EXHIBIT 8

Report on the Proposed Arkansas State House Plan

Dr. Lisa Handley

I. Introduction

Summary Conclusion Voting in Arkansas is racially polarized. This polarization impedes the opportunity for Black voters to elect candidates of their choice unless districts are drawn to provide Black voters with an ability to elect their preferred candidates to the state legislature. The state-passed proposed state house plan (Proposed Plan) decreases the number of Black opportunity districts from 12 to 11 compared to the plan in place for the past decade (Current Plan). An illustrative state house plan drawn by Tony Fairfax (Illustrative Plan) demonstrates that not only was the decrease in Black opportunity districts between the Current and Proposed Plans avoidable, but five additional Black opportunity districts could have been drawn. The failure of the Proposed Plan to provide more Black opportunity districts dilutes the opportunity of Black voters to participate in the electoral process and elect candidates of their choice to the Arkansas state house.

Scope of Project I was retained by the ACLU as an expert to conduct an analysis of voting patterns by race in the State of Arkansas to determine whether voting in Arkansas is racially polarized. In addition, was I asked to assess the ability of Black voters to elect their candidates of choice in Proposed Plan compared to the Illustrative Plan being offered by plaintiffs in this litigation.

II. Professional Background and Experience

I have over thirty-five years of experience as a voting rights and redistricting expert. I have advised scores of jurisdictions and other clients on minority voting rights and redistricting-related issues. I have served as an expert in dozens of voting rights cases. My clients have included state and local jurisdictions, independent redistricting commissions (Arizona, Colorado, Arkansas), the U.S. Department of Justice, national civil rights organizations, and such international organizations as the United Nations.

I have been actively involved in researching, writing, and teaching on subjects relating to voting rights, including minority representation, electoral system design, and redistricting. I co-authored a book, *Minority Representation and the Quest for Voting Equality* (Cambridge

University Press, 1992) and co-edited a volume, *Redistricting in Comparative Perspective* (Oxford University Press, 2008), on these subjects. In addition, my research on these topics has appeared in peer-reviewed journals such as *Journal of Politics*, *Legislative Studies Quarterly*, *American Politics Quarterly*, *Journal of Law and Politics*, and *Law and Policy*, as well as law reviews (e.g., *North Carolina Law Review*) and a number of edited books. I hold a Ph.D. in political science from The George Washington University.

I have been a principal of Frontier International Electoral Consulting since co-founding the company in 1998. Frontier IEC specializes in providing electoral assistance in transitional democracies and post-conflict countries. In addition, I am a Visiting Research Academic at Oxford Brookes University in Oxford, United Kingdom. Attached to the end of this report as *Appendix D* is a copy of my *curriculum vitae*.

III. Plan Comparison

Current State House Plan The Arkansas state house plan currently in place provides Black voters with an opportunity to elect their candidates of choice in 12 districts. This assessment is based on more than simply the demographic composition of the district; it takes into account whether the district is "effective" in electing Black-preferred candidates.

A district-specific, functional analysis is required to determine if a district provides minority voters with an opportunity to elect their candidates of choice – or, in a slightly more complicated process, if a proposed district is likely to provide this opportunity if it is enacted. This assessment depends not only upon the demographic composition of the district but the voting patterns in that district and whether the candidates preferred by minority voters can actually win – this is what is meant by "functional." In the case of proposed districts, election results recompiled to conform to the boundaries of draft district can be used. The best election contests for this purpose are recent elections that included a viable major party minority candidate supported by minority voters but not by white voters. Only one recent election for statewide office satisfies these conditions: the 2018 race for Lieutenant Governor. African American Democrat Anthony Bland garnered around 90 percent of Black voters support but less than 20 percent of the white voters cast their votes for him. I have used recompiled election results for this election contest to ascertain whether the Black-preferred candidate would carry draft districts.

Table 1 lists the Black opportunity districts in the current state house plan. The list was compiled using the percent Black voting age population (BVAP)[1] and the effectiveness score – all majority Black districts had scores indicating they would be effective and no other districts with significant Black population had scores greater than .5 (the minimum required to be deemed effective).[2] Table 1 also identifies the current incumbent, well as the race and political party of the incumbent, in each of the districts.

Table 1: Black Opportunity Districts: Current Plan

District	Incumbent Name (Race, Party)	Percent Black VAP	Effectiveness Score
017	Vivian Flowers (B, D)	76.35%	0.824
016	Ken Ferguson (B, D)	61.56%	0.698
037	Jamie Scott (B, D)	61.31%	0.730
030	Fred Allen (B, D)	59.71%	0.745
034	Joy Springer (B, D)	59.51%	0.755
048	Reginald Murdock (B, D)	58.18%	0.606
036	Denise Ennett (B, D)	56.40%	0.758
029	Fred Love (B, D)	55.67%	0.770
050	Milton Nicks (B, D)	53.40%	0.528
012	David Tollett (W, R)	53.05%	0.534
005	David Fielding (B, D)	52.01%	0.508
055	Monte Hodges (B, D)	51.91%	0.502

Proposed State House Plan The Arkansas Board of Apportionment recently adopted new state legislative district plans. The proposed plan for the state house decreases the number of

[1] Black voting age population has been calculated by counting all persons who checked "Black or African American" on their census form.

[2] There were four districts besides the majority Black districts that had scores greater than .5 but none of these districts had significant Black populations. See Appendix A1 for a list of the effectiveness scores, as well as the BVAP percentage, of all of the districts in the Current Plan.

districts that offer Black voters an opportunity to elect their candidates of choice from 12 to 11. This decrease was not inevitable as the illustrative plan, below, clearly demonstrates. In fact, 16 Black opportunity districts could have been created rather than the 11 that were actually drawn.

Table 2 provides the same information included in Table 1, but for each of the state house Black opportunity districts in the Proposed Plan. If incumbents have been paired within a proposed district (as is the case with District 62), the table indicates this. There are no additional districts, beyond the 11 listed, with a significant Black VAP and an effectiveness score greater than .5.

Table 2: Black Opportunity Districts: Proposed Plan

District	Incumbent Name (Race, Party)	Percent Black VAP	Effectiveness Score
64	Ken Ferguson (B, D)	67.84%	0.736
76	Joy Springer (B, D)	67.65%	0.827
65	Vivian Flowers (B, D)	66.75%	0.753
79	Fred Love (B, D)	57.90%	0.764
77	Fred Allen (B, D)	55.97%	0.731
35	Milton Nicks (B, D)	54.32%	0.544
63	Deborah Ferguson (W, D)	54.17%	0.556
62	Reginald Murdock (B, D); David Tollett (W, R)	52.97%	0.538
80	Denise Ennett (B, D)	52.92%	0.731
72	Jamie Scott (B, D)	52.41%	0.668
66	Mark Perry (W, D)	51.95%	0.610

Illustrative State House Plan As the illustrative Arkansas state house plan drawn by Tony Fairfax demonstrates, it is possible to construct 16 districts that provide Black voters with an opportunity to elect their candidates of choice to the state house. Table 3 provides the same information included in Tables 1 and 2 for the Illustrative Plan. The table lists all of the state house districts that have significant Black populations and have effectiveness scores greater than .5.

Table 3: Black Opportunity Districts: Illustrative Plan

District	Incumbent Name (Race, Party)	Percent Black VAP	Effectiveness Score
51	Deborah Ferguson (W, D)	58.23%	0.582
29	Fred Love (B, D)	57.76%	0.765
5	David Fielding (B, D)	54.43%	0.550
48	Reginald Murdock (B, D)	54.30%	0.556
50	Milton Nicks (B, D)	54.06%	0.550
42	Mark Perry (W, D)	53.25%	0.620
33	Joy Springer (B, D)	52.57%	0.726
16	Ken Ferguson (B, D)	52.45%	0.591
55	Monte Hodges (B, D)	51.41%	0.512
12	David Tollett (W, R)	50.83%	0.533
11	Mark McElroy (W, R)	50.64%	0.537
34	Tippi McCullough (W, D)	50.57%	0.810
36	Denise Ennett (B, D)	50.41%	0.677
30	Fred Allen (B, D)	50.35%	0.690
37	Jamie Scott (B, D)	50.30%	0.650
17	Vivian Flowers (B, D)	50.28%	0.645

What is clear from an examination of Tables 1, 2, and 3 is that in Arkansas Black opportunity districts are invariably majority Black in voting age population. The Proposed Plan decreases the Black percentage of two majority Black districts and renders them no longer effective. District 5, with a 52.01% BVAP and an effectiveness score of .508 has been redrawn (as District 98) with a 44.15% BVAP and an effectiveness score of .448. District 55, with a 51.91% BVAP and an effectiveness score of .502 is District 34 with a BVAP of 45.84% and an effectiveness score of .462 in the Proposed Plan. Both of these districts have African American incumbents. (The Proposed Plan offers a new Black opportunity district to replace one of the districts removed: Current District 42, with a BVAP of 37.49% is redrawn as District 66 with a BVAP of 51.95% and an effectiveness score of .610.)

The tables in *Appendix A* provide the BVAP and effectiveness scores for all districts – not simply the Black opportunity districts – in the Current, Proposed and Illustrative state house plans.

IV. Analysis of Voting Patterns by Race

An analysis of voting patterns by race/ethnicity serves as the foundation of two of the three elements of the "results test" as outlined in *Gingles*: a racial bloc voting analysis is needed to determine whether the minority group is politically cohesive; and the analysis is required to determine if whites are voting sufficiently as a bloc to usually defeat the candidates preferred by minority voters. The voting patterns of white and minority voters must be estimated using statistical techniques because direct information the race of the voters is not, of course, available on the ballots cast.

To carry out an analysis of voting patterns by race, an aggregate level database must be constructed, usually employing election precincts as the units of observation. Information relating to the demographic composition and election results in these precincts is collected, combined and statistically analyzed to determine if there is a relationship between the racial composition of the precincts and support for specific candidates across the precincts.

Standard Statistical Techniques Three standard statistical techniques have been developed over time to estimate vote choices by race/ethnicity: homogeneous precinct analysis, ecological regression, and ecological inference.[3] Two of these analytic procedures – homogeneous precinct analysis and ecological regression – were employed by the plaintiffs' expert in *Gingles*, have the benefit of the Supreme Court's approval in that case, and have been used in most subsequent voting rights cases. The third technique, ecological inference, was developed after the *Gingles* decision and was designed, in part, to address some of the disadvantages associated with ecological regression analysis. Ecological inference analysis has been introduced and accepted in numerous district court proceedings.

[3] For a detailed explanation of homogenous precinct analysis and ecological regression see Bernard Grofman, Lisa Handley and Richard Niemi, *Minority Representation and the Quest for Voting Equality* (Cambridge University Press, 1992). See Gary King, *A Solution to the Ecological Inference Problem* (Princeton University Press, 1997) for a more detailed explanation of ecological inference.

Homogeneous precinct (HP) analysis is the simplest technique. It involves comparing the percentage of votes received by each of the candidates in precincts that are racially or ethnically homogeneous. The general practice is to label a precinct as homogeneous if at least 90 percent of the voters or voting age population is composed of a single race. In fact, the homogeneous results reported are not estimates – they are the actual precinct results. However, most voters in Arkansas do not reside in homogeneous precincts and voters who reside in homogeneous precincts may not be representative of voters who live in more racially diverse precincts. For this reason, I refer to these percentages as estimates.

The second statistical technique employed, *ecological regression* (ER), uses information from all precincts, not simply the homogeneous ones, to derive estimates of the voting behavior of minorities and whites. If there is a strong linear relationship across precincts between the percentage of minorities and the percentage of votes cast for a given candidate, this relationship can be used to estimate the percentage of minority voters supporting the candidate.

The third technique, *ecological inference* (EI), was developed by Professor Gary King. This approach also uses information from all precincts but, unlike ecological regression, it does not rely on an assumption of linearity. Instead, it incorporates maximum likelihood statistics to produce estimates of voting patterns by race. In addition, it utilizes the method of bounds, which uses more of the available information from the precinct returns as well as providing more information about the voting behavior being estimated.[4] Unlike ecological regression, which can produce percentage estimates of less than 0 or more than 100 percent, ecological inference was designed to produce only estimates that fall within the possible limits. However, EI does not guarantee that the estimates for all of the candidates add to 100 percent for each of the racial groups examined.

In conducting my analysis of voting patterns by race in recent statewide elections in Arkansas, I also used a more recently developed version of ecological inference, which I have labeled "EI RxC" in the summary tables found in *Appendix B* and *Appendix C* at the end of the report. EI RxC expands the analysis so that more than two racial/ethnic groups can be considered

[4] The following is an example of how the method of bounds works: if a given precinct has 100 voters, of whom 75 are Black and 25 are white, and the Black candidate received 80 votes, then at least 55 of the Black voters voted for the Black candidate and at most all 75 did. (The method of bounds is less useful for calculating estimates for white voters, as anywhere between none of the whites and all of the whites could have voted for the candidate.)

simultaneously. More importantly from the perspective of analyzing voting patterns in Arkansas, it allows us to take into account differences in the relative rates of Black and white turnout when, as is the case in Arkansas, we do not have turnout by race but instead must rely on voting age population by race to derive estimates of Black and white support for each of the candidates.

