

**Expert Report of Ryan D. Williamson, Ph.D.  
Milligan, et al., v. Merrill, et al.  
December 10, 2021**

**Background and Qualifications**

I am an Assistant Professor of Political Science in the Department of Political Science at Auburn University in Auburn, Alabama. I have held this position since 2018. My areas of expertise include American government, electoral politics, electoral administration, legislative politics and procedure, and statistical methods in social sciences.

At Auburn, I teach courses on a variety of topics related to American politics including election administration reform policy, voting behavior and representation, and electoral institutions. I also serve on the dissertation committees of 11 graduate students, have participated in nearly 40 conference presentations, have given half a dozen invited talks around the country, received multiple teaching awards, and have been awarded nearly \$90,000 dollars in grants to support my research.

Further in my capacity as an assistant professor, I have published over 20 peer-reviewed articles and book chapters, including research in leading outlets in the field such as *The Journal of Politics*, *Election Law Journal*, *Electoral Studies*, *Political Research Quarterly*, and *State Politics & Policy Quarterly*. Of these publications, six directly address issues related to redistricting and gerrymandering and have garnered dozens of citations in a few short years. I am also currently serving as the associate editor of a new journal entitled *Journal of Election Administration Research and Practice*, which publishes research related to how elections are administered and how different laws and policies impact said administration.

In addition to my substantive expertise, I have extensive background and experience in statistical analysis. My graduate training included courses in research design, probability theory, ordinary least squares, maximum likelihood estimation, Bayesian analysis, geospatial data analysis, and casual inference. I also attended the Inter-university Consortium for Political and Social Research at the University of Michigan in 2013 where I took additional courses on maximum likelihood estimation, advanced regression, and multidimensional scaling. Each of my academic publications has required the use of statistical analysis including descriptive analysis, geospatial analysis, ordinary least squares, maximum likelihood estimation, time series data, panel data, survey data, and experimental designs. Furthermore, I am responsible for teaching the research methods course for the Master of Public Administration program at Auburn University.

Through the relationship between Auburn University and the National Association of Election Officials, I have been invited to give presentations and teach advanced courses to election administrators from around the country on a range of topics including redistricting, gerrymandering, and the constitutional law of elections.

Prior to coming to Auburn, I served as a Congressional Fellow on the United States Senate Committee on Rules and Administration through the American Political Science Association. The

Committee has jurisdiction over federal election administration, and my portfolio included election administration and reform, including issues related to redistricting and gerrymandering.

I received my undergraduate degree from the University of Alabama at Birmingham in 2011, where I studied political science and history. Upon completion of this degree, I began my graduate studies at the University of Georgia, earning my doctoral degree in political science in 2017. Broadly speaking, my dissertation examined the role of laws and regulations in determining election outcomes.

My full curriculum vitae is attached to this report.

I have been retained by the Plaintiffs in this case to analyze the role that race played in drawing the federal congressional districts within Alabama. I have not previously testified as an expert at trial or by deposition. I am retained for a rate of \$300 per hour—my standard consulting rate.

### **Data Acquisition**

I acquired data on race and ethnicity by voting age population by congressional district, county, and census block from the American Civil Liberties Union (“ACLU”). The ACLU informed me that it acquired 2020 Census Block shapefiles, total population by race and ethnicity, and voting age population by race and ethnicity directly from the Census file transfer protocol (“FTP”) portal. The ACLU informed me that it acquired current congressional district block assignment files from the Census website. The ACLU informed me that it then joined congressional district assignments to the 2020 Census block shapefile.

I acquired the draft congressional plans from the ACLU, which I understand acquired them through a member of the Alabama Permanent Legislative Committee on Reapportionment.

All summary statistics and analyses were performed using Stata version 14. Any maps were created using R version 4.1.2.

### **Summary of Congressional District Analysis and Opinions**

My analysis focuses on the four districts I understand have been challenged as racial gerrymanders in this case: Alabama Congressional Districts (“CDs”) 1, 2, 3, and 7. Specifically, I have been asked to analyze whether there is evidence that race predominated over other districting considerations in drawing the contours of Districts 1, 2, 3, and 7. Because the allegations in this case concern different methods of using race to draw districts—through what is informally known as “packing” in District 7, and through what is referred to as “cracking” in Districts 1, 2, and 3—I employ different forms of analysis appropriate to examine the role that race played in those two different contexts. By packing, I refer to the practice of disproportionately concentrating a group into one district. By cracking, I refer to the practice of separating groups across boundaries in order to dilute their potential for electoral influence.

In Part 1, I examine county splits within the state with specific attention to the relationship between these splits and the Black Voting Age Population (“VAP”) in Congressional District 7. I find

strong evidence that race was a predominant factor in the construction of this district. In Parts 2 and 3, I examine how Congressional Districts 1, 2, 3, and 7 were drawn. I pay particular attention to how counties were separated across districts as well as how the 2021 enacted map compares to the previous map enacted in 2011. I again find strong evidence that race was a predominant factor in how these district lines were created. In Part 4, I summarize my findings and provide my concluding remarks.

## **Part 1: District 7**

### County Splits

I begin by examining the three counties that are split between Congressional District 7 and another district. These counties are Jefferson, Montgomery, and Tuscaloosa. Jefferson County is split between Districts 6 and 7, Montgomery County is split between Districts 2 and 7, and Tuscaloosa County is split between Districts 4 and 7.

I examine county splits for multiple reasons. First, most counties in the plan are kept whole, and it is therefore important to investigate the circumstances where splits were made and if there is a relationship with race. Second, historically, Alabama mapmakers have sought to respect existing political boundaries (such as county lines) in order to preserve communities of interest and reduce voter confusion. Third, and related to the previous point, county lines may be ignored in the pursuit of other legal requirements, which necessitates investigation into which other requirement is being pursued.

To assess the role of race, I first include the percentage of the voting age population that identifies in whole or in part as Black. For Jefferson County, this figure is 41.5 percent. For Montgomery County, this figure is 56.3 percent. For Tuscaloosa County, this figure is 29.5 percent. The median county in Alabama features 22.5 percent of the voting age population that identifies in whole or in part as Black. It is important to note that this is a conservative test of the relationship between race and district lines, as it does not account for other non-White populations within the state.

I then calculate the percentage point deviation from the state median by subtracting the median percentage from the county percentage. A positive deviation denotes a county has a greater Black VAP than the median within a state. These numbers are presented in Table 1.

**Table 1. County Black VAP**

<b>County</b>	<b>Districts</b>	<b>Black Percentage</b>	<b>Median Black Percentage</b>	<b>Percentage Deviation</b>
Jefferson	6/7	41.5	22.5	19
Montgomery	2/7	56.3	22.5	33.8
Tuscaloosa	4/7	29.5	22.5	7

Each of the three split counties in District 7 feature a greater Black VAP than the median district. Furthermore, District 7 has more county splits than any other district in the state. Given that there are so few splits within the state, it is also worth noting that these three counties represent three of the five counties with the highest Black VAP in the state of Alabama. Mobile, Madison, and

Baldwin counties are more populous than Montgomery and Tuscaloosa counties but do not feature any splits.

