

Expert Report of Sean P. Trende

in *Singleton, et al., v. Allen*;
Milligan, et al., v. Allen;
Caster, et al., v. Allen

Aug. 4, 2023

1 Expert Qualifications

1.1 Career

I serve as Senior Elections Analyst for Real Clear Politics. I joined Real Clear Politics in January of 2009 after practicing law for eight years. I assumed a fulltime position with Real Clear Politics in March of 2010. Real Clear Politics is a company of approximately 50 employees, with its main offices in Washington D.C. It produces one of the most heavily trafficked political websites in the world, which serves as a one-stop shop for political analysis from all sides of the political spectrum and is recognized as a pioneer in the field of poll aggregation. Real Clear Politics produces original content, including both data analysis and traditional reporting. It is routinely cited by the most influential voices in politics, including David Brooks of *The New York Times*, Brit Hume of Fox News, Michael Barone of *The Almanac of American Politics*, Paul Gigot of *The Wall Street Journal*, and Peter Beinart of *The Atlantic*.

My main responsibilities with Real Clear Politics consist of tracking, analyzing, and writing about elections. I collaborate in rating the competitiveness of Presidential, Senate, House, and gubernatorial races. As a part of carrying out these responsibilities, I have studied and written extensively about demographic trends in the country, exit poll data at the state and federal level, public opinion polling, and voter turnout and voting behavior. In particular, understanding the way that districts are drawn and how geography and demographics interact is crucial to predicting United States House of Representatives races, so much of my time is dedicated to that task.

I am currently a Visiting Scholar at the American Enterprise Institute, where my publications focus on the demographic and coalitional aspects of American Politics.

1.2 Publications and Speaking Engagements

I am the author of the 2012 book *The Lost Majority: Why the Future of Government is up For Grabs and Who Will Take It*. In this book, I explore realignment theory.

It argues that realignments are a poor concept that should be abandoned. As part of this analysis, I conducted a thorough analysis of demographic and political trends beginning in the 1920s and continuing through modern times, noting the fluidity and fragility of the coalitions built by the major political parties and their candidates.

I also co-authored the 2014 *Almanac of American Politics*. The *Almanac* is considered the foundational text for understanding congressional districts and the representatives of those districts, as well as the dynamics in play behind the elections. PBS's Judy Woodruff described the book as "the oxygen of the political world," while NBC's Chuck Todd noted that "Real political junkies get two *Almanacs*: one for the home and one for the office." My focus was researching the history of and writing descriptions for many of the newly-drawn districts, including tracing the history of how and why they were drawn the way that they were drawn. Because the 2014 *Almanac* covers the 2012 elections, analyzing how redistricting was done was crucial to my work. I have also authored a chapter in Larry Sabato's post-election compendium after every election dating back to 2012.

I have spoken on these subjects before audiences from across the political spectrum, including at the Heritage Foundation, the American Enterprise Institute, the CATO Institute, the Bipartisan Policy Center, and the Brookings Institution. In 2012, I was invited to Brussels to speak about American elections to the European External Action Service, which is the European Union's diplomatic corps. I was selected by the United States Embassy in Sweden to discuss the 2016 elections to a series of audiences there and was selected by the United States Embassy in Spain to fulfill a similar mission in 2018. I was invited to present by the United States Embassy in Italy, but was unable to do so because of my teaching schedule.

1.3 Education

I am currently enrolled as a doctoral candidate in political science at The Ohio State University. I have completed all my coursework and have passed comprehensive

examinations in both methods and American Politics. As of this writing, my dissertation has been approved for defense by my committee, and awaits formatting review. Chapter 3 of the dissertation involves the use of communities of interest in redistricting simulations. In pursuit of this degree, I have also earned a Master's Degree in Applied Statistics. My coursework for my Ph.D. and M.A.S. included, among other things, classes on G.I.S. systems, spatial statistics, issues in contemporary redistricting, machine learning, non-parametric hypothesis tests and probability theory.

In the winter of 2018, I taught American Politics and the Mass Media at Ohio Wesleyan University. I taught Introduction to American Politics at The Ohio State University for three semesters from Fall of 2018 to Fall of 2019, and again in Fall of 2021. In the Springs of 2020, 2021, 2022 and 2023, I taught Political Participation and Voting Behavior at The Ohio State University. This course spent several weeks covering all facets of redistricting: how maps are drawn, debates over what constitutes a fair map, measures of redistricting quality, and similar topics.

1.4 Prior Engagements and Court Appointments

A full copy of all cases in which I have testified or been deposed is included on my c.v, attached as Exhibit 1. In 2021, I served as one of two special masters appointed by the Supreme Court of Virginia to redraw the districts that will elect the Commonwealth's representatives to the House of Delegates, state Senate, and U.S. Congress in the following decade. The Supreme Court of Virginia accepted those maps, which were praised by observers from across the political spectrum. *E.g.*, "New Voting Maps, and a New Day, for Virginia," *The Washington Post* (Jan. 2, 2022), available at <https://www.washingtonpost.com/opinions/2022/01/02/virginia-redistricting-voting-maps-gerry-mandee/>; Henry Olsen, "Maryland Shows How to do Redistricting Wrong. Virginia Shows How to Do it Right," *The Washington Post* (Dec. 9, 2021), available at <https://www.washingtonpost.com/opinions/2021/12/09/maryland-virginia-redistricting/>; Richard Pildes, "Has VA Created a New Model for a Reasonably

Non-Partisan Redistricting Process,” *Election Law Blog* (Dec. 9, 2021), available at <https://electionlawblog.org/?p=126216>.

In 2019, I was appointed as the court’s expert by the Supreme Court of Belize. In that case I was asked to identify international standards of democracy as they relate to malapportionment claims, to determine whether Belize’s electoral divisions (similar to our congressional districts) conformed with those standards, and to draw alternative maps that would remedy any existing malapportionment.

I served as a Voting Rights Act expert to counsel for the Arizona Independent Redistricting Commission in 2021 and 2022.

2 Scope of Engagement

I have been retained by the Attorney General of Alabama to evaluate the recently enacted Congressional plan passed by the Alabama legislature and signed by the Governor (“2023 Plan,” “2023 Map,” or “2023 Districts”), and to compare it to the plan passed in 2021 (“2021 Plan”), the illustrative plans submitted by Mr. William Cooper (collectively, “Illustrative Plans”), the four plans submitted by Dr. Moon Duchin (collectively “Duchin Plans”) and the remedial plan suggested by the Voting Rights Act plaintiffs in this case (“Remedial Plan”). Illustrations of these maps are attached as Exhibit 2. I have been retained and am being compensated at a rate of \$450.00 per hour to provide my expert analysis.

3 Data Relied Upon and Construction of Datasets

For purposes of this report, I reviewed and/or relied upon the following materials:

- Block assignment files for the various plans provided through counsel;
- Documents and data referenced in the accompanying R Code and in this Report.

All shapefiles are projected using the WGS 84 projection.

In defining “Black Voting Age Population,” or “BVAP” for purposes of this report, at the instruction of counsel I am using the “any part Black” definition based upon data from the United States Census. That is to say, if a person informs the census that they identify, in whole or in part, as Black, I will count that individual as Black. The voting age population is calculated by summing the members of ethnic groups over the age of 18. Residents are counted as White only if they identify themselves as being White, with no other racial or ethnic identity specified.

All shapefiles are projected using the WGS 84 projection. Calculations are performed using R, a computer programming package that is frequently used for data analysis in the statistics and political science disciplines.

4 Analysis of Maps

4.1 Geographic Compactness

I was first asked to examine the compactness of the 2023 map and to compare it to the 2021 map, the four maps submitted by Dr. Duchin, the seven maps submitted by Mr. Cooper, and the remedial plan suggested by the Voting Rights Act plaintiffs to the Legislature in this case. To simplify the discussion, I use three measures suggested by Dr. Duchin in her earlier report in this matter.

As a threshold matter: Compactness is a complex phenomenon, which does not reduce neatly to a single dimension. Because of this, mathematicians, statisticians, lawyers and political scientists have developed multiple metrics to measure compactness, all of which measure some different aspect of compactness. In other words, it is a bit of misdirection to think about a “preferred” or “best” measure of compactness. Instead, different measures tell us different things about the districts. To be sure, courts may decide that certain aspects of redistricting are more important for legal purposes than others. For example, measures like Reock scores tell us about the degree of distortion of districts

from their centers, which may be more akin to what the framers of the Voting Rights Act had in mind than something like Polsby-Popper, which measures the impact of the “arms and inlets” included in a district. *See, e.g., Webster’s New Twentieth Century Dictionary, Unabridged* 368 (2d ed. 1980) (defining the adjective version of compact as “1. Closely and firmly united, as the particles of solid bodies; solid; dense; as a compact mass of people; a compact body or substance. . . . 5. taking little space; arranged neatly in a small space. 6. Designating or of a relatively small, light, economical model of automobile. Syn. – close, condensed, hard, solid) (including other irrelevant definitions such as 2. Composed of, 3. Held together, 4. Brief, as in “compact discourse). But which aspects of compactness are most relevant to the law is ultimately a legal question, not something that mathematicians or political scientists have any particular insight on.

The first metric is the Reock score, which was the first of the modern metrics developed. The Reock score is the ratio of the area of a district to the area of a circle that bounds the district. As a district more closely resembles a circle, its Reock improves (Reock scores range between zero and one, with one being a perfect score). However, as the district begins to “stretch,” it fills less and less of a bounding circle. Thus, Reock scores punish distended districts, whose lengths are much greater than their width.

However, we can imagine a snakelike district that winds up and down in a tight undulating pattern. It would still fill most of the bounding circle or polygon, but few would consider such a district compact. To address this, students of redistricting will often look to the Polsby-Popper score. Polsby-Popper looks at the area of a circle that has the same perimeter as the district. Thus, as the district adds “arms and inlets,” the perimeter of the district increases, and the area of the circle to which the district is compared also increases. At the same time, Polsby-Popper is largely indifferent to how stretched out a district is. A smooth district that is stretched across an entire state would not suffer, though again, few would consider such a district to be compact.

