

UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MISSOURI

State of Missouri, David Mason, An-
drea McCann, Jessica Fisher, and
Phillip Fisher,

Plaintiffs,

v.

United States Department of Com-
merce, Howard W. Lutnick in his of-
ficial capacity as Secretary of Com-
merce, United States Census Bu-
reau, George Cook in his official ca-
pacity as Acting Director of the U.S.
Census Bureau,

Defendants.

Case No.

EXPERT REPORT OF SEAN P. TRENDE, Ph.D.

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1 Introduction

My name is Sean P. Trende. I am over 18 years of age and I hold a Ph.D. in Political Science. I have been retained by Plaintiffs in the above-captioned matter. I have been asked to perform certain calculations related to the decennial census apportionment to determine whether alternate ways of counting seats would have resulted in Missouri gaining an additional congressional district. I am being compensated at a rate of \$500/hr. My compensation is in no way dependent upon the conclusions I reach. All opinions are offered to a reasonable degree of scientific certainty.

2 Qualifications

2.1 Professional Experience

I serve as Senior Elections Analyst for Real Clear Politics. I joined Real Clear Politics in January of 2009 and assumed a fulltime position 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.

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.

I am also a Lecturer at The Ohio State University. My course load is detailed in my C.V., attached as Exhibit 1.

2.2 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. My focus was researching the history of and writing descriptions for many of the 2012 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 Dr. 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.

2.3 Education

I received my Ph.D. in political science at The Ohio State University in 2023. I passed comprehensive examinations in both Methodology and American Politics. My dissertation applied historical and spatial statistical approaches to analyzing American political institutions, including (1) an analysis of Supreme Court voting patterns from 1900 to 1945; (2) methodological development in the use of integrated nested LaPlace approximations (INLA) to incorporate spatial statistics into election analysis; and (3) simulation-based evaluation of “communities of interest” in redistricting. In pursuit of this degree, I 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., spatial statistics, issues in contemporary redistricting, machine learning, non-parametric hypothesis tests and probability theory. I also earned a B.A. from Yale University in history and political science in 1995, a Juris Doctor from Duke University in 2001, and a Master’s Degree in political science from Duke University in 2001.

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 Spring semesters 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. It also covers the Voting Rights Act and racial gerrymandering claims. I also taught survey methodology in Fall of 2022 and Spring of 2024. In Spring of 2025, I taught Introduction to the Policy Process. In Spring of 2026, I am teaching American Government Culture and Behavior.

2.4 Prior Expert Engagements

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. *See, 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-gerrymander>; 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.

3 Methodology

While the idea of allocating congressional districts fairly according to the United States decennial census results may seem straightforward, in reality it has evolved over time, employing different methodologies. Congressional apportionments are based off of the number of people residing in a state. *See* U.S. Const., Art. I, §2; U.S. Const. amend XIV §14. The United States has employed five different methods to apportion congressional districts. The modern method is the "Method of Equal Proportions." *See* <https://www.census.gov/topics/public-sector/congressional-apportionment/a>

bout/historical-perspective.html. This approach has been utilized since the 1940 census to calculate apportionment.

To employ the method of equal proportions, every state first receives a single congressional district. Next, a “priority value” for the remaining 385 seats is calculated by taking a state’s population and dividing it by the square root of the quantity $n \times (n-1)$, where n represents the number of seats the state would obtain if it were to be awarded another seat. These priority values are then listed in descending order, and the first 385 are the seats awarded.

To illustrate how this works, assume that 50 congressional seats have already been awarded, with one to each state. After we do this, we calculate priority values for each state for a large number of seats, using the formula above. So, for example, in California, the priority value for seat number 2 is the population (39,583,223) divided by the square root of $(2 \times (2-1))$: 27,989,565. The priority value for the 3rd seat in Arizona is the population (7,151,502) divided by the square root of $(3 \times (3-1))$, which yields 2,919,588. The priority value for Utah’s 5th seat is the population of Utah (3,271,616) divided by the square root of $(5 \times (5-1))$, which yields 731,555.6.

Once the priority values are calculated for each state, these priority values are ordered from greatest to smallest, and first 385 seats in order of priority are selected and assigned accordingly.