Statewide, only 40.3 percent of counties feature 29.5 percent or more Black VAP. However, 66.7 percent of split counties feature 29.5 percent or more Black VAP. All the split counties in Congressional District 7 feature a greater Black VAP than the median county in Alabama.

### District Splits

If the splits were not driven by race, areas on either side of the dividing line within the county should show comparable percentages of Black VAP. I therefore examine the Black VAP within census blocks for the three split counties mentioned above—Jefferson, Montgomery, and Tuscaloosa.

The unit of analysis in Table 2 below is census block. I calculate the average Black VAP in census blocks within the county for either district that the county has been split into. I then calculate the percentage point difference between the average Black VAP within the split parts of the county against the Black VAP in the county as a whole. A negative deviation indicates that the part of the county in question features a larger White VAP than the county as a whole, and a positive deviation denotes that the part of the county in question features a larger Black VAP than the county as a whole.

The part of Jefferson County in Congressional District 7 has an average census block Black VAP of 69.1 percent, which is 20 percentage points higher than the average census block Black VAP in the entire county.

The part of Montgomery County in Congressional District 7 has an average census block Black VAP of 75.1 percent, which is 22.5 percentage points higher than the average census block Black VAP in the entire county.

The part of Tuscaloosa County in Congressional District 7 has an average census block Black VAP of 33.5, which is 4.9 percentage points higher than the average census block Black VAP in the entire county.

**Table 2. Census Block Black VAP within County**

County	District	Average Black Percentage	Percentage Point Deviation
Jefferson	6	23.8	-25.3
	7	69.1	20
Montgomery	2	41.0	-11.6
	7	75.1	22.5
Tuscaloosa	4	9.6	-19.0
	7	33.5	4.9

I then compare the parts of each county in Congressional District 7 with the parts of the county that have been split into other districts. This allows me to analyze the relationship between race and where the splits occurred.

The part of Jefferson County drawn out of CD 7 has an average census block Black VAP of 23.8 percent. This is 25.3 percentage points lower than the county as a whole and a **45.3 percent point difference** from the part of Jefferson County that was included in CD 7. This is comparable to the difference between Cullman County (the second lowest county in terms of Black VAP) and Barbour County (one of the counties in the region traditionally referred to as the “Black Belt”).

The part of Montgomery County drawn out of CD 7 has an average census block Black VAP of 41.0 percent. This is 11.6 percentage points lower than the county as a whole and a **34.1 percent point difference** from the part of Montgomery County drawn into CD 7. This is comparable to the difference between Winston County (the county with the lowest Black VAP in the state) and Mobile County (the third largest metro area in the state).

The part of Tuscaloosa County drawn out of CD 7 has an average census block Black VAP of 9.6 percent. This is 19.0 percentage points lower than the county as a whole and a **23.9 percent point difference** from the part of Tuscaloosa County drawn into CD 7. This is comparable to the difference between Blount County (with less than 2 percent Black VAP) and Madison County (which houses Huntsville, another large metro area within the state).

To summarize, in each of these three counties, areas with larger Black VAP were drawn into CD 7 and the disproportionately White census blocks within each of these counties were drawn into districts other than CD 7. These occurrences in all three counties demonstrate a pattern of race serving as a predominant factor in the construction of district lines. That the difference in Black VAP by census block within the same county but in different congressional districts is so substantial makes these divergences substantively important.

In short, these analyses demonstrate that predominantly Black communities within these three counties were drawn into Congressional District 7 while predominantly White communities within the same three counties were drawn into other districts. This constitutes strong evidence that race played a substantial role in the drawing of Congressional District 7.

## **Part 2: Districts 1, 2, and 3**

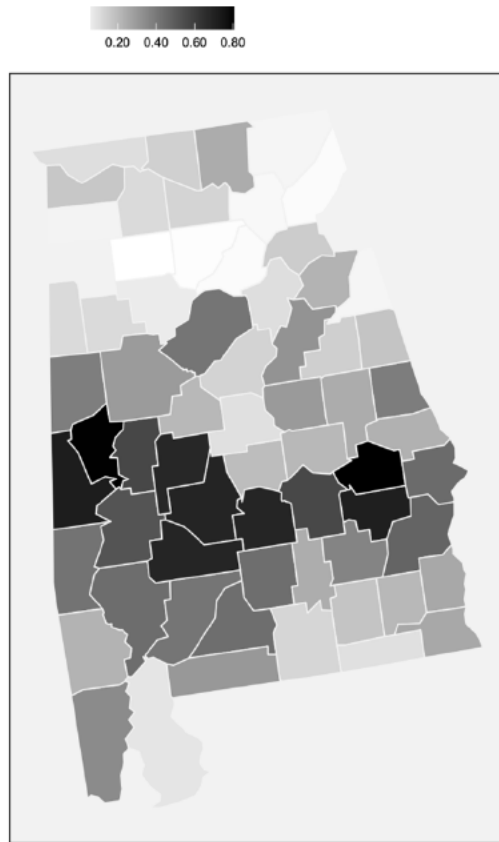
### Variation within Districts

As to Congressional Districts 1, 2, and 3, I examine the variability of census block Black VAP within congressional districts to further test for allegations of “cracking.” The map below depicts Black VAP by county. Here, darker shades of grey correspond to higher Black VAP. This shows concentrations of Black voters in specific parts of the state. If predominantly Black counties are drawn into areas with largely White populations, which would be suggestive of “cracking,” then I will see substantial variability within congressional districts. Necessarily, some predominantly Black areas will have to be connected to more White counties. However, given the racial sorting



depicted in the map below, I examine whether that same clustering translates into clustering within congressional districts as well.

Black VAP by County, Proportion



I therefore examine the Black VAP by census block within Congressional Districts 1, 2, and 3. In Table 3, the second column denotes the average Black VAP by census block, the third column denotes the standard deviation of Black VAP of census blocks within each district, and the final column contains the interquartile range of census block Black VAP. The interquartile range depicts the census blocks at the 25th and 75th percentiles, respectively. Both the standard deviation and the interquartile range provide a picture of how racially (dis)similar census blocks are within a district.

The standard deviation is a useful metric to evaluate how dispersed the data are. In this case, a higher standard deviation indicates that the average census block Black VAP is more variable within the congressional district. A lower standard deviation indicates that more census blocks are closer to the average Black VAP within the congressional district.

The interquartile range (“IQ range”) is another measure of how variable the Black VAP of census blocks within congressional districts is. This can be thought of as the middle 50 percent of the district. A large difference between the first and second number in the IQ Range column seen in the table below denotes more variability in the average Black VAP of census blocks within congressional districts.

