

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

ALPHA PHI ALPHA
FRATERNITY INC., a nonprofit
organization on behalf of members
residing in Georgia; SIXTH
DISTRICT OF THE AFRICAN
METHODIST EPISCOPAL
CHURCH, a Georgia nonprofit
organization; ERIC T. WOODS;
KATIE BAILEY GLENN; PHIL
BROWN; JANICE STEWART,

Plaintiffs,

vs.

BRAD RAFFENSPERGER, in his
official capacity as Secretary of State
of Georgia.

Defendant.

Case No. 1:21-cv-05337-SCJ

NOTICE OF ERRATA

Plaintiffs Alpha Phi Alpha Fraternity Inc., Sixth District of the African Methodist Episcopal Church, Eric T. Woods, Katie Bailey Glen, Phil Brown, and Janice Stewart (collectively, the “Plaintiffs”) respectfully submit the following errata to correct Figures 21 and 22 in the Declaration of William S. Cooper and

corresponding Exhibits O, S-1 and T-1, filed on January 7, 2022. ECF No. 26-3; ECF No. 26-4. The total population deviation figure for the Illustrative Senate Plan in the table in Exhibit O is updated to correct a transcription error. ECF No. 26-4 (pdf pp. 24-25). The political subdivision splits report and compactness report (specifically the Polsby-Popper low score) for the Illustrative Senate Plan have been updated both in Exhibits S-1 and T-1, and in corresponding Figures 21 and 22 in the Cooper Declaration. ECF No. 26-4 (pdf pp. 38-44, 59-64); ECF No. 26-3 (pdf pp. 42-43).

Plaintiffs corrects these errors by filing this notice of errata including a revised Declaration of William S. Cooper and revised Exhibits O, S-1 and T-1.

Dated: January 10, 2022.

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH LOCAL RULE 5.1

The undersigned hereby certifies that the foregoing document has been prepared in accordance with the font type and margin requirements of Local Rule 5.1 of the Northern District of Georgia, using a font type of Times New Roman and a point size of 14.

/s/ Rahul Garabadu

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused to be served the foregoing **ERRATA** with the Clerk of Court using the CM/ECF system, which will automatically send email notification of such filing to all counsel or parties of record on the service list.

This 10th day of January, 2022.

/s/ Rahul Garabadu

REVISED EXHIBIT A

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

ALPHA PHI ALPHA FRATERNITY
INC., et al.,

Plaintiffs,

vs.

BRAD RAFFENSPERGER, in his
official capacity as Secretary of State of
Georgia.

Defendant.

Civ. No. 21-5337

DECLARATION OF WILLIAM S. COOPER

WILLIAM S. COOPER, acting in accordance with 28 U.S.C. § 1746,
Federal Rule of Civil Procedure 26(a)(2)(B), and Federal Rules of Evidence 702
and 703, does hereby declare and say:

I. INTRODUCTION

1. My name is William S. Cooper. I have a B.A. in Economics from Davidson College. As a private consultant, I serve as a demographic and redistricting expert for the Plaintiffs.

2. I have testified at trial as an expert witness on redistricting and demographics in federal courts in about 45 voting rights cases since the late 1980s. Over 25 of the cases led to changes in local election district plans. Five of the cases

resulted in changes to statewide legislative boundaries: *Rural West Tennessee African-American Affairs Council, Inc. v. McWherter*, No. 92-cv-2407 (W.D. Tenn. 1995); *Old Person v. Brown*, No. 96-cv-0004 (D. Mont. 2002); *Bone Shirt v. Hazeltine*, No. 01-cv-3032 (D.S.D. 2004); *Alabama Legislative Black Caucus v. Alabama*, No. 12-cv-691 (M.D. Ala. 2017), and *Thomas v. Reeves* (S.D. Miss. 2019). In *Bone Shirt v. Hazeltine*, the court adopted the remedial plan I developed.

3. I served as the *Gingles* 1 expert for two post-2010 local-level Section 2 cases in Georgia, *NAACP v. Fayette County* and *NAACP v. Emanuel County*. In both cases, the parties settled on redistricting plans that I developed (with input from the respective defendants). In the latter part of the decade, I served as the *Gingles* 1 expert in three additional Section 2 cases in Georgia, which were all voluntarily dismissed after the 2018 elections: *Georgia NAACP v. Gwinnett County*, No. 1:16-cv-02852-AT; *Thompson v. Kemp*, No. 1:17-cv-01427 (N.D. Ga. 2018); and *Dwight v. Kemp*, No. 1:18-cv-2869 (N.D. Ga. 2018).

4. My redistricting experience is further documented in my curriculum vitae, which is attached as **Exhibit A**.

A. Purpose of Declaration

5. The attorneys for the Plaintiffs in this case asked me to determine whether the African-American¹ population in Georgia is “sufficiently large and geographically compact” to allow for the creation, employing traditional districting principles, of additional majority-Black Senate and House districts beyond those created in the legislative plans that were signed into law by Governor Kemp on December 30, 2021—in other words, districts that meet the first *Gingles* precondition (“*Gingles* 1”).²

6. For purposes of the *Gingles* 1 analysis in this declaration, and unless otherwise noted, I define majority-Black districts as those that are majority-Black voting age (“BVAP”). I also report whether districts are majority-Black citizen voting age (“BCVAP”).³

¹ In this declaration, “African-American” refers to persons who are single-race Black or Any Part Black (i.e. persons of two or more races and some part Black), including Hispanic Black. In some instances (e.g. for historical comparisons) numerical or percentage references identify single-race Black as “SR Black” and Any Part Black as “AP Black.” Unless noted otherwise, “Black” means AP Black. It is my understanding that following the U.S. Supreme Court decision in *Georgia v. Ashcroft*, 539 U.S. 461 (2003), the “Any Part” definition is an appropriate Census classification to use in most Section 2 cases.

Throughout this report, I refer to the two legislative plans signed into law by Governor Kemp as the 2021 Senate Plan and the 2021 House Plan, respectively.

² See *Thornburg v. Gingles*, 478 U.S. 30, 50 (1986).

³ The CVAP estimates I report count only persons who are non-Hispanic single-race Black. The estimates are disaggregated from the block group level as published by the U.S. Census Bureau. The most current data available is from the 2015-2019 Special Tabulation, with a survey

7. The two illustrative plans that I have prepared (one for the State House and one for the State Senate) demonstrate that Georgia's Black population is sufficiently numerous and geographically compact to allow for the creation of at least three additional majority-Black Senate districts and five additional majority-Black House districts.

8. The illustrative plans comply with traditional redistricting principles, including population equality, compactness, contiguity, respect for communities of interest, and the non-dilution of minority voting strength.

9. The illustrative plans are drawn to follow, to the extent possible, county and VTD⁴ boundaries. Where counties are split to comply with one-person one-vote requirements or to avoid pairing incumbents, I have generally used whole 2020 Census VTDs as sub-county components. Where VTDs are split, I have followed census block boundaries that are aligned with roads, natural features, census block groups, or municipal boundaries.

midpoint of July, 1 2017.

<https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.html>

The 2016-2020 ACS Special Tabulation has been delayed due to the pandemic. The 2016-2020 estimates will reflect Census 2020 population distribution, which could require updates to the number of majority-BCVAP districts.

⁴ "VTD" is a Census Bureau term meaning "voting tabulation district." VTDs generally correspond to precincts. Statewide, there are 2,698 2020 VTDs.

10. **Exhibit B** describes the sources and methodology I have employed in the preparation of this report and the illustrative plans. Briefly, I used the Maptitude software program as well as data and shapefiles from the U.S. Census Bureau and the Georgia Legislative and Congressional Reapportionment Office, among other sources.

B. Summary of Expert Conclusions

11. Based on my *Gingles* 1 analysis, I conclude the following:

State Senate

- The 2021 Senate Plan contains 14 majority-Black districts (15 that are both BVAP and BCVAP).
- As shown in the Plaintiffs' Illustrative Senate Plan, a statewide Senate plan can be drawn with 19 majority-Black districts, including two additional majority-Black districts in south Metro Atlanta and an additional majority-Black district anchored in the eastern portion of Georgia's Black Belt (encompassing part of Augusta and extending west to Baldwin and Houston Counties).⁵

⁵ In addition, the Illustrative Senate Plan described *infra* also creates an additional majority-Black Senate district in Gwinnett and Dekalb Counties (District 9), and an additional majority-Black Senate district in Cobb County (District 6), for a total of 19 statewide.

- The Black population in south Metro Atlanta is sufficiently numerous and geographically compact to allow for the creation of at least two additional compact majority-Black Senate districts.
- The Black population in and around Georgia's eastern Black Belt counties (an area I define in greater detail below) is sufficiently numerous and geographically compact to form an additional compact majority-Black Senate district.

State House

- The 2021 House Plan contains 49 majority-Black districts (47 of which are also majority BCVAP).
- As shown in the Plaintiffs' Illustrative House Plan, a statewide House Plan can be drawn with at least 54 majority-Black districts (53 that are both BVAP and BCVAP), including four additional majority-Black districts anchored in south Metro Atlanta and two additional majority-Black districts in Georgia's Black Belt.
- The Black population in south Metro Atlanta is sufficiently numerous and geographically compact to allow for the creation of at least three additional compact majority-Black House districts in Metro Atlanta.

- The Black population in and around the eastern Black Belt counties is sufficiently numerous and geographically compact to form an additional compact majority-Black House district.
- The Black population in and around the western Black Belt counties is sufficiently numerous and geographically compact to form an additional compact majority-Black House district.

C. Gingles 1 Analysis – Focus Areas

12. According to the data collected in the 2020 Census, and as discussed in further detail below, Georgia's Black population has grown significantly since 2010. The State's Black population is up by 484,848 persons, the equivalent of 2.5 State Senate districts or eight entire State House districts. By contrast, the State's white population actually declined during that same period. Yet despite the significant growth in Georgia's Black population since 2010, almost no additional majority-Black districts are created in Georgia's 2021 Senate and House Plans.⁶

13. The 2021 Senate Plan merely maintains the status quo, with 14 majority-Black districts, the same number as in the previous plan which was enacted in 2012

⁶ The ideal population size for a Senate district is 191,284 and 59,511 for a House district. Those numbers are derived from the State's total population and the number of seats in each body.

and first used in 2014 during mid-decade redistricting (the “2014 Benchmark Senate Plan”).⁷

14. The 2021 House Plan has two more majority-Black districts than the previous plan, which was enacted in 2015 (the “2015 Benchmark House Plan”) (and which in turn incorporated a discrete set of changes to the plan enacted in 2012).⁸ That small increase is nowhere near commensurate with the significant growth of Georgia’s Black population during that period.

15. Under the 2021 Senate Plan, 10 of the 14 majority-Black districts are in Metro Atlanta. Under the 2021 House Plan, 33 of the 49 majority-Black districts are in Metro Atlanta.⁹

⁷ I am counting Senate District 41 as majority-Black under the 2014 Benchmark Senate Plan. That district, which was 51.4% BVAP when drawn under the 2010 Census, slipped to 49.76% BVAP according to the 2020 Census (though it remained a BCVAP-majority district at 57.22% BCVAP).

Notably, Senate District 2 in the 2014 Benchmark Senate Plan was similarly drawn at 50.94% BVAP based on 2010 Census data, but had fallen to 47.09% BVAP under the 2020 Census (though it remained at 53.43% BCVAP). Under the 2021 Senate Plan and the Illustrative Senate Plan, District 2 is no longer majority-BVAP (46.86% in both plans) but remains majority-BCVAP (53.13% in both plans). I am not counting Senate District 2 as majority-Black under the 2014 Benchmark Senate Plan, though I note that doing so would result in the 2021 Senate Plan having one *fewer* majority-Black Senate district than its predecessor plan.

⁸ The Senate and House plans initially enacted after the 2010 Census are included in Exhibits I-2 and V-2, *infra*. These historical plans are not substantially different than the Benchmark plans with respect to the number of majority-Black districts. The prior Senate and House maps, enacted in 2006, are also included in Exhibits I-3 and V-3, respectively.

⁹ In this declaration, Metro Atlanta refers to the 29-county Atlanta Metropolitan Statistical Area (“MSA”) defined by the U.S. Office of Management and Budget. It includes the Counties of Barrow, Bartow, Butts, Carroll, Cherokee, Clayton, Cobb, Coweta, Dawson, DeKalb, Douglas,

16. To determine where additional majority-Black districts could be drawn, I initially focused on areas with substantial Black populations, in particular:

(1) Metro Atlanta counties (as defined by the Atlanta-Sandy Springs-Alpharetta MSA boundaries) shown in the Census Bureau’s map in **Exhibit C**;

(2) Georgia’s Black Belt (as defined by the Georgia Budget and Policy Institute (“GBPI”) shown in the map in **Figure 1**.¹⁰ **Exhibit D** is an excerpt from the GBPI report (Appendix A) identifying the Black Belt counties and school districts depicted in Figure 1. More broadly, and as the GBPI report explains, the term “Black Belt” refers to a swath of the American South that historically had large numbers of enslaved Black persons, and that today continues to have substantial Black populations; in Georgia, the area comprising the Black Belt

Fayette, Forsyth, Fulton, Gwinnett, Haralson, Heard, Henry, Jasper, Lamar, Meriwether, Morgan, Newton, Paulding, Pickens, Pike, Rockdale, Spalding, and Walton.

MSA is an abbreviation for “metropolitan statistical area.” Metropolitan statistical areas are defined by the U.S. Office of Management and Budget and reported in historical and current census data produced by the Census Bureau. MSAs “consist of the county or counties (or equivalent entities) associated with at least one urbanized area of at least 50,000 population, plus adjacent counties having a high degree of social and economic integration with the core as measured through commuting ties.”

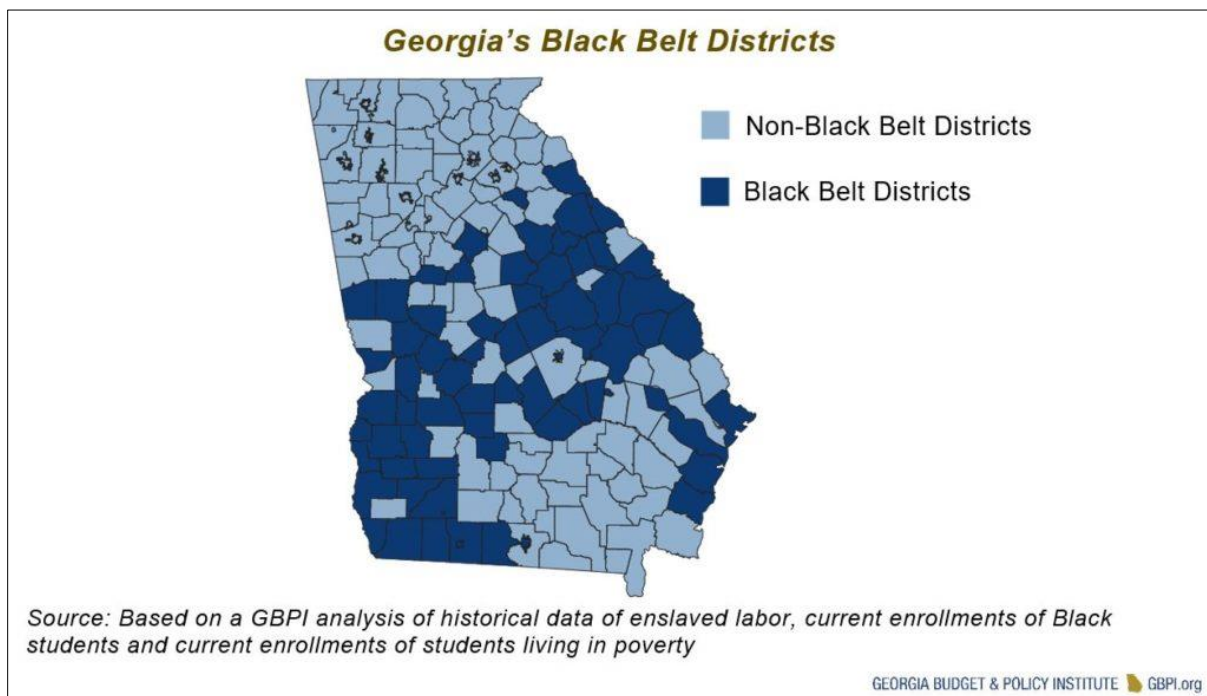
<https://www.census.gov/programs-surveys/metro-micro/about.html>

¹⁰ For a current and historical analysis of Georgia’s Black Belt, see *Education in Georgia’s Black Belt: Policy Solutions to Help Overcome a History of Exclusion* (Stephen Owens, October 10, 2019), published by the Georgia Budget & Policy Institute. <https://gbpi.org/education-in-georgias-black-belt>.

extends roughly southwest from the area around Augusta to the southwest corner of the State.

Figure 1

Georgia's Black Belt School Districts



17. Upon review, I narrowed my focus to three regions within those larger areas (see maps in **Exhibit E** and **Figure 4** *infra*):

18. **(Region A) South Metro Atlanta:** suburban /exurban counties in a significantly Black, racially diverse, and geographically compact region that has emerged over the past quarter of a century—specifically, the counties of Fayette, Spalding, Henry, Rockdale, and Newton.

19. The Georgia Governor's Office of Planning and Budget projects that this 5-county region will have 725,000 residents by the time of the 2030 Census –

up by about 92,000 persons over the Census 2020 enumeration, of whom 61% will be non-White. African Americans are projected to account for about 60% of the non-White population increase.¹¹

20. Under the 2021 Senate Plan, parts of three majority-Black districts are in the south Metro counties—Senate Districts 10, 34, and 43.

21. Under the 2021 House Plan, parts of seven majority-Black House districts are in these five south Metro counties.

22. **(Region B) Eastern Black Belt Area:** urban Black Belt Richmond County (Augusta) plus a group of rural Black Belt counties in a geographically compact area. The rural counties are home to a long-standing Black community that has not been in a majority-Black Senate district since the passage of the 1965 Voting Rights Act.

23. All of the Region B counties are part of the Central Savannah River Area, as shown in **Exhibit F** on the regional commission map prepared by the Georgia Department of Community Affairs (“GDCA”).

24. As shown on the GDCA map, Region B encompasses the following Central Savannah River Area counties: (counter clockwise from east to west) Jenkins, Burke, Richmond, Jefferson, McDuffie, Wilkes, Taliaferro, Glascock,

¹¹ <https://opb.georgia.gov/census-data/population-projections>.

Warren, Washington, and Hancock. Ten of these 11 contiguous counties—excluding Glascock (pop. 2,884)—are identified as part of Georgia’s Black Belt by GBPI. Moreover, additional adjacent counties, such as Baldwin County, lie outside the Central Savannah River Area Regional Commission area but are also identified as part of the Black Belt by GBPI and have substantial Black populations.

25. The 2021 Senate Plan includes one majority-Black district in Region B—Senate District 22 (56.5% BVAP)—in Augusta/Richmond County, and a small part of another majority Black district—Senate District 26 (56.99% BVAP)—anchored in Macon/Bibb County.