Database To analyze voting patterns by race using aggregate level information, a database that combines election results with demographic information is required. This database is almost always constructed using election precincts as the unit of analysis. The demographic composition of the precincts is based on voter registration or turnout by race/ethnicity if this information is available; if it is not, then voting age population or citizen voting age population is used. Arkansas does not collect voter registration data by race and therefore voting age population (VAP) by race and ethnicity as reported in the PL94-171 census redistricting data was used for ascertaining the demographic composition of the precincts.

To build the Arkansas dataset used for this racial bloc voting analysis, 2016, 2018, and 2020 precinct-level shapefiles were acquired from the Voting and Election Science Team. These shapefiles were joined to precinct-level election returns from the Arkansas Secretary of State's office, which were processed and cleaned by OpenElections. The 2020 Census Block shapefiles, and total and voting age population by race and ethnicity, were obtained from the Census FTP portal. The Arkansas Proposed state house plan was acquired form the Board of Apportionment redistricting website as a shapefile.

The election returns for the 2016, 2018, and 2020 election cycles were disaggregated down to the level of the 2020 Census block. This block-level dataset was then reaggregated up to the level of the 2020 voting districting, taking into account splits of the voting districts by the implemented and proposed plans.

Statewide elections analyzed All recent statewide election contests were analyzed. The general elections included the 2020 contests for U.S. President and U.S. Senate; the 2018 contests for Governor, Lieutenant Governor, Attorney General, Secretary of State, and Treasurer; and the 2016 contests for U.S. President and U.S. Senate. There were only two general election contests in which African American candidates competed: the 2020 U.S. Senate race in which Ricky Dale Harrington did not run as a major party candidate (he ran as a Libertarian) and garnered 33.5 percent of the vote and the 2018 election for Lieutenant Governor in which African American

Democrat Anthony Bland won 33.0 percent of the vote.[5] In both instances, the African American candidate was clearly the candidate of choice of a very large majority of Black voters.

I also analyzed the only recent statewide Democratic primary that included an African American candidate, the 2018 gubernatorial primary.[6] Republican primaries were not examined because the overwhelming majority of Blacks voters who participate in primaries cast their ballots in Democratic rather than Republican primaries. As a consequence, Democratic primaries are far more probative than Republican primaries in ascertaining the candidates preferred by Black voters.[7] The African American candidate in the 2018 Democratic primary for Governor, Leticia Sanders, was supported by a clear majority of Black voters but lost the nomination with 36.7 percent of the vote.

The estimates of Black and white support for each of the candidates who ran in the recent statewide elections analyzed are reported in *Appendix B.*

State House Elections Analyzed In addition to recent statewide elections, I also analyzed state house elections in those districts that overlap with the five new Black opportunity districts offered by the Illustrative Plan as compared to the Proposed Plan. This analysis was carried out to determine if voting in state legislative elections specific to the areas in which additional minority districts could have been drawn was racially polarized.

The evolution of the current majority Black districts, through the Proposed Plan and to the Illustrative Plan is depicted in the diagram below (Diagram 1).[8] The shaded districts are majority

[5] Courts consider election contests that include minority candidates more probative than contests that include only white candidates for determining if voting is racially polarized. This is because it is not sufficient for minority voters to be able to elect their candidates of choice only if these candidates are white. On the other hand, it is important to recognize that not all minority candidates are the preferred candidates of minority voters.

[6] The 2018 Democratic primary for Governor was in fact the only statewide Democratic primary conducted since 2016 other than the presidential preference primaries in 2016 and 2020.

[7] In addition, producing reliable estimates for Black voters in Republican primaries would not have been possible.

[8] The evolution of the districts was traced using the "core constituencies" report function in Maptitude, a redistricting GIS package. The report compares the residents from each of the districts in one plan to where they would fall in the second plan. The core constituencies report was also used to identify the current state house districts overlapping with the new Black opportunity districts offered in the Illustrative Plan.

Black districts; the five districts outlined in black are the five additional Black opportunity districts offered in the Illustrative Plan that are not in the Proposed Plan.

Diagram 1: Evolution of Arkansas Majority Black State House Districts

Current Plan	Proposed Plan	Illustrative Plan
17 76.35 Vivian Flowers (B, D)	**65** 66.75 Vivian Flowers (B, D)	**17** 50.28 Vivian Flowers (B, D)
16 61.56 Ken Ferguson (B, D)	**64** 67.84 Ken Ferguson (B, D)	**16** 52.45 Ken Ferguson (B, D)
37 61.31 Jamie Scott (B, D)	**72** 52.41 Jamie Scott (B, D)	**37** 50.30 Jamie Scott (B, D)
30 59.71 Fred Allen (B, D)	**77** 55.97 Fred Allen (B, D)	**30** 50.35 Fred Allen (B, D)
34 59.51 Joy Springer (B, D)	**76** 67.65 Joy Springer (B, D)	**33** 52.57 Joy Springer (B, D)
48 58.18 Reginald Murdock (B, D)	**63** 54.17 Deb. Ferguson (W, D)	**51** 58.23 Deb. Ferguson (W, D)
36 56.40 Denise Ennett (B, D)	**80** 52.92 Denise Ennett (B, D)	**36** 50.41 Denise Ennett (B, D)
29 55.67 Fred Love (B, D)	**79** 57.90 Fred Love (B, D)	**29** 57.76 Fred Love (B, D)
50 53.40 Milton Nicks (B, D)	**35** 54.32 Milton Nicks (B, D)	**50** 54.06 Milton Nicks (B, D)
12 53.05 David Tollett (W, R)	**62** 52.97 Reginald Murdock (B, D)	**48** 54.30 Reginald Murdock (B, D)
05 52.01 David Fielding (B, D)	**98** 44.15 David Fielding (B, D)	**05** 54.43 David Fielding (B, D)
55 51.91 Monte Hodges (B, D)	**34** 45.84 Monte Hodges (B, D)	**55** 51.41 Monte Hodges (B, D)
42 37.49 Mark Perry (W, D)	**66** 51.95 Mark Perry (W, D)	**42** 53.25 Mark Perry (W, D)
		11 50.64 Mark McElroy (W, R)
		34 50.57 Tippi McCullough (W, D)
		12 50.83 David Tollett (W, R)

The five additional Black opportunity district and the current state house districts with which they overlap by at least 3% are as follows:

Illustrative State House District	Current State House Districts Overlapped by Illustrative District
5	2, 5, 6, 7
11	11, 12, 16
12	12, 14, 15, 16, 17
34	29, 30, 33, 34, 36
55	50, 54, 55

The analysis included all contested general elections in 2016, 2018 and 2020 in these districts, as well as any contested Democratic primaries that included African American candidates in 2018 and 2020. The summary table in ***Appendix C*** provides estimates of the voting behavior of Black and white voters in these recent state house elections.

V. Findings

Voting is racially polarized in Arkansas. In all nine statewide general elections examined, Black voters overwhelmingly supported their preferred candidates (usually Democrats, but in two of the nine elections, the candidate of choice was the Libertarian candidate) – the average percentage of Black vote received by the candidate of choice was between 89 and 90%. White voters consistently and successfully bloc voted to defeat these candidates – the average percentage of the white vote received by the candidates preferred by Black voters was between 18 and 19%. There was no election contest analyzed in which the candidate preferred by Black voters garnered more than more than 23% of the white vote. For example, in the 2018 contest for Lieutenant Governor, approximately 90% of the Black voters supporting Anthony Bland but less than 18% of white voters (the two EI estimates are 16.1 and 17.5) cast a vote for him. Not a single Black-preferred candidate was elected statewide in 2016, 2018 or 2020.

Voting was also racially polarized in the one statewide Democratic primary analyzed, the 2018 gubernatorial primary. The majority of Black voters supported the African American candidate, Leticia Sanders, but over 70 percent of white voters supported her white opponent, Jared Henderson, who won the Democratic nomination. (Henderson was defeated in the general election).

Voting in at least 13 of the 17 state house contests I analyzed was racially polarized, with the percentage of white voters supporting the candidate of choice of Black voters receiving no more support (and in many instances, much less support) than Black-preferred candidates statewide. In the three contests that were not polarized, either both candidates were African American (District 34 in 2020), both candidates were white (District 33 in 2016), or the African American Democrat did not face a Republican candidate. However, in at least one of the other two state house contests in which the African American Democrat faced a minority party candidate, voting was polarized. (There was one contest in which the two EI estimates pointed to different candidates as the candidate supported by a majority of the white voters – this contest, in District 29

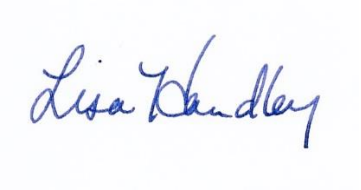
in 2016, pitted an African American Democrat against a white Libertarian.) With only one exception, African American candidates supported by Black voters only succeeded in winning polarized contests in districts in which the BVAP was over 50 percent. The exception was the 2018 election for District 11, in which white voters split their vote between the African American Republican and the White Independent, Mark McElroy (who ran as a Democrat in 2016), and the African American Democrat, Don Glover, won with a plurality of the vote. In 2020, Mark McElroy, running as a Republican in 2020, defeated Don Glover.

The three Democratic state house primaries I examined were not polarized, but in each case the only candidates running were African American candidates.

VI. Conclusion

My analysis of voting patterns by race found that the Black community in Arkansas is cohesive in supporting their preferred candidates and that white voters consistently bloc vote to defeat these candidates. Racially polarized voting substantially impedes the ability of Black voters to elect candidates of their choice to the Arkansas State House unless districts are drawn to provide Black voters with this opportunity. The Proposed State House Plan dilutes the voting strength of Black voters in Arkansas by failing to create additional districts that offer Black voters an opportunity to elect their candidates of choice to the state house.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on December 28, 2021.



APPENDIX A

Current District	2020 Total Population	Deviation	Percent Black VAP	Effectiveness Score
001	28612	-4.99%	35.41%	0.352
002	29409	-2.34%	14.21%	0.188
003	26388	-12.38%	28.90%	0.335
004	26967	-10.45%	11.39%	0.260
005	24127	-19.88%	52.01%	0.508
006	29024	-3.62%	22.06%	0.270
007	24868	-17.42%	38.87%	0.394
008	25483	-15.38%	27.84%	0.313
009	26487	-12.05%	28.41%	0.328
010	25733	-14.55%	12.11%	0.172
011	24796	-17.66%	46.21%	0.495
012	22304	-25.94%	53.05%	0.534
013	26827	-10.92%	18.09%	0.243
014	29105	-3.35%	23.69%	0.352
015	29504	-2.03%	5.23%	0.185
016	27536	-8.56%	61.56%	0.698
017	23226	-22.88%	76.35%	0.824
018	28747	-4.54%	19.23%	0.354
019	26011	-13.63%	12.60%	0.243
020	26438	-12.21%	0.55%	0.175
021	27300	-9.35%	0.81%	0.169
022	31427	4.36%	2.86%	0.237
023	36470	21.10%	7.02%	0.229
024	30859	2.47%	8.52%	0.306
025	29276	-2.79%	15.78%	0.396
026	29579	-1.78%	12.87%	0.282
027	33046	9.73%	11.74%	0.286
028	30201	0.29%	8.31%	0.267
029	30605	1.63%	55.67%	0.770
030	30754	2.12%	59.71%	0.745
031	37688	25.15%	7.66%	0.283
032	31382	4.21%	15.68%	0.411
033	27648	-8.19%	25.49%	0.679
034	28949	-3.87%	59.51%	0.755
035	30639	1.74%	18.42%	0.492
036	28312	-5.99%	56.40%	0.758
037	28779	-4.44%	61.31%	0.730
038	29854	-0.87%	21.70%	0.443
039	32742	8.72%	25.87%	0.406
040	30736	2.06%	7.56%	0.274
041	31492	4.57%	23.95%	0.390
042	30021	-0.31%	37.49%	0.459
043	31324	4.01%	2.92%	0.175
044	33168	10.14%	1.50%	0.160

045	28739	-4.57%	3.69%	0.173
046	28946	-3.88%	10.07%	0.203
047	27160	-9.81%	16.58%	0.284
048	24333	-19.20%	58.18%	0.606
049	25529	-15.23%	32.04%	0.344
050	24703	-17.97%	53.40%	0.528
051	28119	-6.63%	42.54%	0.430
052	29563	-1.83%	6.64%	0.235
053	34470	14.46%	10.22%	0.266
054	27971	-7.12%	10.44%	0.232
055	24216	-19.59%	51.91%	0.502
056	27382	-9.08%	0.63%	0.229
057	32789	8.88%	2.51%	0.220
058	34094	13.21%	18.05%	0.345
059	31999	6.26%	19.79%	0.339
060	27477	-8.76%	1.09%	0.217
061	29832	-0.94%	0.83%	0.253
062	29104	-3.36%	1.72%	0.196
063	30899	2.60%	3.06%	0.206
064	28527	-5.27%	0.30%	0.196
065	27898	-7.36%	8.61%	0.291
066	28662	-4.82%	1.40%	0.176
067	32506	7.94%	4.13%	0.207
068	29562	-1.84%	0.98%	0.174
069	29194	-3.06%	2.32%	0.246
070	33169	10.14%	15.74%	0.373
071	30339	0.74%	7.08%	0.300
072	30519	1.34%	23.02%	0.499
073	26473	-12.09%	1.45%	0.204
074	27979	-7.09%	1.25%	0.194
075	28850	-4.20%	1.35%	0.182
076	30660	1.81%	7.33%	0.284
077	29883	-0.77%	7.92%	0.334
078	28372	-5.79%	14.33%	0.549
079	29421	-2.30%	2.68%	0.223
080	31958	6.12%	1.87%	0.283
081	29401	-2.37%	1.10%	0.266
082	28005	-7.01%	0.67%	0.230
083	27564	-8.47%	0.35%	0.201
084	36067	19.76%	4.17%	0.495
085	38445	27.66%	5.76%	0.563
086	37055	23.04%	7.70%	0.689
087	37120	23.26%	2.17%	0.256
088	32678	8.51%	3.32%	0.391
089	33704	11.92%	2.76%	0.467
090	43865	45.66%	2.25%	0.326
091	43643	44.92%	2.75%	0.269