A related test, described by Dr. Duchin in her expert report is the cut edges metric. One mathematical way to think of a districting plan is as a graph: A collection

of precinct centers/centroids/nodes that are connected by lines (edges) if those precincts are adjacent to each other. Districts are created by removing edges between districts, until a district is completely separated from the graph. The cut edges measure counts the number of edges that are removed, under the theory that a district with a more convoluted boundary would result in more edges being removed. Because it is indifferent to the basic shape of the boundary, cut edges scores are not affected by coastlines, and are less affected by things such as river boundaries (which frequently define the boundaries of counties and municipalities). At the same time, a district that moves through an urban/suburban area may separate more precincts (or census blocks) than one that leaves those areas intact.

In other words, none of these scores should be evaluated in a vacuum or considered the “one true metric” of compactness. The numbers all tell us something different about the geography, and all have weaknesses that a practitioner should be on the lookout for.

The Reock scores for the various plans are provided in the following table:

Reock Scores of Various Maps, Sorted By Average Score									
Map	District 1	District 2	District 3	District 4	District 5	District 6	District 7	Minimum	Average
2023 Map	0.285	0.583	0.466	0.317	0.317	0.477	0.434	0.285	0.411
Illustrative 7	0.186	0.375	0.380	0.598	0.426	0.476	0.360	0.186	0.400
2021 Map	0.413	0.483	0.421	0.325	0.248	0.357	0.475	0.248	0.389
Duchin 4	0.190	0.305	0.442	0.569	0.357	0.296	0.530	0.190	0.384
Duchin 1	0.192	0.304	0.442	0.569	0.357	0.276	0.400	0.192	0.363
Duchin 2	0.185	0.311	0.306	0.451	0.483	0.448	0.322	0.185	0.358
Duchin 3	0.185	0.213	0.322	0.469	0.483	0.368	0.303	0.185	0.335
Illustrative 2	0.187	0.283	0.404	0.271	0.280	0.479	0.388	0.187	0.327
Illustrative 4	0.185	0.326	0.387	0.274	0.280	0.401	0.419	0.185	0.325
Illustrative 3	0.185	0.365	0.466	0.280	0.280	0.402	0.286	0.185	0.324
Illustrative 1	0.188	0.302	0.387	0.271	0.280	0.449	0.367	0.188	0.320
Ps Remedial	0.187	0.229	0.456	0.325	0.248	0.321	0.462	0.187	0.318
Illustrative 6	0.212	0.294	0.406	0.289	0.280	0.275	0.386	0.212	0.306
Illustrative 5	0.171	0.364	0.367	0.274	0.280	0.295	0.227	0.171	0.283

As you can see, the 2023 Map has the highest average Reock score of all the maps that have been proposed, at times substantially so. Of course, one of the weaknesses of averages as a metric is that they can be misleading: One highly compact district can balance out an exceptionally non-compact district. For example, Dr. Duchin is able to balance out her distended version of the 1st District – among the least compact district drawn in any of the plans – by recasting the 4th and 5th districts as near-square districts in the North (in the process, dividing the Cumberland Plateau/Highland Rim area on a North/South axis instead of an East/West axis for the first time in over a century). Thus, I also report the minimum Reock score for the plans. The 2023 map has the most compact “worst district” of every map in the plan.

Finally, note that the plaintiffs’ proposed remedial plan scores among the worst of the plans here.

Next I examine the Polsby-Popper scores:

Polsby-Popper Scores of Various Maps, Sorted By Average Score									
Map	District 1	District 2	District 3	District 4	District 5	District 6	District 7	Minimum	Average
Duchin 2	0.156	0.186	0.227	0.396	0.531	0.248	0.233	0.156	0.282
2023 Map	0.238	0.368	0.352	0.198	0.397	0.185	0.235	0.185	0.282
Duchin 1	0.129	0.161	0.260	0.369	0.383	0.217	0.276	0.129	0.256
Duchin 3	0.156	0.149	0.271	0.322	0.531	0.174	0.183	0.149	0.255
Duchin 4	0.132	0.152	0.260	0.362	0.381	0.191	0.266	0.132	0.249
2021 Map	0.197	0.257	0.247	0.190	0.318	0.154	0.193	0.154	0.222
Illustrative 4	0.160	0.179	0.236	0.221	0.336	0.131	0.236	0.131	0.214
Illustrative 7	0.133	0.192	0.170	0.323	0.386	0.144	0.129	0.129	0.211
Ps Remedial	0.136	0.137	0.265	0.190	0.318	0.111	0.208	0.111	0.195
Illustrative 3	0.161	0.217	0.163	0.124	0.334	0.130	0.150	0.124	0.183
Illustrative 5	0.127	0.194	0.182	0.198	0.334	0.132	0.112	0.112	0.183
Illustrative 1	0.145	0.139	0.143	0.210	0.334	0.155	0.134	0.134	0.180
Illustrative 2	0.136	0.115	0.141	0.210	0.334	0.166	0.126	0.115	0.176
Illustrative 6	0.117	0.110	0.159	0.184	0.335	0.098	0.105	0.098	0.159

Here, the 2023 Map and Duchin’s second map have the same average scores to three decimals, though Dr. Duchin’s map is marginally more compact. At the same time, the 2023 Map’s “worst” district is more compact than the “worst” district in any of the other maps. Note that the Plaintiffs’ proposed remedial map once again scores among the worst of the maps.

Finally, I report the cut edges metric. Here, this is expressed as the fraction of edges kept as a percentage. Since this is a map-wide metric, the individual district descriptions add little to the analysis. Here the 2023 Map also performs well, coming in just behind Dr. Duchin’s second map. Note, however, that the rank order for the “Edges Removed” score is similar to that for the Polsby-Popper score. Although these two metrics are not identical, they are based on similar notions of compactness. Here, Plaintiffs’ Remedial map scores well, although it cuts the exact same number of edges as the 2023 Map, and 16 more than the 2021 Map.

Thus, the 2023 Map is the only map that places in the top three across all three metrics.

Fraction Kept (Lower = Better) Scores of Various Maps, Sorted By Average Score									
Map	District 1	District 2	District 3	District 4	District 5	District 6	District 7	Minimum	Average
Illustrative 6	4567	4567	4567	4567	4567	4567	4567	4567	4567
Illustrative 1	4352	4352	4352	4352	4352	4352	4352	4352	4352
Illustrative 2	4337	4337	4337	4337	4337	4337	4337	4337	4337
Illustrative 5	4142	4142	4142	4142	4142	4142	4142	4142	4142
Illustrative 3	4108	4108	4108	4108	4108	4108	4108	4108	4108
Duchin 3	3774	3774	3774	3774	3774	3774	3774	3774	3774
Illustrative 7	3670	3670	3670	3670	3670	3670	3670	3670	3670
Duchin 4	3540	3540	3540	3540	3540	3540	3540	3540	3540
Duchin 1	3417	3417	3417	3417	3417	3417	3417	3417	3417
Illustrative 4	3416	3416	3416	3416	3416	3416	3416	3416	3416
2023 Map	3246	3246	3246	3246	3246	3246	3246	3246	3246
Ps Remedial	3246	3246	3246	3246	3246	3246	3246	3246	3246
2021 Map	3230	3230	3230	3230	3230	3230	3230	3230	3230
Duchin 2	3127	3127	3127	3127	3127	3127	3127	3127	3127

5 County Splits and Split Counties

Second, I was asked to examine the number of County splits in every plan. The numbers are provided below.

Number of County Splits, by Map	
Map	County Splits
Illustrative 7	5
Duchin 4	6
Illustrative 1	6
Illustrative 3	6
Illustrative 4	6
Illustrative 5	6
2021 Map	6
2023 Map	6
Duchin 2	7
Illustrative 2	7
Illustrative 6	7
Ps Remedial	7
Duchin 1	9
Duchin 3	9

Note that this is distinct from “split counties.” Here, if a county is split more than once, it counts as two splits. The 2023 map, like the 2021 map, performs as well as every plan except for Cooper’s Illustrative 7 plan, and better than the Plaintiffs’ Remedial map and Duchin’s second map, the only two maps from Plaintiffs that score as well or better on the compactness measures listed above.

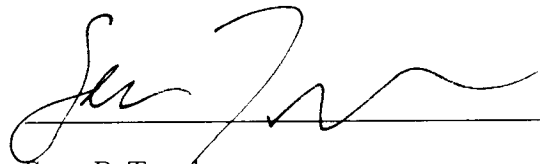
6 Communities of Interest

Third, I was asked to examine three communities of interest: The Black Belt, Mobile/Baldwin counties, and the Wiregrass. First, it is not possible to place all 18 core counties of the Black Belt in a single district, as the counties span the state, and the remaining counties to the south have too many residents to comprise a single district, but too few residents to comprise two districts. However, in the 2023 Map the core Black

Belt counties are entirely contained within two districts (as is the case with the remedial plan). At the same time, unlike Plaintiffs' maps, the proposed map does keep Mobile and Baldwin counties together.

As to the 9 Wiregrass counties, the 2023 Plan places each of them into District 2, with the exception of Covington County, which is split between Districts 1 and 2. Were all of Covington County included in District 2, then District 1 would need to add additional population from the "sometimes" Black Belt counties that are currently included with other Black Belt counties in District 7. Each of Plaintiffs' maps, on the other hand, removes at least two Wiregrass counties from the district in which the remaining Wiregrass counties are placed.

I declare under penalty of perjury under the laws of the State of Ohio that the foregoing is true and correct to the best of my knowledge and belief. Executed on August 3, 2023 in Delaware, Ohio.



Sean P. Trende

Exhibit 1

SEAN P. TRENDE

1146 Elderberry Loop
Delaware, OH 43015
strende@realclearpolitics.com

EDUCATION

Ph.D., The Ohio State University, Political Science, expected 2023.

M.A.S. (Master of Applied Statistics), The Ohio State University, 2019.

J.D., Duke University School of Law, *cum laude*, 2001; Duke Law Journal, Research Editor.

M.A., Duke University, *cum laude*, Political Science, 2001. Thesis titled *The Making of an Ideological Court: Application of Non-parametric Scaling Techniques to Explain Supreme Court Voting Patterns from 1900-1941*, June 2001.

B.A., Yale University, with distinction, History and Political Science, 1995.

