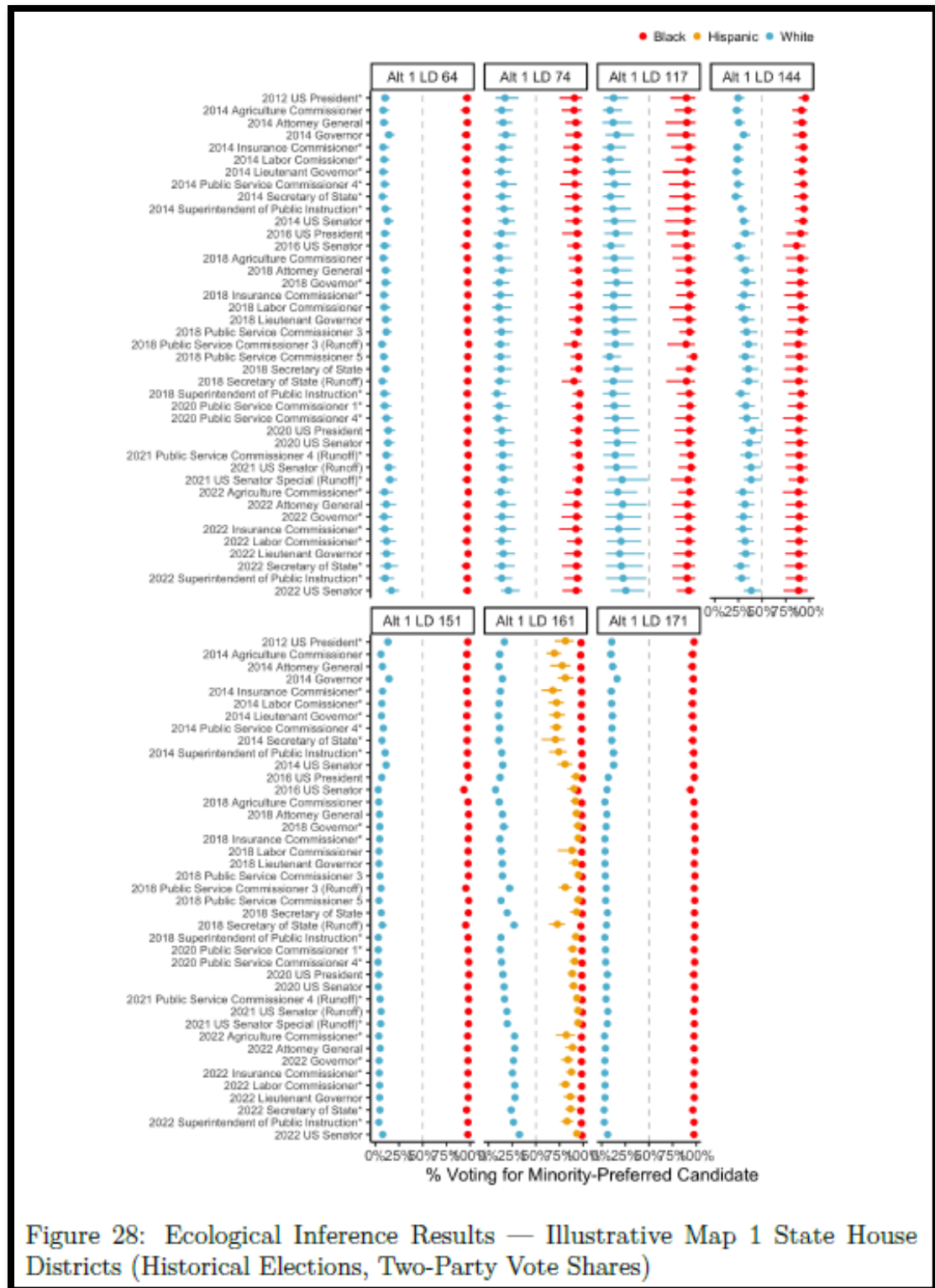
Id. at 68 (Figure 28).

B. *Gingles* 3: Majority White Voters Vote as a Bloc so as to Usually Defeat the Candidates of Choice of the Minority Group or Groups.

    1.   Statewide Evidence of White Cohesive Voting & that the White Voting Bloc Opposes the Minority Group-Preferred Candidate.

303.   Dr. Schneer concluded that there is "clear evidence of racially polarized voting at the statewide level" and that "Hispanic and Black voters cohere around the same candidates of choice, and White voters oppose them, consistent with RPV." *Id.* at 17.