092	34610	14.93%	1.55%	0.265
093	43653	44.95%	3.54%	0.382
094	32551	8.09%	2.39%	0.412
095	35046	16.37%	1.26%	0.298
096	32124	6.67%	0.94%	0.316
097	33040	9.71%	0.88%	0.365
098	29401	-2.37%	0.58%	0.213
099	29458	-2.18%	0.36%	0.205
100	28954	-3.86%	0.41%	0.238

Proposed District	2020 Total Population	Deviation	Percent Black VAP	Effectiveness Score
1	30815	2.32%	0.65%	0.226
2	30892	2.58%	0.89%	0.252
3	31181	3.54%	0.40%	0.239
4	29687	-1.42%	0.31%	0.226
5	30881	2.54%	0.51%	0.210
6	29541	-1.91%	0.65%	0.332
7	29885	-0.76%	0.97%	0.329
8	30027	-0.29%	1.29%	0.289
9	30625	1.69%	2.80%	0.476
10	31066	3.16%	2.42%	0.362
11	29776	-1.13%	2.89%	0.366
12	30767	2.17%	0.92%	0.262
13	29618	-1.65%	3.57%	0.383
14	29752	-1.21%	4.78%	0.335
15	29405	-2.36%	2.20%	0.383
16	29446	-2.22%	1.97%	0.296
17	29726	-1.29%	1.28%	0.229
18	29291	-2.74%	3.77%	0.354
19	29276	-2.79%	4.00%	0.399
20	29707	-1.35%	4.69%	0.564
21	29499	-2.05%	7.56%	0.754
22	29260	-2.84%	6.26%	0.508
23	29561	-1.84%	1.83%	0.331
24	29388	-2.41%	1.56%	0.196
25	29668	-1.48%	0.94%	0.299
26	30381	0.88%	0.65%	0.242
27	31177	3.53%	1.34%	0.199
28	31081	3.21%	1.21%	0.187
29	30392	0.92%	13.23%	0.257
30	30278	0.54%	6.68%	0.239
31	31014	2.99%	2.60%	0.223
32	31106	3.29%	20.84%	0.388
33	31192	3.58%	4.66%	0.215
34	30073	-0.14%	45.84%	0.462
35	30532	1.38%	54.32%	0.544
36	31082	3.21%	17.39%	0.310
37	30593	1.59%	25.38%	0.310
38	31048	3.10%	11.65%	0.262
39	31122	3.34%	9.92%	0.217
40	30068	-0.16%	2.65%	0.192
41	30194	0.26%	0.40%	0.177
42	30098	-0.06%	2.01%	0.181
43	30068	-0.16%	7.91%	0.269

44	29145	-3.22%	1.48%	0.172
45	30641	1.75%	2.21%	0.239
46	29927	-0.62%	1.26%	0.210
47	29203	-3.03%	0.87%	0.159
48	29847	-0.89%	4.46%	0.243
49	29484	-2.10%	14.57%	0.531
50	29517	-1.99%	7.68%	0.337
51	31079	3.20%	5.38%	0.267
52	29755	-1.20%	1.21%	0.184
53	29344	-2.56%	6.97%	0.290
54	29768	-1.15%	7.00%	0.290
55	29682	-1.44%	17.85%	0.383
56	29821	-0.98%	19.90%	0.451
57	30134	0.06%	1.20%	0.156
58	31207	3.63%	9.70%	0.200
59	30899	2.60%	3.32%	0.175
60	30469	1.18%	13.09%	0.252
61	30564	1.49%	26.22%	0.336
62	29636	-1.59%	52.97%	0.538
63	30659	1.81%	54.17%	0.556
64	30494	1.26%	67.84%	0.736
65	29551	-1.87%	66.75%	0.753
66	29555	-1.86%	51.95%	0.610
67	31047	3.09%	28.00%	0.407
68	31183	3.55%	3.07%	0.180
69	30711	1.98%	12.68%	0.296
70	30427	1.04%	17.70%	0.390
71	29220	-2.97%	23.54%	0.396
72	29903	-0.70%	52.41%	0.668
73	29972	-0.47%	14.81%	0.467
74	30327	0.70%	21.22%	0.632
75	30262	0.49%	19.31%	0.429
76	29928	-0.62%	67.65%	0.827
77	30006	-0.36%	55.97%	0.731
78	29358	-2.51%	4.89%	0.273
79	30065	-0.17%	57.90%	0.764
80	30091	-0.08%	52.92%	0.731
81	30525	1.36%	14.89%	0.325
82	30021	-0.31%	11.18%	0.294
83	29821	-0.98%	3.81%	0.215
84	29837	-0.92%	13.18%	0.367
85	29925	-0.63%	3.33%	0.244
86	29922	-0.64%	0.68%	0.169
87	29189	-3.07%	10.59%	0.254
88	30356	0.80%	28.61%	0.345
89	29332	-2.60%	14.55%	0.272
90	29709	-1.35%	13.30%	0.328

91	30145	0.10%	10.64%	0.330
92	30129	0.05%	3.04%	0.175
93	29911	-0.68%	11.43%	0.200
94	29908	-0.69%	32.42%	0.356
95	29270	-2.81%	34.05%	0.397
96	30051	-0.21%	24.90%	0.303
97	30182	0.22%	34.30%	0.349
98	30460	1.15%	44.15%	0.448
99	29605	-1.69%	17.43%	0.206
100	30106	-0.03%	33.07%	0.328

Illustrative District	2020 Total Population	Deviation	Percent Black VAP	Effectiveness score
1	29387	-2.42%	34.03%	0.339
2	28718	-4.64%	15.44%	0.199
3	29220	-2.97%	31.56%	0.371
4	28625	-4.95%	12.17%	0.276
5	31009	2.97%	54.43%	0.550
6	29320	-2.64%	23.12%	0.294
7	28745	-4.55%	24.88%	0.302
8	29149	-3.21%	17.88%	0.246
9	30703	1.95%	27.10%	0.315
10	28996	-3.72%	3.34%	0.195
11	28733	-4.59%	50.64%	0.537
12	28616	-4.98%	50.83%	0.533
13	29223	-2.96%	19.00%	0.266
14	31165	3.49%	11.10%	0.246
15	28964	-3.82%	3.59%	0.193
16	28822	-4.29%	52.45%	0.591
17	29011	-3.67%	50.28%	0.645
18	28947	-3.88%	7.11%	0.263
19	29492	-2.07%	3.66%	0.179
20	29136	-3.25%	0.59%	0.176
21	30787	2.23%	1.31%	0.176
22	28737	-4.58%	3.49%	0.249
23	30557	1.47%	6.06%	0.230
24	28683	-4.76%	6.97%	0.290
25	28823	-4.29%	17.73%	0.412
26	29203	-3.03%	12.39%	0.253
27	29977	-0.46%	13.33%	0.297
28	29243	-2.90%	11.19%	0.302
29	30623	1.69%	57.76%	0.765
30	29323	-2.63%	50.35%	0.690
31	31022	3.01%	10.70%	0.360
32	31097	3.26%	21.93%	0.408
33	29375	-2.46%	52.57%	0.726
34	29123	-3.29%	50.57%	0.810
35	29971	-0.48%	17.15%	0.512
36	29623	-1.63%	50.41%	0.677
37	30297	0.60%	50.30%	0.650
38	30257	0.47%	17.61%	0.403
39	30100	-0.05%	17.02%	0.353
40	31543	4.74%	11.40%	0.301
41	30460	1.15%	23.52%	0.377
42	28692	-4.73%	53.25%	0.620
43	30797	2.26%	2.91%	0.178
44	31076	3.19%	1.63%	0.162
45	29648	-1.55%	7.71%	0.194

46	30397	0.94%	5.12%	0.167
47	31157	3.46%	7.12%	0.217
48	28702	-4.69%	54.30%	0.556
49	30171	0.19%	20.47%	0.270
50	31204	3.62%	54.06%	0.550
51	28662	-4.82%	58.23%	0.582
52	31270	3.84%	6.19%	0.227
53	30148	0.11%	8.66%	0.255
54	31530	4.70%	5.97%	0.200
55	29043	-3.56%	51.41%	0.512
56	31238	3.73%	1.00%	0.241
57	30849	2.44%	2.62%	0.225
58	29129	-3.27%	16.36%	0.342
59	29296	-2.72%	29.37%	0.439
60	31103	3.28%	0.98%	0.211
61	31231	3.71%	0.63%	0.231
62	29387	-2.42%	1.23%	0.216
63	29897	-0.72%	3.11%	0.222
64	31390	4.23%	0.20%	0.195
65	29233	-2.93%	10.52%	0.305
66	30757	2.13%	0.64%	0.185
67	29252	-2.87%	2.52%	0.175
68	29759	-1.18%	1.11%	0.216
69	29194	-3.06%	2.32%	0.246
70	30659	1.81%	16.57%	0.360
71	29804	-1.03%	6.88%	0.284
72	29428	-2.28%	22.21%	0.515
73	29033	-3.59%	1.44%	0.195
74	29727	-1.29%	1.22%	0.212
75	31033	3.05%	1.42%	0.182
76	29074	-3.46%	6.11%	0.274
77	29898	-0.72%	8.02%	0.336
78	30453	1.12%	15.06%	0.558
79	31316	3.99%	2.36%	0.207
80	31365	4.15%	1.08%	0.262
81	31557	4.79%	3.65%	0.446
82	30120	0.02%	1.94%	0.350
83	30787	2.23%	2.46%	0.343
84	29631	-1.61%	4.18%	0.546
85	31295	3.92%	5.14%	0.512
86	31173	3.51%	9.05%	0.638
87	31133	3.38%	3.58%	0.332
88	31479	4.53%	2.93%	0.315
89	31124	3.35%	2.52%	0.452
90	31218	3.66%	2.08%	0.309
91	31529	4.70%	2.14%	0.261
92	30636	1.73%	2.63%	0.259

93	31129	3.37%	2.17%	0.353
94	31365	4.15%	2.71%	0.345
95	31585	4.88%	1.27%	0.315
96	31276	3.86%	1.71%	0.451
97	31356	4.12%	0.85%	0.347
98	29592	-1.74%	0.58%	0.219
99	31143	3.41%	0.53%	0.208
100	31589	4.89%	0.39%	0.242

APPENDIX B

Statewide				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
2020 General											
U.S. President											
Joseph Biden	D	W	34.8%	90.3	94.8	90.2	90.6	19.0	13.4	18.5	20.4
Donald Trump	R	W	62.4%	5.8	0.3	8.1	4.0	78.7	84.4	78.6	78.3
others			2.8%	3.9	4.9	3.5	5.3	2.3	2.2	2.0	1.3
votes for office				*49.1*	*42.1*	*44.3*	*44.3*	*62.0*	*60.0*	*62.4*	*62.4*
U.S. Senate											
Ricky Dale Harrington	Lib	AA	33.5%	82.9	85.5	86.1	91.3	18.7	14.3	17.9	19.6
Tom Cotton	R	W	66.5%	17.1	14.5	13.9	8.7	81.3	85.7	82.1	80.4
votes for office				*44.1*	*37.5*	*40.0*	*40.0*	*61.1*	*59.6*	*62.1*	*62.1*
2018 General											
Governor											
Jared Henderson	D	W	31.8%	83.1	87.0	87.1	89.0	18.3	13.4	15.3	16.7
Asa Hutchinson	R	W	65.3%	14.9	11.6	11.8	7.8	78.3	83.1	81.4	80.8
Mark West	Lib	W	2.9%	2.0	1.4	1.6	3.2	3.4	3.4	3.2	2.4
votes for office				*42.5*	*36.8*	*38.2*	*38.2*	*45.6*	*43.4*	*45.8*	*45.8*
Lieutenant Governor											
Anthony Bland	D	AA	33.0%	88.8	92.5	89.7	90.6	19.2	13.8	16.1	17.5
Tim Griffin	R	W	64.2%	9.1	5.3	9.0	5.6	78.2	83.6	80.9	80.6
Frank Gilbert	Lib	W	2.8%	2.1	2.2	2.4	3.8	2.6	2.7	2.7	1.8
votes for office				*42.4*	*36.7*	*38.1*	*38.1*	*45.4*	*43.3*	*45.6*	*45.6*
Attorney General											
Mike Lee	D	W	35.4%	89.0	93.7	90.7	91.1	21.1	16.0	18.8	20.4
Leslie Rutledge	R	W	61.8%	9.0	4.6	8.4	5.6	76.3	81.3	78.1	77.9
Kerry Hicks	Lib	W	2.8%	2.0	1.8	1.7	3.3	2.6	2.8	2.8	2.0
votes for office				*42.4*	*36.8*	*38.2*	*38.2*	*45.5*	*43.3*	*45.6*	*45.6*