26. The 2021 House Plan contains five majority-Black districts in the Region B area.

27. **(Region C) Western Black Belt Area:** urban Black Belt Dougherty County (Albany) plus a group of southwest Georgia rural Black Belt counties in a geographically compact area, implicitly identified in the area encompassed by majority-Black Senate District 12 (57.97% BVAP) in the 2021 Senate Plan.

28. Region C encompasses part of the Southwest Georgia and Valley River Area regional commission areas depicted on the GDCA map in **Exhibit F**.

29. The 2021 House Plan contains just two majority-Black House districts in Region C, even though there is obviously sufficient Black population to create

three districts in an area generally circumscribed by Senate District 12 in the 2021 Senate Plan.

30. Senate District 12 encompasses 13 counties: (counter clockwise from north to south on the GDCA map) Sumter, Webster, Stewart, Quitman, Randolph, Terrell, Clay, Calhoun, Dougherty, Early, Miller, Baker, and Mitchell. Twelve of the 13 counties—excluding Miller (pop. 6,000)—are identified by GBPI as Black Belt counties.¹² Moreover, additional adjacent counties, such as Thomas County, lie outside of Senate District 12 in 2021 Senate Plan but are also identified as part of the Black Belt by GBPI and have substantial Black populations.

D. Organization of Declaration

31. The remainder of this declaration is organized as follows: **Section II** reviews state and regional demographics since 1990. **Section III** reviews the benchmark 2014 Senate Plan and the 2021 Senate Plan. **Section IV** presents the Illustrative Senate Plan that I have prepared, containing 19 majority-Black districts. **Section V** reviews the benchmark 2015 House Plan and the enacted 2021 House Plan. **Section VI** presents the Illustrative House Plan that I have prepared, containing 54 majority-Black districts.

¹² Plaintiffs' Illustrative Senate Plan also contains a majority-Black Senate District in the same general area of southwest Georgia, Illustrative Senate District 12 (57.34% BVAP).

II. DEMOGRAPHIC PROFILE – STATEWIDE AND REGIONAL

32. This section provides current and historical population summaries for Georgia, Metro Atlanta, and for the three distinct areas where additional majority-Black House districts can be created—generally defined by **(Region A)** the 5-county south Metro Atlanta area, **(Region B)** the 11-county in the eastern Black Belt within the Augusta/Central Savannah River Regional Commission area, and **(Region C)** the 13-county western Black Belt around Albany and Southwest Georgia.

A. 2010 to 2020: A Decade of Minority Population Growth in Georgia

33. According to the 2020 Census, Georgia has a total population of 10,711,908—up by 1.02 million since 2010. Georgia’s population growth since 2010 can be attributed entirely to gains in the overall minority population.

34. Between 2010 and 2020, nearly half (47.26%) of the State’s population gain is attributed to Black population growth.

35. **Figure 2** reveals that Georgia’s Black population, as a share of the overall statewide population, increased between 2010 and 2020 from **31.53%** Black in 2010 to **33.03%** in 2020. Over the 2010 to 2020 decade, the Black population in Georgia increased by 484,048 persons—an increase of nearly 16% from the 2010 baseline. By contrast, between 2010 and 2020, the non-Hispanic White (“NH White”) population fell by -51,764 persons.

Figure 2

**Georgia – 2010 Census to 2020 Census
Population by Race and Ethnicity**

	2010 Number	Percent	2020 Number	Percent	2010 - 2020 Change	% 2010 - 2020 Change
Total Population	9,687,653	100.0%	10,711,908	100.00%	1,024,255	9.56%
NH White*	5,413,920	55.88%	5,362,156	50.06%	-51,764	-0.48%
Total Minority Pop.	4,273,733	44.12%	5,349,752	49.94%	1,076,019	10.05%
Latino	853,689	8.81%	1,123,457	10.49%	269,768	2.52%
NH Black*	2,910,800	30.05%	3,278,119	30.60%	367,319	3.43%
NH Asian*	311,692	3.22%	475,680	4.44%	163,988	1.53%
NH Hawaiian and PI*	5,152	0.05%	6,101	0.06%	949	0.01%
NH American Indian and Alaska Native*	21,279	0.22%	20,375	0.19%	-904	-0.01%
NH Other*	19,141	0.20%	55,887	0.52%	36,746	0.34%
NH Two or More Races	151,980	1.57%	390,133	3.65%	238,153	2.22%
SR Black (Single-race Black)	2,950,435	30.46%	3,320,513	31.00%	370,078	3.45%
AP Black (Any Part Black)	3,054,098	31.53%	3,538,146	33.03%	484,048	4.52%
NH Any Part Black	2,997,627	30.94%	3,455,484	32.26%	457,857	4.27%

* Single-race, non-Hispanic.

36. Non-Hispanic Whites are a razor-thin majority of the 2020 population (50.06%). Black Georgians account for one-third (33.03%) of the population and comprise the largest minority population, followed by Latinos (10.05%).

B. Voting Age and Citizen Voting Age Populations in Georgia

37. As shown in **Figure 3**, African Americans in Georgia constitute a slightly smaller percentage of the voting age population (VAP) than the total population. According to the 2020 Census, Georgia has a total VAP of 8,220,274 – of whom 2,607,986 (31.73%) are AP Black. The NH White VAP is 4,342,333 (52.82%).

Figure 3**Georgia – 2020 Voting Age Population & 2019 Estimated Citizen Voting Age Population by Race and Ethnicity¹³**

	2020 VAP	2020 VAP Percent	2019 CVAP Percent
Total	8,220,274	100.00%	100.00%
NH White 18+	4,342,333	52.82%	57.6%
Total Minority 18+	3,877,941	47.18%	42.4%
Latino 18+	742,918	9.04%	5.0%
Single-race Black (Including Black Hispanics) 18+	2,488,419	30.27%	32.9%
Any Part Black (Including Black Hispanics) 18+	2,607,986	31.73%	33.8%

38. The rightmost column in **Figure 3** reveals that both the Black and NH White population comprise a higher percentage of CVAP than the corresponding VAP, owing to higher non-citizenship rates among other minority populations.

39. According to estimates from the 1-year 2019 *American Community Survey* (“ACS”), African Americans represent 33.8% of the statewide CVAP—

¹³ Sources:

PL94-171 Redistricting File (Census 2020);

Table S2901 – CITIZEN, VOTING-AGE POPULATION BY SELECTED CHARACTERISTICS (1-year 2019 ACS)

<https://data.census.gov/cedsci/table?q=S2901&g=0400000US13&tid=ACSS1Y2019.S2901>.

2019 ACS 1-Year Estimates 1-Year Estimates-Public Use Microdata Sample

[https://data.census.gov/mdat/#/search?ds=ACSPUMS1Y2019&vv=AGEP\(18:99\)&cv=RACBLK\(1\)&rv=ucgid,CIT\(1,2,3,4\)&wt=PWGTP&g=0400000US13](https://data.census.gov/mdat/#/search?ds=ACSPUMS1Y2019&vv=AGEP(18:99)&cv=RACBLK(1)&rv=ucgid,CIT(1,2,3,4)&wt=PWGTP&g=0400000US13).

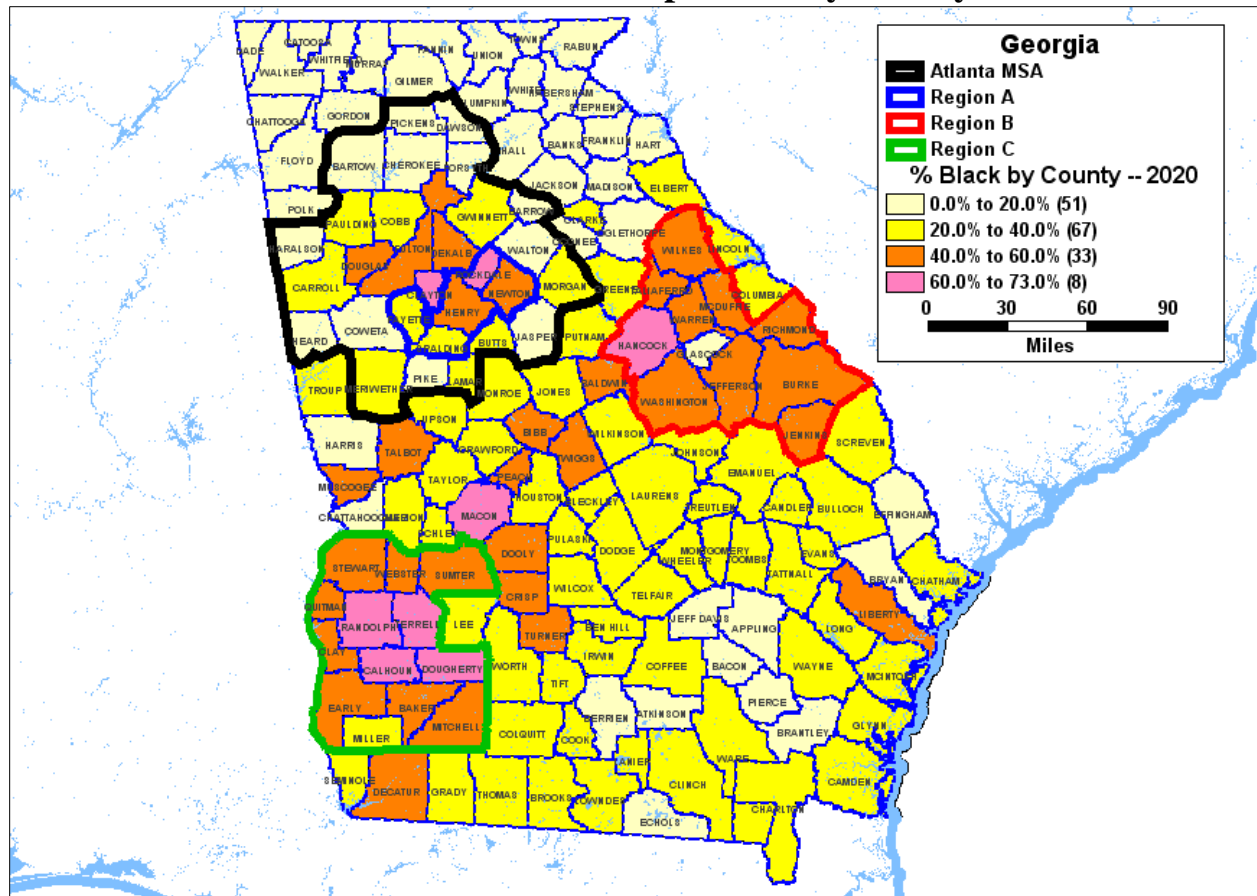
about 2 percentage points higher than the 2020 AP Black VAP. The NH White CVAP is 57.6%, nearly 5 points higher than NH White VAP in the 2020 Census.¹⁴

C. 2020 Census Spatial Distribution of Georgia's Black Population

40. The map in **Figure 4** depicts the 2020 Black population percentage for Georgia's 159 counties. 67 are in the 20% to 40% range, 33 are 40% to 60%, and 8 are between 60% and 73%. The bold black boundary identifies the Atlanta MSA.

Figure 4

2020 Census – Black Population by County



¹⁴ Due to the COVID-19 pandemic, the 1-year 2020 ACS results will not be published.

Source:

<https://www.census.gov/newsroom/press-releases/2021/changes-2020-acs-1-year.html>.

41. Color lines on the **Figure 4** map demarcate the areas I focused on to determine prospects for additional majority-Black House districts: **Region A** (blue outline), which is south Metro Atlanta; **Region B** (red outline), a group of Black Belt counties around Augusta (Richmond County); and **Region C** (green outline), a group of Black Belt counties around Albany (Dougherty County). A high-resolution version of the **Figure 4** map is in **Exhibit E**.

42. **Exhibit G-1** is a table showing 2010 and 2020 county populations by race and ethnicity, with population change between 2010 and 2020. **Exhibit G-2** is a table showing the Black population changes between 2010 and 2020. **Exhibit G-3** is a table showing 2000 and 2010 county populations by race and ethnicity, with population change between 2000 and 2010. **Exhibit G-3** is a table showing 1990 and 2000 county populations by race and ethnicity, with population change between 1990 and 2000.

D. Black Population as a Component of Total Population from 1990 to 2020

(1) Georgia – Statewide

43. As shown in **Figure 5**, Georgia's Black population has increased significantly in absolute and percentage terms since 1990, from about 27% in 1990 to 33% in 2020. Over the same time period, the percentage of the population identifying as NH White has dropped from 70% to 50%.

Figure 5

**Georgia – 1990 Census to 2020 Census
Population by Race and Ethnicity**

	1990 Number	Percent	2000 Number	Percent	2010 Number	Percent	2020 Number	Percent
Total Population	6,478,216	100.00%	8,186,453	100.00%	9,687,653	100.0%	10,711,908	100.00%
NH White	4,543,425	70.13%	5,128,661	62.65%	5,413,920	55.88%	5,362,156	50.06%
Total Minority Pop.	1,934,791	29.87%	3,057,792	37.35%	4,273,733	44.12%	5,349,752	49.94%
Latino	108,922	1.68%	435,227	5.32%	853,689	8.81%	1,123,457	10.49%
Black*	1,746,565	26.96%	2,393,425	29.24%	3,054,098	31.53%	3,538,146	33.03%

* SR Black in 1990 – AP Black 2000-2020.

(2) Metro Atlanta – 29-County MSA

44. **Figure 6** summarizes the obvious. The key driver of population growth in Georgia this century has been Metro Atlanta, led in no small measure by a large increase in the Black population in the area. (See **Exhibit C** depicting the 29-county MSA area with bold green lines).

Figure 6

**29-County MSA – Metro Atlanta – 1990 to 2020
Population by Race and Ethnicity**

	1990 Number	Percent	2000 Number	Percent	2010 Number	Percent	2020 Number	Percent
Total Population	3,082,308	100.00%	4,263,438	100.00%	5,286,728	100.00	6,089,815	100.00%
NH White	2,190,859	71.08%	2,576,109	60.42%	2,684,571	50.78%	2,661,835	43.71%
Total Minority Pop.	891,449	28.92%	1,687,329	39.58%	2,602,157	49.22%	3,427,980	56.29%
Latino	58,917	1.91%	270,655	6.35%	547,894	10.36%	730,470	11.99%
Black*	779,134	25.28%	1,248,809	29.29%	1,776,888	33.61%	2,186,815	35.91%

* SR Black in 1990, AP Black 2000-2020.

45. Under the 1990 Census, today’s 29 county-MSA was 25.28% Black, increasing to 35.91% in 2020. Since 2000, the Black population in Metro Atlanta has climbed by 75%, from 1,248,809 to 2,186,815 in 2020.

46. According to the 2020 Census, 56.29% of Metro Atlanta residents are non-White—a major shift compared to the previous decade. In 2010, NH Whites represented 50.78% of the population.

47. According to the 2020 Census, the 11 core counties comprising the Atlanta Regional Commission (“ARC”) service area¹⁵ account for more than half (54.7%) of the statewide Black population. After expanding the Metro Atlanta area to include the 29 counties in the Atlanta MSA (including the 11 ARC counties), Metro Atlanta encompasses 61.81% of the state’s Black population.

(3) Region A – 5-County South Metro Atlanta

48. The table in **Figure 7** presents similar 1990 to 2020 population details for the five south Metro Atlanta counties (**Region A**), where I have determined that two additional majority-Black Senate districts and at least three additional majority-Black House districts can be drawn.

¹⁵ <https://atlantaregional.org/atlanta-region/about-the-atlanta-region>.

Figure 7

**Region A – 5-County South Metro Atlanta – 1990 to 2020
Population by Race and Ethnicity**

	1990 Number	Percent	2000 Number	Percent	2010 Number	Percent	2020 Number	Percent
Total Population	271,512	100.00%	401,133	100.00%	559,735	100.00%	633,265	100.00%
NH White	227,297	83.72%	305,779	76.23%	305,092	54.51%	262,792	41.50%
Total Minority Pop.	44,215	16.28%	95,354	23.77%	254,643	45.49%	370,473	58.50%
Latino	2,757	1.02%	11,560	2.88%	33,722	6.02%	48,287	7.63%
Black*	38,945	14.34%	74,249	18.51%	205,426	36.70%	294,914	46.57%

* SR Black in 1990, AP Black 2000-2020.

49. As is readily apparent from the **Figure 7** timeline, south Metro Atlanta has undergone a dramatic demographic transformation over the past 30 years. In 1990, just 14.34% of the population in the 5-county south Metro Atlanta area was Black. By 2010, the Black population had more than doubled to reach 36.70% of the overall population, then climbing to 46.57% in 2020.

50. Between 2000 and 2020, the Black population in the 5-county south Metro Atlanta region quadrupled, from 74,249 to 294,914. The NH White population in the region actually decreased during the same period.

(4) Region B – Eastern Black Belt

51. In contrast to south Metro Atlanta, the Black Belt counties in the Augusta area have experienced a slight overall population decline since 1990, from 331,615 to 325,164 in 2020. However, the Black population in the region has

grown. **Figure 8** reveals that a 19% increase in the Black population since 1990 has been offset by a 28.7% decline in the NH White population.

Figure 8

**Region B – Eastern Black Belt Area - 1990 to 2020
Population by Race and Ethnicity**

	1990 Number	Percent	2000 Number	Percent	2010 Number	Percent	2020 Number	Percent
Total Population	331,615	100.00%	321,998	100.00%	322,852	100.00%	325,164	100.00%
NH White	174,163	52.52%	146,870	45.61%	133,467	41.34%	124,115	38.17%
Total Minority Pop.	157,452	47.48%	175,128	54.39%	189,385	58.66%	201,049	61.83%
Latino	4,412	1.33%	7,173	2.23%	11,179	3.46%	14,751	4.54%
Black*	149,307	45.02%	163,130	50.66%	173,238	53.66%	177,610	54.62%

* SR Black in 1990 – AP Black 2000-2020.

52. In 1990, the Black population in Region B represented 45.02% of the total population, climbing to 54.62% in 2020.

53. The 2020 population in the 11-county area that I identified as Region B is sufficient to form only about 1.7 Senate districts or 5.5 House districts, which is below what would be necessary to create a second majority-Black Senate district or a sixth majority-Black House district. However, as shown in the Illustrative Senate and House Plans discussed in this report, this population deficit can be overcome, and additional majority-Black Senate and House districts can be drawn, by including contiguous, demographically similar Black Belt counties such as Baldwin, Putnam, and Wilkinson in the additional districts.

(5) Region C – Western Black Belt

54. As shown in **Figure 9**, the western Black Belt has experienced a population decline since 2010, after holding relatively stable between 1990 and 2010. All of the population loss can be attributed to a steady decline in the NH White population over the past several decades

Figure 9

Region C – Western Black Belt Area - 1990 to 2020 Population by Race and Ethnicity

	1990 Number	Percent	2000 Number	Percent	2010 Number	Percent	2020 Number	Percent
Total Population	205,742	100.00%	214,686	100.00%	209,747	100.00	190,819	100.00%
NH White	100,751	48.97%	90,946	42.36%	76,748	36.59%	64,553	33.83%
Total Minority Pop.	104,991	51.03%	123,740	57.64%	132,999	63.41%	126,266	66.17%
Latino	1,485	0.72%	3,588	1.67%	7,377	3.52%	7,429	3.89%
Black*	102,728	49.93%	118,786	55.33%	123,663	58.96%	115,621	60.59%

* SR Black in 1990, AP Black 2000.