**Table 3. Congressional District Black VAP by Census Block**

District	Average Black VAP	Standard Deviation	IQ Range
1	27.9	35.8	0 : 50.0
2	25.6	32.1	0 : 43.1
3	24.6	33.1	0 : 40.0
4	8.7	20.9	0 : 4.5
5	14.4	23.8	0 : 19.0
6	17.1	27.6	0 : 22.2
7	58.5	39.9	15 : 100

This analysis shows a positive relationship between average Black VAP and the standard deviation and interquartile range. Each of these demonstrates substantial variation in the racial composition of these districts. In CD 1, CD 2, and CD 3, 25 percent of census blocks feature 0 percent Black VAP. Additionally, in those same districts, 25 percent of census blocks feature at least 40 percent Black VAP. In contrast, CD 4, CD 5, and CD 6 feature much smaller ranges, with 75 percent of census blocks featuring less than 22.2 Black VAP and as low as 4.5 Black VAP, despite including counties such as Madison and Shelby, which have large populations of Black residents.

The variability seen here indicates that Black Alabamians are more likely to be diffused across different districts, especially compared to CD 4, CD 5, and CD 6. In other words, Black Alabamians are geographically concentrated within the state, but that concentration within counties does not translate into comparable concentration within CD 1, CD 2, or CD 3.

#### Variation Across Districts

I then examine where the district lines were drawn. Given the geographical clustering within the state, if there is a significant difference between bordering counties and non-bordering counties, that would suggest race was a factor in how district lines were drawn. Specifically, it would indicate that Black communities were split among different districts.

I organize counties into two categories: those that share any part of their border with another district and those that do not. For example, in Congressional District 2, Henry, Houston, Dale Geneva, Coffee, Covington, and Pike Counties do not share a border with another district while Conecuh, Butler, Crenshaw, Montgomery, Autauga, Elmore, Bullock, Escambia, and Barbour Counties share a border even if that shared border is small (as with Crenshaw County).

I then examine the differences in average Black VAP by census block within counties based on these two categories. (All counties in Congressional District 1 share a border with another district, therefore making this particular test inappropriate for this particular district.) The final column in Table 4 depicts the deviation from the district average Black VAP.

I use census block Black VAP within districts throughout my analyses for two primary reasons. First, this allows me to maintain consistency across sections. Second, more populous areas are weighted equally to less populous areas, which has the effect of decreasing the Black VAP. This in turn creates a stricter, more conservative test and makes finding any significant effect of race more difficult. This provides greater confidence in any findings that do emerge.

**Table 4. Census Block Black VAP within Districts**

<b>District</b>	<b>Borders</b>	<b>Average Black VAP</b>	<b>Deviation</b>
2	No shared border	19.9	-5.7
	Shared border	32.9	7.3
3	No shared border	21.8	-2.8
	Shared border	25.9	1.3

From this table, we see that within CD 2, counties that border another district have an average Black VAP of 32.9 percent compared to 19.9 percent within counties that do not border another district. This represents a 13 percent point difference, comparable to the difference between Winston County and Shelby County.

From this table, we see that within CD 3, counties that border another district have an average Black VAP of 25.9 percent compared to 21.8 percent within counties that do not border another district. This represents a 4.1 percent point difference, comparable to the difference between Henry County and Tuscaloosa County.

### **Part 3: Changes Between Maps**

Next, I analyze which census blocks were moved out of Congressional Districts 1, 2, 3, and 7; which were moved into these districts; and which were kept in the same district relative to the 2011 map.

**Table 5. Average Census Block Black VAP**

<b>District</b>	<b>Total</b>	<b>Moved In</b>	<b>Same</b>	<b>Moved Out</b>
1	27.9	NA	27.9	26.5
2	25.6	31.0	25.4	55.6
3	24.6	17.4	25.0	32.3
6	18.1	49.4	13.5	24.7
7	58.5	30.4	62.3	58.8

From Table 5, we see some clear differences in the census blocks that were moved into new districts. For CDs 2, 3, and 7, the census blocks moved out of the districts had substantially higher Black VAPs than those that were moved into the district. These differences are 24.6 percentage points, 15.9 percentage points, and 28.4 percentage points, respectively.

I then examine which districts the relocated census blocks were drawn into. The census blocks moved out of CD 1 were placed in either CD 2 or CD 7. All of the census blocks moved out of CD 2 were moved to CD 7. All of the census blocks moved out of CD 3 were moved to CD 2. And the overwhelming majority of census blocks moved out of CD 7 were moved to CD 6, with less than 1 percent moved to CDs 2 and 4.

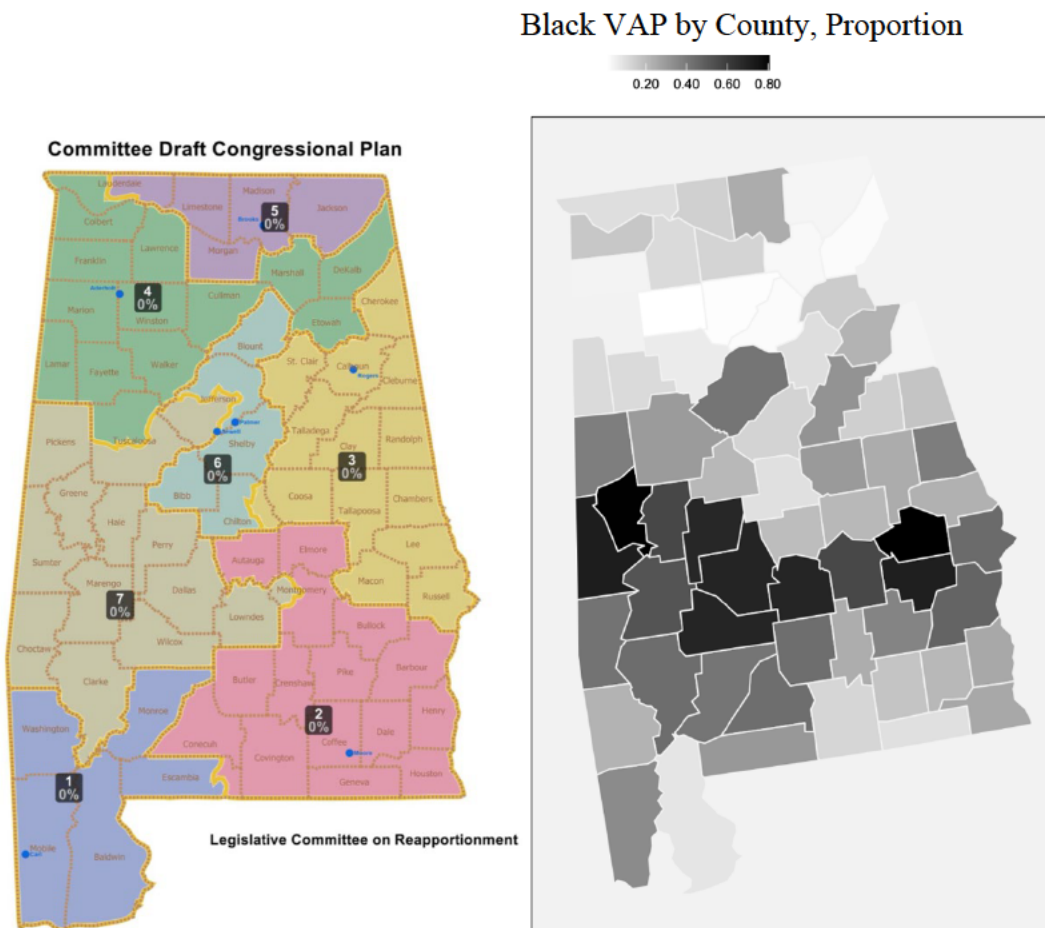
Taken together, this evidence suggests that movement across districts was not random, and Black VAP was a strong predictor of change across maps. Furthermore, a comparison of the total Black VAP to the average Black VAP of census blocks that were moved in and moved out of these