PROFESSIONAL EXPERIENCE

Law Clerk, Hon. Deanell R. Tacha, U.S. Court of Appeals for the Tenth Circuit, 2001-02.

Associate, Kirkland & Ellis, LLP, Washington, DC, 2002-05.

Associate, Hunton & Williams, LLP, Richmond, Virginia, 2005-09.

Associate, David, Kamp & Frank, P.C., Newport News, Virginia, 2009-10.

Senior Elections Analyst, RealClearPolitics, 2009-present.

Columnist, Center for Politics Crystal Ball, 2014-17.

Visiting Scholar, American Enterprise Institute, 2018-present.

BOOKS AND BOOK CHAPTERS

Larry J. Sabato, ed., *The Red Ripple*, Ch. 15 (2023).

Larry J. Sabato, ed., *A Return to Normalcy?: The 2020 Election that (Almost) Broke America* Ch. 13 (2021).

Larry J. Sabato, ed., *The Blue Wave*, Ch. 14 (2019).

Larry J. Sabato, ed., *Trumped: The 2016 Election that Broke all the Rules* (2017).

Larry J. Sabato, ed., *The Surge: 2014's Big GOP Win and What It Means for the Next Presidential Election*, Ch. 12 (2015).

Larry J. Sabato, ed., *Barack Obama and the New America*, Ch. 12 (2013).

Barone, Kraushaar, McCutcheon & Trende, *The Almanac of American Politics* 2014 (2013).

The Lost Majority: Why the Future of Government is up for Grabs – And Who Will Take It (2012).

PREVIOUS EXPERT TESTIMONY AND DEPOSITIONS

Dickson v. Rucho, No. 11-CVS-16896 (N.C. Super. Ct., Wake County) (racial gerrymandering).

Covington v. North Carolina, No. 1:15-CV-00399 (M.D.N.C.) (racial gerrymandering).

NAACP v. McCrory, No. 1:13CV658 (M.D.N.C.) (early voting).

NAACP v. Husted, No. 2:14-cv-404 (S.D. Ohio) (early voting).

Ohio Democratic Party v. Husted, Case 15-cv-01802 (S.D. Ohio) (early voting).

Lee v. Virginia Bd. of Elections, No. 3:15-cv-357 (E.D. Va.) (early voting).

Feldman v. Arizona, No. CV-16-1065-PHX-DLR (D. Ariz.) (absentee voting).

A. Philip Randolph Institute v. Smith, No. 1:18-cv-00357-TSB (S.D. Ohio) (political gerrymandering).

Whitford v. Nichol, No. 15-cv-421-bbc (W.D. Wisc.) (political gerrymandering).

Common Cause v. Rucho, No. 1:16-CV-1026-WO-JEP (M.D.N.C.) (political gerrymandering).

Mecinas v. Hobbs, No. CV-19-05547-PHX-DJH (D. Ariz.) (ballot order effect).

Fair Fight Action v. Raffensperger, No. 1:18-cv-05391-SCJ (N.D. Ga.) (statistical analysis).

Pascua Yaqui Tribe v. Rodriguez, No. 4:20-CV-00432-TUC-JAS (D. Ariz.) (early voting).

Ohio Organizing Collaborative, et al v. Ohio Redistricting Commission, et al, No. 2021-1210 (Ohio) (political gerrymandering).

NCLCV v. Hall, No. 21-CVS-15426 (N.C. Sup. Ct.) (political gerrymandering).

Szeliga v. Lamone, Case No. C-02-CV-21-001816 (Md. Cir. Ct.) (political gerrymandering).

Montana Democratic Party v. Jacobsen, DV-56-2021-451 (Mont. Dist. Ct.) (early voting; ballot collection).

Carter v. Chapman, No. 464 M.D. 2021 (Pa.) (map drawing; amicus).

NAACP v. McMaster, No. 3:21-cv-03302 (D.S.C.) (racial gerrymandering).

Graham v. Adams, No. 22-CI-00047 (Ky. Cir. Ct.) (political gerrymandering).

Harkenrider v. Hochul, No. E2022-0116CV (N.Y. Sup. Ct.) (political gerrymandering).

LULAC v. Abbott, Case No. 3:21-cv-00259 W.D. Tex. (racial/political gerrymandering/VRA).

Moore et al., v. Lee, et al., Tenn. 20th Dist. 2022 (state constitutional compliance).

Agee et al. v. Benson, et al., W.D. Mich. 2023 (racial gerrymandering/VRA).

Faatz, et al. v. Ashcroft, et al., (Cir. Ct. Mo. 2023) (state constitutional compliance).

Coca, et al. v. City of Dodge City, et al., Case No. 6:22-cv-01274-EFM-RES (D. Kan.) (VRA).

COURT APPOINTMENTS

Appointed as Voting Rights Act expert by Arizona Independent Redistricting Commission (2020)

Appointed special Master by the Supreme Court of Virginia to redraw maps for the Virginia House of Delegates, the Senate of Virginia, and for Virginia's delegation to the United States Congress for the 2022 election cycle.

Appointed redistricting expert by the Supreme Court of Belize in *Smith v. Perrera*, No. 55 of 2019 (one-person-one-vote).

INTERNATIONAL PRESENTATIONS AND EXPERIENCE

Panel Discussion, European External Action Service, Brussels, Belgium, Likely Outcomes of 2012 American Elections.

Selected by U.S. Embassies in Sweden, Spain, and Italy to discuss 2016 and 2018 elections to think tanks and universities in area (declined Italy due to teaching responsibilities).

Selected by EEAS to discuss 2018 elections in private session with European Ambassadors.

TEACHING

American Democracy and Mass Media, Ohio Wesleyan University, Spring 2018.

Introduction to American Politics, The Ohio State University, Autumns 2018, 2019, 2020, Spring 2018.

Political Participation and Voting Behavior, Spring 2020-2023.

PUBLICATIONS

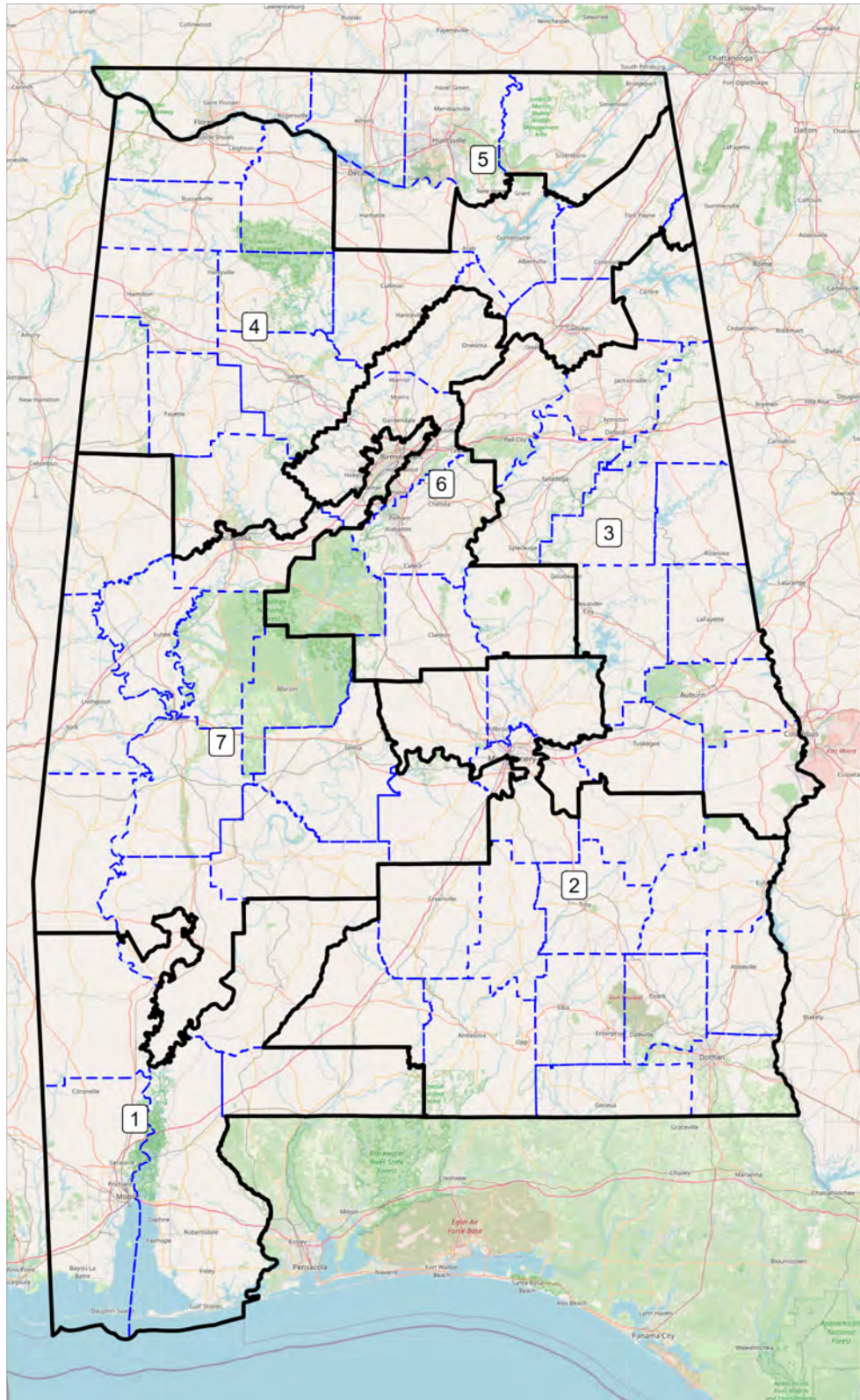
James G. Gimpel, Andrew Reeves, & Sean Trende, "Reconsidering Bellwether Locations in U.S. Presidential Elections," *Pres. Stud. Q.* (2022) (forthcoming, available online at <http://doi.org/10.1111/psq.12793>).

