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## I. INTRODUCTION

Plaintiffs Georgia State Conference of the NAACP, GALEO Latino Community Development Fund, Inc (GALEO), and Georgia Coalition for the People's Agenda (GCPA) (hereinafter "Georgia NAACP Plaintiffs") move in limine to exclude Appendix 2 of Dr. John Alford's ("Dr. Alford") report from the trial record in this case and seek an order preventing Dr. Alford from testifying about any part of his opinion contained in Appendix 2, and/or testifying in any way about expert opinions proffered in the *Pendergrass v. Raffensperger*, *Grant v. Raffensperger*, and *Alpha Phi Alpha v. Raffensperger* cases because that report responds to expert testimony not in this case, and Defendants did not provide the data underlying Dr. Alford's report or the reports of the experts in those cases.

Georgia NAACP Plaintiffs and Plaintiffs Common Cause, League of Women Voters of Georgia, Dr. Cheryl Graves, Dr. Ursula Thomas, Dr. H. Benjamin Williams, Jasmine Bowles, and Brianne Perkins (collectively, the "Common Cause Plaintiffs") also move for an order preventing Defendants' two experts, Dr. Alford and Mr. John Morgan ("Mr. Morgan"), from testifying beyond the scope of their extremely limited opinions contained in their disclosed expert rebuttal reports.<sup>1</sup>

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<sup>1</sup> The Common Cause Plaintiffs join this motion and briefing to the extent it pertains to Mr. Morgan, as he is the only expert disclosed by Defendants in the *Common Cause et al. v. Raffensperger* case.

## II. LEGAL STANDARDS

Motions in limine may determine the admissibility or inadmissibility of particular evidence pretrial. *Associated Press v. District Court for Fifth Judicial Dist. of Colo.*, 542 U.S. 1301, 1303 (2004). “The purpose of an in limine motion is to aid the trial process by enabling the Court to rule in advance of trial on the relevance of certain forecasted evidence, as to issues that are definitely set for trial, without lengthy argument at, or interruption of, the trial.” *Doe v. NCL (Bahamas) LTD.*, 2012 WL 12844743, at \*1 (S.D. Fla. Nov. 27, 2012). The traditional purpose of a motion in limine is to decide issues related to the exclusion of evidence. *Gold Cross Ems, Inc. v. Children’s Hosp. of Alabama*, 309 F.R.D. 699, 702 (S.D. Ga. 2015). But a party can also raise a *Daubert* challenge as a motion in limine. *Club Car, Inc. v. Club Car (Quebec) Import, Inc.*, 362 F.3d 775, 780–81 (11th Cir. 2004) *abrogated on other grounds by Innovative Clinical & Consulting Servs., LLC v. First Nat’l Bank of Ames*, 620 S.E. 2d 352 (2005)) (noting that a court may consider a *Daubert* objection or other expert-related exclusion issues as a motion in limine or even during trial).

## III. MOTION IN LIMINE NO. 1 – TO STRIKE APPENDIX 2 OF DR. ALFORD’S REPORT.

Consistent with the Scheduling Order, on January 13, 2023, the Georgia NAACP Plaintiffs served Defendants with the expert report of Dr. Ben Schneer.

Dr. Schneer concluded, *inter alia*, that racially polarized voting is present in Georgia; that in certain districts within Georgia, and also across the State, Black and/or Hispanic voters are politically cohesive; and that White voters vote as a bloc to defeat the Black and/or Hispanic voters' candidates of choice (*Gingles II* and *III*). Saber Decl., Ex. 1 ("Schneer Report"). Dr. Schneer is the only expert in this case who has performed an analysis of racial polarization relating to the specific districts challenged in this action.

In a separate case, just concluded yesterday, the plaintiffs in the *Pendergrass v. Raffensperger*, *Grant v. Raffensperger*, and *Alpha Phi Alpha v. Raffensperger* cases (hereinafter "*Pendergrass* cases") proffered Dr. Maxwell Palmer and Dr. Lisa Handley as experts with respect to the issues of racially polarized voting and *Gingles II* and *III*, relating to the specific districts challenged in that action.

On February 10, 2023, Defendants served an expert report by Dr. Alford. *See* Saber Decl., Ex. 2 ("Alford Report"), purportedly in rebuttal to Dr. Schneer's report. The Alford Report contains four pages purporting to rebut Dr. Schneer's expert opinion. *Id.* Attached to the Alford Report is Appendix 2, which is described as Dr. Alford's complete expert report prepared for the *Pendergrass* cases, and which Dr. Alford states he is incorporating in his report in this case in rebuttal to Dr. Schneer's report. *Id.* at 1. That report in no way responds to Dr. Schneer's analysis in this case, but only to analyses performed by Dr. Palmer and

Dr. Handley in the *Pendergrass* cases, which are not in evidence in this case. At deposition, Dr. Alford confirmed that “in response to Dr. Schneer, I am – I am relying on the – on the results of the analysis by Dr. Palmer and Dr. Handley.” Saber Decl., Ex. 3 (Alford Tr.) at 71:10-20. Dr. Alford did not serve the Georgia NAACP Plaintiffs with any backup data, such as data underlying the analyses of Dr. Handley and Dr. Palmer’s reports discussed in Appendix 2. This Court should exclude Appendix 2 of Dr. Alford’s report for two reasons. First, it does not respond to Dr. Schneer’s report, the only racial polarized voting expert in this case, but rather to two experts in another case, upon whom the Georgia NAACP Plaintiffs do not rely here. Therefore, although styled as a rebuttal to Dr. Schneer’s report, it is not such. “An expert may be used for rebuttal if the expert offers evidence that is intended solely to contradict or rebut evidence on the same subject matter identified by the affirmative expert of another party. Indeed, the Alford Report in Appendix 2 does not mention Dr. Schneer. *See* Saber Decl., Ex 3 (Alford Tr.) at 71:7-20 (confirming that he did not rely on the data and sources contained within Appendix 2 in connection with his response *to* Dr. Schneer); *Kroll v. Carnival Corp.*, 2020 WL 4793444, at \*6 (S.D. Fla. Aug. 17, 2020) (cleaned up) (holding that there was “little doubt” that the report at issue was not “issued to solely rebut” defendant’s expert where most of the challenged report “did not even mention” defendant’s expert).

Second, even if the opinions contained in Appendix 2 were truly in rebuttal to Dr. Schneer's report, they should still be excluded because Defendants did not provide Plaintiffs with any data underlying Dr. Palmer and Dr. Handley's reports in the other cases, let alone Dr. Alford's data underlying his critique of the reports in the other cases, as required by Fed. R. Civ. P. 26. Beyond vague references to unspecified data, Appendix 2 does not disclose the facts or data considered as required by Rule 26(a)(2)(B)(i)-(ii) (an expert report must include "the facts or data considered by the witness in forming them"). *Elevate Fed. Credit Union v. Elevations Credit Union*, 67 F.4th 1058, 1069-70 (10th Cir. 2023) (affirming exclusion of expert opinion based on undisclosed facts); *Huckaby v. Travelers Prop. Cas. Co. of Am.*, 2011 WL 4954249, at \*2 (M.D. Ga. Oct. 18, 2011) (excluding expert's opinion for, *inter alia*, failing to disclose underlying facts and data).

In sum, Appendix 2 in Dr. Alford's report should be excluded, and he should be barred from testifying on it, because it does not respond to Dr. Schneer's report, but rather to the reports of experts that are not before this Court, and whose data has not been provided to Plaintiffs.

**IV. MOTION IN LIMINE NO. 2 – TO PRECLUDE UNDISCLOSED EXPERT OPINION.<sup>2</sup>**

The Georgia NAACP Plaintiffs request that Defendants’ experts Dr. Alford and Mr. Morgan be limited to the opinions included in their expert reports and be precluded from offering any new or different opinions pursuant to Fed. R. Civ. P. 37(c)(1). *Schoen v. State Farm Fire & Cas. Co.*, 638 F. Supp. 3d 1323, 1333 (S.D. Ala. 2022) (excluding testimony of expert witness because proffered testimony constituted “new, previously undisclosed expert opinion” which violated Fed. R. Civ. P. 26(a)(2)(B), and was thus properly excluded under Rule 37(c)(1)); *see also Bob Barker Company, Inc. v. Ferguson Safety Products, Inc.*, 2007 WL 4554012, at \*1(N.D. Cal. Dec. 4, 2007) (granting motion in limine to preclude plaintiff from introducing any expert testimony on damages which was not disclosed in the expert report or during his deposition). Dr. Alford’s four-page report does not contest Dr. Schneer’s methodology, data, or results. Nor does it offer criticisms of Dr. Schneer’s conclusions. Any testimony or any other opinion that goes beyond the four pages of his report or his deposition would be a new, undisclosed opinion that should be excluded. Similarly, the Morgan Rebuttal Report offers *no* analysis on the techniques Dr. Duchin used to create illustrative

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<sup>2</sup> The Common Cause Plaintiffs join Motion in Limine No. 2 as it relates to Mr. Morgan only.

districts. As a result, Mr. Morgan should be precluded from offering expert opinions outside the scope of his report for the first time at trial.

Under the Federal Rules of Civil Procedure, Defendants had a duty to disclose any expert opinions that they intended to rely upon at trial, and they also had an ongoing duty to timely supplement their expert reports. Fed. R. Civ. P. 26(a)(2) and (e). If a party fails to disclose the complete scope of an expert's opinion, a party cannot use that new information at trial. Fed. R. Civ. P. 37(c)(1); *see also United States for Use & Benefit of Tennessee Valley Auth. v. An Easement & Right-of-Way Over 8.56 Acres of Land, More or Less, in Whitfield Cnty., Georgia*, 324 F.R.D. 267, 274 (N.D. Ga. 2017) (excluding expert testimony where the expert witness failed to disclose his expert opinions by the date provided in the scheduling order). Allowing Defendants to present new or different expert opinions from Dr. Alford or Mr. Morgan would be highly and unfairly prejudicial to Defendants.

The Alford and Morgan reports are extremely limited, as detailed below. Defendants cannot offer a legally sufficient justification for deviating from expert reports. To the extent they claim that the new, undisclosed opinions are simply a "supplement" to an existing opinion, a supplemental report under 26(e) is limited to "correcting inaccuracies or adding information that was not available at the time of the initial report," not to offer entirely new opinions. *Sancom, Inc. v. Qwest*

*Commc'ns Corp.*, 683 F. Supp. 2d 1043, 1063 (D.S.D. 2010) (a supplement is not a way to skirt the “deadline by which a party must deliver the lion’s share of its expert information”); *In re Asbestos Prod. Liab. Litig. (No. VI)*, 289 F.R.D. 424, 425 (E.D. Pa. 2013) (“Rule 26(e) is not an avenue to correct ‘failures of omission because the expert did an inadequate or incomplete preparation,’ ... add new opinions ... or ‘deepen’ or ‘strengthen’ existing opinions.” (internal citations omitted)).

***The Alford Report.*** Only the first four pages of Dr. Alford’s report appear to respond to Dr. Schneer’s report. However, Dr. Alford did not evaluate or criticize any of Dr. Schneer’s numerical results. *See* Saber Decl., Ex. 2 (“Alford Report”). At deposition, Dr. Alford agreed that he received Dr. Schneer’s “input files for election results and for demographics,” and that he was “not prohibited” from doing an “independent analysis.” *See* Saber Decl., Ex. 3 (Alford Tr.) at 77:11-79:8. Although Dr. Alford could have analyzed Dr. Schneer’s report, Dr. Alford stated that he did not “think one was required,” explaining that “I believe that if I reproduced his analysis, I would get essentially the same result since that’s the result I’ve gotten in the past in doing this kind of analysis.” *Id.* Thus, the four pages of Dr. Alford’s rebuttal report contain no independent analysis of Dr. Schneer’s findings. Moreover, Dr. Alford testifies that he accepted Dr. Schneer’s technique, data, and analysis. *Id.*; *see also id.* at 86:16-25 (confirming that he is

not contesting methodology, data, or results). Accordingly, if at trial Dr. Alford attempts to contest Dr. Schneer's methodology, data, or results or offer criticisms of Dr. Schneer's conclusions or any other opinion that goes beyond the four pages of his report or his deposition, such would be a new, undisclosed opinion that should be excluded. Dr. Alford's trial testimony should not deviate from his report and his deposition. To do so would constitute a new, prior undisclosed expert opinion.

***The Morgan Rebuttal Report.*** Although styled as a rebuttal report to Dr. Duchin's expert report (*see* Saber Decl., Ex 4 (Morgan Rebuttal Report) ¶ 5 (noting that he has been asked to compare the enacted plans to those proposed by Dr. Duchin)), the Morgan Rebuttal Report does little to rebut Dr. Duchin's opinions and conclusions. Indeed, it does only two things: (1) it offers the opinion that Dr. Duchin's illustrative plans result in additional districts that favor Democratic candidates and (2) it presents tables summarizing certain metrics as Dr. Duchin's plans as a whole. *See id.* ¶ 9 ("I ran eight report and summaries for each of the Duchin plans, the Unity plans and the enacted plans"); *see also id.* ¶ 10 ("Each of these reports and summaries for each plan is included in the appendices to this report. I summarized highlights of this information in a table for each plan."); and *id.* pp. 5-14 (Charts 1-10). These metrics are presented without explanation; they simply show a numeric comparison without any analysis,

reasoning, explanation of what the metrics mean, or what the Court should interpret or glean from these comparisons. Indeed, the only opinion stated in Morgan’s Rebuttal Report is that Dr. Duchin’s plans significantly increase Democratic performance compared to the enacted plans. *Id.* ¶ 6 (“As a result of this analysis, it is my opinion that each of the plans submitted in Dr. Duchin’s report and the unity plans has a significant increase in Democratic performance when compared to the enacted plans.”) and *id.* ¶ 12 (“Having reviewed these election results, it is my opinion that each of the plans submitted in Dr. Duchin’s report has a significant increase in Democratic performance when compared to the enacted plans. It is also my opinion that each of the unity plans has a significant increase in Democratic performance when compared to the enacted plans.”). Mr. Morgan confirmed at his deposition that is the only opinion he intends to give at trial based on his review of Dr. Duchin’s report and he should be held to that. Saber Decl., Ex. 5 (Morgan Tr.) at 12:23-13:8 (“Q. Mr. Morgan, are all of the opinions that you intend to give at trial in this case -- and when I say ‘this case,’ I mean both the Georgia NAACP case and the Common Cause case -- contained in your two reports? A. I believe so.”); *see id.* at 150:15-23 (“Q. Are there any opinions, other than that set forth in paragraph 6 in your rebuttal report, that you intend to provide at trial that you have reached as a result of your review of Dr. Duchin’s report? A. In reviewing her reports, the information I have provided in

my report is that that you read in paragraph 6, and that is what's included in my report."); *see also id.* at 162:21-163:16, 164:21-165:7. Indeed, when peppered with question after question as to why he included the charts of metrics in his Rebuttal Report, Mr. Morgan refused to go beyond saying that he thought the Court would find them "interesting." *Id.* at 161:20-162:19. In other instances, he simply confirmed the numerical value of the various metrics and did not provide any further explanation. *E.g., id.* at 81:8-82:7. Moreover, Mr. Morgan repeatedly testified that he had not analyzed whether Dr. Duchin's *Gingles* I maps met traditional districting standards, and was not offering an opinion on that." Saber Decl., Ex. 5 (Morgan Tr.) at 20:22-23:3, 23:11-25, 24:6-25:10. Similarly, when Mr. Morgan was asked during his deposition whether he had "any basis to dispute" Dr. Duchin's conclusions, he either admitted that he had "no basis" to confirm or deny her conclusions (*id.* at 24:6-20) or admitted that "I haven't analyzed that myself. And if it's asserted in the report, then I don't have a reason to dispute or confirm that." *Id.* at 24:22-25:9; *see also id.* at 20:22-22:13, 23:11-25, 29:10-30:4. Simply put, the Morgan Rebuttal Report offers *no* analysis on the techniques Dr. Duchin used to create illustrative districts— and the Court should so limit his trial testimony. During the trial, Mr. Morgan should be bound by the bare-boned Morgan Rebuttal Report and precluded from providing new, undisclosed

testimonial opinions about what these numbers mean or how those should be interpreted.

## V. CONCLUSION

For the reasons above, Plaintiffs respectfully request that the Court enter an order granting the Plaintiffs' Motions in Limine.

Dated: October 27, 2023

Respectfully submitted,

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## **CERTIFICATE OF SERVICE**

I hereby certify that on the 27th day of October, 2023, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system.

Dated: October 27, 2023

/s/ *Kurt Kastorf*

Kurt Kastorf (Georgia Bar No. 315315)

Attorney for Plaintiffs

Lawyers' Committee for Civil Rights Under Law



I, Anna Zohreh Saber, hereby declare and state as follows:

1. I am attorney with the law firm of Crowell & Moring LLP (“Crowell”), *pro hac vice* application pending, and counsel to for Plaintiffs Georgia State Conference of the NAACP, GALEO Latino Community Development Fund, Inc., and Georgia Coalition for the People’s Agenda (hereinafter “Georgia NAACP Plaintiffs”). I make this declaration in support of the Georgia NAACP Plaintiffs’ Motions in Limine. I make this declaration of my own personal knowledge and, if called as a witness, I could and would testify competently to the truth of the matters set forth herein.

2. Attached hereto as **Exhibit 1** is a true and correct copy of the expert report of Dr. Ben Schneer, which the Georgia NAACP Plaintiffs served January 13, 2023.

3. Attached hereto as **Exhibit 2** is a true and correct copy of the expert report of Dr. John Alford, which was served by Defendants on February 10, 2023.

4. Attached hereto as **Exhibit 3** is a true and correct copy of excerpts from the transcript of the March 3, 2023 of Dr. John Alford.

5. Attached hereto as **Exhibit 4** is a true and correct copy of the rebuttal report of Mr. John Morgan, which was served by Defendants on

February 15, 2023.

6. Attached hereto as **Exhibit 5** is a true and correct copy of excerpts from the transcript of the March 14, 2023 deposition of Mr. John Morgan

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge.

Executed in Morgan Hill, California, on this 27th day of October, 2023.



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Anna Zohreh Saber

# **EXHIBIT 1**

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

GEORGIA STATE CONFERENCE OF )  
THE NAACP, et al. )

*Plaintiffs,* )

v. )

STATE OF GEORGIA, et al. )

*Defendants.* )

Case No. 1:21-CV-5338-ELB-SCJ-SDG

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COMMON CAUSE, et al., )

*Plaintiffs,* )

v. )

BRAD RAFFENSPERGER )

*Defendant.* )

Case No. 1:22-CV-00090-ELB-SCJ-SDG

Served on behalf of the Georgia State Conf. of the NAACP Plaintiffs

**Expert Report of Dr. Benjamin Schneer**

# Racially Polarized Voting Analysis: Georgia

Benjamin Schneer

January 13, 2023

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## Introduction

1. My name is Benjamin Schneer and I am an Assistant Professor of Public Policy at the Harvard Kennedy School. I joined Harvard's faculty in 2018, after working for two years as an Assistant Professor of Political Science at Florida State University. In 2016 I completed my Ph.D in Political Science in the Department of Government at Harvard University, where my dissertation won the Richard J. Hernstein Prize. At the Harvard Kennedy School, I teach a course on Empirical Methods and a course on Data Science for Politics.

2. My research is focused on American politics, particularly elections, political representation, and redistricting. I have published research articles in several leading peer-reviewed academic journals including *Science*, *American Journal of Political Science*, *Journal of Politics*, *Quarterly Journal of Political Science*, *Political Behavior*, *Studies in American Political Development*, and *Legislative Studies Quarterly*. My work received the annual Best Paper Award from the *American Journal of Political Science* in 2018, and other research of mine has received media coverage in outlets including *The New York Times*, *The Washington Post*, *The Los Angeles Times*, and *The Economist*.

3. I have worked as a consultant on several matters related to voting rights and redistricting. I co-authored, along with Professor Gary King, the analyses of the Arizona Independent Redistricting Commission Congressional and Legislative District maps submitted on behalf of the commission to the Department of Justice in 2012 – resulting in maps that were pre-cleared on the first attempt

for the first time in Arizona's history. I also have worked as a consultant on the Racially Polarized Voting Analysis prepared for the Virginia Redistricting Commission in 2021.

4. I have been retained to analyze the extent of legally significant racially polarized voting in Georgia's congressional, State Senate and State House district maps passed by the General Assembly in the 2021 redistricting cycle. In this report, I estimate voting behavior in these districts, examine the extent of racially polarized voting, and make an assessment of the performance of these districts in terms of the ability of minority groups to elect their candidates of choice. Then, I consider new illustrative districts proposed by the plaintiffs, again examining the extent of racially polarized voting and the ability of minority groups to elect their candidates of choice in the illustrative districts.

## **Executive Summary**

5. Based on my analysis, I find that there is evidence of racially polarized voting in Georgia overall as well as for specific congressional districts (CDs), state Senate districts (SDs), and state House districts (LDs). Black and Hispanic voters tend to vote cohesively and White voters tend to oppose them. I have primarily analyzed racially polarized voting between Black and White voters; in a handful of districts identified by the plaintiffs, I have analyzed racially polarized voting between Black and Hispanic voters on the one hand and White voters on the other hand.

6. Based on my analysis, I view the voter behavior that I have examined

in the state of Georgia to be consistent with racially polarized voting between minority and majority racial groups in (1) all enacted CDs other than CD 5, (2) in all Illustrative Map CDs other than CD 4, (3) in enacted SDs 6, 9, 16, 17, 22, 23, 25, 26, 28, 34, 35, 38, 40, 43, 44, and 55, (4) in all Illustrative Map SDs I analyze (with the possible exception of Illustrative Map 1 SD 40, which is borderline), (5) in enacted LDs 61, 65, 74, 78, 115, 116, 117, 142, 143, 151, 154, 161, 163, 165 and 171, (6) and in all Illustrative Map LDs I analyze.

7. In terms of minority groups' ability to elect their candidates of choice in the enacted congressional, state Senate and state House districts that I examine, revised maps could clearly result in greater minority representation. Furthermore, some districts with meaningful minority population levels nonetheless offer minority groups a limited ability to elect their candidates of choice based on past elections.

8. The Illustrative Maps drawn by the plaintiffs' map-drawing expert Moon Duchin offer an increased ability to elect the minority-preferred candidates in the districts I have been asked to examine. When looking across statewide elections since 2012 where minority candidates ran against non-minority candidates, in the Illustrative Congressional District Map minority candidates won these elections more than half the time in 6 of the 14 districts (43%); this contrasts with the enacted Congressional District Map, where minority candidates won more than half the time in such elections in 5 of the 14 districts (36%). In the Illustrative State Senate Maps, minority candidates won more than half the time in such elections in 5 of the 5 districts that I examined in Illustrative

Map 1 (100%) and in 2 of the 2 districts that I examined in Illustrative Map 2 (100%). This performance contrasts with the enacted Senate Districts I have examined, where minority candidates won more than half the time in 67% of districts. The Illustrative Maps for the State House outperform the enacted map in terms of ability to elect minority candidates as well.

## Methodological Approach

### Identifying Racially Polarized Voting

9. Racially polarized voting (RPV) occurs when the majority group and a minority racial group vote differently. To identify instances of RPV in Georgia, I examine (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?).<sup>1</sup>

10. To make these determinations, I analyze historical voting behavior from Georgia elections since 2012. The Georgia Secretary of State tracks turnout data by racial group in each precinct, along with aggregate vote totals for each candidate in each precinct. While elections from 2012 to 2021 were conducted

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<sup>1</sup>For a detailed discussion of cohesion, see Bernard Grofman, Lisa Handley, and Richard G. Niemi, *Minority representation and the quest for voting equality*, Cambridge University Press, 1992. The authors note that courts have concluded that cohesiveness “is to be measured with reference to voting patterns” (p. 68), and that “minority groups are politically cohesive if they vote together for minority candidates” (p. 73).

under the previous district maps, I focus primarily on elections for which changes in district lines are unlikely to affect vote choice. Specifically, I use historical national and state-wide elections to evaluate congressional, state House and state Senate districts. I discuss in more detail the specific elections I have selected to study, and the rationale for my choices, in the next section.

11. Because elections are conducted under a secret ballot, it is not possible to tally vote choice directly for each racial group in order to assess voter behavior in each enacted district. Instead, I estimate racial-group-level vote totals based on the precinct-level election data, producing estimates for each racial group's vote share in support of each candidate.<sup>2</sup>

12. To do this, I employ a standard approach in the political science literature and in redistricting litigation when one must estimate the voting behavior of specific racial groups based on aggregate vote totals: ecological inference (EI).<sup>3</sup> Ecological inference makes use of (1) the statistical information captured by how strongly a candidate's level of support varies in tandem with variation in each racial group's population share across precincts, and (2) deterministic information captured in precincts that consist primarily of one racial group. For example, if a precinct is relatively homogeneous, one can place bounds on the range of possible voting behaviors for a racial group in that precinct, with the

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<sup>2</sup>On the value of both statewide elections and precinct-level data, see Gary King, *A Solution to the Ecological Inference Problem: Reconstructing Individual Behavior from Aggregate Data*, Princeton University Press, 1997. King writes: "For electoral applications, choosing data in which all geographic units have the same candidates (such as precincts from the same district or counties form the same statewide election) is advisable so that election effects are controlled" (p. 28).

<sup>3</sup>King, 1997.

most extreme version of this occurring when a precinct is entirely homogeneous.<sup>4</sup> The key advantage of EI is that it combines both the statistical and deterministic information I have just described. Technical summaries of the EI approach can be found in a variety of sources, including King, Rosen and Tanner (2004).<sup>5</sup> In this report, I use the RxC method of ecological inference, allowing me to identify voting patterns across all the primary racial groups in Georgia at once. This approach is based upon the hierarchical model described in Rosen, Jiang, King and Tanner (2001),<sup>6</sup> and the draws from this model's posterior distribution are obtained using a Metropolis-within-Gibbs sampling algorithm.<sup>7</sup> Previous research comparing approaches including ecological regression, 2x2 ecological inference and the Rosen et al. (2001) method has found that these approaches tend to yield similar results, with Rosen et al. (2001) having a slight edge in instances with more than two racial groups.<sup>8</sup> Additionally, a variety of published research and legal cases have made use of this method.<sup>9</sup>

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<sup>4</sup>Otis Dudley Duncan and Beverly Davis, "An alternative to ecological correlation," *American Sociological Review* (1953).

<sup>5</sup>Gary King, Ori Rosen, and Martin A. Tanner, "Information in ecological inference: An introduction," In *Ecological Inference: New Methodological Strategies*, pp. 1-12, Cambridge University Press, 2004.

<sup>6</sup>Ori Rosen, Wenxin Jiang, Gary King, and Martin A. Tanner, "Bayesian and frequentist inference for ecological inference: The  $R \times C$  case," *Statistica Neerlandica* 55, no. 2 (2001): 134-156.

<sup>7</sup>Olivia Lau, Ryan T. Moore, and Michael Kellermann, "eiPack:  $R \times C$  ecological inference and higher-dimension data management," *New Functions for Multivariate Analysis* 7, no. 1 (2007): 43, Available at <https://cran.r-project.org/web/packages/eiPack/index.html>.

<sup>8</sup>Justin de Benedictis-Kessner, "Evidence in voting rights act litigation: Producing accurate estimates of racial voting patterns," *Election Law Journal* 14, no. 4 (2015): 361-381.

<sup>9</sup>Research articles making use of this approach include: Michael C. Herron and Jasjeet S. Sekhon, "Black candidates and black voters: Assessing the impact of candidate race on uncounted vote rates," *The Journal of Politics* 67, no. 1 (2005): 154-177. Matt Barreto, Loren Collingwood, Sergio Garcia-Rios, and Kassra AR Oskooii. "Estimating candidate support in Voting Rights Act cases: Comparing iterative EI and EI- $R \times C$  methods." *Sociological Methods & Research* 51, no. 1 (2022): 271-304. Legal cases where experts have presented opinions

## Measuring District Performance

13. I also examine the performance of the districts being challenged along with newly proposed districts to assess if they allow minority groups to elect candidates of choice. I again use historical elections re-aggregated to the new districts to make this assessment, and I focus on several related questions: (1) What is the minority share of the electorate in the newly enacted districts? (2) In what share of past elections would the minority candidate of choice have won in these historical elections? (3) Given the results for the previous two questions, does the district as drawn constitute sufficient minority voting strength for minority voters to elect candidates of choice?<sup>10</sup>

## Data Sources

14. To perform the analyses in this report, I rely on elections data from the Georgia Secretary of State's office and the Georgia General Assembly's Legislative and Congressional Reapportionment Office. Georgia, unlike many other states, records turnout data by race for all elections. As a result, there is no uncertainty about the turnout of different racial groups in Georgia and ecological inference analysis only needs to be used to determine voter preferences by race.

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making use of RxC ecological inference include: *League of Women Voters of Ohio, et al. v. Ohio Redistricting Commission*, *Caster v. Merrill*, *Milligan v. Merrill*, and previous filings in this case among others.

<sup>10</sup>See Grofman, Handley and Niemi, 1992. They write: "What is clearly established by *Gingles* is that white bloc voting is legally significant, regardless of the actual percentages of whites voting against minority-preferred candidates, when it usually results in the defeat of the minority-preferred candidates" (p. 73).

15. The state has produced reapportionment reports that contained precinct-level voter registration and turnout by race<sup>11</sup> along with precinct-level vote totals for all general elections between 2014 and 2020. I also requested the data from the 2012 reapportionment report but the state did not provide it; as a result, I instead used 2012 reapportionment report data that I received directly from the Lawyers' Committee for Civil Rights. For the 2022 election, I received data on turnout from the Secretary of State's office but I did not receive precinct-level election totals. As a result, I again used data received from the Lawyers' Committee for Civil Rights.<sup>12</sup>

16. To analyze the 2018 and 2021 runoff elections, I used data compiled by the Voting and Election Science Team (VEST).<sup>13</sup> These files include precinct-level general election results and turnout data.

## Maps

17. To use past election data to understand potential voter behavior in newly-drawn districts, I assign precincts to the enacted congressional and legislative

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<sup>11</sup>Georgia includes the following options for voters to select as their race and/or ethnicity: American Indian, Asian/Pacific Islander, Black, Hispanic/Latino, Other, and White. For the purposes of this report, I focus on the behavior of Black, Hispanic/Latino, and White voters and I combine all other categories into the Other category. When analyzing RPV between Black, Hispanic and White voters I estimate vote shares for each of these four categories but only report the Black, Hispanic and White vote shares. When analyzing RPV between Black and White voters only I include Hispanic voters in the Other category.

<sup>12</sup>The precinct-level election results for the 2022 data were downloaded from the Secretary of State's website at [https://sos.ga.gov/index.php/elections/federalgeneral\\_election\\_runoff\\_turnout\\_by\\_demographics\\_january\\_2021](https://sos.ga.gov/index.php/elections/federalgeneral_election_runoff_turnout_by_demographics_january_2021) and compiled by the Lawyer's Committee for Civil Rights.

<sup>13</sup>Voting and Election Science Team. "2020 Precinct-Level Election Results", Harvard Dataverse V29, 2020, <https://doi.org/10.7910/DVN/K7760H>.

district boundaries as well as the illustrative boundaries. In order to accomplish this, I downloaded GIS shape files from the Legislative and Congressional Reapportionment Office page on the Georgia General Assembly website.<sup>14</sup> These included shape files for the passed map of congressional districts, the passed map of state House districts, the passed map of state Senate districts, and precinct shape files for 2012, 2014, 2016, 2018 and 2020. For 2022, I used precinct shape files provided to me by the Lawyers Committee for Civil Rights. For the illustrative maps presented by the plaintiffs, I received data assigning each census block in the state to a district, which I converted into district-level shape files. I then spatially joined precincts for each election year to the enacted and illustrative districts.<sup>15</sup> In practice, the spatial join amounts to finding which precincts are contained within congressional, state Senate and state House districts and then assigning them to the new districts.

## Elections

18. I estimate EI models using statewide general elections occurring between 2012 and 2022.<sup>16</sup> These consist of: US Presidential Elections in 2012, 2016

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<sup>14</sup>Available at <https://www.legis.ga.gov/joint-office/reapportionment>.

<sup>15</sup>Specifically, the join is based on a point within the interior of the precinct boundaries and towards the middle of the precinct. I do not use the centroid of the precinct because a centroid can be located outside the boundary of a precinct for non-convex precinct shapes. Split precincts occur rarely; in 2022, for example, 1.18% of precincts in congressional districts, 1.22% of precincts in state Senate districts, and 5.83% of precincts in state House districts were split such that more than 5% of their area was contained in multiple districts.

<sup>16</sup>I omit any elections without a candidate from each of the major political parties as well as the 2020 US Senate special election. This election occurred between multiple candidates of different parties, including Raphael Warnock (D), Kelly Loeffler (R), Doug Collins (R), Deborah Jackson (D) and Matt Lieberman (D). This election is qualitatively different from the others as it presents an expanded choice set of candidates, multiple minority candidates, and no candidate

and 2020; US Senatorial Elections in 2014, 2016, 2020, 2021 (Runoff), and 2022 (General and Runoff); State Gubernatorial Elections in 2014, 2018 and 2022; State Lieutenant Governor Elections in 2014, 2018 and 2022; Secretary of State Elections in 2014, 2018 (General and Runoff) and 2022; State Agriculture Commissioner Elections in 2014, 2018 and 2022, State Attorney General Elections in 2014, 2018 and 2022; State Insurance Commissioner Elections in 2014, 2018 and 2022; State Labor Commissioner Elections in 2014, 2018 and 2022; State Superintendent of Public Instruction Elections in 2014, 2018 and 2022; and, State Public Service Commissioner Elections in 2014, 2018 (General and Runoff), 2020 and 2021 (Runoff).

20. When studying the extent of legally significant racially polarized voting in general elections, I estimate ecological inference results for general elections but not for primaries. 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. For example, 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. The primary electorate is often considerably different than the electorate in a general election. Indeed, political science research has found “consistent support for the argument that primary and general electorates diverge in their policy ideology.”<sup>17</sup> Thus, in my judgment, it is sufficient in this case to examine

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receiving a majority of votes. Due to these factors, the election poses a less clear test of racially polarized voting, and I do not attempt to draw any conclusions from it at the statewide level or in my subsequent analysis of voting behavior within specific districts.

<sup>17</sup>See Seth J. Hill, “Institution of nomination and the policy ideology of primary electorates,”

behavior in general elections in order to determine the extent of racially polarized voting in Georgia general elections.

21. While I estimate RPV results for all statewide general elections since 2012, I rely on those elections in which a minority candidate was one of the two major party candidates running for office as most probative for making inferences about racially polarized voting.<sup>18</sup> In Georgia between 2012 and 2022, among the statewide elections that I examine, a minority candidate ran against a non-minority candidate in the following instances:

- 2012 Presidential Election, Barack Obama (D)
- 2014 Insurance Commissioner Election, Liz Johnson (D)
- 2014 Labor Commissioner Election, Robbin Shipp (D)
- 2014 Lt. Governor Election, Connie Stokes (D)
- 2014 Secretary of State Election, Doreen Carter (D)
- 2014 Superintendent of Public Instruction, Valarie Wilson (D)
- 2014 Public Service Commissioner 4 Election, Daniel Blackman (D)
- 2018 Gubernatorial Election, Stacey Abrams (D)
- 2018 Insurance Commissioner Election, Janice Laws Robinson (D)
- 2018 Superintendent of Public Instruction Election, Otha Thornton (D)
- 2020 Public Service Commissioner 1 Election, Robert Bryant (D)

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*Quarterly Journal of Political Science* 10, no. 4 (2015), p. 480.

<sup>18</sup>An election between a minority and a non-minority candidate provides variation in the race of the candidate and therefore offers a test of whether race might matter in vote choice among different voter groups. Some past cases have also placed more weight on elections between a minority and non-minority candidate: “Elections between white and minority candidates are the most probative in determining the existence of legally significant white bloc voting.” See *Old Person v. Cooney*, 230 F.3d 1113, 112324 (9th Cir. 2000).

- 2020 Public Service Commissioner 4 Election, Daniel Blackman (D)
- 2020 US Senator Special Election, Raphael Warnock (D)
- 2021 Public Service Commissioner 4 Runoff, Daniel Blackman (D)
- 2021 US Senator Special Election Runoff, Raphael Warnock (D)
- 2022 Gubernatorial Election, Stacey Abrams (D)
- 2022 Secretary of State Election, Bee Nguyen (D)
- 2022 Agriculture Commissioner Election, Nakita Hemingway (D)
- 2022 Insurance Commissioner Election, Janice Laws Robinson (D)
- 2022 Labor Commissioner Election, William Boddie (D)
- 2022 Superintendent of Public Instruction Election, Alisha Searcy (D)

22. In addition to these elections, I also include elections in which no minority candidate ran or two minority candidates ran as major party candidates. These are useful for establishing a general pattern of vote choice for different racial groups, even if elections with a single minority candidate are most probative for determining the extent of RPV. In all of my subsequent RPV analysis, I examine the vote shares cast in support of the statewide minority-preferred candidate for a given election. I define the statewide minority-preferred candidate as the candidate who garnered the majority of votes cast by minority voters according to statewide EI estimates.<sup>19</sup>

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<sup>19</sup>Note that for any given election it must still be determined whether the statewide minority-preferred candidate is supported cohesively by the minority groups considered in this report. But, whether or not this occurs, by definition there will always be one candidate who received a majority of votes cast by minority voters.

## EI Analysis of Enacted Districts

### Statewide

23. I begin by analyzing the extent of RPV that has occurred overall in historical statewide elections. At the state level, elections in Georgia exhibit an unambiguous and consistent pattern of racially polarized voting. I make this determination by examining the vote choices of racial groups across past elections.

24. Figure 1 plots the EI estimates for the set of statewide elections under consideration, which were held from 2012 to 2022. The labels on the left side of the plot indicate the specific elections considered. Elections for which one minority candidate ran against a non-minority candidate are indicated with a star. In the plot, the point estimates illustrating the level of support for a candidate are marked with a circle. In this and in all subsequent analyses, these circles represent my estimate of two-party vote share for the minority-preferred candidate (e.g., the votes cast for the preferred major party candidate divided by the sum of the votes cast for the candidates of both major parties) for a given election. The point estimates can be understood in this context as the vote shares that were most likely to have generated the pattern of data (e.g., votes cast for candidates and turnout among different racial groups) that occurred across precincts in a given election. Additionally, the horizontal lines emanating from either side of the circles indicate the bounds of the 95% confidence intervals. The 95% intervals reflect the uncertainty of each estimate; specifically, for the

EI model, they mark the interval for which there is a 95% probability that the true vote share is contained within the lower and upper bounds.<sup>20</sup> In instances where no confidence interval is visible, the intervals are narrow and not visible to the eye (though they still exist).

25. I will explain and interpret these plots in two steps.<sup>21</sup> First, the points clustered on the right side of the plot indicate large majorities of Black and Hispanic voters all supported minority candidates in each election in which they ran between 2012 and 2022 and were opposed by non-minority candidates. In elections without a minority candidate, these voters still acted cohesively to support other minority-preferred candidates.<sup>22</sup>

26. For example, in the 2018 gubernatorial election, I estimate that about 99% of Black voters supported Stacey Abrams, a minority candidate. This overwhelming level of support among Black voters for minority candidates running against non-minority candidates is similar across all other elections as well, including for Barack Obama in 2012 (98%), Connie Stokes in 2014 (98%), Doreen Carter in 2014 (98%), Otha Thornton in 2018 (99%) and Raphael Warnock in 2021 (99%).

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<sup>20</sup>See Guido W. Imbens, “Statistical significance, p-values, and the reporting of uncertainty,” *Journal of Economic Perspectives* 35, no. 3 (2021): 157-74. Also see Andrew Gelman, John B. Carlin, Hal S. Stern, and Donald B. Rubin, *Bayesian data analysis*, Chapman and Hall/CRC, 1995. Note that this interpretation of a 95% interval is in subtle contrast with a non-Bayesian or frequentist interpretation of the confidence intervals, which is that if this estimation were repeated for numerous iterations of a given election, the calculated 95% confidence intervals would contain the true value of a racial group’s vote share 95% of the time.

<sup>21</sup>I have included with this report a digital Supplementary Appendix file recording individual estimates and confidence intervals for each election studied in a plot.

<sup>22</sup>Table 10 in the Appendix reports the full list of statewide minority-preferred candidates based on my estimates.

27. I estimate that about 96% of Hispanic voters supported Abrams in 2018. Again, the results are generally similar across other elections I examined with minority candidates. When a minority candidate was not one of the two major party candidates, minority voters continued to vote cohesively, supporting particular candidates at overwhelming rates. Overall, then, I conclude 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. And, in particular, when a minority candidate ran against a non-minority candidate in a general election, a clear majority of each racial minority group voted for the minority candidate.

28. Second, I study voting patterns of White voters. As an example, I estimate that in 2018 15% of White voters supported Abrams. Similarly, across all historical statewide elections between 2012 and 2022, considerably less than half of White voters supported minority candidates (when running against non-minority candidates). A majority of White voters voted against the candidate of choice of minority voters. With this information in mind, my assessment is that these historical elections exhibit clear evidence of racially polarized voting at the statewide level. Hispanic and Black voters cohere around the same candidates of choice, and White voters oppose them, consistent with RPV. Thus, any new districts proposed as a remedy would be drawing from a state where there is evidence of racially polarized voting affecting the minority groups considered in this report.

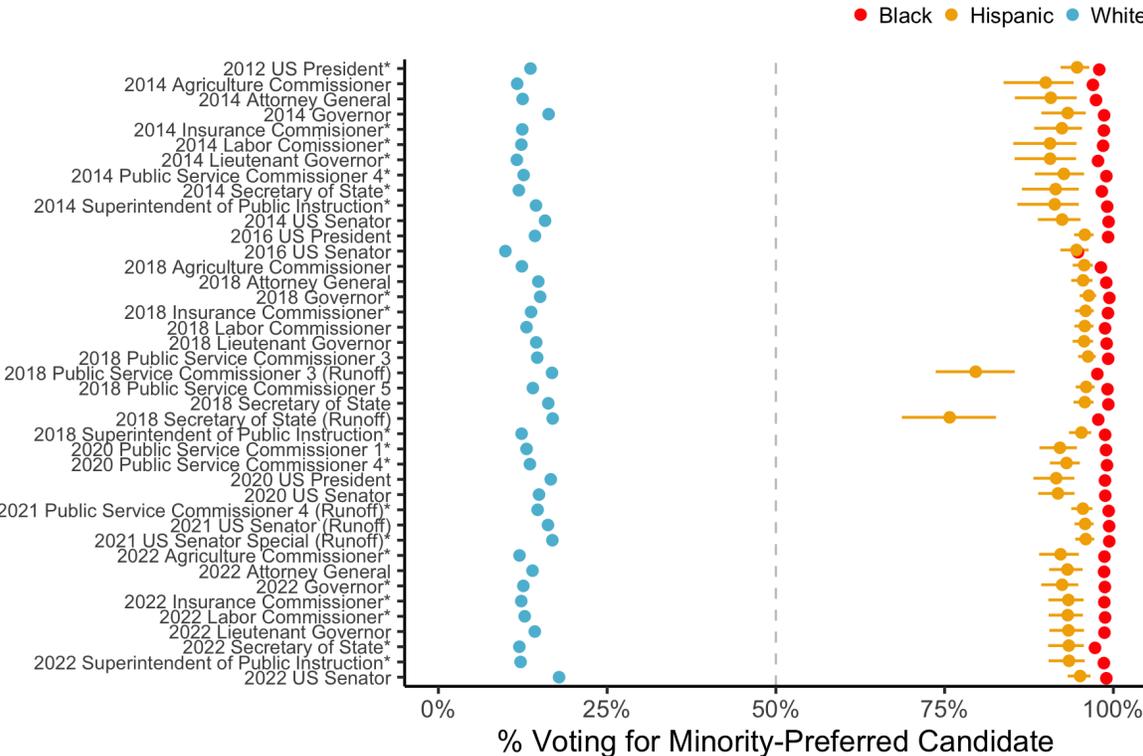


Figure 1: Ecological Inference Results — Statewide (Historical Elections, Two-Party Vote Shares), 3 Racial Groups

## Congressional Districts

29. I have been asked to examine RPV between Black and White voters in all enacted congressional districts in the state. Figure 2 illustrates the boundaries of the state's congressional districts.

30. Table 1 records the share of the electorate comprised by each racial group in each congressional district. These estimates are based on averaging across the 2020 and 2022 turnout figures. Minority groups constitute a majority of the electorate in CDs 4, 5, 7 and 13 based on the turnout numbers from 2020 and 2022.

31. Figures 3 through 7 present the EI results for individual congressional districts. As before, the point estimate for a racial group's vote share in a given election is represented with a dot and the uncertainty in the estimate is reflected in the 95% confidence intervals that emanate from the point estimate.

32. For most districts, the analysis of RPV between White and Black voters is very straightforward. In CDs 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. When a minority candidate did not run or when multiple minority candidates ran, Black voters supported the statewide minority-preferred candidates in these districts: the confidence intervals never overlap with the threshold for majority support (e.g., 50%). White voters opposed the candidate of choice of Black voters in every historical election. Again, the confidence intervals on the estimates for White voters never

overlap with the the threshold for majority support.

33. For example, CD 3 demonstrates clear evidence of RPV between White and Black voters for all elections that I examine. For Black voters, I never estimate a minority-preferred candidate vote share below 92.8%. For White voters, I never estimate a minority-preferred candidate vote share above 12.2%.

34. As another example, CD 7 presents another strong example among the congressional districts of RPV, with Black voters cohering around minority candidates (and other minority-preferred candidates) and with White voters opposing these candidates of choice. In every election with a minority candidate running against a non-minority candidate, minority voters supported the minority candidate, often overwhelmingly. For example, in the 2018 Gubernatorial race, I estimate that 97% of Black voters supported Abrams. In contrast, 19% of White voters in the district supported Abrams according to my estimates. None of the confidence intervals overlapped with the threshold for majority support in this election. The same pattern generally holds in earlier election years where minority candidates ran. In my view, this pattern constitutes clear evidence of RPV.

35. CD 4 exhibits evidence of RPV between White and Black voters as well. In more recent elections a majority of White voters occasionally voted along with minority racial groups; however, this did not occur for any elections in which a minority candidate ran against a non-minority candidate. Two of the four instances where this occurred were lower salience elections, such as the 2018 Runoffs for Secretary of State and for Public Service Commissioner.

Overall, CD 4 suggests to me cohesive behavior across Black voters in support of minority candidates (and other minority-preferred candidates). White voters have reliably opposed the minority candidates of choice.

36. Unlike all other congressional districts in the state, CD 5 does not exhibit evidence of racially polarized voting. White voters in the district tended across a majority of elections to support the same candidate as minority voters. Based on my analysis, Black voters supported minority candidates in all historical elections, but White voters opposed this candidate of choice in only 15% of these elections.

37. To sum up, I observe RPV between Black voters on the one hand and White voters on the other hand when pooling across all CDs (e.g., statewide) as well as specifically for all CDs other than CD 5. In each of these congressional districts, when I focus specifically on elections with one minority candidate, Black voters supported that candidate and were opposed by White voters every time since 2012.