304.   Dr. Schneer opined that "primary elections can be of use in an RPV analysis, but in my view studying them is not necessary or sufficient for drawing conclusions about racially polarized voting in Georgia general elections." *Id.* at 12.

305.   Dr. Schneer opined that "if racially polarized voting occurs in a Georgia primary election it does not necessarily imply that racially polarized voting will occur in the general election, and vice versa." *Id.*

306.   Dr. Schneer opined that "it is sufficient in this case to examine behavior in general elections in order to determine the extent of racially polarized voting in Georgia general elections." *Id.* at 12-13.

307.   Dr. Schneer also produced a figure which reflects the results of his racially polarized analysis across statewide elections. *Id.* at 18 (Figure 1).

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308. The figure reflects that White voters across all of the statewide elections vote cohesively for the same candidate of choice in opposition to the preferred candidate of choice for both Black and/or Black and Hispanic voters. *Id*.

309. The figure from Dr. Schneer's report reflecting this information is presented at paragraph 263 of this Statement of Facts.

> **2.   Cluster-Level Evidence of White Cohesive Voting and that the White Voting Bloc Opposes the Black and the Hispanic Voting Bloc**

310. Dr. Schneer analyzed whether there is White cohesive voting in SD Atlanta, SD Gwinnett, and SD East Black Belt in opposition to Black and/or Black and Hispanic voters' preferred candidates of choice in these clusters. *Id*. at 44.

311. Dr. Schneer concluded that "[a]cross [SD Atlanta, SD Gwinnet, and SD East Black Belt, there is] RPV between White and Black voters. For each cluster, Black voters cohesively support a candidate of choice and White voters oppose these candidates systematically. Furthermore, Hispanic voters tend to support the same candidates of choice as Black voters." *Id*.

312. Dr. Schneer also produced a figure that reflects the results of his racially polarized voting analysis for SD Atlanta, SD Gwinnet, and SD East Black Belt. *Id*. at 47 (Figure 19).

313.   The figure reflects that White voters in SD Atlanta, SD Gwinnett, and SD East Black Belt vote cohesively for the same candidate of choice in opposition to the preferred candidate of choice for Black voters, and for both Black and Hispanic voters in SD Gwinnet. *Id*.

314.   The figure from Dr. Schneer's report reflecting this information is presented at paragraph 268 of this Statement of Facts.

315.   Dr. Schneer also analyzed whether there is White cohesive voting in HD Atlanta, HD Southwest, HD East Black Belt, and HD Southeast in opposition to the Black and Hispanic voters' preferred candidates of choice in these clusters. *Id*. at 45.

316.   Dr. Schneer concluded that there is "evidence of RPV between White and Black voters across all state House clusters I examine[d]. Black voters cohesively support a candidate of choice and White voters oppose this candidate. Based on my estimates, this is true in every cluster and for every statewide election that I examine." *Id*.

317.   Dr. Schneer also produced a figure that reflects the results of his racially polarized voting analysis for HD Atlanta, HD Southwest, HD East Black Belt, and HD Southeast. *Id*. at 48 (Figure 20).

318.   The figure reflects that White voters in HD Atlanta, HD Southwest, HD East Black Belt, and HD Southeast vote cohesively for the same candidate of choice in opposition to the preferred candidate for Black voters. *Id*.

319.   The figure from Dr. Schneer's report reflecting this information is presented at paragraph 271 of this Statement of Facts.

> **3.   Congressional District-Level Evidence of White Cohesive Voting, that the White Voting Bloc Opposes the Black Voting Bloc, & that the White Voting Bloc Usually Defeats the Black Voting Bloc**

320.   Dr. Schneer concluded that there is "RPV between Black voters on the one hand and White voters on the other hand when pooling across all [of the districts in the Enacted Congressional Map] (e.g., statewide) as well as specifically for all [districts in the Enacted Congressional Map] other than CD 5." *Id*. at 21.

321.   Dr. Schneer stated that in all of the districts in the Enacted Congressional Map except for CD 5 "White voters opposed the candidate of choice of Black voters in every historical election" and "the confidence intervals on the estimates for White voters never overlap[ped] with the threshold for majority support." *Id*. at 19-20.

322.   Dr. Schneer stated that in CD 3 "[f]or Black voters, I never estimate[d] a minority-preferred candidate vote share below 92.8%" and "[f]or White voters, I never estimate[d] a minority-preferred candidate vote share above 12.2%." *Id*. at 20.