Statewide				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
Secretary of State											
Susan Inman	D	W	36.5%	88.3	94.7	91.1	91.0	22.3	17.5	20.2	21.5
John Thurston	R	W	60.6%	8.0	2.4	7.7	5.2	75.0	79.8	76.6	76.5
Christopher Olson	Lib	W	2.9%	3.7	2.9	2.9	3.8	2.6	2.7	2.7	1.9
votes for office				*42.4*	*36.8*	*38.1*	*38.1*	*45.4*	*43.2*	*45.4*	*45.4*
Treasurer											
Dennis Milligan	R	W	70.9%	23.5	20.4	18.2	14.3	82.6	87.2	86.2	84.9
Ashley Ewald	Lib	W	29.1%	76.5	79.5	81.9	85.7	17.4	12.8	13.8	15.1
votes for office				*37.8*	*32.5*	*33.8*	*33.8*	*44.6*	*42.9*	*44.9*	*44.9*
2016 General											
U.S. President											
Hillary Clinton	D	W	33.7%	92.8	97.1	91.7	91.7	20.0	14.8	16.1	17.5
Donald Trump	R	W	60.6%	4.5	0.3	7.2	4.5	75.2	80.1	77.2	76.8
others			5.7%	2.7	2.6	2.2	3.8	4.9	5.6	6.3	5.7
votes for office				*55.5*	*48.2*	*48.1*	*48.1*	*57.2*	*54.7*	*56.4*	*56.4*
U.S. Senator											
Conner Eldridge	D	W	36.2%	87.7	90.8	89.4	90.2	24.7	20.6	21.2	22.7
John Boozman	R	W	59.8%	9.1	6.5	8.7	6.1	71.3	75.3	74.5	73.6
Frank Gilbert	Lib	W	4.0%	3.2	2.6	2.3	3.7	4.1	4.1	3.9	3.7
votes for office				*52.1*	*45.2*	*45.5*	*45.5*	*56.0*	*53.8*	*55.6*	*55.6*
Democratic Primaries											
2018 Democratic Primary for Governor											
Leticia Sanders	D	AA	36.7%	59.4	62.9	61.9	51.2	26.6	26.6	25.1	21.0
Jared Henderson	D	W	63.3%	40.6	37.1	37.8	48.8	73.4	73.4	75.0	79.0
votes for office				*20.4*	*17.5*	*22.2*	*22.2*	*7.8*	*2.8*	*6.2*	*6.2*

APPENDIX C

State Legislative Elections				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
2020 General											
State House District 5											
David Fielding	D	B	56.8%		105.0	93.5	91.9		9.0	16.6	23.8
Chase McDowell	R	W	43.2%		-5.1	6.5	8.1		91.1	83.3	76.2
turnout of VAP					*36.3*	*44.3*			*66.9*	*63.0*	
State House District 7											
George Calloway Jr	D	B	40.1%		97.0	87.4	87.7		0.0	6.1	11.0
Sonia Eubanks Barker	R	W	59.9%		2.9	12.3	12.4		99.9	93.6	89.0
turnout of VAP					*33.9*	*29.2*			*64.4*	*62.8*	
State House District 11											
Don Glover	D	B	49.7%	94.3	99.0	96.7	94.2		-2.4	7.1	6.1
Mark McElroy	R	W	50.3%	5.7	1.1	3.2	5.8		102.4	93.1	93.9
turnout of VAP				*51.9*	*50.8*	*56.6*			*56.3*	*na*	
State House District 14											
Rick Bransford	D	W	33.3%		96.3	87.5	74.8	15.8	9.5	13.2	14.2
Roger Lunch	R	W	58.8%		-13.8	5.2	7.5	80.2	88.1	78.6	82.3
Christa Jones	I		8.0%		17.6	21.9	17.7	4.0	2.5	2.0	3.6
turnout of VAP					*52.6*	*62.3*		*66.6*	*53.6*	*55.8*	
State House District 34											
Joy Springer	D	B	70.4%		76.3	*na*	74.6		59.0	58.6	58.4
Roderick Greer Talley	I	B	29.6%		23.9	*na*	25.5		41.0	41.7	41.6
turnout of VAP					*42.5*	*45.6*			*50.2*	*55.4*	
State House District 55	**(missing Mississippi Co. precincts)**										
Monte Hodges	D	B	52.2%								
Gary Tobar	R	B	47.8%								
turnout of VAP											

State Legislative Elections				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
2018 General											
State House District 5											
David Fielding	D	B	56.9%		101.3	89.4	*na*		10.9	20.4	*na*
Wade Andrews	R	W	43.1%		-0.9	10.7	*na*		89.2	79.3	*na*
turnout of VAP					*34.0*	*29.5*			*70.9*	*54.5*	
State House District 11											
Don Glover	D	B	44.0%		87.6	83.9	80.5		-2.2	5.3	5.8
Ricky Lattimore	R	B	25.5%		1.3	5.2	8.5		52.5	49.7	45.1
Mark McElroy	I	W	30.4%		11.1	3.7	11.0		49.8	60.8	49.1
turnout of VAP					*48.0*	*49.1*			*41.2*	*44.2*	
State House District 12											
Chris Richey	D	W	61.0%		99.3	92.6	91.5	20.1	17.8	21.0	19.4
Jason Dobson	R	W	39.0%		0.5	7.4	8.5	79.9	82.1	78.2	80.6
turnout of VAP					*45.8*	*45.7*		*43.6*	*42.3*	*44.6*	
State House District 17											
Vivian Flowers	D	B	88.7%	*94.9*	*97.3*	*95.2*	*97.2*		*48.7*	*45.4*	*30.7*
Gregory Maxwell	L		11.3%	*5.1*	*2.8*	*4.7*	*2.8*		*51.1*	*55.1*	*69.3*
turnout of VAP				*35.5*	*38.9*	*38.8*			*21.1*	*21.7*	
State House District 30											
Fred Allen	D	B	86.4%		107.5	99.1	92.5		49.3	53.7	64.4
Mitchell Fenton	L	W	13.7%		-7.7	0.6	7.5		50.6	46.5	35.6
turnout of VAP					*49.3*	*46.0*			*39.2*	*38.0*	
State House District 54											
Austin Jones	D		24.1%		*86.5*	*97.6*	*54.9*	*14.3*	*5.5*	*13.4*	*13.6*
Johnny Rye	R	W	75.9%		*13.5*	*1.6*	*45.1*	*85.7*	*94.5*	*85.6*	*86.4*
turnout of VAP					*56.7*	*60.6*		*32.7*	*31.5*	*33.8*	

State Legislative Elections				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
State House District 55											
Monte Hodges	D	B	61.7%		79.0	85.3	75.8		36.2	36.4	42.7
Gary Tobar	R	B	38.3%		21.1	14.9	24.2		63.9	64.5	57.3
turnout of VAP					*41.7*	*33.5*			*39.8*	*40.4*	
2016 General											
State House District 7											
Floyd Thomas Jr.	D	W	37.4%		73.3	77	*na*		16.8	13.4	*na*
Sonia Eubanks Barker	R	W	54.8%		9.6	15.5	*na*		81.4	80.5	*na*
Glen Glover	I		7.8%		17.1	14.9	*na*		1.5	5.1	*na*
turnout of VAP					*89.1*	*80.2*			*76.1*	*79.1*	
State House District 10											
Dorothy Hall	D	W	36.4%		86.9	89.4	71.2	31.1	28.3	27.2	29.0
Mike Holcomb	R	W	63.6%		13.2	11.2	28.9	68.9	71.7	72.8	71.0
turnout of VAP					*41.6*	*41.2*		*56.8*	*56.8*	*56.6*	
State House District 14											
Camille Bennett	D	W	47.9%		108.7	97.1	90.4	27.1	26.0	29.7	28.9
Roger Lynch	R	W	52.1%		-8.7	2.9	9.6	72.9	74.0	70.3	71.1
turnout of VAP					*55.1*	*55.6*		*61.4*	*51.4*	*53.2*	
State House District 29											
Fred Love	D	B	86.4%		108.9	99.0	92.5		45.5	46.1	56.0
Glen Swartz	L	W	13.6%		-8.8	0.9	7.5		54.4	52.6	44.0
turnout of VAP					*42.1*	*51.1*			*38.5*	*42.3*	
State House District 33											
Sabin Warwick	D	W	77.9%		83.3	84.9	70.1		75.3	75.0	80.0
Michael Williams	L	W	22.1%		16.7	15.1	29.9		24.9	25.0	20.0
turnout of VAP					*33.1*	*40.5*			*62.0*	*59.6*	

State Legislative Elections				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
State House District 54											
Hunter Williams	D	W	25.8%		90.7	86.9	58.2	23.6	14.3	9.8	14.7
Johnny Rye	R	W	74.2%		8.7	12.7	48.8	76.4	85.9	90.8	85.3
turnout of VAP					*54.5*	*59.4*		*39.6*	*39.7*	*38.8*	
Democratic Primaries											
2020 Democratic Primary											
State House District 34											
Joy Springer	D	B	64.4%		69.3	66.5	68.4		52.4	56.7	53.1
Ryan Davis	D	B	28.0%		28.4	31.6	25.7		28.4	29.0	38.8
Lee Miller	D		7.6%		2.2	1.9	5.9		19.8	19.6	13.1
turnout of VAP					*22.2*	*22.2*			*11.0*	*12.7*	
State House District 36											
Denise Ennett	D	B	69.7%		76.0	78.7	74.4		59.2	59.3	58.6
Russell Williams	D	B	30.3%		24.0	21.2	25.6		41.0	40.6	41.4
turnout of VAP					*31.7*	*33.9*			*0.0*	*2.3*	
2018 Democratic Primary											
State House District 36											
Charles Blake	D	B	61.7%		70.4	62.2	64.1		45.6	58.5	56.8
Darell Stephens	D	B	38.3%		29.9	38.8	35.9		54.7	44.6	43.2
turnout of VAP					*22.8*	*23.8*			*0.0*	*1.0*	

APPENDIX D

Lisa R. Handley

CURRICULUM VITAE

Professional Experience

Dr. Handley has over thirty years of experience in the areas of redistricting and voting rights, both as a practitioner and an academician, and is recognized nationally and internationally as an expert on these subjects. She has advised numerous clients on redistricting and has served as an expert in dozens of redistricting and voting rights court cases. Her clients have included the U.S. Department of Justice, civil rights organizations, independent redistricting commissions and scores of state and local jurisdictions. Internationally, Dr. Handley has provided electoral assistance in more than a dozen countries, serving as a consultant on electoral system design and redistricting for the United Nations, UNDP, IFES, and International IDEA. In addition, Dr. Handley served as Chairman of the Electoral Boundaries Commission in the Cayman Islands.

Dr. Handley has been actively involved in research, writing and teaching on the subjects of redistricting and voting rights. She has co-written a book, Minority Representation and the Quest for Voting Equality (Cambridge University Press, 1992) and co-edited a volume (Redistricting in Comparative Perspective, Oxford University Press, 2008) on these subjects. Her research has also appeared in peer-reviewed journals such as *Journal of Politics*, *Legislative Studies Quarterly*, *American Politics Quarterly*, *Journal of Law and Politics*, and *Law and Policy,* as well as law reviews and edited books. She has taught political science undergraduate and graduate courses related to these subjects at several universities including the University of Virginia and George Washington University. Dr. Handley is a Visiting Research Academic at Oxford Brookes University in the United Kingdom.

Dr. Handley is the President of Frontier International Consulting, a consulting firm that specializes in providing electoral assistance in transitional and post-conflict democracies. She also works as an independent election consultant both in the United States and internationally.

Education

Ph.D. The George Washington University, Political Science, 1991

Present Employment

President, Frontier International Electoral Consulting LLC (since co-founding company in 1998).