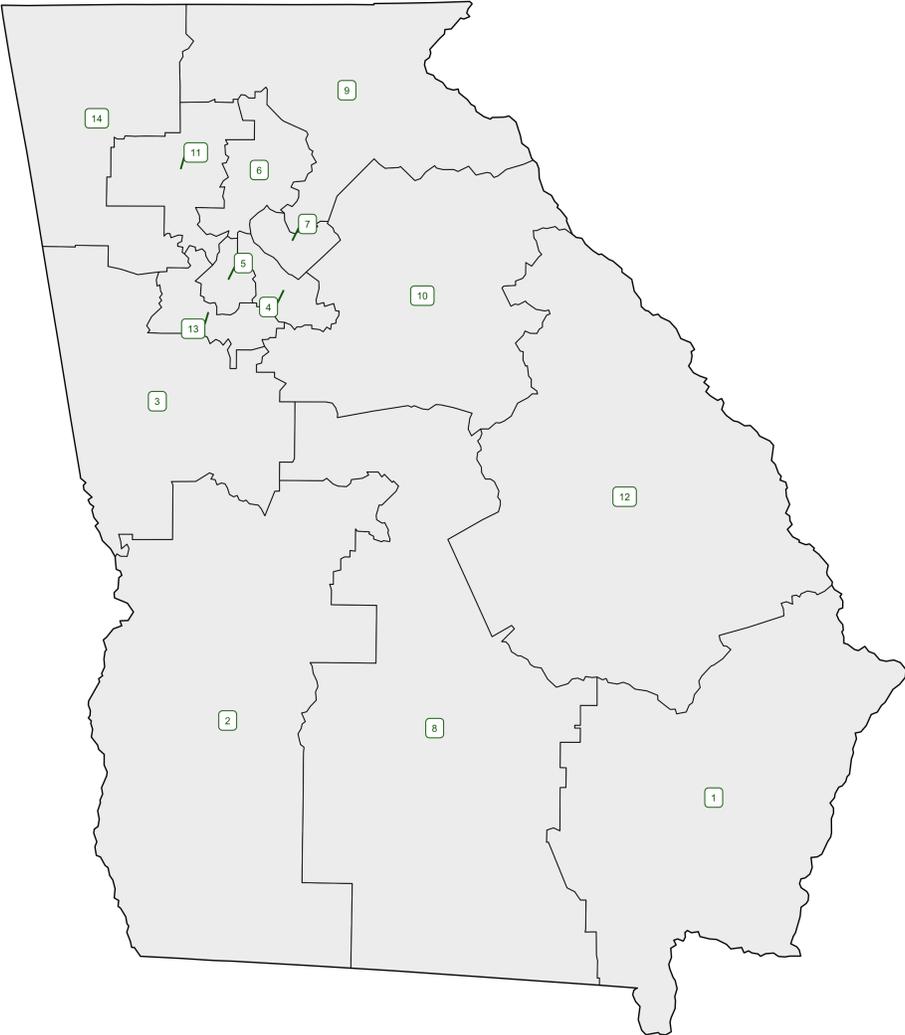


Figure 2: Map of Enacted Congressional Districts

Table 1: Percentage of Electorate by Race, Average of 2020 and 2022 Elections, Enacted CDs

CD	Black	Hispanic	White	Other
1	23.9%	1.8%	64.8%	9.5%
2	40.7%	1.1%	51.9%	6.3%
3	21.0%	1.8%	67.5%	9.7%
4	48.8%	2.3%	35.9%	12.9%
5	39.3%	2.3%	44.1%	14.2%
6	7.2%	3.3%	70.2%	19.2%
7	28.3%	6.5%	43.6%	21.5%
8	24.5%	1.2%	68.5%	5.7%
9	9.1%	4.0%	75.2%	11.7%
10	18.2%	2.1%	70.3%	9.3%
11	14.0%	3.6%	71.1%	11.2%
12	30.0%	1.4%	60.4%	8.2%
13	63.6%	2.8%	20.9%	12.7%
14	13.5%	3.1%	74.8%	8.6%

Note: This table reports the share of the electorate, based on the average across 2020 and 2022 turnout, of each racial group in a given congressional district.

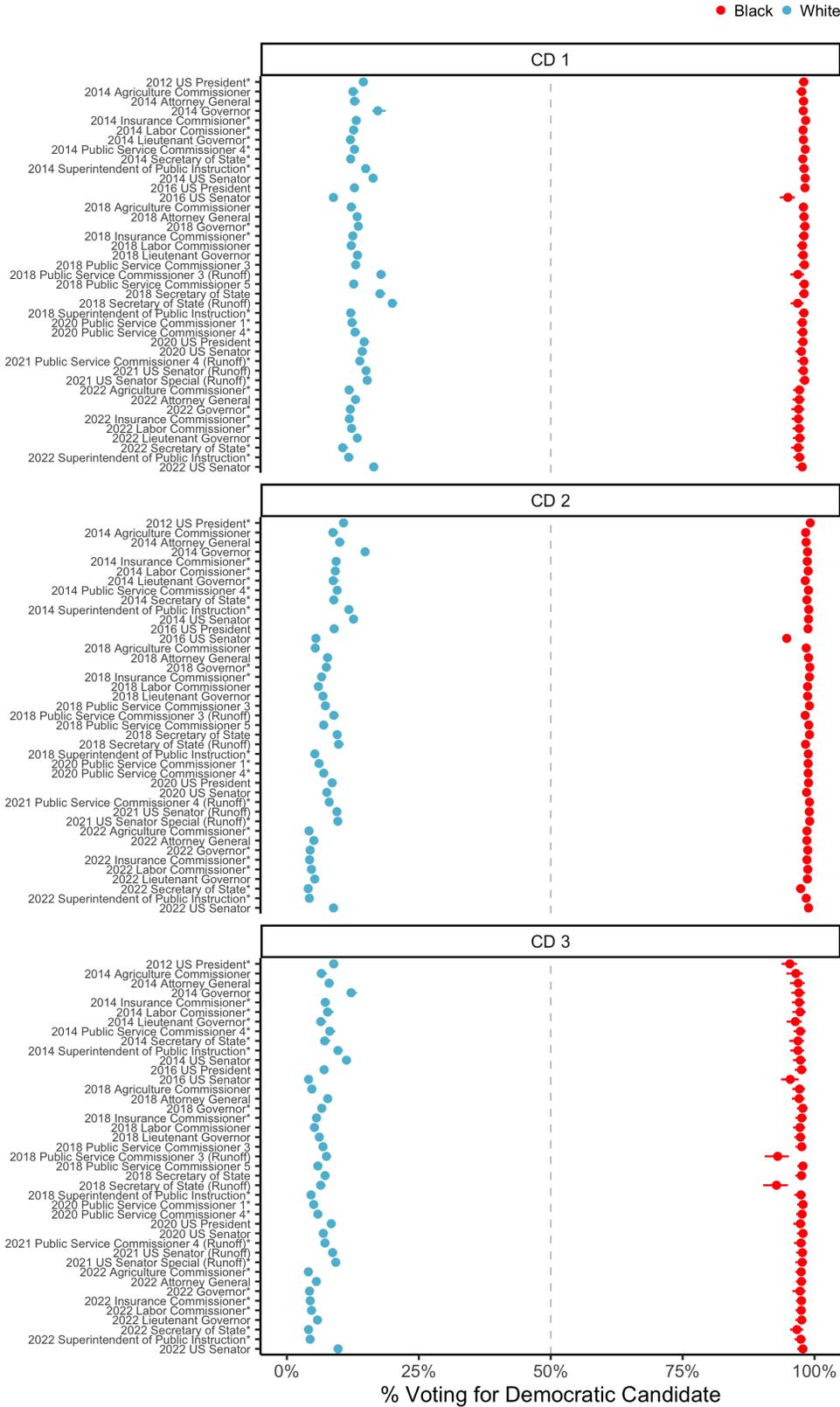


Figure 3: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)

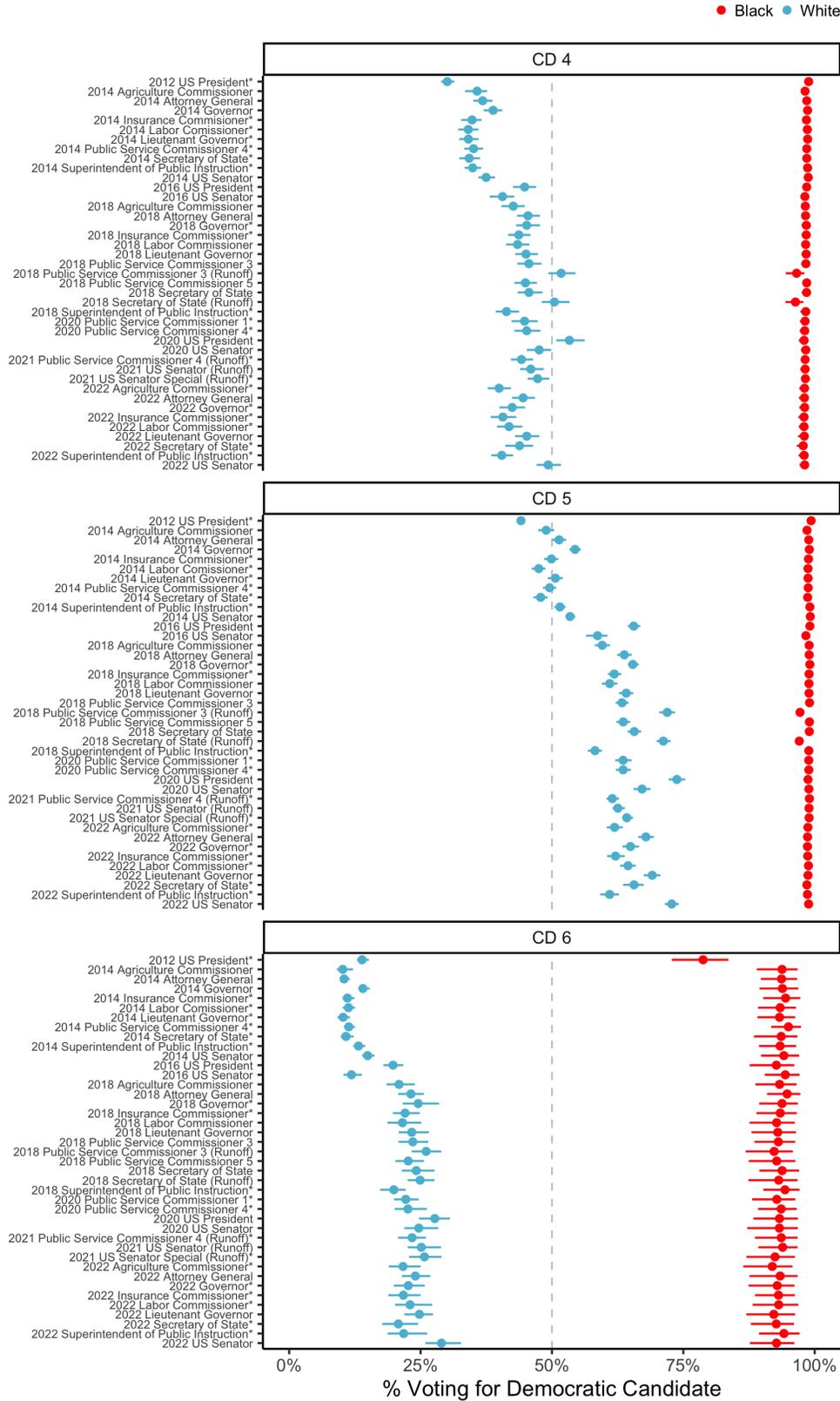


Figure 4: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)



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

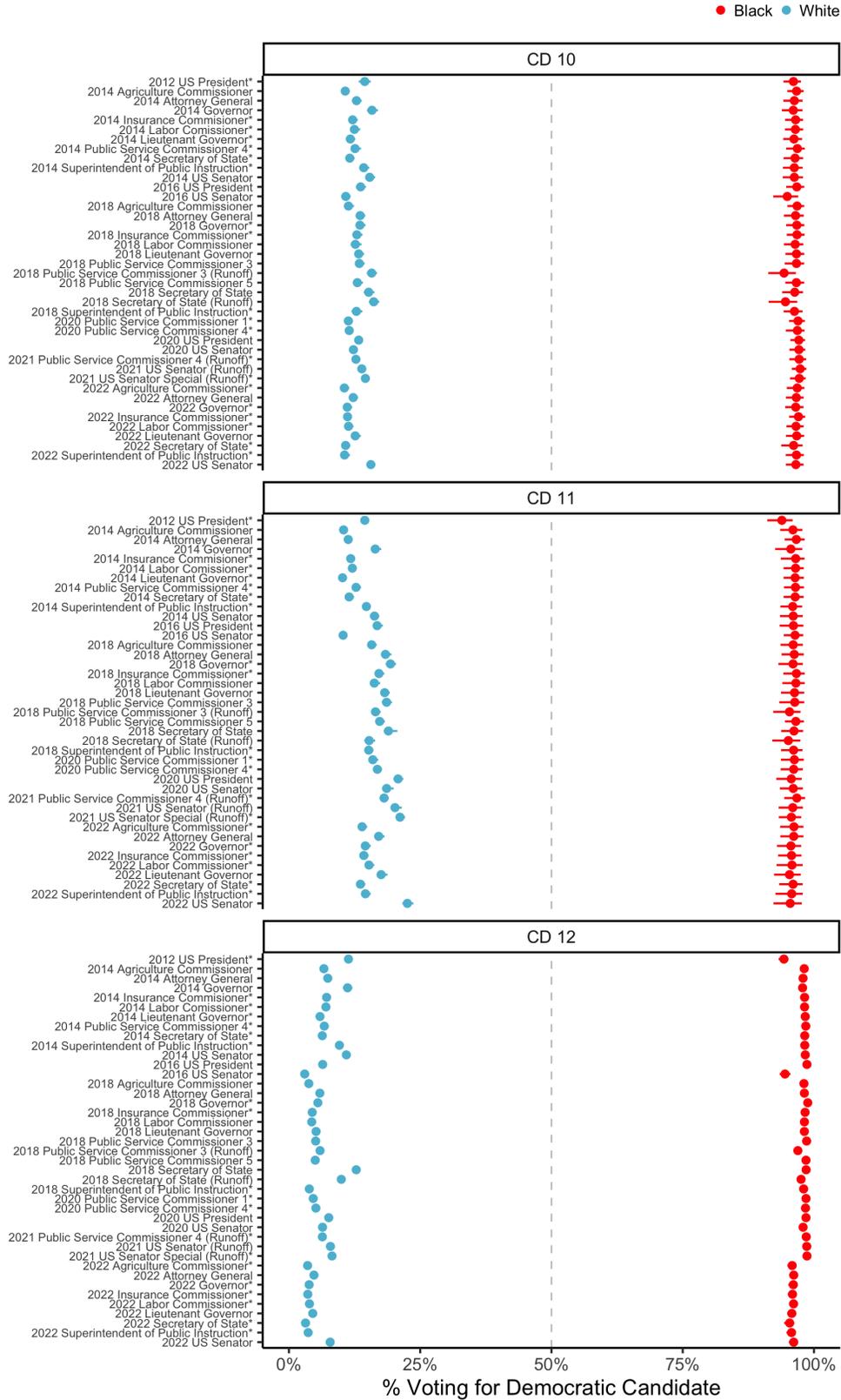


Figure 6: Ecological Inference Results — Enacted Congressional Districts (Historical Elections, Two-Party Vote Shares)



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

## State Senate Districts

38. I was asked to examine enacted State Senate districts (SDs) that meaningfully overlapped with any focus illustrative SDs drawn by the plaintiffs' expert Moon Duchin. Therefore, I examine enacted SDs whose areas are comprised of 10% or more of an illustrative SD. Specifically, I analyze SDs 9, 16, 17, 22, 23, 25, 26, 28, 34, 35, 40, 41, 43, 44 and 55. Figure 8 presents a map of SDs in Georgia, with the districts in question shaded in dark gray. The SDs I am considering stretch in an almost contiguous band from west Georgia through Metro Atlanta to the eastern part of the state.

39. Of these districts, I have been asked to examine the extent of RPV between Black and Hispanic voters on the one hand and White voters on the other hand in SDs 16, 22, 23, 25, 26 and 44.<sup>23</sup> In all other SDs, I examine RPV between Black and White voters.

40. Figures 9-12 present the results of the EI analysis. I include estimates for Hispanic voter behavior in those districts where I have been instructed to examine it, and I omit it for the other districts. SDs 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 every historical election

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<sup>23</sup>Since Hispanic voters comprise a small share of the electorate in many SDs, and the SDs sometimes contain a small number of precincts, when analyzing RPV with Hispanic voters I perform a statewide EI analysis to determine precinct-level estimates, then I aggregate the precinct-level estimates up to the district in question. Compared with an EI analysis restricted to a single district, this approach adds an assumption that racial group voting behavior outside of the district contains useful information about racial group voter behavior within the district. This is similar in nature to the maintained assumption in any district-level EI analysis that behavior in one precinct is informative about behavior in another.

with a minority candidate that I examine. SDs 9, 17, 28, 34, 35, 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.

41. For SDs 40 and 41 the evidence is slightly less clear cut. In SD 41, White voters join Black voters in support for minority candidates more than half the time. In my judgment, there is not racially polarized voting in this district. Importantly, it is worth noting that SD 41's boundaries contain less than half of an Illustrative district.<sup>24</sup> On the other hand, in SD 40 White voters opposed minority candidates in all but a handful of elections. Given the overall record of historical elections, my assessment is that there is evidence of RPV in SD 40.

42. Aside from the above exceptions, 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. Similarly, in the districts where I have been asked to assess behavior among Hispanic voters, I find evidence of RPV with Black and Hispanic voters supporting the minority-preferred candidate and White voters opposing them in every election.

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<sup>24</sup>About 39.6% of Illustrative Map 1 SD 40 is contained in enacted SD 41.

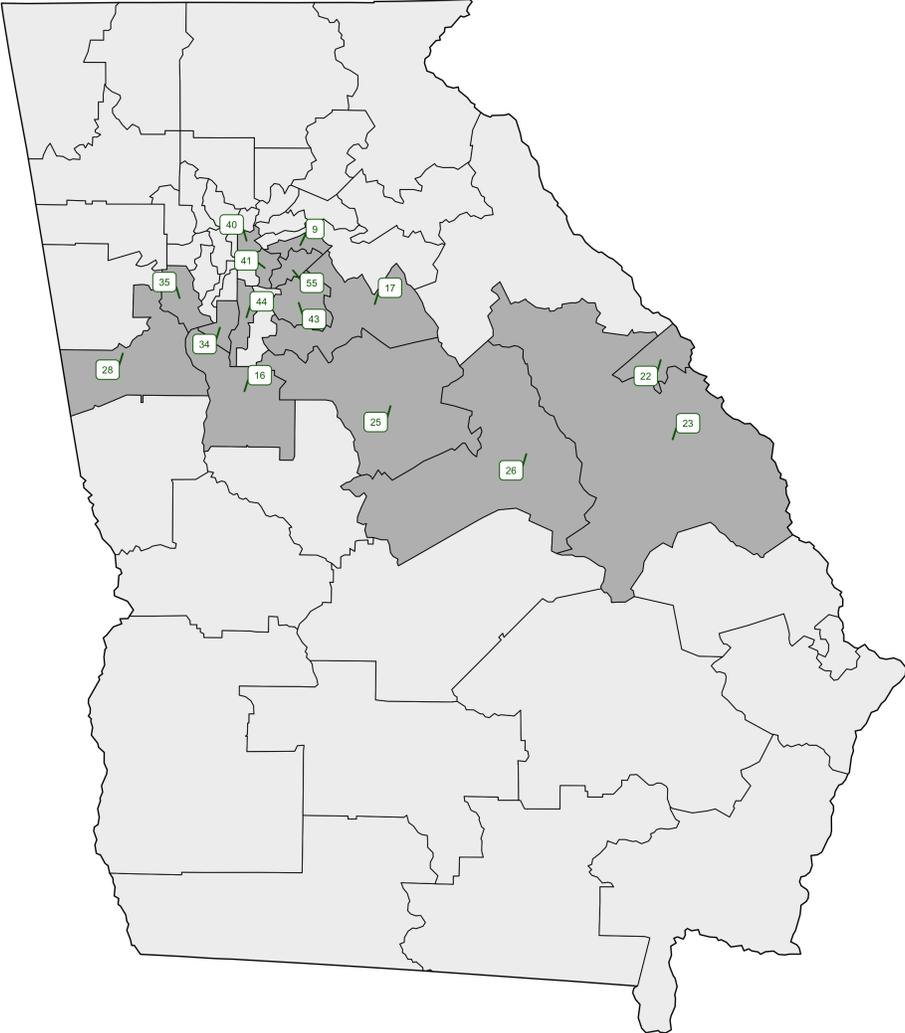


Figure 8: Map of Focus State Senate Districts

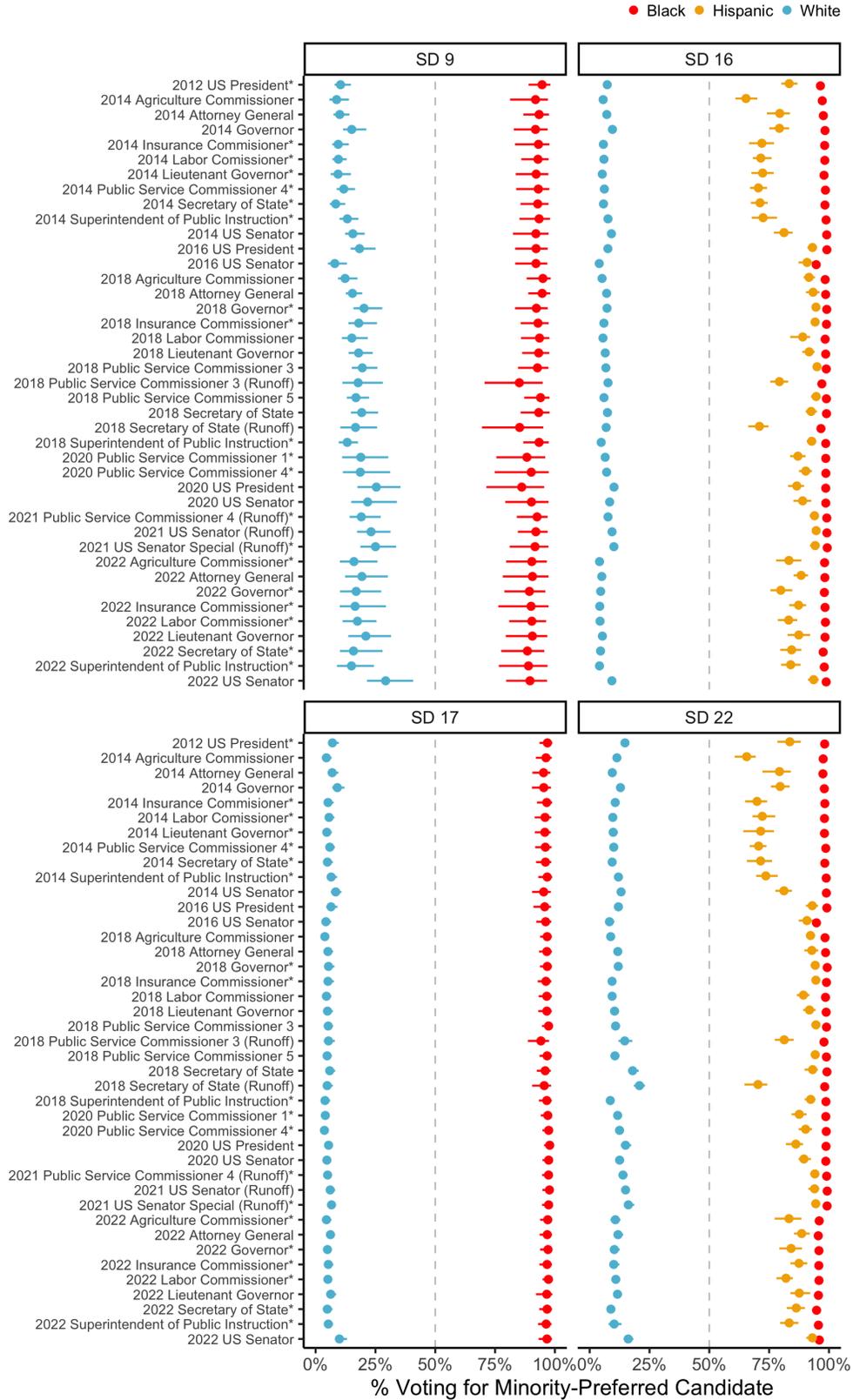


Figure 9: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

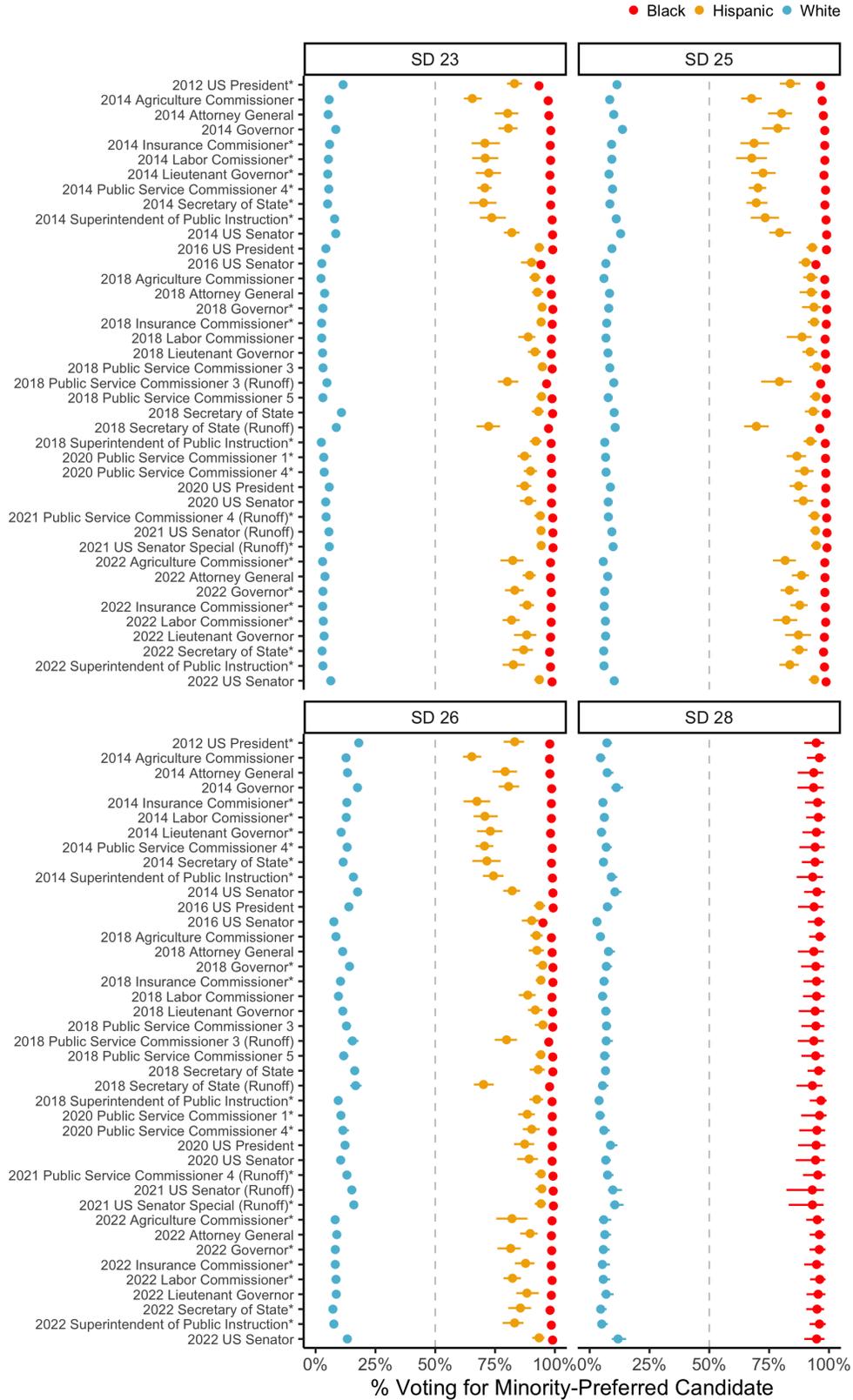


Figure 10: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)



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

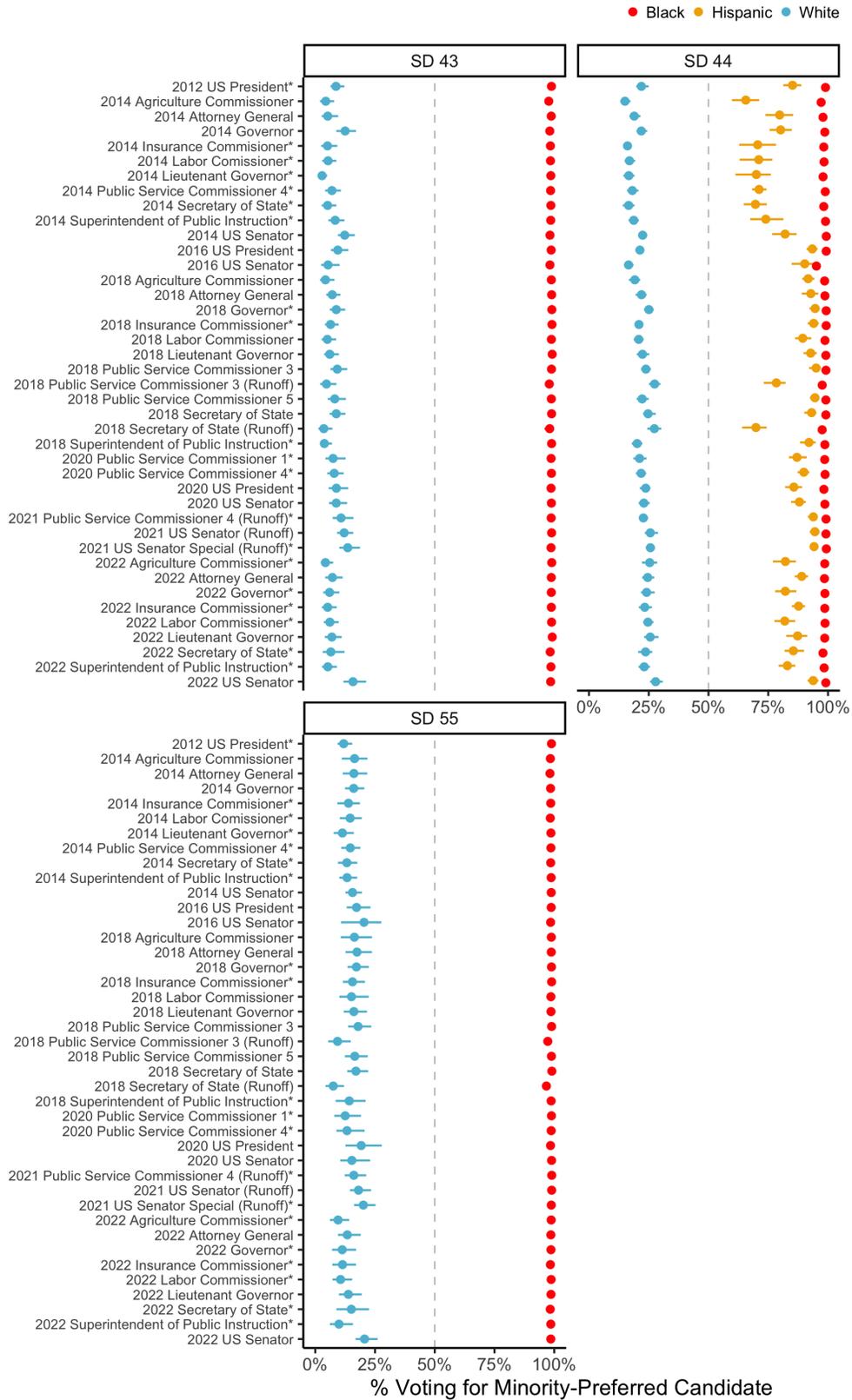


Figure 12: Ecological Inference Results — State Senate Districts (Historical Elections, Two-Party Vote Shares)

## State House Districts

43. I was asked to examine enacted State House districts (LDs) that meaningfully overlapped with any focus illustrative LDs drawn by the plaintiffs' expert Moon Duchin. As before, I examine enacted LDs whose areas are comprised of 10% or more of an illustrative LD. Specifically, I analyze LDs 61, 64, 65, 66, 74, 78, 115, 116, 117, 140, 142, 143, 151, 154, 161, 163, 165 and 171. Figure 13 presents a map of LDs in Georgia, with the districts in question shaded in dark gray.

44. Of these districts, I have been asked to examine the extent of RPV between Black and Hispanic voters on the one hand and White voters on the other hand in LDs 161, 163 and 165.<sup>25</sup> In all other LDs, I examine RPV between Black and White voters.

45. Drawing conclusions from the EI analysis for the individual Georgia state House Districts can be slightly more challenging than for the other districts in the report since State House districts themselves are small and sometimes contain few precincts (e.g., less than fifteen). I have elected to report all results because with the Bayesian estimation methods used for EI they remain valid even for small samples; however, it is worth noting that some estimates will have wide confidence intervals, not necessarily due to voter behavior but simply because of the limited data available.

46. Figures 14-18 present the estimates for the House districts that I examine. LDs 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,

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<sup>25</sup>I use the same method as with the State Senate districts to perform this analysis.

and White voters opposing these candidates in every historical election. LDs 161, 163 and 165 similarly present clear evidence of RPV with Black and Hispanic voters cohering to select the minority candidates as their candidate of choice, and White voters opposing these candidates in every historical election.

47. Of these districts with Black and Hispanic voters cohering, LDs 163 and 165 occasionally see White voters join with minority voters to support a minority-preferred candidate; however, this happens rarely and in fact never occurs when a minority candidate runs for election against a non-minority candidate.

48. For LDs 78 and 117 there is some uncertainty in the estimates for subsets of elections, but on balance the estimates show that Black voters supported minority candidates and were opposed by White voters in a vast majority of historical elections. For LD 116, the estimates reflect some uncertainty in the behavior of White voters, but there is significant evidence of RPV in 65% of elections and there is evidence of RPV in all 2022 statewide elections.

49. To sum up, then, I observe RPV between Black and White voters in LDs 61, 65, 74, 78, 115, 116, 117, 142, 143, 151, 154 and 171 and between Black and Hispanic voters on the one hand and White voters on the other in LDs 161, 163 and 165.

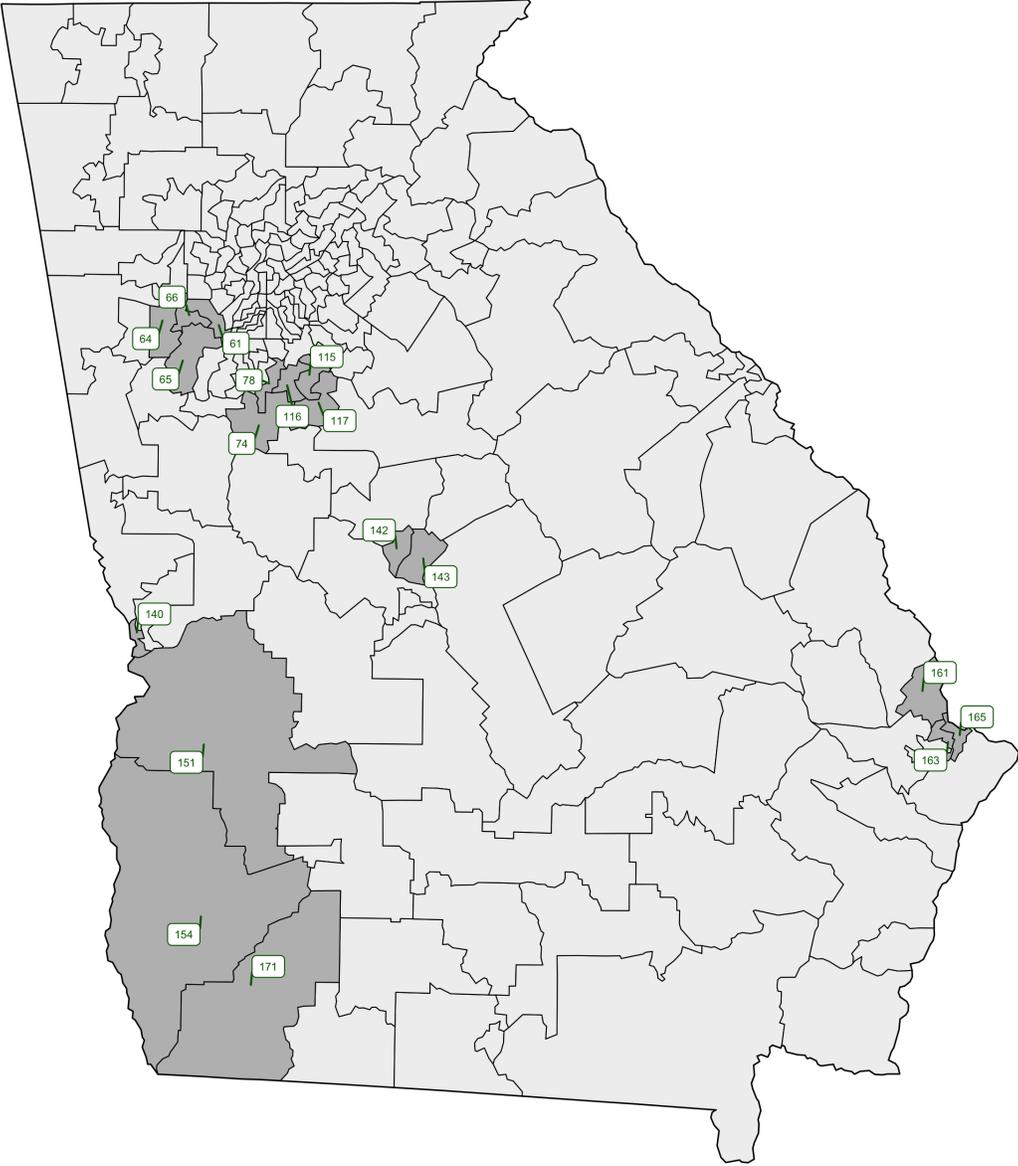


Figure 13: Map of Focus State House Districts

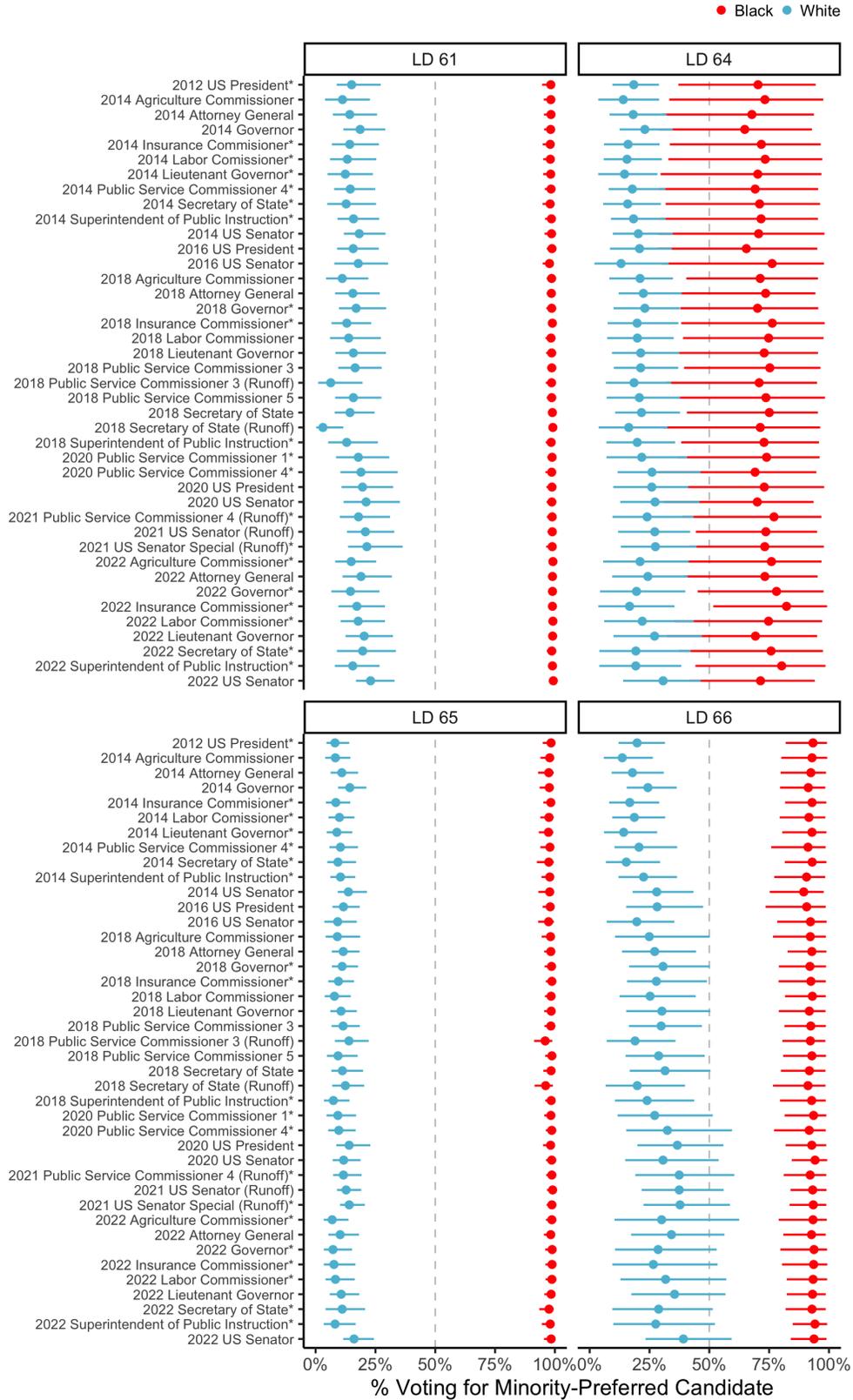


Figure 14: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

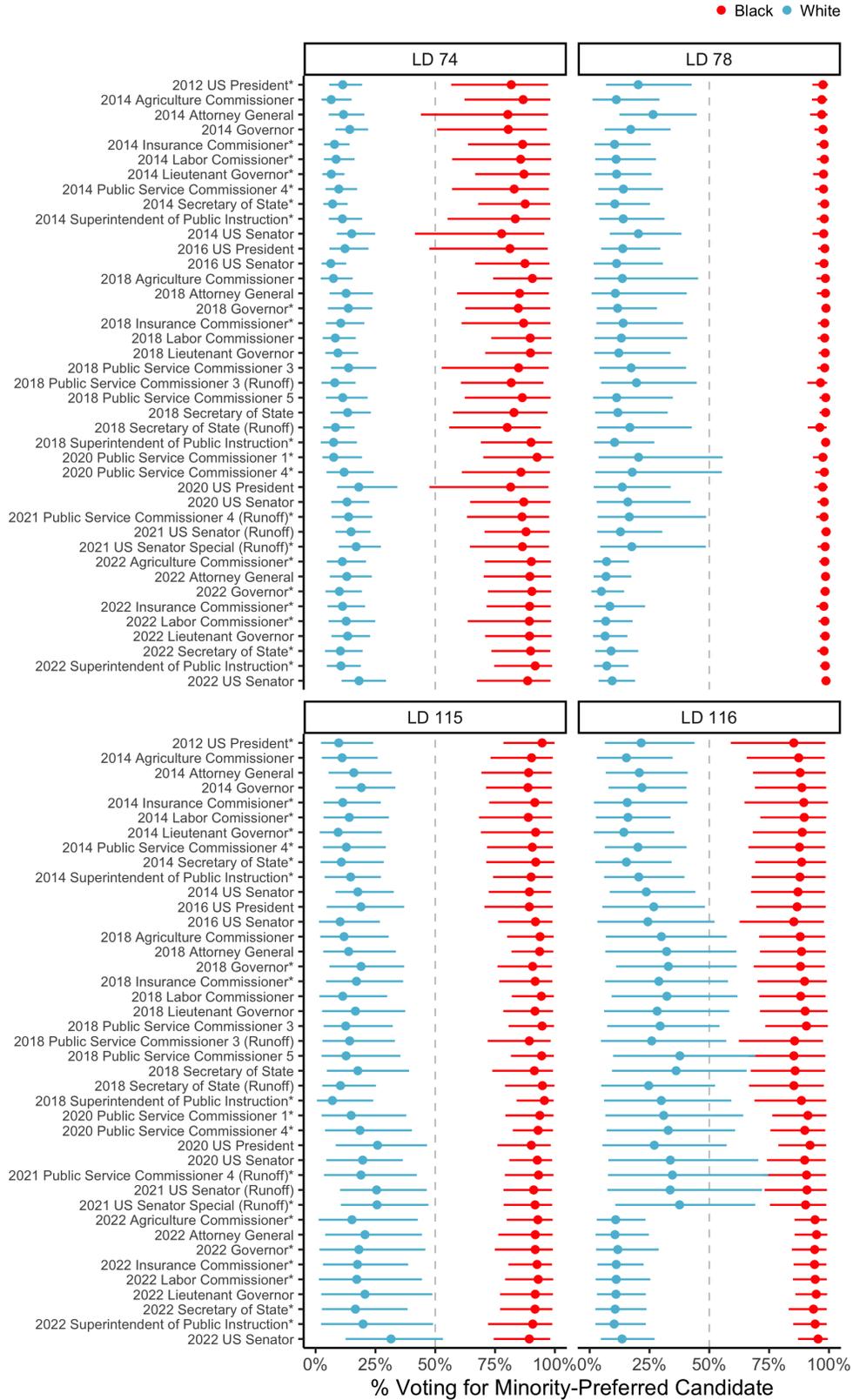


Figure 15: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)



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)

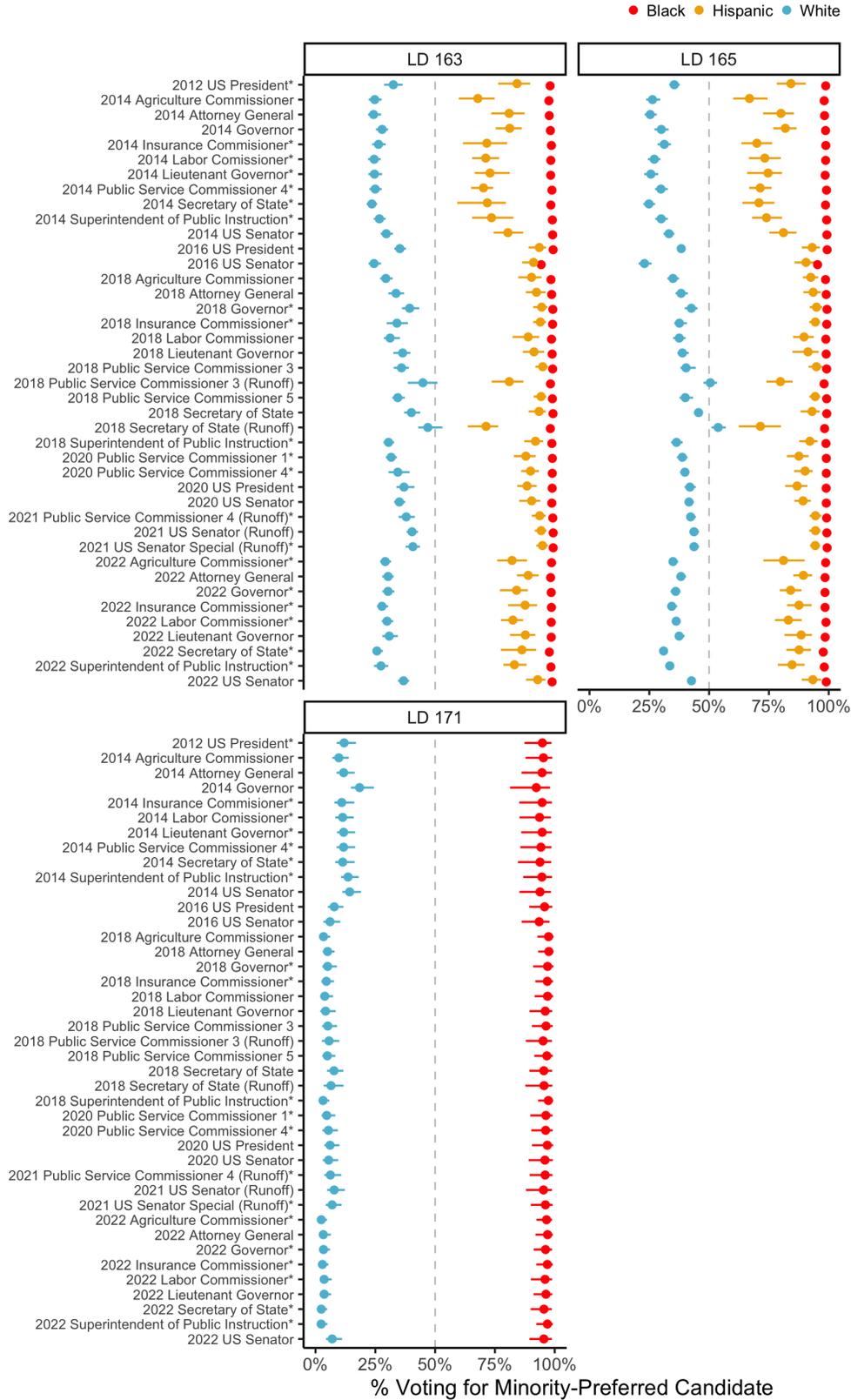


Figure 18: Ecological Inference Results — State House Districts (Historical Elections, Two-Party Vote Shares)

## Clusters

50. I have also been asked to examine the extent of RPV in geographic clusters that were used as the starting point for drawing the plaintiffs' illustrative maps. Appendix Figure 30 depicts the geographic clusters given to me for the state Senate map. These clusters partition the state's Senate districts into the following broad geographic areas: Atlanta, East Black Belt, Gwinnett, Northwest, Southeast and Southwest. The plaintiffs' map-drawing expert Moon Duchin has created new illustrative Maps with districts focused in the Atlanta, East Black Belt and Gwinnett clusters. Therefore, I perform an EI analysis pooling the state Senate districts into these clusters. Figure 19 presents the results.