REAL CLEAR POLITICS COLUMNS

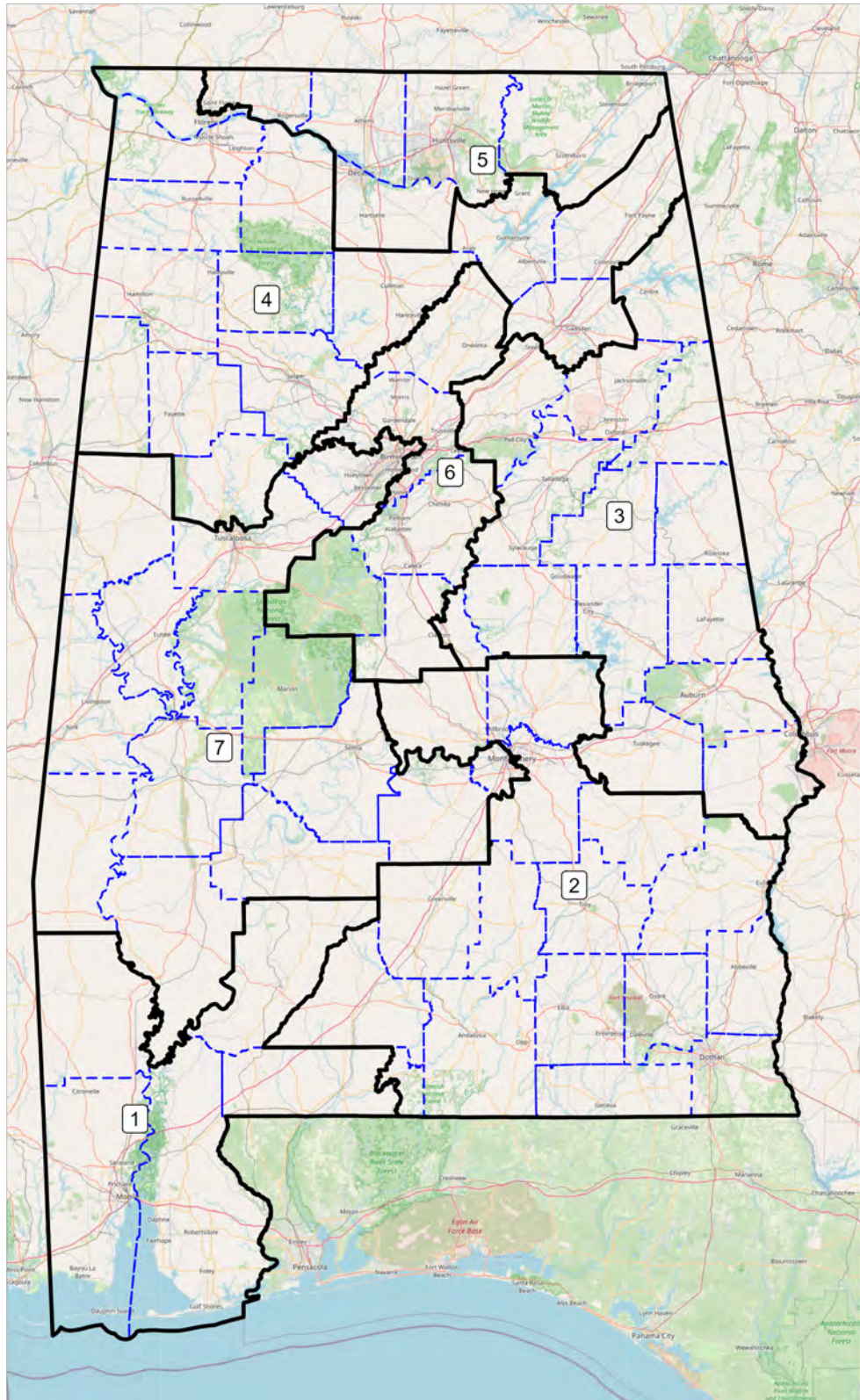
Full archives available at http://www.realclearpolitics.com/authors/sean_trende/

Exhibit 2

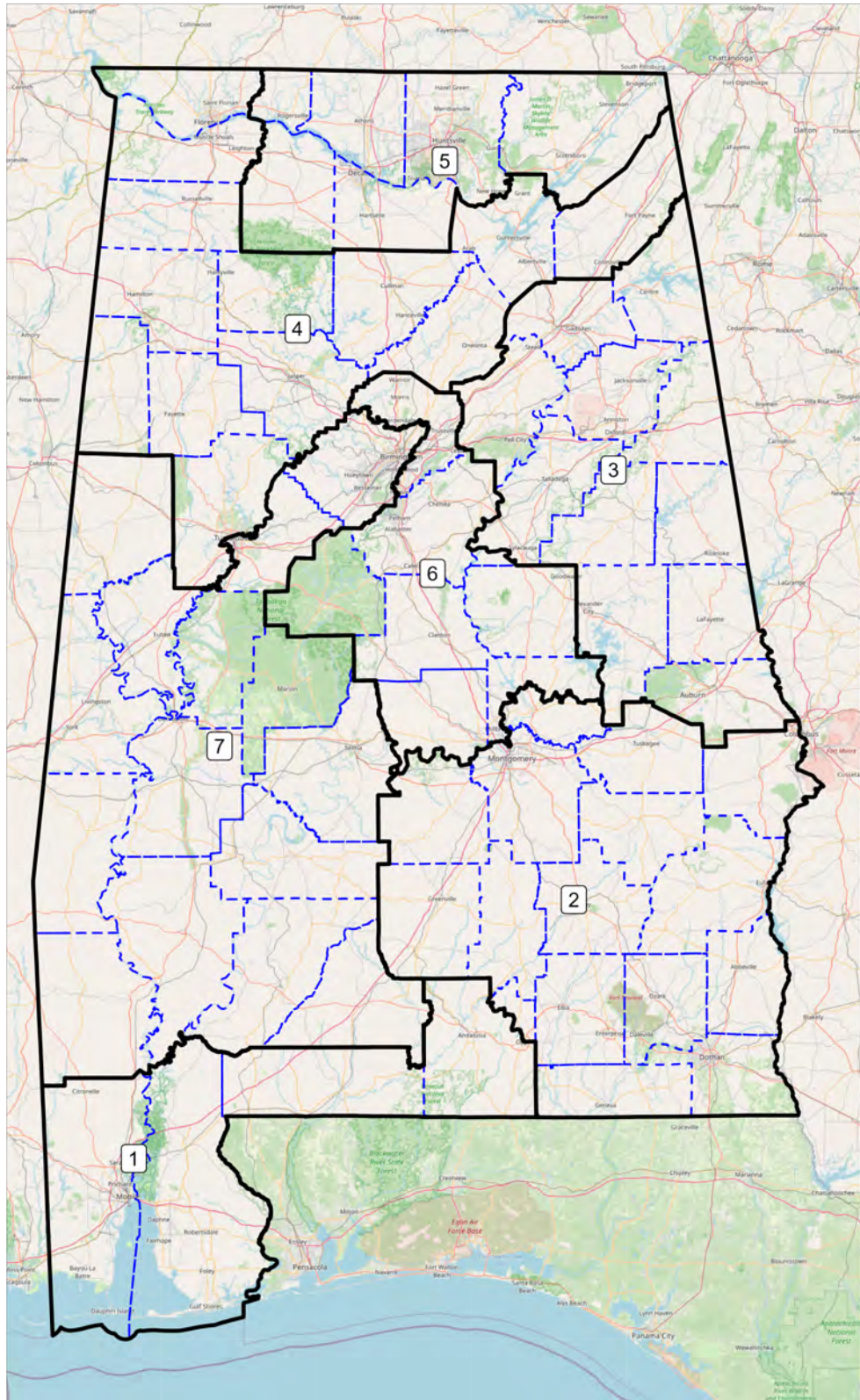
District Boundaries, 2011 Map Dashed Blue Lines = Counties



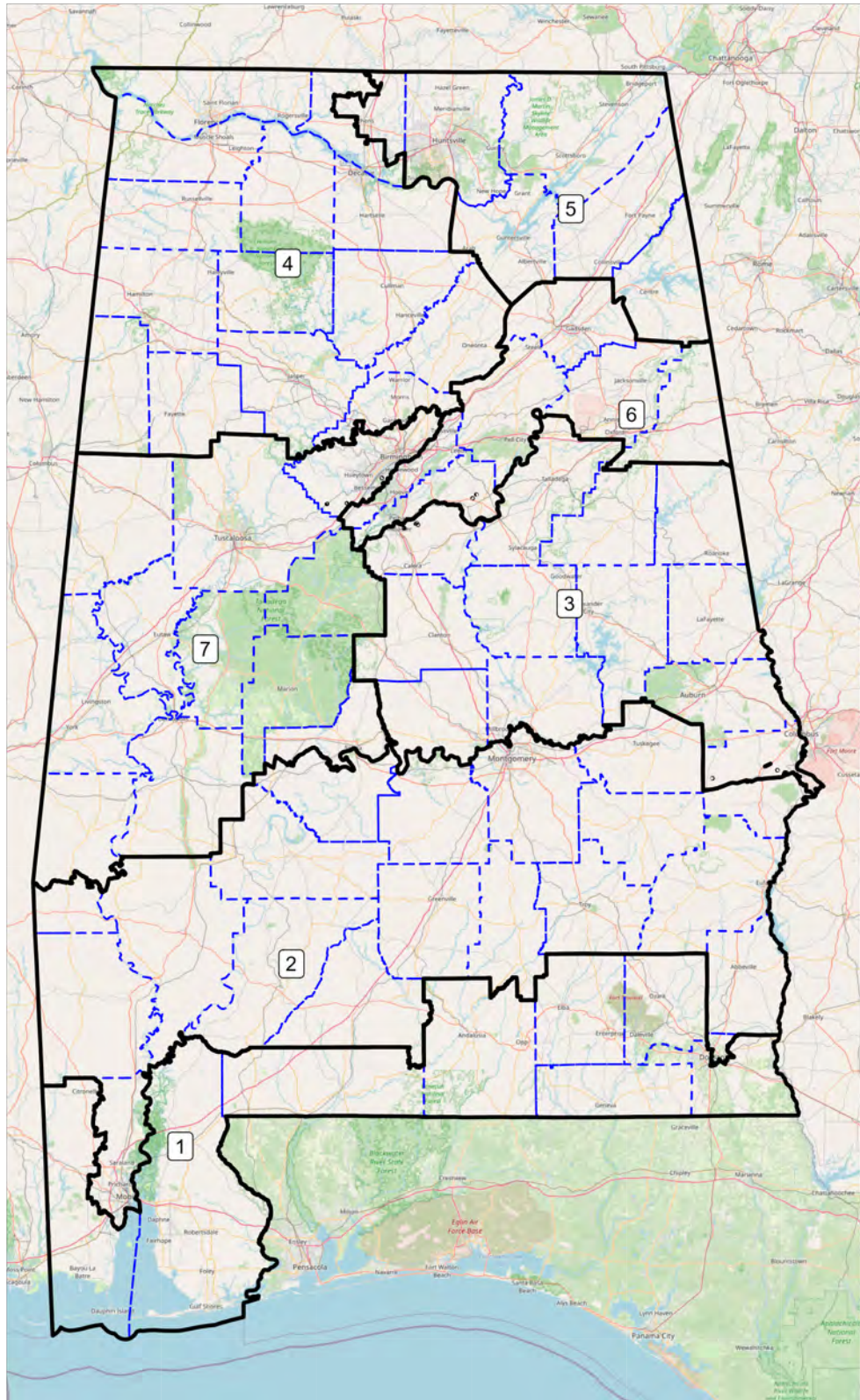
District Boundaries, 2021 Map Dashed Blue Lines = Counties