districts shows that largely Black blocks were disproportionately moved out of these districts and replaced with disproportionately White blocks. This is then offset by a large number of higher Black VAP census blocks relocated into the predominantly White CD 6. This indicates that areas with higher Black VAP were intentionally spread across multiple districts.

I next turn to an examination of specific boundaries and their relationship to countywide Black VAP. It is illustrative to examine the composition of the districts against the racial makeup of the counties. On the left is the enacted map, and on the right is a map showing the Black VAP by county. A few choices of where lines were drawn warrant additional attention.

Given the concentration of Black VAP in the area traditionally referred to as the “Black Belt,” my analysis focuses primarily on this area. The affected counties include Barbour, Bullock, Butler, Choctaw, Crenshaw, Dallas, Greene, Hale, Lowndes, Macon, Marengo, Montgomery, Perry, Pickens, Pike, Russell, Sumter, and Wilcox. This impacts Congressional Districts 1, 2, 3, and 7.



With respect to CD 2, Elmore County has a population of 69,005 and a Black VAP of 20.9 percent. Macon County and Russell County have a combined population of 60,907 and Black VAPs of 80.7 percent and 44.4 percent, respectively. The three counties are adjacent. However, Elmore was drawn into the same district as a number of Black Belt counties, while Macon and Russell were drawn into a different district, apart from the rest of the Black Belt.

Furthermore, again with respect to CD 2, Bullock County and most of Montgomery County were drawn out of the Black Belt and connected to the much whiter Autauga County to the north and Coffee, Covington, and Geneva to the south.

With respect to CD 3, Macon County with a Black VAP of over 80 percent was located into the same district as Cherokee County (approximately 150 miles away), which has a Black VAP of 4.5 percent.

Additionally, we see that most of the Black Belt has been drawn into CD 7. With the exception of the aforementioned splits in Jefferson, Montgomery, and Tuscaloosa Counties, the edges of CD 7 with the highest Black VAP occur where they meet the boundaries of CD 4, CD 6, and CD 2. This provides further evidence that race played a major role in deciding where to split the districts.

Finally, we see that the western part of Jefferson County was split into the majority-Black district CD 7 and the eastern part of the county was connected to Blount, Shelby, Bibb and Chilton Counties, which contain some of the lowest Black VAPs in the state.

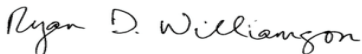
In totality, this provides visual evidence suggesting that race was a factor in where to draw district lines.

#### **Part 4: Summary and Conclusion**

In conclusion, in my opinion, substantial evidence indicates that race was a significant factor that motivated the drawing of congressional district lines in Alabama. Congressional District 7 features a substantially larger Black VAP than any other district, created by splitting three largely Black counties in ways that disproportionately draw areas with more Black residents into District 7. Similarly, race appears to have played a significant role in drawing the contours of Congressional Districts 1, 2, and 3 by dividing the area of the state traditionally referred to as the Black Belt among these three districts, and by drawing districts lines through areas with high concentrations of Black residents to separate those areas into multiple districts.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct:

Executed, this day, December 10, 2021, at Washington, District of Columbia.



---

Ryan D. Williamson, Ph.D.

# Ryan D. Williamson

Assistant Professor  
Auburn University  
Haley Center 8030A

[rdw0035@auburn.edu](mailto:rdw0035@auburn.edu)  
(334) 844-5062  
[ryandwilliamson.com](http://ryandwilliamson.com)

## Academic Positions

Auburn University  
Assistant Professor of Political Science, 2018–present

United States Senate Committee on Rules and Administration  
American Political Science Association Congressional Fellow, 2017-2018

## Education

2017: University of Georgia, Ph.D. Political Science  
Dissertation: *Examining the Effects of Institutional Design on Electoral Outcomes*  
Examination Fields: American Politics and Methodology

2013: University of Michigan, Inter-University Consortium for Political and Social Research

2011: University of Alabama at Birmingham, B.A. Political Science Honors, *cum laude*

## Research and Teaching Interests

Elections & Election Administration, Congressional Procedure & Policy, Institutional Development

## Peer-Reviewed Articles

“Elections, Competition, and Constituent Evaluations of U.S. Senators.” *Conditionally Accepted at Electoral Studies*. with Joel Sievert.

“Redistricting and Incarceration: Examining the Effect of New York’s Prohibition on Prison Gerrymandering.” Accepted for publication. *State Politics & Policy Quarterly*. with Bridgett King.

“Contours of a National Infrastructure Policy for the New Millennium.” 2021. *Public Works Management & Policy*. 26(3): 200-209. with John C. Morris and A. Stanley Meiburg.

“Institutional Variation, Professionalization, and State Implementation Choices: An Examination of Investment in Water Quality Across the 50 States.” 2021. *American Review of Public Administration*. 51(6): 436-448. with John C. Morris and Jonathan M. Fisk.

“Lessons from the COVID-19 Pandemic for Federalism and Infrastructure: A Call to Action.” 2021. *Public Works Management & Policy*. 26(1): 6-12. with John C. Morris.

“Nationalization and the Incumbency Advantage.” 2020. *Political Research Quarterly*. 73(1): 156–168. with Jamie Carson and Joel Sievert.

“Security and Integrity: Administrative Structure, Capacity, and American Elections.” 2020. *Journal of Political Institutions and Political Economy*. 1(2): 189-207. with Mitchell Brown and Kathleen Hale.

“Policymaking by the Executive: Examining the Fate of Presidential Agenda Items.” 2020. *Congress & the Presidency*. 47(1): 1-31. with Jason Byers and Jamie Carson.