323.   Dr. Schneer stated that in CD 7 "Black voters coher[ed] around minority candidates (and other minority-preferred candidates) and . . . White voters oppos[ed] these candidates of choice." *Id*.

324.   Dr. Schneer stated that "[o]verall, CD 4 suggests to me cohesive behavior across Black voters in support of minority candidates (and other minority-preferred candidates) [while] White voters have reliably opposed the minority candidates of choice." *Id*. at 21.

325.   Dr. Schneer also produced five figures that reflect the results of his racially polarized voting analysis for all of the districts in the Enacted Congressional Map. *Id*. at 24 (Figure 3); 25 (Figure 4); 26 (Figure 5); 27 (Figure 6); 28 (Figure 7).

326.   The figures reflect that White voters in each district in the Enacted Congressional Map except for CD 5 vote cohesively for the same candidate of choice in opposition to the preferred candidate of choice for Black voters. *Id*.

327.   The five figures from Dr. Schneer's report reflecting this information are presented at paragraph 278 of this Statement of Facts.

328.   Dr. Schneer also "examine[d] the electoral performance of the enacted congressional districts." *Id*. at 49-51.

329.   Dr. Schneer "use[d] historical election data" to complete this analysis. *Id*. at 49.

330.   Dr. Schneer concluded that "based on historical elections, minority voters have close to no chance of electing preferred candidates in [ ] nine congressional districts." *Id*. at 51.

331.   Dr. Schneer stated that in Enacted Congressional Districts "1, 3, 6, 8, 9, 10, 11, 12 and 14, White voters comprise a strong majority of the electorate. If conditions remain similar to historical elections, minority voters who preferred a minority candidate would not be able to elect that candidate" because "the minority-preferred candidate did not win in any of the historical elections I examine for these districts." *Id*. at 50.

332.   Dr. Schneer also prepared a table reflecting the result that in nine districts in the Enacted Congressional Map, historical evidence indicates that the Black preferred candidate would not receive at least 55% of the vote share, which Dr. Schneer opined is "a conventional cutoff used in voting rights litigation to indicate a safer district." *Id*. at 52 (Table 2); *id*. at 49.

333.   Dr. Duchin also completed a performance analysis of each of the districts in the Enacted Congressional Map. Duchin Rep. at 18 (Table 4).

334.   To perform her performance analysis, Dr. Duchin analyzed historical primary and general election results and determined that a district is performing if

the relevant population's preferred candidate of choice wins at least three out of four primary elections and at least five out of eight general elections Duchin Rep. at 17.

335.   Dr. Duchin, consistent with Dr. Schneer, determined that in nine of the districts in the Enacted Congressional Map—CD 1, CD 3, CD 6, CD 8, CD 9, CD 10, CD 11, CD 12, and CD 14—the Black VAP does not have an opportunity to defeat the White VAP. *Id.* at 18 (Table 4).

336.   Dr. Schneer analyzed whether there is White cohesive voting in each district that Dr. Duchin drew in the Demonstrative Congressional Map in opposition to the preferred candidate of choice for Black voters. Schneer Rep. at 57.

337.   Dr. Schneer concluded that except for Demonstrative CD 4 "there is essentially universal evidence of RPV between Black and White voters. In these districts, when a minority candidate runs Black voters support them and White voters oppose this candidate. In elections between no minority candidates or two minority candidates, Black voters support the minority-preferred candidate and White voters oppose them." *Id.*

338.   Dr. Schneer also produced a figure that reflects the results of his racially polarized voting analysis for Demonstrative CD 3. *Id.* at 58 (Figure 21).

339.   The figure reflects that White voters in Demonstrative CD 3 vote cohesively for the same candidate of choice in opposition to the preferred candidate of choice for Black voters. *Id*.

340.   The figure from Dr. Schneer's report reflecting this information is presented at paragraph 280 of this Statement of Facts.

4.   State Senate District-Level Evidence of White Cohesive Voting, that the White Voting Bloc Opposes the Black Voting Bloc, & that the White Voting Bloc Usually Defeats the Black Voting Bloc

341.   Dr. Schneer analyzed whether this is White cohesive voting in opposition to the preferred candidate of choice for Black voters in the following districts in the Enacted State Senate Map: SD 9, SD 16, SD 17, SD 22, SD 23, SD 25, SD 26, SD 28, SD 34, SD 35, SD 40, SD 41, SD 43, SD 44, and SD 55. *Id*. at 29-30.