District Boundaries, 2023 Map Dashed Blue Lines = Counties

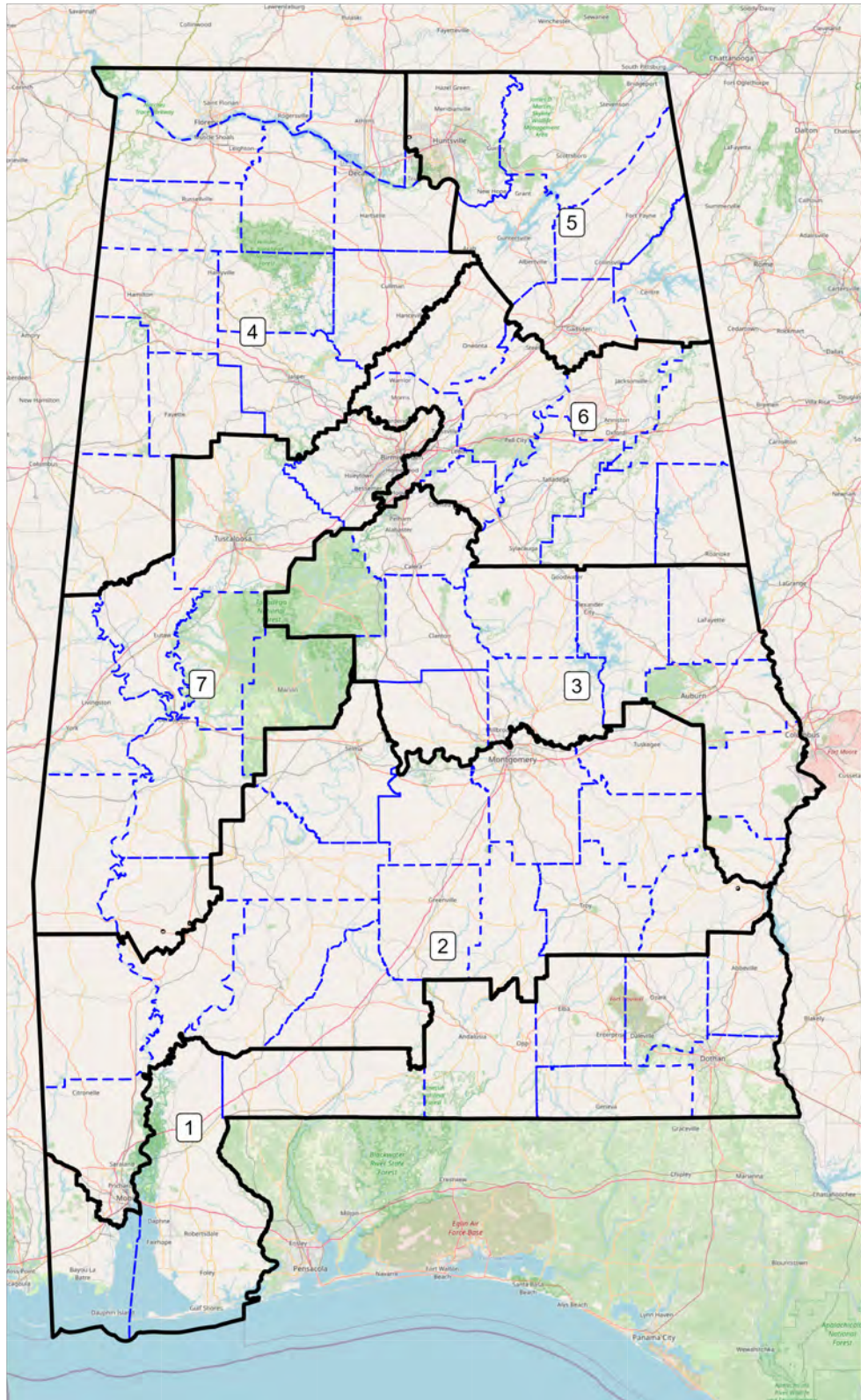


District Boundaries, Duchin 1 Dashed Blue Lines = Counties



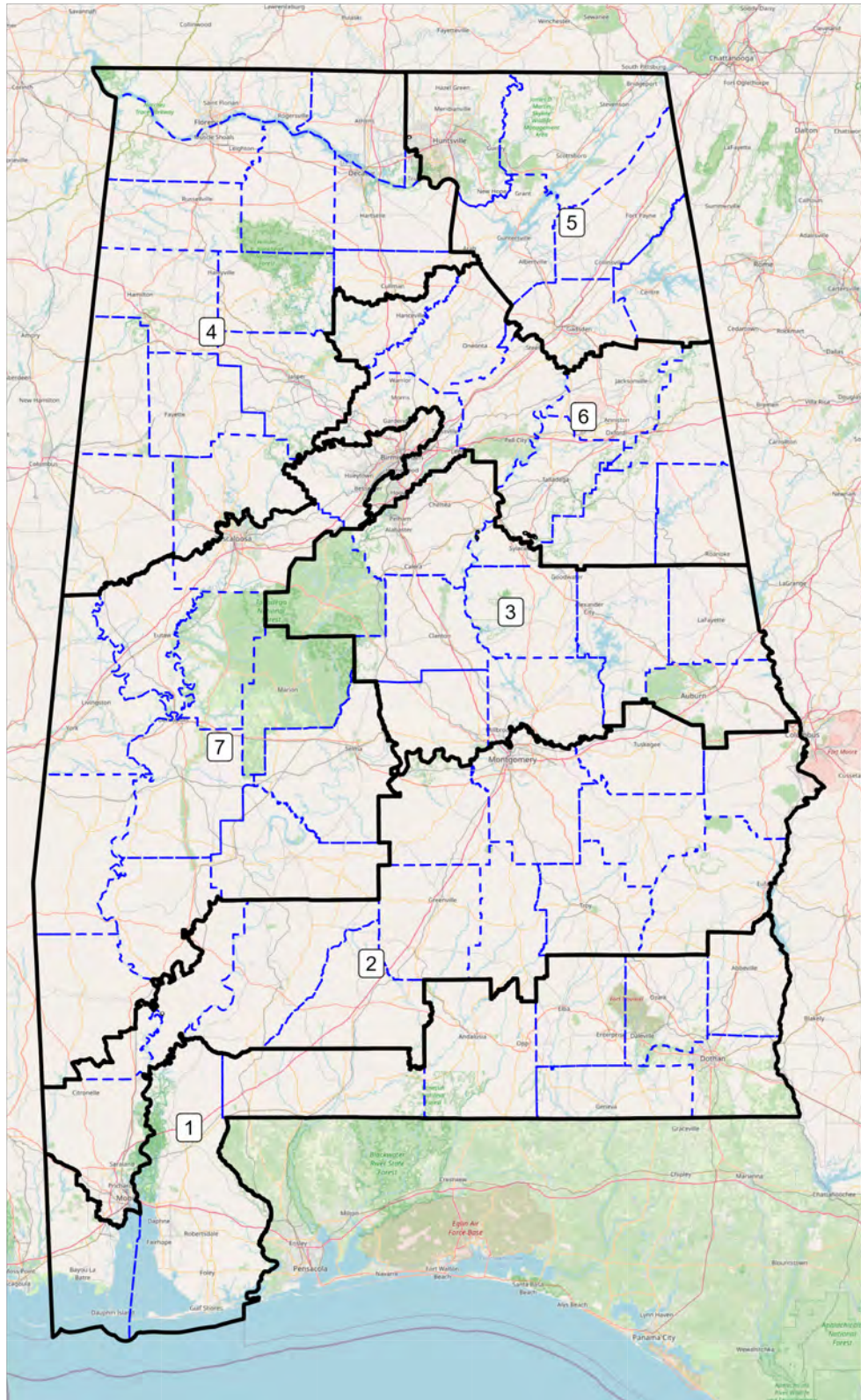
District Boundaries, Duchin 2

Dashed Blue Lines = Counties

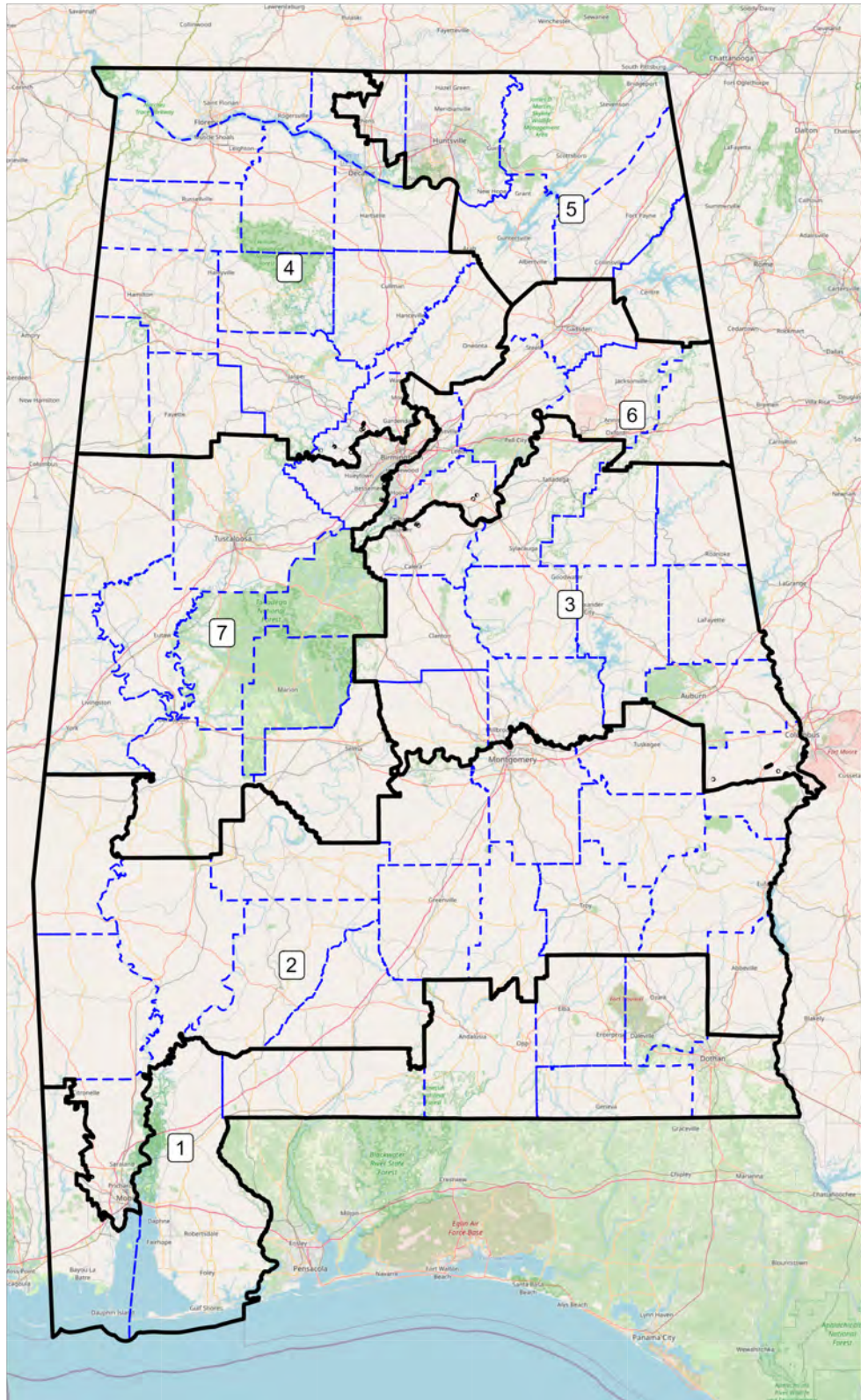