“Capacity to Address Natural and Man-made Vulnerabilities: The Administrative Structure of U.S. Election System Security.” 2020. *Election Law Journal: Rules, Politics, & Policy*. 19(2): 180-199. with Mitchell Brown, Lindsey Forson, Kathleen Hale, and Robert Smith.

“Questions of Order in the United States Senate: Procedural Uncertainty and the Role of the Parliamentarian.” 2019. *Social Science Quarterly*. 100(4): 1343-1357. with Anthony Madonna and Michael Lynch.

“Rules, Polarization, and the Future of the Senate.” 2019. *PS: Political Science & Politics*. 52(2): 401-403.

“Examining the Effects of Partisan Redistricting on Candidate Entry Decisions.” 2019. *Election Law Journal: Rules, Politics, & Policy*. 18(3): 214-226.

“Evaluating Candidate Positioning and Success in the 2018 Midterm Elections.” 2018. *The Forum*. 16(4): 675-686.

“Candidate Ideology and Electoral Success in Congressional Elections.” 2018. *Public Choice*. 176: 175-192. with Jamie Carson.

“The Vice President in the U.S. Senate: Examining the Consequences of Institutional Design.” 2018. *Congress & the Presidency*. 45(2): 145-165. with Michael Lynch, Anthony Madonna, and Mark Owens.

“Public Attitudes Toward Presidential Veto Powers.” 2018. *Research & Politics*. 5(1): 1-6. with Joel Sievert.

“Institutional Control of Redistricting and the Geography of Representation.” 2017. *Journal of Politics*. 79(2): 722-726. with Michael Crespin, Barry Edwards, and Maxwell Palmer.

“Re-evaluating the Effects of Redistricting on Electoral Competition, 1972-2012.” 2014. *State Politics & Policy Quarterly*. 14(2): 162-174. with Jamie Carson and Michael Crespin.

## Book Chapters

“Recent Developments in Congressional Redistricting.” 2020. In *New Directions in Congressional Politics 2<sup>nd</sup>* ed. Eds. Jamie Carson and Michael Lynch. New York: Routledge.

“Redistricting and Electoral Competition in American Politics.” 2019. In *Oxford Bibliographies in Political Science*. Ed. Sandy Maisel. New York: Oxford University Press.

“Candidate Emergence in the Era of Direct Primaries.” 2018. In *Handbook of Primary Elections*. Ed. Robert Boatright. New York: Routledge. with Jamie Carson.

“Introduction to Congressional Elections.” 2016. In *Guide to U.S. Elections* 7<sup>th</sup> ed. Ed. Deborah Kalb. Washington, DC: Congressional Quarterly Press. with Jamie Carson.

## Other Publications

“Letter to the Editor: Response to Crowley et al. 2020.” *Frontiers in Ecology and the Environment*. Accepted for Publication.

*Oklahoma Redistricting: An Empirical Assessment*. Research Report for Let’s Fix This. with Michael Crespin, Barry Edwards, and Maxwell Palmer.

A review of “Nixon’s FBI: Hoover, Watergate, and a Bureau in Crisis” by Melissa Graves. (Lynne Reinner Publishers, 2020) 2021. *Political Science Quarterly* 136(3): 585-586.

A review of “Changing Cultures in Congress: From Fair Play to Power Plays” by Donald R. Wolfensberger (Columbia University Press, 2018) 2019. *Political Science Quarterly* 134(4): 736-737.

“Electoral Politics in Georgia and Their Impact on Future Gubernatorial Races.” 2018. *Presidents and Executive Politics Report* 40(2): 18-22.

## Select Working Papers

“Interbranch Warfare: Senate Amending Process and Restrictive House Rules.” with Anthony Madonna. *Invited to Revise & Resubmit at Political Research Quarterly*.

“Trump and Trust: Examining the Relationship between Claims of Fraud and Citizen Attitudes.” with Florian Justwan. *Invited to Revise & Resubmit at PS: Political Science & Politics*.

“Nationalized Politics: Examining Electoral Politics Across Time.” with Jamie Carson and Joel Sievert. *Book manuscript. Under review*.

“Promise and Performance: The Water Quality Act at Thirty.” with John C. Morris, Jan C. Hume, and Lien Nguyen. *Under review*.

“Candidate Entry in U.S. Congressional Primary Elections, 1956 - 2018.” with Jason Byers and Jamie Carson.

“Evaluating the Relationship between Redistricting Methods and Citizens’ Attitudes towards Government.” with Florian Justwan.

## Grants and Awards

Auburn University Student Government Association’s The Final Lecture Award Nominee  
University of Georgia Graduate School Outstanding Teaching Award  
University of Georgia Department of Political Science Excellence in Teaching Award



Alfred P. Sloan Foundation Grant (\$49,994)  
Auburn University College of Liberal Arts New Faculty Release from Teaching Grant (\$34,505)  
Auburn University College of Liberal Arts New Faculty Summer Research Grant (\$6,000)  
Congressional Research Grant sponsored by the Dirksen Congressional Center (\$3000)  
Southern Political Science Association Artinian Travel Award (\$500)  
Southern Political Science Association Prestage-Cook Travel Award (\$250)  
Richard A. Baker Graduate Student Research Travel Grant (\$763)

## **Invited Presentations**

### **2021**

“Vote Choice and Electoral Politics.” Presented to the Robert Wood Johnson Foundation Health Policy Fellows program.

“Redistricting and the Census in 2021.” Presented at the Election Center Special Workshop on Lessons Learned and Resilience Going Forward.

### **2020**

“[Voting in 2020: What to Expect.](#)” Auburn University College of Liberal Arts Public Webinar.

“Vote Choice and Electoral Politics.” Presented to the Robert Wood Johnson Foundation Health Policy Fellows program.

“Security and Integrity: Administrative Structure, Capacity, and American Elections.” with Kathleen Hale, Mitchell Brown, Lindsey Forson, and Robert Smith. Presented at the Election Administration and Technology Symposium hosted by the Bedrosian Center at the University of Southern California Sol Price School of Public Policy.

### **2019**

“Election Law Update: Redistricting and Gerrymandering.” Presented at the Election Center Special Workshop on Improving the Integrity of Voter Registration & Election Operations.

## **Conference Participation**

### **Presentations**

#### **2021**

“Nationalization and Candidate Evaluations.” with Jamie Carson and Joel Sievert. Accepted for presentation at the 2021 Annual Meeting of the American Political Science Association.

“Smith v. Allwright: Examining External Reform and the Electoral Connection.” with Aaron Hitefield and Adam Rutkowski. Presented at the 2021 Annual Meeting of the Midwest Political Science Association.

“Nationalization and the Electoral Connection.” with Jamie Carson and Joel Sievert. Presented at the 2021 Annual Meeting of the Midwest Political Science Association.

“State Choice vs. National Policy Goals: Loan Distribution Patterns in the Clean Water State Revolving Loan Fund Program.” with John Morris. Presented at the 2021 Annual Meeting of the Midwest Political Science Association.