342.   Dr. Schneer concluded that apart from SD 41 and potentially also from SD 40, "there is evidence of racially polarized voting behavior between Black and White voters in every other State Senate district I analyzed. Black voters clearly supported the minority-preferred candidate in every election under study, including those elections with a minority candidate running. White voters opposed their candidate of choice." *Id*. at 30.

343. Dr. Schneer stated that "[Enacted State Senate Map districts] 16, 22, 23, 25, 26, and 44 exhibit clear evidence of RPV with Black and Hispanic voters cohering around minority candidates and White voters opposing them in ever historical election with a minority candidate that I examine[d]." *Id.* at 29-30.

344. Dr. Schneer stated that "[Enacted State Senate Map districts] 9, 17, 28, 34, 43 and 55 exhibit evidence of RPV between Black and White voters, again with Black voters cohering around the minority candidate and White voters opposing this candidate." *Id.* at 30.

345. Dr. Schneer also produced four figures that reflect the results of his racially polarized voting analysis for all of the Enacted State Senate Map districts which he analyzed (i.e., SD 9, SD 16, SD 17, SD 22, SD 23, SD 25, SD 26, SD 28, SD 34, SD 35, SD 40, SD 41, SD 43, SD 44, and SD 55). *Id.* at 32 (Figure 9); 33 (Figure 10); 34 (Figure 11); 35 (Figure 12).

346. The figures reflect that White voters in each district analyzed except for SD 41 and potentially also SD 40 vote cohesively for the same candidate of choice and in opposition to the preferred candidate of choice for Black voters. *Id.* at 32 (Figure 9); 33 (Figure 10); 34 (Figure 11); 35 (Figure 12).

347. The four figures from Dr. Schneer's report reflecting this information are presented at paragraph 285 of this Statement of Facts.

348.   Dr. Schneer also examined the electoral performance of the focus enacted state Senate districts. *Id*. at 49.

349.   Dr. Schneer "use[d] historical election data" to complete this analysis. *Id*.

350.   Dr. Schneer concluded that "[b]ased on historical elections, the candidate preferred by minority voters would not have won in any election I examine between 2012 and 2022 in SDs 16, 17, 23, 25 and 28." *Id*. at 53.

351.   Dr. Schneer also prepared a table reflecting the result that in SD 16, SD 17, SD 23, SD 25, and SD 28, which shows that in each of these districts historical evidence indicates that the Black preferred candidate would not receive at least 55% of the vote share, which is a conventional cutoff used in voting rights litigation to indicate a safer district. *Id*. at 56; (Table 3).

352.   Dr. Duchin also completed a performance analysis of SD 16, SD 17, SD 23, SD 25, and SD 28. Duchin Rep. at 48-49, 51.

353.   Dr. Duchin, consistent with Dr. Schneer, determined that SD 16, SD 17, SD 23, SD 25, and SD 28 do not provide the Black-preferred candidate an opportunity to defeat the White majority bloc-preferred candidate. *Id*.

5.   **State House District-Level Evidence of White Cohesive Voting and that the White Voters Vote as a Bloc So as to Usually Defeat Voting Bloc Opposes the Black Voting Bloc**

354. Dr. Schneer analyzed whether this is White cohesive voting in opposition to the preferred candidate of choice for Black voters in the following districts in the Enacted State House Map: HD 61, HD 64, HD 65, HD 66, HD 74, HD 78, HD 115, HD 116, HD 117, HD 140, HD 142, HD 143, HD 144, HD 151, HD 154, HD 161, HD 163, HD 165, and HD 171. Schneer Rep. at 36-37; Canter Decl. ¶ 27 (Deposition of Benjamin Schneer ("Schneer Dep.") 91:01-91:22 (HD 144)).

355. Dr, Schneer concluded that there is "RPV between Black and White voters in [Enacted State House Map districts] 61, 65, 74, 78, 115, 116, 117, 142, 143, 151, 154 and 171[.]" *Id*. at 37.

356. Dr. Schneer stated that "[Enacted State House Map districts] 61, 65, 74, 115, 142, 143, 151, 154 and 171 present clear evidence of RPV with Black voters selecting the minority candidates as their candidate of choice, and White voters opposing these candidates in every historical election" *Id*. at 36-37.