51. Across these clusters, I observe evidence of 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. 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. In fact, the only exceptions are two runoff elections in 2018. In the East Black Belt cluster, Hispanic voters also systematically support the same candidates of choice as Black voters. The estimates for elections before 2016 tend to be more uncertain, with the confidence intervals including the 50% threshold; however,

since 2016 the estimates are more certain and we can conclude that Hispanic voters supported the same candidates of choice as Black voters. Thus, based on the historical elections observed and in particular those since 2016, I conclude that for each of these clusters Black and Hispanic voters vote cohesively for the same candidate of choice and White voters oppose this candidate.

52. I perform a similar exercise for State House districts. Appendix Figure 31 illustrates the geographic starting clusters for the map drawing exercise for state House districts. As before, these clusters partition the state's House districts into the following broad geographic areas: Atlanta, Cobb, DeKalb, East Black Belt, Gwinnett, Southeast and Southwest. Note that though some of the names for these clusters are identical to the cluster names for the state Senate districts, the boundaries differ. Of these clusters, Moon Duchin has drawn new districts focused on the Atlanta, Southwest, East Black Belt and Southeast clusters. As a result, I perform an EI analysis pooling the relevant state House Districts into these clusters. Figure 20 presents the results.

53. Again, I observe evidence of RPV between White and Black voters across all state House clusters I examine. 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.

54. Hispanic voters join Black voters in supporting the same candidate of choice in each cluster. In Atlanta, this is true for all past statewide elections pitting a minority candidate against a non-minority candidate, with the confidence intervals never overlapping with the 50% threshold for these elections. For the

other House clusters, while there are some uncertainties, my estimates again suggest that Hispanic voters supported the same candidates as Black voters in all of the past statewide elections that I examine.

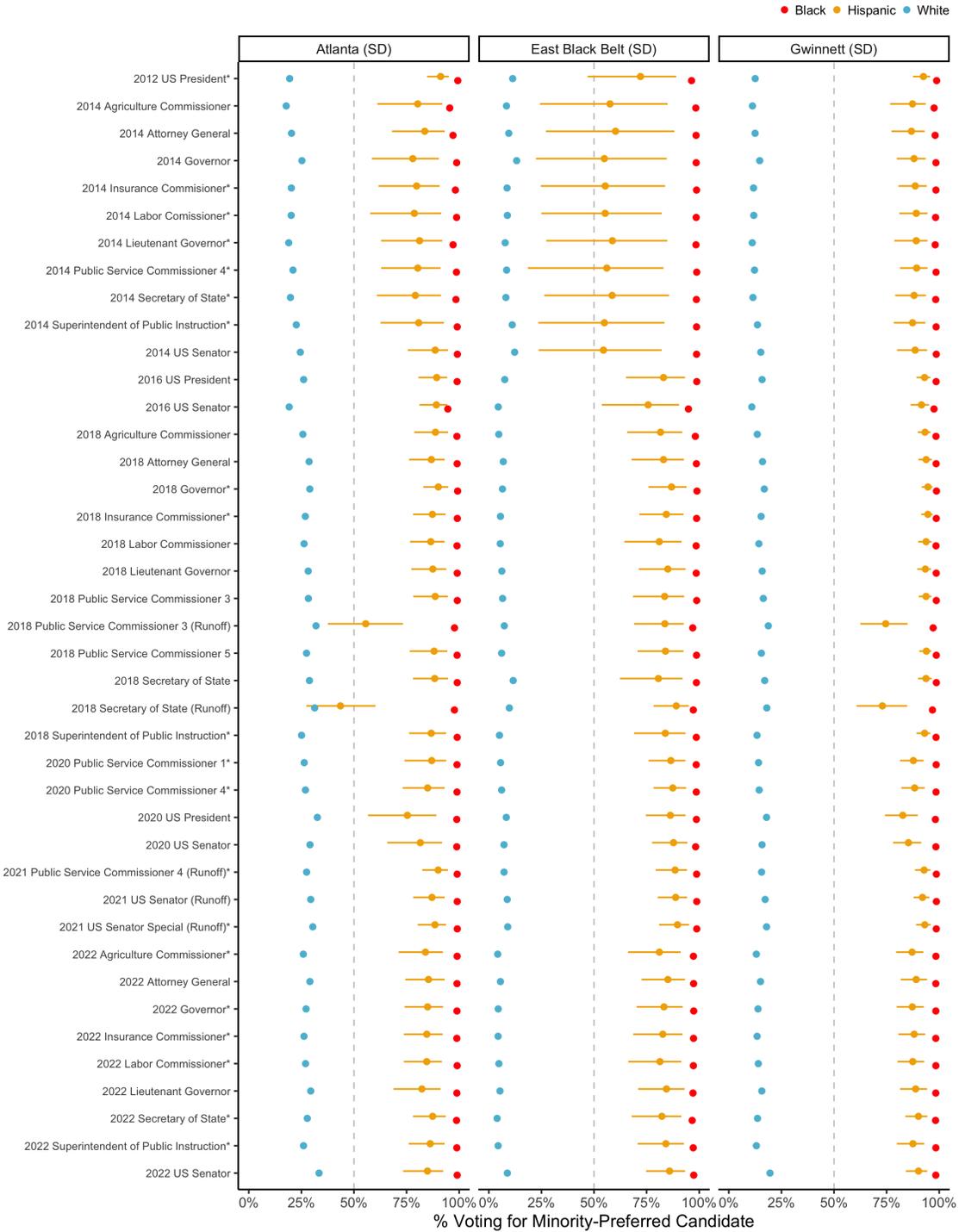


Figure 19: Ecological Inference Results — State Senate Clusters (Historical Elections, Two-Party Vote Shares)



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

## Performance Analysis of Enacted Districts

55. I now examine the electoral performance of the enacted congressional districts along with the focus enacted state Senate and enacted state House districts. The previous analysis established that in Georgia, in those instances where one minority candidate runs for office and there is racially polarized voting, the candidate of choice for minority voters has historically been the minority candidate. As a result, I use historical election data to examine whether the enacted districts appear to offer minority voters an opportunity to elect their candidates of choice.

### Congressional Districts

56. Table 2 presents the 2020 and 2022 share of the electorate for each minority group under consideration, along with several key summary statistics for district-wide electoral performance. To analyze district performance in terms of the ability to elect minority-preferred candidates, I examine the 20 statewide elections considered in this report in which a racial minority candidate ran against a non-minority candidate since 2012. Table 10 in the Appendix denotes these elections with a star and reports the names of these candidates. I report the mean two-party minority-preferred candidate vote share across all elections with a minority candidate that I examined. I also report the lowest vote share received by a minority candidate, in order to provide a sense of a lower bound of electoral performance. Finally, based on the historical elections, I report the share of elections in which minority candidates would have earned a

majority of the two-party vote in the district, along with the share of elections in which minority candidates would have earned over 55% of the vote, which is a conventional cutoff used in voting rights litigation to indicate a safer district.

57. In CDs 4 and 13, Black voters comprise a majority (or near-majority) of the electorate and, based on historical elections, these voters would be able to elect their candidates of choice if conditions in the districts remain similar. Minority-preferred candidates earned a majority of the two-party vote share in each election I examined for these districts, and the vote share surpassed 55% in every election in CDs 4 and 13.

58. In CDs 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: the minority-preferred candidate did not win in **any** of the historical elections I examine for these districts.

59. CD 7 is a multi-racial district in which no one racial group comprises a majority of the electorate. Based on historical elections, minority candidates in these statewide elections would have received a majority in the district 65.0% of the time. Candidates won “safely” (e.g., over 55% of the vote) at the same rate. Given the demographic composition of the district, and the fact that the previous RPV analysis showed strong evidence of Black voters cohesively supporting minority candidates, this is a district that could perform more strongly than it does as drawn (in terms of allowing minority voters to elect their candidates of choice).

60. CD 2 is split close to evenly between Black and White voters. In 2022, White voters comprised 56% of the electorate, and Black voters comprised 37%. Black voters retained the ability to elect candidates of choice in this district, with that candidate winning every statewide election I examined in this district.

61. CD 5 did not exhibit RPV in the previous analysis. White voters have historically voted along with minority voters to select minority voters' candidates of choice.

62. Overall, then, minority voters have a very strong chance of electing preferred candidates in three of fourteen congressional districts (CDs 4, 5 and 13). Minority voters have a chance of electing minority candidates slightly more than half the time in CDs 2 and 7. Finally, based on historical elections, minority voters have close to no chance of electing preferred candidates in the remaining nine congressional districts.

Table 2: Performance Analysis (Elections with a Minority Candidate), Enacted CDs

CD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
1	24.3%	23.5%	2.0%	1.6%	41.0%	39.0%	0.0%	0.0%
2	44.6%	36.9%	1.3%	0.9%	51.7%	44.4%	70.0%	25.0%
3	18.8%	23.2%	1.9%	1.8%	32.9%	28.1%	0.0%	0.0%
4	50.9%	46.7%	2.5%	2.1%	74.1%	69.0%	100.0%	100.0%
5	40.4%	38.2%	2.4%	2.3%	79.0%	73.9%	100.0%	100.0%
6	7.3%	7.2%	3.5%	3.2%	33.1%	24.1%	0.0%	0.0%
7	29.3%	27.4%	7.5%	5.5%	54.1%	43.4%	65.0%	60.0%
8	25.0%	24.0%	1.5%	0.9%	33.6%	31.3%	0.0%	0.0%
9	8.5%	9.7%	4.7%	3.3%	26.2%	21.4%	0.0%	0.0%
10	18.6%	17.9%	2.3%	2.0%	34.6%	30.8%	0.0%	0.0%
11	14.6%	13.4%	4.0%	3.2%	35.6%	28.1%	0.0%	0.0%
12	31.7%	28.1%	1.5%	1.3%	41.1%	37.5%	0.0%	0.0%
13	63.7%	63.4%	3.3%	2.4%	77.7%	71.8%	100.0%	100.0%
14	13.1%	14.0%	3.8%	2.4%	29.5%	27.8%	0.0%	0.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given congressional district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

## State Senate Districts

63. In the state Senate districts under consideration, there appears to be only a handful of competitive districts. Most either offer no chance for the election of minority-preferred candidates or are, on the other hand, clear minority majority districts. Based 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. Conversely, in SDs 22, 26, 34, 35, 41, 43, 44 and 55 the minority-preferred candidate would have won in all past elections I examine.

64. SDs 9 and 40 are the only focus districts with some evidence of possibly meaningful electoral competition. SD 9 is a multi-racial district that has elected minority voters' candidates of choice slightly more than half of the time. SD 40, a district with a majority White electorate, has performed similarly in past elections.

Table 3: Performance Analysis (Elections with a Minority Candidate), Enacted SDs

SD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
9	28.5%	28.8%	7.4%	5.9%	51.6%	38.8%	65.0%	60.0%
16	18.0%	26.3%	1.9%	1.9%	33.8%	26.8%	0.0%	0.0%
17	26.2%	24.4%	1.8%	1.7%	35.1%	29.3%	0.0%	0.0%
22	55.3%	51.8%	1.5%	1.2%	66.5%	62.6%	100.0%	100.0%
23	31.8%	26.1%	1.6%	1.4%	38.6%	34.0%	0.0%	0.0%
25	28.8%	27.5%	1.3%	0.8%	37.9%	35.6%	0.0%	0.0%
26	54.5%	44.3%	0.9%	0.8%	60.6%	52.3%	100.0%	70.0%
28	15.0%	24.8%	2.4%	1.7%	31.3%	24.6%	0.0%	0.0%
34	68.4%	68.6%	3.4%	2.6%	81.7%	76.8%	100.0%	100.0%
35	67.1%	68.5%	2.4%	1.6%	79.2%	71.5%	100.0%	100.0%
40	16.0%	13.9%	5.0%	4.1%	53.6%	42.5%	65.0%	65.0%
41	55.6%	51.1%	2.2%	1.9%	78.7%	73.9%	100.0%	100.0%
43	60.5%	60.1%	1.9%	1.4%	70.2%	62.9%	100.0%	100.0%
44	68.3%	67.3%	2.9%	2.2%	86.2%	82.1%	100.0%	100.0%
55	61.5%	58.6%	3.2%	2.3%	74.9%	69.0%	100.0%	100.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

## State House Districts

65. Based on historical elections, the candidate preferred by minority voters would not have won in any election I examine between 2012 and 2022 in LDs 16, 17, 23, 25 and 28. Conversely, in LDs 22, 26, 34, 35, 41, 43, 44 and 55 the minority-preferred candidate would have won in all past elections I examine.

66. LDs 115, 117, 151 and 154 are the only (possibly) competitive districts among the examined state House districts. The electorate for LD 151 is split roughly evenly between White and Black voters. Based on historical elections, the minority candidate of choice would have garnered a majority of the vote in this district in 65.0% of historical elections I examine. However, this does not appear to be a safe district by any means. In only 5.0% of elections was the margin at the level to call the district safe (e.g., over 55% of the two-party vote).

67. In LD 117, based on historical elections, minority voters are just now beginning to be able to elect minority-preferred candidates. Only in the three 2021 runoff elections and the 2022 general elections did minority candidates garner more than half the vote in this district, and in no cases was the margin of victory safe for the candidate of choice.

68. LDs 115 and 154 each offer minority voters the opportunity to elect minority candidates a bit more than half of the time based on historical elections.

Table 4: Performance Analysis (Elections with a Minority Candidate), Enacted LDs

LD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
61	70.6%	74.9%	2.1%	1.1%	84.3%	78.9%	100.0%	100.0%
64	26.8%	27.3%	3.2%	3.2%	38.0%	30.6%	0.0%	0.0%
65	54.2%	53.4%	1.8%	1.4%	67.5%	62.8%	100.0%	100.0%
66	50.9%	52.7%	3.3%	2.4%	63.5%	52.7%	100.0%	75.0%
74	21.2%	23.1%	2.2%	1.9%	32.6%	25.9%	0.0%	0.0%
78	67.9%	63.4%	3.2%	2.4%	78.4%	73.9%	100.0%	100.0%
115	45.5%	47.4%	2.7%	2.0%	55.8%	45.8%	65.0%	65.0%
116	52.5%	45.1%	2.9%	2.0%	59.5%	50.4%	100.0%	65.0%
117	34.5%	35.4%	2.4%	1.6%	42.8%	32.5%	10.0%	0.0%
140	58.6%	59.2%	2.4%	1.1%	75.2%	70.3%	100.0%	100.0%
142	53.9%	51.2%	0.8%	0.6%	62.0%	56.8%	100.0%	100.0%
143	58.3%	57.0%	0.9%	0.7%	70.2%	67.6%	100.0%	100.0%
151	44.3%	29.7%	0.9%	0.8%	46.8%	35.4%	65.0%	5.0%
154	49.8%	42.5%	0.4%	0.3%	52.5%	44.5%	70.0%	45.0%
161	22.4%	19.5%	3.1%	2.3%	34.1%	27.9%	0.0%	0.0%
163	42.8%	39.3%	1.8%	1.4%	67.4%	60.4%	100.0%	100.0%
165	54.5%	29.5%	1.2%	1.2%	72.0%	57.1%	100.0%	100.0%
171	32.4%	29.5%	1.0%	0.6%	38.0%	33.3%	0.0%	0.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given State House district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

## **EI Analysis of Illustrative Districts**

69. I now turn to an EI analysis of the Illustrative Maps drawn by the plaintiffs' map-drawing expert Moon Duchin.

### **Congressional Districts**

70. I have been instructed to analyze all congressional districts for RPV between Black and White voters in the Illustrative Map drawn by Moon Duchin. Appendix Figure 32 depicts the map of these illustrative districts.

71. Figures 21-25 report the results for my EI analysis. The results are quite straightforward. Illustrative CD 4 does not exhibit evidence of RPV between Black and White voters. In all other districts, 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.

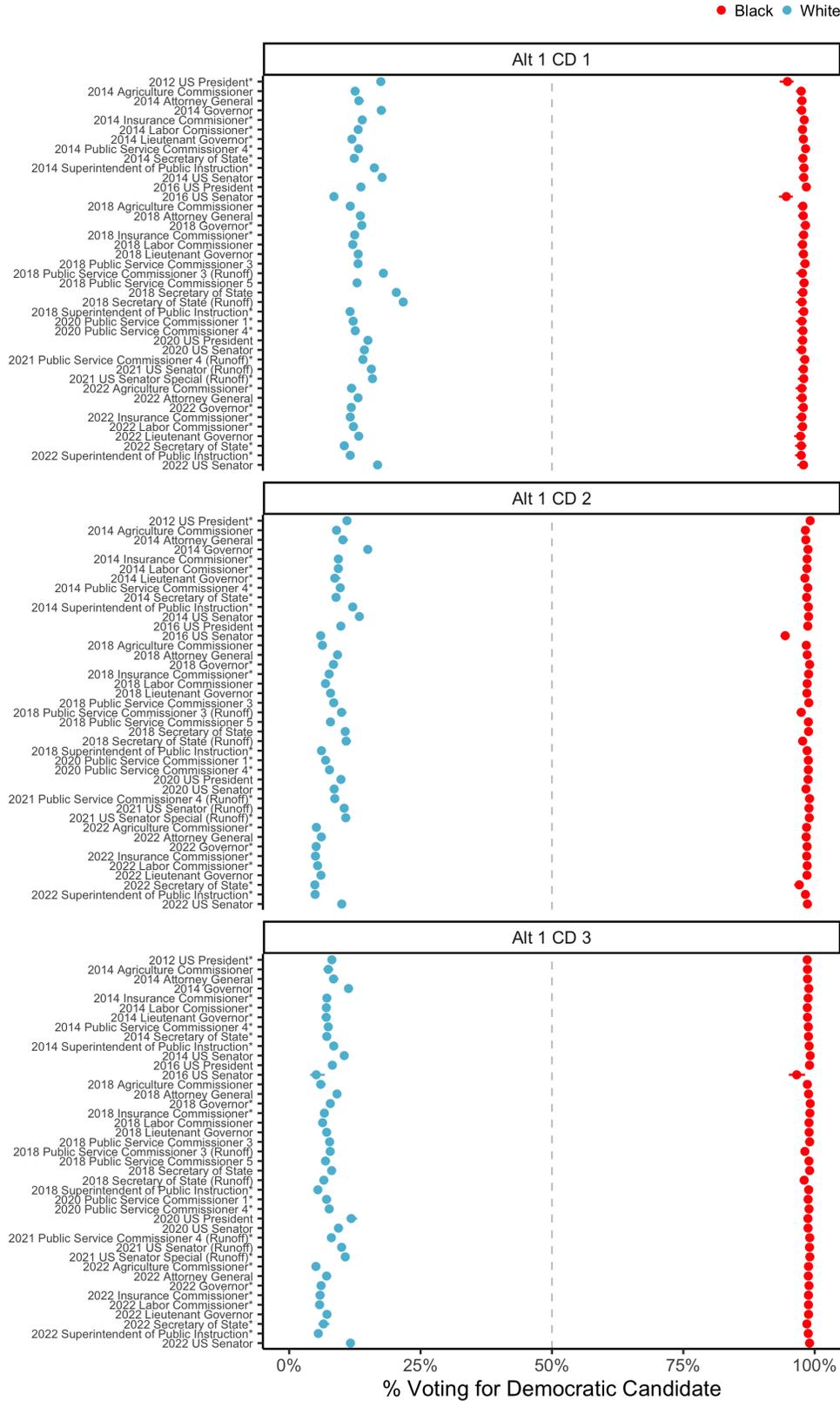


Figure 21: Ecological Inference Results — Illustrative Congressional Districts (Historical Elections, Two-Party Vote Shares)

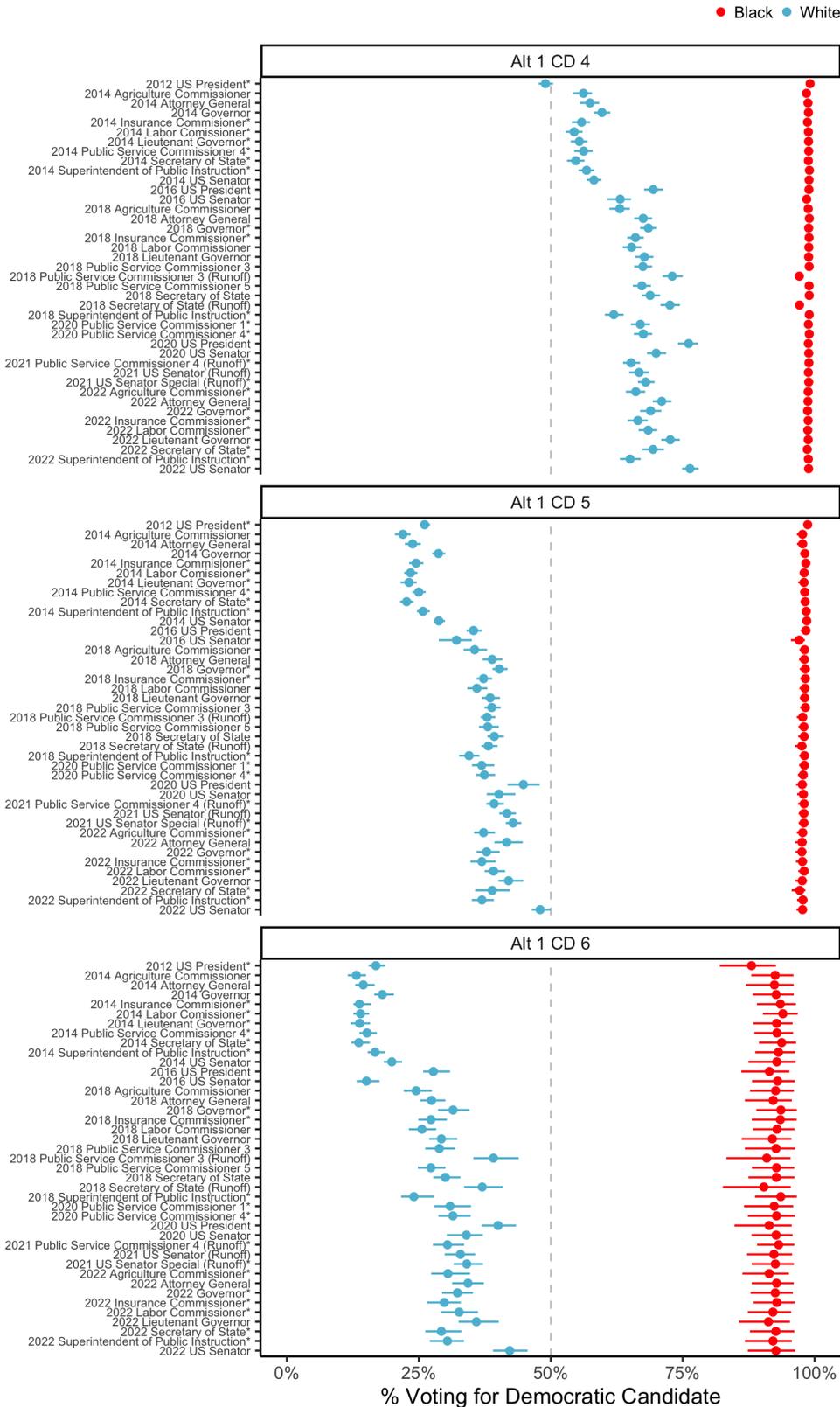


Figure 22: Ecological Inference Results — Illustrative Districts (Historical Elections, Two-Party Vote Shares)

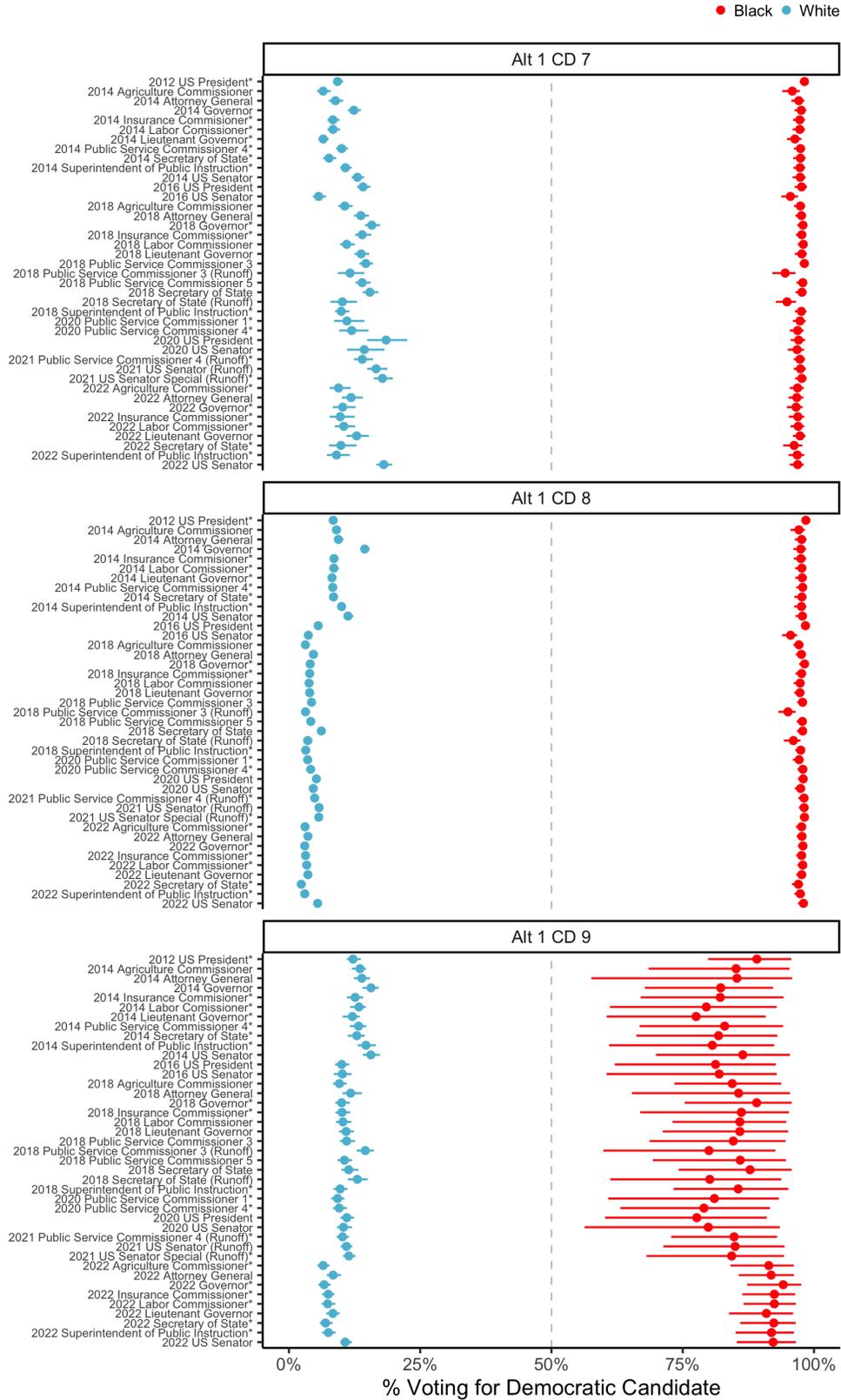


Figure 23: Ecological Inference Results — Illustrative Congressional Districts (Historical Elections, Two-Party Vote Shares)

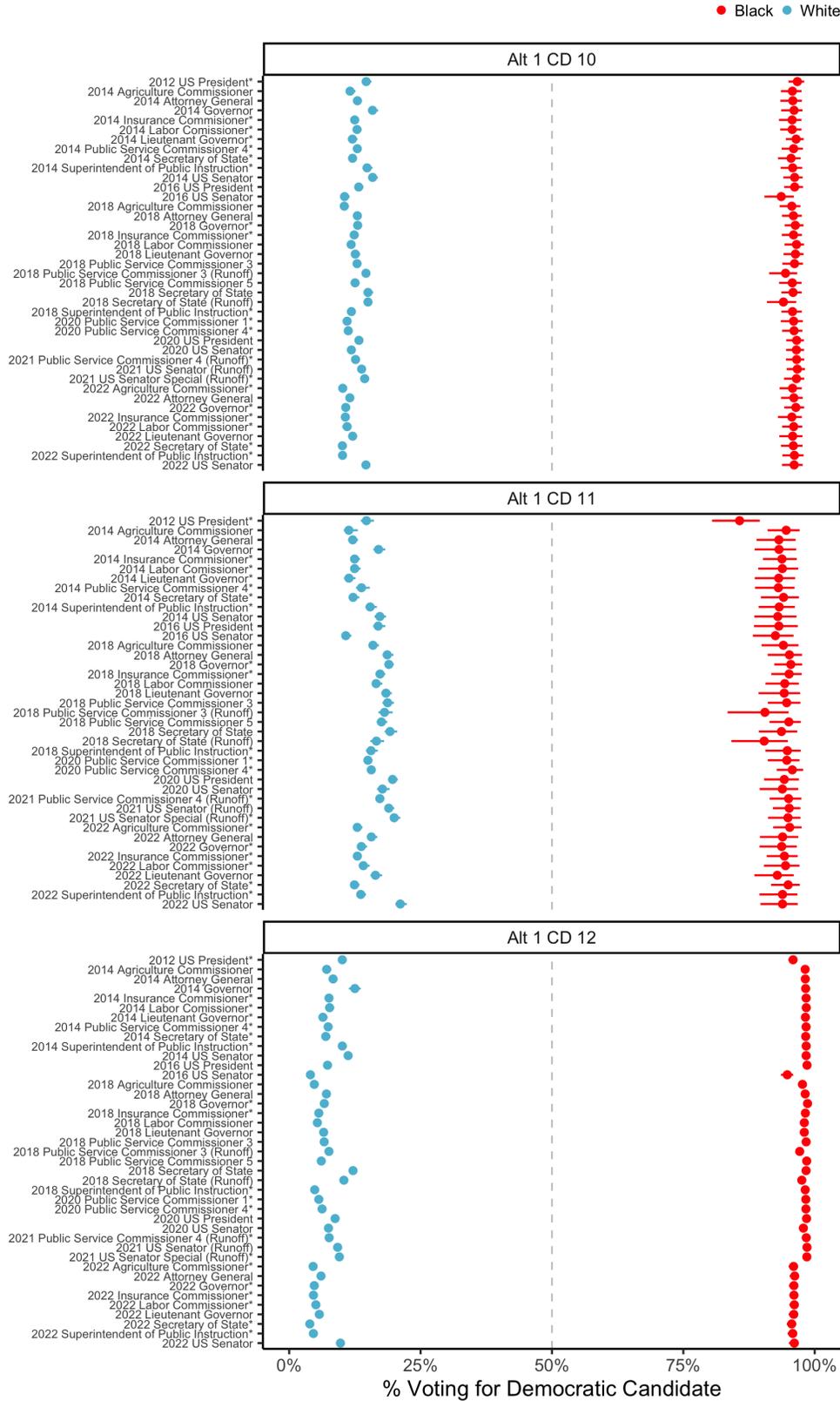


Figure 24: Ecological Inference Results — Illustrative Congressional Districts (Historical Elections, Two-Party Vote Shares)



Figure 25: Ecological Inference Results — Illustrative Congressional Districts (Historical Elections, Two-Party Vote Shares)

## State Senate Districts

72. I consider two Illustrative Maps of alternative State Senate Districts, and I apply the same methods of ecological inference as for the enacted map. Appendix Figures 33 and 34 depict the Illustrative State Senate maps, with the districts I have been instructed to focus upon highlighted.

73. I have been instructed to examine RPV for Black versus White voters in Illustrative Map 1 SDs 16, 17, 25, 28 and 40. I have been instructed to examine RPV for Black and Hispanic versus White voters in Illustrative Map 2 SDs 16 and 23.

74. Figure 26 reports the EI results for Illustrative State Senate Map 1, and Figure 27 reports the results for Illustrative State Senate Map 2.

75. For Map 1, I observe evidence of RPV between Black and White voters across all past statewide elections with a minority candidate running for SDs 16, 17, 25 and 28. In Illustrative Map 1 SD 40, I observe RPV 50% of the time in elections where a minority candidate ran. Furthermore, I observe evidence of RPV between Black and White voters in a majority (though not all) of elections with a minority-preferred candidate running.

76. For Map 2, I observe evidence of RPV with Black and Hispanic voters supporting minority candidates and White voters opposing them across all past statewide elections with a minority candidate running. When a minority candidate does not run, Black and Hispanic voters support the same minority-preferred candidate and White voters oppose this candidate.

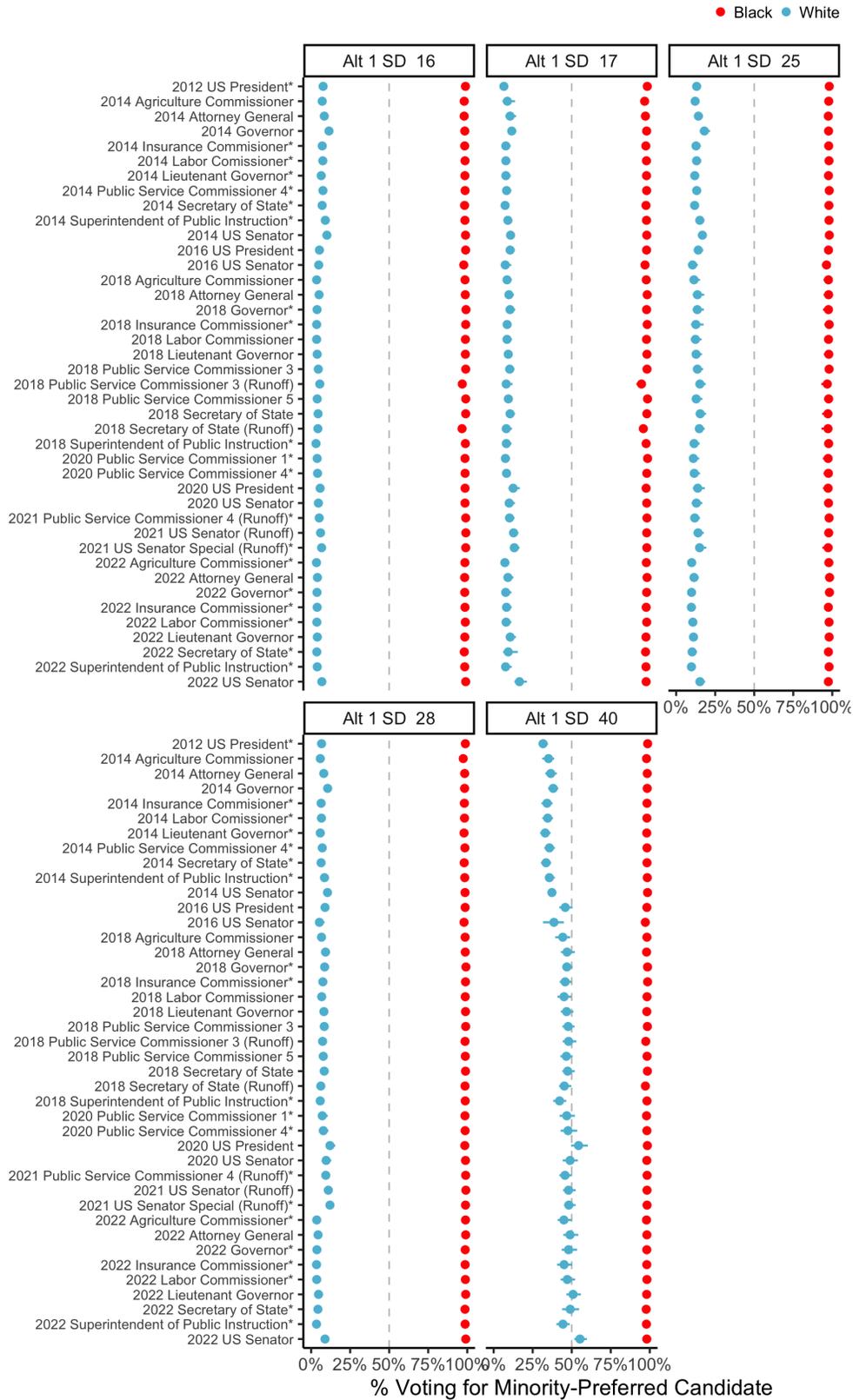


Figure 26: Ecological Inference Results — Illustrative Map 1 State Senate Districts (Historical Elections, Two-Party Vote Shares)

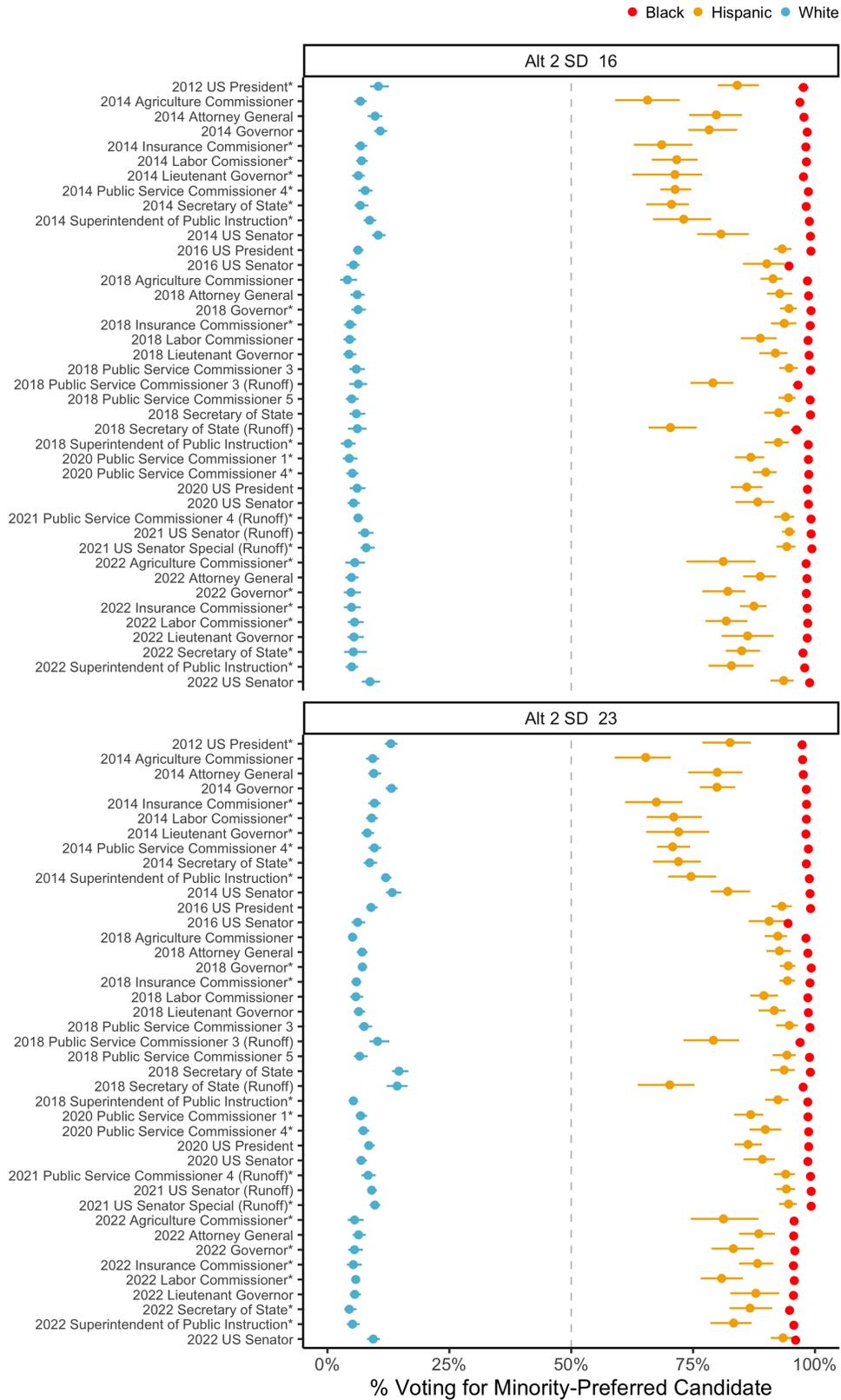


Figure 27: Ecological Inference Results — Illustrative Map 2 State Senate Districts (Historical Elections, Two-Party Vote Shares)

## State House Districts

77. I also consider two Illustrative Maps of alternative State House Districts, and I apply the same methods of ecological inference as I did for the enacted map. Appendix Figures 35 and 36 depict the Illustrative State House maps, with the districts I have been instructed to focus upon highlighted.

78. I have been instructed to examine RPV for Black versus White voters in Illustrative Map 1 LDs 64, 74, 117, 144, 151 and 171 and for Black, Hispanic and White voters in Illustrative Map 1 LD 161. For Illustrative Map 2, I have been instructed to examine RPV for Black versus White voters in LDs 64, 117 and 144 and for Black, Hispanic and White voters in LD 161.

79. Figure 28 reports the results for Illustrative State House Map 1, and Figure 29 reports the results for Illustrative State House Map 2.

80. For Illustrative Map 1, I observe evidence of RPV between Black and White voters in all districts I have been asked to examine. Furthermore, in Illustrative Map 1 LD 161, where I also examine the behavior of Hispanic voters, I again observe RPV with Black and Hispanic voters supporting minority candidates and White voters opposing them.

81. For Illustrative Map 2, I again observe evidence of RPV between Black and White voters in all districts I examine. In LD 64, this occurs in every election. In LD 117, occasionally the confidence intervals on the estimates are wide enough to cross the 50% threshold but nonetheless, but even accounting for this Black voters support a minority candidate and White voters oppose them

in 95% of these elections. Similarly, in LD 144, Black voters support a minority candidate and White voters oppose them (with the confidence intervals on the estimates not overlapping with the 50% threshold) in 95% of such elections. Finally, in SD 161, I observe RPV with Black and Hispanic voters supporting a minority or minority-preferred candidate and White voters opposing them in all past elections that I study.

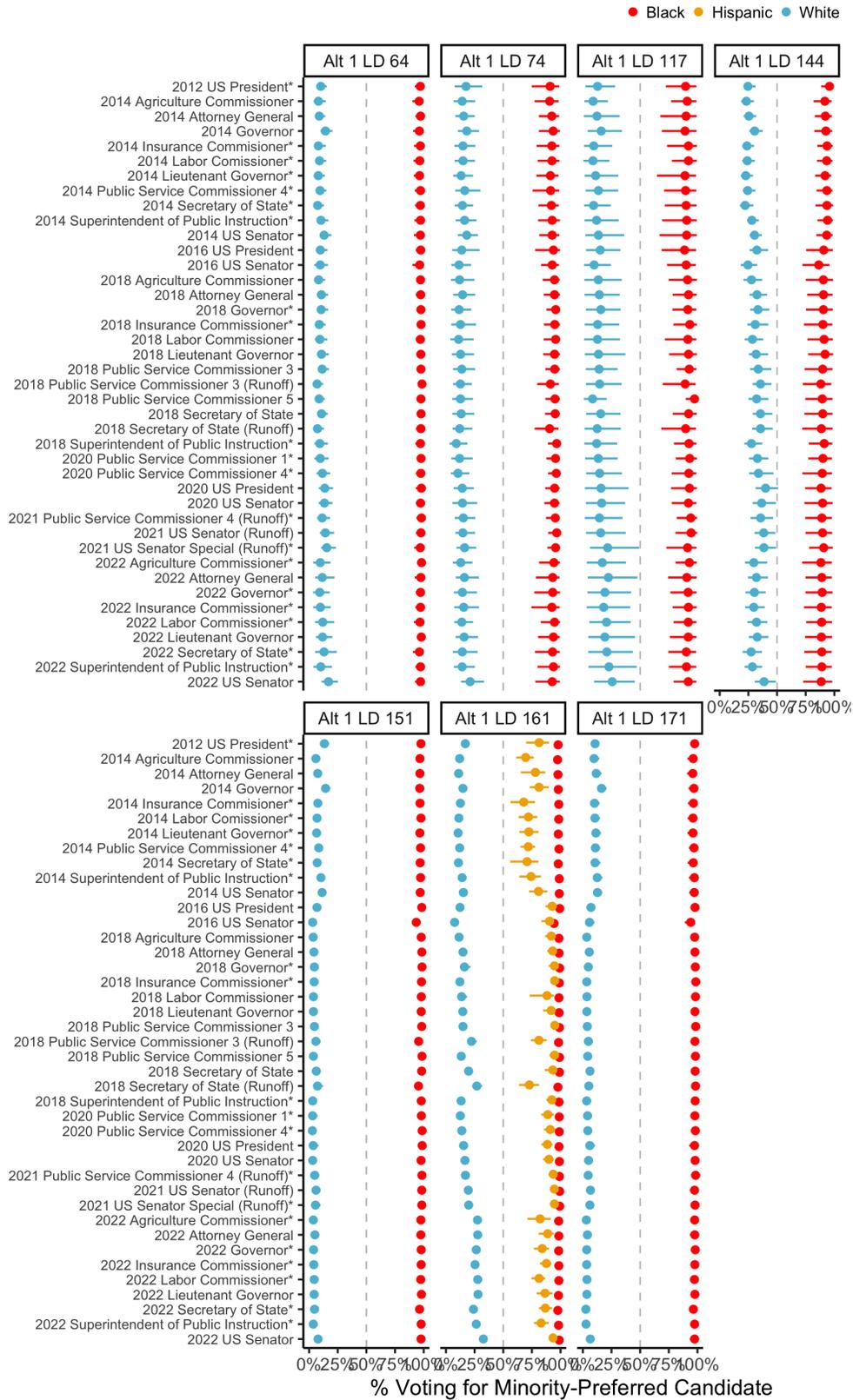


Figure 28: Ecological Inference Results — Illustrative Map 1 State House Districts (Historical Elections, Two-Party Vote Shares)

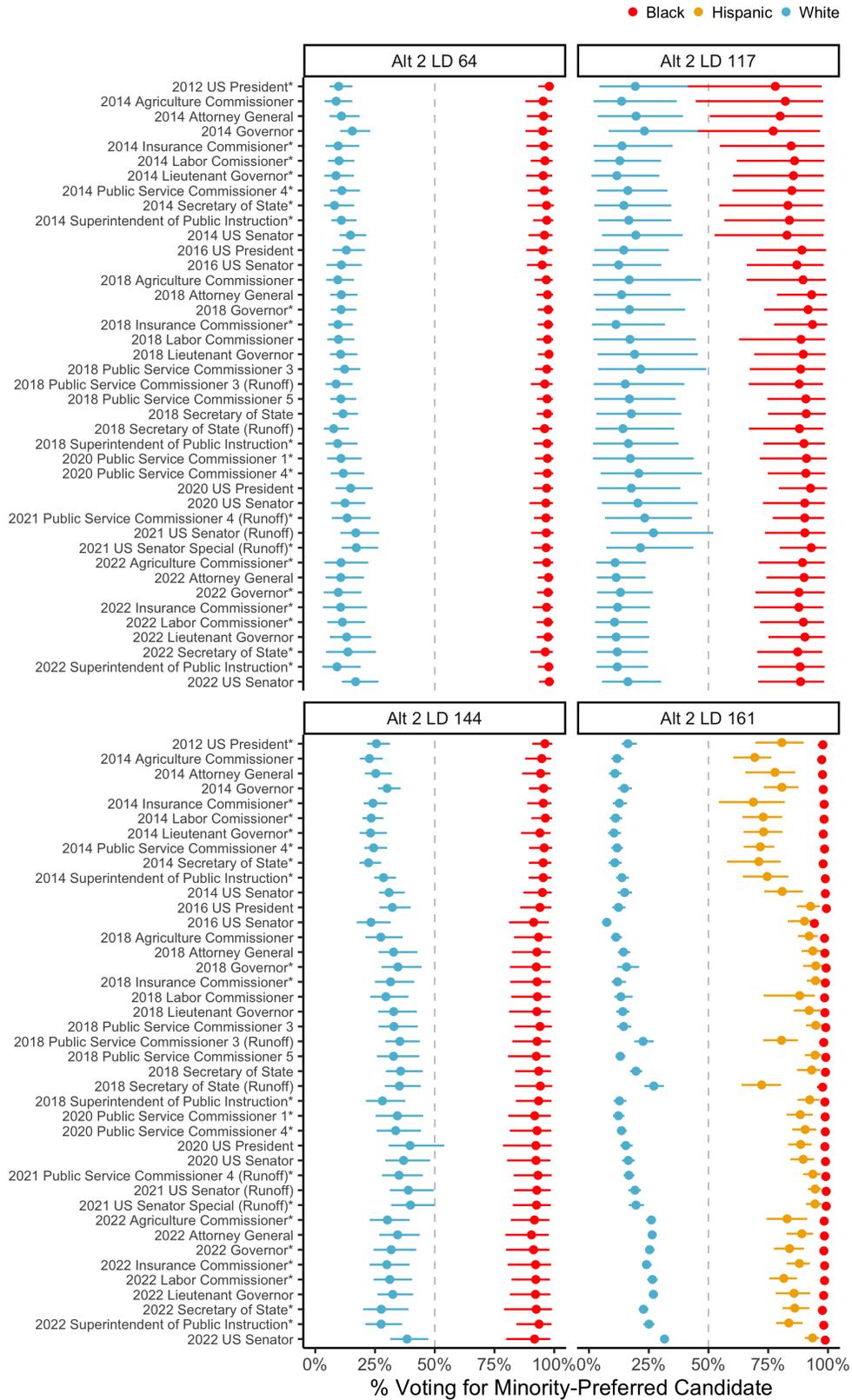


Figure 29: Ecological Inference Results — Illustrative Map 2 State House Districts (Historical Elections, Two-Party Vote Shares)

## Performance Analysis of Illustrative Districts

82. I now turn to a performance analysis of the districts contained in the Illustrative Maps. To examine the performance of minority candidates in the Illustrative Maps, I examine the extent to which minority candidates have earned votes in past elections in the relevant districts. As before, I have determined the average vote share among minority candidates in each district, the minimum vote share earned by a minority candidate, the share of past elections a minority candidate won in each district, and the share of elections the minority candidate won safely (e.g., over 55% of the vote). I again draw upon the 20 statewide elections in which a racial minority candidate ran against a non-minority candidate since 2012. Table 10 in the Appendix denotes these elections with a star and reports the names of these candidates.