55. In 1990, NH Whites constituted about half of the overall population. By 2020, NH Whites comprised only about one-third. Over the same time period, the Black population grew in absolute terms from 102,728 to 115,621, representing just under half the population in 1990, but 60.6% of the population by 2020.

56. There is insufficient population to create an additional majority-Black Senate district in Region C and the counties immediately adjacent to Region C in the western Black Belt. However, as shown in the illustrative plans discussed in this report, an additional House district can be drawn in the area.

E. County and Municipal Socioeconomic Characteristics

57. For background on socioeconomic characteristics by race and ethnicity at the county and community level in Georgia, I have prepared charts based on the 5-year 2015-2019 American Community Survey. That data is compiled online¹⁶ and has been included in a compact-disk as **Exhibit CD**.

¹⁶ The county level data is available at http://www.fairdata2000.com/ACS_2015_19/Georgia/ and the community-level data is available at [http://www.fairdata2000.com/ACS_2015_19/Georgia/00_Places_2500+/.](http://www.fairdata2000.com/ACS_2015_19/Georgia/00_Places_2500+/)

III. SENATE – HISTORICAL BENCHMARK PLANS AND 2021 PLAN

A. Majority-Black Senate Districts – 1990s Plan to 2021 Plan

58. As shown in **Figure 10**, despite the significant growth in Georgia’s Black population since 2000—climbing by 1.2 million persons—the number of majority-Black Senate districts has only inched up to 14 from 13 in the 2006 Plan, and has remained static for the last decade.

Figure 10

Number of Majority-Black Senate Districts by Plan – 2000 to 2021

Senate Plans ¹⁷	Statewide Majority-Black Districts	Metro Atlanta Majority-Black Districts
1990s Plan – 2000 Census	12	7
2006 Plan – 2010 Census	13	10
2014 Plan – 2020 Census	14	10
2021 Plan – 2020 Census	14	10

59. As **Figure 11** reveals, despite the major changes in the composition of the State’s population, the percentage of Black Georgians of voting age in majority-Black Senate districts has hovered around 50% since the mid-2000s, while the percentage of the NH White VAP in majority-White districts has stayed above 80%

¹⁷ As discussed *supra* n.8, I am including Senate District 41 as majority-Black under the 2014 Benchmark Senate Plan, even though it had fallen to 49.76% BVAP by the 2020 Census. Notably, when the 2014 Benchmark Senate Plan was drawn, it had 15 total BVAP-majority districts under the 2010 Census, including both Senate District 41 and Senate District 2 in Savannah. In that sense, the 2021 Senate Plan actually represents a *diminution* of one majority-Black district from the last districting effort.

over the same timeframe—indicating that Black populations are disproportionately “cracked” or divided into majority-White districts rather than placed in majority-Black districts.¹⁸

Figure 11

Same Race VAP in Majority-Black and Majority NH White Districts – 2000 to 2021

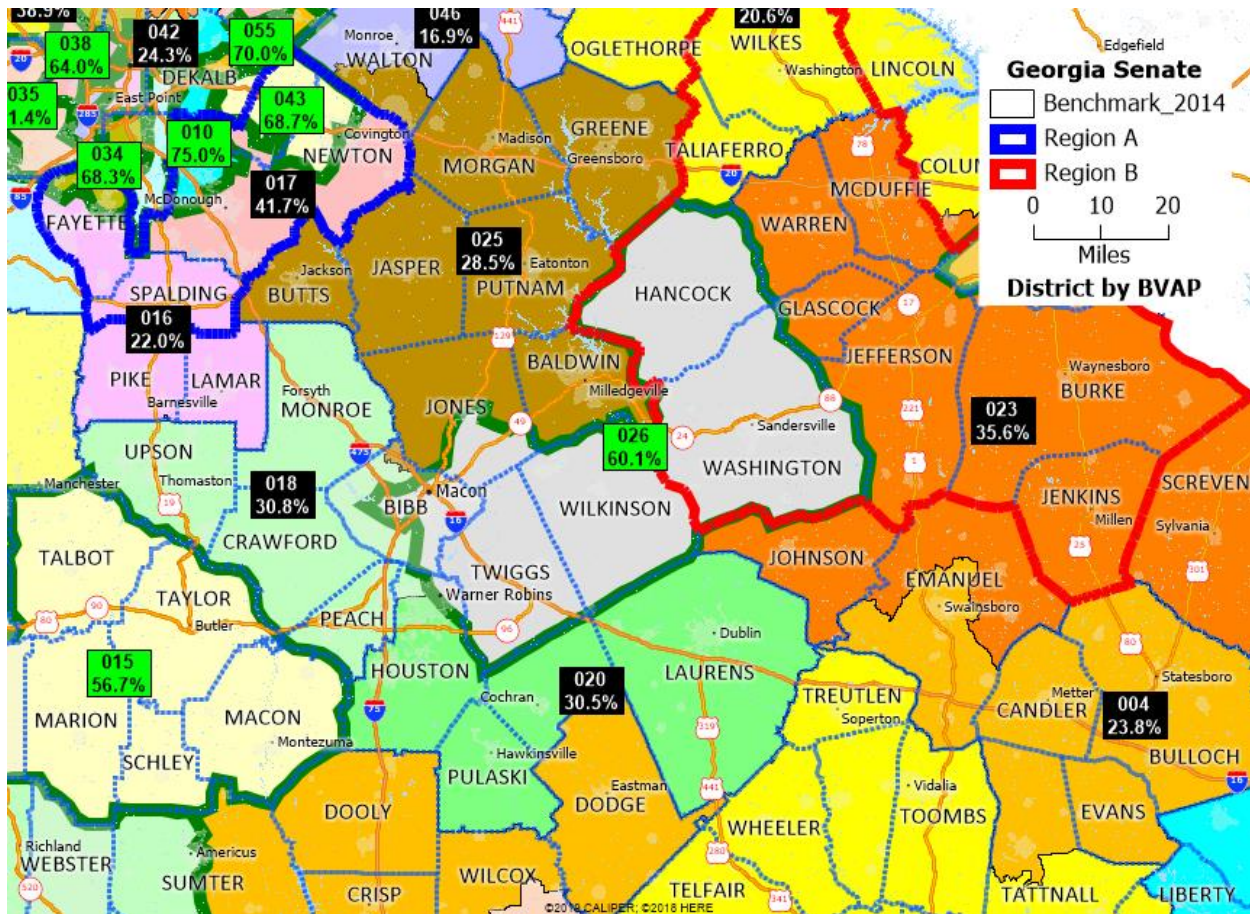
Senate Plans	Statewide % Black VAP in Majority-Black Districts*	Statewide %NH White VAP in Majority-White Districts
1990s Plan – 2000 Census	43.51%	90.51%
2006 Plan – 2010 Census	53.84%	83.88%
2014 Plan – 2020 Census	52.29%	80.64%
2021 Plan – 2020 Census	52.45%	80.54%

* Including Senate District 2 for all years and Senate District 41 for 2014 and 2021.

B. 2014 Benchmark Senate Plan

60. The map in **Figure 12** displays 2014 Benchmark Senate Plan districts in south Metro Atlanta (Region A) and in the eastern Black Belt (Region B). Labels on the map display the district number and the BVAP percentages, according to the 2020 Census. Green labels and borders identify majority-Black districts. **Exhibit H** is a higher resolution version of the **Figure 12** map.

¹⁸ “Packing” describes election districts where a minority population is unnecessarily concentrated, resulting in an overall dilution of minority voting strength in the voting plan. “Cracking” describes election plans with one or more districts that fragment or divide the minority population, also resulting in an overall dilution of minority voting strength in the voting plan.

Figure 12: 2014 Benchmark Senate Plan – Region A and Region B

61. **Exhibit I-1** contains a map packet depicting the 2014 Benchmark Senate Plan, with corresponding Census 2010 statistics, prepared by the Georgia Legislative & Congressional Reapportionment Office (“GLCRO”). **Exhibit I-2** shows the map for the prior 2011-enacted Senate plan, and **Exhibit I-3** shows the map for the Senate plan enacted in 2006.

62. **Exhibit J-1** is a table reporting Census 2020 population statistics for the 56 districts in the 2014 Benchmark Senate Plan, as well as CVAP estimates from

the 5-year 2015-2019 Special Tabulation.¹⁹ **Exhibits J-2** and **J-3** provide similar population data for the prior, 2011-enacted and 2006-enacted plans.

63. As a result of the dramatic population shifts in Georgia since 2010, the 2014 Benchmark Senate Plan is severely malapportioned, with an overall deviation of 47.75%, according to the 2020 Census.

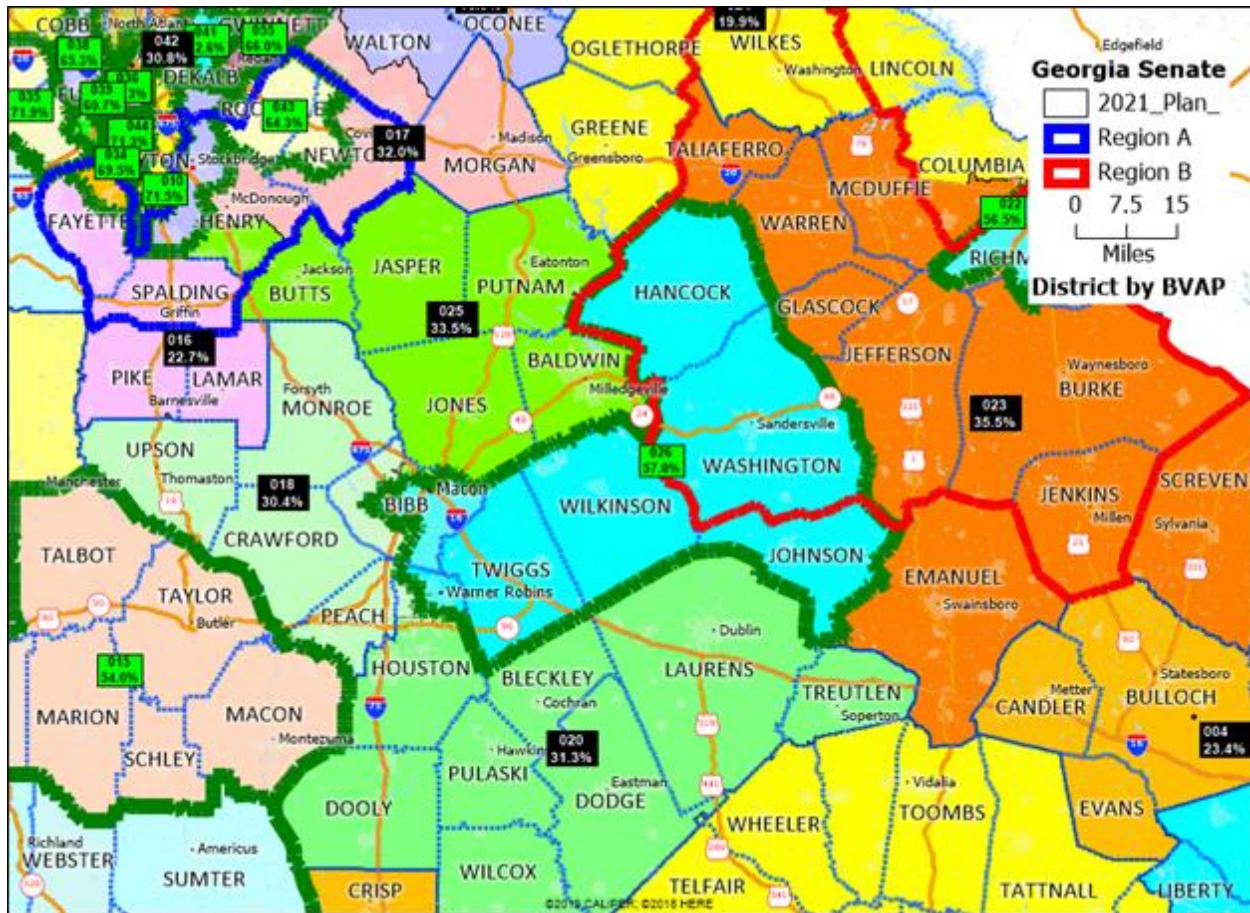
64. Including Senate District 41 in Metro Atlanta, *see supra* nn.8 & 19, 2014 Benchmark Senate Plan contains 14 majority-Black districts. Fifteen districts in the 2014 Benchmark Plan are BCVAP-majority (the 14 BVAP majority ones plus Senate District 2 in Chatham County). Seventeen are B+L+ACVAP.

65. Additional 2014 Benchmark Senate Plan information regarding compactness scores, county splits, and VTD splits is reported *infra* for comparison with the Illustrative Senate Plan metrics.

C. 2021 Senate Plan

66. The map in **Figure 13** displays 2021 Senate Plan districts in south Metro Atlanta (Region A) and in the eastern Black Belt (Region B). Green labels and borders identify majority-Black districts. **Exhibit K** is a higher resolution version of the **Figure 13** map.

¹⁹ <https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.html>.

Figure 13: 2021 Senate Plan – Region A and Region B

67. **Exhibit L** contains a map packet depicting the 2021 Senate Plan, with corresponding Census 2020 statistics, prepared by GLCRO.

68. **Exhibit M** is a table reporting Census 2020 population statistics for the 56 districts in the 2021 Plan, as well as CVAP estimates from the 5-year 2015-2019 Special Tabulation.

69. The 2021 Senate Plan contains 14 majority-Black districts (BVAP). Fifteen are BCVAP majority (the 14 BVAP-majority plus Senate District 2 in

Chatham County). Eighteen districts in the 2021 Senate Plan are majority B+L+ACVAP.

70. Additional 2021 Plan information regarding compactness scores, county splits, VTD splits, and incumbent conflicts is reported for comparison with the Illustrative Senate Plan described in the next section.

72. **Exhibit N-2** contains maps for each of the 19 majority-Black districts in the Illustrative Plan.

73. **Exhibit O** is a table reporting Census 2020 population statistics for the 56 districts in the Illustrative Senate Plan, as well as CVAP estimates from the 5-year 2015-2019 Special Tabulation.

74. The Illustrative Senate Plan contains 19 majority-Black districts (BVAP). As with the 2014 Benchmark Senate and 2021 Senate Plans, there is an additional BCVAP-majority district in District 2 in Chatham County. Twenty-one districts in the Illustrative Senate Plan are majority B+L+ACVAP.

B. Additional Majority Black Districts in the Illustrative Senate Plan

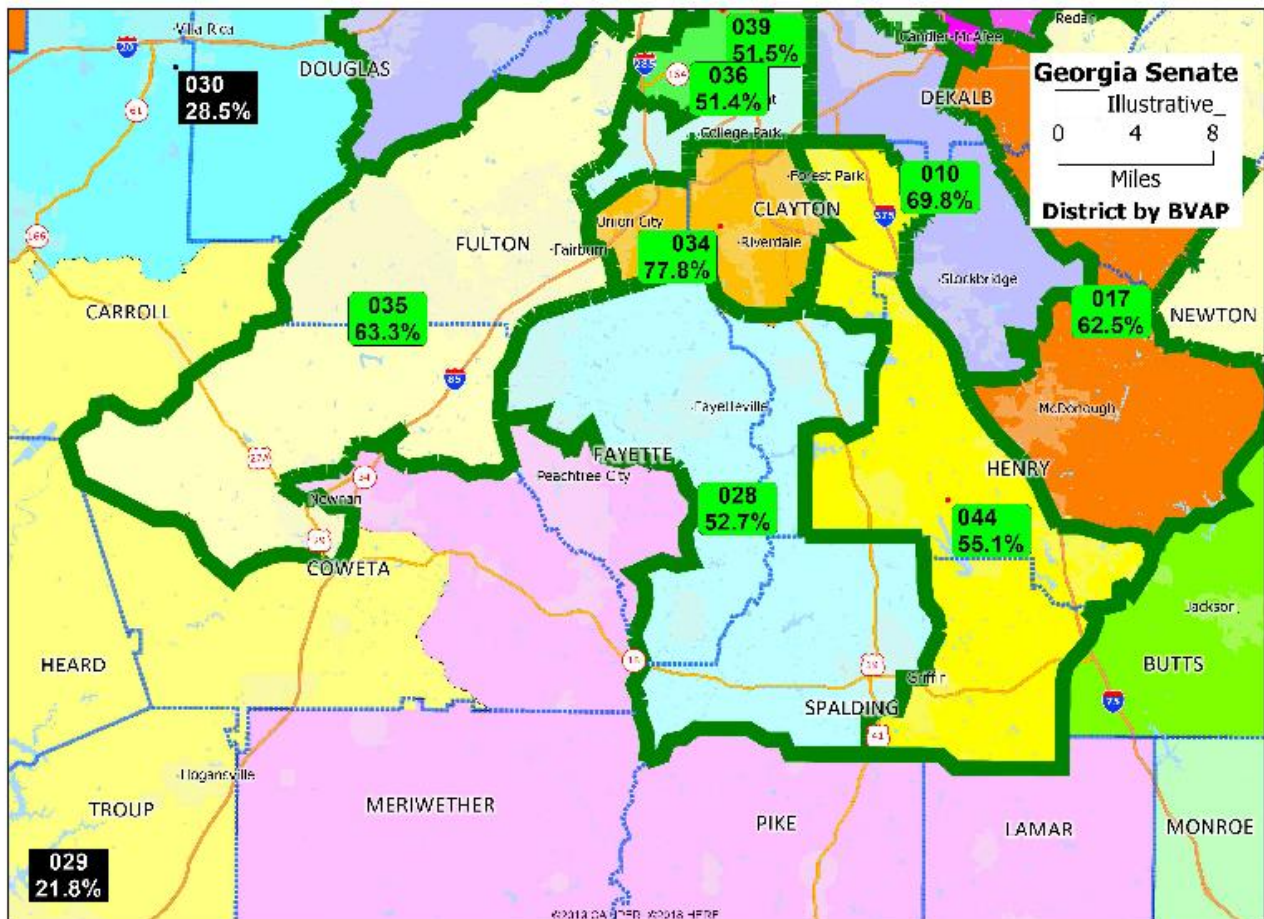
75. The text descriptions of the additional majority-Black Senate districts in the Illustrative Senate Plan set forth below are illustrated with side-by-side comparison map exhibits, depicting the Illustrative Senate Plan and 2021 Senate Plan at the same scale. For ease of reference, these side-by-side pairings are also included in Exhibits as marked below.