357. Dr. Schneer stated that "on balance the estimates show that Black voters supported minority candidates" in HD 78 and HD 117 and these same minority

candidates "were opposed by White voters in a vast majority of historical elections." *Id*. at 37.

358.   Dr. Schneer also produced five figures that reflect the results of his racially polarized voting analysis for all of the Enacted State House Map districts which he analyzed (i.e., HD 61, HD 64, HD 65, HD 66, HD 74, HD 78, HD 115, HD 116, HD 117, HD 140, HD 142, HD 143, HD 151, HD 154, HD 161, HD 163, HD 165, and HD 171). *Id*. at 39 (Figure 14); 40 (Figure 15); 41 (Figure 16); 42 (Figure 17); 43 (Figure 18).

359.   The figures reflect that White voters in HD 61, HD 65, HD 74, HD 78, HD 115, HD 116, HD 117, HD 142, HD 143, HD 151, HD 154, and HD 171 vote cohesively for the same candidate of choice in opposition to the preferred candidate of choice for Black voters. *Id*. at 39 (Figure 14); 40 (Figure 15); 41 (Figure 16); 42 (Figure 17); 43 (Figure 18).

360.   The five figures from Dr. Schneer's report reflecting this information are presented at paragraph 297 of this Statement of Facts

361.   Dr. Schneer also examined the electoral performance of the focus enacted state House districts. *Id*. at 49.

362.   Dr. Schneer "use[d] historical election data" to complete this analysis. *Id*.

363.   Dr. Schneer concluded that "[b]ased on historical elections, the candidate preferred by minority voters would not have won in any election I examine between 2012 and 2022 in [Enacted State House Map districts] 64, 74, 161 and 171." *See* Canter Decl. ¶ 29 (Benjamin Schneer Notice of Errata at 1-2 (March 31, 2023)).

364.   Dr. Schneer also "looked at. . . the performance of Legislative District 144," and determined that by "essentially running the exact same type of performance analysis that I did for all other districts, this was a district where in no past elections that I examined were minority voters able to elect their candidates of choice." Schneer Dep. 91:11-91:18.

365.   Dr. Schneer prepared a table reflecting the result that in HD 64, HD 74, HD 117, HD 161, and HD 171, which shows that in each of these districts historical evidence indicates that the Black preferred candidate would not receive at least 55% of the vote share, which is a conventional cutoff used in voting rights litigation to indicate a safer district. Schneer Rep. at 56 (Table 4).

366.   Dr. Duchin also completed a performance analysis of HD 64, HD 74, HD 117, HD 161, and HD 171. Duchin Rep. at 55, 63, 66.

367.   Dr. Duchin, consistent with Dr. Schneer, determined that SD 16, SD 17, SD 23, SD 25, and SD 28 do not provide the Black-preferred candidate with an opportunity to defeat the White majority-bloc preferred candidate. *Id.*

C. The RPV Expert Retained By Defendants Does Not Dispute That Black—and Sometimes Black and Hispanic—Voters Support the Same Candidates of Choice With Extremely High Levels of Cohesion.

368.   Defendants' RPV expert in this case, Dr. John Alford, testified that Dr. Scheer's "evidentiary basis" and "empirical analysis" with regards to his racially polarized voting report is "perfectly adequate." Alford Dep. at 74:15-74:17.

369.   He stated that he is "fine with reaching conclusions" based on Dr. Schneer's analysis. *Id.* at 74:17-74:18.

370.   Dr. Alford does not dispute any of Dr. Schneer's findings about the levels of voting cohesion that Black voters demonstrate in Georgia: His only opinion in this case is Dr. Schneer did not rule out that partisanship, not race, is the cause of that cohesion. *Id.* at 68:15-68:24.

371.   Dr. Alford testified that in Georgia "black voters vote [in a] highly cohesion fashion for democratic candidates . . . ." *Id.* at 110:18-111:08.

D. The Legislature Recognized the Existence of RPV in Georgia During the Redistricting Process.

372.   Chair Kennedy recognized that that "process" the Senate Redistricting Committee undertook "recognized" the "principle" of RPV in Georgia. Kennedy Dep. 126:22-127:21.

Dated: April 26, 2023   Respectfully submitted,

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LOCAL RULE 7.1(D) CERTIFICATION OF COMPLIANCE

I certify that this pleading has been prepared with Times New Roman font,

14 point, as approved by the Court in L.R. 5.1(C), N.D. Ga.

/s/ Kurt Kastorf
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