### Congressional Districts

83. Table 5 presents the 2020 and 2022 share of the electorate for each minority group under consideration, along with the key summary statistics for district-wide electoral performance in the Illustrative congressional map.

84. Compared to the enacted map, there is one major difference and two slight differences. In the Illustrative Map, CD 3, which now reaches from the western part of the state into the Metro Atlanta area, becomes a district that performs in terms of the ability to elect minority candidates of choice. In the previous map, minority candidates never won an election in the district. In the

Illustrative Map, minority candidates now would have earned a majority in all past elections in which they ran.

85. Second, CDs 6 and 7 now provide a slightly stronger ability to elect minority candidates based on past elections. The share of past elections won by a minority candidate increased by 5% in CD 6 and by 15% in CD 7, compared to the enacted map. On the other hand, CDs 2 and 13 become more competitive, with CD 2 in particular now registering a safe victory for minority candidates in only a small share of past elections.

86. Overall, then, the Illustrative Map grants minority voters a very strong chance of electing preferred candidates in four of fourteen congressional districts (CDs 3, 4, 5 and 13). Minority voters still have a good chance of electing minority candidates in CDs 2 and 7, though with CD 2 considerably more competitive than in the enacted congressional map. Finally, based on historical elections, minority voters have a low chance of electing preferred candidates in the remaining congressional districts.

Table 5: Performance Analysis (Elections with a Minority Candidate), Illustrative Map CDs

CD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
1	25.8%	24.2%	2.0%	1.6%	42.0%	39.6%	0.0%	0.0%
2	42.6%	35.4%	1.3%	1.0%	50.1%	43.7%	70.0%	5.0%
3	43.9%	46.4%	2.2%	1.7%	58.7%	54.3%	100.0%	95.0%
4	45.0%	42.5%	2.4%	2.2%	80.7%	76.0%	100.0%	100.0%
5	45.2%	44.1%	4.1%	3.2%	71.0%	63.8%	100.0%	100.0%
6	11.1%	10.4%	3.9%	3.3%	42.0%	31.0%	5.0%	0.0%
7	34.8%	33.4%	8.3%	6.0%	57.8%	48.0%	80.0%	65.0%
8	21.5%	21.8%	1.5%	1.0%	30.4%	28.4%	0.0%	0.0%
9	2.8%	4.6%	3.3%	2.5%	19.8%	15.7%	0.0%	0.0%
10	14.0%	13.4%	2.6%	2.1%	30.9%	28.0%	0.0%	0.0%
11	14.0%	13.3%	3.2%	2.8%	34.0%	27.1%	0.0%	0.0%
12	34.8%	30.9%	1.6%	1.3%	44.5%	40.8%	0.0%	0.0%
13	47.2%	45.0%	2.2%	1.7%	56.8%	51.5%	100.0%	65.0%
14	5.5%	6.4%	3.8%	2.5%	23.5%	21.6%	0.0%	0.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a congressional district from the Illustrative Map along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

## State Senate Districts

87. The tables below report the performance of the State Senate districts that I have analyzed under Illustrative Map 1 and 2. In Map 1, minority candidates win all past elections in SDs 16, 25, 28 and 40 and a strong majority of past elections in SDs 17. Several of these districts are relatively competitive, with the minority candidate winning by a narrow margin (e.g., less than 55%) at least a third of the time in SDs 17, 25 and 28.

88. In Map 2, minority candidates win all past elections in SD 16 and a majority of past elections in SD 23. Each district is relatively competitive, with the minority candidate earning less than 55% of the vote share 35% of the time in SD 16 and 80% of the time in SD 23.

89. To sum up, in the Illustrative State Senate Maps, minority-preferred candidates won more than half the time in every district I examine. This performance contrasts with the enacted Senate Districts I have examined, where minority candidates won more than half the time in 67% of districts.

Table 6: Performance Analysis (Elections with a Minority Candidate), Illustrative Map 1 SDs

SD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
16	45.2%	46.6%	1.9%	1.7%	56.4%	52.3%	100.0%	75.0%
17	44.1%	45.3%	2.6%	2.1%	57.8%	49.3%	90.0%	65.0%
25	43.0%	42.7%	1.3%	0.8%	53.4%	50.9%	100.0%	15.0%
28	43.5%	49.5%	2.3%	1.4%	58.8%	51.9%	100.0%	65.0%
40	49.4%	46.9%	3.9%	3.0%	75.6%	69.2%	100.0%	100.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given Illustrative Map 1 State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

Table 7: Performance Analysis (Elections with a Minority Candidate), Illustrative Map 2 SDs

SD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
16	44.1%	45.7%	1.9%	1.8%	55.4%	50.7%	100.0%	65.0%
23	45.7%	40.5%	0.9%	0.8%	52.4%	46.4%	70.0%	20.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given Illustrative Map 2 State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

## State House Districts

90. The tables below report the performance of the State House districts that I have analyzed under Illustrative Map 1 and 2. In Map 1, minority candidates win all past elections in LDs 64, 144 and 161 and a majority of past elections in LDs 74, 117 and 151. Several of these districts are relatively competitive, with the minority candidate winning by a narrow margin (e.g., less than 55%) at least a third of the time in LDs 74, 117, 144 and 151. Finally, LD 171 offers some but by no means an overwhelming chance of electing minority candidates, as in this district minority candidates won 35% of past elections.

91. In Map 2, minority candidates win all past elections in LDs 64, 144 and 161. In LD 117, minority candidates won 35% of past elections.

92. To sum up, in each Illustrative State House Map, minority candidates won more than half the time in every district but one that I examine (86% and 75% of districts, respectively). This performance contrasts with the enacted House Districts I have examined, where minority candidates won more than half the time in 72% of districts.

93. I reserve the right to supplement this report if additional facts, testimony, and/or materials come to light. Pursuant to 28 U.S.C 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed this 13th day of January, 2023 at 11:30pm.

Signature: Ben Schuer

Table 8: Performance Analysis (Elections with a Minority Candidate), Illustrative Map 1 LDs

LD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
64	46.7%	51.2%	2.4%	1.8%	60.3%	53.5%	100.0%	80.0%
74	43.9%	36.2%	2.5%	1.9%	52.9%	48.0%	75.0%	35.0%
117	44.9%	50.5%	3.0%	1.8%	55.5%	45.7%	65.0%	60.0%
144	37.7%	33.7%	1.2%	0.9%	53.6%	50.4%	100.0%	30.0%
151	51.8%	35.5%	1.3%	0.6%	51.5%	39.5%	70.0%	45.0%
161	43.0%	36.7%	3.2%	2.9%	62.0%	57.4%	100.0%	100.0%
171	42.1%	39.2%	0.9%	0.5%	48.0%	42.3%	35.0%	0.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

Table 9: Performance Analysis (Elections with a Minority Candidate), Illustrative Map 2 LDs

LD	Black 2020	Black 2022	Hispanic 2020	Hispanic 2022	Mean M Vote	Min M Vote	M Wins	M Over 55%
64	46.1%	50.5%	2.6%	1.9%	59.8%	53.0%	100.0%	75.0%
117	45.1%	33.6%	2.9%	1.7%	49.3%	42.0%	35.0%	35.0%
144	43.1%	39.5%	1.2%	0.9%	58.2%	54.7%	100.0%	95.0%
161	42.2%	35.4%	3.0%	2.7%	60.5%	56.2%	100.0%	100.0%

Note: This table reports the share of the electorate, based on 2020 and 2022 turnout, of each minority racial group in a given State Senate district along with the mean and minimum minority candidate vote share (labelled M) in the district across statewide elections with a minority candidate since 2012.

# Appendix A

## Additional Tables

Table 10: Statewide Minority-Preferred Candidates

Year	Office	Candidate
2020	2020 Public Service Commissioner 1*	Robert Bryant
2020	2020 Public Service Commissioner 4*	Daniel Blackman
2020	2020 US President	Joe Biden
2020	2020 US Senator	Jon Ossof
2021	2021 Public Service Commissioner 4 (Runoff)*	Daniel Blackman
2021	2021 US Senator (Runoff)	Raphael Warnock
2021	2021 US Senator Special (Runoff)*	Raphael Warnock
2022	2022 US Senator	Raphael Warnock
2022	2022 Governor*	Stacey Abrams
2022	2022 Lieutenant Governor	Charlie Bailey
2022	2022 Secretary of State*	Bee Nguyen
2022	2022 Attorney General	Jen Jordan
2022	2022 Agriculture Commissioner*	Nakita Hemingway
2022	2022 Insurance Commissioner*	Janice Laws Robinson
2022	2022 Labor Commissioner*	William Boddie
2022	2022 Superintendent of Public Instruction*	Alisha Searcy

Note: This table reports the overall minority-preferred candidate based on statewide ecological estimates for the elections considered in this report. A star denotes those offices where a minority candidate is preferred to a non-minority candidate by minority voters statewide.

Table 11: Statewide Minority-Preferred Candidates, Continued

Year	Office	Candidate
2012	2012 US President*	Barack Obama
2014	2014 Agriculture Commissioner	Christopher Irvin
2014	2014 Attorney General	Greg Hecht
2014	2014 Governor	Jason Carter
2014	2014 Insurance Commissioner*	Liz Johnson
2014	2014 Labor Commissioner*	Robbin Shipp
2014	2014 Lieutenant Governor*	Connie Stokes
2014	2014 Public Service Commissioner 4*	Daniel Blackman
2014	2014 Superintendent of Public Instruction*	Valarie Wilson
2014	2014 Secretary of State*	Doreen Carter
2014	2014 US Senator	Michelle Nunn
2016	2016 US President	Hilary Clinton
2016	2016 US Senator	Jim Barksdale
2018	2018 Agriculture Commissioner	Fred Swann
2018	2018 Attorney General	Charlie Bailey
2018	2018 Governor*	Stacey Abrams
2018	2018 Insurance Commissioner*	Janice Laws Robinson
2018	2018 Labor Commissioner	Richard Keatley
2018	2018 Lieutenant Governor	Sarah Riggs Amico
2018	2018 Public Service Commissioner 3	Lindy Miller
2018	2018 Public Service Commissioner 3 (Runoff)	Lindy Miller
2018	2018 Public Service Commissioner 5	Dawn Rudolph
2018	2018 Superintendent of Public Instruction*	Otha Thornton
2018	2018 Secretary of State	John Barrow
2018	2018 Secretary of State (Runoff)	John Barrow

Note: This table reports the overall minority-preferred candidate based on statewide ecological estimates for the elections considered in this report. A star denotes those offices where a minority candidate is preferred to a non-minority candidate by minority voters statewide.

# Additional Maps: Clusters

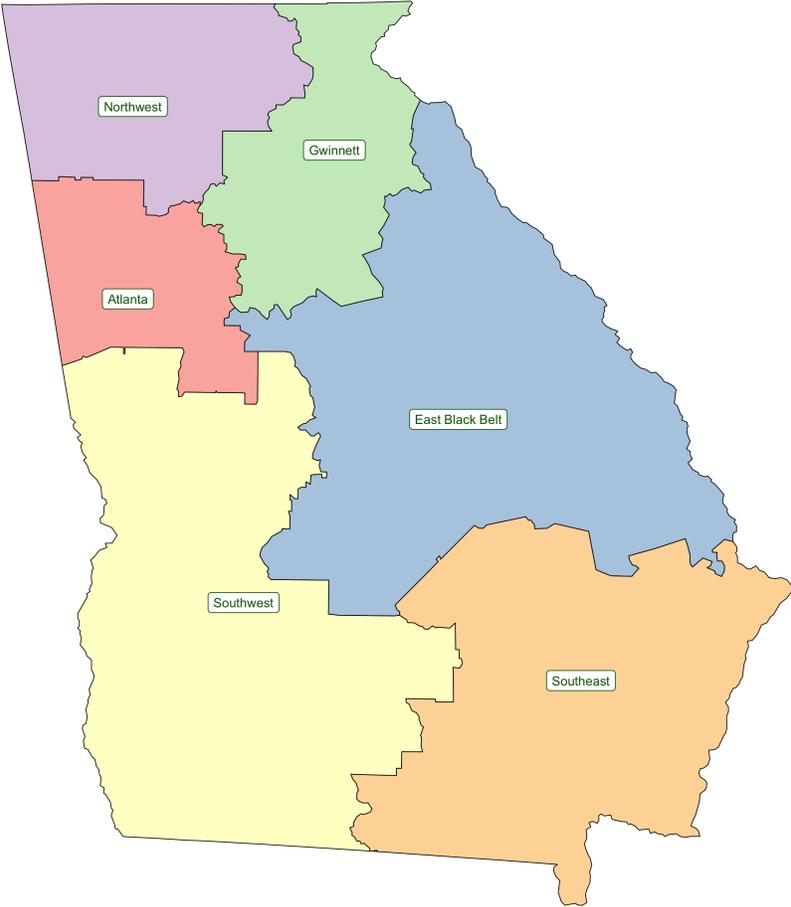


Figure 30: Map of State Senate Clusters

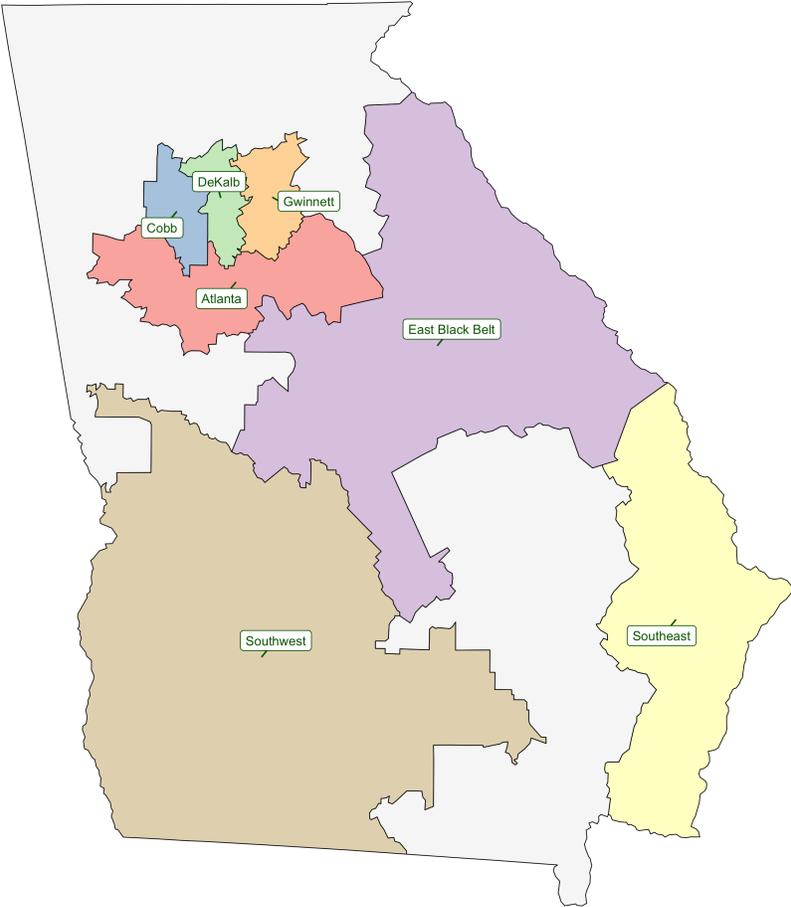


Figure 31: Map of State House Clusters

## Additional Maps: Illustrative Congressional Districts

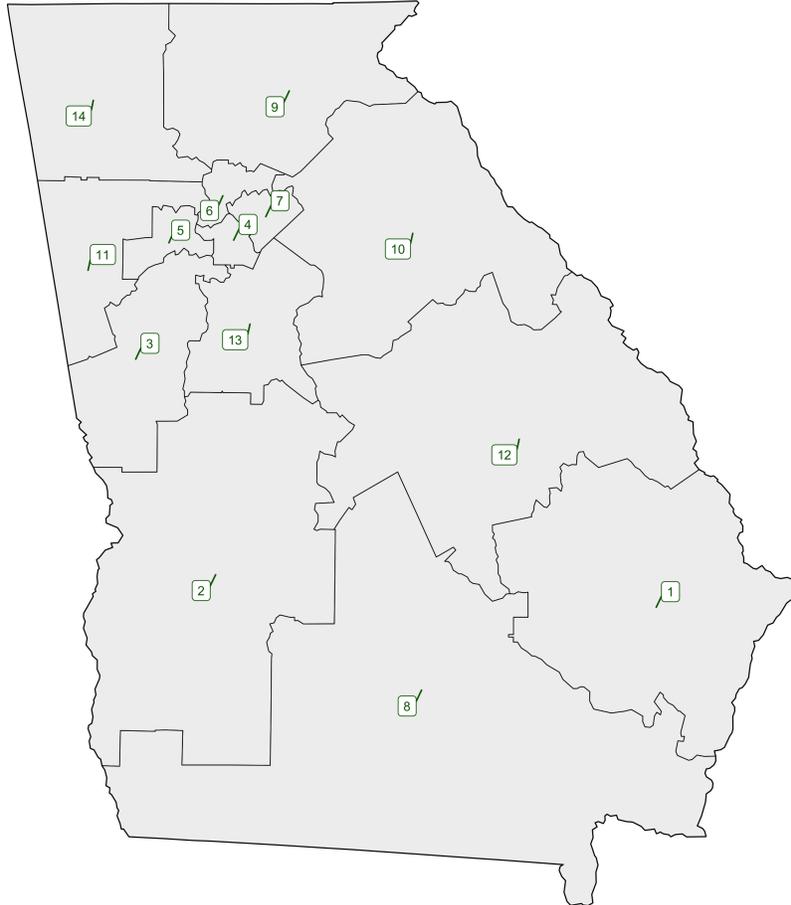


Figure 32: Map 1 of Illustrative State Senate Districts

# Additional Maps: Illustrative State Senate Districts

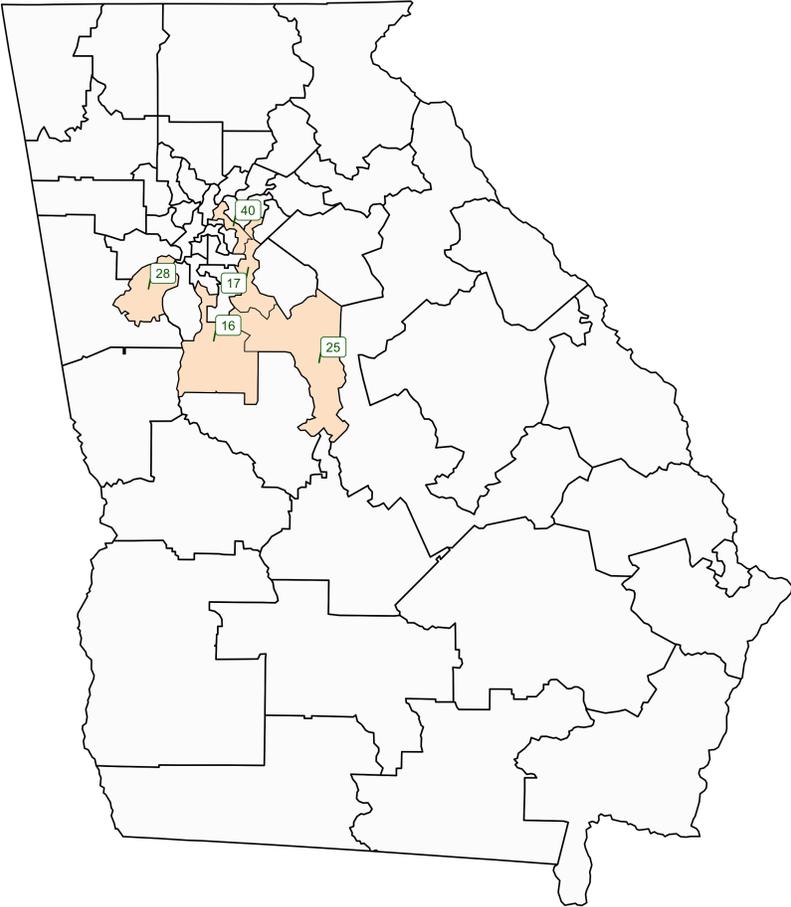


Figure 33: Map 1 of Illustrative State Senate Districts

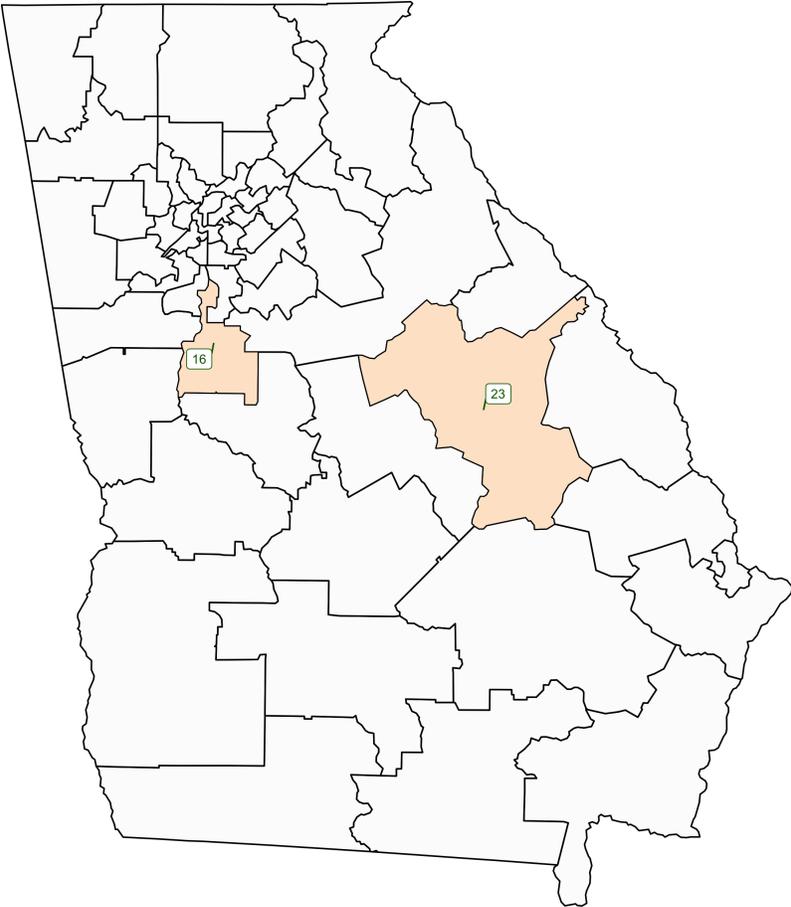


Figure 34: Map 2 of Illustrative State Senate Districts

# Additional Maps: Illustrative State House Districts

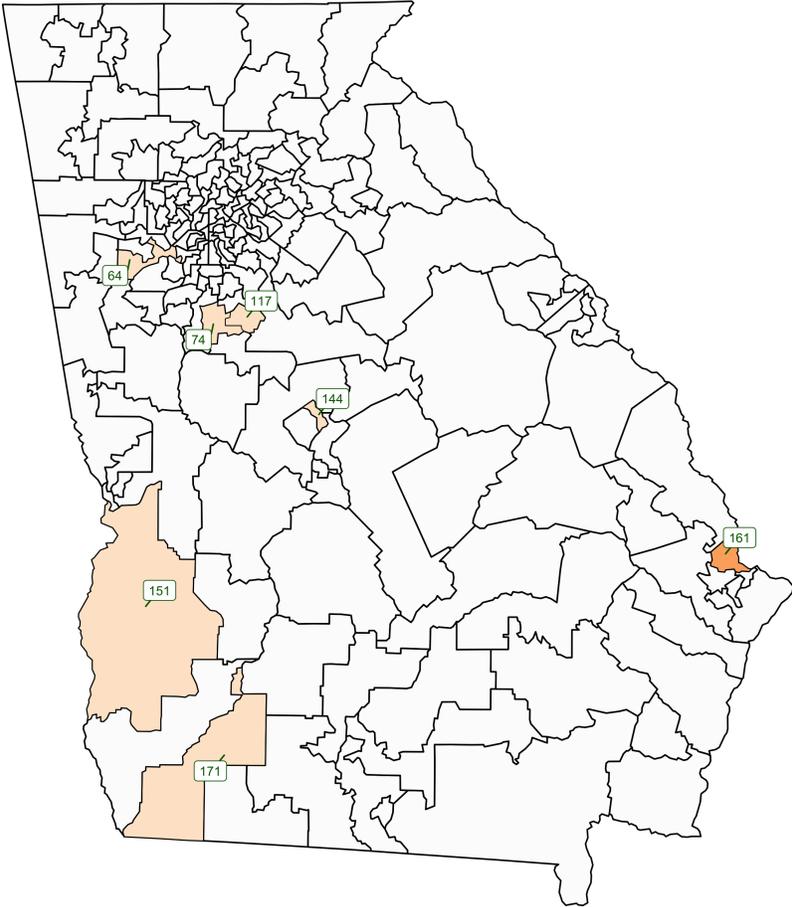


Figure 35: Map 1 of Illustrative State House Districts

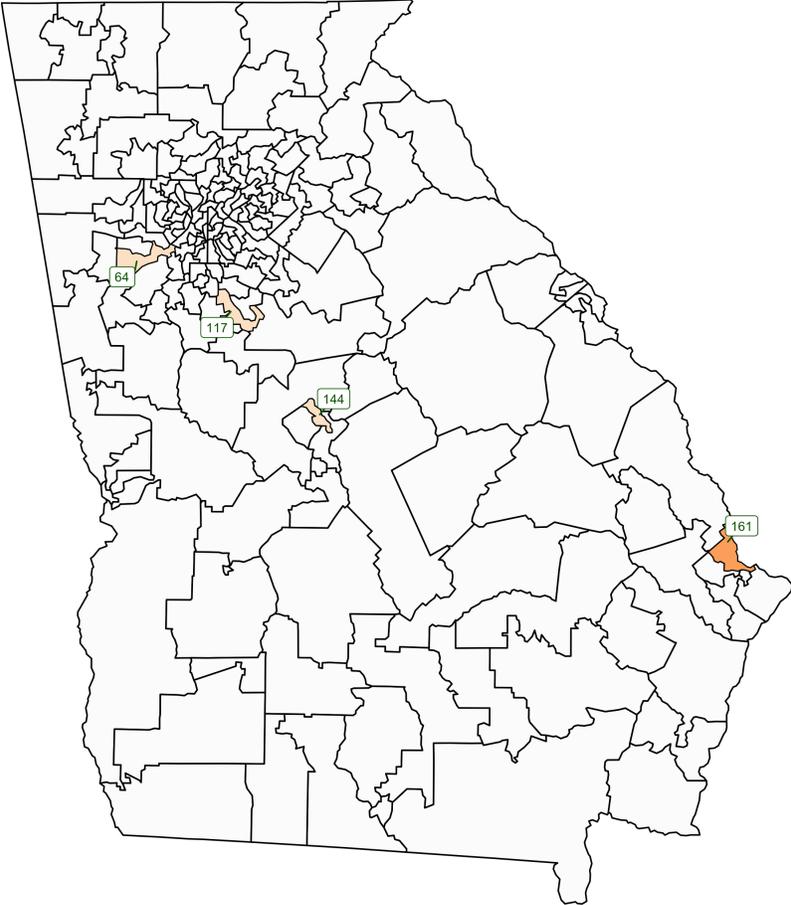


Figure 36: Map 2 of Illustrative State House Districts

## Benjamin Schneer

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## Academic Employment

Harvard Kennedy School

Assistant Professor of Public Policy, 2018–Present.

Florida State University

Assistant Professor of Political Science, 2016–2018.

## Education

Ph.D. Political Science, Harvard University, 2016.

Committee: Gary King, Daniel Carpenter, Stephen Ansolabehere

M.A. Political Science, Harvard University, 2012.

M.A. Economics, Stanford University, 2010.

B.A. Economics & History, *Summa Cum Laude*, Columbia University, 2005.

## Research Interests

Political Communication, Elections, Congress, Politics and History, Redistricting

## Publications

“The Popular Origins of Legislative Jurisdictions: Petitions and Standing Committee Formation in Revolutionary Virginia and the Early U.S. House” (with Tobias Resch, Maggie McKinley, and Daniel Carpenter). 2022. *Journal of Politics* 84 (3): 1727–1745.

“Partisan Alignment Increases Voter Turnout: Evidence from Redistricting” (with Bernard Fraga and Daniel J. Moskowitz). 2022. *Political Behavior* 44: 1883–1910.

“Congressional Representation by Petition: Assessing the Voices of the Voteless in a Comprehensive New Database, 1789-1949” (with Maggie Blackhawk, Tobias Resch, and Daniel Carpenter). 2021. *Legislative Studies Quarterly* 46 (3): 817–849.

“From the Halls of Congress to K Street: Government Experience and Its Value for Lobbying” (with Pamela Ban and Maxwell Palmer). 2019. *Legislative Studies Quarterly* 44 (4): 713–752.

“Reevaluating Competition and Turnout in U.S. House Elections” (with Daniel J. Moskowitz). 2019. *Quarterly Journal of Political Science* 14: 191-223.

“Postpolitical Careers: How Politicians Capitalize on Public Office” (with Maxwell Palmer). 2019. *Journal of Politics* 81 (2): 670-675.

“Suffrage Petitioning as Formative Practice: American Women Presage and Prepare for the Vote, 1840-1940” (with Daniel Carpenter, Zachary Popp, Tobias Resch, and Nicole Topich). 2018. *Studies in American Political Development* 32 (1): 24–48.

“Paths of Recruitment: Rational Social Prospecting in Petition Canvassing” (with Clayton Nall and Daniel Carpenter). 2018. *American Journal of Political Science* 62 (2): 192–209.

“Divided Government and Significant Legislation: A History of Congress from 1789–2010” (with Stephen Ansolabehere and Maxwell Palmer). 2018. *Social Science History* 42 (1): 81–108.

“How the News Media Activate Public Expression and Influence National Agendas” (with Gary King and Ariel White). 2017. *Science* 358 (6364): 776–780.

“Capitol Gains: The Returns to Elected Office from Corporate Board Directorships” (with Maxwell Palmer). 2016. *Journal of Politics* 78 (1): 181–196.

“What Has Congress Done?” (with Stephen Ansolabehere and Maxwell Palmer). 2016. *Governing in a Polarized Age: Elections, Parties, and Political Representation in America*, eds. Alan S. Gerber and Eric Schickler. New York: Cambridge University Press.

“Party Formation Through Petitions: The Whigs and the Bank War of 1832–1834” (with Daniel Carpenter). 2015. *Studies in American Political Development* 29 (2): 1–22.

## Working Papers

“Descended from Immigrants and Revolutionists’: How Immigrant Background Shapes Legislative Behavior in Congress” (with James Feigenbaum and Maxwell Palmer). HKS Working Paper No. RWP19-028. *Under Revision*.

“When the Going Gets Tough, Members Go Home: Electoral Threat and Legislator Behavior in the U.S. Congress” (with Jaclyn Kaslovsky and Daniel J. Moskowitz).

“Why Party Leaders Tend to Be Extremists” (with David C. King and Richard Zeckhauser). HKS Working Paper No. RWP20-015.

“Policy Consequences of Civil Society: Evidence from German-American Counter-Mobilization to Prohibition” (with Tobias Reisch).

“A Partisan Solution to Partisan Gerrymandering: The Define-Combine Procedure” (with Maxwell Palmer and Kevin DeLuca). HKS Working Paper No. RWP22-012.

“Direct Election and Political Representation: Evidence from Congressional Petitioning.”

“Bayesian Instrumental Variables Estimation with Relaxations of the Exclusion Restriction” (with Michael Gill and Arman Sabbaghi).

## Current Projects

“Paywalls” (with Desmond Ang and Avinash Moorthy).

“Permanent Minority Rule? Uncovering the Limits of Partisan Gerrymandering” (with Maxwell Palmer).

“Coattail Effects and Candidate Quality” (with Kevin DeLuca and Dan Moskowitz).

“Misperceptions of Life Expectancy” (with Desmond Ang).

## Reports, Other Publications and Selected Media

“Racially Polarized Voting Analysis for the Virginia Redistricting Commission” (with Maxwell Palmer). August 31, 2021.

“Drawing a Line.” *Harvard Kennedy School Magazine*. Winter 2020.

“Review of Evaluating Media Bias, by Adam J. Schiffer.” 2020. *American Review of Politics* 37 (1): 106–8.

“Drawing the Line on Gerrymandering.” *HKS PolicyCast (Podcast)*, December 10, 2019.

“The Arizona Redistricting Commission: One State’s Model for Gerrymandering Reform” (with Colleen Mathis and Daniel J. Moskowitz). *Ash Center Policy Brief*, 2019.

“Are Divided Governments the Cause of Delays and Shutdowns?” *The Science of Politics (Podcast)*, January 2, 2019.

“Canvassers Tend to Seek Out Supporters Who Are Like Themselves, and That’s Not Good for Political Participation” (with Daniel Carpenter and Clayton Nall). *LSE USAPP Blog*, November 1, 2017.

“How and Why Retired Politicians Get Lucrative Appointments on Corporate Boards” (with Maxwell Palmer). *The Washington Post (Monkey Cage)*, February 1, 2015.

“An Analysis of the Arizona Independent Redistricting Commission Congressional District Map” (with Gary King). *Submitted to Department of Justice*, 2012.

“An Analysis of the Arizona Independent Redistricting Commission Legislative District Map” (with Gary King). *Submitted to Department of Justice*, 2012.

## Conferences & Presentations

2022: Georgia State University (Economics), HKS Faculty Lunch Seminar, Harris School (University of Chicago CEG American Politics Conference), APSA

2021: Redistricting Algorithms, Law, and Policy (Radcliffe Institute), Metro Cities Council of the American Chamber of Commerce Executives, APSA

2020: HKS Faculty Lunch Seminar

2019: MPSA, Congress & History

2018: FSU (Colloquium), Congress & History, APSA

2017: Congress & History

2016: PolNet, APSA

2015: The Media Consortium, Boston University (Emerging Media Studies), MPSA, Iowa State, APSA, Harvard (Grad PE, APRW)

2014: SPSA, Texas A&M, The Media Consortium, Radcliffe (The Petition in North America), MPSA, Harvard (APRW x2, Grad PE, PE), NYU (Alexander Hamilton Center for Political Economy), PolMeth (Poster Session), APSA, Tobin Project

2013: Harvard (Grad PE), MPSA, The Media Consortium

2012: Harvard (APRW)

2011: Harvard (APRW)

## Teaching

API 202: Empirical Methods II, Harvard Kennedy School, Spring 2022 & Spring 2023.

DPI 610: Data Science for Politics, Harvard Kennedy School, Spring 2020 & Spring 2021.

DPI 308: Translating Public Opinion into Policy Action, Harvard Kennedy School, Spring 2019, Fall 2020 & Spring 2021.

Forecasting Elections in 2020 (Summer Engagement Session), Harvard Kennedy School, Summer 2020.

POS 3263: Political Elites and Representation, Florida State University, Spring 2018.

POS 4424: Legislative Systems, Florida State University, Spring 2017, Fall 2017 & Spring 2018.

POS 5427: Legislative Politics, Florida State University, Spring 2017.

POS 5045: National Government (American Politics Core), Florida State University, Fall 2017.

Gov 30: American Government, Professor Paul E. Peterson, Harvard University, Fall 2013 (TF).

Gov 1300: The Politics of Congress, Professor Stephen Ansolabehere, Harvard University, Spring 2013 (TF).

Gov 1359: The Road to the White House, Carlos Diaz Rosillo, Harvard University, Fall 2012 (TF).

Econ 101: Economic Policy Analysis, Anamaria Pieschacon, Stanford University, Fall 2009 & Winter 2010 (TA).

## Past Employment

Research Assistant, Professor Gary King, Harvard University, 2011–2016.

Research Assistant, Professor Daniel Carpenter, Harvard University, 2011–2014.

Research Assistant, Professor Gavin Wright, Stanford University, 2008–2009.

Research Analyst, LECG LLC, 2006–2007.

Research Fellow, Professor Alison Morantz, Stanford Law School 2005–2006, 2010.

## Fellowships & Awards

American Journal of Political Science Best Paper Award (co-winner) for “Paths of Recruitment: Rational Social Prospecting in Petition Canvassing,” 2018.

Summer Institute, Center for Advanced Study in the Behavioral Sciences, 2017.

First Year Assistant Professor Grant, Florida State University, 2017.

Richard J. Herrnstein Prize, awarded by the Harvard Graduate School of Arts and Sciences for “a dissertation that exhibits excellent scholarship, originality and breadth of thought, and a commitment to intellectual independence,” 2016.

GSAS Dissertation Completion Fellowship, Harvard University, 2015–2016.

Term Time Merit Fellowship, Graduate Society, Harvard University, 2014–2015.

Dissertation Research Fellowship for Study of the American Republic, Center for American Political Studies, Harvard University, 2014–2015.

Jeanne Humphrey Block Dissertation Award, Institute for Quantitative Social Sciences, Harvard University, 2014–2015.

Graduate Research Grant, Institute for Quantitative Social Sciences, Harvard University, 2014–2015.

Fellow, Democracy & Markets, Tobin Project, 2014–2015.

Graduate Fellowship, Harvard University, 2010–2016.

NSF Travel Grant, Annual Conference of the Society for Political Methodology, 2014

Travel Grant, Institute for Quantitative Social Science, Harvard University, 2013, 2014, 2015.

Outstanding Teaching Assistant, Stanford University, 2009–2010.

Phi Beta Kappa, 2005.

Dean's List, Columbia University, 2001–2005.

## Other

### *Affiliations*

Taubman Center for State and Local Government, Harvard Kennedy School

Ash Center for Democratic Governance and Innovation, Harvard Kennedy School

Institute for Quantitative Social Science, Harvard University

Center for American Political Studies (CAPS), Harvard University

Multidisciplinary Program in Inequality and Social Policy, Harvard University

Political Analysis Track, Ph.D. Program in Health Policy, Harvard University

### *Service*

Co-Organizer, American Politics Speaker Series, Harvard Kennedy School and Department of Government, 2019–Present.

DPI Junior American Politics Search Committee, Harvard Kennedy School, 2019–2020.

Host, Faculty Research Seminar, Harvard Kennedy School, 2019, 2021.

MPP Admissions Committee, Harvard Kennedy School, 2018–2019.

PhD Admissions Committee, Institutions and Politics Track, Harvard Kennedy School, 2021–2022.

### *Selected Consulting*

Virginia Redistricting Commission (Voter Polarization Analysis, 2020s Redistricting Cycle)

Arizona Independent Redistricting Commission (2010s Redistricting Cycle)

New York Civil Liberties Union (*Hurrell-Harring et al. v. the State of New York*)

Other Projects/Cases: Illinois State Legislature (Redistricting), Texas (Voter ID)

### *Software Packages*

R, Stata, SAS, Python, ArcGIS, L<sup>A</sup>T<sub>E</sub>X.

# **EXHIBIT 2**

EXPERT REPORT OF JOHN R. ALFORD, Ph.D.

**Scope of Inquiry**

I have been retained by the Georgia Secretary of State and State Election Board as an expert to provide analysis related to *Grant v. Raffensperger*, *Alpha Phi Alpha v. Raffensperger*, and *Pendergrass v. Raffensperger*. All three cases allege the current U.S. Congressional, state Senate, and state House districts in Georgia violate Section 2 of the Voting Rights Act. In early 2022, I provided a report and testified in the preliminary injunction hearing in those matters. I have provided a report in those cases dated 2/6/2023 that was responsive to the reports and supplemental reports provided by plaintiffs' experts Dr. Maxwell Palmer, and Dr. Lisa Handley. The previous report, including my analysis of primary voting relevant to this case, is attached as Appendix 2. In this report I will supplement that report with additional consideration of the report provided by Dr. Benjamin Schneer dated 1/13/2023 in *Ga. NAACP* and *Common Cause* cases. My rate of compensation in this matter is \$500 per hour.

**Qualifications**

I am a tenured full professor of political science at Rice University. At Rice, I have taught courses on redistricting, elections, political representation, voting behavior and statistical methods at both the undergraduate and graduate level. Over the last thirty years, I have worked with numerous local governments on districting plans and on Voting Rights Act issues. I have previously provided expert reports and/or testified as an expert witness in voting rights and statistical issues in a variety of court cases, including on behalf of the U.S. Attorney in Houston, Texas, the Texas Attorney General, a U.S. Congressman, and various cities and school districts.

In the 2000 round of redistricting, I was retained as an expert to provide advice to the Texas Attorney General in his role as Chair of the Legislative Redistricting Board. I subsequently served as the expert for the State of Texas in the state and federal litigation involving the 2001 redistricting for U.S. Congress, the Texas Senate, the Texas House of Representatives, and the Texas State Board of Education. In the 2010 round of redistricting in Texas, I was again retained as an expert by the State of Texas to assist in defending various state election maps and systems including the district maps for the U.S. Congress, the Texas Senate, the Texas House of Representatives, and the current at large system for electing Justices to the State Supreme Court

and Court of Appeals, as well as the winner-take-all system for allocating Electoral College votes.

I have also worked as an expert on redistricting and voting rights cases at the state and/or local level in Alabama, Arkansas, Florida, Georgia, Kansas, Louisiana, Michigan, Mississippi, New Mexico, New York, Pennsylvania, Washington, and Wisconsin. The details of my academic background, including all publications in the last ten years, and work as an expert, including all cases in which I have testified by deposition or at trial in the last four years, are covered in the attached CV (Appendix 1).

### **Data and Sources**

In preparing this report, I have reviewed the reports filed by the Dr. Schneer in this case. I have also reviewed various election and demographic data provided by Dr. Schneer in his disclosures related to his report in this case.

### **Dr. Schneer's Report**

In his report dated 2/13/2023, Dr. Schneer provides the results of a set of Ecological Inference ("EI") election analyses that he used to assess Racially Polarized Voting (RPV) in 41 two-party contested general election contests between 2012 and 2022. He notes that 21 of these contests (indicated by an asterisk next to the contest label) include a minority candidate running against a non-minority candidate. He considers these contests to be the most probative. The remaining 20 contests feature candidates that are the same race. He reports results for the estimated voting preferences in all 41 of these contests within a variety of geographic contexts for Black, white, and sometimes Hispanic voters. As his list of the 21 minority candidates on pages 13-14 shows, all 21 are running as Democrats, and in his broader set of 41 election contests, the preferred candidate of Black voters is always the Democrat.

Dr. Schneer acknowledges that the race of the candidates provides important information about racially polarized voting. He notes, "[w]hile I estimate RPV results for all statewide general elections since 2012, I rely on those elections in which a minority candidate was one of the two major party candidates running for office as most probative for making inferences about racially polarized voting" (page 13). In his associated footnote 18 on page 13, he states that an "election between a minority and a non-minority candidate provides variation in the race of the candidate

and therefore offers a test of whether race might matter in vote choice among different voter groups.” He goes on to say that he also includes “elections in which no minority candidate ran or two minority candidates ran as major party candidates. These are useful for establishing a general pattern of vote choice for different racial groups, even if elections with a single minority candidate are most probative for determining the extent of RPV” (page 14).

However, despite having recognized the potential value this data identified in his reports and the associated opportunity analyze it, there is no discussion of the impact, if any, that the race of the candidate has on the behavior of Black, white, or Hispanic voters in any of these contests. Consider the patterns evident in Dr. Schneer’s Figure 1. In all 41 of the 41 election contests examined, minorities show cohesive voting for the Democratic candidate. In contrast, White voters cohesively favor the Republican candidate. Clearly the partisan label of a candidate matters, as there is only minimal variation in the estimated vote shares across ten years and 41 elections ranging from top-of-the-ballot Presidential contests to down ballot contests like Public Service Commissioner.

The key question is whether the variation in the race of the Democratic candidate matters to either minority or white voters. As noted above, Dr. Schneer acknowledges that “variation in the race of the candidate ... offers a test of whether race might matter in vote choice among different voter groups” (page 13). Here we have that variation across Democratic candidates as roughly half are minorities running against white candidates, and the other half are not. A look at any of the 17 figures relating to the various geographies examined in Dr. Schneer’s report makes it clear that the strong support of minority voters for Democratic candidates does not in fact vary to any visible degree<sup>1</sup> on the basis of the race of the candidates. In other words, “variation in the race of the candidate ... offers a test of whether race might matter in vote choice among different voter groups,” and based on Dr. Schneer’s results, there is no indication that race matters in the vote choice among different voter groups. This is exactly the same result illustrated in my discussion of the pattern of general election results presented in the reports of Dr. Handley and Dr. Palmer.

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<sup>1</sup> We have to rely on visual comparison here because Dr. Schneer does not provide the numerical point estimates for his EI analysis. However, his analysis is very similar to the analysis of general elections in Dr. Palmer’s reports where the numeric estimates are provided, and that numeric comparison is covered in my report in this case dated 2/6/2023.

Dr. Schneer recognizes that the vote patterns don't vary by the race of candidates, and this can be seen throughout his report where he consistently observes the same cohesive voting patterns in elections regardless of whether the election features a minority candidate running against a non-minority candidate, or the election has no minority candidate on the ballot. For example, in reflecting on his Figure 1, Dr. Schneer concludes that: "I estimate that about 96% of Hispanic voters supported Abrams in 2018. Again, the results are generally similar across other elections I examined with minority candidates. When a minority candidate was not one of the two major party candidates, minority voters continued to vote cohesively, supporting particular candidates at overwhelming rates." (Page 15). And again toward the end of his report discussing patterns in his Figure 27, he notes that he observes "evidence of RPV with Black and Hispanic voters supporting minority candidates and White voters opposing them across all past statewide elections with a minority candidate running. When a minority candidate does not run, Black and Hispanic voters support the same minority preferred candidate and white voters oppose this candidate" (page 63).