76. In these maps, majority-Black districts are outlined with bold green boundaries and labels.

(1) South Metro Atlanta (Region A)

Illustrative District 28 (**Exhibit P-1**) and 2021 Plan District 16 (**Exhibit P-2**)

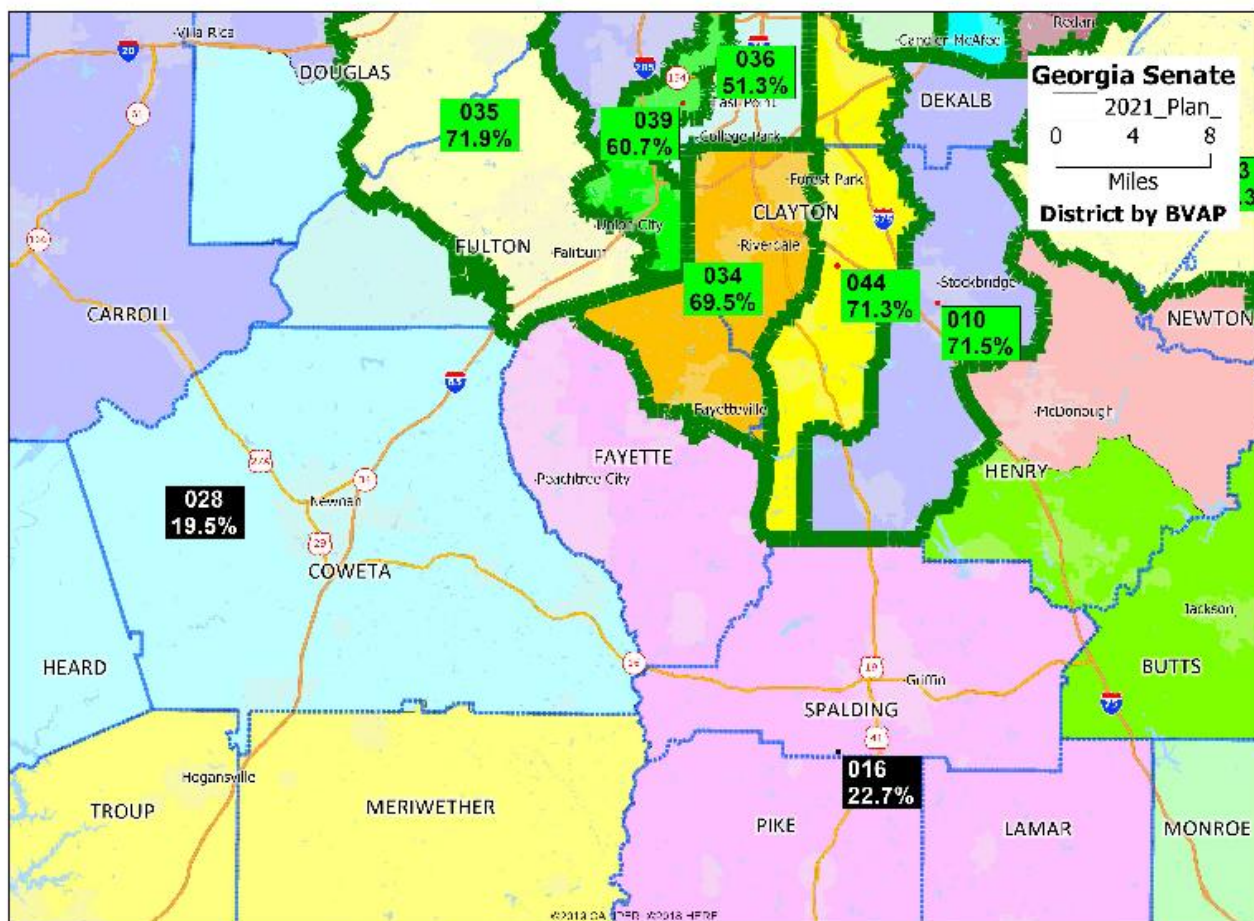
Figure 15: *Illustrative District 28 and vicinity*



77. Senate District 16 in the 2021 Senate Plan lies in the south and southwestern part of the Atlanta Metro area. It includes parts of Fayette and Spalding County. Both Fayette and Spalding County in particular have seen significant, double-digit growth in their Black populations over the last decade, including a near-doubling of the Black population in Fayette County in particular,

even as the White population there fell. Senate District 16 was nevertheless drawn with a BVAP of under 23% by combining Fayette and Spalding Counties with Whiter and more rural Pike and Lamar Counties.

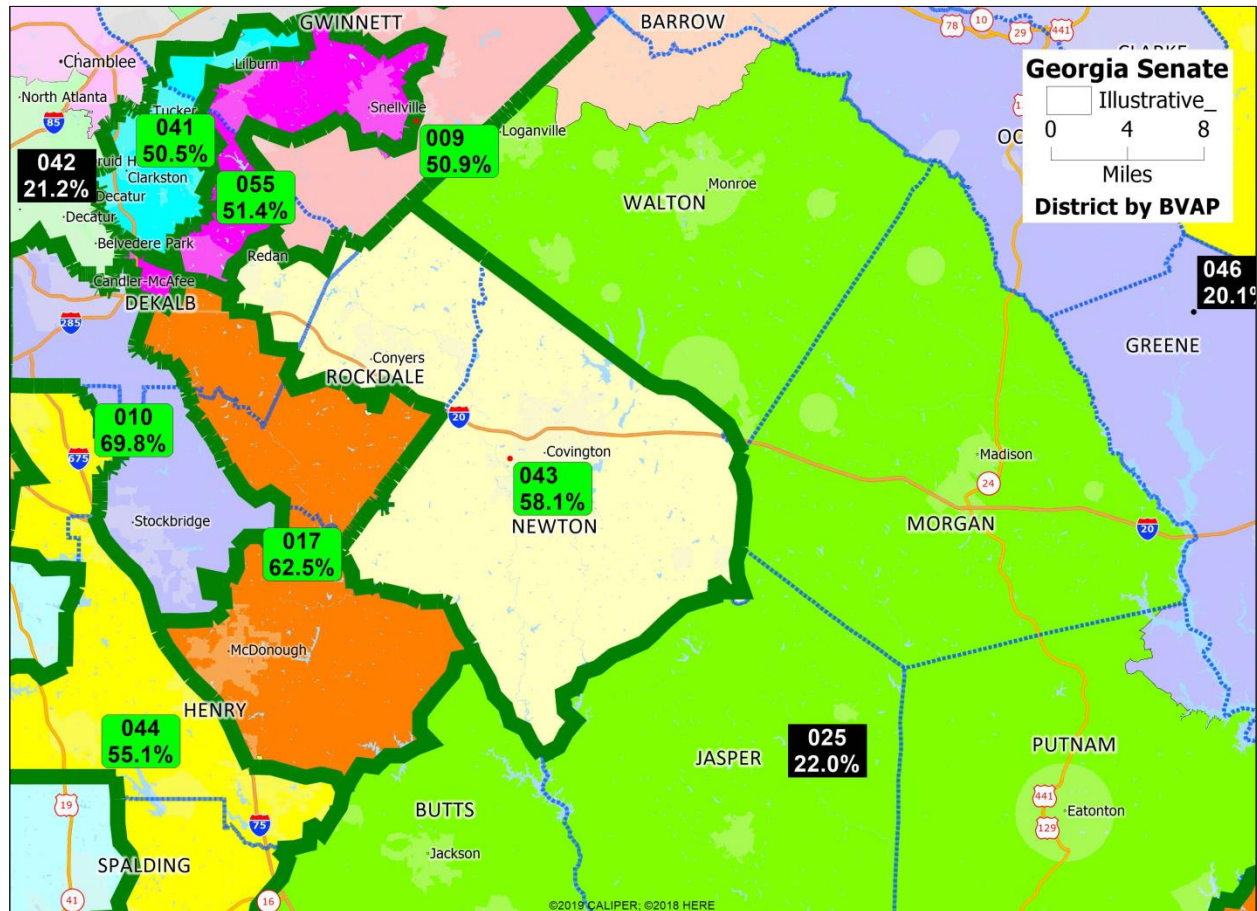
Figure 16: 2021 Plan District 16 and vicinity



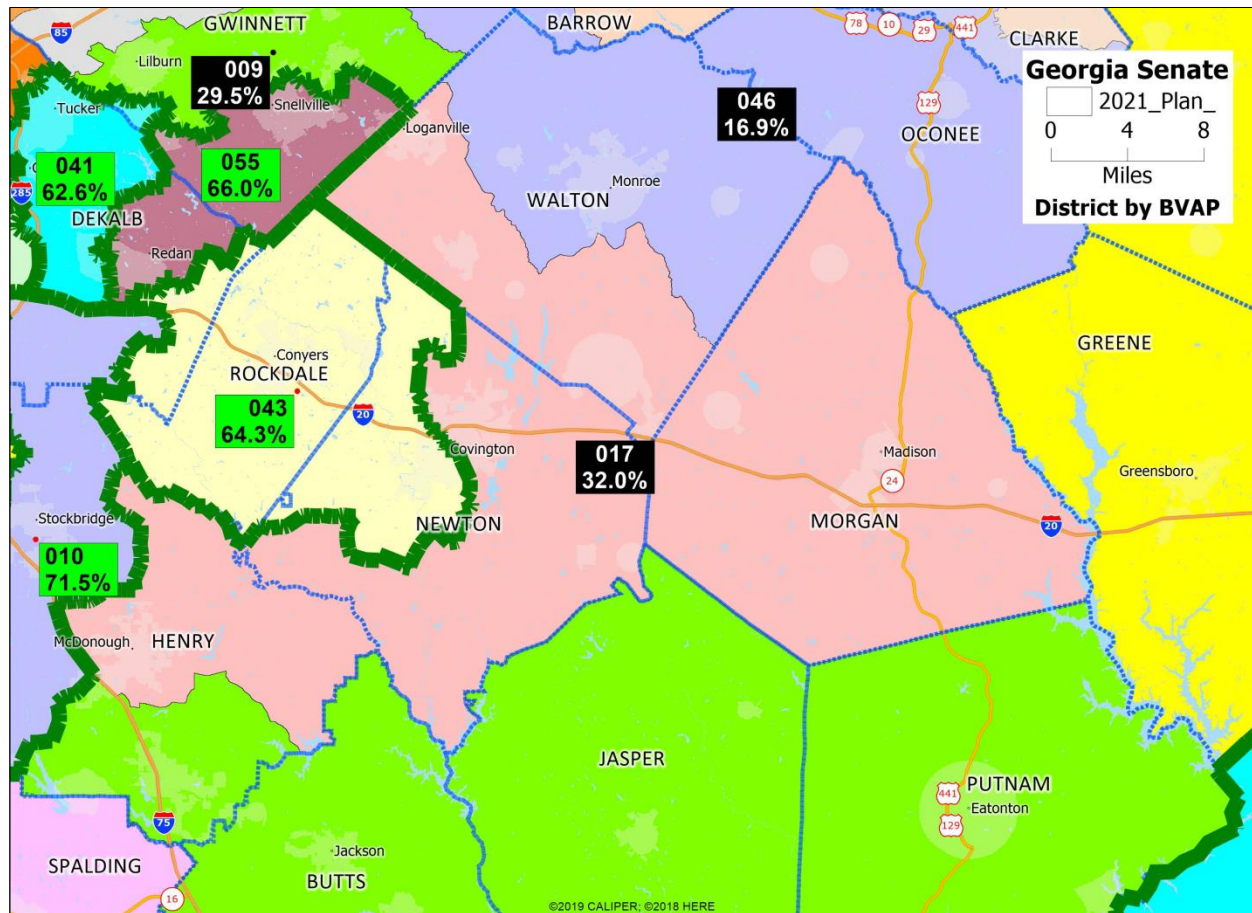
78. A majority-Black Senate District can be drawn around where 2021 Senate Plan District 16 was drawn by “unpacking” some of the Black population in neighboring Senate Districts 34 and 44 (which include parts of Clayton County as well as part of Fayette County in Senate District 34 and part of Dekalb County in Senate District 44). In the 2021 Senate Plan, those neighboring districts are drawn with around 70% and 65% BVAP. Unpacking those districts allows a majority-Black Illustrative Senate Plan District 28 to be drawn in Fayette, Spalding, and a neighboring part Clayton County (which has also seen 30% growth in its substantial Black population), “uncracking” the Black population that had been drawn into 2021 Senate Plan District 16.

Illustrative District 17 (**Exhibit Q-1**) and 2021 Plan District 17 (**Exhibit Q-2**)

Figure 17: *Illustrative District 17 and Vicinity*



79. An additional majority-Black State Senate district can be drawn around where Senate District 17 in the 2021 Senate Plan was drawn. Senate District 17 as drawn in the 2021 Senate Plan, includes parts of Henry, Newton, and Walton Counties, and all of Morgan County, and lies in the southeastern part of the Atlanta Metro area.

Figure 18: 2021 Plan District 17 and Vicinity

80. Of the counties in 2021 Senate District 17: Henry County's BVAP increased by almost 75% in the last decade (to nearly 60%) and Newton County's increased by more than 45% (to almost 50% of the total VAP of the county). Meanwhile, Dekalb and Rockdale Counties, which border Henry and Newton Counties, also have substantial Black populations. For example, Rockdale County is majority Black, and the county's BVAP increased by 53% over the last decade. Senate District 17 was nevertheless drawn in 2021 with a BVAP under 34%.

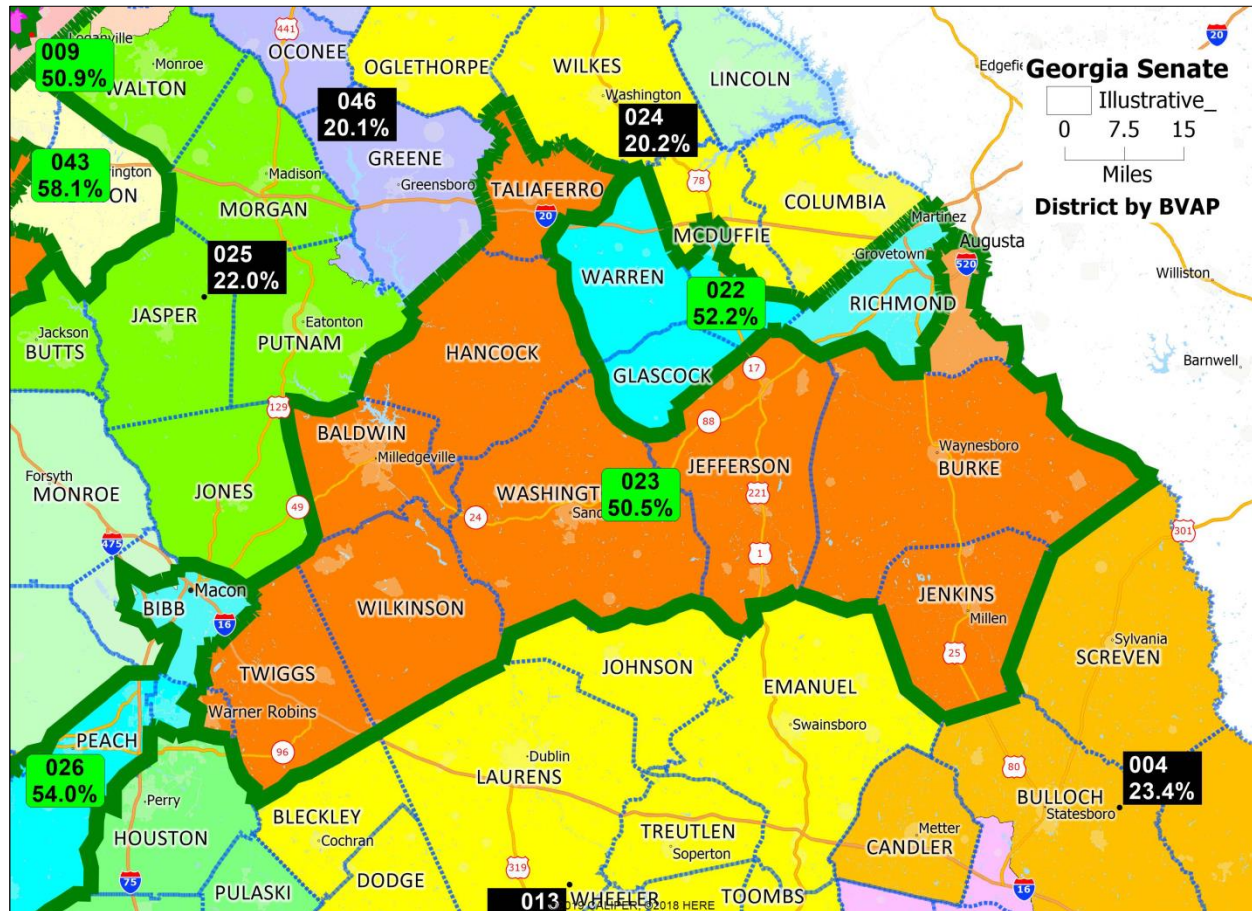
81. A majority-Black Senate District 17 can be drawn around where 2021 Senate Plan District 17 was drawn by “unpacking” the Black population in a number of neighboring districts, including 2021 Senate Plan Districts 10 and 43 (which include parts of Henry, Rockdale, and Newton Counties). Under the 2021 Senate Plan, those two districts were drawn with BVAPs of over 70% and almost 65%, respectively. Unpacking those districts allows a majority-Black Illustrative Senate Plan District 17 to be drawn in Henry as well as Rockdale and Dekalb Counties, “uncracking” the Black population in Henry County that had been drawn into 2021 Senate Plan District 17, which under the 2021 Senate Plan has been combined with predominantly White populations in Walton and Morgan Counties.²⁰

²⁰ In addition, the Illustrative Senate Plan places the booming Black population of Newton County in another majority-Black district, District 43.