Senior International Electoral Consultant Technical assistance for clients such as the UN, UNDP and IFES on electoral system design and boundary delimitation

Visiting Research Academic, Centre for Development and Emergency Practice (CENDEP), Oxford Brookes University

U.S. Clients since 2000

American Civil Liberties Union (expert testimony in Ohio partisan gerrymander challenge and challenge to Commerce Department inclusion of citizenship question on 2020 census form)

Lawyers Committee for Civil Rights Under Law (expert testimony in challenges to statewide judicial elections in Texas and Alabama)

US Department of Justice (expert witness testimony in several Section 2 and Section 5 cases)

Alaska: Alaska Redistricting Board (redistricting consultation, expert witness testimony)

Arizona: Arizona Independent Redistricting Board (redistricting consultation, expert witness)

Arkansas: expert witness for Plaintiffs in Jeffers v. Beebe

Colorado: Colorado Redistricting Board (redistricting consultation)

Connecticut: State Senate and State House of Representatives (redistricting consultation)

Florida: State Senate (redistricting consultation)

Kansas: State Senate and House Legislative Services (redistricting consultation)

Louisiana: Louisiana Legislative Black Caucus (expert witness testimony)

Massachusetts: State Senate (redistricting consultation)

Maryland: Attorney General (redistricting consultation, expert witness testimony)

Miami-Dade County, Florida: County Attorney (redistricting consultation)

Nassau County, New York: Redistricting Commission (redistricting consulting)

New Mexico: State House (redistricting consultation, expert witness testimony)

New York: State Assembly (redistricting consultation)

New York City: Redistricting Commission and Charter Commission (redistricting consultation and Section 5 submission assistance)

New York State Court: Expert to the Special Master (drew congressional lines for state court)

Ohio: State Democratic Party (redistricting litigation support, expert witness testimony)

Pennsylvania: Senate Democratic Caucus (redistricting consultation)

Rhode Island: State Senate and State House (litigation support, expert witness testimony)

Vermont: Secretary of State (redistricting consultation)

International Clients since 2000

United Nations

- Afghanistan – electoral system design and district delimitation expert
- Bangladesh (UNDP) – redistricting expert
- Sierra Leone (UNDP) – redistricting expert
- Liberia (UNMIL, UN peacekeeping mission) – redistricting expert
- Democratic Republic of the Congo (MONUC, UN peacekeeping mission) – election feasibility mission, electoral system design and redistricting expert
- Kenya (UN) – electoral system design and redistricting expert
- Haiti (UN) – election feasibility mission, electoral system design and redistricting expert
- Zimbabwe (UNDP) – redistricting expert
- Lead Writer on the topic of boundary delimitation (redistricting) for ACE (Joint UN, IFES and IDEA project on the Administration and Cost of Elections Project)

International Foundation for Election Systems (IFES)

- Afghanistan – district delimitation expert
- Sudan – redistricting expert
- Kosovo – electoral system design and redistricting expert
- Nigeria – redistricting expert
- Nepal – redistricting expert
- Georgia – electoral system design and district delimitation expert
- Yemen – redistricting expert
- Lebanon – electoral system design and redistricting expert
- Malaysia – electoral system design and redistricting expert
- Myanmar – electoral system design and redistricting expert
- Ukraine – electoral system design and redistricting expert
- Pakistan – consultant for developing redistricting software
- Principal consultant for the Delimitation Equity Project – conducted research, wrote reference manual and developed training curriculum
- Writer on electoral boundary delimitation (redistricting), Elections Standards Project
- Training – developed training curriculum and conducted training workshops on electoral boundary delimitation (redistricting) in Azerbaijan and Jamaica

International Institute for Democracy and Electoral Assistance (International IDEA):

- Consultant on electoral dispute resolution systems
- Technology consultant on use of GIS for electoral district delimitation
- Training – developed training material and conducted training workshop on electoral boundary delimitation (redistricting) for African election officials (Mauritius)
- Curriculum development – boundary delimitation curriculum for the BRIDGE Project

Other international clients have included The Cayman Islands; the Australian Election Commission; the Boundary Commission of British Columbia, Canada; and the Global Justice Project for Iraq.

Publications

***Books**:*

Does Torture Prevention Work? Liverpool University Press, 2016 (served as editor and author, with Richard Carver)

Comparative Redistricting in Perspective, Oxford University Press, 2008 (first editor, with Bernard Grofman).

Delimitation Equity Project: Resource Guide, Center for Transitional and Post-Conflict Governance at IFES and USAID publication, 2006 (lead author).

Minority Representation and the Quest for Voting Equality, Cambridge University Press, 1992 (with Bernard Grofman and Richard Niemi).

***Academic Journal Articles**:*

"Drawing Electoral Districts to Promote Minority Representation" Representation, forthcoming, published online DOI:10.1080/00344893.2020.1815076.

"Evaluating national preventive mechanisms: a conceptual model," Journal of Human Rights Practice, Volume 12 (2), July 2020 (with Richard Carver).

"Minority Success in Non-Majority Minority Districts: Finding the 'Sweet Spot'," Journal of Race, Ethnicity and Politics, forthcoming (with David Lublin, Thomas Brunell and Bernard Grofman).

"Has the Voting Rights Act Outlived its Usefulness: In a Word, "No," Legislative Studies Quarterly, volume 34 (4), November 2009 (with David Lublin, Thomas Brunell and Bernard Grofman).

"Delimitation Consulting in the US and Elsewhere," Zeitschrift für Politikberatung, volume 1 (3/4), 2008 (with Peter Schrott).

"Drawing Effective Minority Districts: A Conceptual Framework and Some Empirical Evidence," North Carolina Law Review, volume 79 (5), June 2001 (with Bernard Grofman and David Lublin).

"A Guide to 2000 Redistricting Tools and Technology" in The Real Y2K Problem: Census 2000 Data and Redistricting Technology, edited by Nathaniel Persily, New York: Brennan Center, 2000.

"1990s Issues in Voting Rights," Mississippi Law Journal, 65 (2), Winter 1995 (with Bernard Grofman).

"Minority Turnout and the Creation of Majority-Minority Districts," American Politics Quarterly, 23 (2), April 1995 (with Kimball Brace, Richard Niemi and Harold Stanley).

"Identifying and Remedying Racial Gerrymandering," Journal of Law and Politics, 8 (2), Winter 1992 (with Bernard Grofman).

"The Impact of the Voting Rights Act on Minority Representation in Southern State Legislatures," Legislative Studies Quarterly, 16 (1), February 1991 (with Bernard Grofman).

"Minority Population Proportion and Black and Hispanic Congressional Success in the 1970s and 1980s," American Politics Quarterly, 17 (4), October 1989 (with Bernard Grofman).

"Black Representation: Making Sense of Electoral Geography at Different Levels of Government," Legislative Studies Quarterly, 14 (2), May 1989 (with Bernard Grofman).

"Minority Voting Equality: The 65 Percent Rule in Theory and Practice," Law and Policy, 10 (1), January 1988 (with Kimball Brace, Bernard Grofman and Richard Niemi).

"Does Redistricting Aimed to Help Blacks Necessarily Help Republicans?" Journal of Politics, 49 (1), February 1987 (with Kimball Brace and Bernard Grofman).

***Chapters in Edited Volumes**:*

"Effective torture prevention," Research Handbook on Torture, Sir Malcolm Evans and Jens Modvig (eds), Cheltenham: Edward Elgar, 2020 (with Richard Carver).

"Redistricting" in Oxford Handbook of Electoral Systems, Erik Herron Robert Pekkanen and Matthew Shugart (eds), Oxford: Oxford University Press, 2018.

"Role of the Courts in the Electoral Boundary Delimitation Process," in International Election Remedies, John Hardin Young (ed.), Chicago: American Bar Association Press, 2017.

"One Person, One Vote, Different Values: Comparing Delimitation Practices in India, Canada, the United Kingdom, and the United States," in Fixing Electoral Boundaries in India, edited by Mohd. Sanjeer Alam and K.C. Sivaramakrishman, New Delhi: Oxford University Press, 2015.

"Delimiting Electoral Boundaries in Post-Conflict Settings," in Comparative Redistricting in Perspective, edited by Lisa Handley and Bernard Grofman, Oxford: Oxford University Press, 2008.

"A Comparative Survey of Structures and Criteria for Boundary Delimitation," in Comparative Redistricting in Perspective, edited by Lisa Handley and Bernard Grofman, Oxford: Oxford University Press, 2008.

"Drawing Effective Minority Districts: A Conceptual Model," in Voting Rights and Minority Representation, edited by David Bositis, published by the Joint Center for Political and Economic Studies, Washington DC, and University Press of America, New York, 2006.

"Electing Minority-Preferred Candidates to Legislative Office: The Relationship Between Minority Percentages in Districts and the Election of Minority-Preferred Candidates," in Race and Redistricting in the 1990s, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman and Wayne Arden).

"Estimating the Impact of Voting-Rights-Related Districting on Democratic Strength in the U.S. House of Representatives," in Race and Redistricting in the 1990s, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman).

"Voting Rights in the 1990s: An Overview," in Race and Redistricting in the 1990s, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman and Wayne Arden).

"Racial Context, the 1968 Wallace Vote and Southern Presidential Dealignment: Evidence from North Carolina and Elsewhere," in Spatial and Contextual Models in Political Research, edited by Munroe Eagles; Taylor and Francis Publishing Co., 1995 (with Bernard Grofman).

"The Impact of the Voting Rights Act on Minority Representation: Black Officeholding in Southern State Legislatures and Congressional Delegations," in The Quiet Revolution: The Impact of the Voting Rights Act in the South, 1965-1990, eds. Chandler Davidson and Bernard Grofman, Princeton University Press, 1994 (with Bernard Grofman).

"Preconditions for Black and Hispanic Congressional Success," in United States Electoral Systems: Their Impact on Women and Minorities, eds. Wilma Rule and Joseph Zimmerman, Greenwood Press, 1992 (with Bernard Grofman).

***Electronic Publication**:*

"Boundary Delimitation" Topic Area for the Administration and Cost of Elections (ACE) Project, 1998. Published by the ACE Project on the ACE website (www.aceproject.org).

***Additional Writings of Note**:*

Amicus brief presented to the US Supreme Court in Gill v. Whitford, Brief of Political Science Professors as Amici Curiae, 2017 (one of many social scientists to sign brief)

Amicus brief presented to the US Supreme Court in Shelby County v. Holder, Brief of Historians and Social Scientists as Amici Curiae, 2013 (one of several dozen historians and social scientists to sign brief)

Amicus brief presented to the US Supreme Court in Bartlett v. Strickland, 2008 (with Nathaniel Persily, Bernard Grofman, Bruce Cain, and Theodore Arrington).

Recent Court Cases

In the past ten years, Dr. Handley has served as an testifying expert or expert consultant in the following cases:

Ohio Philip Randolph Institute v. Larry Householder (2019) – partisan gerrymander challenge to Ohio congressional districts; testifying expert for ACLU on minority voting patterns

State of New York v. U.S. Department of Commerce/ New York Immigration Coalition v. U.S. Department of Commerce (2018-2019) – challenge to inclusion of citizenship question on 2020 census form; testifying expert on behalf of ACLU

U.S. v. City of Eastpointe (settled 2019) – minority vote dilution challenge to City of Eastpointe, Michigan, at-large city council election system; testifying expert on behalf of U.S. Department of Justice

Alabama NAACP v. State of Alabama (decided 2020) – minority vote dilution challenge to Alabama statewide judicial election system; testifying expert on behalf of Lawyers Committee for Civil Rights Under Law

Lopez v. Abbott (2017-2018) – minority vote dilution challenge to Texas statewide judicial election system; testifying expert on behalf of Lawyers Committee for Civil Rights Under Law

Personhuballuah v. Alcorn (2015-2017) – racial gerrymandering challenge to Virginia congressional districts; expert for the Attorney General and Governor of the State of Virginia; written testimony on behalf of Governor

Perry v. Perez (2014) – Texas congressional and state house districts (Section 2 case before federal court in San Antonio, Texas; testifying expert for the U.S. Department of Justice)

Jeffers v. Beebe (2012) – Arkansas state house districts (testifying expert for the Plaintiffs)

State of Texas v. U.S. (2011-2012) – Texas congressional and state house districts (Section 5 case before the Circuit Court of the District of Columbia; testifying expert for the U.S. Department of Justice)

In RE 2011 Redistricting Cases (2011-2012) – State legislative districts for State of Alaska (testifying expert for the Alaska Redistricting Board)

Contact Information

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APPENDIX A

Current District	2020 Total Population	Deviation	Percent Black VAP	Effectiveness Score
001	28612	-4.99%	35.41%	0.352
002	29409	-2.34%	14.21%	0.188
003	26388	-12.38%	28.90%	0.335
004	26967	-10.45%	11.39%	0.260
005	24127	-19.88%	52.01%	0.508
006	29024	-3.62%	22.06%	0.270
007	24868	-17.42%	38.87%	0.394
008	25483	-15.38%	27.84%	0.313
009	26487	-12.05%	28.41%	0.328
010	25733	-14.55%	12.11%	0.172
011	24796	-17.66%	46.21%	0.495
012	22304	-25.94%	53.05%	0.534
013	26827	-10.92%	18.09%	0.243
014	29105	-3.35%	23.69%	0.352
015	29504	-2.03%	5.23%	0.185
016	27536	-8.56%	61.56%	0.698
017	23226	-22.88%	76.35%	0.824
018	28747	-4.54%	19.23%	0.354
019	26011	-13.63%	12.60%	0.243
020	26438	-12.21%	0.55%	0.175
021	27300	-9.35%	0.81%	0.169
022	31427	4.36%	2.86%	0.237
023	36470	21.10%	7.02%	0.229
024	30859	2.47%	8.52%	0.306
025	29276	-2.79%	15.78%	0.396
026	29579	-1.78%	12.87%	0.282
027	33046	9.73%	11.74%	0.286
028	30201	0.29%	8.31%	0.267
029	30605	1.63%	55.67%	0.770
030	30754	2.12%	59.71%	0.745
031	37688	25.15%	7.66%	0.283
032	31382	4.21%	15.68%	0.411
033	27648	-8.19%	25.49%	0.679
034	28949	-3.87%	59.51%	0.755
035	30639	1.74%	18.42%	0.492
036	28312	-5.99%	56.40%	0.758
037	28779	-4.44%	61.31%	0.730
038	29854	-0.87%	21.70%	0.443
039	32742	8.72%	25.87%	0.406
040	30736	2.06%	7.56%	0.274
041	31492	4.57%	23.95%	0.390
042	30021	-0.31%	37.49%	0.459
043	31324	4.01%	2.92%	0.175
044	33168	10.14%	1.50%	0.160