### **Summary Conclusions**

Dr. Schneer's analysis of voting in general elections is entirely comparable to that of Dr. Palmer and Dr. Handley. All three provide 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. Dr. Schneer acknowledges that variation in the race of candidates provides a test of whether race matters to voters, and the large set of elections both he and Dr. Palmer provide, across the ballot and across a decade, nicely happens to divide almost evenly into half that are racially contested and half that are not. The results of this test are clear. The high level of minority voter support for Democratic candidates is not a response to the race of the Democratic or Republican candidates. Similarly, the high level of white voter support for Republican candidates is not a response to the race of the Democratic or Republican candidates.



John R. Alford, Ph.D.

February 10, 2023

# **Appendix 1**

**CV**

**John R. Alford**  
Curriculum Vitae  
January 2023

Dept. of Political Science  
Rice University - MS-24  
P.O. Box 1892  
Houston, Texas 77251-1892  
713-348-3364  
jra@rice.edu

**Employment:**

Professor, Rice University, 2015 to present.  
Associate Professor, Rice University, 1985-2015.  
Assistant Professor, University of Georgia, 1981-1985.  
Instructor, Oakland University, 1980-1981.  
Teaching-Research Fellow, University of Iowa, 1977-1980.  
Research Associate, Institute for Urban Studies, Houston, Texas, 1976-1977.

**Education:**

Ph.D., University of Iowa, Political Science, 1981.  
M.A., University of Iowa, Political Science, 1980.  
M.P.A., University of Houston, Public Administration, 1977.  
B.S., University of Houston, Political Science, 1975.

**Books:**

*Predisposed: Liberals, Conservatives, and the Biology of Political Differences.* New York: Routledge, 2013. Co-authors, John R. Hibbing and Kevin B. Smith.

**Articles:**

“Political Orientations Vary with Detection of Androstenone,” with Amanda Friesen, Michael Gruszczynski, and Kevin B. Smith. **Politics and the Life Sciences.** (Spring, 2020).

“Intuitive ethics and political orientations: Testing moral foundations as a theory of political ideology.” with Kevin Smith, John Hibbing, Nicholas Martin, and Peter Hatemi. **American Journal of Political Science.** (April, 2017).

“The Genetic and Environmental Foundations of Political, Psychological, Social, and Economic Behaviors: A Panel Study of Twins and Families.” with Peter Hatemi, Kevin Smith, and John Hibbing. **Twin Research and Human Genetics.** (May, 2015.)

“Liberals and conservatives: Non-convertible currencies.” with John R. Hibbing and Kevin B. Smith. **Behavioral and Brain Sciences** (January, 2015).

“Non-Political Images Evoke Neural Predictors Of Political Ideology.” with Woo-Young Ahn, Kenneth T. Kishida, Xiaosi Gu, Terry Lohrenz, Ann Harvey, Kevin Smith, Gideon Yaffe, John Hibbing, Peter Dayan, P. Read Montague. **Current Biology.** (November, 2014).

“Cortisol and Politics: Variance in Voting Behavior is Predicted by Baseline Cortisol Levels.” with Jeffrey French, Kevin Smith, Adam Guck, Andrew Birnie, and John Hibbing. **Physiology & Behavior**. (June, 2014).

“Differences in Negativity Bias Underlie Variations in Political Ideology.” with Kevin B. Smith and John R. Hibbing. **Behavioral and Brain Sciences**. (June, 2014).

“Negativity bias and political preferences: A response to commentators Response.” with Kevin B. Smith and John R. Hibbing. **Behavioral and Brain Sciences**. (June, 2014).

“Genetic and Environmental Transmission of Political Orientations.” with Carolyn L. Funk, Matthew Hibbing, Kevin B. Smith, Nicholas R. Eaton, Robert F. Krueger, Lindon J. Eaves, John R. Hibbing. **Political Psychology**, (December, 2013).

“Biology, Ideology, and Epistemology: How Do We Know Political Attitudes Are Inherited and Why Should We Care?” with Kevin Smith, Peter K. Hatemi, Lindon J. Eaves, Carolyn Funk, and John R. Hibbing. **American Journal of Political Science**. (January, 2012)

“Disgust Sensitivity and the Neurophysiology of Left-Right Political Orientations.” with Kevin Smith, John Hibbing, Douglas Oxley, and Matthew Hibbing, **PlosONE**, (October, 2011).

“Linking Genetics and Political Attitudes: Re-Conceptualizing Political Ideology.” with Kevin Smith, John Hibbing, Douglas Oxley, and Matthew Hibbing, **Political Psychology**, (June, 2011).

“The Politics of Mate Choice.” with Peter Hatemi, John R. Hibbing, Nicholas Martin and Lindon Eaves, **Journal of Politics**, (March, 2011).

“Not by Twins Alone: Using the Extended Twin Family Design to Investigate the Genetic Basis of Political Beliefs” with Peter Hatemi, John Hibbing, Sarah Medland, Matthew Keller, Kevin Smith, Nicholas Martin, and Lindon Eaves, **American Journal of Political Science**, (July, 2010).

“The Ultimate Source of Political Opinions: Genes and the Environment” with John R. Hibbing in **Understanding Public Opinion**, 3rd Edition eds. Barbara Norrander and Clyde Wilcox, Washington D.C.: CQ Press, (2010).

“Is There a ‘Party’ in your Genes” with Peter Hatemi, John R. Hibbing, Nicholas Martin and Lindon Eaves, **Political Research Quarterly**, (September, 2009).

“Twin Studies, Molecular Genetics, Politics, and Tolerance: A Response to Beckwith and Morris” with John R. Hibbing and Cary Funk, **Perspectives on Politics**, (December, 2008). This is a solicited response to a critique of our 2005 APSR article “Are Political Orientations Genetically Transmitted?”

“Political Attitudes Vary with Physiological Traits” with Douglas R. Oxley, Kevin B. Smith, Matthew V. Hibbing, Jennifer L. Miller, Mario Scalora, Peter K. Hatemi, and John R. Hibbing, **Science**, (September 19, 2008).

“The New Empirical Biopolitics” with John R. Hibbing, **Annual Review of Political Science**, (June, 2008).

“Beyond Liberals and Conservatives to Political Genotypes and Phenotypes” with John R. Hibbing and Cary Funk, **Perspectives on Politics**, (June, 2008). This is a solicited response to a critique of our 2005 APSR article “Are Political Orientations Genetically Transmitted?”

“Personal, Interpersonal, and Political Temperaments” with John R. Hibbing, **Annals of the American Academy of Political and Social Science**, (November, 2007).

“Is Politics in our Genes?” with John R. Hibbing, **Tidsskriftet Politik**, (February, 2007).

“Biology and Rational Choice” with John R. Hibbing, **The Political Economist**, (Fall, 2005)

“Are Political Orientations Genetically Transmitted?” with John R. Hibbing and Carolyn Funk, **American Political Science Review**, (May, 2005). (The main findings table from this article has been reprinted in two college level text books - Psychology, 9th ed. and Invitation to Psychology 4th ed. both by Wade and Tavris, Prentice Hall, 2007).

“The Origin of Politics: An Evolutionary Theory of Political Behavior” with John R. Hibbing, **Perspectives on Politics**, (December, 2004).

“Accepting Authoritative Decisions: Humans as Wary Cooperators” with John R. Hibbing, **American Journal of Political Science**, (January, 2004).

“Electoral Convergence of the Two Houses of Congress” with John R. Hibbing, in **The Exceptional Senate**, ed. Bruce Oppenheimer, Columbus: Ohio State University Press, (2002).

“We’re All in this Together: The Decline of Trust in Government, 1958-1996.” in **What is it About Government that Americans Dislike?**, eds. John Hibbing and Beth Theiss-Morse, Cambridge: Cambridge University Press, (2001).

“The 2000 Census and the New Redistricting,” **Texas State Bar Association School Law Section Newsletter**, (July, 2000).

“Overdraft: The Political Cost of Congressional Malfeasance” with Holly Teeters, Dan Ward, and Rick Wilson, **Journal of Politics** (August, 1994).

"Personal and Partisan Advantage in U.S. Congressional Elections, 1846-1990" with David W. Brady, in **Congress Reconsidered** 5th edition, eds. Larry Dodd and Bruce Oppenheimer, CQ Press, (1993).

"The 1990 Congressional Election Results and the Fallacy that They Embodied an Anti-Incumbent Mood" with John R. Hibbing, **PS** 25 (June, 1992).

"Constituency Population and Representation in the United States Senate" with John R. Hibbing. **Legislative Studies Quarterly**, (November, 1990).

"Editors' Introduction: Electing the U.S. Senate" with Bruce I. Oppenheimer. **Legislative Studies Quarterly**, (November, 1990).

"Personal and Partisan Advantage in U.S. Congressional Elections, 1846-1990" with David W. Brady, in **Congress Reconsidered** 4th edition, eds. Larry Dodd and Bruce Oppenheimer, CQ Press, (1988). Reprinted in *The Congress of the United States, 1789-1989*, ed. Joel Silby, Carlson Publishing Inc., (1991), and in *The Quest for Office*, eds. Wayne and Wilcox, St. Martins Press, (1991).

"Can Government Regulate Fertility? An Assessment of Pro-natalist Policy in Eastern Europe" with Jerome Legge. **The Western Political Quarterly** (December, 1986).

"Partisanship and Voting" with James Campbell, Mary Munro, and Bruce Campbell, in **Research in Micropolitics. Volume 1 - Voting Behavior**. Samuel Long, ed. JAI Press, (1986).

"Economic Conditions and Individual Vote in the Federal Republic of Germany" with Jerome S. Legge. **Journal of Politics** (November, 1984).

"Television Markets and Congressional Elections" with James Campbell and Keith Henry. **Legislative Studies Quarterly** (November, 1984).

"Economic Conditions and the Forgotten Side of Congress: A Foray into U.S. Senate Elections" with John R. Hibbing, **British Journal of Political Science** (October, 1982).

"Increased Incumbency Advantage in the House" with John R. Hibbing, **Journal of Politics** (November, 1981). Reprinted in *The Congress of the United States, 1789-1989*, Carlson Publishing Inc., (1991).

"The Electoral Impact of Economic Conditions: Who is Held Responsible?" with John R. Hibbing, **American Journal of Political Science** (August, 1981).

"Comment on Increased Incumbency Advantage" with John R. Hibbing, Refereed communication: **American Political Science Review** (March, 1981).

"Can Government Regulate Safety? The Coal Mine Example" with Michael Lewis-Beck, **American Political Science Review** (September, 1980).

### **Awards and Honors:**

CQ Press Award - 1988, honoring the outstanding paper in legislative politics presented at the 1987 Annual Meeting of the American Political Science Association. Awarded for "The Demise of the Upper House and the Rise of the Senate: Electoral Responsiveness in the United States Senate" with John Hibbing.

### **Research Grants:**

National Science Foundation, 2009-2011, "Identifying the Biological Influences on Political Temperaments", with John Hibbing, Kevin Smith, Kim Espy, Nicolas Martin and Read Montague. This is a collaborative project involving Rice, University of Nebraska, Baylor College of Medicine, and Queensland Institute for Medical Research.

National Science Foundation, 2007-2010, "Genes and Politics: Providing the Necessary Data", with John Hibbing, Kevin Smith, and Lindon Eaves. This is a collaborative project involving Rice, University of Nebraska, Virginia Commonwealth University, and the University of Minnesota.

National Science Foundation, 2007-2010, "Investigating the Genetic Basis of Economic Behavior", with John Hibbing and Kevin Smith. This is a collaborative project involving Rice, University of Nebraska, Virginia Commonwealth University, and the Queensland Institute of Medical Research.

Rice University Faculty Initiatives Fund, 2007-2009, "The Biological Substrates of Political Behavior". This is in assistance of a collaborative project involving Rice, Baylor College of Medicine, Queensland Institute of Medical Research, University of Nebraska, Virginia Commonwealth University, and the University of Minnesota.

National Science Foundation, 2004-2006, "Decision-Making on Behalf of Others", with John Hibbing. This is a collaborative project involving Rice and the University of Nebraska.

National Science Foundation, 2001-2002, dissertation grant for Kevin Arceneaux, "Doctoral Dissertation Research in Political Science: Voting Behavior in the Context of U.S. Federalism."

National Science Foundation, 2000-2001, dissertation grant for Stacy Ulbig, "Doctoral Dissertation Research in Political Science: Sub-national Contextual Influences on Political Trust."

National Science Foundation, 1999-2000, dissertation grant for Richard Engstrom, "Doctoral Dissertation Research in Political Science: Electoral District Structure and Political Behavior."

Rice University Research Grant, 1985, Recent Trends in British Parliamentary Elections.

Faculty Research Grants Program, University of Georgia, Summer, 1982. Impact of Media Structure on Congressional Elections, with James Campbell.

## **Papers Presented:**

"The Physiological Basis of Political Temperaments" 6th European Consortium for Political Research General Conference, Reykjavik, Iceland (2011), with Kevin Smith, and John Hibbing.

"Identifying the Biological Influences on Political Temperaments" National Science Foundation Annual Human Social Dynamics Meeting (2010), with John Hibbing, Kimberly Espy, Nicholas Martin, Read Montague, and Kevin B. Smith.

"Political Orientations May Be Related to Detection of the Odor of Androstenone" Annual meeting of the Midwest Political Science Association, Chicago, IL (2010), with Kevin Smith, Amanda Balzer, Michael Gruszczynski, Carly M. Jacobs, and John Hibbing.

"Toward a Modern View of Political Man: Genetic and Environmental Transmission of Political Orientations from Attitude Intensity to Political Participation" Annual meeting of the American Political Science Association, Washington, DC (2010), with Carolyn Funk, Kevin Smith, and John Hibbing.

"Genetic and Environmental Transmission of Political Involvement from Attitude Intensity to Political Participation" Annual meeting of the International Society for Political Psychology, San Francisco, CA (2010), with Carolyn Funk, Kevin Smith, and John Hibbing.

"Are Violations of the EEA Relevant to Political Attitudes and Behaviors?" Annual meeting of the Midwest Political Science Association, Chicago, IL (2010), with Kevin Smith, and John Hibbing.

"The Neural Basis of Representation" Annual meeting of the American Political Science Association, Toronto, Canada (2009), with John Hibbing.

“Genetic and Environmental Transmission of Value Orientations” Annual meeting of the American Political Science Association, Toronto, Canada (2009), with Carolyn Funk, Kevin Smith, Matthew Hibbing, Pete Hatemi, Robert Krueger, Lindon Eaves, and John Hibbing.

“The Genetic Heritability of Political Orientations: A New Twin Study of Political Attitudes” Annual Meeting of the International Society for Political Psychology, Dublin, Ireland (2009), with John Hibbing, Cary Funk, Kevin Smith, and Peter K Hatemi.

“The Heritability of Value Orientations” Annual meeting of the Behavior Genetics Association, Minneapolis, MN (2009), with Kevin Smith, John Hibbing, Carolyn Funk, Robert Krueger, Peter Hatemi, and Lindon Eaves.

“The Ick Factor: Disgust Sensitivity as a Predictor of Political Attitudes” Annual meeting of the Midwest Political Science Association, Chicago, IL (2009), with Kevin Smith, Douglas Oxley Matthew Hibbing, and John Hibbing.

“The Ideological Animal: The Origins and Implications of Ideology” Annual meeting of the American Political Science Association, Boston, MA (2008), with Kevin Smith, Matthew Hibbing, Douglas Oxley, and John Hibbing.

“The Physiological Differences of Liberals and Conservatives” Annual meeting of the Midwest Political Science Association, Chicago, IL (2008), with Kevin Smith, Douglas Oxley, and John Hibbing.

“Looking for Political Genes: The Influence of Serotonin on Political and Social Values” Annual meeting of the Midwest Political Science Association, Chicago, IL (2008), with Peter Hatemi, Sarah Medland, John Hibbing, and Nicholas Martin.

“Not by Twins Alone: Using the Extended Twin Family Design to Investigate the Genetic Basis of Political Beliefs” Annual meeting of the American Political Science Association, Chicago, IL (2007), with Peter Hatemi, John Hibbing, Matthew Keller, Nicholas Martin, Sarah Medland, and Lindon Eaves.

“Factorial Association: A generalization of the Fulker between-within model to the multivariate case” Annual meeting of the Behavior Genetics Association, Amsterdam, The Netherlands (2007), with Sarah Medland, Peter Hatemi, John Hibbing, William Coventry, Nicholas Martin, and Michael Neale.

“Not by Twins Alone: Using the Extended Twin Family Design to Investigate the Genetic Basis of Political Beliefs” Annual meeting of the Midwest Political Science Association, Chicago, IL (2007), with Peter Hatemi, John Hibbing, Nicholas Martin, and Lindon Eaves.

“Getting from Genes to Politics: The Connecting Role of Emotion-Reading Capability” Annual Meeting of the International Society for Political Psychology, Portland, OR, (2007.), with John Hibbing.

“The Neurological Basis of Representative Democracy.” Hendricks Conference on Political Behavior, Lincoln, NE (2006), with John Hibbing.

“The Neural Basis of Representative Democracy” Annual meeting of the American Political Science Association, Philadelphia, PA (2006), with John Hibbing.

“How are Political Orientations Genetically Transmitted? A Research Agenda” Annual meeting of the Midwest Political Science Association, Chicago Illinois (2006), with John Hibbing.

"The Politics of Mate Choice" Annual meeting of the Southern Political Science Association, Atlanta, GA (2006), with John Hibbing.

"The Challenge Evolutionary Biology Poses for Rational Choice" Annual meeting of the American Political Science Association, Washington, DC (2005), with John Hibbing and Kevin Smith.

"Decision Making on Behalf of Others" Annual meeting of the American Political Science Association, Washington, DC (2005), with John Hibbing.

"The Source of Political Attitudes and Behavior: Assessing Genetic and Environmental Contributions" Annual meeting of the Midwest Political Science Association, Chicago Illinois (2005), with John Hibbing and Carolyn Funk.

"The Source of Political Attitudes and Behavior: Assessing Genetic and Environmental Contributions" Annual meeting of the American Political Science Association, Chicago Illinois (2004), with John Hibbing and Carolyn Funk.

"Accepting Authoritative Decisions: Humans as Wary Cooperators" Annual Meeting of the Midwest Political Science Association, Chicago, Illinois (2002), with John Hibbing

"Can We Trust the NES Trust Measure?" Annual Meeting of the Midwest Political Science Association, Chicago, Illinois (2001), with Stacy Ulbig.

"The Impact of Organizational Structure on the Production of Social Capital Among Group Members" Annual Meeting of the Southern Political Science Association, Atlanta, Georgia (2000), with Allison Rinden.

"Isolating the Origins of Incumbency Advantage: An Analysis of House Primaries, 1956-1998" Annual Meeting of the Southern Political Science Association, Atlanta, Georgia (2000), with Kevin Arceneaux.

"The Electorally Indistinct Senate," Norman Thomas Conference on Senate Exceptionalism, Vanderbilt University; Nashville, Tennessee; October (1999), with John R. Hibbing.

"Interest Group Participation and Social Capital" Annual Meeting of the Midwest Political Science Association, Chicago, Illinois (1999), with Allison Rinden.

"We're All in this Together: The Decline of Trust in Government, 1958-1996." The Hendricks Symposium, University of Nebraska, Lincoln. (1998)

"Constituency Population and Representation in the United States Senate," Electing the Senate; Houston, Texas; December (1989), with John R. Hibbing.

"The Disparate Electoral Security of House and Senate Incumbents," American Political Science Association Annual Meetings; Atlanta, Georgia; September (1989), with John R. Hibbing.

"Partisan and Incumbent Advantage in House Elections," Annual Meeting of the Southern Political Science Association (1987), with David W. Brady.

"Personal and Party Advantage in U.S. House Elections, 1846-1986" with David W. Brady, 1987 Social Science History Association Meetings.

"The Demise of the Upper House and the Rise of the Senate: Electoral Responsiveness in the United States Senate" with John Hibbing, 1987 Annual Meeting of the American Political Science Association.

"A Comparative Analysis of Economic Voting" with Jerome Legge, 1985 Annual Meeting of the American Political Science Association.

"An Analysis of Economic Conditions and the Individual Vote in Great Britain, 1964-1979" with Jerome Legge, 1985 Annual Meeting of the Western Political Science Association.

"Can Government Regulate Fertility? An Assessment of Pro-natalist Policy in Eastern Europe" with Jerome Legge, 1985 Annual Meeting of the Southwestern Social Science Association.

"Economic Conditions and the Individual Vote in the Federal Republic of Germany" with Jerome S. Legge, 1984 Annual Meeting of the Southern Political Science Association.

"The Conditions Required for Economic Issue Voting" with John R. Hibbing, 1984 Annual Meeting of the Midwest Political Science Association.

"Incumbency Advantage in Senate Elections," 1983 Annual Meeting of the Midwest Political Science Association.

"Television Markets and Congressional Elections: The Impact of Market/District Congruence" with James Campbell and Keith Henry, 1982 Annual Meeting of the Southern Political Science Association.

"Economic Conditions and Senate Elections" with John R. Hibbing, 1982 Annual Meeting of the Midwest Political Science Association. "Pocketbook Voting: Economic Conditions and Individual Level Voting," 1982 Annual Meeting of the American Political Science Association.

"Increased Incumbency Advantage in the House," with John R. Hibbing, 1981 Annual Meeting of the Midwest Political Science Association.

### **Other Conference Participation:**

Roundtable Participant – Closing Round-table on Biopolitics; 2016 UC Merced Conference on Bio-Politics and Political Psychology, Merced, CA.

Roundtable Participant “Genes, Brains, and Core Political Orientations” 2008 Annual Meeting of the Southwestern Political Science Association, Las Vegas.

Roundtable Participant “Politics in the Laboratory” 2007 Annual Meeting of the Southern Political Science Association, New Orleans.

Short Course Lecturer, "What Neuroscience has to Offer Political Science" 2006 Annual Meeting of the American Political Science Association.

Panel chair and discussant, "Neuro-scientific Advances in the Study of Political Science" 2006 Annual Meeting of the American Political Science Association.

Presentation, "The Twin Study Approach to Assessing Genetic Influences on Political Behavior" Rice Conference on New Methods for Understanding Political Behavior, 2005.

Panel discussant, "The Political Consequences of Redistricting," 2002 Annual Meeting of the American Political Science Association.

Panel discussant, "Race and Redistricting," 1999 Annual Meeting of the Midwest Political Science Association.

Invited participant, "Roundtable on Public Dissatisfaction with American Political Institutions", 1998 Annual Meeting of the Southwestern Social Science Association.

Presentation, "Redistricting in the '90s," Texas Economic and Demographic Association, 1997.

Panel chair, "Congressional Elections," 1992 Annual Meeting of the Southern Political Science Association.

Panel discussant, "Incumbency and Congressional Elections," 1992 Annual Meeting of the American Political Science Association.

Panel chair, "Issues in Legislative Elections," 1991 Annual Meeting of the Midwest Political Science Association.

Panel chair, "Economic Attitudes and Public Policy in Europe," 1990 Annual Meeting of the Southern Political Science Association

Panel discussant, "Retrospective Voting in U.S. Elections," 1990 Annual Meeting of the Midwest Political Science Association.

Co-convener, with Bruce Oppenheimer, of Electing the Senate, a national conference on the NES 1988 Senate Election Study. Funded by the Rice Institute for Policy Analysis, the University of Houston Center for Public Policy, and the National Science Foundation, Houston, Texas, December, 1989.

Invited participant, Understanding Congress: A Bicentennial Research Conference, Washington, D.C., February, 1989.

Invited participant--Hendricks Symposium on the United States Senate, University of Nebraska, Lincoln, Nebraska, October, 1988

Invited participant--Conference on the History of Congress, Stanford University, Stanford, California, June, 1988.

Invited participant, "Roundtable on Partisan Realignment in the 1980's", 1987 Annual Meeting of the Southern Political Science Association.

## **Professional Activities:**

### **Other Universities:**

Invited Speaker, Annual Lecture, Psi Kappa -the Psychology Club at Houston Community College, 2018.

Invited Speaker, Annual Allman Family Lecture, Dedman College Interdisciplinary Institute, Southern Methodist University, 2016.

Invited Speaker, Annual Lecture, Psi Sigma Alpha – Political Science Dept., Oklahoma State University, 2015.

Invited Lecturer, Department of Political Science, Vanderbilt University, 2014.

Invited Speaker, Annual Lecture, Psi Kappa -the Psychology Club at Houston Community College, 2014.

Invited Speaker, Graduate Student Colloquium, Department of Political Science, University of New Mexico, 2013.

Invited Keynote Speaker, Political Science Alumni Evening, University of Houston, 2013.

Invited Lecturer, Biology and Politics Masters Seminar (John Geer and David Bader), Department of Political Science and Biology Department, Vanderbilt University, 2010.

Invited Lecturer, Biology and Politics Senior Seminar (John Geer and David Bader), Department of Political Science and Biology Department, Vanderbilt University, 2008.

Visiting Fellow, the Hoover Institution, Stanford University, 2007.

Invited Speaker, Joint Political Psychology Graduate Seminar, University of Minnesota, 2007.

Invited Speaker, Department of Political Science, Vanderbilt University, 2006.

**Member:**

Editorial Board, Journal of Politics, 2007-2008.

Planning Committee for the National Election Studies' Senate Election Study, 1990-92.

Nominations Committee, Social Science History Association, 1988

**Reviewer for:**

American Journal of Political Science

American Political Science Review

American Politics Research

American Politics Quarterly

American Psychologist

American Sociological Review

Canadian Journal of Political Science

Comparative Politics

Electoral Studies

Evolution and Human Behavior

International Studies Quarterly

Journal of Politics  
Journal of Urban Affairs  
Legislative Studies Quarterly  
National Science Foundation  
PLoS ONE  
Policy Studies Review  
Political Behavior  
Political Communication  
Political Psychology  
Political Research Quarterly  
Public Opinion Quarterly  
Science  
Security Studies  
Social Forces  
Social Science Quarterly  
Western Political Quarterly

### **University Service:**

Member, University Senate, 2021-2023.

Member, University Parking Committee, 2016-2022.

Member, University Benefits Committee, 2013-2016.

Internship Director for the Department of Political Science, 2004-2018.

Member, University Council, 2012-2013.

Invited Speaker, Rice Classroom Connect, 2016.

Invited Speaker, Glasscock School, 2016.

Invited Speaker, Rice Alumni Association, Austin, 2016.

Invited Speaker, Rice Alumni Association, New York City, 2016.

Invited Speaker, Rice TEDxRiceU , 2013.

Invited Speaker, Rice Alumni Association, Atlanta, 2011.

Lecturer, Advanced Topics in AP Psychology, Rice University AP Summer Institute, 2009.

Scientia Lecture Series: "Politics in Our Genes: The Biology of Ideology" 2008

Invited Speaker, Rice Alumni Association, Seattle, San Francisco and Los Angeles, 2008.

Invited Speaker, Rice Alumni Association, Austin, Chicago and Washington, DC, 2006.

Invited Speaker, Rice Alumni Association, Dallas and New York, 2005.

Director: Rice University Behavioral Research Lab and Social Science Computing Lab, 2005-2006.

University Official Representative to the Inter-university Consortium for Political and Social Research, 1989-2012.

Director: Rice University Social Science Computing Lab, 1989-2004.

Member, Rice University Information Technology Access and Security Committee, 2001-2002

Rice University Committee on Computers, Member, 1988-1992, 1995-1996; Chair, 1996-1998, Co-chair, 1999.

Acting Chairman, Rice Institute for Policy Analysis, 1991-1992.

Divisional Member of the John W. Gardner Dissertation Award Selection Committee, 1998

Social Science Representative to the Educational Sub-committee of the Computer Planning Committee, 1989-1990.

Director of Graduate Admissions, Department of Political Science, Rice University, 1986-1988.

Co-director, Mellon Workshop: Southern Politics, May, 1988.

Guest Lecturer, Mellon Workshop: The U.S. Congress in Historical Perspective, May, 1987 and 1988.

Faculty Associate, Hanszen College, Rice University, 1987-1990.

Director, Political Data Analysis Center, University of Georgia, 1982-1985.

### **External Consulting:**

Expert Witness, Soto Palmer v. Hobbs, (Washington State), racially polarized voting analysis, 2022.

Expert Witness, Pendergrass v. Raffensperger, (Georgia State House and Senate), racially polarized voting analysis, 2022.

Expert Witness, LULAC, et al. v. Abbott, et al., Voto Latino, et al. v. Scott, et al., Mexican American Legislative Caucus, et al. v. Texas, et al., Texas NAACP v. Abbott, et al., Fair Maps Texas, et al. v. Abbott, et al., US v. Texas, et al. (consolidated cases) challenges to Texas Congressional, State Senate, State House, and State Board of Education districting, 2022.

Expert Witness, Robinson/Galmon v. Ardoin, (Louisiana), racially polarized voting analysis, 2022.

Expert Witness, Christian Ministerial Alliance et al v. Arkansas, racially polarized voting analysis, 2022.

Expert Witness, Johnson v. Wisconsin Elections Commission, 2022.

Expert Witness, Rivera, et al. v. Schwab, Alonzo, et al. v. Schwab, Frick, et al. v. Schwab, (consolidated cases) challenge to Kansas congressional map, 2022.

Expert Witness, Grant v. Raffensperger, challenge to Georgia congressional map, 2022

Expert Witness, Brooks et al. v. Abbot, challenge to State Senate District 10, 2022.

Expert Witness, Elizondo v. Spring Branch ISD, 2022.

Expert Witness, Portugal v. Franklin County, et al., challenge to Franklin County, Washington at large County Commissioner's election system, 2022.

Consulting Expert, Gressman Math/Science Petitioners, Pennsylvania Congressional redistricting, 2022.

Consultant, Houston Community College – evaluation of election impact for redrawing of college board election districts, 2022.

Consultant, Lone Star College – evaluation of election impact for redrawing of college board election districts, 2022.

Consultant, Killeen ISD – evaluation of election impact for redrawing of school board election districts, 2022.

Consultant, Houston ISD – evaluation of election impact for redrawing of school board election districts, 2022.

Consultant, Brazosport ISD – evaluation of election impact for redrawing of school board election districts, 2022.

Consultant, Dallas ISD – evaluation of election impact for redrawing of school board election districts, 2022.

Consultant, Lancaster ISD – redrawing of all school board member election districts including demographic analysis and redrawing of election districts, 2021.

Consultant, City of Baytown – redrawing of all city council member election districts including demographic analysis and redrawing of election districts, 2021.

Consultant, Goose Creek ISD – redrawing of all board member election districts including demographic analysis and redrawing of election districts, 2021.

Expert Witness, Bruni et al. v. State of Texas, straight ticket voting analysis, 2020.

Consulting Expert, Sarasota County, VRA challenge to district map, 2020.

Expert Witness, Kumar v. Frisco ISD, TX, racially polarized voting analysis, 2019.

Expert Witness, Vaughan v. Lewisville ISD, TX, racially polarized voting analysis, 2019.

Expert Witness, Johnson v. Ardoin, (Louisiana), racially polarized voting analysis, 2019.

Expert Witness, Flores et al. v. Town of Islip, NY, racially polarized voting analysis, 2018.

Expert Witness, Tyson v. Richardson ISD, racially polarized voting analysis, 2018.

Expert Witness, Dwight v. State of Georgia, racially polarized voting analysis, 2018.

Expert Witness, NAACP v. East Ramapo Central School District, racially polarized voting analysis, 2018.

Expert Witness, Georgia NAACP v. State of Georgia, racially polarized voting analysis, 2018.

## **Appendix 2**

EXPERT REPORT OF JOHN R. ALFORD, Ph.D.

**Scope of Inquiry**

I have been retained by the Georgia Secretary of State and State Election Board as an expert to provide analysis related to *Grant v. Raffensperger*, *Alpha Phi Alpha v. Raffensperger*, and *Pendergrass v. Raffensperger*. All three cases allege the current U.S. Congressional, state Senate, and state House districts in Georgia violate Section 2 of the Voting Rights Act. In early 2022, I provided a report and testified in the preliminary injunction hearing in this matter. I have examined the reports and supplemental reports provided by plaintiffs' experts Dr. Maxwell Palmer, and Dr. Lisa Handley in this case. My rate of compensation in this matter is \$500 per hour.

**Qualifications**

I am a tenured full professor of political science at Rice University. At Rice, I have taught courses on redistricting, elections, political representation, voting behavior and statistical methods at both the undergraduate and graduate level. Over the last thirty years, I have worked with numerous local governments on districting plans and on Voting Rights Act issues. I have previously provided expert reports and/or testified as an expert witness in voting rights and statistical issues in a variety of court cases, including on behalf of the U.S. Attorney in Houston, the Texas Attorney General, a U.S. Congressman, and various cities and school districts.

In the 2000 round of redistricting, I was retained as an expert to provide advice to the Texas Attorney General in his role as Chair of the Legislative Redistricting Board. I subsequently served as the expert for the State of Texas in the state and federal litigation involving the 2001 redistricting for U.S. Congress, the Texas Senate, the Texas House of Representatives, and the Texas State Board of Education. In the 2010 round of redistricting in Texas, I was again retained as an expert by the State of Texas to assist in defending various state election maps and systems including the district maps for the U.S. Congress, the Texas Senate, the Texas House of Representatives, and the current at large system for electing Justices to the State Supreme Court

and Court of Appeals, as well as the winner-take-all system for allocating Electoral College votes.

I have also worked as an expert on redistricting and voting rights cases at the state and/or local level in Alabama, Arkansas, Florida, Georgia, Kansas, Louisiana, Michigan, Mississippi, New Mexico, New York, Pennsylvania, Washington, and Wisconsin. The details of my academic background, including all publications in the last ten years, and work as an expert, including all cases in which I have testified by deposition or at trial in the last four years, are covered in the attached CV (Appendix 1).

### **Data and Sources**

In preparing this report, I have reviewed the reports filed by the plaintiffs' experts in this case. I have relied on the analysis provided to date by Dr. Palmer and Dr. Handley in their expert reports in this case. I have also relied on various election and demographic data provided by Dr. Palmer and Dr. Handley in their disclosures related to their reports in this case. In addition, I relied on data on turnout by race for the 2022 Republican Primary election provided to counsel by the Georgia Secretary of State, and 2022 precinct-level election results for that election downloaded from the publicly available website of the Georgia Secretary of State.

### **Dr. Palmer's Reports**

Dr. Palmer, in his report in *Pendergrass v. Raffensperger* dated 12/12/2022, provides the results of an EI election analysis that he used to assess Racially Polarized Voting (RPV) in each of 40 contests between 2012 and 2022, and reports the results in his Tables 1 through 6 for five U.S. Congressional districts and as a combined focus area. Similarly, in his report in *Grant v. Raffensperger* dated 12/12/2022, Dr. Palmer provides the EI results for the same 40 contests between 2012 and 2022 as reported in his Tables 2 through 6, for three Georgia House and two Georgia Senate focus areas. The race of the candidate preferred by Black voters is indicated in Dr. Palmer's tables with an asterisk by the name of each Black candidate, and the absence of an asterisk indicating a non-Black candidate. Across the 40 reported contests 19 of the preferred candidates are Black and 21 are non-Black, providing an ideal, almost equal distribution, for comparing both Black and white voter support for Black-preferred candidates that happen to be Black, with Black voter support for Black-preferred candidates that happen not to be Black.

However, despite having this data identified in his reports and the associated opportunity analyze it, there is no discussion of the impact, if any, that the race of the candidate might have on the behavior of Black or white voters in these contests. Also, Dr. Palmer provides no party labels in these tables, and does not mention the party of candidates in his discussion of the results of his analysis.

As evident in Dr. Palmer's Tables 1-6 in his *Pendergrass* report, and Tables 2-6 in his *Grant* report, the pattern of polarization is quite striking. Black voter support for their preferred candidate is typically in the 90 percent range and scarcely varies at all across the ten years examined from 2012 to 2022. Nor does it vary in any meaningful degree from the top of the ballot elections for U.S. President to down-ballot contests like Public Service Commissioner. While slightly more varied, estimated white voter opposition to the Black-preferred candidate is typically above 80 percent. In the *Pendergrass* Table 1 for the combined focus area, Dr. Palmer reports estimates of Black voter support that only varies between 96 and 99 percent when results are rounded to the nearest percent. White voter opposition to the Black preferred candidate is slightly more varied, but still remarkably stable, ranging in *Pendergrass* Table 1 only from 84.5% to 91.4 percent.

What accounts for this remarkable stability in the divergent preferences of Black and white voters across years and offices? It is clearly not Black voter's preference for Black candidates, or white voter's disinclination to vote for Black candidates. At 98.5 percent, the average Black support for the 19 Black candidates identified as Black in Palmer's *Pendergrass* Table 1 is indeed nearly universal, but so is the average 98.4 percent support for the 21 candidates identified as non-Black in Table 1. Similarly, the average white vote in opposition to the 19 candidates identified as Black in *Pendergrass* Table 1 is a clearly cohesive 88.1 percent, but so is the average 87.1 percent white voter opposition to the 21 candidates identified as non-Black. The same can said for Dr. Palmer's results in his *Grant* report where, for example, the average Black support for the 19 candidates identified as Black in Table 2 is 98.2 percent, and Black voter support for the 21 candidates identified as non-Black is a nearly identical 98.1 percent. Similarly, the average white vote in opposition to the 19 candidates identified as Black in *Grant* Table 2 is a clearly cohesive 90.1 percent, but so is the average 89.1 percent white voter opposition to the 21 candidates identified as non-Black.

If we do consider the party affiliation of the candidates, the pattern over these election contests is stark in both the *Grant* report and the *Pendergrass* report. In all 40 contests the candidate of choice of Black voters is the Democrat and the candidate of choice of white voters is the Republican.

In contrast, the race of the candidates does not appear to be influential. Black voter support for Black Democratic candidates is certainly high, as Dr. Palmer's Tables 2 through 6 in *Grant* and Tables 1 through 5 in *Pendergrass* clearly show, but those same figures also show Black voter support in the same high range for white Democratic candidates as it is for Black Democratic candidates. Similarly, white voter support for Black Democratic candidates is very low, but white voter support for white Democratic candidates is also very low.<sup>1</sup> In other words, there appears to be just one overarching attribute of candidates that uniformly leads to their relative acceptability or unacceptability among white voters and Black voters alike. And it is not the candidate's race. It is their party affiliation.

For example, in the 2022 contest for Governor in Dr. Palmer's *Pendergrass* Table 1 (his combined focus region) Stacey Abrams, the Black Democratic candidate, gets an estimated 98.5% of the Black vote, but in the same election in the adjacent Lt. Governor contest Charlie Bailey, a white Democrat, gets an almost identical estimated 98.4% of the Black vote. Looking at White voters a similar pattern is clear. Abrams gets an estimated 10.3% of the white vote, but in the same election in the adjacent Lt. Governor contest Baily, the white Democrat, received a similar estimated 12.1% of the white vote.

Similarly, in the 2021 U.S. Senate runoffs in Dr. Palmer's *Pendergrass* Table 1 (his combined focus region) Raphael Warnock, the Black Democratic candidate gets an estimated 98.7% of the Black vote, but in the same election in the other Senate contest Jon Ossoff, a white Democrat gets an identical estimated 98.7% of the Black vote. Looking at white voters a similar pattern is clear. Warnock, the Black Democratic candidate, gets an estimated 15.2% of the white vote, but in the same election in the other Senate contest, Ossoff, the White Democrat, gets an almost identical estimated 14.5% of the white vote.

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<sup>1</sup> The limited evidence from the 2022 endogenous elections provided in Dr. Palmer's supplemental reports do not contradict this broad pattern.

Moving beyond his EI analysis, Dr. Palmer also provides reconstituted election results to demonstrate the success rate of Black preferred candidates in his focus areas. Given that as mentioned above the Black preferred candidate is always the Democratic candidate and given the dominance of political party in the EI results as discussed above, it is no surprise that these tables show stable performance for Democratic candidates across the 40 contests, regardless of race. For example, in Dr. Palmer's Table 7 in his *Pendergrass* report, the average vote share for the Democratic candidate is 41.7 percent in the 19 contests where the Democratic candidate is Black, and a very similar 42.3 percent in the 21 contests where the Democratic candidate is not Black.

In short, all that Dr. Palmer's analysis demonstrates is that Black voters provide uniformly high levels of support for Democratic candidates and white voters provide uniformly high levels of support for Republican candidates. There is no indication in these EI results that the high levels of Black voter support for Democratic candidates is connected in any meaningful way to the race of the Democratic or Republican candidates. Similarly, there is no indication in these results that the high levels of white voter support for the Republican candidates is connected in any meaningful way to the race of the Democratic or Republican candidates.

### **Dr. Handley's Report**

Dr. Handley's December 12, 2022 report in *Alpha Phi Alpha* focuses first on general elections, and reports results similar to those reported by Dr. Palmer. Black voters support Democratic candidates and white voters support Republican candidates. She indicates that she has chosen to focus on racially contested elections, so this limits the ability to see whether this partisan pattern varies at all with the race of the candidates, but in the two contests without a Black Democrat, the Ossoff 2020 Senate contest and 2021 runoff, the results for both Black and White voters are very similar to the results for the racially contested elections, as was the case in Dr. Palmer's larger set of general elections.

Unlike Dr. Palmer, Dr. Handley also analyzes eleven racially contested statewide Democratic primaries. The results in these primaries are very different from the general election patterns. The general election pattern is a very important contrast to keep in mind when evaluating the results for these eleven primary contests. In the general elections, Black support for the Democratic candidate is very high and very stable in the upper 90% range. Similarly,

White voter opposition to the Democratic candidates is also high and stable in the 80 percent and up range.

While there is not currently a bright-line court standard for determining the level of support needed under *Gingles* prongs 2 and 3 to demonstrate cohesion, multiple plaintiffs' experts have recently discussed a minimum of 60 percent threshold for cohesion in a two-person contest. Simply having a preferred candidate (50 percent plus 1 in a two-candidate contest) is not sufficient. This is, of course, true by definition. If simply having a preferred candidate was sufficient to establish cohesion, then the *Gingles* 2 threshold test would always be met in two candidate contests and thus not actually constitute a test at all. As Dr. Palmer notes on page 4 of his *Pendergrass* report, "[i]f the group's support is roughly evenly divided between the two candidates, then the group does not cohesively support a single candidate". Even if a more stringent 75 percent or 80 percent threshold was the cohesion threshold standard, the results for the general elections provided by both Dr. Palmer and Dr. Handley clearly establish partisan polarization, with Blacks always favoring Democratic candidates at stable levels well above 80 percent, and whites favoring Republican candidates at similarly stable levels, typically above 80 percent.

Applying the 60 percent threshold for cohesion to the 40 general election contests in Dr. Palmer's *Grant* report or the 40 general election contests in Dr. Palmer's *Pendergrass* report, produces the same clear result. In 40 out of 40 contests, Black voters provide cohesive support to the Democratic candidate and white voters provide cohesive support to the opposing Republican candidate. This unequivocal result is what Palmer references as supporting his conclusion of polarized voting. As he states on pages 5-6 of his December 12, 2022 *Grant* report:

*Black voters are extremely cohesive, with a clear candidate of choice in all 40 elections. In contrast to Black voters, Figure 2 shows that White voters are highly cohesive in voting in opposition to the Black-preferred candidate in every election across the five focus areas. Table 1 lists the average level of support for the Black-preferred candidate for Black and White voters in each focus area. Across all five focus areas, Black voters support their preferred candidate with an average of 98.5% and a minimum of 95.2% of the vote, and White voters support Black-preferred candidates with an average of 8.3% and a maximum of 17.7% of the vote. This is strong evidence of racially polarized voting across all five focus areas.*

The same can be said for the 16 general election contests that Dr. Handley includes for each of her seven focus regions as reported in her Appendix C1-C7. In every one of the 16 contests examined in all seven regions, Black voter support for the Democratic candidate clearly exceeds 60 percent and in all the regular elections (excluding the one 20 candidate special Senate election in 2020) exceeded 90 percent. White voters provided cohesive support to the opposing Republican candidates exceeding 60% in every contest with the sole exception of the 2022 Senate contest in Appendix 1, where the white estimated vote fell just short of 60 percent at 59.3 percent.

As Dr. Handley, herself, states on page 9 of her December 23, 2022 Report:

*Overall, the average percentage of Black vote for the 16 Black-preferred candidates is 96.1%. The average percentage of White vote for these 16 Black-preferred candidates across the seven areas is 11.2%. (When Ossoff is excluded, and only Black-preferred Black candidates are considered, the average White vote is slightly lower: 11.1 %.) The highest average White vote for any of the 16 candidates is 14.4% for Raphael Warnock in his 2022 general election bid for re-election. While the percentage of White support for candidates preferred by Black voters varies across the areas, in five of the seven areas the average did not even reach 10%. White crossover voting was the highest in the Eastern Atlanta Metro Region (Map 1), but only about one third of White voters typically supported the Black-preferred Black candidates in this area.*

She finds similarly clear evidence of polarization when she considers the analysis of state legislative elections included in her Appendix B1 and B2, stating on page 9 of her December 23, 2022:

*Nearly every one of the 54 of the state legislative elections analyzed (53 of the 54 contests, or 98.1%) was racially polarized. The estimates of Black and White support for the state legislative candidates in these contests analyzed can be found in Appendices B1 (State Senate) and B2 (State House). Black voters were quite cohesive in supporting Black candidates in these state legislative contests: on average, 97.4% of Black voters supported their preferred Black state senate candidates, and 91.5% supported their preferred Black state house candidate. Very few White voters supported these candidates, however: Black-preferred Black state senate candidates garnered, on average, 10.1% of the White vote; Black-preferred Black state house candidates received, on average, 9.8% of the White vote.*

Based on their summary descriptions of their general election analysis, it is clear that both Dr. Palmer and Dr. Handley know what a convincing pattern of polarization looks like. That clear pattern is not present once candidate party labels are removed from the contest. Dr. Palmer

makes no effort to address this issue of conflating polarization in support for Democratic versus Republican candidates with racial polarization. Dr. Handley attempts to address the issue by providing analysis for eleven Democratic primaries in each of her seven focus regions.

But looking at the Democratic primary contests, as reported in Dr. Handley's Appendix C1-C7, the contrast to the pattern in the partisan general elects is stark. As detailed above, the pattern of Black voter support for Democratic candidates and white voter support for their Republican opponents in general elections is near universal, and both Black and white voters show strong and highly stable levels of cohesion. In contrast the pattern Dr. Handley identifies in the Democratic primaries is far from universal or stable. The support of Black voters for Black candidates varies widely, and seldom reaches above 80 percent. Similarly, white voter support for Democratic candidates is typically below 20% in the general elections, but in the primaries white support for Black candidates varies widely and is often fairly evenly divided. In many of the contests within Dr. Handley's six focus regions, for example, the votes of Blacks, whites, or both are divided too evenly to characterize the voting as cohesive. Even ignoring any concern for establishing minority or majority cohesion and applying a very loose standard of Blacks and whites simply preferring different candidates, Dr. Handley is only able to conclude that "the majority (55.8%) of the contests I analyzed were racially polarized" (page 10), a level not much above chance, and far below the 100 percent or 98.1 percent reported for general elections.

If we consider the *Gingles* 2 and 3 cohesion thresholds, even this slight result disappears. Using even a modest 60% standard for voter cohesion, Black voters vote cohesively for Black candidates in only 35 contests out of 77 (46 percent). If we add the instances where Blacks vote cohesively for white candidate that rises to 49 contests (64 percent of the 77 total). In those 49 contests, white voters cohesively opposed the Black preference in only 10 contests (20 percent of the 49 contests).

### **Herschel Walker Senate Race**

The recent 2022 Republican U.S. Senate primary provides an additional racially contested primary to consider. Among the six candidates, the majority winner was Herschel Walker, one of the three Black candidates. Given that Black voters were less than 12 percent of the voters in any county in the state in that primary, and that Walker received a majority of the vote in every county in Georgia, it is clear the Walker was the preferred candidate among White voters

in the Republican primary. This can be seen as well in an initial look at EI estimates for the area covered in Dr. Handley's Appendix A1, reproduced below in Table 1 (Eastern Atlanta Metro Region – Map Area 1, Dekalb, Henry, Morgan, Newton, Rockdale, and Walton). With an estimated 62 percent support among Black voters, and 67 percent support among white voters, Walker is the preferred candidate of both Black and white voters in the Republican primary.