(2) Eastern Black Belt (Region B)

Illustrative District 23 (**Exhibit R-1**) and 2021 Plan District 23 (**Exhibit R-2**)

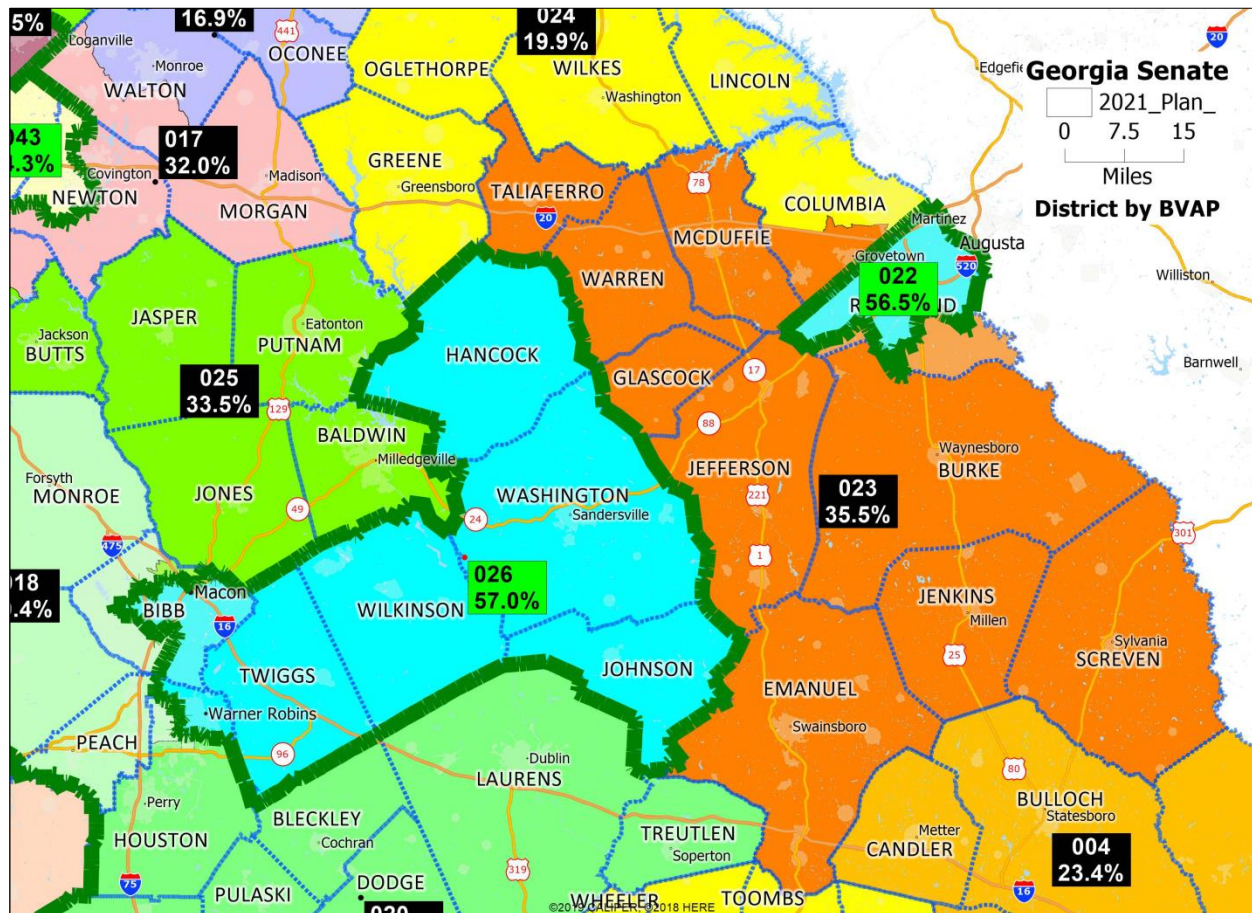
Figure 19: Illustrative District 23 and Vicinity



82. Another additional majority-Black State Senate district can be drawn around where Senate District 23 in the 2021 Senate Plan was drawn. Senate District 23 as drawn in the 2021 Senate Plan lies around the City of Augusta, including outlying parts of Richmond County and a number of surround Black Belt counties in the larger Augusta region, including Burke, Jefferson, Warren, and Taliaferro Counties. As noted already, the Black population in that region has increased,

although that growth has been offset by White population decline. Senate District 23 was drawn with a BVAP of under 36%.

Figure 20: 2021 Plan District 23 and Vicinity



83. An additional majority-Black State Senate district can be drawn in the Augusta region, around where SD 23 was drawn, by “unpacking” the Black population in Senate District 22 (central Augusta) and Senate District 26 (which includes adjacent Black Belt counties to the west, such as Hancock County) and by “uncracking” the Black populations in Senate District 23 and Senate District 25 (which includes additional contiguous Black Belt counties such as Baldwin

County). This more even distribution allows a majority-Black Illustrative Senate Plan District 23 to be drawn in the area including Richmond County and much of the Augusta-area Black Belt counties, “uncracking” the Black population that had been drawn into 2021 Senate Plan District 23.

C. Supplemental Plan Information

84. Compactness scores for the Illustrative Senate Plan are within the norm. The **Exhibit S** series contains compactness scores generated by the software program Maptitude for Redistricting.

85. The table in **Figure 21** (condensed from the Exhibit S series) reports Reock²¹ and Polsby-Popper²² scores for the Illustrative Senate Plan (**Exhibit S-1**), alongside scores for the 2014 Benchmark Senate Plan (**Exhibit S-2**) and the 2021 Senate Plan (**Exhibit S-3**).

²¹ “The Reock test is an area-based measure that compares each district to a circle, which is considered to be the most compact shape possible. For each district, the Reock test computes the ratio of the area of the district to the area of the minimum enclosing circle for the district. The measure is always between 0 and 1, with 1 being the most compact. The Reock test computes one number for each district and the minimum, maximum, mean and standard deviation for the plan.” Caliper Corporation, *Maptitude For Redistricting* Software Documentation.

²² The Polsby-Popper test computes the ratio of the district area to the area of a circle with the same perimeter: $4\pi\text{Area}/(\text{Perimeter}^2)$. The measure is always between 0 and 1, with 1 being the most compact. The Polsby-Popper test computes one number for each district and the minimum, maximum, mean and standard deviation for the plan. See Caliper Corporation, *Maptitude For Redistricting* Software Documentation.

Figure 21

**Compactness Scores – Illustrative Senate Plan and
2014 Benchmark and 2021 Senate Plans**

	Reock			Polsby-Popper	
	Mean	Low		Mean	Low
Illustrative Senate Plan	.38	.17		.25	.11
2014 Benchmark Senate Plan	.43	.14		.27	.11
2021 Senate Plan	.42	.18		.29	.12

86. **Exhibit T-1** contains a county and VTD split report generated by Maptitude for all districts in the Illustrative Senate Plan. See also **Exhibit T-2** (2014 Benchmark Senate Plan) and **Exhibit T-3** (2021 Senate Plan).

87. County and VTD splits are within the norm for a typical legislative plan. The table in **Figure 22** summarizes county and 2020 VTD splits under the Illustrative Senate Plan, the 2014 Benchmark Senate Plan, and the 2021 Senate Plan.

Figure 22

**County and VTD Splits – Illustrative Plan versus
2014 Benchmark and 2021 Senate Plans**

	County Splits (Populated)	Unique County- District Combinations	2020 VTD Splits (Populated)
Illustrative Senate Plan	33	59	54
2014 Benchmark Senate Plan	38	65	84
2021 Senate Plan	29	63	37

88. Based on incumbent address information obtained from the Redistricting Data Hub, the following districts in the Illustrative Senate Plan may have incumbent conflicts: 20 and 56.

89. Based on incumbent address information obtained from the Redistricting Data Hub, the following districts in the 2021 Senate Plan may have incumbent conflicts: 13 and 52.

D. Online Interactive Map

90. The Illustrative Senate Plan can also be viewed online in detail on the *Dave's Redistricting Application* (DRA) website via the link below.

<https://davesredistricting.org/join/f029239b-b5cc-444a-89cb-6409f92d8eb9>.

V. HOUSE – HISTORICAL BENCHMARK PLANS AND 2021 PLAN

A. Majority-Black House Districts – 1990s Plan to 2021 Plan

91. As shown in **Figure 23**, and despite the significant growth in Georgia’s Black population over the past two decades discussed earlier in this report, the number of majority-Black House districts has climbed by just five districts from 45 (25% of districts) in the 2006 plan to 49 (27.2%) in the 2021 Plan, and has remained more or less static for the last decade.

Figure 23

Number of Majority- Black House Districts by Plan –2000 to 2021

House Plans	Statewide Majority-Black Districts	Metro Atlanta Majority-Black Districts
1990s Plan – 2000 Census	37	22
2006 Plan – 2010 Census	45	30
2012 Plan – 2010 Census	48	32
2015 Plan – 2020 Census	47	31
2021 Plan – 2020 Census	49	33

92. Since the enactment of the 2006 Plan, just three majority-Black districts have been added in Metro Atlanta, even as the Black population in the 29-county area has climbed by over 400,00 persons—the equivalent of nearly seven House districts based on the 2020 ideal district size.

93. Despite the nominal increase in majority-Black House districts since 2006, **Figure 24** reveals that the percentage of Black Georgians of voting age in

majority-Black House districts is only slightly higher than in the 1990s (52% vs. 45%). Under the 2021 Plan, the percentage of the NH White population in majority-White districts is down from the 1990s (76% vs. 90%). Still, as with the Senate, given the 25-point Black-White gap, Black populations are disproportionately “cracked” or divided into majority-White districts in the House as well.

Figure 24

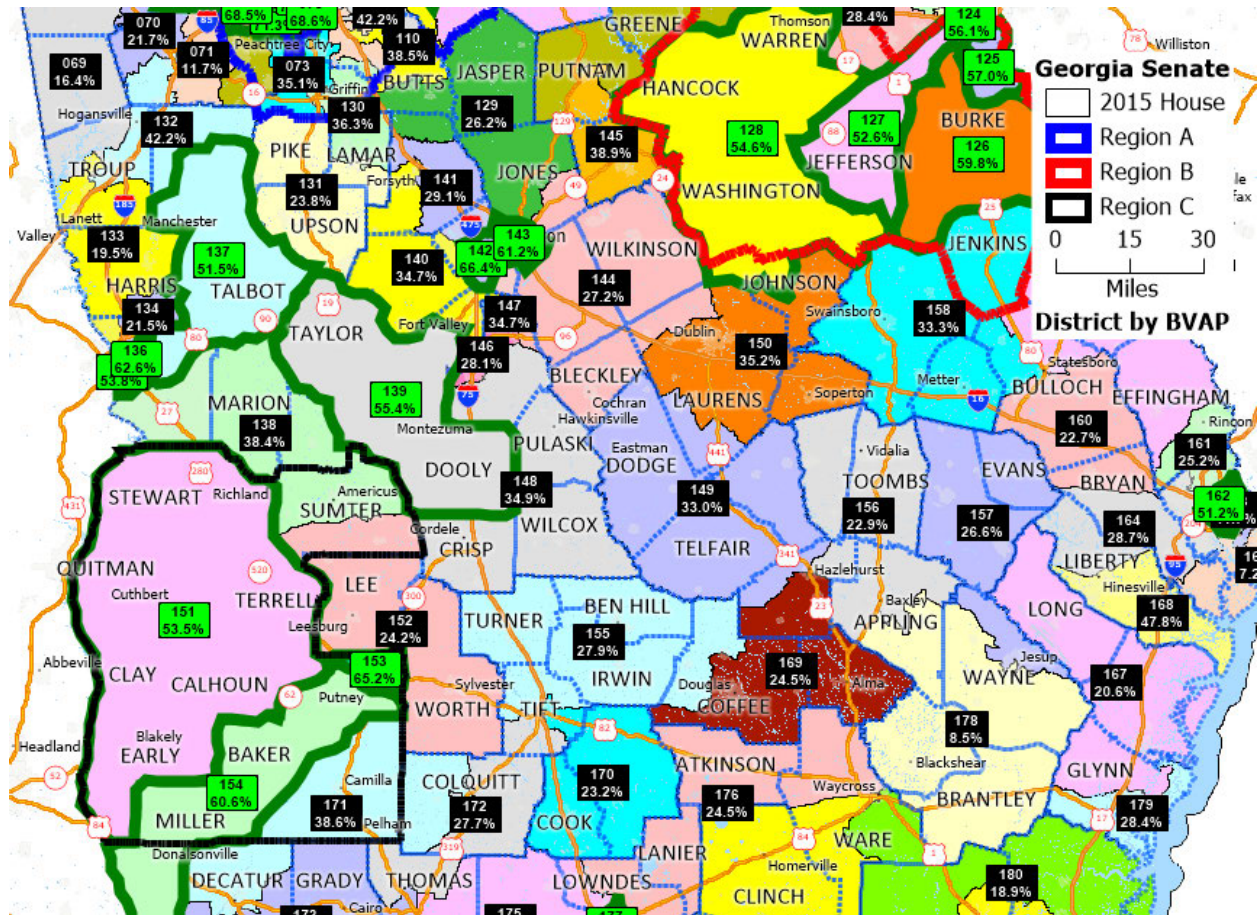
**Same Race VAP in Majority-Black and Majority NH White Districts—
2000 to 2021**

House Plans	Statewide % Black VAP in Majority- Black Districts*	Statewide %NH White VAP in Majority-White Districts
1990s Plan – 2000 Census	44.81%	90.49%
2006 Plan – 2010 Census	44.61%	83.73%
2015 Plan – 2020 Census	47.94%	77.6%
2021 Plan – 2020 Census	51.65%	76.16%

*Including Districts that are both BVAP- and BCVAP-majority.

B. 2015 Benchmark House Plan

94. The map in **Figure 25** displays 2015 Benchmark House Plan districts in south Metro Atlanta (Region A) and in the eastern and western Black Belt (Regions B and C). Labels on the map display the district number and the BVAP percentages, according to the 2020 Census. Green labels and borders identify majority-Black districts.

Figure 25: 2015 Benchmark House Plan – Regions A, B, and C

95. The map depicted in **Figure 25** is also included as **Exhibit U**.

96. **Exhibit V-1** contains a map packet depicting the Benchmark 2015 House Plan, with corresponding Census 2010 statistics, prepared by GLCRO. **Exhibit V-2** shows the map for the prior 2012-enacted House plan, and **Exhibit V-3** shows the map for the House plan enacted in 2006.

97. **Exhibit W-1** is a table reporting Census 2020 population statistics for the 180 districts in the 2015 Benchmark House Plan, as well as CVAP estimates

from the 5-year 2015-2019 Special Tabulation.²³ **Exhibits W-2** and **W-3** provide similar population information for the prior, 2012-enacted and 2006-enacted plans.

98. As a result of the dramatic population shifts in Georgia since 2010, the 2015 Benchmark House Plan is severely malapportioned, with an overall deviation of 56.66%, according to the 2020 Census.

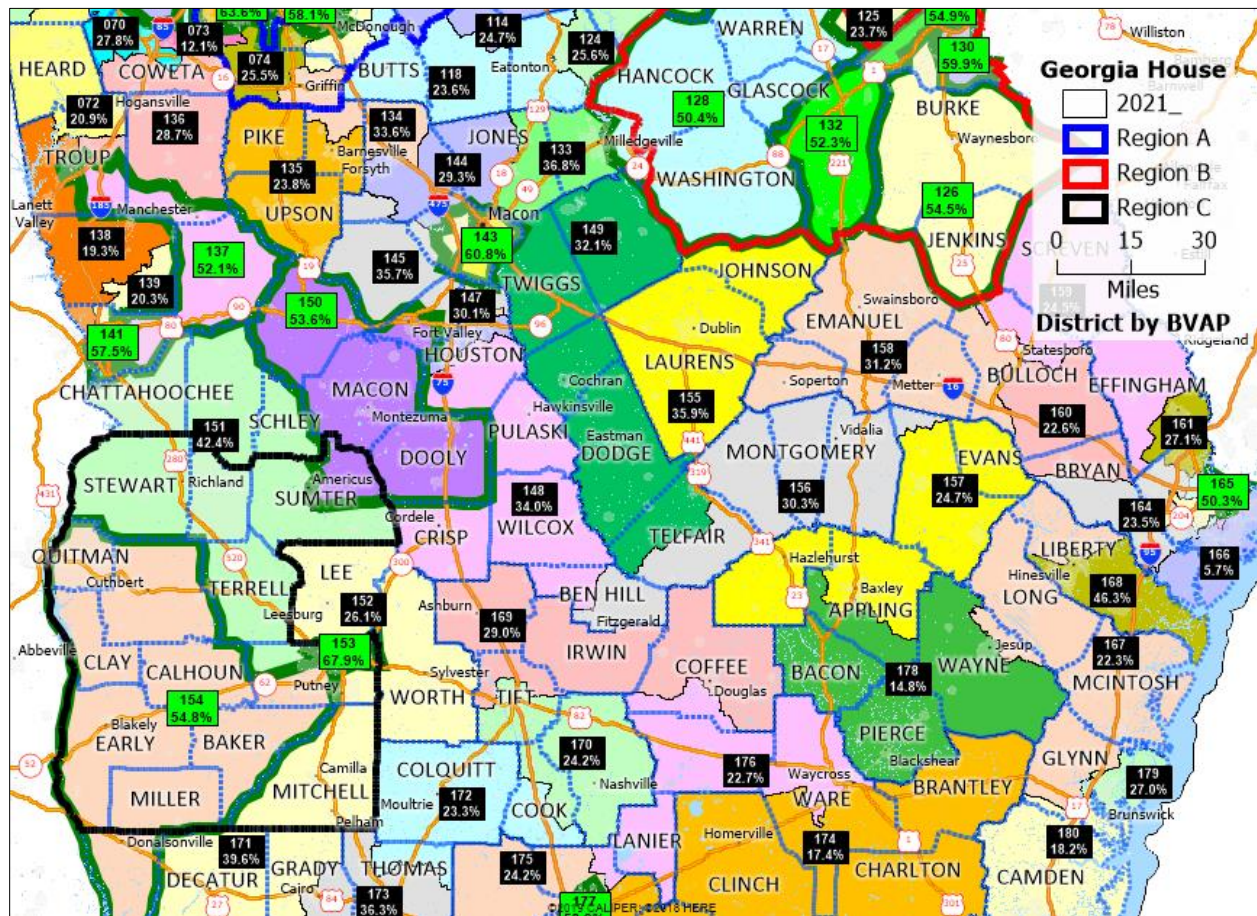
99. The 2015 Benchmark House Plan contains 47 majority-Black districts, with 48 BCVAP-majority districts and 62 districts that are B+L+ACVAP majority.

100. For comparison with the Illustrative House Plan, additional 2015 Benchmark House Plan information regarding compactness scores, county splits, VTD splits, and incumbent conflicts is reported *infra*.

C. 2021 House Plan

101. The map in **Figure 26** displays 2021 House Plan districts in south Metro Atlanta (Region A) and in the eastern and western Black Belt (Regions B and C). Green labels and borders identify majority-Black districts.

²³ <https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.html>.

Figure 26: 2021 Plan – Regions A, B, and C

102. A version of **Figure 26** is included as **Exhibit X**.

103. **Exhibit Y-1** contains a map packet depicting the 2021 House Plan, with corresponding Census 2020 statistics, prepared by GLCRO. **Exhibit Y-2** is a table reporting Census 2020 population statistics for the 180 districts in the 2021 House Plan, as well as CVAP estimates from the 5-year 2015-2019 Special Tabulation.

104. The 2021 House Plan contains 49 majority-Black districts, with 49 BCVAP-majority districts, and 47 that are both BVAP and BCVAP-majority. Sixty-two districts in the 2021 House Plan are majority B+L+ACVAP.

105. For comparison, additional 2021 House Plan information regarding compactness scores, county splits, VTD splits, and incumbent conflicts is reported *infra*.