4 Analysis

Data for the 2020 Apportionment are made available on the United States Census Bureau’s website here: <https://www.census.gov/data/tables/2020/dec/2020-apportionment-data.html>. This includes the actual apportionment, the priority values, and the calculations employed. R is capable of importing population data directly from the Census Bureau. I have done so and used it to calculate the apportionment for 2020.

As a result of the 2020 census, Missouri was awarded 8 seats. This is the same number of seats that it was awarded in the 2010 census. California, Illinois, Michigan,

New York, Ohio, Pennsylvania, and West Virginia all lost one seat from the 2010 apportionment. Colorado, Florida, Montana, Oregon, and North Carolina all gained a seat, while Texas gained two.

I was asked to estimate what the result of the 2021 apportionment would have been if the 2020 Census had enumerated only citizen and legal-permanent-resident populations instead of the total population, including all non-citizens. There is no citizenship question on the decennial census, nor is there a legal-permanent-resident question. Data on citizenship is published by the U.S. Census Bureau in the American Community Survey (ACS). The ACS publishes both 1- and 5-year estimates. For these purposes, I have employed the 5-year estimates for 2016-2020. Although this is a survey, and like all surveys it has error margins, at the statewide level these error margins are negligible.

Had the 2020 reapportionment proceeded on the basis of the total ACS estimates, including all residents regardless of legal status, Missouri still would have received 8 congressional districts.

However, we can illustrate the potential effect of relying on the non-citizens for data by calculating the 2020 apportionment based just on the citizen population in each state. Had that been the process for conducting an apportionment, Missouri would have actually gained an additional congressional seat.

I've also been asked to estimate what the reapportionment would have looked like had data based on the citizen population been utilized after incorporating counts of those granted legal permanent residence, using data from the Department of Homeland Security. https://ohss.dhs.gov/sites/default/files/2025-05/state_data_2013-2023_20250514_3.csv. The answer is that it would not change things: Missouri still would likely have been awarded an additional congressional seat if only citizens and legal permanent residents were included in the apportionment base.

I was also asked to forecast the apportionment for 2030. This is obviously a difficult task, given some data issues and also the possibility that data could shift between now and 2030. At the same time, this is a commonplace exercise in the redistricting space.

The American Redistricting Project, for example, forecasts that Missouri will retain 8 congressional seats in 2030 if the Census Bureau continues including all noncitizens in its census enumeration. American Redistricting Project. “2030 Apportionment Forecast (2025).” The ARP Blog, 2026. <https://thearp.org/blog/apportionment/2030-apportionment-forecast-2025/>. The Brennan Center agrees. Brennan Center for Justice. “Big Changes Ahead for Voting Maps after the Next Census.” Brennan Center for Justice, 2024. <https://www.brennancenter.org/our-work/analysis-opinion/big-changes-ahead-voting-maps-after-next-census>. Likewise, Election Data Services projects Missouri will retain eight congressional seats in 2030 if the Census Bureau continues including all noncitizens in its census enumeration. *See* Election Data Services. “2024 Congressional Apportionment: Final Results with Maps and Tables.” Election Data Services, December 2024. https://www.electiondataservices.com/wp-content/uploads/2024/12/NR_Apport24_FinalWMapsTables.pdf.

We can also obtain an estimate for the 2030 census using the estimated citizen population only from the Center for Immigration Studies. *See* https://cis.org/sites/default/files/2024-10/Apportionment-appendix-tables_0.xlsx. We can also add in the Legal Permanent Resident population of each state, using data from U.S. Citizenship and Immigration Services. *See* U.S. Citizenship and Immigration Services. “Eligible to Naturalize Dashboard.” USCIS, 2025. <https://www.uscis.gov/tools/reports-and-studies/immigration-and-citizenship-data/eligible-to-naturalize-dashboard>. Under this estimate, Missouri would have nine congressional seats.

5 Conclusion

Using a variety of techniques, it appears that basing reapportionment on citizens and Legal Permanent Residents would have resulted in Missouri obtaining an additional congressional district in the 2020 apportionment. That would continue to be the case under the 2030 apportionment.

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 January 29, 2026 in Delaware, Ohio.

Sean P Trende

Sean P. Trende