Table 1; Ecological Estimates of Voting Patterns by Race in the 2022 Republican U.S. Senate Primary for Dr. Handley's Eastern Atlanta Metro Region

Last Name	Candidate Race	Black support	95% Confidence Interval		White Support	95% Confidence Interval		Other Support	95% Confidence Interval	
			Low	High		Low	High		Low	High
Herschel Walker	Black	<b>62.4%</b>	57.8%	67.4%	<b>67.0%</b>	66.3%	67.6%	5.3%	1.8%	11.7%
Kelvin King	Black	<b>10.1%</b>	7.7%	12.8%	<b>2.5%</b>	2.0%	3.0%	17.5%	12.5%	22.5%
"Jon" McColumn	Black	<b>3.0%</b>	1.7%	4.8%	<b>0.9%</b>	0.6%	1.2%	22.4%	18.8%	25.4%
Gary Black	white	<b>12.8%</b>	9.6%	16.2%	<b>15.3%</b>	14.5%	16.0%	9.3%	3.3%	17.0%
Latham Saddler	white	<b>7.1%</b>	4.1%	10.7%	<b>12.7%</b>	11.9%	13.5%	15.7%	7.8%	24.0%
Josh Clark	white	<b>4.5%</b>	2.7%	6.8%	<b>1.6%</b>	1.1%	2.2%	29.8%	23.7%	35.3%

## Summary Conclusions

The partisan general election analysis report by Dr. Palmer and Dr. Handley show that Black voters cohesively support Democratic candidates, regardless of whether those candidates are Black or White. Similarly, white voters cohesively vote for Republican candidates, and in opposition to Democratic candidates, regardless of whether those Democratic candidates are Black or white. Thus, it is cohesive Black voter support for *Democratic* candidates, and white voter support for *Republican* candidates that the general election analysis reveals, not cohesive Black voter support for *Black* candidates and white voter support for *white* candidates. Nonetheless, the voting pattern is clearly one of partisan polarized voting, with both highly cohesive Black vote for the Democrat and highly cohesive white vote for the Republican candidate. The more limited analysis of Democratic primaries reported by Dr. Handley shows a very different picture of voting behavior from the general elections. Nothing even approaching the levels of Black and white cohesion seen in the general elections appears anywhere in the

primary contests, and the overall patterns are mixed and variable even within the same set of voters on the same day as we see in the multiple contests in the 2018 Democratic primary. Similarly, the 2022 U.S. Senate Republican primary indicates that white Republican primary voters are willing to support a Black Republican candidate over multiple white opponents.

February 6, 2023

A handwritten signature in black ink, appearing to read "John R. Alford", is written over a horizontal line.

John R. Alford, Ph.D.

# **EXHIBIT 3**

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UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF GEORGIA

Georgia State Conference of NAACP, et  
al.,

Plaintiffs,

vs. C.A. NO:

1:21-cv-5338-ELB-SCJ-SDG

State of Georgia, et al.,

Defendants.

VIDEOTAPED TELECONFERENCE

DEPOSITION OF: John R. Alford, Ph.D.

DATE: March 2, 2023

TIME: 8:41 a.m. CST

LOCATION: Virtual -- Zoom

TAKEN BY: Counsel for the Plaintiffs

REPORTED BY: Roxanne Easterwood, RPR

VIDEOGRAPHER: Leo Mileman

1 David.  
 2 MR. ROLLINS-BOYD: David Rollins,  
 3 Lawyers Committee for Civil Rights Under Law, on  
 4 behalf of Georgia NAACP plaintiffs.  
 5 MR. DAVIS: Alex Davis, Lawyers  
 6 Committee for Civil Rights Under Law, on behalf of  
 7 the Georgia NAACP plaintiffs.  
 8 MS. HORSTMAN: Raija J. Horstman, of  
 9 Crowell & Moring, on behalf of the Georgia NAACP  
 10 plaintiffs.  
 11 MS. HSU: Lily Hsu, with Crowell &  
 12 Moring, on behalf of the Georgia State plaintiffs.  
 13 MR. HEAVEN: Astor Heaven, from Crowell  
 14 & Moring, on behalf of the plaintiffs, as well.  
 15 MR. MONTOYA-ARMANIOS: Vincent Montoya,  
 16 Dechert, LLP, observing on behalf of the common  
 17 cause plaintiffs.  
 18 MR. CHEUNG: Ming Cheung, from the  
 19 ACLU, representing the Alpha Phi Alpha plaintiffs.  
 20 MR. JACOUTOT: Bryan F. Jacoutot, from  
 21 Taylor English, representing state defendants and  
 22 the deponent.  
 23 JOHN R. ALFORD, Ph.D.  
 24 being first duly sworn, testified as follows:  
 25 EXAMINATION

Page 6

1 BY MS. BERRY:  
 2 Q. Okay. Now, could you please state and  
 3 spell your name for the record, please?  
 4 A. Yes. John Alford. J-O-H-N,  
 5 A-L-F-O-R-D.  
 6 Q. Okay. And what is your home address?  
 7 A. It is 15907 Erin Creek Court -- that's  
 8 Erin, E-R-I-N -- Houston, Texas.  
 9 Q. And where are you currently located  
 10 today?  
 11 A. I am at my home address.  
 12 Q. Okay. And are you on any medications  
 13 that might affect your testimony today?  
 14 A. No.  
 15 Q. Okay. And are you currently suffering  
 16 from any impediments that might impair your  
 17 ability to give truthful and accurate testimony?  
 18 A. No.  
 19 Q. Okay. Have you ever had your  
 20 deposition taken before?  
 21 A. Yes, I have.  
 22 (Exhibit 1, John R. Alford Subpoena to  
 23 Testify at a Deposition in a Civil Action, marked  
 24 for identification.)  
 25 BY MS. BERRY:

Page 7

1 Q. So if you can open up Exhibit Share,  
 2 could you pull up Exhibit 1, which should be your  
 3 deposition and subpoena?  
 4 A. Yes, I see that.  
 5 Q. Okay. And are you familiar with this  
 6 document?  
 7 A. Yes.  
 8 Q. Okay. And you understand that this  
 9 obligates you to sit for your deposition today?  
 10 A. Yes, I do.  
 11 Q. Okay. And you're prepared to do so?  
 12 A. Yes.  
 13 MS. BERRY: Okay. And if you give me  
 14 a moment, I'm going to mark another exhibit.  
 15 (Exhibit 2, Alford Rebuttal Expert  
 16 Report, marked for identification.)  
 17 BY MS. BERRY:  
 18 Q. Okay. You should be seeing Exhibit 2  
 19 in Exhibit Share. Let me know if it -- when it  
 20 populates.  
 21 A. All right.  
 22 Q. Are you able to see it, or is it still  
 23 loading?  
 24 A. Yes, it still says: "Generating  
 25 file." There it is.

Page 8

1 Q. Okay. And Exhibit 2 is the report  
 2 that you served in this case, correct?  
 3 A. That is correct.  
 4 Q. Okay. And you understand that you're  
 5 here today to discuss the contents of your report?  
 6 A. Yes.  
 7 Q. Okay. And you understand that you're  
 8 under oath?  
 9 A. Yes.  
 10 Q. Okay. So I'm -- I know you've had  
 11 your deposition taken before, but I'm just going  
 12 to go through a few ground rules, so we,  
 13 hopefully, can make this as efficient and quick as  
 14 possible. So, as you know --  
 15 MR. JACOUTOT: Crinesha?  
 16 MS. BERRY: Yes.  
 17 MR. JACOUTOT: Sorry to interrupt you.  
 18 I just didn't know -- I was scrolling down the  
 19 report. It looks like there's some highlights on  
 20 there. I'm not sure if you want those in for  
 21 the -- for purposes of your questioning. But I  
 22 did that once, and I didn't want to. I just  
 23 wanted to alert you to it.  
 24 MS. BERRY: Oh, no. That's fine.  
 25 Thank you.

Page 9

1 discussion with him, other than that his name is  
 2 familiar. I don't have a great citational memory.  
 3 Q. Okay. We'll get back to that. For  
 4 now I would like you to pull up your report,  
 5 which, I think, is Exhibit 2.  
 6 A. I am looking at it.  
 7 Q. Okay. And so on Page 2 of your report  
 8 you list some data and sources, which are limited  
 9 to the election and demographic data that  
 10 Dr. Schneer provided; is that correct?  
 11 A. Yes.  
 12 Q. Okay. And so just to confirm, that's  
 13 the complete list of materials you considered in  
 14 forming your opinions in this case?  
 15 A. I think as I maybe indicated to Bob  
 16 and certainly discussed further down in the  
 17 report, I'm -- I'm sort of placing his work in the  
 18 context of work on the same time period and -- and  
 19 overlapping sets of elections in the reports of  
 20 Dr. Palmer and Dr. Handley. But other than the  
 21 material in those reports, the only thing I've  
 22 taken into consideration are the Schneer report  
 23 itself and my review of the data he provided.  
 24 Q. Okay. Just -- I just want -- I just  
 25 want to make sure I'm clear. I know that you do

Page 70

1 attach to your report the report that you wrote in  
 2 the other cases, the Pendergrass cases, right?  
 3 That's also your understanding? It's attached as  
 4 appendix -- I believe it's Appendix 2 to this  
 5 report.  
 6 A. I believe that's correct.  
 7 Q. Okay. In there you also have data and  
 8 sources that you relied on?  
 9 A. Correct.  
 10 Q. Okay. And are those data and sources,  
 11 are you -- you did not rely on those data and  
 12 sources for reaching your opinions for  
 13 Dr. Schneer -- in response to Dr. Schneer?  
 14 MR. JACOUTOT: Object to the form.  
 15 THE WITNESS: That's correct. And in  
 16 response to Dr. Schneer, I am -- I am relying on  
 17 the -- on the results of the analysis by  
 18 Dr. Palmer and Dr. Handley, as presented in their  
 19 report, but not on anything beyond the results  
 20 they discuss in their report.  
 21 BY MS. BERRY:  
 22 Q. Okay. And so going back, again,  
 23 focussing in on this case, you formed opinions in  
 24 this case, correct?  
 25 A. Correct.

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1 Q. Okay. And your opinions are limited  
 2 to Gingles 2 and 3?  
 3 A. Correct.  
 4 Q. Okay. And what are your opinions in  
 5 this case?  
 6 A. My opinion in this case is that the  
 7 voting patterns, as in the elections Dr. Schneer  
 8 has analyzed, clearly show voting that is  
 9 polarized, and that voting is consistently  
 10 polarized in the form of minorities voting for  
 11 Democratic candidates and non-Hispanic white  
 12 voters voting for Republican candidates, and that  
 13 there's no indication beyond that partisan pattern  
 14 that race or ethnicity of candidates is the source  
 15 of that pattern of polarization.  
 16 Q. Okay. And what -- what are the bases  
 17 of that opinion?  
 18 A. So, as I indicate in the report, there  
 19 are -- about half of the contests he analyzes  
 20 involve -- are racially contested. The other half  
 21 are not. So we have a nice comparison set. If  
 22 race of candidate is important, then the  
 23 racially-contested elections will look different  
 24 than the elections that are not racially  
 25 contested.

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1 So we have a control group, if you  
 2 want to think of it that way, as an experimental  
 3 group. And, again, what we see is consistent  
 4 across all of those elections. We have a partisan  
 5 cue. So if -- if we want evidence of the partisan  
 6 cue, it's clear here. It's clear when the  
 7 elections are racially contested and when they are  
 8 not. But the other thing we can see is that in  
 9 the elections where there is no racial cue for  
 10 candidates, the results are the same as they are,  
 11 essentially, for when there is a racial cue,  
 12 suggesting that the partisan cue is -- performs  
 13 consistently whether the election is racially  
 14 contested or not.  
 15 And as Dr. Schneer indicates in his  
 16 report, the point of having the racially-contested  
 17 elections is that they can be helpful to indicate  
 18 whether, in fact, the race of the candidates is  
 19 having an effect on the behavior of voters. And  
 20 here that is clearly the case that that is -- the  
 21 polarization we're seeing is not related to the  
 22 race of the candidate.  
 23 Q. Okay. You had -- you said quite a few  
 24 things that I want to break down. So, first, is  
 25 it your opinion that race has no relationship with

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1 partisanship?  
 2 A. No.  
 3 Q. Okay. So what is your understanding  
 4 of that relationship?  
 5 A. Race is involved in -- as are a number  
 6 of other factors, in either descriptively or some  
 7 other fashion, is related to -- to -- can be  
 8 related to partisanship.  
 9 I guess I'm -- I'm not -- I'm not  
 10 studying partisanship here. I don't have any  
 11 data or -- I'm sorry, Dr. Schneer doesn't provide  
 12 any analysis related to the partisanship of  
 13 voters. That's not -- that's not the issue I'm  
 14 dealing with. He provides data on the -- on the  
 15 ballot partisan label of candidates.  
 16 Q. So, but you're -- you said that the  
 17 voting patterns clearly show that voting is  
 18 polarized in Georgia, correct?  
 19 A. Correct.  
 20 Q. Okay. And you said minority voters  
 21 consistently vote for Democrats, correct?  
 22 A. Right.  
 23 Q. Okay. You said non-Hispanic white  
 24 voters consistently vote Republican?  
 25 A. Correct.

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1 Q. Correct. And so with that data, you  
 2 don't find that there is -- voting is racially  
 3 polarized because black voters are not voting for,  
 4 consistently, black candidates, regardless of  
 5 party affiliation?  
 6 MR. JACOUTOT: Object to form.  
 7 THE WITNESS: So, again, you asked  
 8 earlier about partisanship, and as -- as  
 9 indicated, where -- to the extent there's  
 10 partisanship here, it's the partisanship of the  
 11 candidates. So the candidates -- and the  
 12 candidates provide a partisan signal because  
 13 they're labeled as Democrats or Republicans on the  
 14 ballot, and the race of the candidates itself  
 15 provide a signal voters can respond to.  
 16 And I'm just -- because it happens, at  
 17 least in my reading of the -- this discussion,  
 18 Dr. Schneer agrees with me that -- that one way of  
 19 looking at the effect of race on the behavior of  
 20 voters is to look at racially-contested elections  
 21 and contrast them. In this case he's contrasting  
 22 them with non-racially-contested elections, and  
 23 they show what they show.  
 24 I -- but I don't know what the source  
 25 of that is. But I'm just saying it's his argument

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1 that these are -- are helpful in understanding the  
 2 effect of -- of the race of the candidate on the  
 3 behavior of the voters, and his analysis doesn't  
 4 show that effect.  
 5 BY MS. BERRY:  
 6 Q. But he's not -- Dr. Schneer is not  
 7 saying that that's the exclusive way; he's just  
 8 saying, my understanding -- obviously, you can let  
 9 me know if you disagree, but if you have an  
 10 election where you have a non-minority candidate  
 11 running against a minority candidate, and, you  
 12 know, that is one way where you can see where race  
 13 might matter, but it doesn't -- he doesn't  
 14 indicate that that is the only way and that's the  
 15 exclusive way, right?  
 16 MR. JACOUTOT: Object to form.  
 17 THE WITNESS: Again, maybe -- maybe I  
 18 can make my view of that clear. You're correct;  
 19 he does not say that's the only way to show it,  
 20 but it is the only analysis he provides. So this  
 21 is the only analysis he provides to support the  
 22 notion that voting in Georgia is polarized on  
 23 account of race. And based on his discussion, as  
 24 he says -- you're quite correct, he says this is  
 25 one way we might see it, and then we don't see it.

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1 And that doesn't mean that there isn't other way  
 2 we might see it.  
 3 But my point is simply this is the  
 4 only evidence he's provided. So you can speculate  
 5 about what other things that might be involved,  
 6 but if you're going to set aside what this shows,  
 7 which does not show that -- as far as I can tell,  
 8 there's no empirical evidence related to racially  
 9 polarized voting in this report at all.  
 10 BY MS. BERRY:  
 11 Q. So what analysis did you undertake --  
 12 well, let me -- let's back up. So you received  
 13 all of Dr. Schneer's sources and materials, right,  
 14 that he used?  
 15 A. I received the input files for  
 16 election results and for demographics. I don't  
 17 know if that's all of his -- the materials he  
 18 used, but that's -- that's what I received,  
 19 election files that produced his election  
 20 analysis.  
 21 Q. So were you prohibited in any way from  
 22 doing an in- -- because you indicated earlier you  
 23 did not do an independent analysis. Were you  
 24 prohibited in any way from doing an independent  
 25 analysis in this case?

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1 MR. JACOUTOT: Object to the form.  
 2 THE WITNESS: No. I don't think -- I  
 3 would certainly have done one if I thought one was  
 4 required, but, again, I don't think one was  
 5 required, because I believe he did a -- based on  
 6 the analysis and the fact that this same analysis  
 7 has been done by multiple other experts and my  
 8 review of the datasets he used, I think this --  
 9 the analysis he did was, you know, and the  
 10 substantive results of that analysis looked to me  
 11 to be valid.  
 12 Certainly I'm not -- so I'm not --  
 13 I -- I believe that if I reproduced his analysis,  
 14 I would get essentially the same result since  
 15 that's the result I've gotten in the past in doing  
 16 this kind of analysis. It's the result the other  
 17 experts get. When you've got three competent  
 18 experts looking at the same thing, getting the  
 19 same result, I think that would be duplicative to  
 20 do anything with regard to reproducing or  
 21 replicating his analysis.  
 22 And as far as going beyond his  
 23 analysis, you know, I'm responding to his report,  
 24 not writing -- I'm not writing my report as a sort  
 25 of independent treatise on this. I'm just

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1 responding to what Dr. Schneer provided.  
 2 I think the evidentiary basis, the  
 3 empirical analysis is perfectly adequate. I'm  
 4 fine with reaching conclusions based on that. So  
 5 the court doesn't need to decide if they like my  
 6 technique or Dr. Schneer's technique. I'm  
 7 accepting his technique, his data, and his  
 8 analysis.  
 9 BY MS. BERRY:  
 10 Q. Well, what exactly is your technique  
 11 from determining that voting isn't racially  
 12 polarized in Georgia, other than looking at data  
 13 saying these people -- this group voted for  
 14 Democrat; this people -- this group voted for  
 15 Republican, so it's based on partisanship?  
 16 A. First of all, I've never said -- you  
 17 keep bringing that up. I've never said that it's  
 18 based on partisanship. There's no analysis here  
 19 on partisanship.  
 20 And, secondly, I'm not reaching that  
 21 conclusion. It's not my -- I don't need to reach  
 22 that conclusion. I don't have the burden of proof  
 23 here.  
 24 My point is Dr. Schneer's report  
 25 clearly establishes that there is partisan

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1 correlation. It also clearly establishes that  
 2 what he says are critical, which is to look at the  
 3 independent effect of the race of the candidate,  
 4 shows that there is no effect there.  
 5 So my only point is to say that's the  
 6 only evidence Dr. Schneer provides. I think it's  
 7 a correct and appropriate analysis of those  
 8 elections, and it does not establish that there is  
 9 racially polarized voting here, except in the  
 10 sense that the two groups are voting differently  
 11 with regard to the partisanship of the candidates.  
 12 So I am not proving that there is no  
 13 effect beyond partisanship. I'm just trying to  
 14 make what I think is -- to -- to any observer  
 15 would be immediately clear, which is Dr. Schneer  
 16 provides no evidence that there is anything beyond  
 17 partisanship, and everything in his analysis is  
 18 entirely compatible with an argument that the  
 19 party of the candidates is what matters, and  
 20 nothing in his analysis suggests empirical  
 21 demonstration that the race of the candidates  
 22 matter.  
 23 So it's the inadequacy of his  
 24 demonstration that I'm dealing with. I'm  
 25 responsive to his report. I am not arguing or

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1 providing evidence that partisanship is the sole  
 2 explanation or anything about some interaction  
 3 between party and race. I'm just commenting on  
 4 what Dr. Schneer has provided, demonstrated,  
 5 and -- and what that means in terms of the frame  
 6 he sets up, which is that if we want to understand  
 7 the effect of race, then having biracial elections  
 8 will be helpful and will indicate that, and his  
 9 analysis answers that question. These elections  
 10 don't know that.  
 11 So I'm just simply saying he hasn't  
 12 demonstrated that there is racially polarized  
 13 voting. I -- I don't need to do some additional  
 14 analysis to demonstrate that, because his own  
 15 analysis demonstrates that very clearly.  
 16 Q. What is your understanding of Gingles  
 17 2?  
 18 A. My understanding of Gingles 2 is that  
 19 the Gingles threshold test requires that the  
 20 minority group in the case can -- or the experts  
 21 can show or analysis can show that the group is  
 22 politically cohesive, and typically that political  
 23 cohesion is shown through election analysis,  
 24 although not exclusively.  
 25 So political cohesion on the part of

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1 think it would be useful if the court did make a  
 2 clear decision there. I think there are arguments  
 3 for doing that of totality and arguments for doing  
 4 it at the Gingles level. But the language of the  
 5 court is used, and the language Dr. Schneer uses  
 6 here certainly doesn't suggest that -- that  
 7 sticking right here, it's -- it's clear that  
 8 Dr. Schneer himself doesn't believe that the race  
 9 of candidates and the tendency of voters --  
 10 minority voters to support minority candidates is  
 11 irrelevant to the Gingles 2 decision.  
 12 And so I will -- I'm comfortable  
 13 agreeing with Dr. Schneer that this is important  
 14 in assessing Gingles 2.  
 15 BY MS. BERRY:  
 16 Q. Okay. And just so I'm clear, you  
 17 don't -- you're not contesting Dr. Schneer's  
 18 methodology, are you?  
 19 A. No, I'm not.  
 20 Q. Okay. You're not contesting the data  
 21 that he relied on?  
 22 A. No, I'm not.  
 23 Q. Okay. So you just have -- your --  
 24 your issue is his results?  
 25 A. I'm not contesting his results.

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1 Q. Okay. What are you contesting?  
 2 A. All I'm pointing out is that, based on  
 3 his own standard, his results, which he produced  
 4 and which I accept, demonstrate clearly that  
 5 voters are -- minority voters are cohesive in  
 6 supporting Democrat candidates, and non-Hispanic  
 7 white voters are cohesive in supporting Republican  
 8 candidates, and that the -- we then look at --  
 9 specifically at the issue of the additional  
 10 probative value of the racially-contested  
 11 elections. They also demonstrate that the race of  
 12 the -- and ethnicity of the candidates does not  
 13 produce this, the polarized result we're seeing.  
 14 So they -- they demonstrate quite clearly that the  
 15 polarization is partisan. And that's -- that's  
 16 all I'm saying. That's what he's demonstrated.  
 17 So what I disagree with is not his  
 18 results; it is that -- that he goes on to suggest  
 19 that those results support something that they, in  
 20 fact, do not support.  
 21 Q. So what would you need to see, in your  
 22 opinion, for there to be racially polarized  
 23 voting?  
 24 MR. JACOUTOT: Object to form.  
 25 THE WITNESS: I would need to see some

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1 evidence that there is an impact of race on the  
 2 behavior of voters beyond the -- the evidence  
 3 presented here, which is clearly evidence of the  
 4 effect of partisanship on the behavior of voters.  
 5 And, again, I'm -- all I'm doing is --  
 6 is -- is raising that issue because the issue has  
 7 been raised in the courts, again, going all the  
 8 way back, you know, decades ago, in the 5th  
 9 Circuit and in other circuits.  
 10 So -- and -- and experts often  
 11 indicate, at some point in their report or in  
 12 their conclusion that they have demonstrated that  
 13 race is the dominant factor in the elections or  
 14 race is polarizing elections, and I think that's  
 15 a -- whether it's a legal matter or just simply a  
 16 matter of -- of the court asserting -- eventually  
 17 asserting that they have found something to be the  
 18 case, I think it's important not to have courts  
 19 erroneously asserting that, for example, Dr.  
 20 Schneer has demonstrated that voters in Georgia  
 21 vote diametrically different on the basis of race,  
 22 when the only evidence he's provided is that they  
 23 vote diametrically different on the basis of the  
 24 party of the candidates on the ballot.  
 25 Those are two very -- right, one of

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1 those would explain -- well, I'll leave that.  
 2 I'll leave that aside. But I find the idea  
 3 that -- that -- I think suggesting that voting is  
 4 racially polarized, as opposed to polarized on the  
 5 basis of party, is -- is important. It's a  
 6 critical foundation of the purpose and the utility  
 7 and the success of the Voting Rights Act. And  
 8 asserting that that's true without evidence that  
 9 it's true, I think is -- is inappropriate, and I  
 10 think is -- I just find it to be something that  
 11 ought not to be charged lightly when you're  
 12 talking about the -- with this case, the voters of  
 13 an entire state.  
 14 BY MS. BERRY:  
 15 Q. So you mentioned evidence of the  
 16 impact of race. What kind of impact would you  
 17 need to see for there to be racially polarized  
 18 voting?  
 19 MR. JACOUTOT: Objection.  
 20 THE WITNESS: If the evidence -- if the  
 21 evidence you provide shows that the party of the  
 22 candidate matters independently of the race of the  
 23 candidate and that the race of the candidate does  
 24 not matter independent of the party of the  
 25 candidate, then you've provided no evidence

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# **EXHIBIT 4**

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

GEORGIA STATE CONFERENCE OF	)	
THE NAACP, et al.,	)	
	)	
Plaintiffs,	)	CASE NO. 1:21-CV-5338-
	)	ELB-SCJ-SDG
v.	)	
	)	
STATE OF GEORGIA, et al.,	)	
	)	
Defendants	)	
_____	)	
	)	
COMMON CAUSE, et al.,	)	
	)	
Plaintiffs,	)	CASE NO. 1:22-CV-00090-
	)	ELB-SCJ-SDG
v.	)	
	)	
BRAD RAFFENSPERGER,	)	
	)	
Defendant.	)	

**EXPERT REPORT OF JOHN B. MORGAN**

Pursuant to 28 U.S.C. § 1746, Fed. R. Civ. P. 26, and F.R.E. 702 and 703, I, JOHN B. MORGAN, make the following declaration:

1. My name is John B. Morgan. I am over the age of 21 years, and I am under no legal disability which would prevent me from giving this declaration. If called to testify, I would testify under oath to these facts.

2. I hold a B.A. in History from the University of Chicago. As detailed in my CV, attached as Exhibit 1, I have extensive experience over many years in the field of redistricting. I have worked on redistricting plans in the redistricting efforts following the 1990 Census, the 2000 Census, the 2010 Census and the 2020 Census. I have testified as an expert witness in demographics and redistricting.

3. I am being compensated at a rate of \$325 per hour for my services in this case.

4. The redistricting geographic information system (GIS) software package used for this analysis is Maptitude for Redistricting 2021 from Caliper Corporation. The redistricting software was loaded with the census PL94-171 data from the Census Bureau and the census geography for Georgia. I was also provided with election data files used by the Georgia General Assembly during the redistricting process. The full suite of census geography was available, including counties, places, voting districts, water bodies, and roads, as well as census blocks, which are the lowest level of geography for which the Census Bureau reports population counts.

5. I have been asked to review the congressional, House of Representatives and State Senate plans considered and adopted by the Georgia General Assembly and compare them to the proposed congressional, House and Senate plans drawn by Dr. Moon Duchin and offer opinions regarding my analysis.

I was also provided with plans labeled “unity” plans from Dr. Duchin’s data, which I also analyzed.

6. As a result of this analysis, it is my opinion that each of the plans submitted in Dr. Duchin’s report and the unity plans has a significant increase in Democratic performance when compared to the enacted plans.

7. In preparing this analysis, I was given the block-equivalency files of the Duchin plans and the unity plans as well as the block-equivalency files of the 2021 adopted plans and incumbent databases used by the Georgia General Assembly during the redistricting process. The incumbent databases list the address locations and districts of the Representatives and Senators serving under the existing House (2015-enacted) and Senate (2014-enacted) plans prior to the election of 2022.

8. I loaded the 2021 House and 2021 Senate plans enacted by the Georgia General Assembly into the Maptitude for Redistricting software using the block-equivalency files provided. I loaded the Duchin Congressional, Senate and House plans and the Unity plans into the Maptitude for Redistricting software using the block-equivalency files provided. I loaded the prior congressional (2012), House (2015-enacted) and Senate (2014-enacted) plans into the Maptitude for Redistricting software using files provided with software. I loaded the associated incumbent databases provided.

9. Using the Maptitude for Redistricting software, I ran eight report and summaries for each of the Duchin plans, the Unity plans and the enacted plans:

- 1- Measures of compactness report,
- 2- Districts & incumbents report, (not run for congressional plans)
- 3- Population summary report,
- 4- Political subdivision splits report,
- 5- Plan component report,
- 6- Core constituency report compared to prior enacted plan,
- 7- Core constituency report compared to Enacted 2021 plan
- 8- District summary with election data

10. Each of these reports and summaries for each plan is included in the appendices to this report. I summarized highlights of this information in a table for each plan. An index with exhibit numbers for all of these reports and summaries is included at the end of the written report.

**Chart 1. HD-Eff-Jan11 and Enacted 2021 House Plan comparisons**

<b>Plan metrics</b>	<b>HD Eff Jan11</b>	<b>House Enacted</b>
County splits	69	69
Voting precinct splits	307	184
Mean compactness - Reock	0.41	0.39
Mean compactness - Polsby Popper	0.28	0.28
# Paired incumbents	62	20
Deviation relative range	-1.72% to 1.97%	-1.40% to 1.34%
Deviation overall range	3.70%	2.74%
# Districts won by: Biden (D-Pres20)	95	83
# Districts won by: Trump (R-Pres20)	85	97
# Districts won by: Bryant (D-PSC 20)	88	79
# Districts won by: Shaw (R-PSC 20)	92	101
# Seats 18+_AP_Blk% is: over 90%	3	0
# Seats 18+_AP_Blk% is: 80% to 90%	5	0
# Seats 18+_AP_Blk% is: 70% to 80%	4	11
# Seats 18+_AP_Blk% is: 60% to 70%	9	15
# Seats 18+_AP_Blk% is: 55% to 60%	9	5
# Seats 18+_AP_Blk% is: 52% to 55%	3	5
# Seats 18+_AP_Blk% is: 50% to 52%	5	2
<b># Seats majority 18+_AP_Blk%</b>	<b>38</b>	<b>49</b>
# Seats 18+_AP_Blk% is: 45% to 50%	10	4
# Seats 18+_AP_Blk% is: 40% to 45%	8	2

**Chart 2. HD-Alt1-Jan11 and Enacted 2021 House Plan comparisons**

<b>Plan metrics</b>	<b>HD Alt1 Jan11</b>	<b>House Enacted</b>
County splits	73	69
Voting precinct splits	330	184
Mean compactness - Reock	0.39	0.39
Mean compactness - Polsby Popper	0.26	0.28
# Paired incumbents	68	20
Deviation relative range	-2.00% to 2.09%	-1.40% to 1.34%
Deviation overall range	4.08%	2.74%
# Districts won by: Biden (D-Pres20)	92	83
# Districts won by: Trump (R-Pres20)	88	97
# Districts won by: Bryant (D-PSC 20)	86	79
# Districts won by: Shaw (R-PSC 20)	94	101
# Seats 18+_AP_Blk% is: over 90%	2	0
# Seats 18+_AP_Blk% is: 80% to 90%	6	0
# Seats 18+_AP_Blk% is: 70% to 80%	2	11
# Seats 18+_AP_Blk% is: 60% to 70%	5	15
# Seats 18+_AP_Blk% is: 55% to 60%	5	5
# Seats 18+_AP_Blk% is: 52% to 55%	11	5
# Seats 18+_AP_Blk% is: 50% to 52%	19	2
<b># Seats majority 18+_AP_Blk%</b>	<b>50</b>	<b>49</b>
# Seats 18+_AP_Blk% is: 45% to 50%	6	4
# Seats 18+_AP_Blk% is: 40% to 45%	5	2

**Chart 3. HD-Alt2-Jan11 and Enacted 2021 House Plan comparisons**

<b>Plan metrics</b>	<b>HD Alt2 Jan11</b>	<b>House Enacted</b>
County splits	70	69
Voting precinct splits	310	184
Mean compactness - Reock	0.4	0.39
Mean compactness - Polsby Popper	0.26	0.28
# Paired incumbents	65	20
Deviation relative range	-3.22% to 2.51%	-1.40% to 1.34%
Deviation overall range	5.73%	2.74%
# Districts won by: Biden (D-Pres20)	93	83
# Districts won by: Trump (R-Pres20)	87	97
# Districts won by: Bryant (D-PSC 20)	89	79
# Districts won by: Shaw (R-PSC 20)	91	101
# Seats 18+_AP_Blk% is: over 90%	3	0
# Seats 18+_AP_Blk% is: 80% to 90%	3	0
# Seats 18+_AP_Blk% is: 70% to 80%	4	11
# Seats 18+_AP_Blk% is: 60% to 70%	11	15
# Seats 18+_AP_Blk% is: 55% to 60%	4	5
# Seats 18+_AP_Blk% is: 52% to 55%	9	5
# Seats 18+_AP_Blk% is: 50% to 52%	9	2
<b># Seats majority 18+_AP_Blk%</b>	<b>43</b>	<b>49</b>
# Seats 18+_AP_Blk% is: 45% to 50%	9	4
# Seats 18+_AP_Blk% is: 40% to 45%	10	2

**Chart 4. SD-Eff-Jan11 and Enacted 2021 Senate Plan comparisons**

<b>Plan metrics</b>	<b>SD Eff Jan11</b>	<b>Senate Enacted</b>
County splits	31	29
Voting precinct splits	129	47
Mean compactness - Reock	0.43	0.42
Mean compactness - Polsby Popper	0.29	0.29
# Paired incumbents	22	4
Deviation relative range	-1.73% to 1.67%	-1.03% to +0.98%
Deviation overall range	3.40%	2.01%
# Districts won by: Biden (D-Pres20)	33	23
# Districts won by: Trump (R-Pres20)	23	33
# Districts won by: Bryant (D-PSC 20)	30	23
# Districts won by: Shaw (R-PSC 20)	26	33
# Seats 18+_AP_Blk% is: over 90%	0	0
# Seats 18+_AP_Blk% is: 80% to 90%	1	0
# Seats 18+_AP_Blk% is: 70% to 80%	2	3
# Seats 18+_AP_Blk% is: 60% to 70%	2	6
# Seats 18+_AP_Blk% is: 55% to 60%	0	3
# Seats 18+_AP_Blk% is: 52% to 55%	0	1
# Seats 18+_AP_Blk% is: 50% to 52%	3	1
<b># Seats majority 18+_AP_Blk%</b>	<b>8</b>	<b>14</b>
# Seats 18+_AP_Blk% is: 45% to 50%	7	1
# Seats 18+_AP_Blk% is: 40% to 45%	5	1

**Chart 5. SD-Alt1-Jan11 and Enacted 2021 Senate Plan comparisons**

<b>Plan metrics</b>	<b>SD Alt1 Jan11</b>	<b>Senate Enacted</b>
County splits	34	29
Voting precinct splits	120	47
Mean compactness - Reock	0.43	0.42
Mean compactness - Polsby Popper	0.29	0.29
# Paired incumbents	21	4
Deviation relative range	-1.36% to 1.28%	-1.03% to +0.98%
Deviation overall range	2.64%	2.01%
# Districts won by: Biden (D-Pres20)	28	23
# Districts won by: Trump (R-Pres20)	28	33
# Districts won by: Bryant (D-PSC 20)	26	23
# Districts won by: Shaw (R-PSC 20)	30	33
# Seats 18+_AP_Blk% is: over 90%	0	0
# Seats 18+_AP_Blk% is: 80% to 90%	0	0
# Seats 18+_AP_Blk% is: 70% to 80%	1	3
# Seats 18+_AP_Blk% is: 60% to 70%	1	6
# Seats 18+_AP_Blk% is: 55% to 60%	3	3
# Seats 18+_AP_Blk% is: 52% to 55%	2	1
# Seats 18+_AP_Blk% is: 50% to 52%	13	1
<b># Seats majority 18+_AP_Blk%</b>	<b>20</b>	<b>14</b>
# Seats 18+_AP_Blk% is: 45% to 50%	1	1
# Seats 18+_AP_Blk% is: 40% to 45%	0	1

**Chart 6. SD-Alt2-Jan11 and Enacted 2021 Senate Plan comparisons**

<b>Plan metrics</b>	<b>SD Alt2 Jan11</b>	<b>Senate Enacted</b>
County splits	26	29
Voting precinct splits	98	47
Mean compactness - Reock	0.44	0.42
Mean compactness - Polsby Popper	0.3	0.29
# Paired incumbents	20	4
Deviation relative range	-1.30% to 1.33%	-1.03% to +0.98%
Deviation overall range	2.63%	2.01%
# Districts won by: Biden (D-Pres20)	28	23
# Districts won by: Trump (R-Pres20)	28	33
# Districts won by: Bryant (D-PSC 20)	26	23
# Districts won by: Shaw (R-PSC 20)	30	33
# Seats 18+_AP_Blk% is: over 90%	0	0
# Seats 18+_AP_Blk% is: 80% to 90%	1	0
# Seats 18+_AP_Blk% is: 70% to 80%	1	3
# Seats 18+_AP_Blk% is: 60% to 70%	2	6
# Seats 18+_AP_Blk% is: 55% to 60%	4	3
# Seats 18+_AP_Blk% is: 52% to 55%	3	1
# Seats 18+_AP_Blk% is: 50% to 52%	6	1
<b># Seats majority 18+_AP_Blk%</b>	<b>17</b>	<b>14</b>
# Seats 18+_AP_Blk% is: 45% to 50%	4	1
# Seats 18+_AP_Blk% is: 40% to 45%	0	1

**Chart 7. CD-Jan11 and Enacted 2021 congressional Plan comparisons**

<b>Plan metrics</b>	<b>CD-Alt1- Jan11</b>	<b>CD Enacted</b>
County splits	17	15
Voting precinct splits	46	47
Mean compactness - Reock	0.47	0.44
Mean compactness - Polsby Popper	0.3	0.27
# Paired incumbents	no data	no data
Deviation relative range	-1 to 1	-1 to 1
Deviation overall range	0.00% to 0.00%	0.00% to 0.00%
# Districts won by: Biden (D-Pres20)	7	5
# Districts won by: Trump (R-Pres20)	7	9
# Districts won by: Bryant (D-PSC 20)	6	5
# Districts won by: Shaw (R-PSC 20)	8	9
# Seats 18+_AP_Blk% is: over 90%	0	0
# Seats 18+_AP_Blk% is: 80% to 90%	0	0
# Seats 18+_AP_Blk% is: 70% to 80%	0	0
# Seats 18+_AP_Blk% is: 60% to 70%	0	1
# Seats 18+_AP_Blk% is: 55% to 60%	0	0
# Seats 18+_AP_Blk% is: 52% to 55%	0	1
# Seats 18+_AP_Blk% is: 50% to 52%	4	0
<b># Seats majority 18+_AP_Blk%</b>	<b>4</b>	<b>2</b>
# Seats 18+_AP_Blk% is: 45% to 50%	1	2
# Seats 18+_AP_Blk% is: 40% to 45%	0	0

**Chart 8. HD-Unity and Enacted 2021 House Plan comparisons**

<b>Plan metrics</b>	<b>HD Unity</b>	<b>House Enacted</b>
County splits	79	69
Voting precinct splits	99	184
Mean compactness - Reock	0.36	0.39
Mean compactness - Polsby Popper	0.23	0.28
# Paired incumbents	73	20
Deviation relative range	-0.62% to 0.58%	-1.40% to 1.34%
Deviation overall range	1.20%	2.74%
# Districts won by: Biden (D-Pres20)	99	83
# Districts won by: Trump (R-Pres20)	81	97
# Districts won by: Bryant (D-PSC 20)	96	79
# Districts won by: Shaw (R-PSC 20)	84	101
# Seats 18+_AP_Blk% is: over 90%	0	0
# Seats 18+_AP_Blk% is: 80% to 90%	0	0
# Seats 18+_AP_Blk% is: 70% to 80%	0	11
# Seats 18+_AP_Blk% is: 60% to 70%	12	15
# Seats 18+_AP_Blk% is: 55% to 60%	15	5
# Seats 18+_AP_Blk% is: 52% to 55%	17	5
# Seats 18+_AP_Blk% is: 50% to 52%	13	2
<b># Seats majority 18+_AP_Blk%</b>	<b>57</b>	<b>49</b>
# Seats 18+_AP_Blk% is: 45% to 50%	9	4
# Seats 18+_AP_Blk% is: 40% to 45%	8	2

**Chart 9. SD-Unity and Enacted 2021 Senate Plan comparisons**

<b>Plan metrics</b>	<b>SD Unity</b>	<b>Senate Enacted</b>
County splits	46	29
Voting precinct splits	27	47
Mean compactness - Reock	0.37	0.42
Mean compactness - Polsby Popper	0.22	0.29
# Paired incumbents	22	4
Deviation relative range	-0.14% to 0.19%	-1.03% to +0.98%
Deviation overall range	0.33%	2.01%
# Districts won by: Biden (D-Pres20)	31	23
# Districts won by: Trump (R-Pres20)	25	33
# Districts won by: Bryant (D-PSC 20)	30	23
# Districts won by: Shaw (R-PSC 20)	26	33
# Seats 18+_AP_Blk% is: over 90%	0	0
# Seats 18+_AP_Blk% is: 80% to 90%	0	0
# Seats 18+_AP_Blk% is: 70% to 80%	0	3
# Seats 18+_AP_Blk% is: 60% to 70%	0	6
# Seats 18+_AP_Blk% is: 55% to 60%	0	3
# Seats 18+_AP_Blk% is: 52% to 55%	11	1
# Seats 18+_AP_Blk% is: 50% to 52%	9	1
<b># Seats majority 18+_AP_Blk%</b>	<b>20</b>	<b>14</b>
# Seats 18+_AP_Blk% is: 45% to 50%	2	1
# Seats 18+_AP_Blk% is: 40% to 45%	0	1

**Chart 10. CD-Utity and Enacted 2021 congressional Plan comparisons**

<b>Plan metrics</b>	<b>CD-Utity</b>	<b>CD Enacted</b>
County splits	21	15
Voting precinct splits	31	47
Mean compactness - Reock	0.36	0.44
Mean compactness - Polsby Popper	0.23	0.27
# Paired incumbents	no data	no data
Deviation relative range	0 to 1	-1 to 1
Deviation overall range	0.00% to 0.00%	0.00% to 0.00%
# Districts won by: Biden (D-Pres20)	7	5
# Districts won by: Trump (R-Pres20)	7	9
# Districts won by: Bryant (D-PSC 20)	7	5
# Districts won by: Shaw (R-PSC 20)	7	9
# Seats 18+_AP_Blk% is: over 90%	0	0
# Seats 18+_AP_Blk% is: 80% to 90%	0	0
# Seats 18+_AP_Blk% is: 70% to 80%	0	0
# Seats 18+_AP_Blk% is: 60% to 70%	0	1
# Seats 18+_AP_Blk% is: 55% to 60%	0	0
# Seats 18+_AP_Blk% is: 52% to 55%	1	1
# Seats 18+_AP_Blk% is: 50% to 52%	3	0
<b># Seats majority 18+_AP_Blk%</b>	<b>4</b>	<b>2</b>
# Seats 18+_AP_Blk% is: 45% to 50%	1	2
# Seats 18+_AP_Blk% is: 40% to 45%	1	0

11. As an experienced map drawer, I am often asked by elected officials and redistricting stakeholders to review the political performance of districts within a plan and compare that to other plans. When I conduct those analyses, I generally use statewide elections to assess the overall partisan makeup of plans. In the tables above, two elections are included - the presidential election of 2020 (Biden-D vs.

Trump-R) and the Public Service Commissioner election of 2020 (Bryant-D vs. Shaw-R). I understand that these are some of the elections that legislators used when drawing the 2021 enacted plans.

12. Having reviewed these election results, it is my opinion that each of the plans submitted in Dr. Duchin's report has a significant increase in Democratic performance when compared to the enacted plans. It is also my opinion that each of the unity plans has a significant increase in Democratic performance when compared to the enacted plans.

13. The index of exhibits attached to this report is as follows:

#### **INDEX OF EXHIBITS**

1. Morgan CV
2. CD Enacted Core Constituencies to 2012 Congressional Plan
3. CD Enacted District Election Summary
4. CD Enacted Measures of Compactness
5. CD Enacted Plan Components with Population Detail
6. CD Enacted Political Subdivision Splits – VTD
7. CD Enacted Population Summary
8. CD-Alt1-Jan11 Core Constituencies to 2012 Congressional Plan
9. CD-Alt1-Jan11 Core Constituencies to 2021 Congressional Plan
10. CD-Alt1-Jan11 District Election Summary
11. CD-Alt1-Jan11 Measures of Compactness
12. CD-Alt1-Jan11 Plan Components with Population Detail
13. CD-Alt1-Jan11 Political Subdivision Splits – VTD
14. CD-Alt1-Jan11 Population Summary

15. HD Enacted 2021 Core Constituencies to 2015 House Plan
16. HD Enacted 2021 Incumbent Report (2021 Incumbents)
17. HD Enacted 2021 District Election Summary
18. HD Enacted 2021 Measures of Compactness
19. HD Enacted 2021 Plan Components with Population Detail
20. HD Enacted 2021 Political Subdivision Splits – VTD
21. HD Enacted 2021 Population Summary
22. HD-Alt1-Jan11 Core Constituencies to 2015 House Plan
23. HD-Alt1-Jan11 Core Constituencies to 2021 House Plan
24. HD-Alt1-Jan11 Incumbent Report (2021 Incumbents)
25. HD-Alt1-Jan11 District Election Summary
26. HD-Alt1-Jan11 Measures of Compactness
27. HD-Alt1-Jan11 Plan Components with Population Detail
28. HD-Alt1-Jan11 Political Subdivision Splits – VTD
29. HD-Alt1-Jan11 Population Summary
30. HD-Alt2-Jan11 Core Constituencies to 2015 House Plan
31. HD-Alt2-Jan11 Core Constituencies to 2021 House Plan
32. HD-Alt2-Jan11 Incumbent Report (2021 Incumbents)
33. HD-Alt2-Jan11 District Election Summary
34. HD-Alt2-Jan11 Measures of Compactness
35. HD-Alt2-Jan11 Plan Components with Population Detail
36. HD-Alt2-Jan11 Political Subdivision Splits – VTD
37. HD-Alt2-Jan11 Population Summary
38. HD-Eff-Jan11 Core Constituencies to 2015 House Plan
39. HD-Eff-Jan11 Core Constituencies to 2021 House Plan
40. HD-Eff-Jan11 Incumbent Report (2021 Incumbents)
41. HD-Eff-Jan11 District Election Summary

42. HD-Eff-Jan11 Measures of Compactness
43. HD-Eff-Jan11 Plan Components with Population Detail
44. HD-Eff-Jan11 Political Subdivision Splits – VTD
45. HD-Eff-Jan11 Population Summary
46. SD\_Enacted 2021 Core Constituencies to 2014 Senate Plan
47. SD\_Enacted 2021 Incumbent Report (2021 Incumbents)
48. SD\_Enacted 2021 District Election Summary
49. SD\_Enacted 2021 Measures of Compactness
50. SD\_Enacted 2021 Plan Components with Population Detail
51. SD\_Enacted 2021 Political Subdivision Splits – VTD
52. SD\_Enacted 2021 Population Summary
53. SD-Alt1-Jan11 Core Constituencies to 2014 Senate Plan
54. SD-Alt1-Jan11 Core Constituencies to 2021 Senate Plan
55. SD-Alt1-Jan11 Incumbent Report (2021 Incumbents)
56. SD-Alt1-Jan11 District Election Summary
57. SD-Alt1-Jan11 Measures of Compactness
58. SD-Alt1-Jan11 Plan Components with Population Detail
59. SD-Alt1-Jan11 Political Subdivision Splits – VTD
60. SD-Alt1-Jan11 Population Summary
61. SD-Alt2-Jan11 Core Constituencies to 2014 Senate Plan
62. SD-Alt2-Jan11 Core Constituencies to 2021 Senate Plan
63. SD-Alt2-Jan11 Incumbent Report (2021 Incumbents)
64. SD-Alt2-Jan11 District Election Summary
65. SD-Alt2-Jan11 Measures of Compactness
66. SD-Alt2-Jan11 Plan Components with Population Detail
67. SD-Alt2-Jan11 Political Subdivision Splits – VTD
68. SD-Alt2-Jan11 Population Summary

69. SD-Eff-Jan11 Core Constituencies to 2014 Senate Plan
70. SD-Eff-Jan11 Core Constituencies to 2021 Senate Plan
71. SD-Eff-Jan11 Incumbent Report (2021 Incumbents)
72. SD-Eff-Jan11 District Election Summary
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76. SD-Eff-Jan11 Population Summary
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80. CD-Unity Measures of Compactness
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95. SD-Unity District Election Summary

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97. SD-Unity Plan Components with Population Detail
98. SD-Unity Political Subdivision Splits – VTD
99. SD-Unity Population Summary

[Signature on next page]

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 15th day of February, 2023.