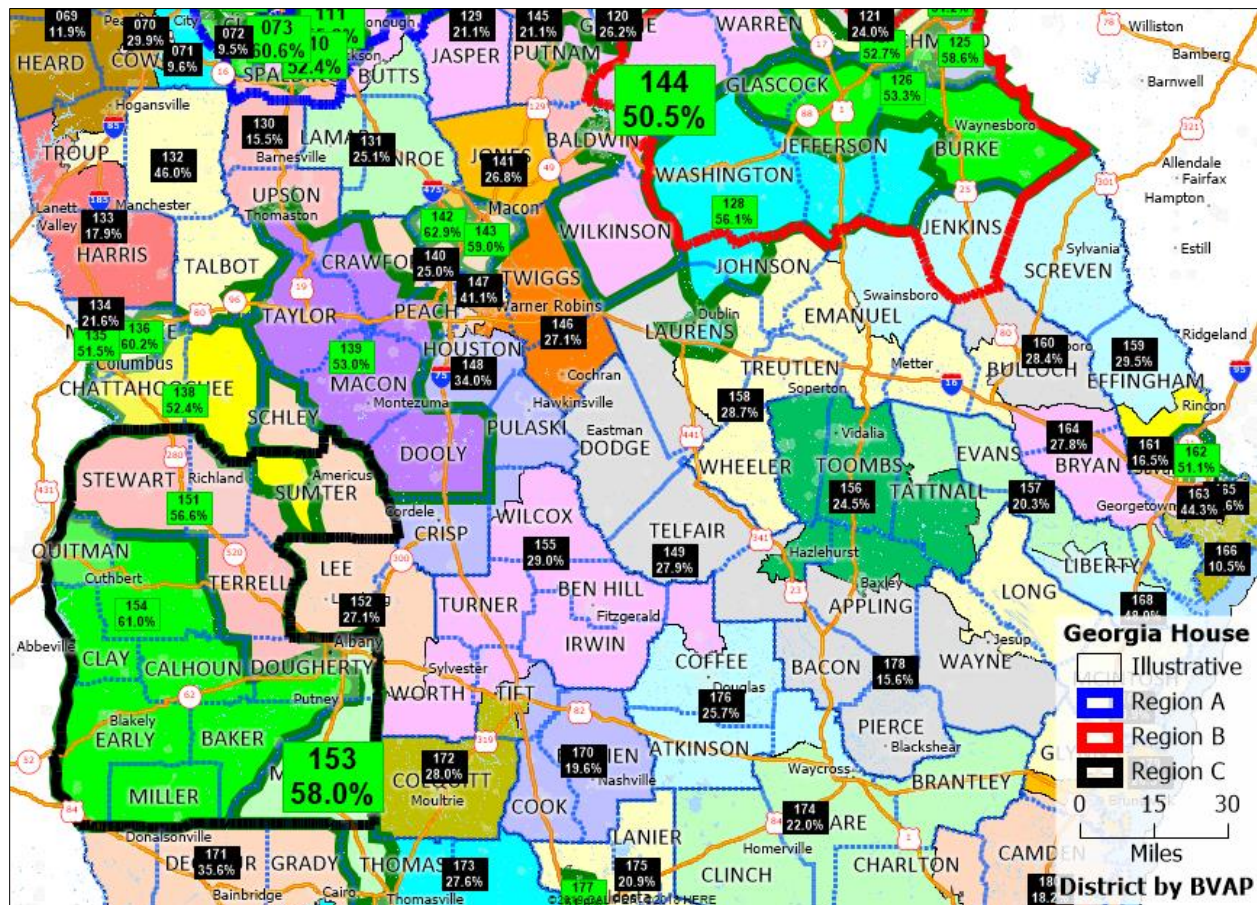
VI. ILLUSTRATIVE HOUSE PLAN

A. Statewide

106. The map in **Figure 27** displays Illustrative House Plan districts, with the map zoomed to identify additional majority Black districts (large green labels) in south Metro Atlanta (Region A) and in the Black Belt (Regions B and C).

Exhibit Z-1 is a higher resolution version of the **Figure 27** map.

Figure 27: Illustrative Plan – New Majority-Black Districts –73, 110, 111, 144, and 153



107. **Exhibit Z-2** is a table reporting Census 2020 population statistics for the 180 districts in the Illustrative House Plan, as well as CVAP estimates from the 5-year 2015-2019 Special Tabulation.²⁴

108. The Illustrative House Plan contains 54 majority-Black districts (BVAP), with 54 majority-BCVAP districts and 53 that are both BVAP and BCVAP-majority. Sixty-nine districts in the Illustrative House Plan are majority B+L+ACVAP.

109. **Exhibit AA** contains detailed maps for the 53 districts that are both BVAP and BCVAP-majority under the Illustrative House Plan, including the additional majority-Black districts in the Illustrative Plan.

B. Additional Majority Black Districts in the Illustrative Plan

110. The text descriptions of four of the additional majority-Black districts in the Illustrative House Plan set forth below are illustrated with paired comparison map exhibits, depicting the Illustrative House Plan and 2021 House Plan at the same scale. For ease of reference, these side-by-side pairings are also included in Exhibits as marked below.

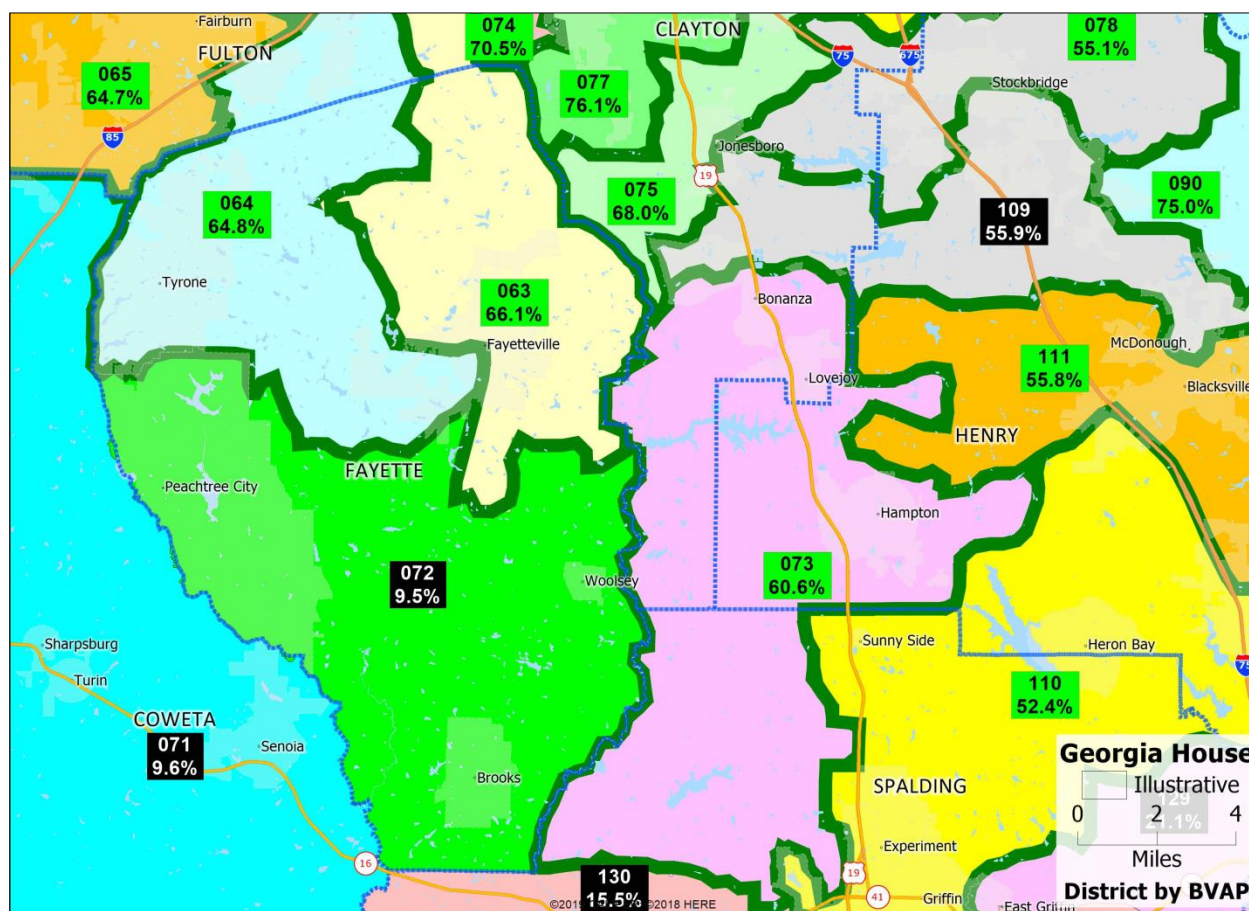
²⁴ <https://www.census.gov/programs-surveys/decennial-census/about/voting-rights/cvap.html>.

111. In these maps, majority-Black districts are outlined with bold green boundaries and green labels.

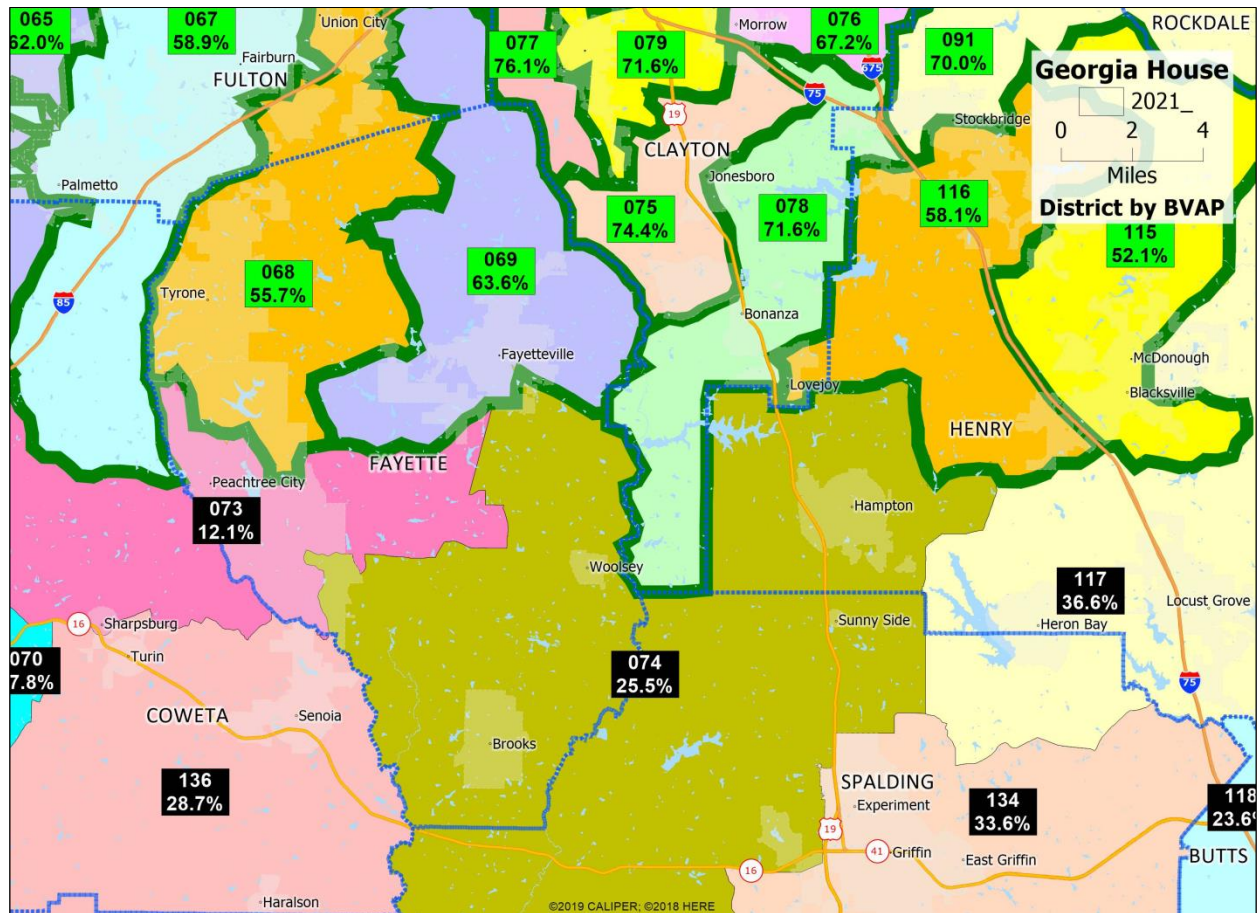
(1) South Metro Atlanta (Region A)

Illustrative District 73 (**Exhibit AB-1**) & 2021 Plan District 74 (**Exhibit AB-2**)

Figure 28: Illustrative Plan District 73 and Vicinity



112. House District 74 in the 2021 House Plan lies in the south Atlanta Metro area and includes parts of Fayette, Spalding, and Henry Counties. The BVAP of the district as drawn is under 26%.

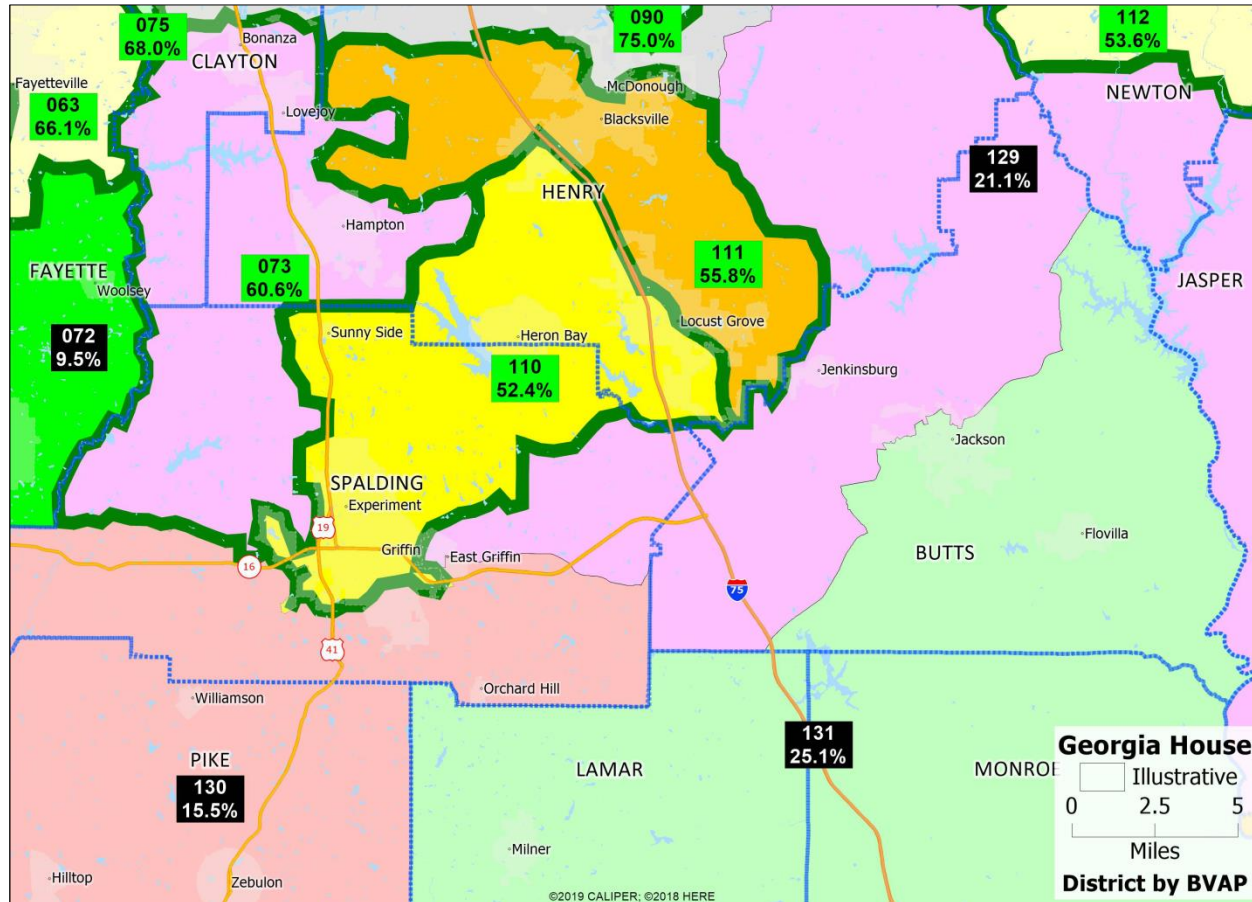
Figure 29: 2021 Plan District 74 and Vicinity

113. An additional majority-Black House District could have been drawn in that area by “unpacking” the Black population in (among others) 2021 House Plan District 78 (which stretches into Clayton County) and “uncracking” the Black population in House Districts 74 and 117, both of which include counties such as Henry County that have seen substantial Black population growth and are now themselves majority Black. Unpacking those districts allows a majority-Black

Illustrative House Plan District 73 to be drawn in Henry, Spalding, and a neighboring part of Clayton County.²⁵

Illustrative District 110 (**Exhibit AC-1**) & 2021 Plan District 117 (**Exhibit AC-2**)

Figure 30: Illustrative Plan: District 110 and vicinity

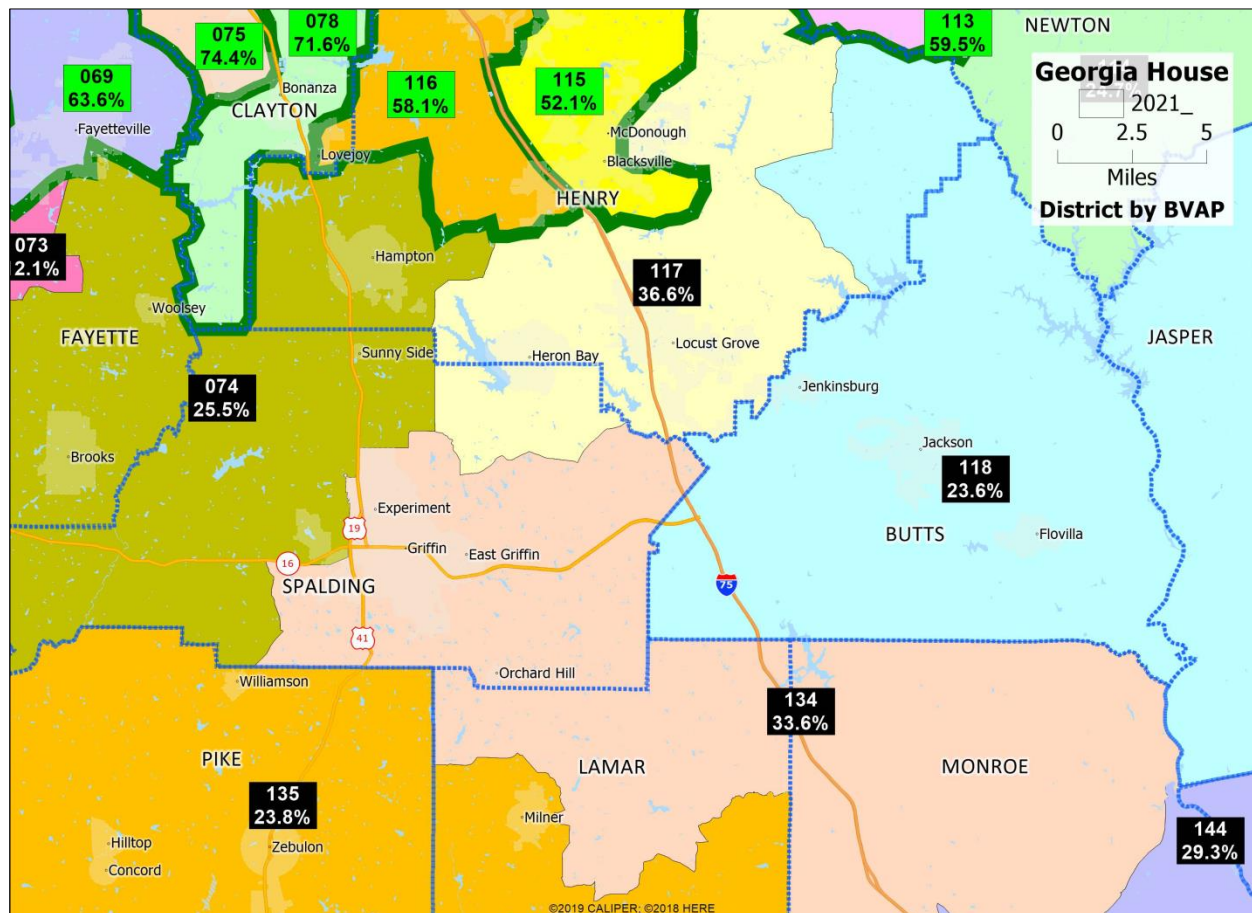


114. At least one additional majority-Black House district can be drawn around where House District 117 in the 2021 House Plan was drawn. House

²⁵ As shown on the **Figure 28** map, Illustrative House Plan District 109 in Henry and Clayton Counties is majority-BVAP (55.9%), but is just barely below the 50% BCVAP threshold (49.97% BCVAP).