District Boundaries, Duchin 3

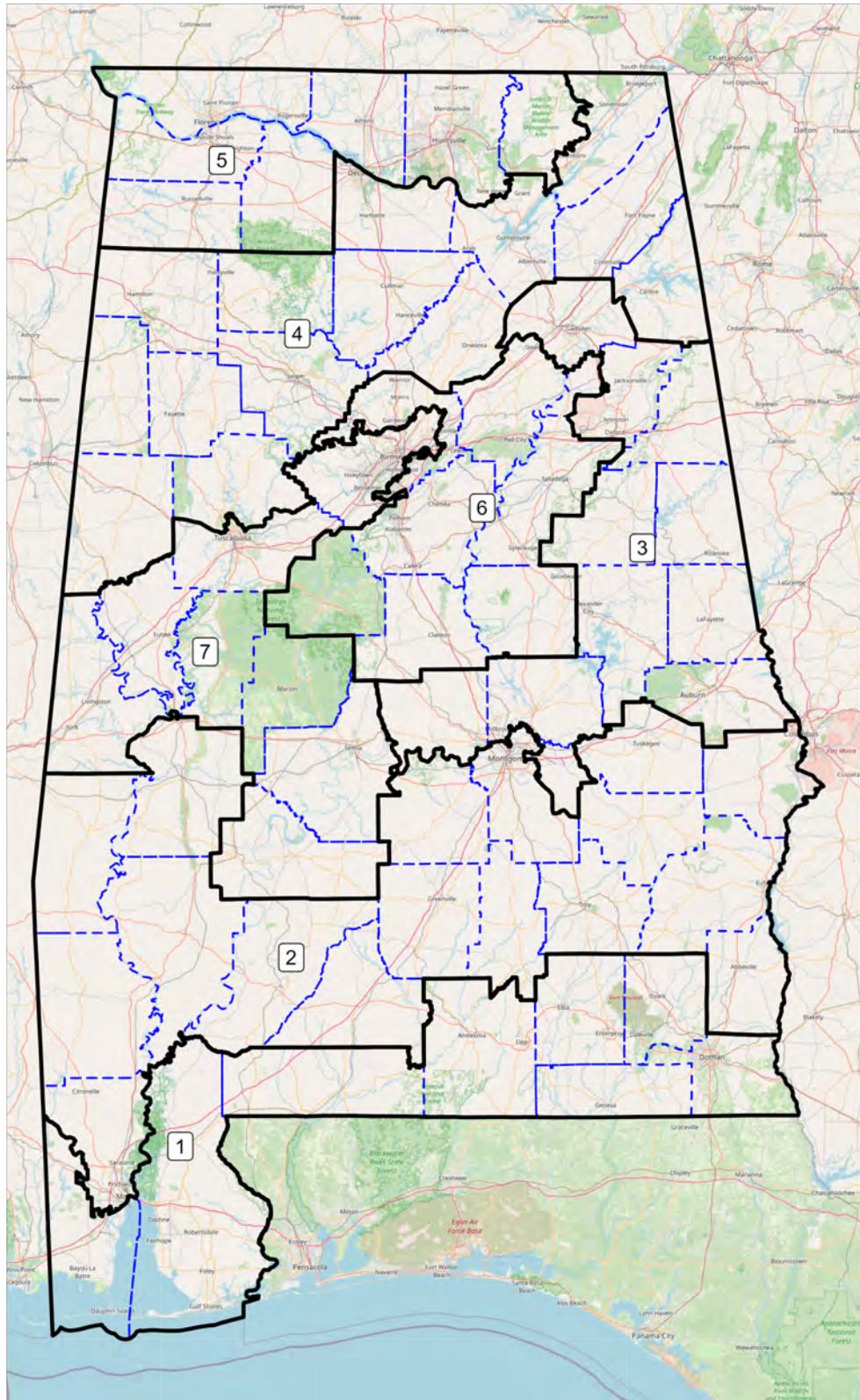
Dashed Blue Lines = Counties



District Boundaries, Duchin 4 Dashed Blue Lines = Counties

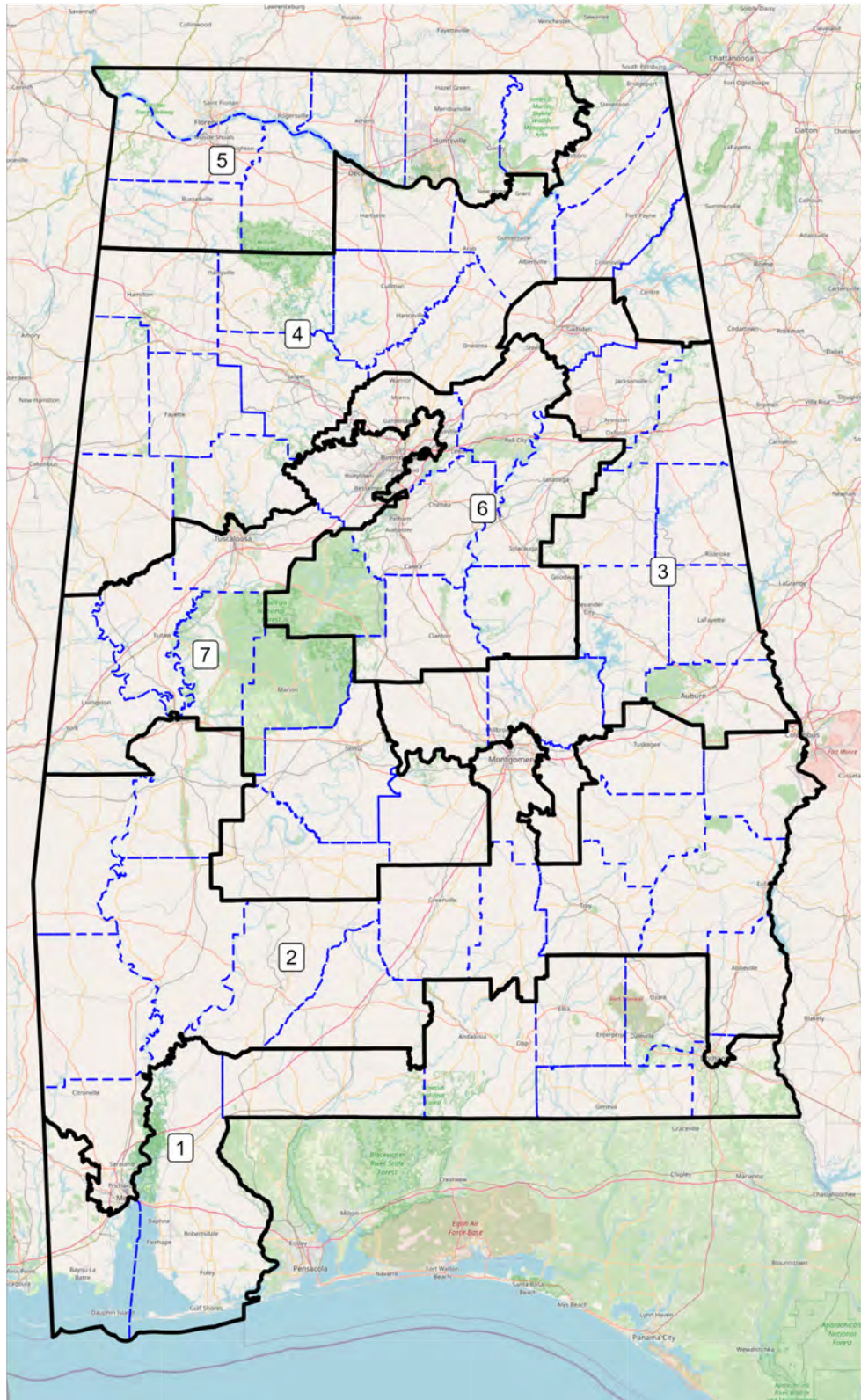


District Boundaries, Illustrative 1 Dashed Blue Lines = Counties

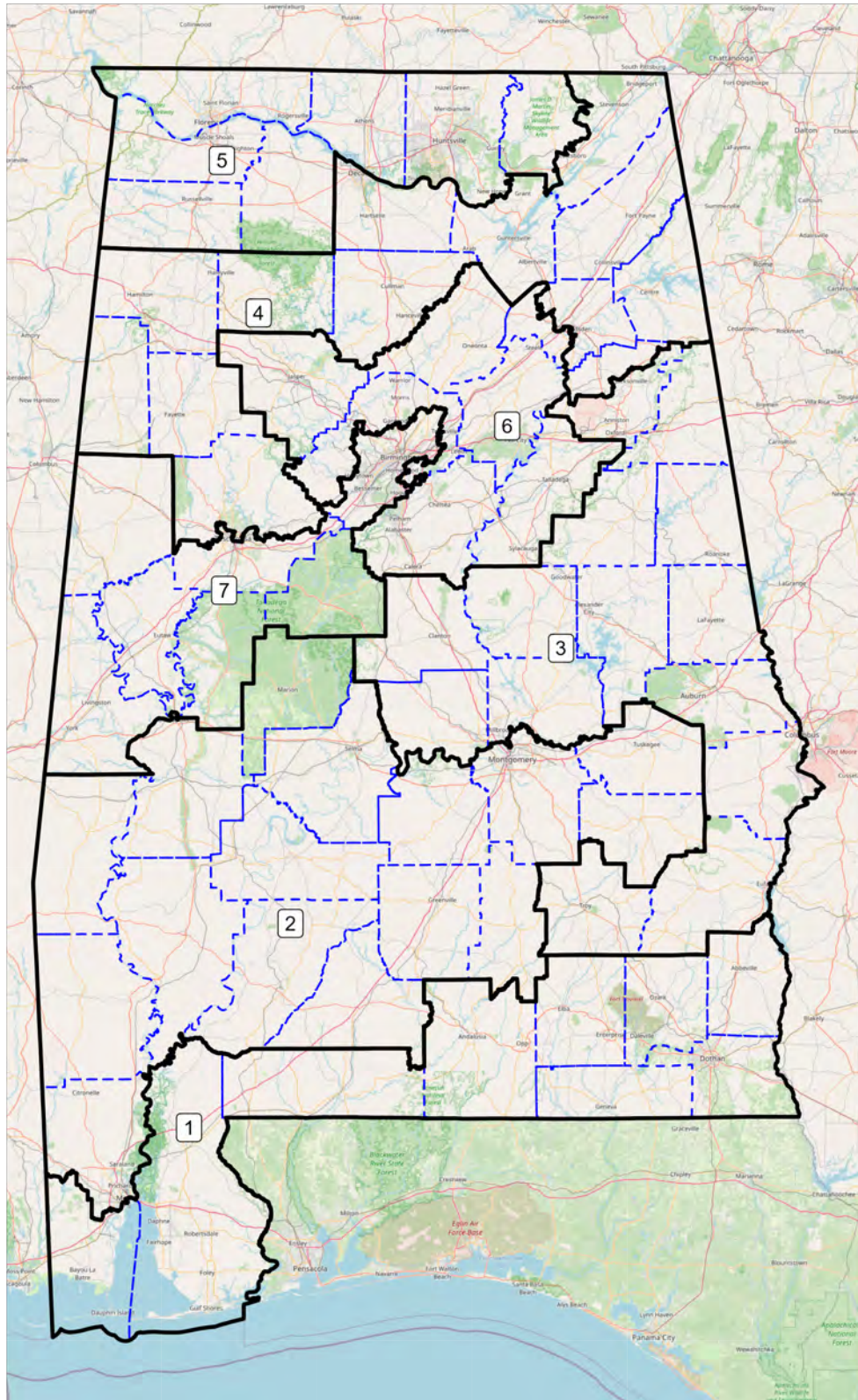