045	28739	-4.57%	3.69%	0.173
046	28946	-3.88%	10.07%	0.203
047	27160	-9.81%	16.58%	0.284
048	24333	-19.20%	58.18%	0.606
049	25529	-15.23%	32.04%	0.344
050	24703	-17.97%	53.40%	0.528
051	28119	-6.63%	42.54%	0.430
052	29563	-1.83%	6.64%	0.235
053	34470	14.46%	10.22%	0.266
054	27971	-7.12%	10.44%	0.232
055	24216	-19.59%	51.91%	0.502
056	27382	-9.08%	0.63%	0.229
057	32789	8.88%	2.51%	0.220
058	34094	13.21%	18.05%	0.345
059	31999	6.26%	19.79%	0.339
060	27477	-8.76%	1.09%	0.217
061	29832	-0.94%	0.83%	0.253
062	29104	-3.36%	1.72%	0.196
063	30899	2.60%	3.06%	0.206
064	28527	-5.27%	0.30%	0.196
065	27898	-7.36%	8.61%	0.291
066	28662	-4.82%	1.40%	0.176
067	32506	7.94%	4.13%	0.207
068	29562	-1.84%	0.98%	0.174
069	29194	-3.06%	2.32%	0.246
070	33169	10.14%	15.74%	0.373
071	30339	0.74%	7.08%	0.300
072	30519	1.34%	23.02%	0.499
073	26473	-12.09%	1.45%	0.204
074	27979	-7.09%	1.25%	0.194
075	28850	-4.20%	1.35%	0.182
076	30660	1.81%	7.33%	0.284
077	29883	-0.77%	7.92%	0.334
078	28372	-5.79%	14.33%	0.549
079	29421	-2.30%	2.68%	0.223
080	31958	6.12%	1.87%	0.283
081	29401	-2.37%	1.10%	0.266
082	28005	-7.01%	0.67%	0.230
083	27564	-8.47%	0.35%	0.201
084	36067	19.76%	4.17%	0.495
085	38445	27.66%	5.76%	0.563
086	37055	23.04%	7.70%	0.689
087	37120	23.26%	2.17%	0.256
088	32678	8.51%	3.32%	0.391
089	33704	11.92%	2.76%	0.467
090	43865	45.66%	2.25%	0.326
091	43643	44.92%	2.75%	0.269

092	34610	14.93%	1.55%	0.265
093	43653	44.95%	3.54%	0.382
094	32551	8.09%	2.39%	0.412
095	35046	16.37%	1.26%	0.298
096	32124	6.67%	0.94%	0.316
097	33040	9.71%	0.88%	0.365
098	29401	-2.37%	0.58%	0.213
099	29458	-2.18%	0.36%	0.205
100	28954	-3.86%	0.41%	0.238

Proposed District	2020 Total Population	Deviation	Percent Black VAP	Effectiveness Score
1	30815	2.32%	0.65%	0.226
2	30892	2.58%	0.89%	0.252
3	31181	3.54%	0.40%	0.239
4	29687	-1.42%	0.31%	0.226
5	30881	2.54%	0.51%	0.210
6	29541	-1.91%	0.65%	0.332
7	29885	-0.76%	0.97%	0.329
8	30027	-0.29%	1.29%	0.289
9	30625	1.69%	2.80%	0.476
10	31066	3.16%	2.42%	0.362
11	29776	-1.13%	2.89%	0.366
12	30767	2.17%	0.92%	0.262
13	29618	-1.65%	3.57%	0.383
14	29752	-1.21%	4.78%	0.335
15	29405	-2.36%	2.20%	0.383
16	29446	-2.22%	1.97%	0.296
17	29726	-1.29%	1.28%	0.229
18	29291	-2.74%	3.77%	0.354
19	29276	-2.79%	4.00%	0.399
20	29707	-1.35%	4.69%	0.564
21	29499	-2.05%	7.56%	0.754
22	29260	-2.84%	6.26%	0.508
23	29561	-1.84%	1.83%	0.331
24	29388	-2.41%	1.56%	0.196
25	29668	-1.48%	0.94%	0.299
26	30381	0.88%	0.65%	0.242
27	31177	3.53%	1.34%	0.199
28	31081	3.21%	1.21%	0.187
29	30392	0.92%	13.23%	0.257
30	30278	0.54%	6.68%	0.239
31	31014	2.99%	2.60%	0.223
32	31106	3.29%	20.84%	0.388
33	31192	3.58%	4.66%	0.215
34	30073	-0.14%	45.84%	0.462
35	30532	1.38%	54.32%	0.544
36	31082	3.21%	17.39%	0.310
37	30593	1.59%	25.38%	0.310
38	31048	3.10%	11.65%	0.262
39	31122	3.34%	9.92%	0.217
40	30068	-0.16%	2.65%	0.192
41	30194	0.26%	0.40%	0.177
42	30098	-0.06%	2.01%	0.181
43	30068	-0.16%	7.91%	0.269

44	29145	-3.22%	1.48%	0.172
45	30641	1.75%	2.21%	0.239
46	29927	-0.62%	1.26%	0.210
47	29203	-3.03%	0.87%	0.159
48	29847	-0.89%	4.46%	0.243
49	29484	-2.10%	14.57%	0.531
50	29517	-1.99%	7.68%	0.337
51	31079	3.20%	5.38%	0.267
52	29755	-1.20%	1.21%	0.184
53	29344	-2.56%	6.97%	0.290
54	29768	-1.15%	7.00%	0.290
55	29682	-1.44%	17.85%	0.383
56	29821	-0.98%	19.90%	0.451
57	30134	0.06%	1.20%	0.156
58	31207	3.63%	9.70%	0.200
59	30899	2.60%	3.32%	0.175
60	30469	1.18%	13.09%	0.252
61	30564	1.49%	26.22%	0.336
62	29636	-1.59%	52.97%	0.538
63	30659	1.81%	54.17%	0.556
64	30494	1.26%	67.84%	0.736
65	29551	-1.87%	66.75%	0.753
66	29555	-1.86%	51.95%	0.610
67	31047	3.09%	28.00%	0.407
68	31183	3.55%	3.07%	0.180
69	30711	1.98%	12.68%	0.296
70	30427	1.04%	17.70%	0.390
71	29220	-2.97%	23.54%	0.396
72	29903	-0.70%	52.41%	0.668
73	29972	-0.47%	14.81%	0.467
74	30327	0.70%	21.22%	0.632
75	30262	0.49%	19.31%	0.429
76	29928	-0.62%	67.65%	0.827
77	30006	-0.36%	55.97%	0.731
78	29358	-2.51%	4.89%	0.273
79	30065	-0.17%	57.90%	0.764
80	30091	-0.08%	52.92%	0.731
81	30525	1.36%	14.89%	0.325
82	30021	-0.31%	11.18%	0.294
83	29821	-0.98%	3.81%	0.215
84	29837	-0.92%	13.18%	0.367
85	29925	-0.63%	3.33%	0.244
86	29922	-0.64%	0.68%	0.169
87	29189	-3.07%	10.59%	0.254
88	30356	0.80%	28.61%	0.345
89	29332	-2.60%	14.55%	0.272
90	29709	-1.35%	13.30%	0.328

91	30145	0.10%	10.64%	0.330
92	30129	0.05%	3.04%	0.175
93	29911	-0.68%	11.43%	0.200
94	29908	-0.69%	32.42%	0.356
95	29270	-2.81%	34.05%	0.397
96	30051	-0.21%	24.90%	0.303
97	30182	0.22%	34.30%	0.349
98	30460	1.15%	44.15%	0.448
99	29605	-1.69%	17.43%	0.206
100	30106	-0.03%	33.07%	0.328

Illustrative District	2020 Total Population	Deviation	Percent Black VAP	Effectiveness score
1	29387	-2.42%	34.03%	0.339
2	28718	-4.64%	15.44%	0.199
3	29220	-2.97%	31.56%	0.371
4	28625	-4.95%	12.17%	0.276
5	31009	2.97%	54.43%	0.550
6	29320	-2.64%	23.12%	0.294
7	28745	-4.55%	24.88%	0.302
8	29149	-3.21%	17.88%	0.246
9	30703	1.95%	27.10%	0.315
10	28996	-3.72%	3.34%	0.195
11	28733	-4.59%	50.64%	0.537
12	28616	-4.98%	50.83%	0.533
13	29223	-2.96%	19.00%	0.266
14	31165	3.49%	11.10%	0.246
15	28964	-3.82%	3.59%	0.193
16	28822	-4.29%	52.45%	0.591
17	29011	-3.67%	50.28%	0.645
18	28947	-3.88%	7.11%	0.263
19	29492	-2.07%	3.66%	0.179
20	29136	-3.25%	0.59%	0.176
21	30787	2.23%	1.31%	0.176
22	28737	-4.58%	3.49%	0.249
23	30557	1.47%	6.06%	0.230
24	28683	-4.76%	6.97%	0.290
25	28823	-4.29%	17.73%	0.412
26	29203	-3.03%	12.39%	0.253
27	29977	-0.46%	13.33%	0.297
28	29243	-2.90%	11.19%	0.302
29	30623	1.69%	57.76%	0.765
30	29323	-2.63%	50.35%	0.690
31	31022	3.01%	10.70%	0.360
32	31097	3.26%	21.93%	0.408
33	29375	-2.46%	52.57%	0.726
34	29123	-3.29%	50.57%	0.810
35	29971	-0.48%	17.15%	0.512
36	29623	-1.63%	50.41%	0.677
37	30297	0.60%	50.30%	0.650
38	30257	0.47%	17.61%	0.403
39	30100	-0.05%	17.02%	0.353
40	31543	4.74%	11.40%	0.301
41	30460	1.15%	23.52%	0.377
42	28692	-4.73%	53.25%	0.620
43	30797	2.26%	2.91%	0.178
44	31076	3.19%	1.63%	0.162
45	29648	-1.55%	7.71%	0.194

46	30397	0.94%	5.12%	0.167
47	31157	3.46%	7.12%	0.217
48	28702	-4.69%	54.30%	0.556
49	30171	0.19%	20.47%	0.270
50	31204	3.62%	54.06%	0.550
51	28662	-4.82%	58.23%	0.582
52	31270	3.84%	6.19%	0.227
53	30148	0.11%	8.66%	0.255
54	31530	4.70%	5.97%	0.200
55	29043	-3.56%	51.41%	0.512
56	31238	3.73%	1.00%	0.241
57	30849	2.44%	2.62%	0.225
58	29129	-3.27%	16.36%	0.342
59	29296	-2.72%	29.37%	0.439
60	31103	3.28%	0.98%	0.211
61	31231	3.71%	0.63%	0.231
62	29387	-2.42%	1.23%	0.216
63	29897	-0.72%	3.11%	0.222
64	31390	4.23%	0.20%	0.195
65	29233	-2.93%	10.52%	0.305
66	30757	2.13%	0.64%	0.185
67	29252	-2.87%	2.52%	0.175
68	29759	-1.18%	1.11%	0.216
69	29194	-3.06%	2.32%	0.246
70	30659	1.81%	16.57%	0.360
71	29804	-1.03%	6.88%	0.284
72	29428	-2.28%	22.21%	0.515
73	29033	-3.59%	1.44%	0.195
74	29727	-1.29%	1.22%	0.212
75	31033	3.05%	1.42%	0.182
76	29074	-3.46%	6.11%	0.274
77	29898	-0.72%	8.02%	0.336
78	30453	1.12%	15.06%	0.558
79	31316	3.99%	2.36%	0.207
80	31365	4.15%	1.08%	0.262
81	31557	4.79%	3.65%	0.446
82	30120	0.02%	1.94%	0.350
83	30787	2.23%	2.46%	0.343
84	29631	-1.61%	4.18%	0.546
85	31295	3.92%	5.14%	0.512
86	31173	3.51%	9.05%	0.638
87	31133	3.38%	3.58%	0.332
88	31479	4.53%	2.93%	0.315
89	31124	3.35%	2.52%	0.452
90	31218	3.66%	2.08%	0.309
91	31529	4.70%	2.14%	0.261
92	30636	1.73%	2.63%	0.259

93	31129	3.37%	2.17%	0.353
94	31365	4.15%	2.71%	0.345
95	31585	4.88%	1.27%	0.315
96	31276	3.86%	1.71%	0.451
97	31356	4.12%	0.85%	0.347
98	29592	-1.74%	0.58%	0.219
99	31143	3.41%	0.53%	0.208
100	31589	4.89%	0.39%	0.242