District 117 in the 2021 House Plan lies in the south Atlanta Metro area and includes parts of Henry and Spalding Counties. The BVAP of the district as drawn is just under 37%, and the BVAP of the neighboring district that includes the rest of Spalding County, District 134, is just almost 34%.

Figure 31: 2021 Plan: District 117 and Vicinity



115. At least one additional majority-Black House District could have been drawn in that area by (among other things) “unpacking” the Black population in 2021 House Plan District 116 (which includes part of Henry County just to the north, closer in to the center of the Metro Atlanta area) and “uncracking” the Black

populations in House Districts 117 and 134, bringing more of the growing Black populations in Henry and Spalding Counties into majority-Black districts.

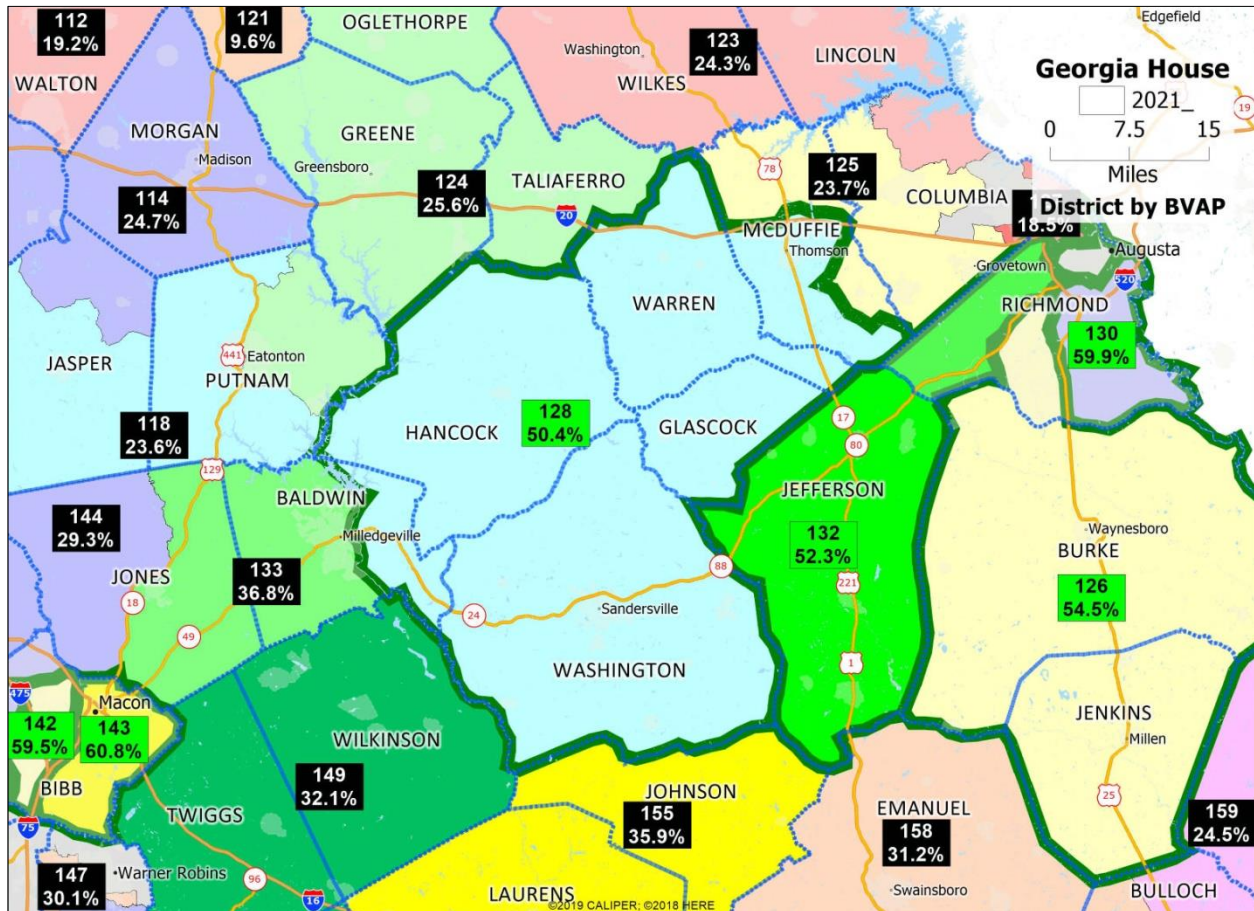
Unpacking those districts allows, among other things, for a majority-Black

Illustrative House Plan District 110 to be drawn in Henry and Spalding.²⁶

²⁶ The Illustrative House Plan includes another majority-Black district, which could be characterized as District 111, in Henry County, or District 112, in the area around Newton County near where 2021 House Plan District 114 was drawn. District 112 could have been drawn by “unpacking” the Black population in (among others) House District 92 (which includes parts of Rockdale and Dekalb counties) and thus “uncracking” the Black population in House District 114. Both districts are depicted in the **Exhibit AA** series.

Richmond County), as well as Districts 128, 131, and 132.

Figure 33: 2021 Plan: Districts 133, 149 and eastern Black Belt



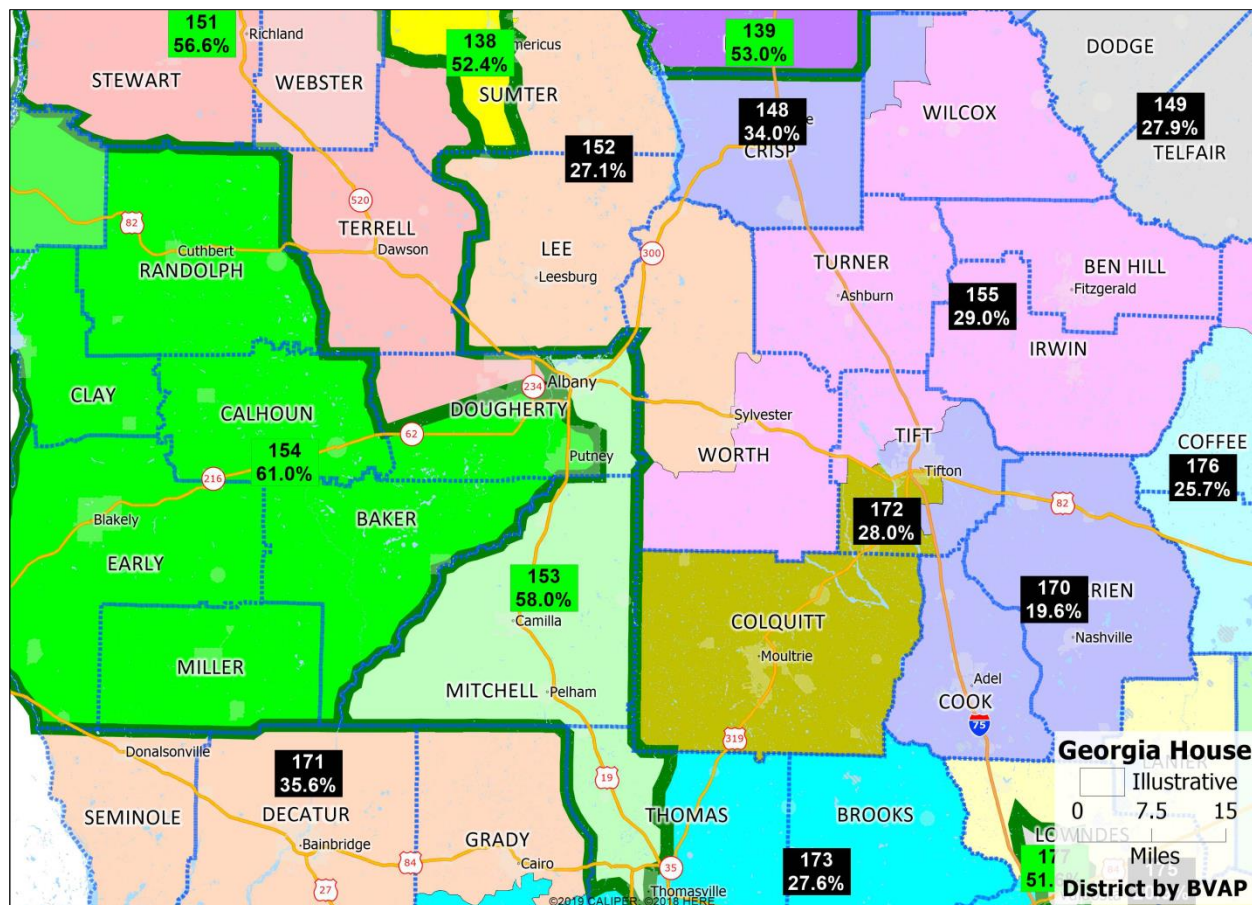
117. An additional majority-Black district could have been drawn in this area by (among other things) “unpacking” the Black populations of those majority-Black districts in the 2021 House Plan and also “uncracking” parts of other districts in the 2021 House Plan, such as District 133 (which includes parts of Baldwin County and Milledgeville) and 155 (which includes Wilkinson County), where there are substantial populations of Black voters who have been drawn into districts with BVAPs of between 35 and 40%. Looking at the Augusta region as a whole, it is

possible to draw six total majority-Black districts, as with Illustrative House Plan Districts 124, 125, 126, 127, 128, and 144. Illustrative House Plan District 144, in particular, includes substantial number of Black voters from the Augusta region who are spread across non-majority-Black districts in the 2021 House Plan.

(3) Western Black Belt (Region C)

Illustrative District 153 (**Exhibit AE-1**) and 2021 Plan District 171 (**Exhibit AE-2**)

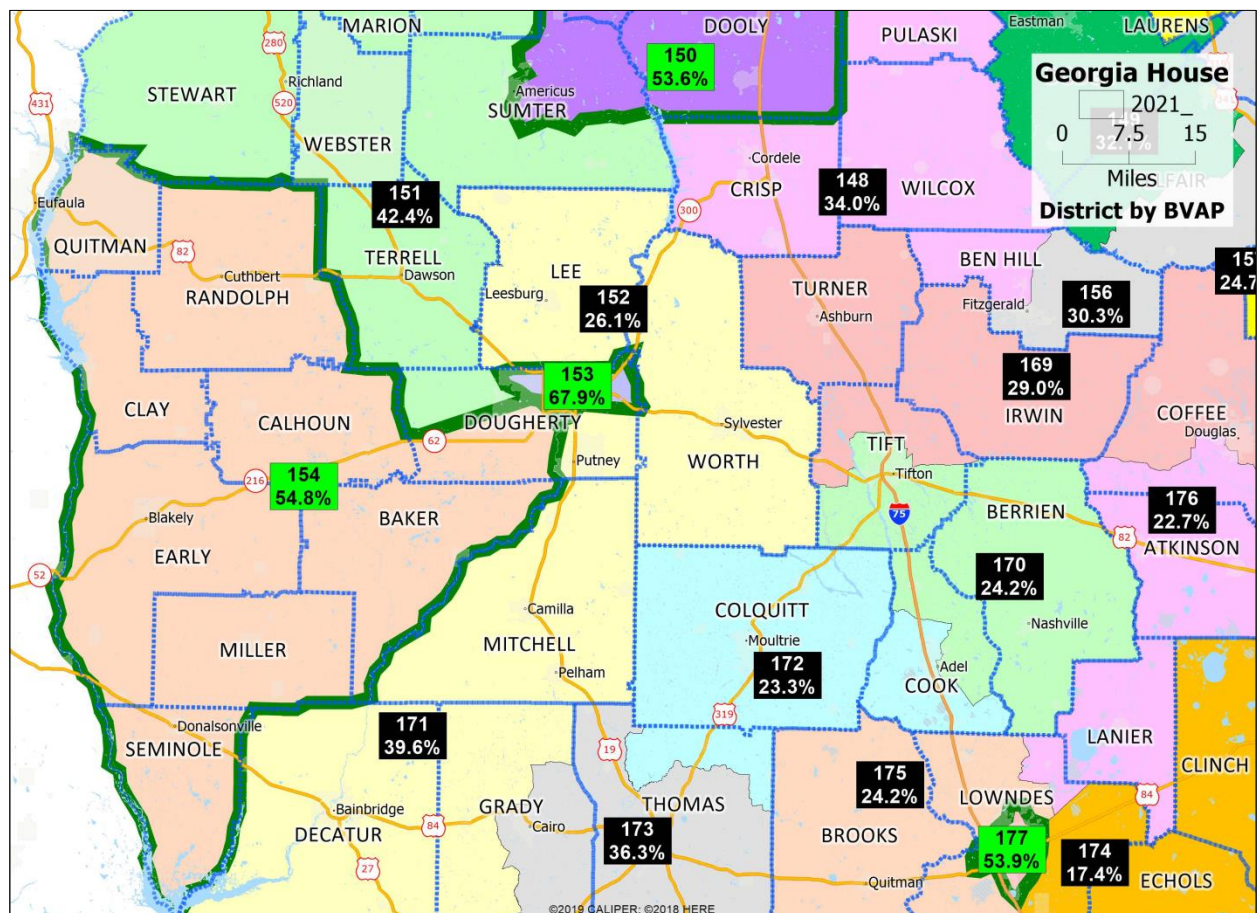
Figure 34: Illustrative Plan: District 153 and vicinity



118. An additional majority-Black House District could also have been drawn in the area south of Albany, including Dougherty, Mitchell, and Thomas

Counties, all of which are in the southwestern portion of the Black Belt, near where House District 171 in the 2021 House Plan was drawn. The BVAP of 2021 House Plan District 171, which contains Mitchell County, is just under 40%. In addition, the BVAP of neighboring 2021 House Plan District 173, which includes Thomas County, is similarly just over 36%. And nearby Dougherty County, which contains the majority-Black City of Albany, is split among four districts in the 2021 House Plan, two of which (2021 House Plan Districts 151 and 152) have no Black majority, and one of which (2021 House Plan District 153) is nearly 70% Black.

Figure 35: 2021 Plan: District 151, 153, 171 and Vicinity



119. In sum, another additional majority-Black House District could have drawn in southwest Georgia by “unpacking” the Black population in 2021 House Plan District 153 and “uncracking” the Black populations in 2021 House Plan Districts 171 and 173. Unpacking those districts allows a majority-Black Illustrative House Plan District 153 to be drawn including part of Dougherty, Mitchell, and Thomas Counties.

120. Looking at the southwest Georgia/western Black Belt region as a whole, it is possible to draw seven total majority-Black districts, as with Illustrative House Plan Districts 135, 136, 138, 139, 151, 153, and 154. However, the 2021 House Plan contains only six: 2021 House Plan Districts 137, 140, 141, 150, 153, and 154.

C. Supplemental Plan Information

121. Compactness scores for the Illustrative House Plan are within the norm. **Exhibits BB-1** contains compactness scores generated by Maptitude for all districts in the Illustrative House Plan, alongside scores for the 2015 Benchmark House Plan (**Exhibit BB-2**) and the 2021 House Plan (**Exhibit BB-3**).

122. The table in **Figure 36** (condensed from the **Exhibit BB** series) reports Reock and Polsby-Popper scores for the Illustrative House Plan, alongside scores for the 2015 Benchmark House Plan and the 2021 House Plan.

Figure 36

**Compactness Scores – Illustrative House Plan vs 2014 Benchmark
and 2021 House Plans**

	Reock			Polsby-Popper	
	Mean	Low		Mean	Low
Illustrative House Plan	.39	.16		.27	.11
2014 Benchmark House Plan	.39	.13		.27	.09
2021 House Plan	.39	.12		.28	.10

123. In my experience, the compactness scores for the Illustrative Plan are clearly within the normal range for a state legislative plan.

124. County and VTD splits are also within the norm for a typical legislative plan. The table in **Figure 37** summarizes county and 2020 VTD splits under the Illustrative Plan, the 2015 Plan, and the 2021 Plan.

Figure 37

County and VTD Splits – Illustrative Plan vs 2006 and 2015 Plans

	County Splits (Populated)	Unique County- District Combinations	2020 VTD Splits (Populated)
Illustrative House Plan	74	206	262
2015 Benchmark House Plan	73	215	232
2021 House Plan	70	211	179

125. **Exhibit AF-1** contains a county and VTD split report generated by Maptitude for all districts in the Illustrative House Plan. *See also* **Exhibit AF-2** (2015 Benchmark House Plan) and **Exhibit AF-3** (2021 House Plan).

126. Based on incumbent address information obtained from the Redistricting Data Hub²⁷, the following 8 districts in the Illustrative House Plan may have incumbent conflicts: 015, 029, 138, 141, 148, 149, 154, and 173.

127. Based on incumbent address information obtained from the Redistricting Data Hub, the following 15 districts in the 2021 House Plan may have incumbent conflicts: 019, 021, 031, 045, 054, 062, 087, 100, 101, 106, 118, 132, 133, 154, and 176.

128. **Exhibit AG-1** contains a table showing the district number for all Senate incumbents under the 2014 Benchmark, 2021, and Illustrative Senate Plans.

Exhibit AG-2 contains a table showing the district number for all House incumbents under the 2015 Benchmark, 2021, and Illustrative House Plans

D. Illustrative Plan – Online Interactive Map

129. The Illustrative Plan can also be viewed online in detail on the *Dave's Redistricting Application* (DRA) website via the link below.

<https://davesredistricting.org/join/360e975b-5f46-47f3-bb2e-37385155f028>

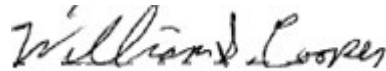
²⁷ <https://redistrictingdatahub.org/dataset/2021-ga-state-senate-incumbent-addresses/>.

###

I reserve the right to continue to supplement my declaration in light of additional facts, testimony and/or materials that may come to light.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury of the laws of the United States that the foregoing is true and correct according to the best of my knowledge, information and belief.

Executed on January 7, 2022:

A handwritten signature in dark ink, appearing to read "William S. Cooper", is written above a horizontal line.