District Boundaries, Illustrative 2

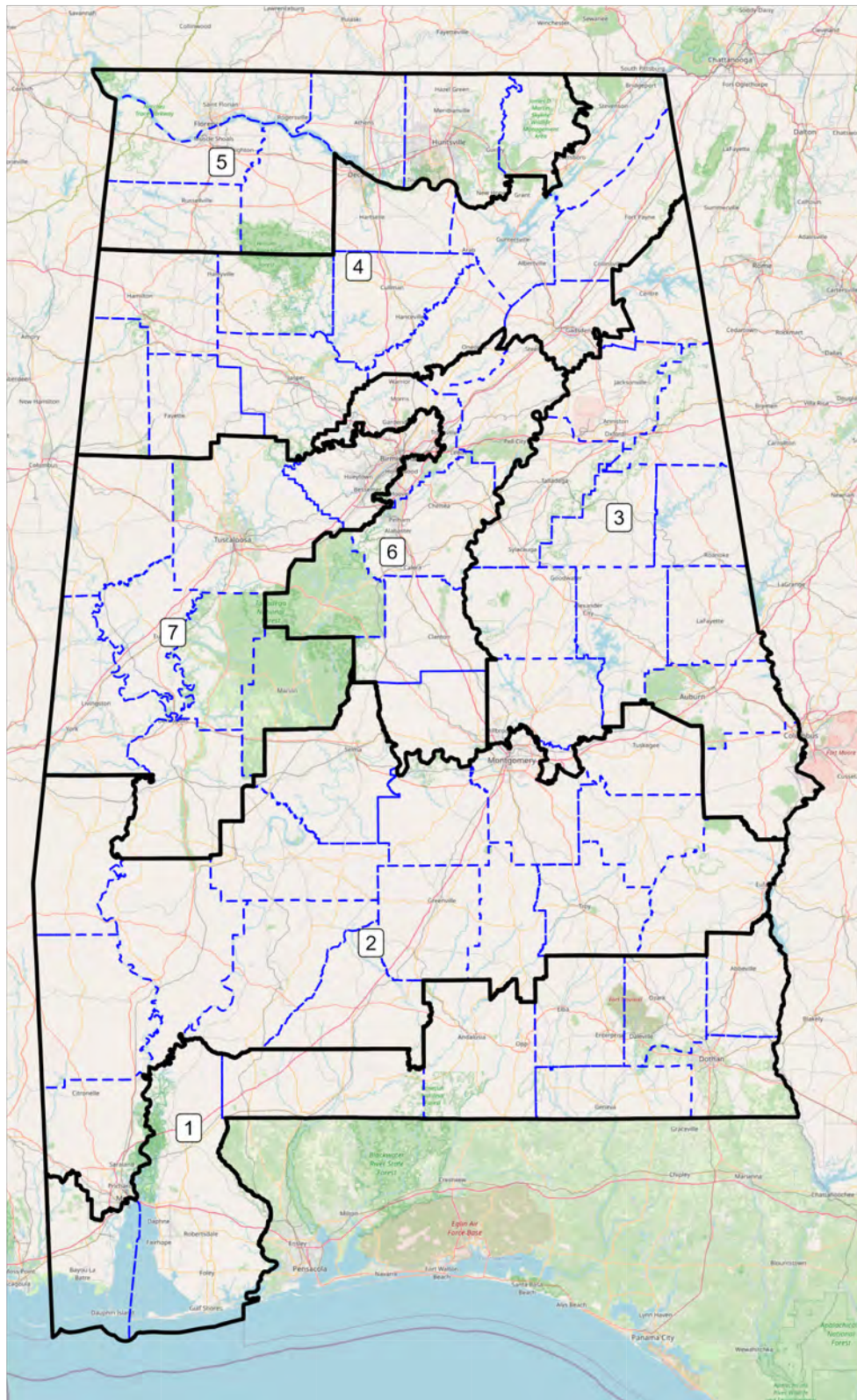
Dashed Blue Lines = Counties



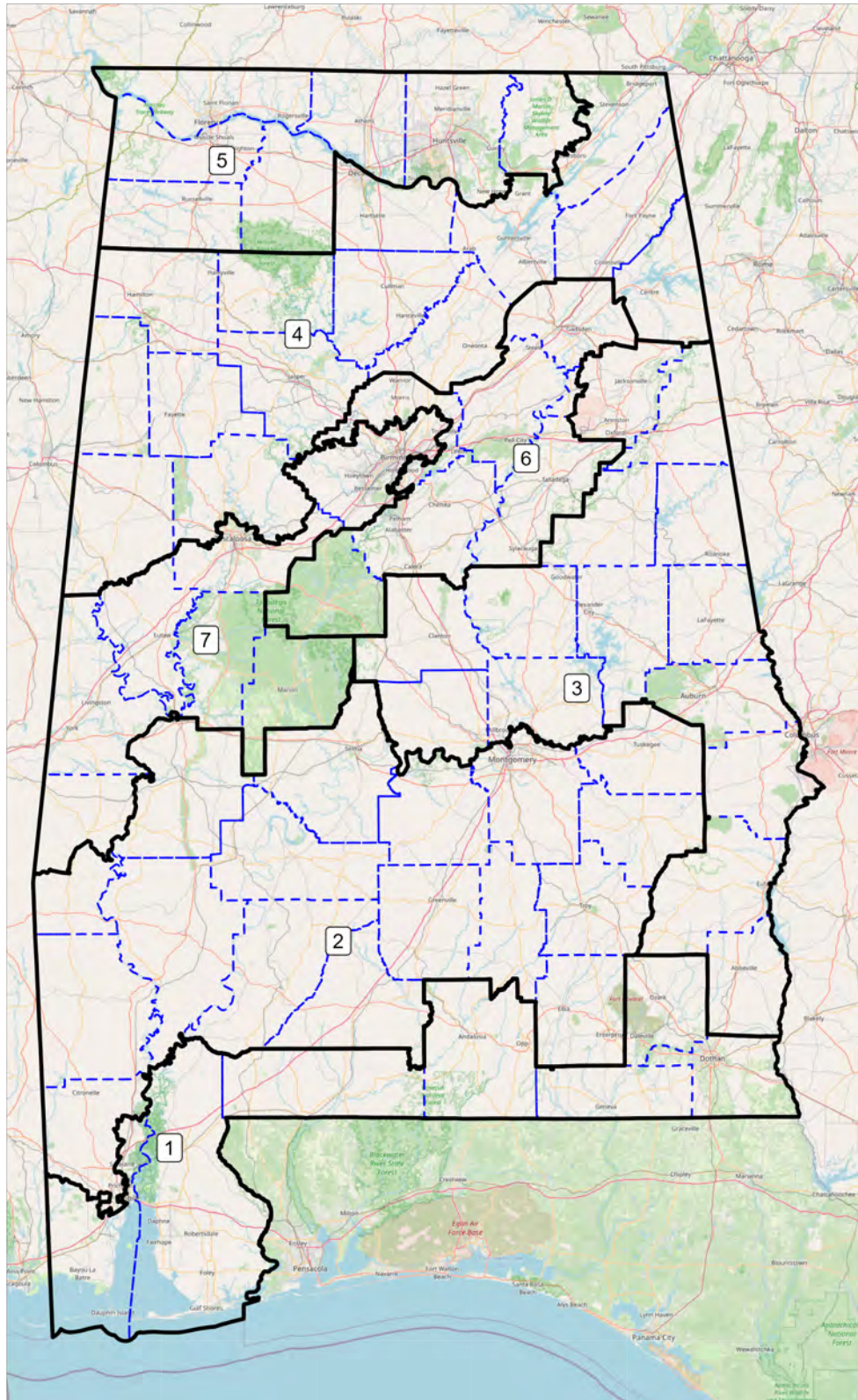
District Boundaries, Illustrative 3 Dashed Blue Lines = Counties



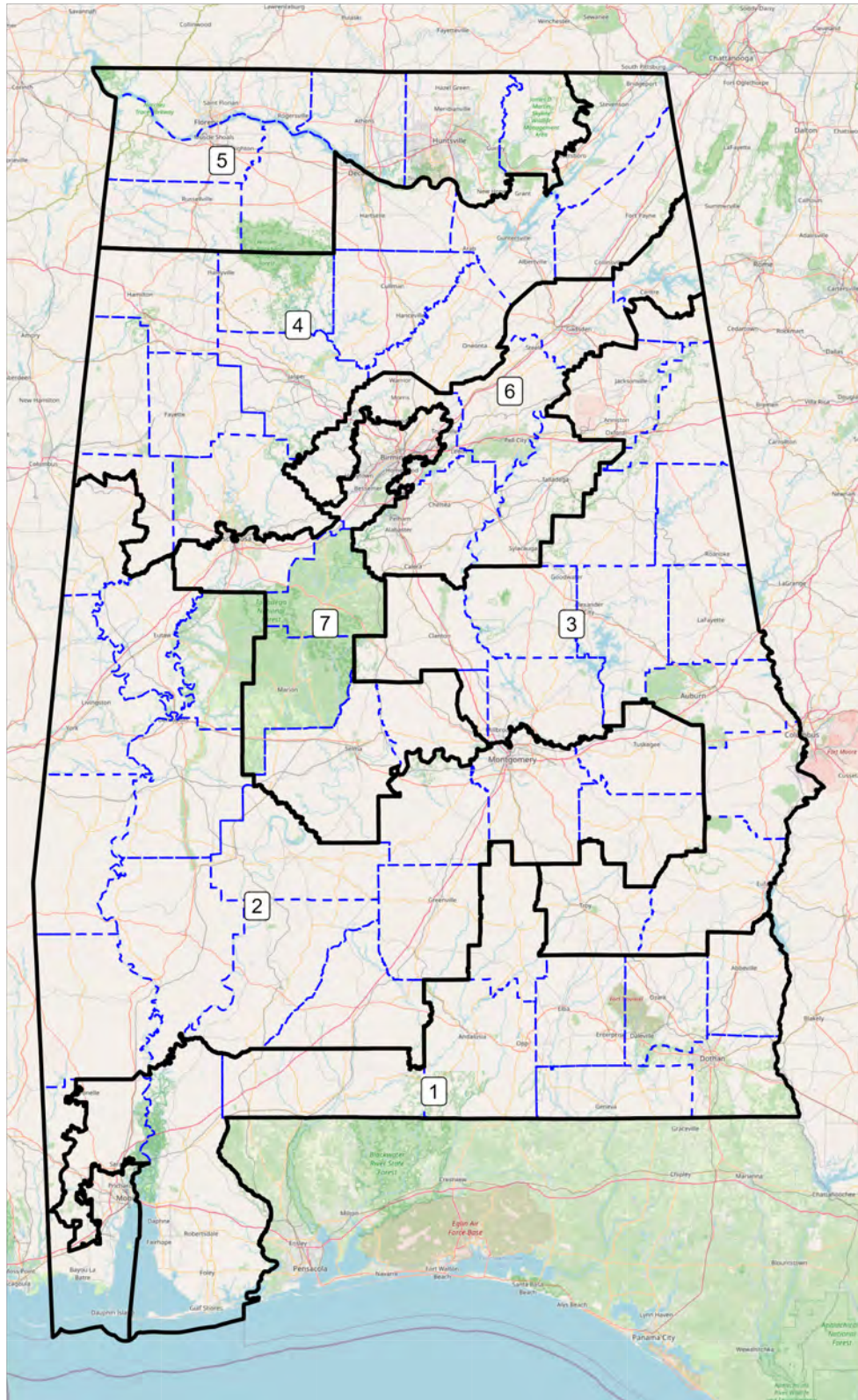
District Boundaries, Illustrative 4 Dashed Blue Lines = Counties