“Examining the Divergence of Foreign and Domestic Human Rights Support Within the United States.” with Shelby Hall. Presented at the 2021 Annual Meeting of the International Studies Association.

“Green Stimulus or Industry Bailout: Assessing the Implementation of State Well-Plugging Programs.” with Jonathan Fisk, John Morris, and Steven Nelson. Presented at the 2021 Annual Meeting of the American Society for Public Administration.

“The Water Quality Act at Thirty: State Choice and the Clean Water State Revolving Loan Fund.” with John Morris, Jan Hume, and Lien Nguyen. Presented at the 2021 Annual Meeting of the Southern Political Science Association.

“Politics or Public Health? Explaining State Actions During the COVID-19 Pandemic.” with John Morris, Jan Hume, and Martin Mayer. Presented at the 2021 Annual Meeting of the Southern Political Science Association.

## **2020**

“Interbranch Warfare: Senate Amending Process and Restrictive House Rules.” with Anthony Madonna. Presented at the 2020 Annual Congress and History Conference by the University of Wisconsin in Madison, Wisconsin.

“Evaluating the Relationship between Redistricting Methods and Citizens’ Attitudes towards Government.” with Florian Justwan. Accepted at the 2020 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois. (conference cancelled)

“Nationalization and Polarization in US House Elections.” with Jamie Carson and Joel Sievert. Accepted at the 2020 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois. (conference cancelled)

“Promise and Performance: Loan Distribution Patterns in the Clean Water State Revolving Loan Fund Program.” with John Morris, Jan Hume, and Lien Nguyen. Accepted at the 2020 Annual Meeting of the American Society for Public Administration in Anaheim, CA. (conference cancelled)

“Should Florida Establish an Independent Redistricting Commission?” with Barry Edwards, Michael Crespin, and Maxwell Palmer. Accepted at the 2020 Annual Meeting of the Florida Political Science Association in Deland, Florida. (conference cancelled)

“Examining the Divergence of Foreign and Domestic Human Rights Support Within the United States.” Accepted at the 2020 Annual Meeting of the International Studies Association in Honolulu, Hawaii. (conference cancelled)

## **2019**

“Constituent Evaluations of US Senators Over the Electoral Cycle.” with Joel Sievert. Presented at the 2019 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“Interbranch Warfare: Senate Amending Process and Restrictive House Rules.” with Anthony Madonna, Jordan McKissick, Laine P. Shay, and Simon Williamson. Presented at the 2019 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“Examining Exit Decisions and Their Effect on the 2018 House Elections.” with Joel Sievert. Presented at the 2019 Annual Meeting of the Southern Political Science Association in Austin, Texas.

## **2018**

“Are Congressional Primaries Becoming as Nationalized as General Elections?” with Jason Byers and Jamie Carson. Presented at the 2018 Annual Meeting of the American Political Science Association in Boston, Massachusetts.

“Are Congressional Primaries Becoming as Nationalized as General Elections?” with Jason Byers and Jamie Carson. Presented at the 2018 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

## **2017**

“Challengers, Choices, and Competition in Congressional Primaries.” with Jason Byers and Jamie Carson. Presented at the 2017 Annual Meeting of the American Political Science Association in San Francisco, California.

“Did Party Loyalty Trump Ideology? Assessing Candidate Effects on the 2016 Elections.” with Jason Byers, Jamie Carson, and Stephen Pettigrew. Presented at the 2017 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“The Effects of House Restrictive Rules on Senate Amending.” with Anthony Madonna, Jordan McKissick, Rory Hibbler, and Robert Oldham. Presented at the 2017 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“Constituent Evaluations of US Senators Over the Electoral Cycle.” with Joel Sievert. Presented at the 2017 Annual Meeting of the Southern Political Science Association in New Orleans, Louisiana.

“Evaluating the Role of Coattail Effects in the 2016 Elections.” with Jason Byers and Jamie Carson. Presented at the 2017 Annual Meeting of the Southern Political Science Association in New Orleans, Louisiana.

## **2016**

“Legislators, Commissioners, and Traditional Redistricting Principles.” with Barry Edwards, Michael Crespín, and Maxwell Palmer. Presented at the 2016 Annual Meeting of the American Political Science Association in Philadelphia, Pennsylvania.

“Legislators, Commissioners, and Traditional Redistricting Principles.” with Barry Edwards, Michael Crespín, and Maxwell Palmer. Presented at the 2016 Annual State Politics and Policy Conference at the University of Texas at Dallas in Richardson, Texas.

“Candidates, Money, and Polarization in U.S. House Elections, 1872-2014.” with Jamie Carson, Mark Owens, and Joel Sievert. Presented at the 2016 Annual Congress and History Conference at the University of Oklahoma in Norman, Oklahoma.

“Examining the Relationship Between Executive Orders and the President’s Legislative Agenda.” with Jason Byers and Jamie Carson. Presented at the 2016 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“Do Vetoes Hurt the President?” with Joel Sievert. Presented at the 2016 Annual Meeting of the Southern Political Science Association in San Juan, Puerto Rico.

## **2015**

“Assessing the Rise and Development of the Incumbency Advantage in Congress.” with Jamie Carson and Joel Sievert. Presented at the 2015 Annual Meeting of the American Political Science Association in San Francisco, California.

“Assessing the Rise and Development of the Incumbency Advantage in Congress.” with Jamie Carson and Joel Sievert. Presented at the 2015 Annual Congress and History Conference at Vanderbilt University in Nashville, Tennessee.

“Dramatic Defeats, Primary Participation, and Republican Rifts: Evaluating the 2014 Midterm Elections.” with Jamie Carson and Joel Sievert. Presented at the 2015 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“Reassessing the Scare-Off Effect: Evidence from House Primary Races.” Presented at the 2015 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“Examining Incumbent Behavior Following Failure to Deter a Quality Challenger.” Presented at the 2015 Annual Meeting of the Southern Political Science Association in New Orleans, Louisiana.

“Looking Beyond the Incumbency Advantage: Measuring the Effect of Challenger Ideology on Congressional Election Outcomes.” with Jamie Carson. Presented at the 2015 Annual Meeting of the Southern Political Science Association in New Orleans, Louisiana.

## **2014**

“Analyzing the Effects of Redistricting on Ideology in the Post-*Wesberry* Era.” Presented at the 2014 Annual Meeting of the Society for Political Methodology at the University of Georgia in Athens, Georgia.

“A Reconsideration of Disaster Declarations as an Exercise in Unilateral Power.” Presented at the 2014 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“A Reconsideration of Disaster Declarations as an Exercise in Unilateral Power.” Presented at the 2014 Annual Meeting of the Southern Political Science Association in New Orleans, Louisiana.