APPENDIX B

Statewide				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
2020 General											
U.S. President											
Joseph Biden	D	W	34.8%	90.3	94.8	90.2	90.6	19.0	13.4	18.5	20.4
Donald Trump	R	W	62.4%	5.8	0.3	8.1	4.0	78.7	84.4	78.6	78.3
others			2.8%	3.9	4.9	3.5	5.3	2.3	2.2	2.0	1.3
votes for office				*49.1*	*42.1*	*44.3*	*44.3*	*62.0*	*60.0*	*62.4*	*62.4*
U.S. Senate											
Ricky Dale Harrington	Lib	AA	33.5%	82.9	85.5	86.1	91.3	18.7	14.3	17.9	19.6
Tom Cotton	R	W	66.5%	17.1	14.5	13.9	8.7	81.3	85.7	82.1	80.4
votes for office				*44.1*	*37.5*	*40.0*	*40.0*	*61.1*	*59.6*	*62.1*	*62.1*
2018 General											
Governor											
Jared Henderson	D	W	31.8%	83.1	87.0	87.1	89.0	18.3	13.4	15.3	16.7
Asa Hutchinson	R	W	65.3%	14.9	11.6	11.8	7.8	78.3	83.1	81.4	80.8
Mark West	Lib	W	2.9%	2.0	1.4	1.6	3.2	3.4	3.4	3.2	2.4
votes for office				*42.5*	*36.8*	*38.2*	*38.2*	*45.6*	*43.4*	*45.8*	*45.8*
Lieutenant Governor											
Anthony Bland	D	AA	33.0%	88.8	92.5	89.7	90.6	19.2	13.8	16.1	17.5
Tim Griffin	R	W	64.2%	9.1	5.3	9.0	5.6	78.2	83.6	80.9	80.6
Frank Gilbert	Lib	W	2.8%	2.1	2.2	2.4	3.8	2.6	2.7	2.7	1.8
votes for office				*42.4*	*36.7*	*38.1*	*38.1*	*45.4*	*43.3*	*45.6*	*45.6*
Attorney General											
Mike Lee	D	W	35.4%	89.0	93.7	90.7	91.1	21.1	16.0	18.8	20.4
Leslie Rutledge	R	W	61.8%	9.0	4.6	8.4	5.6	76.3	81.3	78.1	77.9
Kerry Hicks	Lib	W	2.8%	2.0	1.8	1.7	3.3	2.6	2.8	2.8	2.0
votes for office				*42.4*	*36.8*	*38.2*	*38.2*	*45.5*	*43.3*	*45.6*	*45.6*

Statewide				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
Secretary of State											
Susan Inman	D	W	36.5%	88.3	94.7	91.1	91.0	22.3	17.5	20.2	21.5
John Thurston	R	W	60.6%	8.0	2.4	7.7	5.2	75.0	79.8	76.6	76.5
Christopher Olson	Lib	W	2.9%	3.7	2.9	2.9	3.8	2.6	2.7	2.7	1.9
votes for office				*42.4*	*36.8*	*38.1*	*38.1*	*45.4*	*43.2*	*45.4*	*45.4*
Treasurer											
Dennis Milligan	R	W	70.9%	23.5	20.4	18.2	14.3	82.6	87.2	86.2	84.9
Ashley Ewald	Lib	W	29.1%	76.5	79.5	81.9	85.7	17.4	12.8	13.8	15.1
votes for office				*37.8*	*32.5*	*33.8*	*33.8*	*44.6*	*42.9*	*44.9*	*44.9*
2016 General											
U.S. President											
Hillary Clinton	D	W	33.7%	92.8	97.1	91.7	91.7	20.0	14.8	16.1	17.5
Donald Trump	R	W	60.6%	4.5	0.3	7.2	4.5	75.2	80.1	77.2	76.8
others			5.7%	2.7	2.6	2.2	3.8	4.9	5.6	6.3	5.7
votes for office				*55.5*	*48.2*	*48.1*	*48.1*	*57.2*	*54.7*	*56.4*	*56.4*
U.S. Senator											
Conner Eldridge	D	W	36.2%	87.7	90.8	89.4	90.2	24.7	20.6	21.2	22.7
John Boozman	R	W	59.8%	9.1	6.5	8.7	6.1	71.3	75.3	74.5	73.6
Frank Gilbert	Lib	W	4.0%	3.2	2.6	2.3	3.7	4.1	4.1	3.9	3.7
votes for office				*52.1*	*45.2*	*45.5*	*45.5*	*56.0*	*53.8*	*55.6*	*55.6*
Democratic Primaries											
2018 Democratic Primary for Governor											
Leticia Sanders	D	AA	36.7%	59.4	62.9	61.9	51.2	26.6	26.6	25.1	21.0
Jared Henderson	D	W	63.3%	40.6	37.1	37.8	48.8	73.4	73.4	75.0	79.0
votes for office				*20.4*	*17.5*	*22.2*	*22.2*	*7.8*	*2.8*	*6.2*	*6.2*

APPENDIX C

State Legislative Elections				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
2020 General											
State House District 5											
David Fielding	D	B	56.8%		105.0	93.5	91.9		9.0	16.6	23.8
Chase McDowell	R	W	43.2%		-5.1	6.5	8.1		91.1	83.3	76.2
turnout of VAP					*36.3*	*44.3*			*66.9*	*63.0*	
State House District 7											
George Calloway Jr	D	B	40.1%		97.0	87.4	87.7		0.0	6.1	11.0
Sonia Eubanks Barker	R	W	59.9%		2.9	12.3	12.4		99.9	93.6	89.0
turnout of VAP					*33.9*	*29.2*			*64.4*	*62.8*	
State House District 11											
Don Glover	D	B	49.7%	94.3	99.0	96.7	94.2		-2.4	7.1	6.1
Mark McElroy	R	W	50.3%	5.7	1.1	3.2	5.8		102.4	93.1	93.9
turnout of VAP				*51.9*	*50.8*	*56.6*			*56.3*	*na*	
State House District 14											
Rick Bransford	D	W	33.3%		96.3	87.5	74.8	15.8	9.5	13.2	14.2
Roger Lunch	R	W	58.8%		-13.8	5.2	7.5	80.2	88.1	78.6	82.3
Christa Jones	I		8.0%		17.6	21.9	17.7	4.0	2.5	2.0	3.6
turnout of VAP					*52.6*	*62.3*		*66.6*	*53.6*	*55.8*	
State House District 34											
Joy Springer	D	B	70.4%		76.3	*na*	74.6		59.0	58.6	58.4
Roderick Greer Talley	I	B	29.6%		23.9	*na*	25.5		41.0	41.7	41.6
turnout of VAP					*42.5*	*45.6*			*50.2*	*55.4*	
State House District 55	**(missing Mississippi Co. precincts)**										
Monte Hodges	D	B	52.2%								
Gary Tobar	R	B	47.8%								
turnout of VAP											

State Legislative Elections				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
2018 General											
State House District 5											
David Fielding	D	B	56.9%		101.3	89.4	*na*		10.9	20.4	*na*
Wade Andrews	R	W	43.1%		-0.9	10.7	*na*		89.2	79.3	*na*
turnout of VAP					*34.0*	*29.5*			*70.9*	*54.5*	
State House District 11											
Don Glover	D	B	44.0%		87.6	83.9	80.5		-2.2	5.3	5.8
Ricky Lattimore	R	B	25.5%		1.3	5.2	8.5		52.5	49.7	45.1
Mark McElroy	I	W	30.4%		11.1	3.7	11.0		49.8	60.8	49.1
turnout of VAP					*48.0*	*49.1*			*41.2*	*44.2*	
State House District 12											
Chris Richey	D	W	61.0%		99.3	92.6	91.5	20.1	17.8	21.0	19.4
Jason Dobson	R	W	39.0%		0.5	7.4	8.5	79.9	82.1	78.2	80.6
turnout of VAP					*45.8*	*45.7*		*43.6*	*42.3*	*44.6*	
State House District 17											
Vivian Flowers	D	B	88.7%	*94.9*	*97.3*	*95.2*	*97.2*		*48.7*	*45.4*	*30.7*
Gregory Maxwell	L		11.3%	*5.1*	*2.8*	*4.7*	*2.8*		*51.1*	*55.1*	*69.3*
turnout of VAP				*35.5*	*38.9*	*38.8*			*21.1*	*21.7*	
State House District 30											
Fred Allen	D	B	86.4%		107.5	99.1	92.5		49.3	53.7	64.4
Mitchell Fenton	L	W	13.7%		-7.7	0.6	7.5		50.6	46.5	35.6
turnout of VAP					*49.3*	*46.0*			*39.2*	*38.0*	
State House District 54											
Austin Jones	D		24.1%		*86.5*	*97.6*	*54.9*	*14.3*	*5.5*	*13.4*	*13.6*
Johnny Rye	R	W	75.9%		*13.5*	*1.6*	*45.1*	*85.7*	*94.5*	*85.6*	*86.4*
turnout of VAP					*56.7*	*60.6*		*32.7*	*31.5*	*33.8*	

State Legislative Elections				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
State House District 55											
Monte Hodges	D	B	61.7%		79.0	85.3	75.8		36.2	36.4	42.7
Gary Tobar	R	B	38.3%		21.1	14.9	24.2		63.9	64.5	57.3
turnout of VAP					*41.7*	*33.5*			*39.8*	*40.4*	
2016 General											
State House District 7											
Floyd Thomas Jr.	D	W	37.4%		73.3	77	*na*		16.8	13.4	*na*
Sonia Eubanks Barker	R	W	54.8%		9.6	15.5	*na*		81.4	80.5	*na*
Glen Glover	I		7.8%		17.1	14.9	*na*		1.5	5.1	*na*
turnout of VAP					*89.1*	*80.2*			*76.1*	*79.1*	
State House District 10											
Dorothy Hall	D	W	36.4%		86.9	89.4	71.2	31.1	28.3	27.2	29.0
Mike Holcomb	R	W	63.6%		13.2	11.2	28.9	68.9	71.7	72.8	71.0
turnout of VAP					*41.6*	*41.2*		*56.8*	*56.8*	*56.6*	
State House District 14											
Camille Bennett	D	W	47.9%		108.7	97.1	90.4	27.1	26.0	29.7	28.9
Roger Lynch	R	W	52.1%		-8.7	2.9	9.6	72.9	74.0	70.3	71.1
turnout of VAP					*55.1*	*55.6*		*61.4*	*51.4*	*53.2*	
State House District 29											
Fred Love	D	B	86.4%		108.9	99.0	92.5		45.5	46.1	56.0
Glen Swartz	L	W	13.6%		-8.8	0.9	7.5		54.4	52.6	44.0
turnout of VAP					*42.1*	*51.1*			*38.5*	*42.3*	
State House District 33											
Sabin Warwick	D	W	77.9%		83.3	84.9	70.1		75.3	75.0	80.0
Michael Williams	L	W	22.1%		16.7	15.1	29.9		24.9	25.0	20.0
turnout of VAP					*33.1*	*40.5*			*62.0*	*59.6*	

State Legislative Elections				Estimates for Black Voters				Estimates for White Voters			
	Party	Race	Vote	HP	ER	EI 2x2	EI RxC	HP	ER	EI 2x2	EI RxC
State House District 54											
Hunter Williams	D	W	25.8%		90.7	86.9	58.2	23.6	14.3	9.8	14.7
Johnny Rye	R	W	74.2%		8.7	12.7	48.8	76.4	85.9	90.8	85.3
turnout of VAP					*54.5*	*59.4*		*39.6*	*39.7*	*38.8*	
Democratic Primaries											
2020 Democratic Primary											
State House District 34											
Joy Springer	D	B	64.4%		69.3	66.5	68.4		52.4	56.7	53.1
Ryan Davis	D	B	28.0%		28.4	31.6	25.7		28.4	29.0	38.8
Lee Miller	D		7.6%		2.2	1.9	5.9		19.8	19.6	13.1
turnout of VAP					*22.2*	*22.2*			*11.0*	*12.7*	
State House District 36											
Denise Ennett	D	B	69.7%		76.0	78.7	74.4		59.2	59.3	58.6
Russell Williams	D	B	30.3%		24.0	21.2	25.6		41.0	40.6	41.4
turnout of VAP					*31.7*	*33.9*			*0.0*	*2.3*	
2018 Democratic Primary											
State House District 36											
Charles Blake	D	B	61.7%		70.4	62.2	64.1		45.6	58.5	56.8
Darell Stephens	D	B	38.3%		29.9	38.8	35.9		54.7	44.6	43.2
turnout of VAP					*22.8*	*23.8*			*0.0*	*1.0*	

APPENDIX D

Lisa R. Handley

CURRICULUM VITAE

Professional Experience

Dr. Handley has over thirty years of experience in the areas of redistricting and voting rights, both as a practitioner and an academician, and is recognized nationally and internationally as an expert on these subjects. She has advised numerous clients on redistricting and has served as an expert in dozens of redistricting and voting rights court cases. Her clients have included the U.S. Department of Justice, civil rights organizations, independent redistricting commissions and scores of state and local jurisdictions. Internationally, Dr. Handley has provided electoral assistance in more than a dozen countries, serving as a consultant on electoral system design and redistricting for the United Nations, UNDP, IFES, and International IDEA. In addition, Dr. Handley served as Chairman of the Electoral Boundaries Commission in the Cayman Islands.

Dr. Handley has been actively involved in research, writing and teaching on the subjects of redistricting and voting rights. She has co-written a book, Minority Representation and the Quest for Voting Equality (Cambridge University Press, 1992) and co-edited a volume (Redistricting in Comparative Perspective, Oxford University Press, 2008) on these subjects. Her research has also appeared in peer-reviewed journals such as *Journal of Politics*, *Legislative Studies Quarterly*, *American Politics Quarterly*, *Journal of Law and Politics*, and *Law and Policy,* as well as law reviews and edited books. She has taught political science undergraduate and graduate courses related to these subjects at several universities including the University of Virginia and George Washington University. Dr. Handley is a Visiting Research Academic at Oxford Brookes University in the United Kingdom.