WILLIAM S. COOPER

REVISED EXHIBIT O

Georgia State Senate --Illustrative Plan

		% 2020		18+ AP	% 18+ AP	18+_NH	% 18+ NH	2015-19	2015-19	2015-19	2015-19	2015-19	2015-19	
District	2020 Pop.	Deviation	18+ Pop	Black	Black	White	White	BCVAP*	LCVAP*	ACVAP*	CVAP*	CVAP*	Incumbents	
001	190422	-0.45%	145737	37684	25.86%	88176	60.50%	24.69%	6.29%	2.52%	33.50%	65.14%	1	
002	193187	0.99%	153029	71064	46.44%	62214	40.66%	52.60%	4.26%	1.50%	58.37%	40.79%	1	
003	189593	-0.88%	147133	27905	18.97%	105980	72.03%	20.79%	3.07%	1.31%	25.18%	73.98%	1	
004	189778	-0.79%	144615	33866	23.42%	98287	67.96%	24.08%	2.63%	0.95%	27.65%	71.69%	1	
005	189565	-0.90%	138831	42588	30.68%	29419	21.19%	37.68%	17.32%	11.14%	66.15%	32.70%	1	
006	192162	0.46%	144728	72518	50.11%	38268	26.44%	53.94%	9.79%	2.45%	66.17%	33.41%	1	
007	191638	0.19%	145231	47324	32.59%	83604	57.57%	32.13%	4.00%	1.15%	37.27%	61.87%	1	
008	190960	-0.17%	144081	35029	24.31%	92298	64.06%	26.19%	4.89%	0.46%	31.53%	67.73%	1	
009	190917	-0.19%	139935	71186	50.87%	40414	28.88%	50.27%	6.60%	5.01%	61.89%	37.26%	1	
010	192564	0.67%	150543	105014	69.76%	33702	22.39%	70.00%	2.80%	1.61%	74.42%	24.98%	1	
011	193080	0.94%	146576	43588	29.74%	88210	60.18%	30.87%	3.35%	0.43%	34.65%	64.53%	1	
012	192997	0.90%	150855	86499	57.34%	56492	37.45%	58.64%	1.34%	0.73%	60.71%	38.74%	1	
013	189512	-0.93%	146437	46703	31.89%	91125	62.23%	32.66%	2.21%	0.49%	35.35%	64.19%	1	
014	189408	-0.98%	144804	13381	9.24%	107883	74.50%	9.18%	5.48%	1.39%	16.05%	83.02%	1	
015	190014	-0.66%	144217	73953	51.28%	54825	38.02%	50.56%	5.48%	1.73%	57.77%	40.95%	1	
016	192188	0.47%	147817	28084	19.00%	104658	70.80%	19.45%	3.29%	1.31%	24.05%	74.81%	1	
017	190669	-0.32%	144304	90131	62.46%	44015	30.50%	58.65%	2.75%	1.42%	62.82%	36.47%	1	
018	192402	0.58%	149925	39525	26.36%	98905	65.97%	26.25%	3.12%	1.70%	31.08%	68.10%	1	
019	190681	-0.32%	136842	17295	12.64%	75740	55.35%	12.09%	6.70%	10.58%	29.37%	69.77%	1	
020	190672	-0.32%	144582	44771	30.97%	85398	59.07%	31.82%	3.54%	1.81%	37.17%	62.34%	3	
021	190228	-0.55%	143818	11810	8.21%	103899	72.24%	7.93%	5.29%	4.07%	17.29%	81.94%	1	
022	192096	0.42%	150253	78364	52.15%	58156	38.71%	52.64%	4.12%	1.80%	58.57%	40.48%	1	
023	193019	0.91%	150895	76265	50.54%	66957	44.37%	51.51%	1.90%	0.71%	54.12%	45.58%	0	
024	189380	-1.00%	141326	28529	20.19%	94552	66.90%	19.38%	4.31%	3.00%	26.69%	72.23%	1	
025	193153	0.98%	148510	32688	22.01%	105624	71.12%	22.67%	2.03%	0.76%	25.46%	74.15%	1	
026	191806	0.27%	147242	79463	53.97%	55112	37.43%	55.20%	2.59%	0.91%	58.70%	40.38%	1	
027	192327	0.55%	140032	6859	4.90%	99309	70.92%	3.84%	5.52%	4.74%	14.10%	85.27%	1	
028	189511	-0.93%	144559	76234	52.74%	52312	36.19%	51.25%	4.28%	2.48%	58.01%	41.27%	1	
029	192563	0.67%	148231	32337	21.82%	103502	69.82%	22.52%	2.59%	1.71%	26.81%	72.42%	1	
030	191048	-0.12%	143290	40806	28.48%	86001	60.02%	26.49%	4.17%	0.86%	31.52%	67.30%	1	
031	192838	0.81%	142871	20412	14.29%	108330	75.82%	12.58%	3.78%	0.81%	17.17%	82.28%	1	
032	191998	0.37%	146873	16153	11.00%	101532	69.13%	10.55%	4.88%	6.07%	21.50%	77.60%	1	
033	190485	-0.42%	152184	46655	30.66%	69048	45.37%	31.76%	7.31%	4.64%	43.71%	55.22%	0	
034	192385	0.58%	141537	110176	77.84%	9886	6.98%	81.66%	4.48%	3.15%	89.29%	9.66%	1	
035	190400	-0.46%	144171	91223	63.27%	42330	29.36%	62.32%	3.35%	0.58%	66.25%	33.25%	1	
036	189709	-0.82%	155038	79675	51.39%	56246	36.28%	52.74%	3.72%	2.40%	58.87%	40.48%	1	
037	191504	0.12%	148063	30815	20.81%	94452	63.79%	19.95%	5.42%	3.59%	28.96%	70.24%	1	
038	190975	-0.16%	146599	80528	54.93%	50242	34.27%	55.64%	3.94%	1.59%	61.17%	38.14%	1	
039	192517	0.64%	164280	84589	51.49%	57870	35.23%	55.63%	3.38%	4.57%	63.57%	35.72%	1	
040	190619	-0.35%	148386	25289	17.04%	77864	52.47%	18.21%	5.78%	8.52%	32.50%	66.67%	1	
041	192030	0.39%	143295	72313	50.46%	27568	19.24%	59.17%	5.82%	7.79%	72.78%	26.32%	1	
042	190728	-0.29%	152760	32390	21.20%	86335	56.52%	23.86%	4.26%	5.71%	33.82%	65.21%	1	
043	192877	0.83%	145032	84221	58.07%	48236	33.26%	55.83%	3.82%	0.95%	60.60%	38.61%	1	
044	190473	-0.42%	143652	79117	55.08%	43805	30.49%	52.66%	5.29%	4.82%	62.77%	36.43%	1	
045	189946	-0.70%	143418	36029	25.12%	57640	40.19%	24.68%	9.62%	11.80%	46.09%	53.06%	0	
046	191838	0.29%	154586	31072	20.10%	101026	65.35%	23.54%	3.76%	2.88%	30.17%	69.04%	1	
047	192337	0.55%	143977	14539	10.10%	109022	75.72%	9.56%	4.98%	2.22%	16.76%	82.43%	1	
048	192864	0.83%	146388	22776	15.56%	62046	42.38%	17.14%	7.44%	19.14%	43.72%	55.48%	1	
049	193020	0.91%	146060	11833	8.10%	92038	63.01%	8.83%	12.41%	2.03%	23.26%	75.92%	1	
050	193087	0.94%	151880	16419	10.81%	121009	79.67%	11.88%	3.12%	0.94%	15.94%	83.31%	1	
051	192202	0.48%	157732	2079	1.32%	142041	90.05%	1.44%	2.40%	0.54%	4.38%	94.49%	1	
052	189397	-0.99%	145086	17368	11.97%	106752	73.58%	11.81%	5.27%	0.99%	18.07%	81.27%	1	
053	190553	-0.38%	148171	6801	4.59%	130398	88.01%	4.46%	1.81%	0.73%	7.00%	91.96%	1	
054	189836	-0.76%	143725	4156	2.89%	106459	74.07%	3.23%	9.89%	0.75%	13.87%	83.97%	1	
055	189516	-0.92%	144254	74077	51.35%	42999	29.81%	53.66%	4.69%	6.02%	64.37%	34.69%	1	
056	190234	-0.55%	151878	25818	17.00%	92122	60.66%	18.15%	5.83%	4.34%	28.32%	70.99%	2	
Total 2020 Pop.	10,711,908	1.99%	8,220,274	2,607,986	31.73%	4,342,333	52.82%							

Majority Districts

19

20

21

35

CVAP Source:

* 2015-19 ACS Special Tabulation

Note: Citizen Voting Age Population (CVAP) percentages are disaggregated from block-group level ACS estimates (with a survey midpoint of July 2017)

Source for disaggregation: Redistricting Data Hub

<https://redistrictingdatahub.org/dataset/georgia-cvap-data-disaggregated-to-the-2020-block-level-2019/>

REVISED EXHIBIT S-1

User:

Plan Name: **Ga_Senate_Illustrative_Plan_Actual**Plan Type: **Senate**

Measures of Compactness Report

Sunday, January 9, 2022

8:07 PM

	Reock	Polsby-Popper
Sum	N/A	N/A
Min	0.17	0.11
Max	0.68	0.52
Mean	0.38	0.25
Std. Dev.	0.11	0.08

District	Reock	Polsby-Popper
001	0.40	0.19
002	0.47	0.24
003	0.51	0.31
004	0.45	0.23
005	0.17	0.15
006	0.43	0.23
007	0.42	0.20
008	0.45	0.22
009	0.33	0.21
010	0.32	0.25
011	0.34	0.27

Measures of Compactness Report

Ga_Senate_Illustrative_Plan_A

	Reock	Polsby-Popper
Sum	N/A	N/A
Min	0.17	0.11
Max	0.68	0.52
Mean	0.38	0.25
Std. Dev.	0.11	0.08

District	Reock	Polsby-Popper
012	0.50	0.35
013	0.47	0.27
014	0.42	0.25
015	0.32	0.27
016	0.49	0.26
017	0.37	0.18
018	0.24	0.11
019	0.27	0.27
020	0.35	0.21
021	0.38	0.29
022	0.34	0.19
023	0.35	0.16
024	0.30	0.24
025	0.45	0.24

Measures of Compactness Report

Ga_Senate_Illustrative_Plan_A

	Reock	Polsby-Popper
Sum	N/A	N/A
Min	0.17	0.11
Max	0.68	0.52
Mean	0.38	0.25
Std. Dev.	0.11	0.08

District	Reock	Polsby-Popper
026	0.27	0.15
027	0.50	0.45
028	0.49	0.22
029	0.32	0.23
030	0.43	0.26
031	0.54	0.43
032	0.38	0.26
033	0.42	0.17
034	0.56	0.40
035	0.28	0.21
036	0.19	0.16
037	0.68	0.52
038	0.24	0.17
039	0.22	0.18

Measures of Compactness Report

Ga_Senate_Illustrative_Plan_A

	Reock	Polsby-Popper
Sum	N/A	N/A
Min	0.17	0.11
Max	0.68	0.52
Mean	0.38	0.25
Std. Dev.	0.11	0.08

District	Reock	Polsby-Popper
040	0.34	0.29
041	0.32	0.18
042	0.36	0.25
043	0.45	0.28
044	0.25	0.19
045	0.29	0.24
046	0.39	0.27
047	0.36	0.33
048	0.41	0.24
049	0.57	0.38
050	0.21	0.15
051	0.53	0.36
052	0.48	0.32
053	0.40	0.38

Measures of Compactness Report

Ga_Senate_Illustrative_Plan_A

	Reock	Polsby-Popper
Sum	N/A	N/A
Min	0.17	0.11
Max	0.68	0.52
Mean	0.38	0.25
Std. Dev.	0.11	0.08
District	Reock	Polsby-Popper
054	0.41	0.22
055	0.23	0.13
056	0.26	0.25

Measures of Compactness Report

Ga_Senate_Illustrative_Plan_A

Measures of Compactness Summary

Reock	The measure is always between 0 and 1, with 1 being the most compact.
Polsby-Popper	The measure is always between 0 and 1, with 1 being the most compact.

REVISED EXHIBIT T-1

User:

Plan Name: **Ga_Senate_Illustrative_Plan_Actual**Plan Type: **Senate**

Political Subdivison Splits Between Districts

Sunday, January 9, 2022

8:12 PM

Split Counts

Number of subdivisions split into more than one district: Number of splits involving no population:

County 33 County 0

Number of times a subdivision is split into multiple districts:

County 59

Voting District 58

County	District	Population
<i>Split Counties:</i>		
Bartow GA	014	38,068
Bartow GA	031	9,970
Bartow GA	052	52,270
Bartow GA	054	8,593
Berrien GA	007	5,909
Berrien GA	011	12,251
Bibb GA	018	61,973
Bibb GA	026	95,373
Bryan GA	001	23,062
Bryan GA	004	21,676
Bulloch GA	004	78,285
Bulloch GA	008	2,814
Carroll GA	029	39,161
Carroll GA	030	79,987
Charlton GA	003	1,614
Charlton GA	007	10,904
Chatham GA	001	102,104
Chatham GA	002	193,187
Cherokee GA	014	151,340
Cherokee GA	021	115,280
Clayton GA	028	73,570
Clayton GA	034	139,632
Clayton GA	044	84,393
Cobb GA	006	192,162
Cobb GA	032	191,998
Cobb GA	033	190,485
Cobb GA	037	191,504
Coweta GA	016	62,034
Coweta GA	029	15,255
Coweta GA	035	68,869
DeKalb GA	009	12,903
DeKalb GA	010	116,405
DeKalb GA	017	57,301

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County	District	Population
DeKalb GA	040	140,179
DeKalb GA	041	135,790
DeKalb GA	042	190,728
DeKalb GA	043	35,612
DeKalb GA	055	75,464
Douglas GA	030	52,496
Douglas GA	038	91,741
Fayette GA	016	44,452
Fayette GA	028	74,742
Forsyth GA	019	58,956
Forsyth GA	027	192,327
Fulton GA	021	74,948
Fulton GA	034	52,753
Fulton GA	035	121,531
Fulton GA	036	189,709
Fulton GA	038	99,234
Fulton GA	039	192,517
Fulton GA	040	50,440
Fulton GA	048	95,344
Fulton GA	056	190,234
Gordon GA	052	38,543
Gordon GA	054	19,001
Gwinnett GA	005	189,565
Gwinnett GA	009	178,014
Gwinnett GA	019	131,725
Gwinnett GA	041	56,240
Gwinnett GA	045	189,946
Gwinnett GA	048	97,520
Gwinnett GA	055	114,052
Hall GA	049	193,020
Hall GA	051	10,116
Henry GA	010	76,159
Henry GA	017	84,580
Henry GA	044	79,973
Houston GA	020	89,465
Houston GA	023	17,798
Houston GA	026	56,370
Madison GA	047	21,345
Madison GA	050	8,775
McDuffie GA	022	12,652
McDuffie GA	024	8,980
Muscogee GA	015	184,281
Muscogee GA	029	22,641
Paulding GA	030	58,565
Paulding GA	031	110,096
Putnam GA	025	19,594
Putnam GA	046	2,453

Political Subdivision Splits Between Districts

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County	District	Population
Richmond GA	022	171,345
Richmond GA	023	35,262
Rockdale GA	017	48,788
Rockdale GA	043	44,782
Spalding GA	028	41,199
Spalding GA	044	26,107
Sumter GA	012	22,647
Sumter GA	018	6,969
Walton GA	025	85,093
Walton GA	047	11,580
Whitfield GA	053	13,811
Whitfield GA	054	89,053
<i>Split VTDs:</i>		
Bartow GA	014	11,564
Bartow GA	054	17
Bartow GA	014	39
Bartow GA	052	16,566
Bartow GA	031	6,001
Bartow GA	052	1,436
Bryan GA	001	2,342
Bryan GA	004	1,291
Bryan GA	001	1,443
Bryan GA	004	2,293
Bryan GA	001	1,291
Bryan GA	004	4,165
Bulloch GA	004	12,359
Bulloch GA	008	320
Bulloch GA	004	10,420
Bulloch GA	008	286
Carroll GA	029	267
Carroll GA	030	5,697
Chatham GA	001	1,350
Chatham GA	002	886
Cherokee GA	014	67
Cherokee GA	021	9,994
Cobb GA	006	3,766
Cobb GA	033	406
Cobb GA	006	3,735
Cobb GA	033	1,361
Cobb GA	032	599
Cobb GA	037	3,844
Cobb GA	006	6,260
Cobb GA	033	0
Cobb GA	006	408
Cobb GA	033	9,586
Cobb GA	006	4,220
Cobb GA	033	4,679

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County	District	Population
Cobb GA	006	20
Cobb GA	033	4,314
Cobb GA	006	6,108
Cobb GA	033	18
Cobb GA	006	11,408
Cobb GA	033	1,580
Cobb GA	037	0
Cobb GA	006	1,356
Cobb GA	033	7,239
Coweta GA	016	2,198
Coweta GA	035	967
Coweta GA	016	2,391
Coweta GA	035	2,677
Coweta GA	016	12,601
Coweta GA	035	1,510
Coweta GA	016	3,245
Coweta GA	035	2,690
DeKalb GA	040	775
DeKalb GA	041	4,135
Fayette GA	016	3,333
Fayette GA	028	1,190
Forsyth GA	019	935
Forsyth GA	027	24,923
Fulton GA	021	1,084
Fulton GA	056	2,734
Fulton GA	035	1,388
Fulton GA	038	11
Fulton GA	034	6,151
Fulton GA	035	14
Fulton GA	034	624
Fulton GA	035	35
Gwinnett GA	005	197
Gwinnett GA	009	8,636
Gwinnett GA	009	4,502
Gwinnett GA	045	6,610
Gwinnett GA	009	2,346
Gwinnett GA	045	1,858
Henry GA	010	6,521
Henry GA	017	631
Henry GA	010	4,704
Henry GA	017	1,084
Madison GA	047	278
Madison GA	050	746
Madison GA	047	253
Madison GA	050	1,977
Madison GA	047	4,114
Madison GA	050	68

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County	District	Population
Madison GA	047	86
Madison GA	050	262
McDuffie GA	022	1,902
McDuffie GA	024	45
McDuffie GA	022	3,825
McDuffie GA	024	454
McDuffie GA	022	1,679
McDuffie GA	024	974
McDuffie GA	022	14
McDuffie GA	024	1,286
Paulding GA	030	8,775
Paulding GA	031	5,221
Paulding GA	030	561
Paulding GA	031	21,593
Putnam GA	025	1,990
Putnam GA	046	2,453
Richmond GA	022	6,574
Richmond GA	023	666
Richmond GA	022	2,794
Richmond GA	023	74
Rockdale GA	017	5,131
Rockdale GA	043	5
Rockdale GA	017	428
Rockdale GA	043	10,539
Sumter GA	012	153
Sumter GA	018	2,528
Sumter GA	012	6,105
Sumter GA	018	12
Sumter GA	012	5,204
Sumter GA	018	422
Walton GA	025	2,859
Walton GA	047	1,578
Walton GA	025	1,388
Walton GA	047	3,912