## **2013**

“Examining the Roles of Race and Income in Partisan Self-Placement, 1966-2008.” with Joel Sievert. Presented at the 2013 Annual Meeting of the Midwest Political Science Association in Chicago.

## **Discussant**

“American Development.” 2021 Annual Meeting of the Midwest Political Science Association.

“Electoral Politics in the U.S.” 2021 Annual Meeting of the Midwest Political Science Association.

“Environmental Policy.” 2021 Annual Meeting of the Midwest Political Science Association.

“Public Policy in the American States.” 2021 Annual Meeting of the Midwest Political Science Association.

“Voting and Position Taking in Legislatures.” 2019 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“Meet the Author: Women Officeholders and the Role Models Who Pioneered the Way.” 2019 Annual Meeting of the Southern Political Science Association in Austin, Texas.

“Analyzing Roll Calls in Congress.” 2018 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“Of Geography and Gerrymandering: The Causes and Consequences of Congressional Redistricting.” 2017 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“New Directions in APD Research.” 2017 Annual Meeting of the Southern Political Science Association in New Orleans, Louisiana.

“Diffusion and Policy Variation in the American States.” 2016 Annual Meeting of the American Political Science Association in Philadelphia, Pennsylvania.

“Executive Influence and Success.” 2016 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.

“Floor and Pre-Floor Actions: Holds, Cosponsorships, and Amendments.” 2015 Annual Meeting of the Southern Political Science Association in New Orleans, Louisiana.

“Legislative Politics: Elections I.” 2014 Annual Meeting of the Southern Political Science Association in New Orleans, Louisiana.

### **Chair**

“American Development.” 2021 Annual Meeting of the Midwest Political Science Association.

“Electoral Politics in the U.S.” 2021 Annual Meeting of the Midwest Political Science Association.

“Environmental Policy.” 2021 Annual Meeting of the Midwest Political Science Association.

“Presidents and Cabinet Politics.” 2021 Annual Meeting of the Southern Political Science Association.

“Of Geography and Gerrymandering: The Causes and Consequences of Congressional Redistricting.” 2017 Annual Meeting of the Midwest Political Science Association in Chicago, Illinois.



## Courses Taught

### Undergraduate

Introduction to American Government  
Introduction to American Government, Online  
Introduction to American Government, Honors  
The Legislative Process  
Political Parties and Interest Groups  
Executive Politics  
Electoral Institutions  
Voting Behavior and Representation  
State Government and Policy  
Honors Study and Travel: Washington, D.C.

### Graduate

Electoral Institutions  
Voting Behavior and Representation  
Classics in American Politics and Policy  
Election Administration Reform Policy  
State Politics  
MPA Research Project  
Research Methods

## Graduate Advising

PhD Dissertation Co-chair for Karen Newsome  
PhD Dissertation Co-chair for Steven Nelson  
PhD Dissertation Committee Member for Catherine Cummings  
PhD Dissertation Committee Member for Jalonta Jackson  
PhD Dissertation Committee Member for Gregory Johnson  
PhD Dissertation Committee Member for Kara Newby  
PhD Dissertation Committee Member for Towanna Sears  
PhD Dissertation Committee Member for Lindsey Forson (completed Summer 2020)

Masters Thesis Committee Member for Amanda Alva  
Masters Thesis Committee Member for Sabine Bailey  
Masters Thesis Committee Member for Thomas Moorman

## Training and Facilitation

October 2021. "Communications and Public Relations in Election Administration."  
The Election Center CERA Training Program. Remote Delivery.

July 2021. "Information Management and Security."  
The Election Center CERA Training Program. Remote Delivery.

July 2021. "Elections Administration as a System."  
The Election Center CERA Training Program. Denver, CO.

June 2021. "Communications and Public Relations in Election Administration."  
The Election Center CERA Training Program. Virginia Beach, VA.

May 2021. "Communications and Public Relations in Election Administration."  
The Election Center CERA Training Program. Remote Delivery.

April 2021. "The Constitutional Law of Elections."  
The Election Center CERA Training Program. Remote Delivery.

March 2021. "Voter Participation."  
The Election Center CERA Training Program. Remote Delivery.

March 2021. "History of Elections III: Pathways to Participation."  
The Election Center CERA Training Program. Remote Delivery.

February 2021. "Voter Participation."  
The Election Center CERA Training Program. Remote Delivery.

February 2021. "The History of Elections II: 1781 to 1964."  
The Election Center CERA Training Program. Remote Delivery.

July 2020. "Information Management and Security."  
The Election Center CERA Training Program. Remote Delivery.

July 2020. "Voter Participation."  
The Election Center CERA Training Program. Remote Delivery.

July 2020. "History of Elections III: Pathways to Participation."  
The Election Center CERA Training Program. Remote Delivery.

July 2020. "The Constitutional Law of Elections."  
The Election Center CERA Training Program. Remote Delivery.

May 2020. "The History of Elections II: 1781 to 1964."  
The Election Center CERA Training Program. Remote Delivery.

February 2020. "Redistricting and Election Administration."  
The Election Center CERA Training Program. Greenville, SC.

August 2019. "Redistricting and Election Administration."  
The Election Center CERA Training Program. Orlando, FL.

June 2019. "The History of Elections II: 1781 to 1964."  
The Election Center CERA Training Program. Denver, CO.

April 2019. "Courts, Constitutions, and Cases: Early America to 1965."  
The Election Center CERA Training Program. Virginia Beach, VA.

Alabama Secretary of State Registrar Training Program.  
May 2021. Tuscaloosa, AL.

Alabama Secretary of State Registrar Training Program.  
September 2019. Dothan, AL.

## Service

Postdoctoral Fellow in Election Administration search committee (Spring 2020)  
Professor of Practice in Non-Profit Administration search committee (Spring 2021)  
Ad hoc committee on Departmental Bylaws  
Ad hoc committee on Tenure and Promotion  
MPA Core Faculty  
American Politics Comprehensive Exam Writer (Fall 2018–Spring 2021)  
American Politics Comprehensive Exam Grader (Fall 2018–Spring 2021)  
Political Methodology Comprehensive Exam Writer (Spring 2021)  
Political Methodology Comprehensive Exam Grader (Fall 2019–Spring 2021)  
Election Administration Comprehensive Exam Writer (Spring 2021)  
Election Administration Comprehensive Exam Grader (Spring 2021)

## Media Contributions

### Blog Posts

[In 2020, Senate elections were nationalized elections. The Georgia runoffs could be too.](#)  
LSE's American Politics and Policy blog. with Jamie Carson. December 4, 2020.

[Why did Democrats lose seats in the 2020 elections?](#)  
LSE's American Politics and Policy blog. with Jamie Carson. November 12, 2020.

[Is gerrymandering “poisoning the well” of democracy?](#)  
Oxford University Press blog. October 26, 2020.

[Polarization in the Senate isn't going away.](#)  
LegBranch.org blog. March 25, 2019.