Dr. Handley is the President of Frontier International Consulting, a consulting firm that specializes in providing electoral assistance in transitional and post-conflict democracies. She also works as an independent election consultant both in the United States and internationally.

Education

Ph.D. The George Washington University, Political Science, 1991

Present Employment

President, Frontier International Electoral Consulting LLC (since co-founding company in 1998).

Senior International Electoral Consultant Technical assistance for clients such as the UN, UNDP and IFES on electoral system design and boundary delimitation

Visiting Research Academic, Centre for Development and Emergency Practice (CENDEP), Oxford Brookes University

U.S. Clients since 2000

American Civil Liberties Union (expert testimony in Ohio partisan gerrymander challenge and challenge to Commerce Department inclusion of citizenship question on 2020 census form)

Lawyers Committee for Civil Rights Under Law (expert testimony in challenges to statewide judicial elections in Texas and Alabama)

US Department of Justice (expert witness testimony in several Section 2 and Section 5 cases)

Alaska: Alaska Redistricting Board (redistricting consultation, expert witness testimony)

Arizona: Arizona Independent Redistricting Board (redistricting consultation, expert witness)

Arkansas: expert witness for Plaintiffs in Jeffers v. Beebe

Colorado: Colorado Redistricting Board (redistricting consultation)

Connecticut: State Senate and State House of Representatives (redistricting consultation)

Florida: State Senate (redistricting consultation)

Kansas: State Senate and House Legislative Services (redistricting consultation)

Louisiana: Louisiana Legislative Black Caucus (expert witness testimony)

Massachusetts: State Senate (redistricting consultation)

Maryland: Attorney General (redistricting consultation, expert witness testimony)

Miami-Dade County, Florida: County Attorney (redistricting consultation)

Nassau County, New York: Redistricting Commission (redistricting consulting)

New Mexico: State House (redistricting consultation, expert witness testimony)

New York: State Assembly (redistricting consultation)

New York City: Redistricting Commission and Charter Commission (redistricting consultation and Section 5 submission assistance)

New York State Court: Expert to the Special Master (drew congressional lines for state court)

Ohio: State Democratic Party (redistricting litigation support, expert witness testimony)

Pennsylvania: Senate Democratic Caucus (redistricting consultation)

Rhode Island: State Senate and State House (litigation support, expert witness testimony)

Vermont: Secretary of State (redistricting consultation)

International Clients since 2000

United Nations

- Afghanistan – electoral system design and district delimitation expert
- Bangladesh (UNDP) – redistricting expert
- Sierra Leone (UNDP) – redistricting expert
- Liberia (UNMIL, UN peacekeeping mission) – redistricting expert
- Democratic Republic of the Congo (MONUC, UN peacekeeping mission) – election feasibility mission, electoral system design and redistricting expert
- Kenya (UN) – electoral system design and redistricting expert
- Haiti (UN) – election feasibility mission, electoral system design and redistricting expert
- Zimbabwe (UNDP) – redistricting expert
- Lead Writer on the topic of boundary delimitation (redistricting) for ACE (Joint UN, IFES and IDEA project on the Administration and Cost of Elections Project)

International Foundation for Election Systems (IFES)

- Afghanistan – district delimitation expert
- Sudan – redistricting expert
- Kosovo – electoral system design and redistricting expert
- Nigeria – redistricting expert
- Nepal – redistricting expert
- Georgia – electoral system design and district delimitation expert
- Yemen – redistricting expert
- Lebanon – electoral system design and redistricting expert
- Malaysia – electoral system design and redistricting expert
- Myanmar – electoral system design and redistricting expert
- Ukraine – electoral system design and redistricting expert
- Pakistan – consultant for developing redistricting software
- Principal consultant for the Delimitation Equity Project – conducted research, wrote reference manual and developed training curriculum
- Writer on electoral boundary delimitation (redistricting), Elections Standards Project
- Training – developed training curriculum and conducted training workshops on electoral boundary delimitation (redistricting) in Azerbaijan and Jamaica

International Institute for Democracy and Electoral Assistance (International IDEA):

- Consultant on electoral dispute resolution systems
- Technology consultant on use of GIS for electoral district delimitation
- Training – developed training material and conducted training workshop on electoral boundary delimitation (redistricting) for African election officials (Mauritius)
- Curriculum development – boundary delimitation curriculum for the BRIDGE Project

Other international clients have included The Cayman Islands; the Australian Election Commission; the Boundary Commission of British Columbia, Canada; and the Global Justice Project for Iraq.

Publications

***Books**:*

Does Torture Prevention Work? Liverpool University Press, 2016 (served as editor and author, with Richard Carver)

Comparative Redistricting in Perspective, Oxford University Press, 2008 (first editor, with Bernard Grofman).

Delimitation Equity Project: Resource Guide, Center for Transitional and Post-Conflict Governance at IFES and USAID publication, 2006 (lead author).

Minority Representation and the Quest for Voting Equality, Cambridge University Press, 1992 (with Bernard Grofman and Richard Niemi).

***Academic Journal Articles**:*

"Drawing Electoral Districts to Promote Minority Representation" Representation, forthcoming, published online DOI:10.1080/00344893.2020.1815076.

"Evaluating national preventive mechanisms: a conceptual model," Journal of Human Rights Practice, Volume 12 (2), July 2020 (with Richard Carver).

"Minority Success in Non-Majority Minority Districts: Finding the 'Sweet Spot'," Journal of Race, Ethnicity and Politics, forthcoming (with David Lublin, Thomas Brunell and Bernard Grofman).

"Has the Voting Rights Act Outlived its Usefulness: In a Word, "No," Legislative Studies Quarterly, volume 34 (4), November 2009 (with David Lublin, Thomas Brunell and Bernard Grofman).

"Delimitation Consulting in the US and Elsewhere," Zeitschrift für Politikberatung, volume 1 (3/4), 2008 (with Peter Schrott).

"Drawing Effective Minority Districts: A Conceptual Framework and Some Empirical Evidence," North Carolina Law Review, volume 79 (5), June 2001 (with Bernard Grofman and David Lublin).

"A Guide to 2000 Redistricting Tools and Technology" in The Real Y2K Problem: Census 2000 Data and Redistricting Technology, edited by Nathaniel Persily, New York: Brennan Center, 2000.

"1990s Issues in Voting Rights," Mississippi Law Journal, 65 (2), Winter 1995 (with Bernard Grofman).

"Minority Turnout and the Creation of Majority-Minority Districts," American Politics Quarterly, 23 (2), April 1995 (with Kimball Brace, Richard Niemi and Harold Stanley).

"Identifying and Remedying Racial Gerrymandering," Journal of Law and Politics, 8 (2), Winter 1992 (with Bernard Grofman).

"The Impact of the Voting Rights Act on Minority Representation in Southern State Legislatures," Legislative Studies Quarterly, 16 (1), February 1991 (with Bernard Grofman).

"Minority Population Proportion and Black and Hispanic Congressional Success in the 1970s and 1980s," American Politics Quarterly, 17 (4), October 1989 (with Bernard Grofman).

"Black Representation: Making Sense of Electoral Geography at Different Levels of Government," Legislative Studies Quarterly, 14 (2), May 1989 (with Bernard Grofman).

"Minority Voting Equality: The 65 Percent Rule in Theory and Practice," Law and Policy, 10 (1), January 1988 (with Kimball Brace, Bernard Grofman and Richard Niemi).

"Does Redistricting Aimed to Help Blacks Necessarily Help Republicans?" Journal of Politics, 49 (1), February 1987 (with Kimball Brace and Bernard Grofman).

***Chapters in Edited Volumes**:*

“Effective torture prevention,” Research Handbook on Torture, Sir Malcolm Evans and Jens Modvig (eds), Cheltenham: Edward Elgar, 2020 (with Richard Carver).

“Redistricting” in Oxford Handbook of Electoral Systems, Erik Herron Robert Pekkanen and Matthew Shugart (eds), Oxford: Oxford University Press, 2018.

“Role of the Courts in the Electoral Boundary Delimitation Process,” in International Election Remedies, John Hardin Young (ed.), Chicago: American Bar Association Press, 2017.

“One Person, One Vote, Different Values: Comparing Delimitation Practices in India, Canada, the United Kingdom, and the United States,” in Fixing Electoral Boundaries in India, edited by Mohd. Sanjeer Alam and K.C. Sivaramakrishman, New Delhi: Oxford University Press, 2015.

“Delimiting Electoral Boundaries in Post-Conflict Settings,” in Comparative Redistricting in Perspective, edited by Lisa Handley and Bernard Grofman, Oxford: Oxford University Press, 2008.

“A Comparative Survey of Structures and Criteria for Boundary Delimitation,” in Comparative Redistricting in Perspective, edited by Lisa Handley and Bernard Grofman, Oxford: Oxford University Press, 2008.

“Drawing Effective Minority Districts: A Conceptual Model,” in Voting Rights and Minority Representation, edited by David Bositis, published by the Joint Center for Political and Economic Studies, Washington DC, and University Press of America, New York, 2006.

"Electing Minority-Preferred Candidates to Legislative Office: The Relationship Between Minority Percentages in Districts and the Election of Minority-Preferred Candidates," in Race and Redistricting in the 1990s, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman and Wayne Arden).

"Estimating the Impact of Voting-Rights-Related Districting on Democratic Strength in the U.S. House of Representatives," in Race and Redistricting in the 1990s, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman).

"Voting Rights in the 1990s: An Overview," in Race and Redistricting in the 1990s, edited by Bernard Grofman; New York: Agathon Press, 1998 (with Bernard Grofman and Wayne Arden).

"Racial Context, the 1968 Wallace Vote and Southern Presidential Dealignment: Evidence from North Carolina and Elsewhere," in Spatial and Contextual Models in Political Research, edited by Munroe Eagles; Taylor and Francis Publishing Co., 1995 (with Bernard Grofman).

"The Impact of the Voting Rights Act on Minority Representation: Black Officeholding in Southern State Legislatures and Congressional Delegations," in The Quiet Revolution: The Impact of the Voting Rights Act in the South, 1965-1990, eds. Chandler Davidson and Bernard Grofman, Princeton University Press, 1994 (with Bernard Grofman).

"Preconditions for Black and Hispanic Congressional Success," in United States Electoral Systems: Their Impact on Women and Minorities, eds. Wilma Rule and Joseph Zimmerman, Greenwood Press, 1992 (with Bernard Grofman).

***Electronic Publication**:*

"Boundary Delimitation" Topic Area for the Administration and Cost of Elections (ACE) Project, 1998. Published by the ACE Project on the ACE website (www.aceproject.org).

***Additional Writings of Note**:*

Amicus brief presented to the US Supreme Court in Gill v. Whitford, Brief of Political Science Professors as Amici Curiae, 2017 (one of many social scientists to sign brief)

Amicus brief presented to the US Supreme Court in Shelby County v. Holder, Brief of Historians and Social Scientists as Amici Curiae, 2013 (one of several dozen historians and social scientists to sign brief)

Amicus brief presented to the US Supreme Court in Bartlett v. Strickland, 2008 (with Nathaniel Persily, Bernard Grofman, Bruce Cain, and Theodore Arrington).

Recent Court Cases

In the past ten years, Dr. Handley has served as an testifying expert or expert consultant in the following cases:

Ohio Philip Randolph Institute v. Larry Householder (2019) – partisan gerrymander challenge to Ohio congressional districts; testifying expert for ACLU on minority voting patterns

State of New York v. U.S. Department of Commerce/ New York Immigration Coalition v. U.S. Department of Commerce (2018-2019) – challenge to inclusion of citizenship question on 2020 census form; testifying expert on behalf of ACLU

U.S. v. City of Eastpointe (settled 2019) – minority vote dilution challenge to City of Eastpointe, Michigan, at-large city council election system; testifying expert on behalf of U.S. Department of Justice

Alabama NAACP v. State of Alabama (decided 2020) – minority vote dilution challenge to Alabama statewide judicial election system; testifying expert on behalf of Lawyers Committee for Civil Rights Under Law

Lopez v. Abbott (2017-2018) – minority vote dilution challenge to Texas statewide judicial election system; testifying expert on behalf of Lawyers Committee for Civil Rights Under Law

Personhuballuah v. Alcorn (2015-2017) – racial gerrymandering challenge to Virginia congressional districts; expert for the Attorney General and Governor of the State of Virginia; written testimony on behalf of Governor

Perry v. Perez (2014) – Texas congressional and state house districts (Section 2 case before federal court in San Antonio, Texas; testifying expert for the U.S. Department of Justice)

Jeffers v. Beebe (2012) – Arkansas state house districts (testifying expert for the Plaintiffs)

State of Texas v. U.S. (2011-2012) – Texas congressional and state house districts (Section 5 case before the Circuit Court of the District of Columbia; testifying expert for the U.S. Department of Justice)

In RE 2011 Redistricting Cases (2011-2012) – State legislative districts for State of Alaska (testifying expert for the Alaska Redistricting Board)

Contact Information

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