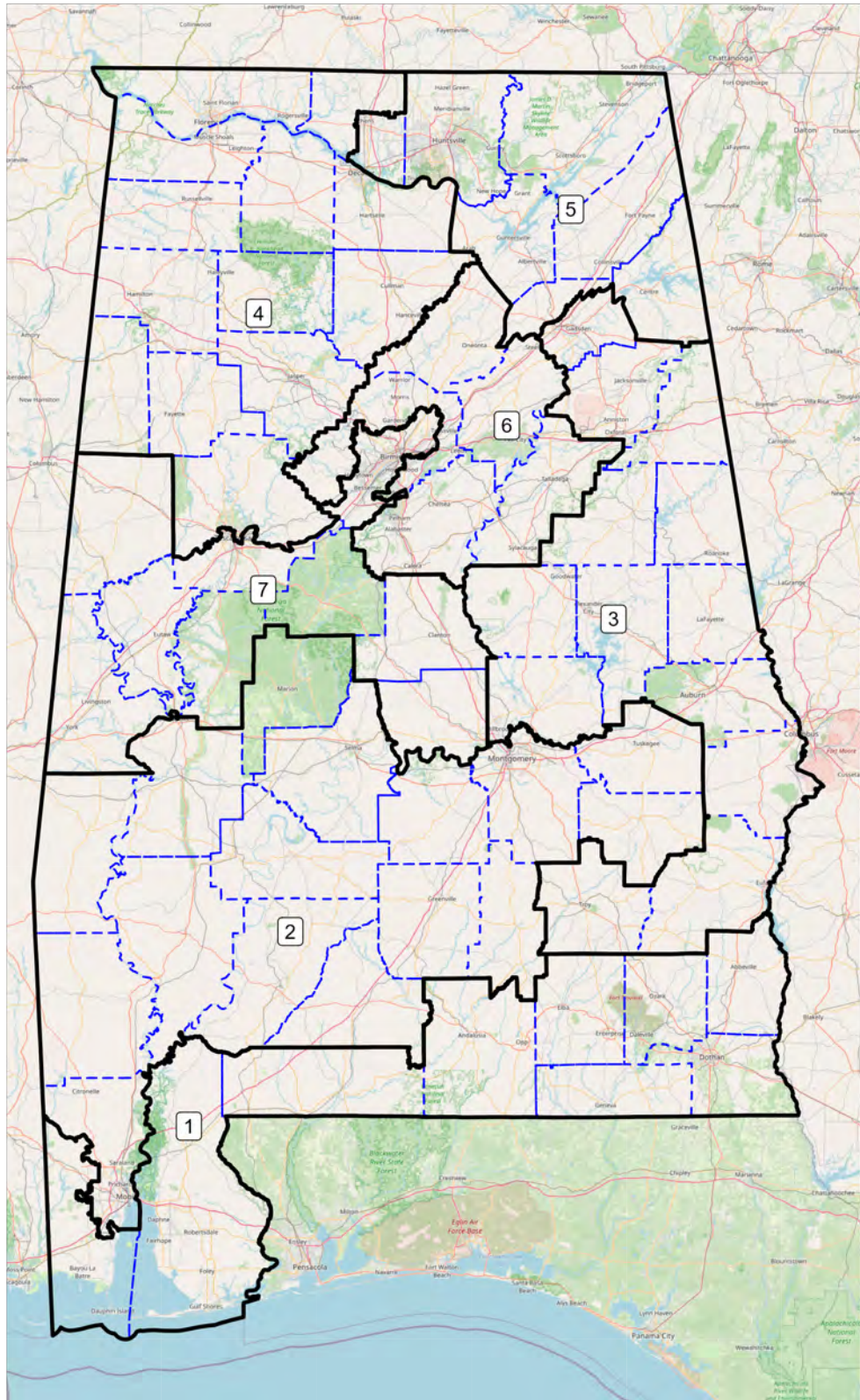
District Boundaries, Illustrative 5 Dashed Blue Lines = Counties



District Boundaries, Illustrative 6 Dashed Blue Lines = Counties



District Boundaries, Illustrative 7 Dashed Blue Lines = Counties



District Boundaries, Ps Remedial Dashed Blue Lines = Counties