  
\_\_\_\_\_  
JOHN B. MORGAN

# **EXHIBIT 5**

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

GEORGIA STATE CONFERENCE  
OF THE NAACP, et al.,  
Plaintiffs,

CASE NO. 1:21-CV-5338-  
ELB-SCJ-SDG

v.  
STATE OF GEORGIA, et al.,  
Defendants.

---

COMMON CAUSE, et al.,  
Plaintiffs,

CASE NO. 1:22-CV-00090-  
ELB-SCJ-SDG

v.  
BRAD RAFFENSPERGER,  
Defendant.

VIDEO DEPOSITION OF JOHN B. MORGAN  
March 14, 2023  
9:32 a.m.  
Taylor English Duma  
1600 Parkwood Circle SE  
Suite 200  
Atlanta, Georgia  
Valerie N. Almand, RPR, CRR, CRC  
David Ramirez, Legal Video Specialist

1 THE VIDEOGRAPHER: Thank you, Counsel.  
 2 Will the court reporter please swear in  
 3 the witness.  
 4 JOHN B. MORGAN, Esquire  
 5 being duly sworn, was examined and testified as  
 6 follows:  
 7 EXAMINATION  
 8 BY MR. ROSENBERG:  
 9 Q. Good morning, Mr. Morgan. I'm Ezra  
 10 Rosenberg. I represent the plaintiffs in the  
 11 Georgia NAACP suit. And as you know, we're here  
 12 to take your deposition in connection with that  
 13 case and in connection with the Common Cause case.  
 14 Are you aware of that?  
 15 A. Yes, that's my understanding.  
 16 Q. And I know you've been deposed before, so  
 17 I'm not going to go through all of the  
 18 instructions. It's a little different than the  
 19 usual deposition because this is on Zoom. But  
 20 nevertheless, it's important for you to answer  
 21 questions I pose orally. Shrugs of the shoulder  
 22 and nods of the head, while the Zoom camera might  
 23 pick it up, the court stenographer cannot. So  
 24 please answer orally. Do you understand that?  
 25 A. Yes.

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1 Q. And if you have any question as to my  
 2 questions, and if you want to make them clearer,  
 3 please tell me and I will try to do so, okay?  
 4 A. Okay.  
 5 Q. Also, this is not meant to be an  
 6 endurance test other than for me and Mr. Tyson.  
 7 So if there's anytime that you want to take a  
 8 break, so long as there's no question on the  
 9 table, let me know and we'll accommodate you,  
 10 okay?  
 11 A. Okay.  
 12 Q. Is there any reason, medically or in  
 13 terms of any medicines you might be taking, that  
 14 you can't testify today fully and accurately?  
 15 A. None that I'm aware of.  
 16 Q. Great, thanks. Mr. Morgan, could you  
 17 tell me what you did to prepare for today's  
 18 deposition?  
 19 A. I reviewed my reports. I reviewed  
 20 Dr. Duchin's rebuttal report, and I met with  
 21 Mr. Tyson yesterday.  
 22 Q. And how long did you meet with Mr. Tyson?  
 23 A. About three -- three and a half hours.  
 24 Q. And other than your -- when you said your  
 25 report, do you mean your opening report or your

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1 rebuttal report or both?  
 2 A. Both.  
 3 Q. And you said you reviewed Dr. Duchin's  
 4 rebuttal report. Does that mean that you did not  
 5 review her opening report?  
 6 A. Not yesterday.  
 7 Q. When was the last time you reviewed  
 8 Dr. Duchin's opening report?  
 9 A. In February, I think.  
 10 Q. Do -- are you familiar with Dr. Duchin, I  
 11 assume?  
 12 A. Yes. I've met her before.  
 13 Q. Do you consider her an expert in her  
 14 field?  
 15 A. I believe so.  
 16 Q. Have you read any of her other reports in  
 17 other cases other than in this case?  
 18 A. No.  
 19 Q. Have you read any of her published  
 20 articles?  
 21 A. No.  
 22 Q. Have you ever reviewed the complaints in  
 23 this case?  
 24 A. Not directly, no.  
 25 Q. When you say "not directly," what does

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1 that mean?  
 2 A. I have not read the complaints. I have  
 3 some understanding of what's in the complaints.  
 4 Q. What is your understanding of what's in  
 5 the complaints?  
 6 MR. TYSON: And I'll just object to the  
 7 extent that calls for privileged conversations.  
 8 If you have a non-privileged understanding, you  
 9 can answer. And Ezra, I guess I should have asked  
 10 earlier. Are you going to reserve objections  
 11 except as to form and responsiveness?  
 12 MR. ROSENBERG: Agreed.  
 13 MR. TYSON: Okay. Sorry, you can answer,  
 14 John, if you can.  
 15 A. Well, what I'd say is there's been  
 16 several cases here. And in this specific case,  
 17 I'm probably not as aware as I am about the other  
 18 cases.  
 19 BY MR. ROSENBERG:  
 20 Q. And when you say "this specific case,"  
 21 are you talking about the Georgia NAACP case and  
 22 the Common Cause case or just the Georgia NAACP  
 23 case?  
 24 A. I'm not -- I don't have an understanding  
 25 of what the differences are between them.

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1 Q. And to the extent you have an  
 2 understanding of what is involved in this case,  
 3 what is that understanding?  
 4 A. Well, I just said that I don't think I  
 5 have a distinction between them. It -- I think  
 6 that this case may be about creating additional  
 7 minority districts but not necessarily  
 8 majority-minority districts.  
 9 Q. Any other understanding you have about  
 10 the case?  
 11 A. As of right now, that probably covers it  
 12 for the moment.  
 13 Q. Have you ever discussed this case with  
 14 anyone other than counsel?  
 15 A. No.  
 16 Q. Have you ever discussed this -- do you  
 17 know who Dr. Alfred is?  
 18 A. I understand he's an expert in this case.  
 19 Q. Have you read his report in this case?  
 20 A. No.  
 21 Q. Have you ever talked with Dr. Alfred  
 22 about this case?  
 23 A. No.  
 24 Q. Have you read any depositions that have  
 25 been taken in this case?

1 A. No.  
 2 Q. Have you read any depositions that had  
 3 been taken in the Grant case?  
 4 A. I have not read any depositions taken in  
 5 the Grant case.  
 6 Q. Any depositions -- have you read any  
 7 depositions that were taken in the Pendergrass  
 8 case?  
 9 A. No.  
 10 Q. Let's -- and Alex, maybe you forgot to  
 11 help me out. To speed things up, we've pre-marked  
 12 your reports and Dr. Duchin's reports. And let's  
 13 get them identified for the record, if we can.  
 14 MR. DAVIS: So for the record, in the  
 15 marked exhibits folder, marked Exhibit 1 is  
 16 Mr. Morgan's opening report; marked Exhibit 2 is  
 17 Mr. Morgan's rebuttal report. Marked Exhibit 3,  
 18 this is Dr. Duchin's opening report, and marked  
 19 Exhibit 4 is Dr. Duchin's rebuttal report.  
 20 (Plaintiffs' Exhibit 1, Plaintiffs'  
 21 Exhibit 2, Plaintiffs' Exhibit 3, and Plaintiffs'  
 22 Exhibit 4 marked)  
 23 BY MR. ROSENBERG:  
 24 Q. Mr. Morgan, do you have those four  
 25 reports in front of you?

1 MR. TYSON: So we have, Ezra, his opening  
 2 report, rebuttal report, Dr. Duchin's rebuttal  
 3 report. Her primary report is on the printer, but  
 4 I -- we see it in the marked exhibit folder and  
 5 can refer to it there, if needed. I'll grab it  
 6 off the printer at a break.  
 7 MR. ROSENBERG: Okay. Can -- would you  
 8 agree that -- and if you want to wait, Brian, till  
 9 we get the printed version of Dr. Duchin's first  
 10 report -- but will you stipulate that the reports  
 11 that have been marked as exhibits are accurate  
 12 copies of the reports that have been served in  
 13 this matter?  
 14 MR. TYSON: Yes, we'll stipulate to that.  
 15 MR. ROSENBERG: Thank you.  
 16 THE WITNESS: And for my part of this, I  
 17 just want to confirm. The reports I have in front  
 18 of me that are printed do not have the appendices.  
 19 MR. TYSON: The exhibits, yes.  
 20 MR. ROSENBERG: Understood. Thank you  
 21 for clarifying that.  
 22 BY MR. ROSENBERG:  
 23 Q. Mr. Morgan, are all of the opinions that  
 24 you intend to give at trial in this case -- and  
 25 when I say "this case," I mean both the Georgia

1 NAACP case and the Common Cause case -- contained  
 2 in your two reports?  
 3 A. I believe so.  
 4 Q. Thank you. Are there any changes or  
 5 corrections or modifications that you wish to make  
 6 in either your opening report, which is Exhibit 1,  
 7 or your rebuttal report, which is Exhibit 2?  
 8 A. Not at this time.  
 9 Q. Have you undertaken any analyses of any  
 10 issues relevant to this case -- and again, from  
 11 now on, whenever I say "this case," I mean both  
 12 the Georgia NAACP case and the Common Cause  
 13 case -- that you've not included in any report?  
 14 MR. TYSON: Object to form.  
 15 A. I'm not sure I understand what you're  
 16 asking.  
 17 BY MR. ROSENBERG:  
 18 Q. Have you started any analysis on any  
 19 issue related to this case that is not included in  
 20 any report?  
 21 A. I guess I'd say that I've loaded the  
 22 plans that are referenced in Dr. Duchin's initial  
 23 report into my redistricting software. In my  
 24 report, I detailed the reports that I ran and some  
 25 analyses that I performed and those are in the

1 written report and the appendices. However, I do  
 2 still have those plans in my computer system, and  
 3 I haven't -- I haven't recorded any observations  
 4 other than what's in my written report and the  
 5 appendices.  
 6 Q. Thank you. Mr. Morgan, are you familiar  
 7 with the Supreme Court opinion in Thornburg v.  
 8 Gingles also?  
 9 A. I'm aware -- I believe it was from the  
 10 early eighties, maybe 1982.  
 11 Q. Do you have an awareness of -- or what  
 12 the -- that case was about?  
 13 A. Generally, I believe it has to do with  
 14 the creation of majority/minority districts.  
 15 Q. Have you ever read that opinion?  
 16 A. I think I have at one time read portions  
 17 of it.  
 18 Q. How long ago was that?  
 19 A. That may have been up to 20 years ago.  
 20 Q. Do you have any understanding whether  
 21 that case has any bearing on the opinions you  
 22 intend to give in this case?  
 23 MR. TYSON: I'll object to the form.  
 24 A. I'm not sure I understand, the opinion  
 25 itself have any bearing on my opinions?

1 disagree with me?  
 2 A. No. I would assume that if there are  
 3 three you would say that there are three.  
 4 Q. Thank you. If I said the first  
 5 precondition is to show that the racial or  
 6 language-minority group is sufficiently large and  
 7 geographically compact to constitute a majority in  
 8 a single-member district, does that sound right to  
 9 you?  
 10 A. Generally, that sounds correct.  
 11 Q. Have you yourself ever undertaken an  
 12 analysis in any case to show whether or not a  
 13 racial or language-minority group is sufficiently  
 14 large and geographically compact to constitute a  
 15 majority in a single-member district?  
 16 MR. TYSON: Object to form.  
 17 A. I don't know that I've done what you  
 18 might describe as an analysis. I know that I've  
 19 drawn districts that could be said to satisfy that  
 20 criteria.  
 21 BY MR. ROSENBERG:  
 22 Q. And where did you do that?  
 23 A. I'm thinking particularly about Indiana.  
 24 Q. Did you say -- Indiana, did you say?  
 25 A. Yes.

1 BY MR. ROSENBERG:  
 2 Q. Whether the discussions in that case have  
 3 any bearing on your opinions here?  
 4 A. I don't know.  
 5 Q. Are you aware of what are called the  
 6 Gingles preconditions?  
 7 A. Yes.  
 8 Q. What's your understanding of the Gingles  
 9 preconditions?  
 10 MR. TYSON: Object to form.  
 11 A. I haven't seen them listed directly, but  
 12 I understand that there is a series of questions  
 13 that are raised in this kind of discussion.  
 14 BY MR. ROSENBERG:  
 15 Q. When you say "this kind of discussion,"  
 16 what do you mean?  
 17 A. Well, you had mentioned the Gingles  
 18 preconditions. So if we're talking about those,  
 19 that there's a series of questions that are  
 20 related to those preconditions.  
 21 Q. Can you -- do you know what any of those  
 22 preconditions are?  
 23 A. Not off the top of my head.  
 24 Q. If I had told you that there are three  
 25 Gingles preconditions, do you have a basis to

1 Q. And when was that?  
 2 A. This would have been in the 1991  
 3 redistricting.  
 4 Q. And did you, in fact, draw the  
 5 majority/minority districts that you believe were  
 6 sufficiently large and geographically compact to  
 7 constitute a majority in a single-member district  
 8 in Indiana?  
 9 A. In this context, I'm thinking about a  
 10 district for the statehouse in Fort Wayne,  
 11 Indiana, yes.  
 12 Q. Any other instances where you drew a map  
 13 that showed that a racial or language-minority  
 14 group was sufficiently large and geographically  
 15 compact so as to constitute a majority in a  
 16 single-member district?  
 17 MR. TYSON: Object to form.  
 18 A. If I understand your question, I don't  
 19 know that I would say that it was part of an  
 20 analysis. I would say, in the practice of drawing  
 21 maps, I have drawn districts in which the minority  
 22 communities constituted a majority of a  
 23 single-member district.  
 24 BY MR. ROSENBERG:  
 25 Q. In this case, do you understand that

1 Dr. Duchin's report of January 13th, which has  
 2 been marked as Exhibit 3 here, addressed the issue  
 3 of whether or not black and/or Hispanic groups  
 4 were sufficiently large and geographically compact  
 5 to constitute a majority in several single-member  
 6 districts in Georgia's congressional district map  
 7 and the senate district map and the house district  
 8 map?  
 9 MR. TYSON: Object to form.  
 10 A. I'm looking at the table of contents, and  
 11 it does reference the demographics of Georgia and  
 12 Gingles demonstration plan, so it appears that the  
 13 report does contain that information.  
 14 BY MR. ROSENBERG:  
 15 Q. Do you understand that Dr. Duchin's  
 16 congressional district Alt 1 map creates four  
 17 black-majority districts, each of which is  
 18 comprised of a black voting-age population that is  
 19 sufficiently large and geographically compact to  
 20 constitute a majority in a reasonably configured  
 21 congressional district?  
 22 MR. TYSON: I'll object to form. Ezra,  
 23 do you want me to turn to a page in the report to  
 24 have him look at that?  
 25 MR. ROSENBERG: Sure. What -- you know,  
 Page 18

1 I can make it easier. Let me direct your  
 2 attention to page 25 of exhibit -- do you have the  
 3 exhibit now, from Brian, in front of the witness?  
 4 MR. TYSON: Yes. We're looking at  
 5 Exhibit 3 --  
 6 MR. ROSENBERG: Dr. Duchin's report,  
 7 Exhibit 3.  
 8 MR. TYSON: -- and this is page 25. And  
 9 just for reference, Mr. Morgan, I believe is also  
 10 referencing his rebuttal report, which is Exhibit  
 11 2, but I guess -- no, you're not, okay.  
 12 THE WITNESS: Yeah. I am referencing  
 13 that. I'm just trying to clarify if the CD-Alt 1  
 14 is the same as the CD January 11, or is that a  
 15 different map?  
 16 BY MR. ROSENBERG:  
 17 Q. We're looking at page 25, CD-Alt 1, under  
 18 Section 7.1 of Exhibit 3.  
 19 A. Okay, I see that.  
 20 Q. Do you agree that there Dr. Duchin sets  
 21 forth four black-majority districts? Do you see  
 22 under black VAP in the chart?  
 23 A. Okay. So if I read that correctly, there  
 24 are four districts that are above 50 percent,  
 25 District 3, 4, 5 and 13.  
 Page 19

1 Q. And do you see, under the black-Hispanic  
 2 VAP, she says four to six districts? Do you see  
 3 that, that are 50 percent or more?  
 4 A. With the combination of what, exactly?  
 5 Q. Black and Hispanic voting-age population.  
 6 A. Is that non-Hispanic, black and Hispanic?  
 7 Q. That is black and Hispanic.  
 8 A. Is the black metric non-Hispanic-black --  
 9 Q. The black is --  
 10 A. -- or any part black?  
 11 Q. There is no duplication between the black  
 12 population and the Hispanic population.  
 13 A. Okay. I see those numbers in the chart.  
 14 Q. Do you agree that those -- let's -- we  
 15 can start with the black VAP districts -- meet the  
 16 first Gingles threshold?  
 17 MR. TYSON: Object to form.  
 18 A. I don't know that I can say that. I can  
 19 see that they are majority black voting-age  
 20 population.  
 21 BY MR. ROSENBERG:  
 22 Q. Do you dispute that any of the  
 23 congressional black-majority districts created in  
 24 Dr. Duchin's CD-Alt 1 plan meet the first Gingles  
 25 threshold?  
 Page 20

1 MR. TYSON: I'll object to form. It  
 2 calls for a legal conclusion.  
 3 A. I don't know that I have a way to answer  
 4 that.  
 5 BY MR. ROSENBERG:  
 6 Q. Meaning that you don't have a basis to  
 7 dispute it sitting here today?  
 8 MR. TYSON: Object to form.  
 9 A. I don't have a basis to dispute it or  
 10 confirm it.  
 11 BY MR. ROSENBERG:  
 12 Q. Do you agree that each of the four  
 13 black-majority districts created by Dr. Duchin in  
 14 her CD-Alt 1 plan is comprised of a black  
 15 voting-age population that is sufficiently large  
 16 and geographically compact to constitute a  
 17 majority in a reasonably configured congressional  
 18 district?  
 19 MR. TYSON: I'll object to form, calls  
 20 for a legal conclusion.  
 21 A. I see that the numbers in the chart  
 22 indicate that on that metric the districts in  
 23 question are above 50 percent.  
 24 BY MR. ROSENBERG:  
 25 Q. And do you have a basis to dispute that  
 Page 21

<p>1 those four black-majority districts are each                  2 comprised of a black voting-age population that's                  3 sufficiently large and geographically compact to                  4 constitute a majority in a reasonably configured                  5 congressional district?                  6 A. I have not --                  7 MR. TYSON: Object to form.                  8 A. I haven't undertaken that analysis.                  9 BY MR. ROSENBERG:                  10 Q. So you have no basis to dispute it?                  11 MR. TYSON: Object to form.                  12 A. I don't have the basis to dispute or                  13 confirm that.                  14 BY MR. ROSENBERG:                  15 Q. And if I ask you the same question as to                  16 the six black and Hispanic districts in that chart                  17 as to whether or not you have a basis to dispute                  18 that each of those is comprised of a combined                  19 black-Hispanic citizen of voting-age population                  20 that is sufficiently large and geographically                  21 compact to constitute a majority in a reasonably                  22 configured congressional district, do you have a                  23 basis to dispute that?                  24 MR. TYSON: I'll object to form.                  25 A. The information on the chart says black</p> <p style="text-align: right;">Page 22</p>	<p>1 BY MR. ROSENBERG:                  2 Q. Okay. Moving to -- if you look at that                  3 same page, Section 7.2 on page 25, you'll see that                  4 Dr. Duchin has also created 14 -- I'm sorry. Let                  5 me actually get back to that.                  6 Let me ask you this question: Do you                  7 have a basis -- if I were to run through                  8 Dr. Duchin's senate plans, under her Effective 1                  9 and Effective 2, to dispute whether any of the                  10 majority-minority plans, be they black majority or                  11 black and Hispanic majority, are comprised of a                  12 majority -- or minority population that is a                  13 majority for the district that is sufficiently                  14 large and geographically compact to constitute a                  15 majority in a reasonably configured senate                  16 district?                  17 MR. TYSON: Object to form.                  18 A. I see that she asserts that, and I don't                  19 have any basis to not believe that or to support                  20 that.                  21 BY MR. ROSENBERG:                  22 Q. And if I ask you the same question as to                  23 the house districts that she creates as either a                  24 majority black or majority black and Hispanic                  25 districts, do you have a basis to dispute that any</p> <p style="text-align: right;">Page 24</p>
<p>1 and Hispanic voting age. It doesn't indicate that                  2 it's citizen voting age. If it is, it doesn't                  3 indicate that on the chart.                  4 BY MR. ROSENBERG:                  5 Q. Have you read all of Dr. Duchin's report?                  6 A. Not word-for-word, no.                  7 Q. Are you aware that Dr. Duchin did a                  8 separate CVAP analysis in this report?                  9 A. I believe I saw that that was undertaken                  10 in this report.                  11 Q. Having read her report, do you have a                  12 basis to dispute that the black and Hispanic --                  13 that -- I'm sorry -- that Dr. Duchin created in                  14 her CD-Alt 1 six black and Hispanic CVAP districts                  15 comprised of a combined black-Hispanic CVAP                  16 population that is sufficiently large and                  17 geographically compact to constitute a majority in                  18 a reasonably configured congressional district?                  19 MR. TYSON: Object to form.                  20 A. I did not undertake that analysis myself.                  21 BY MR. ROSENBERG:                  22 Q. So you do not have a basis to dispute it?                  23 MR. TYSON: Same objection.                  24 A. I don't have a basis to dispute or                  25 confirm that.</p> <p style="text-align: right;">Page 23</p>	<p>1 one of those districts is comprised of either a                  2 black-majority population or a black-Hispanic CVAP                  3 population that is sufficiently large and                  4 geographically compact to constitute a majority in                  5 a reasonably configured house district?                  6 MR. TYSON: Object to form.                  7 A. I haven't analyzed that myself. And if                  8 it's asserted in the report, then I don't have a                  9 reason to dispute or confirm that.                  10 BY MR. ROSENBERG:                  11 Q. Are you aware of the other two Gingles                  12 thresholds or preconditions?                  13 A. I have some awareness of that, yes.                  14 Q. And what's the nature of your awareness?                  15 A. That there are other information that is                  16 discussed in the Gingles case and is -- and that                  17 it may be in this report as well.                  18 Q. And what is that other information?                  19 A. I don't have that information in front of                  20 me.                  21 Q. Are you aware of a Gingles precondition                  22 that states that the minority population -- that                  23 the minority group is politically cohesive,                  24 meaning its members tend to vote similarly? Does                  25 that sound familiar to you?</p> <p style="text-align: right;">Page 25</p>

1 A. Yes, that sounds familiar.  
 2 Q. Have you undertaken an analysis in this  
 3 case relating to whether plaintiffs have met the  
 4 second Gingles precondition?  
 5 MR. TYSON: Object to form.  
 6 A. I have not undertaken that kind of  
 7 analysis.  
 8 BY MR. ROSENBERG:  
 9 Q. Are you aware of what the third Gingles  
 10 precondition is?  
 11 A. Not word-for-word, no.  
 12 Q. How about -- not word-for-word, how about  
 13 paraphrase?  
 14 A. I'm sorry. I don't understand the --  
 15 Q. You said "not word-for-word," so can you  
 16 paraphrase the third Gingles precondition for me?  
 17 A. No.  
 18 Q. If I tell you that the third Gingles  
 19 precondition is whether the majority votes  
 20 sufficiently as a block to enable it usually to  
 21 defeat the minority's preferred candidate, does  
 22 that sound right to you?  
 23 MR. TYSON: I'll object to form.  
 24 A. I don't quite understand what you asked.  
 25 Could you repeat the question, please?

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1 BY MR. ROSENBERG:  
 2 Q. Sure. If I stated that the third Gingles  
 3 precondition is whether the majority votes  
 4 sufficiently as a block to enable it usually to  
 5 defeat the minority's preferred candidate, does  
 6 that sound correct to you?  
 7 MR. TYSON: Object to form.  
 8 A. Generally, that sounds similar to my  
 9 understanding.  
 10 BY MR. ROSENBERG:  
 11 Q. In this case, have you undertaken an  
 12 analysis relating to whether plaintiffs have met  
 13 the third Gingles precondition?  
 14 MR. TYSON: Object to form.  
 15 A. I have not undertaken that analysis.  
 16 BY MR. ROSENBERG:  
 17 Q. Do you intend to offer any opinion in  
 18 this case as to whether race predominated in the  
 19 drawing of any house, congressional, or state  
 20 districts?  
 21 MR. TYSON: Object to form.  
 22 A. I did not offer that type of opinion in  
 23 my reports to date.  
 24 BY MR. ROSENBERG:  
 25 Q. So the answer is, you do not intend to

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1 offer any opinion as to whether race predominated  
 2 in the drawing of any house, congressional, or  
 3 senate districts?  
 4 MR. TYSON: Same objection.  
 5 A. At this point, I haven't undertaken that  
 6 in my reports. It could be possible that  
 7 something like that would come up during the  
 8 context of the trial, but it's not in my report.  
 9 BY MR. ROSENBERG:  
 10 Q. Okay. Let's turn to your report, which  
 11 has been marked as Exhibit 1, and I'd like to turn  
 12 to page -- give me one second.  
 13 THE WITNESS: If there's no question now,  
 14 could I take a short break, please?  
 15 MR. ROSENBERG: Sure. How long do you  
 16 want, Mr. Morgan?  
 17 THE WITNESS: Five to six minutes.  
 18 MR. ROSENBERG: Sure.  
 19 THE VIDEOGRAPHER: Stand by. The time is  
 20 10:03 a.m. We are off video record.  
 21 (Recess)  
 22 THE VIDEOGRAPHER: The time is 10:11 a.m.  
 23 We are back on video record.  
 24 BY MR. ROSENBERG:  
 25 Q. Thank you. Mr. Morgan, during the break,

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1 did you talk with anybody?  
 2 A. Yes. I talked with Mr. Tyson.  
 3 Q. Did you talk with -- about questions I  
 4 had posed in the deposition?  
 5 A. No. I asked about what "object to form"  
 6 meant.  
 7 Q. Did you discuss anything else related to  
 8 the deposition?  
 9 A. No.  
 10 Q. Before we broke, I had asked you some  
 11 questions about whether you could dispute that the  
 12 majority-minority districts created by  
 13 Dr. Duchin's report and I used the phrase "SD  
 14 effective" and HD effective." If I -- I'd like to  
 15 just rephrase it to make it clear.  
 16 Do you agree that you cannot dispute  
 17 whether the majority districts created in  
 18 Dr. Duchin's senate plans as evidenced in her  
 19 SD-Alt plans and the house plans as evidenced in  
 20 her HD-Alt plans were comprised of minority  
 21 populations that were sufficiently large and  
 22 geographically compact to constitute a majority in  
 23 a reasonably configured senate district or  
 24 regional configured house district? Is your  
 25 answer the same that you're not in a position to

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1 dispute that?  
 2 MR. TYSON: I'll object to form.  
 3 A. I didn't undertake that analysis, so I  
 4 don't dispute or confirm that.  
 5 BY MR. ROSENBERG:  
 6 Q. Thank you. Now, turning to your report,  
 7 I'd like to -- which is Exhibit 1. I'd like to  
 8 draw your attention to paragraph 48 on page 42.  
 9 A. Okay.  
 10 Q. And there you say that, My review of the  
 11 enacted house and senate plans -- this is under  
 12 the phrase, Conclusion -- My review of the enacted  
 13 house and senate plans combined with drawing the  
 14 blind illustrative plans demonstrates the tendency  
 15 that racial considerations had an effect on  
 16 district composition and district shapes in the  
 17 enacted plans.  
 18 Did I read that correctly?  
 19 A. Yes.  
 20 Q. Is that the only opinion that you intend  
 21 to provide at trial based on your analysis  
 22 provided in this report, Exhibit 1?  
 23 A. Well, that is a conclusion at the end of  
 24 the report. There have been other opinions  
 25 probably in the report as well.

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1 Q. Other opinions that are supportive of  
 2 that overall conclusion?  
 3 A. There's numerous opinions in the report.  
 4 Q. I'm sorry. I could not hear you. Could  
 5 you repeat that, your answer, please?  
 6 A. There are numerous opinions in the  
 7 report.  
 8 Q. Do any of those opinions support a  
 9 conclusion other than the conclusion set forth in  
 10 paragraph 48?  
 11 A. I haven't considered it in that context,  
 12 but I believe they would support that conclusion.  
 13 Q. How long did it take you to perform the  
 14 analysis that you did in this report and to write  
 15 the report?  
 16 A. I don't know, many hours.  
 17 Q. When you say "many," more than 20?  
 18 A. Yes.  
 19 Q. More than 50?  
 20 A. Probably.  
 21 Q. More than 100?  
 22 A. Probably not.  
 23 Q. Someplace between 50 and 100. And this  
 24 is the same report that you submitted in the Grant  
 25 and Pendergrass cases; is that correct?

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1 A. Yes, that's my understanding.  
 2 Q. Now, on page 5 of the report, you say  
 3 that you were asked to review the house and senate  
 4 plans; is that correct?  
 5 A. Yes.  
 6 Q. You were not asked to review the  
 7 congressional plan?  
 8 A. Not in this report.  
 9 Q. So in this opening report, you undertook  
 10 no analysis of the congressional plan; is that  
 11 correct?  
 12 A. That's correct. I looked at the  
 13 legislative plans, and I drew some illustrative  
 14 plans for the house and the senate, and that's  
 15 what I analyzed in this report.  
 16 Q. Did you ever try to draw a plan for  
 17 the -- a map for the congressional plan?  
 18 MR. TYSON: I'll just object to the  
 19 extent that calls for any conversations with  
 20 counsel, if -- you can answer.  
 21 A. Regarding the congressional plans, I  
 22 didn't include any plans that I drafted in any way  
 23 in this report.  
 24 BY MR. ROSENBERG:  
 25 Q. But did you try to draw any congressional

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1 plan?  
 2 MR. TYSON: Same objection.  
 3 A. I didn't do that, and I did not do that  
 4 in this report.  
 5 BY MR. ROSENBERG:  
 6 Q. Did you do that in any report?  
 7 MR. TYSON: Same objection.  
 8 A. I don't recall including a congressional  
 9 plan that I drafted in any report.  
 10 BY MR. ROSENBERG:  
 11 Q. To the extent that you drew conclusions  
 12 as to the relationship between compactness and the  
 13 drawing of majority-minority districts as to the  
 14 senate- and house-enacted plans, is it true that  
 15 you did not draw any similar conclusions as to the  
 16 congressional plan?  
 17 A. There's no information about  
 18 congressional districts in this report.  
 19 Q. Now, on page 3, paragraph 5, you say, I  
 20 was asked to draw a blind plan that did not  
 21 include -- I'm sorry -- that did not consider race  
 22 or incumbency or past redistricting plans for  
 23 Georgia. Do you see that?  
 24 A. Yes.  
 25 Q. What is a blind plan?

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1 A. I used a quote, unquote, blind plan. I  
 2 think the implication is that it's blind to racial  
 3 considerations. And as I stated in the report, I  
 4 did not use racial information in the drafting of  
 5 this plan.  
 6 Q. Had you ever drawn such a blind plan  
 7 before?  
 8 A. In the context of my work experience,  
 9 yes, I've drawn plans like this.  
 10 Q. Where?  
 11 A. In other states.  
 12 Q. Which other states?  
 13 A. North Carolina, South Carolina, New  
 14 Jersey.  
 15 Q. Any others?  
 16 A. There may have been others, but I don't  
 17 recall them at the moment.  
 18 Q. In each of those plans, did you include  
 19 the same factors that you included in this plan?  
 20 A. I'm not sure I understand the question.  
 21 Q. Sure. I'll clarify that. Well, before  
 22 you said that a blind plan is one that does not  
 23 include racial considerations; is that correct?  
 24 A. Generally, that's -- generally, that's  
 25 what was done in this report.

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1 Q. Right. And my question is: In the blind  
 2 plans that you say you drew in North Carolina,  
 3 South Carolina and New Jersey, did you draw them  
 4 blind to -- let's start with this: Did you draw  
 5 them blind to racial considerations, each of those  
 6 plans?  
 7 A. Generally, yes.  
 8 Q. What do you mean by "generally"?  
 9 A. Just what I said, generally I was blind  
 10 to racial considerations.  
 11 Q. When you say generally, does that mean  
 12 sometimes you were not blind to racial  
 13 considerations?  
 14 A. No. That's not what I said.  
 15 Q. You said "generally." Are -- is your  
 16 testimony that you -- they were always blind to  
 17 racial considerations?  
 18 A. As I recall, yes.  
 19 Q. Okay. Were they blind to considerations  
 20 other than race, in addition to being blind to  
 21 racial considerations?  
 22 A. In some instances, yes.  
 23 Q. Okay. Let's start with North Carolina.  
 24 What considerations, other than race, were the  
 25 North Carolina plans that you drafted blind to?

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1 A. Incumbency.  
 2 Q. Any other considerations that they were  
 3 blind to?  
 4 A. In this context, the previous districts.  
 5 Q. When you say "this context," do you mean  
 6 the maps you drew in this case or North Carolina?  
 7 A. When I say "in this context," I'm  
 8 referring to the report. So in the report, I  
 9 mentioned that the previous -- the past  
 10 redistricting plans were generally not considered.  
 11 And in North Carolina, that was also the case.  
 12 Q. Were there any other considerations that  
 13 the North Carolina plans were blind to other than  
 14 race, incumbency and past redistricting plans?  
 15 A. Yes, they did not consider politics as  
 16 well.  
 17 Q. When you say "they did not consider  
 18 politics," what do you mean by that?  
 19 A. I'm saying I did not look at political  
 20 data when drafting those plans.  
 21 Q. Were the maps -- were the blind plans  
 22 that you drew here also blind to political data?  
 23 A. I did not look at political data when  
 24 drafting these plans, so yes.  
 25 Q. I don't think I saw any place in your

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1 report that you said that the maps here were blind  
 2 to political data. Am I correct that you did not  
 3 include that in your report?  
 4 A. I'd have to review the report again.  
 5 Q. Well, looking at paragraph 5, the second  
 6 sentence on page 3, you say, I was asked to draw a  
 7 blind plan that did not consider race or  
 8 incumbency or past redistricting plans for  
 9 Georgia. Do you see that?  
 10 A. Yes.  
 11 Q. But you say that -- you do not say that  
 12 you did not consider politics. Is there a reason  
 13 you left that out?  
 14 A. In paragraph 4, I mention that I was  
 15 provided with the election data files used by the  
 16 Georgia General Assembly the during the  
 17 redistricting process, as well as the census  
 18 geography, which is in the next sentence. And I  
 19 did not say at that time that I used any of that  
 20 election data.  
 21 Q. For some reason, I went on mute  
 22 accidentally.  
 23 Turning to the plans you drew in South  
 24 Carolina, did they -- were they also blind to  
 25 incumbency.

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1 A. Sometimes yes, sometimes no.  
2 Q. What do you mean by "sometimes yes,  
3 sometimes no"?

4 A. I think I drew some plans without  
5 knowledge of individual members' addresses. And  
6 at a later time, I was given that information.

7 Q. Were those plans also blind to past  
8 redistricting plans?

9 A. Not -- not specifically. I think, in  
10 that case, I was using the boundaries of the  
11 pre-existing districts.

12 Q. Were those plans also blind to past --  
13 I'm sorry -- to politics?

14 A. Sometimes, yes.

15 Q. And let's turn to New Jersey. Were those  
16 plans also blind to incumbency?

17 A. No. In New Jersey, the residency of the  
18 members is tied to a town. And in New Jersey in  
19 the legislative maps, it's not permitted to split  
20 a town except those towns that are greater than  
21 the population of a district. So in that sense,  
22 it was usually known what town the incumbent lived  
23 in but not the specific address. So I would say  
24 that information was available to some extent in  
25 New Jersey.

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1 Q. And were those plans also blind to past  
2 redistricting plans?

3 A. In some cases, yes, in the sense that the  
4 configurations were different from the previous  
5 redistricting. But in other cases, I would have  
6 looked more carefully at the previous  
7 redistricting.

8 Q. And were those plans also blind to  
9 politics?

10 A. Probably less so. I think that the  
11 political information was probably used more  
12 directly in those plans.

13 Q. Was it explained to you why you were  
14 being asked to draw a blind plan?

15 MR. TYSON: Object to the extent that  
16 calls for conversations with counsel. You can  
17 answer otherwise.

18 A. I don't know how to answer that. I don't  
19 know that I was given a context of why. I knew  
20 that I could do this, and so I did this.

21 BY MR. ROSENBERG:

22 Q. Do you have an understanding as to why  
23 you were requested not to consider race or  
24 incumbency or past redistricting plans?

25 MR. TYSON: Same objection.

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1 A. No, I don't know.  
2 BY MR. ROSENBERG:  
3 Q. So you were just asked to do this, and  
4 you did that without understanding why?

5 A. Generally, yes.

6 Q. And who asked you to draw a blind plan  
7 that did not consider race or incumbency or past  
8 redistricting, just drew the plans?

9 A. The counsel in this case.

10 Q. Is that Mr. Tyson?

11 A. Yes.

12 Q. Anyone else?

13 A. Not that I know of.

14 Q. Did Mr. Tyson request that you -- let me  
15 rephrase this.

16 Did Mr. Tyson instruct you otherwise what  
17 to include or not include in your blind plan?

18 MR. TYSON: I'll object to that to the  
19 extent that calls for conversations with counsel.  
20 You can answer otherwise.

21 A. I don't recall specific instructions on  
22 some of those other considerations.

23 BY MR. ROSENBERG:  
24 Q. Did you make any independent decisions as  
25 to what factors to include and to exclude in the

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1 blind plans, other than what you were instructed  
2 to do?

3 A. I'm sorry. I don't understand that  
4 question. Could you repeat it, please?

5 Q. Sure. Did you make any decisions on your  
6 own as to what factors to include or to exclude in  
7 the blind plans, independent of what you were  
8 instructed to do so by counsel?

9 A. Well, as we pointed out here, the -- it  
10 never really occurred to me to look at political  
11 data, so I didn't look at that. And I don't  
12 know -- I don't recall that being a specific  
13 instruction.

14 Q. So did you make any decisions as to what  
15 factors to include or to exclude, other than what  
16 was instructed to you by counsel?

17 A. I think that when I talk about not  
18 considering past redistricting plans, I would say  
19 that from my work experience, having the  
20 boundaries of the existing districts is something  
21 that could be done, and it wasn't done in this  
22 case. And again, I don't recall a specific  
23 instruction on that.

24 Q. Would you have preferred that it be done?

25 A. Not necessarily, no.

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1 Q. Prior to your -- beginning your drawing  
2 of your illustrative maps, how would you describe  
3 the depth of your knowledge as to the factors that  
4 map drawers typically take into consideration  
5 specifically when dealing with Georgia?  
6 A. I would say --  
7 MR. TYSON: Object to form.  
8 A. I would say I have an understanding of  
9 redistricting in Georgia. I've done this 20 years  
10 ago in conjunction with the minority in the house  
11 and the senate in 2001 and 2002. I've done a lot  
12 of work in Georgia over many years, so I believe  
13 that I have a fair understanding of Georgia.  
14 BY MR. ROSENBERG:  
15 Q. When you say you "have a fair  
16 understanding of Georgia," do you have an  
17 understanding of Georgia's geography?  
18 A. Yes, I do.  
19 Q. At what level?  
20 A. I don't understand the question.  
21 Q. Well, do you have a knowledge of  
22 Georgia's geography at the county level?  
23 A. Yes, I do.  
24 Q. At the municipal level?  
25 A. Generally, yes.

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1 Q. And when you say "generally, yes," could  
2 you please describe the nature of your knowledge  
3 of Georgia's municipalities.  
4 A. I've personally traveled extensively  
5 through Georgia. I've also looked at census  
6 boundaries, municipal boundaries. I've done  
7 redistricting work and election-analyses work and  
8 demographic-analyses work in Georgia. I'd say I  
9 have a pretty strong understanding of Georgia  
10 municipalities and counties.  
11 Q. And when you say you "have a pretty  
12 strong understanding of Georgia municipalities"  
13 and you mentioned "demographic analyses," do you  
14 have a pretty strong understanding of the racial  
15 and ethnic demographics of Georgia at the  
16 municipal level?  
17 A. I have a historical approach to that, so  
18 I'm aware of what's existed in the past and  
19 sometimes as the cases -- I'm sorry, not cases --  
20 but as the circumstances allow for me to review  
21 demographic data from the census, I can -- I have,  
22 and can look at that.  
23 Q. And do you have an understanding of where  
24 different racial and ethnic populations live in  
25 Georgia?

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1 A. In general, yes. But since I've looked  
2 at this over many decades, I'm aware that this  
3 information changes from decade to decade and year  
4 to year.  
5 Q. Do you have an understanding of the  
6 racial demographics in terms of where different  
7 racial and ethnic groups live in Georgia  
8 currently?  
9 A. Somewhat, yes.  
10 Q. When you say "somewhat," what do you  
11 mean?  
12 A. Just what I said, somewhat. I have a  
13 somewhat understanding of that.  
14 Q. And what does somewhat mean? Do you  
15 consider it a thorough understanding, a  
16 not-thorough understanding? What do you mean?  
17 A. I just mean that there's a difference  
18 between looking at specific data on a map when I'm  
19 drawing a map and just having a general idea of,  
20 you know, some area has a higher concentration of  
21 minority population than some other area.  
22 Q. So you look -- would you -- and would it  
23 be fair to say that you are aware that certain  
24 areas in Georgia have higher populations -- higher  
25 populations of certain racial groups than other

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1 areas of Georgia do?  
2 A. Yes, of course.  
3 Q. And did you use that knowledge when you  
4 were drawing the maps?  
5 A. No, I specifically did not.  
6 Q. Did you -- are you certain that you did  
7 not allow your knowledge of Georgia's demographics  
8 to creep into your preparation of the illustrative  
9 maps?  
10 A. Generally, I would say I did not allow  
11 that knowledge to be part of this plan-drafting  
12 process.  
13 Q. And when you say "generally," are you  
14 saying always?  
15 A. Yes.  
16 Q. Now, do you know whether when drawing the  
17 plans, the map drawers who drew the plans for the  
18 Georgia legislature, did or did not consider race?  
19 A. I don't have any firsthand knowledge of  
20 that, but it would surprise me if they didn't  
21 consider race.  
22 Q. And why would it surprise you?  
23 A. My experience in previous redistricting  
24 has indicated that the Georgia legislative groups  
25 that I've worked with would have looked at race at

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1 some point in the redistricting process.  
 2 Q. And do you have any understanding as to  
 3 why they would have looked at race at some point  
 4 in the redistricting process?  
 5 A. Well, 20 years ago, it would have been  
 6 required under the pre-clearance process under  
 7 Section 5, for certain. At this time, I  
 8 understand that there are Section 2 considerations  
 9 that the legislature would probably have had to  
 10 dealt with -- deal with.  
 11 Q. Have you spoken with anyone who was  
 12 involved in the map-drawing process for Georgia in  
 13 this round of redistricting?  
 14 A. No.  
 15 Q. Has anyone told you any facts as to  
 16 whether and to what extent the map drawers did or  
 17 did not consider race in their map drawing in  
 18 Georgia in this redistricting round?  
 19 A. Nothing specific was told to me.  
 20 Q. When you say nothing specifically, was  
 21 something generally told to you?  
 22 A. Nothing was told to me.  
 23 Q. Now, you used Maptitude to draw your  
 24 plan; is that correct?  
 25 A. That's correct.

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1 Q. And what data layers are available in  
 2 Maptitude to you?  
 3 A. The Maptitude has a full suite of census  
 4 data. It would be counties; it would be places or  
 5 municipalities, county subdivisions, census  
 6 blocks, rivers, other geographic features, Native  
 7 American tribal lands. There would be railroads  
 8 and roads, things along those lines. All that  
 9 would be available.  
 10 Q. Was -- or did the Maptitude program you  
 11 use have demographic data available to it?  
 12 A. Yes.  
 13 Q. Including data as to racial and ethnic  
 14 demographics?  
 15 A. Yes. But as I stated in my report, I did  
 16 not use that information.  
 17 Q. The Maptitude that you used, was that the  
 18 same Maptitude data that the legislature used to  
 19 draw its maps?  
 20 A. My understanding is that that is correct;  
 21 that it was the Maptitude data, which includes the  
 22 census data. It's from the same source as the  
 23 census. In addition, there was election data that  
 24 was available to me, but I did not use that in  
 25 drafting the plans in this report.

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1 Q. And was that the Maptitude with the  
 2 August 2021 data updated titled, P.L. 94-171; do  
 3 you know?  
 4 A. I'm not sure what the vintage of that  
 5 data was. It was provided to me by counsel.  
 6 Q. Do you have an understanding as to why  
 7 you were asked not to consider incumbency?  
 8 A. I don't know that I stated that there was  
 9 a reason for that.  
 10 Q. And when you say not considering  
 11 incumbency, what do you mean by that?  
 12 A. I mean I did not look at the residences  
 13 of the incumbent members that I had access to.  
 14 Q. Do you have an understanding as to  
 15 whether the Georgia map drawers applied -- strike  
 16 that.  
 17 Is it your opinion that protecting  
 18 incumbents is a traditional districting principle?  
 19 A. Generally speaking, that would be  
 20 something that I would consider, yes.  
 21 Q. And turning your attention to page 8,  
 22 paragraph 19 of your report, Exhibit 1. Do you  
 23 see you say, In my experience, protecting  
 24 incumbents, including preserving cores of  
 25 districts, is a traditional districting principle.

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1 Continuity of district representation is a  
 2 traditional districting factor. Voters and  
 3 residents establish relationships with their  
 4 elected representatives. Did I read that  
 5 correctly?  
 6 A. No. You didn't read it correctly, but I  
 7 understand the gist of what you said.  
 8 Q. Oh, what did I miss?  
 9 A. You substituted "districting" for  
 10 redistricting in two cases.  
 11 Q. Oh, I'm sorry. Well, with that  
 12 correction, is that -- did I read it correctly?  
 13 A. I understand what you're trying to say,  
 14 and I see what I've written in the report, yes.  
 15 Q. Is it your opinion that protecting  
 16 incumbents and preserving cores of districts are a  
 17 one and the same principle?  
 18 A. No. They can be different.  
 19 Q. Is it your opinion that incumbents have a  
 20 right to be protected from losing elections as  
 21 part of the redistricting process?  
 22 A. I don't understand the context of "a  
 23 right" in this situation.  
 24 Q. Do you have an understanding as to how  
 25 the Georgia map drawers applied, if they did at

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1 all, the districting principle of incumbent  
 2 protection in their map drawing?  
 3 A. I'm not aware of what the legislative  
 4 process used.  
 5 Q. If they did apply the districting  
 6 principle of protecting incumbents, could that  
 7 have affected compactness scores?  
 8 A. I didn't undertake that analysis. I  
 9 suppose it's possible.  
 10 Q. What do you mean by the phrase that you  
 11 "did not consider past redistricting plans"?  
 12 A. Generally in this context, I would say  
 13 that I'm referring to the district boundaries of  
 14 the previous plan, the plan that was in force  
 15 before the 2021 redistricting.  
 16 Q. And is not considering past redistricting  
 17 plans the same as not preserving existing  
 18 districts, which is a phrase I think you used on  
 19 page 17?  
 20 A. They're similar. I don't think they're  
 21 exactly the same.  
 22 Q. How do they differ?  
 23 A. In some contexts, you would look at the  
 24 physical boundary of the district and you could  
 25 compare the boundary to another proposed district.