[Taking the redistricting process out of the hands of state legislatures can mean more competitive US House elections.](#) LSE's American Politics and Policy blog. March 6, 2019.

[The story of the midterms is the triumph of the moderates – on both sides.](#)  
LSE's American Politics and Policy blog. with Jamie Carson. November 9, 2018.

[How the Dems Could Win the House in November.](#)  
*Newsweek*. with Jamie Carson. February 2, 2018.

[Why taking moderate positions may help the Democrats to retake the House this fall.](#)  
LSE's American Politics and Policy blog. with Jamie Carson. February 1, 2018.

[This is how to get rid of gerrymandered districts.](#) Monkey Cage, *The Washington Post*.  
with Michael Crespin, Maxwell Palmer, and Barry C. Edwards. March 17, 2017.

[Michelle Nunn's midterm result shows that Georgia's demographics may be shifting to favor the Democrats.](#) LSE's American Politics and Policy blog. with Jamie Carson and Joel Sievert.  
November 10, 2014.

2014 Midterms: Key Issues in the Georgia Senate Race. The Brookings Institute. with Jamie Carson. October 28, 2014.

In order to increase competition in U.S. House races, states should look to extra-legislative bodies to redraw congressional boundaries. LSE's American Politics and Policy blog. with Jamie Carson and Michael Crespin. May 26, 2014.

## Interviews

Katie Boyd Britt wants to solve the state's problems, but is that what Alabama wants? *Interview with the Montgomery Advertiser*. July 25, 2021.

"No Step Too High for a High-Stepper": Gov. Kay Ivey Says She's Running for Another Term. *Interview with the Birmingham Times*. June 2, 2021.

Biden's American Rescue Plan a Big Win, But Can Dems Capitalize? *Interview with the Birmingham Times*. April 3, 2021.

What the 2020 election revealed about conservatism in the U.S. *Interview with Deseret News*. December 2, 2020.

COVID-19 changed election rules in the South. Now activists see chance for reform. *Interview with The American South*. December 1, 2020.

GOP advantages in rural Alabama grow even wider in Tommy Tuberville win. *Interview with Montgomery Advertiser*. November 5, 2020.

Auburn University political science professor gives perspective on the election. *Interview with WSFA News 12 in Montgomery, AL*. November 4, 2020.

Trump Sweeps Alabama, Tuberville Ousts Jones for Senate Seat. *Interview with Birmingham Watch*. November 4, 2020.

Straight-party voters could doom Doug Jones in US Senate race against Tommy Tuberville. *Interview with AL.com* October 30, 2020.

Election 2020: Why 'convenience' voting is controversial, even in a pandemic. *Interview with Deseret News*. October 30, 2020.

The crisis may be a turning point! How will an epidemic that killed 230,000 lives change the US presidential election? *Interview with The World Today*. October 29, 2020.

As Tommy Tuberville pitches to Republican base, Doug Jones tries to assemble a coalition. *Interview with Montgomery Advertiser*. October 28, 2020.

With a Commanding Lead in Polls, Tuberville Shuns Media and Jones While Embracing Trump. *Interview with Birmingham Watch*. October 27, 2020.

[Doug Jones Faces Long Odds in Keeping Alabama Senate Seat.](#)

*Interview with Wall Street Journal.* October 26, 2020.

[Ex-Auburn coach Tommy Tuberville's race for US Senate seat short on substance, insiders say.](#)

*Interview with USA Today.* October 22, 2020.

[Republicans Aren't Writing Off Doug Jones. Neither is Jones.](#)

*Interview with Bloomberg Government.* October 8, 2020.

[Plain Talk with Dr. Ryan Williamson](#)

*Interview with Eagle Eye TV.* October 5, 2020.

[Could fewer absentee voting restrictions affect Alabama's election?](#)

*Interview with WHNT News 19 Huntsville, AL.* September 17, 2020.

[Alabama Democrats aim to be heard under new leadership.](#)

*Interview with AL.com.* July 26, 2020.

[Trends favor Tommy Tuberville in Senate election, but plenty of questions remain.](#)

*Interview with Montgomery Advertiser.* July 17, 2020.

[Alabama Senate Candidates Take Sharply Different Approaches to Rise in COVID-19 Cases.](#)

*Interview with Montgomery Advertiser.* June 26, 2020.

[Political Science Professor Looks at How the Coronavirus Pandemic Will Effect State & Presidential Elections.](#) *Interview with WLTZ First News Columbus, GA.* June 9, 2020.

[Political Science professor examines pandemic's effect on state, presidential elections.](#)

*Auburn University Expert Answers.* May 21, 2020.

[As Alabama reopens, will people wear masks?](#)

*Interview with AL.com.* May 9, 2020.

[¿Podrá Joe Biden sacar de la Casa Blanca a Donald Trump?](#)

*Interview with SEMANA Magazine.* March 14, 2020.

[Auburn Professor Talks Impeachment.](#)

*Interview with Eagle Eye TV.* January 28, 2020.

[‘Divided’: Auburn Reckons with Impeachment.](#)

*Interview with The Auburn Plainsman.* January 23, 2020.

[What's next? Impeachment probe set to shift to Judiciary Committee.](#)

*Interview with Sinclair Broadcast Group.* November 25, 2019.

[Political science assistant professor discusses impeachment process.](#)

*Auburn University Expert Answers.* November 15, 2019.



[Ex-Coach, Scandal-Ridden Judge Jolt GOP in Pivotal Senate Race.](#)

*Interview with Bloomberg Government.* August 1, 2019.

[Price tag for Alabama elections: \\$111 million.](#)

*Interview with Montgomery Advertiser.* November 20, 2018.

[Alabama GOP Still Dominant Despite Challenges from Democrats.](#)

*Interview with WBHM NPR.* November 7, 2018.

[Alabama among 7 states allowing straight-ticket voting; That won't soon change.](#)

*Interview with AL.com.* September 20, 2018.

## Professional Memberships

American Political Science Association

Midwest Political Science Association

Southern Political Science Association

## Manuscript Reviewer

*American Political Science Review*

*Journal of Politics*

*American Politics Research*

*State Politics & Policy Quarterly*

*Congress & the Presidency*

*Journal of Political Science Education*

*Open Journal of Political Science*

*Applied Geography*

*Sustainability*

*Healthcare*

*Oxford University Press*

*Rowman & Littlefield*

*American Journal of Political Science*

*Political Research Quarterly*

*Legislative Studies Quarterly*

*Social Science Quarterly*

*Party Politics*

*Review of Economics and Statistics*

*Law & Policy*

*Social Sciences*

*Administrative Sciences*

*Cambridge University Press*

*SAGE Publishing*

## Software Proficiency

Stata, R, L<sup>A</sup>T<sub>E</sub>X, Qualtrics

## References

Available upon request.

Last updated October 2021