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1 But there's also the issue of core constituencies  
 2 in the sense of, you know, what's the -- what's  
 3 the -- what really makes a district a district.  
 4 So in some cases, it might have a  
 5 slightly different geographic boundary and could  
 6 look very different, but the core might be the  
 7 same, in the sense that it's a Macon district with  
 8 a different county than the existing district.  
 9 But it's still a Macon-focused district, as an  
 10 example.  
 11 Q. And that -- when you talk about core --  
 12 the concept of core that you just mentioned, is  
 13 that the concept of core retention?  
 14 A. Generally speaking, that's one way to  
 15 measure it is to talk about core retention, yes.  
 16 But in my experience in working with legislators,  
 17 it doesn't always mean population. It may also  
 18 mean political context. Somebody may consider a  
 19 town to be a core, and I've seen circumstances  
 20 where an incumbent or legislator is very specific  
 21 about a town or an area of the district. Even  
 22 though population-wise, it might not be  
 23 significant in terms of its size or in terms of  
 24 its perceived political effectiveness or  
 25 importance.

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1 But to that incumbent, the incumbent  
 2 would consider that a core of their district. And  
 3 so in that sense, it's a little different from a  
 4 mechanical measurement of population retention  
 5 from a previous district.  
 6 Q. And do plans, in terms like whether or  
 7 not they adhere to the concept of core retention,  
 8 do you look at the percent of population that has  
 9 been shifted in the new plan as compared to the  
 10 benchmark plan?  
 11 A. Yes. That's generally something I would  
 12 look at.  
 13 Q. And do you have any metrics as to what is  
 14 an appropriate level of core retention for a plan  
 15 overall?  
 16 A. No, I don't. I would say that there's a  
 17 lot of input on that information. And, again,  
 18 when we talked about the difference between a core  
 19 constituency and incumbent protection, I could  
 20 imagine a situation where an incumbent is in a  
 21 district, but the district has changed so much  
 22 that the incumbent would be at a disadvantage in  
 23 that district.  
 24 Q. So there, there would be a tradeoff that  
 25 the map drawers might do in terms of either

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1 protecting the incumbent or protecting the -- or  
 2 retaining the core?  
 3 A. Yes. In that hypothetical circumstance,  
 4 yes.  
 5 Q. And if you were looking at a map  
 6 statewide and saw that 10 percent of the  
 7 population had been shifted to new districts,  
 8 would that raise any questions in your mind as to  
 9 whether or not the map drawers adhere to the  
 10 traditional redistricting principle of core  
 11 retention?  
 12 MR. TYSON: Object to form.  
 13 A. I really don't know. I'd have to look  
 14 more carefully at that information.  
 15 BY MR. ROSENBERG:  
 16 Q. What if it was 30 percent of the  
 17 population? Would that raise any concerns?  
 18 MR. TYSON: Object to form.  
 19 A. Again, I don't know. I'd have to look at  
 20 the circumstances in each case. For example, the  
 21 populations shift between the previous decade and  
 22 the current decade. And so, for example, you  
 23 might have an area of the state which would have  
 24 to have a lot of changes. And so in that area, it  
 25 might be pretty standard to have a higher amount

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1 of change from the existing districts because of  
 2 the population shifts.  
 3 BY MR. ROSENBERG:  
 4 Q. If -- do you have an understanding as to  
 5 whether the map drawers in Georgia in this  
 6 redistricting cycle applied the traditional  
 7 redistricting principle of core retention in their  
 8 map drawing?  
 9 A. I don't know specifically.  
 10 Q. If they did, could that have affected  
 11 their compactness scores?  
 12 A. I don't know. I didn't conduct that  
 13 analysis. I suppose it's possible.  
 14 Q. And do you have an understanding as to  
 15 whether the map drawers in Georgia in this  
 16 redistricting cycle applied to a traditional  
 17 districting principle of preserving existing  
 18 districts?  
 19 A. I believe that's the case, but I don't  
 20 know specifically.  
 21 Q. And if they did, could that have affected  
 22 their compactness scores?  
 23 A. I suppose that's possible, but I didn't  
 24 conduct that kind of analysis.  
 25 Q. Now, on page 3, paragraph 5, again, you

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1 state that your -- this plan, referring to your  
 2 blind plan, did consider other traditional  
 3 redistricting principles. Do you see that?  
 4 A. Yes.  
 5 Q. What other traditional redistricting  
 6 principles did you consider in arriving at the  
 7 conclusions in the report?  
 8 A. Generally, they would include things like  
 9 the split counties, precincts, and sometimes  
 10 localities, such as cities. Also, for example,  
 11 general concepts of compactness. Also, I would  
 12 consider the communities of interest that I'm  
 13 aware of and that makes sense to me from my  
 14 experience and my hands-on working with the data  
 15 for Georgia.  
 16 Q. Are any traditional districting  
 17 principles more important than any other  
 18 traditional districting principles?  
 19 A. I don't know how to answer that. I  
 20 suppose it depends on the jurisdiction locality as  
 21 to priorities placed by the enacting bodies.  
 22 Q. Let me put the question this way: Is  
 23 there a hierarchy of traditional districting  
 24 principles?  
 25 A. I don't know. It would depend very much

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1 on the jurisdiction.  
 2 Q. Are you aware of Georgia's -- the Georgia  
 3 legislative criteria for assessing district plans?  
 4 A. I don't know about assessing district  
 5 plans, but I was given the guidelines that my  
 6 understanding the -- were produced for the  
 7 redistricting process.  
 8 Q. When you say you were given guidelines,  
 9 who gave them to you?  
 10 A. Counsel, in this case.  
 11 Q. Did you -- were they given to you prior  
 12 to your preparing your report?  
 13 A. They were given to me for the -- for  
 14 hearings in this case before reports were written.  
 15 Q. Did you consider the Georgia legislative  
 16 criteria for assessing district plans in the  
 17 preparation of your plans?  
 18 A. Again, I'm not sure I understand the  
 19 context of using the word assessing. The  
 20 guidelines were written down, and I looked at them  
 21 at one point.  
 22 Q. Well, you're -- I'd like to turn your  
 23 attention to page 20 of Dr. Duchin's report, which  
 24 is Exhibit 3 in this deposition.  
 25 A. Okay. Just a moment, please.

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1 Q. Sure.  
 2 A. Okay. You said page 20; is that correct?  
 3 Q. Page 20, yeah.  
 4 A. Okay.  
 5 Q. Are you there?  
 6 A. I'm here.  
 7 Q. Okay. I meant there on the paper. I  
 8 know I can see you on --  
 9 A. Yes.  
 10 Q. Do you see where Dr. Duchin sets forth  
 11 what she says are the general principles for  
 12 drafting plans? Do those look familiar to you as  
 13 Georgia's general principles for drafting plans?  
 14 A. Generally, yes. They look similar to  
 15 what I've seen.  
 16 Q. And looking at that, can you tell me  
 17 whether you applied those principles in your  
 18 drafting of the blind plan?  
 19 MR. TYSON: Object to form.  
 20 A. Again, I drew the plan. I didn't  
 21 evaluate whether the plan would satisfy all those  
 22 requirements.  
 23 BY MR. ROSENBERG:  
 24 Q. Looking at those requirements, do you  
 25 agree that some of them are mandatory and some of

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1 cohesively for different candidates of choice?  
 2 MR. TYSON: Object to form.  
 3 A. Something along those lines.  
 4 BY MR. ROSENBERG:  
 5 Q. I'd like to ask you just a few questions  
 6 about compactness? I -- you used the Reock and  
 7 Polsby-Popper scores because they're available in  
 8 multitude -- in Maptitude, right?  
 9 A. That's one of the reasons, yes.  
 10 Q. What are the other reasons?  
 11 A. In my experience, I've seen those metrics  
 12 used in court cases.  
 13 Q. Are you familiar with the cut-edges  
 14 approach to assessing compactness?  
 15 A. No.  
 16 Q. You've never heard of that?  
 17 A. I've never heard of that.  
 18 Q. Now, I think you talk in your report  
 19 about eyeballing compactness. Is there an eye  
 20 test for determining compactness, an eyeball test?  
 21 A. I'm sorry. I don't believe that I said  
 22 anything like that in my report.  
 23 Q. Let me see if I can find it quickly. If  
 24 not, we'll come back to it. We'll come back to  
 25 that.

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1 Now, you talk in your report about  
 2 following civic boundaries as being a traditional  
 3 districting principle. Do you recall that?  
 4 A. Could you show me that in the report?  
 5 Q. Sure. I think that's in that -- well,  
 6 here -- let me see, paragraphs 17. Yeah,  
 7 paragraph 17, page 7, second sentence, In my  
 8 experience, some of these factors are referred to  
 9 as traditional redistricting principles, such as  
 10 population equality, following civic boundaries.  
 11 Do you see that?  
 12 A. I do, yes.  
 13 Q. What do you mean by that?  
 14 A. In this context, it would include  
 15 municipalities, sometimes precinct lines, and  
 16 certainly counties.  
 17 Q. And do you have an understanding as to  
 18 whether the Georgia map drawers in this  
 19 redistricting cycle applied this traditional  
 20 districting principle in their map drawing?  
 21 A. I don't know, specifically.  
 22 Q. If they did, could that have affected the  
 23 compactness scores?  
 24 MR. TYSON: Object to form.  
 25 A. I don't know. I didn't look at that,

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1 specifically. I would say that, in my experience,  
 2 map drawers would often look at civic boundaries  
 3 and take that into consideration.  
 4 BY MR. ROSENBERG:  
 5 Q. And could that affect compactness scores?  
 6 MR. TYSON: Same objection.  
 7 A. I don't know. It's possible.  
 8 BY MR. ROSENBERG:  
 9 Q. In that same paragraph, you refer to  
 10 Judge Jones's recognition of some of these  
 11 traditional redistricting principles, including  
 12 maintaining communities of interest. Do you see  
 13 that in paragraph 17? And then you also talk  
 14 about communities of interest in paragraph 18. Do  
 15 you see that?  
 16 A. Yes.  
 17 Q. Do you have an understanding as to  
 18 whether the Georgia map drawers applied that  
 19 traditional districting principle in their map  
 20 drawing in this redistricting cycle?  
 21 A. I don't know. In my experience,  
 22 legislators often look at things like that.  
 23 Q. If they did, could that have affected  
 24 their compactness scores?  
 25 MR. TYSON: Object to form.

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1 A. I don't know.  
 2 BY MR. ROSENBERG:  
 3 Q. Did you look at communities of interest  
 4 and take communities of interest into  
 5 consideration in your drawing of your blind plan?  
 6 A. Generally speaking, yes, communities as I  
 7 understood them.  
 8 Q. What do you mean by "generally speaking"?  
 9 Does that mean you always did or sometimes did?  
 10 A. I would say that there can be differences  
 11 or tradeoffs. For example, a municipal boundary  
 12 for a city or town -- a municipality, that is, you  
 13 know, might have a -- has -- it has a specific  
 14 boundary. However, the precinct boundaries might  
 15 encapsulate that area. So if you were to draw by  
 16 the municipal boundary, you would have a different  
 17 district shape than if you were to draw by the  
 18 precinct boundaries, which contain the municipal  
 19 boundaries.  
 20 Q. Right. But we're talking about  
 21 communities of interest. Is that the same thing  
 22 as precinct boundaries and municipal boundaries?  
 23 A. In some circumstances, I think so, yes.  
 24 Q. But in some circumstances not?  
 25 A. I -- there would be circumstances where I

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1 could imagine that not being the case.  
 2 Q. As a matter of fact, in paragraph 18 of  
 3 your report, you say that communities of interest  
 4 often include things based on socioeconomic  
 5 factors, transportation corridors, watersheds,  
 6 mountain and valley communities, urban, suburban  
 7 and rural areas and school-attendance zones,  
 8 right?  
 9 A. Yes. That -- those are things that could  
 10 be considered communities of interest in my  
 11 experience.  
 12 Q. And you also say that geographic features  
 13 can define some communities of interest and that  
 14 communities of interest can also include military  
 15 areas; is that correct?  
 16 A. Those are some examples that I gave in my  
 17 report, yes.  
 18 Q. And so those examples are not necessarily  
 19 the same as precinct lines or municipal lines or  
 20 county lines, correct?  
 21 A. That's correct.  
 22 Q. Do you know whether or not -- well,  
 23 strike that.  
 24 Did you take those considerations into  
 25 effect in your drawing of your plans?

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1 A. To the extent that I was aware of them,  
 2 yes.  
 3 Q. And did -- does that mean that there were  
 4 certain areas that you drew where you took  
 5 communities of interest into consideration and  
 6 certain areas that you drew when you did not take  
 7 communities of interest into consideration?  
 8 A. No. I generally would apply the same  
 9 methodology throughout the drafting of the entire  
 10 plan.  
 11 Q. Were you aware of communities of interest  
 12 in every district that you drew in your plan?  
 13 A. To the extent that I understood the  
 14 communities of interest that existed in those  
 15 areas, yes.  
 16 Q. But to the extent that you did not  
 17 understand the communities of interest in those  
 18 areas, you did not take that into consideration;  
 19 is that correct?  
 20 A. If I was unaware of it, I couldn't take  
 21 it into consideration.  
 22 Q. Were there some districts where you were  
 23 unaware of communities of interest that you drew?  
 24 A. I don't know how to answer that. If I  
 25 was unaware of it, I was unaware of it.

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1 Q. Did you make sure that you were aware of  
 2 communities of interest in every district that you  
 3 drew?  
 4 A. I don't understand how one would do that.  
 5 I have my understanding of communities of  
 6 interest, and I applied that throughout the  
 7 map-drawing process.  
 8 Q. So is it your testimony that throughout  
 9 your map-drawing process you were aware of the  
 10 socioeconomic status of the residents in each of  
 11 the districts that you drew?  
 12 A. That is not what I said in my report and  
 13 that's not --  
 14 Q. But that's -- that's what I'm asking you.  
 15 A. I'm sorry?  
 16 Q. Were you -- let me put it this way, and  
 17 that's a fair objection on your part.  
 18 Were you aware of the socioeconomic  
 19 status of the population groups in each of the  
 20 districts that you drew?  
 21 A. As I stated in my report, I gave a  
 22 general example of what some communities of  
 23 interest could be. In drafting my plan, I took  
 24 into consideration communities of interest that I  
 25 was aware of.

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1 Q. But you were not necessarily aware of  
 2 communities of interest in every district that you  
 3 drew; is that correct?  
 4 A. I took into account the communities of  
 5 interest of which I was aware while drawing the  
 6 plan, and I applied that consistently throughout  
 7 the drafting of the plan.  
 8 Q. Do you have an understanding as to  
 9 whether the Georgia map drawers who drew the maps  
 10 during this redistricting process took into  
 11 consideration communities of interest in the  
 12 district they drew?  
 13 A. I don't know, but I would believe that  
 14 some attention was given to communities of  
 15 interest as the legislators and the map drawers  
 16 understood them.  
 17 Q. Do you have an understanding as to  
 18 whether the knowledge of the Georgia map drawers  
 19 who drew the maps in this redistricting cycle as  
 20 to communities of interest in the districts they  
 21 drew was the same as your knowledge of communities  
 22 of interest in the districts you drew?  
 23 A. I can't imagine that it's the same.  
 24 Q. And if they did take into consideration  
 25 their knowledge of communities of interest in the

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1 district they drew, could that have affected the  
2 compactness scores for those districts?  
3 MR. TYSON: Object to form.  
4 A. I don't know. I suppose it could. I  
5 really don't know. I would say I can think of an  
6 example where in Gwinnett County I chose to follow  
7 communities based on some of the municipalities.  
8 And in my experience, the legislature chose to  
9 follow transportation corridors more clearly  
10 rather than the municipal boundaries, and I think  
11 that is something that is different from the  
12 legislative draft of maps and the map that I drew.  
13 BY MR. ROSENBERG:  
14 Q. And is that instance that led to your  
15 drawing district lines that were different than  
16 how the legislature drew those lines; is that  
17 correct?  
18 A. I don't know. I don't know exactly why  
19 they drew the map exactly the way they drew it.  
20 But my understanding is that the maps in the  
21 enacted plan seem to follow the transportation  
22 corridors, but I don't see that it was explicitly  
23 explained that that's why that was done.  
24 Q. Now, you drew one illustrative map for  
25 the senate and one illustrative map for the house;

1 is that correct?  
2 A. Yes.  
3 Q. And how long did it take you to draw  
4 those maps?  
5 A. I don't know. It was many hours.  
6 Q. That's within that 50 to 100 hours that  
7 we talked about earlier?  
8 A. Yes. I would say it's in that range,  
9 yes.  
10 Q. Did you draw other illustrative maps that  
11 you considered in arriving at your conclusions,  
12 other than the maps that appear in your report?  
13 A. I would say that they were not maps that  
14 are unique, but I would say that in the  
15 map-drafting process, I considered many district  
16 configurations. So, for example, in drawing some  
17 house districts in a particular county, I would  
18 have drawn them one way and a slightly different  
19 way. And at the end of the process, the districts  
20 that I drew are in the plan that I drew.  
21 Q. Is it your testimony that there are no  
22 other illustrative maps that you could have drawn  
23 that could have made a better comparison with the  
24 enacted maps than the ones that appear in your  
25 report?

1 A. I don't believe I said that in my report,  
2 and I wouldn't say that here. I just said that I  
3 looked at many district configurations while  
4 drawing the plans, and the plans that I submitted  
5 in the report are the work of many hours and a lot  
6 of thinking and consideration.  
7 Q. What's the basis for -- strike that.  
8 On the basis of the map for the senate  
9 and the map for the house that you drew, you come  
10 to your ultimate conclusion in paragraph 48 of  
11 your report; is that correct?  
12 A. I suppose you could look at it that way.  
13 I drew -- I looked at the enacted plan. I drew  
14 the plans that I drew; I compared them. As I said  
15 in my report, I did not look at the racial data  
16 until after I had completed drafting the  
17 illustrative plan and then I provided some  
18 information about the districts after having  
19 drafted that.  
20 Q. Are you aware of any literature in your  
21 field that supports the proposition that drawing a  
22 single illustrative map is sufficient to reach a  
23 conclusion as to why enacted maps were drawn less  
24 compact than they might have been?  
25 A. In my experience, I would say that there

1 are many possibilities when drawing maps, but a  
2 lot of times I would distill it down to not many  
3 configurations to bring to the deciders. So, for  
4 example, if a legislator wanted to see a different  
5 proposal in an area, I would draw something like  
6 that.  
7 And I can think of an instance in North  
8 Carolina where I drafted a proposed map in an area  
9 and the -- I shared it with Democratic  
10 legislators, and those legislators adopted the map  
11 portion that I had drawn into their plan. You  
12 know, I didn't really get credit for that, but  
13 that's okay.  
14 Q. But the purpose in those exercises was  
15 not a comparison of one map with another to draw a  
16 conclusion as to why one map is less compact than  
17 another, was it?  
18 A. I didn't set out to draw conclusions on  
19 compactness. I set out to draw a plan. And then  
20 after drawing it, I looked at some of the -- I  
21 added in the racial data and I looked at the other  
22 considerations regarding compactness.  
23 Q. Yeah, I understand that. But the other  
24 examples you gave of the single maps you used, in  
25 those instances, you did not use those maps to

1 ultimately draw a conclusion as to a lack of  
2 compactness in some -- another map you were  
3 comparing it to; is that correct?  
4 A. I don't think I understand the question.  
5 Q. You just testified that you had used  
6 single maps in the past when a legislator asked  
7 you to come up with a map; is that correct?  
8 A. Yes.  
9 Q. In that instance, the purpose of your  
10 providing the single map was not to draw  
11 conclusions comparing it to another map as to why  
12 there was more or less compactness; is that  
13 correct?  
14 A. I don't think so.  
15 Q. It's not correct? Then why isn't it  
16 correct?  
17 A. I'm not following your question.  
18 Q. We can move on. Did you read  
19 Dr. Duchin's rebuttal record? I think you  
20 mentioned you did.  
21 A. Yes.  
22 Q. Are you familiar with the literature that  
23 she cites on page 1 of that report, and that's  
24 Exhibit 4, in the last paragraph beginning with  
25 the word "comparison"?

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1 A. No.  
2 Q. You're not familiar with the literature?  
3 A. No.  
4 Q. And you're aware, of course, that  
5 Dr. Duchin has drawn different illustrative maps  
6 than yours; is that correct?  
7 A. My understanding, yes.  
8 Q. And you agree that some of her maps  
9 create more majority-minority districts than do  
10 the enacted maps; is that correct?  
11 A. I believe she states that in her report,  
12 yes.  
13 Q. And you agree that the districts in her  
14 maps are generally more compact than the districts  
15 in the enacted maps; is that correct?  
16 A. I don't know. I -- are you talking about  
17 the rebuttal report, or are you talking about the  
18 previous report?  
19 Q. Well, if you look at your rebuttal  
20 report and let's look at page 9 -- I'm sorry,  
21 let's start with page 5 -- actually, let's go to  
22 page 6, which is her Alt 1. You compare HD-Alt 1  
23 of Dr. Duchin to house-enacted, and there the mean  
24 compactness scores are -- certainly on Reock,  
25 they're identical and Polsby-Popper they're almost

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1 identical.  
2 A. I don't know. What report are you  
3 referring to, please?  
4 Q. I'm sorry. I'm looking at your  
5 exhibit -- at your rebuttal report, Exhibit 2,  
6 page 6.  
7 A. Okay. Page 6, there's Chart 2.  
8 Q. Right. In comparing her HD-Alt 1, with  
9 the house-enacted, the compactness scores are  
10 virtually identical?  
11 A. The compact -- the mean compactness  
12 score, in this context, I've reported the mean  
13 compactness score of the whole plan. It's .39 for  
14 her Alt 1, and it's .39 for the house-enacted.  
15 The Polsby-Popper is .26, and the house-enacted is  
16 .28.  
17 Q. And you would consider certainly the  
18 Reock scores to be identical, correct?  
19 A. To the 100th, yes.  
20 Q. And the difference between .26 and .28,  
21 do you consider that a significant difference on  
22 the Polsby-Popper score?  
23 A. They're close.  
24 Q. And turning to your comparison of her  
25 HD-Alt 2, with the house-enacted, you compare her

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1 Reock score is .4; with house-enacted, 39; again,  
2 very close, virtually identical; is that correct?  
3 A. Yes.  
4 Q. And similarly with Polsby-Popper, you  
5 have that same .26 and .28 difference?  
6 A. Yes. The mean compactness scores are  
7 those.  
8 Q. And if you turn to page 9, your Chart 5,  
9 both of her compactness scores under Reock and  
10 Polsby-Popper are at least as high and therefore  
11 more compact than the state senate-enacted plans;  
12 is that correct?  
13 A. The Reock score of the Alt 1 senate plan  
14 is .43, and the senate-enacted plan is .42. And  
15 the Polsby Popper scores are .29 for the Alt plan  
16 and .29 for the senate-enacted plan.  
17 Q. And turning to the next page, page 10,  
18 your Chart 6, the mean compactness Reock score for  
19 Dr. Duchin's senate district Alt 2 is .44 compared  
20 to the senate-enacted as you calculated it at .42.  
21 And the Polsby Popper score of Dr. Duchin's Alt 2  
22 plan, senate, is .3 compared to the senate-enacted  
23 .29; is that correct?  
24 A. Yes.  
25 Q. And so and yet again, in that instance,

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<p>1 Dr. Duchin's plans are as -- at least as compact,                  2 if not more compact, under your analysis, and                  3 that's her plan, Alt 2 plan as a whole, than the                  4 senate-enacted plan; is that correct?                  5 MR. TYSON: Object to form.                  6 A. The mean compactness scores are what                  7 they're stated here, yes.                  8 BY MR. ROSENBERG:                  9 Q. And turning to page 11 of the                  10 congressional plan comparing Dr. Duchin's CD-Alt 1                  11 with the CD-enacted, again, her Reock and                  12 Polsby-Popper scores are both higher than the                  13 CD-enacted scores; is that correct?                  14 A. Yes.                  15 Q. And you also agree that some of the --                  16 her maps created more majority-minority districts                  17 than do the enacted maps, right?                  18 A. I'd have to look at that; generally, yes.                  19 Q. Is that -- are those facts consistent                  20 with --                  21 A. I --                  22 Q. -- your conclusion -- I'm sorry.                  23 A. I'm sorry.                  24 Q. Go ahead.                  25 A. Yeah, on the Chart 4, it appears that</p> <p style="text-align: right;">Page 82</p>	<p>1 context of your field?                  2 A. As a map drawer, I have not --                  3 Q. Yes, as a map drawer.                  4 A. As a map drawer, I have not seen that                  5 phrase used in drawing in the context of the work                  6 that I do.                  7 Q. So you yourself have never done any                  8 ensemble -- or run any ensembles in terms of map                  9 drawing?                  10 A. I've drawn maps; I've drawn hundreds and                  11 hundreds of maps.                  12 Q. Have you ever used a computer and put in                  13 an algorithm which uses certain factors and does                  14 not use other factors to spit out thousands of                  15 maps?                  16 A. No. That's not something I would do.                  17 That's not the type of work that I do.                  18 Q. Are you aware that there are people who                  19 do that in your field?                  20 A. I don't know that I'd say they're in my                  21 field. As a map drawer, I have not experienced                  22 that being used in the legislative process and the                  23 map drawing process for the governing bodies that                  24 produce maps for use in elections.                  25 Q. I'd like to draw your attention now to</p> <p style="text-align: right;">Page 84</p>
<p>1 the -- Dr. Duchin's plan has fewer majority                  2 African-American seats.                  3 Q. But you did not take into consideration                  4 how many majority black and Hispanic plans                  5 Dr. Duchin created; is that correct?                  6 A. I don't understand the question.                  7 Q. In these charts, you did not take into                  8 consideration how many majority combined black and                  9 Hispanic districts Dr. Duchin created.                  10 A. I didn't look at that.                  11 Q. Are you aware of any techniques that are                  12 used in your field to check whether a map is an                  13 outlier?                  14 MR. TYSON: Object to form.                  15 A. I don't understand what you mean by that.                  16 BY MR. ROSENBERG:                  17 Q. Well, when you put forward a map, you                  18 want to make sure that it is a map that is                  19 reasonable in terms of its configuration and the                  20 way the lines were drawn, right?                  21 A. I don't know how you would determine                  22 that.                  23 Q. Have you ever run an ensemble -- excuse                  24 me -- do you know what the phrase "ensembles"                  25 is -- or what the word ensembles means in the</p> <p style="text-align: right;">Page 83</p>	<p>1 page 16, paragraph 27 of Exhibit 1, which is your                  2 report. And you state that after completing the                  3 house illustrative plan you then selected several                  4 metrics and you cite county splits, voting                  5 precinct splits, compactness scores, paired                  6 incumbents and the number of majority 18 or older,                  7 all of persons black districts; is that correct?                  8 A. Yes.                  9 Q. Now, why did you select those metrics?                  10 A. I believe that similar metrics had been                  11 used in the preliminary injunction phase of                  12 another trial, and so I used similar metrics here.                  13 Q. And when you say they were "used," they                  14 were used by whom?                  15 A. I believe that I submitted an affidavit                  16 in a related case, and I provided that information                  17 as part of the preliminary injunction phase of the                  18 trials.                  19 Q. When you say you looked at voting                  20 precinct splits, were those actual precinct splits                  21 or were those what are called the VTD splits?                  22 A. I think I identified that the data I was                  23 using was the census VTDs, and that was the data                  24 that was available to the Georgia legislature that                  25 I was given by counsel.</p> <p style="text-align: right;">Page 85</p>

1 MR. ROSENBERG: Okay. How short?  
 2 THE WITNESS: Five minutes. I need to  
 3 use the bathroom.  
 4 MR. ROSENBERG: Sure.  
 5 THE VIDEOGRAPHER: Stand by. The time is  
 6 11:45 a.m. We are off video record.  
 7 (Recess)  
 8 THE VIDEOGRAPHER: The time is 11:53 a.m.  
 9 We are back on video record.  
 10 BY MR. ROSENBERG:  
 11 Q. Hi, again, Mr. Morgan. During the break,  
 12 did you discuss the deposition with Mr. Tyson?  
 13 A. No.  
 14 Q. Thank you. We were talking about VTDs.  
 15 Are you aware that the people who drew the maps  
 16 used an updated precinct layer which was inputted  
 17 into Maptitude?  
 18 MR. TYSON: Object to form.  
 19 A. I don't know.  
 20 BY MR. ROSENBERG:  
 21 Q. If they did, would that affect any of  
 22 your opinions as to precinct splits in your  
 23 reports?  
 24 A. It wouldn't affect what I produced in my  
 25 reports. If I had another set of data, I could

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1 rerun the reports on that set of data.  
 2 Q. But if that were the situation, the  
 3 people who drew the maps would have used different  
 4 data than you did for the purposes of assessing  
 5 how many precinct splits there were; isn't that  
 6 correct?  
 7 A. I suppose so, but I ran the reports on  
 8 the information that I had.  
 9 Q. And do you know what data Dr. Duchin used  
 10 in calculating her precinct splits and the enacted  
 11 plans' precinct splits?  
 12 A. No.  
 13 Q. And again, if she was using the actual  
 14 precinct data and not the outdated VTD data, that  
 15 could explain a difference between your  
 16 calculation of voting precinct splits and her  
 17 calculation of precinct splits; isn't that  
 18 correct?  
 19 MR. TYSON: Object to form.  
 20 A. It wouldn't change the analysis that I  
 21 did because I was using the precinct splits for  
 22 her plan using the data that she provided to me,  
 23 so those comparisons would be the same. If she  
 24 used a different set of precinct data, I don't  
 25 know when that was from, but I could run reports

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1 on that data if it was provided to me.  
 2 BY MR. ROSENBERG:  
 3 Q. But your calculation of voting precinct  
 4 splits is based on VTD data; is that correct?  
 5 A. It's based on the data that was provided  
 6 to me by counsel.  
 7 Q. Which you testified was VTD data; is that  
 8 correct?  
 9 A. I believe that's the case. Again, it was  
 10 provided by counsel.  
 11 Q. By the way, do you have access to updated  
 12 precinct data -- precinct layer data?  
 13 A. I do not. To be more specific, it was  
 14 not provided to me.  
 15 Q. By the way, you agree that political data  
 16 is not available below the VTD level; is that  
 17 correct?  
 18 A. It depends on your definition because you  
 19 just said that precinct data and VTD data are  
 20 different. So in that context, I'm not sure that  
 21 I know what you mean.  
 22 Q. Well, in the past, have you discussed the  
 23 relationship between VTD level and political data  
 24 availability?  
 25 A. My understanding is that political data

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1 is reported in voting precincts at the time of an  
 2 election.  
 3 Q. And how about racial data? Is that  
 4 available at the VTD level?  
 5 A. My understanding is that racial data is  
 6 provided by the census at the block level.  
 7 Q. And contained within the precinct level?  
 8 A. It can be aggregated to the precinct  
 9 level, the VTD level, municipal level, anything  
 10 that has -- shares a boundary with the census  
 11 blocks.  
 12 Q. If you saw a lot of precinct splits in a  
 13 plan, would that be consistent with the use of  
 14 racial data in a line drawing?  
 15 A. I don't know.  
 16 MR. TYSON: Object to form.  
 17 A. Yeah, I don't know.  
 18 BY MR. ROSENBERG:  
 19 Q. It could be?  
 20 A. I don't know.  
 21 Q. In your report, you did not analyze any  
 22 Hispanic data; is that correct? Any data relating  
 23 to Hispanic voters or Hispanic population?  
 24 A. It's not in the reports that I produced.  
 25 Q. And why did you not analyze any Hispanic

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1 metrics?  
 2 MR. TYSON: Object to the extent that  
 3 calls for conversation with counsel. You can  
 4 answer otherwise.  
 5 A. I used the data with the African-American  
 6 population in my report.  
 7 BY MR. ROSENBERG:  
 8 Q. And why did you use only the data for  
 9 African-American population in your report?  
 10 MR. TYSON: Same objection.  
 11 A. It was the same data that I used in the  
 12 preliminary injunction phase of the trial, and I  
 13 used it in this report as well.  
 14 BY MR. ROSENBERG:  
 15 Q. And why did you only use data relating to  
 16 African-American metrics in the PI hearing -- in  
 17 connection with the PI hearing?  
 18 A. That was the data that I produced.  
 19 Q. Why did you choose to produce only that  
 20 data?  
 21 A. I didn't see that it was a choice. I  
 22 just produced this data.  
 23 Q. Are you aware that there are coalition  
 24 claims dealing with the majority-minority  
 25 districts in comprise of combined black and

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1 Hispanic populations in this case?  
 2 A. That seems to make sense, based on my  
 3 understanding.  
 4 Q. Would analysis of Hispanic metrics be  
 5 relevant to such claims?  
 6 MR. TYSON: I'll object to form.  
 7 A. I don't know. I didn't make that  
 8 analysis in my reports.  
 9 BY MR. ROSENBERG:  
 10 Q. In your report, you say that you looked  
 11 at two regions of roughly similar geography to  
 12 compare the house illustrative plan to the  
 13 house-enacted plan; is that correct?  
 14 A. Yes.  
 15 Q. And you did the same thing when you  
 16 created your senate illustrative plan except you  
 17 looked at only one region for purposes of  
 18 comparison; is that correct?  
 19 A. Yes.  
 20 Q. Can you walk me through the steps that  
 21 you took to select your house regions?  
 22 A. In paragraph 28, on page 17, I identify  
 23 that Region 1 consists primarily of DeKalb,  
 24 Clayton, Henry, Rockdale, Newton, and Walton  
 25 Counties.

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1 Q. Right. And why did you choose those  
 2 counties?  
 3 A. Those are the -- generally those -- the  
 4 two region -- or the region -- I chose the  
 5 districts that generally are in those counties.  
 6 Q. Right. Why would you choose the regions  
 7 that were generally in those counties?  
 8 A. Generally speaking, there was a contrast  
 9 in district shape in some of that area that I  
 10 noticed.  
 11 Q. What do you mean by contrasting district  
 12 shape that you noticed?  
 13 A. In my report, I say that, in the  
 14 illustrative plans, the districts look compact and  
 15 only cross county lines in a limited way. By  
 16 contrast, looking at the district's and the  
 17 house-enacted plans, the districts look elongated  
 18 and they cross county lines in a number of places.  
 19 Q. So in deciding which region to compare,  
 20 you looked at your illustrative plan and saw how  
 21 compact it was and then you looked and found a  
 22 region that had elongated districts? Is that what  
 23 you're saying?  
 24 A. That is true. And also, I did then add  
 25 the racial data in after I drafted my plan, and I

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1 looked at the racial data in that region as well.  
 2 Q. And is that the same approach you took to  
 3 selecting Region 2?  
 4 A. I would say there's an additional factor  
 5 that I should have mentioned, and that is that the  
 6 Region 1 and Region 2 don't overlap that much in  
 7 the sense that, for example, in the house enacted  
 8 plan, Fulton County crosses into Fayette County.  
 9 And so in my experience, you would associate  
 10 Fayette County with Fulton County in the enacted  
 11 plan rather than the other regional breakdown that  
 12 I provided.  
 13 So looking back at my report and looking  
 14 at the enacted plan, DeKalb County districts are  
 15 associated strongly with Rockdale and Henry  
 16 County. Clayton is more or less self-contained as  
 17 it is in my illustrative plan. So I would say  
 18 that the additional factor is the association of  
 19 counties. And going back to the Region 2, I  
 20 noticed in the enacted plan that Douglas County  
 21 and Fulton County are connected in the districts.  
 22 So it would make sense to me to include Douglas  
 23 County with Fulton County in a region rather than  
 24 have Douglas County be separated.  
 25 Q. Did you undertake any demographic

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<p>1 senate plans considered and adapted by the Georgia                  2 General Assembly and compare them to the proposed                  3 congressional house and senate plans drawn by                  4 Dr. Moon Duchin and offer opinions regarding my                  5 analysis. Do you see that?                  6 A. Yes.                  7 Q. And in the next paragraph, paragraph 6,                  8 on page 3, you say, As a result of this analysis,                  9 it is my opinion that each of the plans submitted                  10 in Dr. Duchin's report and the unity plans has a                  11 significant increase in Democratic performance                  12 when compared to the enacted plans. Did I read                  13 that correctly?                  14 A. Yes.                  15 Q. Are there any opinions, other than that                  16 set forth in paragraph 6 in your rebuttal report,                  17 that you intend to provide at trial that you have                  18 reached as a result of your review of Dr. Duchin's                  19 report?                  20 A. In reviewing her reports, the information                  21 I have provided in my report is that that you read                  22 in paragraph 6, and that is what's included in my                  23 report.                  24 Q. Did you review Dr. Duchin's data that was                  25 supplied with her original report?</p> <p style="text-align: right;">Page 150</p>	<p>1 elections from 2018 and 2020.                  2 Q. And election results, you said?                  3 A. Yes.                  4 Q. In 2018 and 2020. Did you have access to                  5 more elections than -- so you did have access to                  6 more elections than just the Trump-Biden and the                  7 PSC elections in 2020; is that correct?                  8 A. Yes.                  9 Q. In your tables that begin on page 5, you                  10 talk about county splits. You don't talk about                  11 the number of pieces that counties were split                  12 into. Do you think that county pieces is relevant                  13 to assessing whether redistricting was done in                  14 accordance with traditional districting                  15 principles?                  16 A. It's another data point that can be                  17 discussed. I would say that it's -- again, it's                  18 just another piece of data. Sometimes I find it                  19 interesting because some map drawers will look at                  20 the county splits and, for example, remove a                  21 county split but then introduce another county                  22 division in a county that's already been split.                  23 So I think that gets to your point that there can                  24 be a difference or is a difference between a split                  25 county and the number of splits of a county.</p> <p style="text-align: right;">Page 152</p>
<p>1 A. I reviewed the block assignment file data                  2 that I uploaded into my Maptitude report. I                  3 looked at her report, and I looked at some of the                  4 data that was in that report. But primarily for                  5 my analysis, I used the block assignment files                  6 that she provided for the 10 plans referenced in                  7 the reports.                  8 Q. You note that you were provided with                  9 election data files used by the Georgia General                  10 Assembly. You say that in paragraph 8 of this                  11 report -- I mean, I'm sorry -- paragraph -- is it                  12 7, I guess -- 6 -- oh, I'm sorry.                  13 Well, let me just ask the question: Were                  14 you provided with -- Okay. Now, I've got it -- in                  15 paragraph 4, you say you were provided with                  16 election data files used by the Georgia General                  17 Assembly during the redistricting process. What                  18 files were those?                  19 A. Those were given to me by counsel. They                  20 were part of the data that was uploaded into                  21 Maptitude for me to draw plans and to analyze                  22 other plans.                  23 Q. And can you describe what that data                  24 consisted of?                  25 A. I believe they were election results for</p> <p style="text-align: right;">Page 151</p>	<p>1 Q. And if there were more splits -- strike                  2 that.                  3 The number of splits would indicate even                  4 more deviations from traditional districting                  5 principles than simply the number of counties that                  6 were split, correct?                  7 A. No. I wouldn't --                  8 MR. TYSON: Object to form.                  9 A. I wouldn't agree with that. I think it                  10 really depends on the metrics that the legislature                  11 or the governing body is used to looking at. In                  12 my experience, the county split metric is                  13 something that's fairly simple and easy to explain                  14 and understand. When you get to these other types                  15 of splits, it can be more complicated and a little                  16 more difficult to explain.                  17 BY MR. ROSENBERG:                  18 Q. By the way, are there any noncontiguous                  19 counties in Georgia?                  20 A. My understanding is that there are some,                  21 yes.                  22 Q. Did you take that into consideration in                  23 calculating your county splits?                  24 A. I ran the reports that came from                  25 Maptitude, so I'd have to look at that and see how</p> <p style="text-align: right;">Page 153</p>

<p>1 Q. Why did you undertake that comparison?                  2 A. In the preliminary injunction hearing, I                  3 had provided similar information. And then also                  4 in my illustrative report of 12/05, I had provided                  5 information using breakdowns similar to that.                  6 Q. Again, when you talk about the                  7 preliminary injunction, you're talking about the                  8 preliminary injunction in the Grant and                  9 Pendergrass case; is that correct?                  10 A. Yes. Sorry for not clarifying that.                  11 Q. And when you talk about your 12/05                  12 report, again, that's a report from those cases;                  13 is that correct?                  14 A. No, that's in this case here, the                  15 illustrative plan. I think you made it Exhibit 1                  16 in today's deposition.                  17 Q. Oh, I see. So you're referring back to                  18 that plan in terms -- that report in terms of your                  19 having referred to percentages of APB over 18.                  20 A. Yes, that's correct. And for example,                  21 Chart 1 in that exhibit, it shows the breakdowns                  22 from 90 percent, 80 to 90, 70 to 80, et cetera.                  23 Q. And when you're saying "Chart 1," you're                  24 now looking at your rebuttal report?                  25 A. No. I'm looking at the Exhibit 1, my</p> <p style="text-align: right;">Page 158</p>	<p>1 reports and I provided the information from those                  2 reports. And in my conclusion, I observed what I                  3 did about the increase in Democratic performance.                  4 So to the extent that that's the conclusion,                  5 that's the conclusion. But I did the entire                  6 analysis by running all of these reports.                  7 Q. I understand. What is it about the data                  8 that's set forth as to 18-plus APB, according to                  9 the different percentages on those charts that                  10 relates, if at all, to your overall conclusion?                  11 A. Well, during the process of analyzing                  12 Dr. Duchin's plans and comparing them to the                  13 enacted plans, I did have the information on the                  14 AP black percentages. And I noticed that in her                  15 report and then subsequently in my report when I                  16 looked at the political information I did notice                  17 that there was an increase in Democratic                  18 performance, although most of her report was                  19 dealing a lot with the racial component of                  20 districts.                  21 Q. What is the relevance -- your                  22 understanding of the relevance of whether or not                  23 the districts relate to Democratic performance to                  24 this case?                  25 A. The -- I would say that there's some</p> <p style="text-align: right;">Page 160</p>
<p>1 initial report of 12/05.                  2 Q. On page 17?                  3 A. 17.                  4 Q. Yeah, okay.                  5 MR. TYSON: And, Ezra --                  6 MR. ROSENBERG: Well -- yeah?                  7 MR. TYSON: Just to clarify, I know we've                  8 referenced Grant and Pendergrass. The legislative                  9 plan preliminary injunctions were Alpha Phi Alpha                  10 and Grant, Pendergrass related to congressional.                  11 So it was really all three of those that were the                  12 preliminary injunction.                  13 Exhibit 1 in Mr. Morgan's report here is                  14 offered in Alpha, in Grant, and in Georgia NAACP                  15 because all of those relate to legislative                  16 districts. So just so the record's clear on, kind                  17 of, which cases each piece relates to. I thought                  18 we should probably clarify that.                  19 MR. ROSENBERG: Okay, thank you.                  20 BY MR. ROSENBERG:                  21 Q. How does the comparison in Chart 1                  22 through Chart 10 in your rebuttal report relate to                  23 your overall conclusion in the rebuttal report as                  24 set forth in paragraph 6 of your rebuttal report?                  25 A. Well, as I stated, I ran maps to do the</p> <p style="text-align: right;">Page 159</p>	<p>1 information that I reported on the performance,                  2 and it could be useful in this case to the court                  3 to have that information.                  4 Q. Was it your idea to look for that                  5 information to support that conclusion?                  6 MR. TYSON: And I'll just object to the                  7 extent that calls for conversations with counsel                  8 and drafts of your report. If there's a                  9 non-privileged answer you can give, you can give                  10 it.                  11 A. Yes. I chose to look at the political                  12 information.                  13 BY MR. ROSENBERG:                  14 Q. And why did you choose to look at the                  15 political information?                  16 MR. TYSON: Same objection.                  17 A. Okay. I thought it would be useful to                  18 have that information before the court.                  19 BY MR. ROSENBERG:                  20 Q. Why did you think it would be useful to                  21 have that information before the court?                  22 A. I found it interesting. In my                  23 experience, in my line of work, I think that's an                  24 interesting thing to look at to see the political                  25 performance of plans.</p> <p style="text-align: right;">Page 161</p>

<p>1 Q. Why did you think it's interesting to see                  2 the political performance of plans in connection                  3 with any of the issues in this case?                  4 A. Again, that's something that I noticed.                  5 When I looked at the data, I noticed that there                  6 was an increase in Democratic performance.                  7 Q. And what relevance is that issue to this                  8 case in your opinion?                  9 MR. TYSON: I'll object to form.                  10 A. I'm not sure what relevance the court                  11 will place on it, but I think it's useful                  12 information to have.                  13 BY MR. ROSENBERG:                  14 Q. What relevance do you place on it?                  15 MR. TYSON: Object to form.                  16 A. From my point of view, I think it's                  17 interesting that while a lot of issues discussed                  18 seem to be racial, the political aspect seems                  19 relevant as well.                  20 BY MR. ROSENBERG:                  21 Q. By the way, did you do an effectiveness                  22 analysis of any of the districts in Dr. Duchin's                  23 report?                  24 MR. TYSON: Object to form.                  25 A. It's not in my report, and I didn't do</p> <p style="text-align: right;">Page 162</p>	<p>1 corrected rebuttal report is in the marked exhibit                  2 files marked as 4 corrected, and it has all the                  3 pages that Mr. Tyson indicated.                  4 Thank you for letting us know that,                  5 Mr. Tyson?                  6 MR. TYSON: Great. Thank you for making                  7 that correction.                  8 BY MR. ROSENBERG:                  9 Q. Now -- and I'm looking at pages 6, 7, 8,                  10 9 and 10 of Dr. Duchin's report. Did you review                  11 this -- that portion of the report?                  12 A. I read through it.                  13 Q. And you read through it for the first                  14 time yesterday or before that?                  15 A. Yesterday, primarily.                  16 Q. Do you have an understanding of the                  17 analysis that Dr. Duchin undertook in this portion                  18 of her supplemental report?                  19 A. I read through the report. I don't know                  20 what to say about the analysis.                  21 Q. And when you say you don't know what to                  22 say about the analysis, does that mean you really                  23 don't know what to say about the analysis so you                  24 cannot say anything about the analysis?                  25 A. Well, I didn't analyze the enacted plan</p> <p style="text-align: right;">Page 164</p>
<p>1 that.                  2 BY MR. ROSENBERG:                  3 Q. Did you do any analysis to determine how                  4 many of the districts are majority-minority                  5 districts when taking into account Hispanic                  6 populations?                  7 A. No. That information is not in my                  8 report.                  9 Q. Are you offering an opinion that                  10 partisanship motivated the drawing of the enacted                  11 plans?                  12 A. I didn't say that in my report.                  13 Q. So you are not offering such an opinion?                  14 A. It's not in my report. I'm not currently                  15 offering that opinion. I -- It's -- I haven't                  16 analyzed it in that context.                  17 Q. Now, did you review the portion of                  18 Dr. Duchin's report that discussed the Gina Wright                  19 deposition?                  20 A. Yes. I read through that.                  21 Q. And just so for the record -- hold on one                  22 second. I'd like to make sure I get this correct.                  23 MR. DAVIS: Since we're going back to the                  24 rebuttal report, Mr. Morgan's rebuttal report, I                  25 just wanted to state for the record that a</p> <p style="text-align: right;">Page 163</p>	<p>1 or Dr. Duchin's plans in the way that -- the type                  2 of analysis that she has done.                  3 Q. Do you intend to offer any opinions at                  4 trial on this analysis?                  5 A. I don't know. I don't have anything in                  6 my report. And at this time, I don't have                  7 anything to say about it.                  8 Q. Have you drawn any conclusions as to what                  9 you might need to know in order to say something                  10 about it?                  11 A. I would probably want to look in more                  12 detail at the plans that she offers and the                  13 enacted plans, and that level of detail I didn't                  14 look at for my report. So I don't know if that                  15 would contemplate a rebuttal to the rebuttal                  16 report or if that's even possible. But I didn't                  17 have access to her rebuttal report to do any kind                  18 of analysis.                  19 MR. ROSENBERG: Okay. Well, I'm going to                  20 ask for a short break right now. I might be just                  21 about done with my questioning, but I wanted to                  22 take a break and -- and I don't know if                  23 Mr. Genberg has some questions, but why don't we                  24 take about a ten-minute break right now.                  25 MR. TYSON: Okay.</p> <p style="text-align: right;">Page 165</p>