

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF STEUBEN

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TIM HARKENRIDER, GUY C. BROUGHT,
LAWRENCE CANNING, PATRICIA CLARINO,
GEORGE DOOHER, JR., STEPHEN EVANS, LINDA
FANTON, JERRY FISHMAN, JAY FRANTZ,
LAWRENCE GARVEY, ALAN NEPHEW, SUSAN
ROWLEY, JOSEPHINE THOMAS, AND MARIANNE
VOLANTE,

Index No. E2022-0116CV

Petitioners,

-against-

GOVERNOR KATHY HOCUL, LIEUTENANT
GOVERNOR AND PRESIDENT OF THE SENATE
BRIAN A. BENJAMIN, SENATE MAJORITY LEADER
AND PRESIDENT PRO TEMPORE OF THE SENATE
ANDREA STEWART-COUSINS, SPEAKER OF THE
ASSEMBLY CARL HEASTIE, NEW YORK STATE
BOARD OF ELECTIONS, and THE NEW YORK STATE
LEGISLATIVE TASK FORCE ON DEMOGRAPHIC
RESEARCH AND REAPPORTIONMENT,

Respondents.

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**EXPERT REPORT OF
STEPHEN ANSOLABEHERE
FEBRUARY 24, 2022**

Expert Report of Stephen Ansolabehere

QUALIFICATIONS AND EXPERTISE

1. I am the Frank G. Thompson Professor of Government in the Department of Government at Harvard University in Cambridge, MA. Formerly, I was an Assistant Professor at the University of California, Los Angeles, and I was Professor of Political Science at the Massachusetts Institute of Technology, where I held the Elting R. Morison Chair and served as Associate Head of the Department of Political Science. I am the Principal Investigator of the Cooperative Congressional Election Study (CCES), a survey research consortium of over 250 faculty and student researchers at more than 50 universities. I also directed the Caltech/MIT Voting Technology Project from its inception in 2000 through 2004 and served on the Board of Overseers of the American National Election Study from 1999 to 2013. I am an election analyst for and consultant to CBS News' Election Night Decision Desk. I am a member of the American Academy of Arts and Sciences (inducted in 2007). My curriculum vitae is attached to this report as Appendix A.

2. I worked as a consultant to the Brennan Center in the case of *McConnell v. FEC*, 540 U.S. 93 (2003). I have testified before the U.S. Senate Committee on Rules, the U.S. Senate Committee on Commerce, the U.S. House Committee on Science, Space, and Technology, the U.S. House Committee on House Administration, and the Congressional Black Caucus on matters of election administration in the United States. I filed an amicus brief with Professors Nathaniel Persily and Charles Stewart on behalf of neither party to the U.S. Supreme Court in the case of *Northwest Austin Municipal Utility District Number One v. Holder*, 557 U.S. 193 (2009), and an amicus brief with Professor Nathaniel Persily and others in the case of *Evenwel v. Abbott*, 138 S.Ct. 1120 (2015). I have served as a testifying expert for the Gonzales intervenors in *State of Texas v. United States* before the U.S. District Court for the District of Columbia (No. 1:11-cv-01303); the Rodriguez plaintiffs in *Perez v. Perry*, before the U.S. District Court for the Western District of Texas (No. 5:11-cv-00360); for the San Antonio Water District intervenor in *LULAC v. Edwards Aquifer Authority in the U.S. District Court for the Western District of Texas* (No. 5:12cv620-OLG); for the Department of Justice in *State of Texas v. Holder*, before the U.S. District Court for the District of Columbia (No. 1:12-cv-00128); for the Guy plaintiffs in *Guy v. Miller* in the First Judicial District Court in Carson City, Nevada (No. 11-OC-00042-1B); for the Florida Democratic Party in *In re Senate Joint Resolution of Legislative Apportionment* in the Florida Supreme Court (Nos. 2012-CA-412, 2012-CA-490); for the Romo plaintiffs in *Romo v. Detzner* in the Circuit Court of the Second Judicial Circuit in Florida (No. 2012 CA 412); for the Department of Justice in *Veasey v. Perry*, before the U.S. District Court for the Southern District of Texas, Corpus Christi Division (No. 2:13cv00193); for the Harris plaintiffs in *Harris v. McCrory* in the U.S. District Court for the Middle District of North Carolina (No. 1:2013cv00949); for the Bethune-Hill plaintiffs in *Bethune-Hill v. Virginia State Board of Elections* in the U.S. District Court for the Eastern District of Virginia (No. 3: 2014cv00852); for the Fish plaintiffs in *Fish v. Kobach* in the U.S. District Court for the District of Kansas (No. 2:16-cv-02105-JAR); and for intervenors in *Voto Latino, et al. v. Hobbs*, in the U.S. District Court for the District of Arizona (No. 2:19-cv-05685-DWL). I served as an expert witness and filed an Affidavit in the North Carolina State Board of Elections hearings regarding absentee

ballot fraud in the 2018 election for Congressional District 9 in North Carolina. I have been accepted as an expert in every matter in which I have been proffered as an expert witness.

3. My areas of expertise include American government, with particular expertise in electoral politics, election administration, representation, redistricting, political geography, and public opinion, as well as statistical methods in social sciences and survey research methods. I have authored numerous scholarly works on voting behavior and elections, the application of statistical methods in social sciences, legislative politics and representation, and distributive politics. This scholarship includes articles in such academic journals as the Journal of the Royal Statistical Society, American Political Science Review, American Economic Review, American Journal of Political Science, Legislative Studies Quarterly, Quarterly Journal of Political Science, Electoral Studies, and Political Analysis. I have published articles on issues of election law in the Harvard Law Review, Texas Law Review, Columbia Law Review, New York University Annual Survey of Law, and Election Law Journal, for which I am a member of the editorial board. I am associate editor of the Harvard Data Science Review, I and have served as associate editor of the Public Opinion Quarterly. I have coauthored three scholarly books on electoral politics in the United States, The End of Inequality: Baker v. Carr and the Transformation of American Politics, Going Negative: How Political Advertising Shrinks and Polarizes the Electorate, and The Media Game: American Politics in the Media Age. I am coauthor with Benjamin Ginsberg, Hahrie Han, and Ken Shepsle of American Government: Power and Purpose.

4. I have been retained by counsel at the rate of \$600 an hour.

SOURCES

5. Census, voting, and district boundary data are from the New York State Legislative Taskforce on Demographic Research and Reapportionment (LATFOR). <https://latfor.state.ny.us/data/>

6. Additional precinct-level elections data for 2016 come from the MIT Election Data Sciences Lab. <https://electionlab.mit.edu/data> and are cross-checked with summary data posted at Dave's Redistricting, www.davesredistricting.org.

7. ALARM shape file for 2020 Census data by precinct: <https://github.com/alarm-redist/census-2020>.

8. Maps of New York City neighborhoods (NTAs) come from the New York City Department of City Planning: <https://www1.nyc.gov/site/planning/data-maps/city-neighborhoods.page>.

STATEMENT OF INQUIRY

9. I have been asked by counsel to examine and respond to the expert reports of Claude LaVigna and Sean Trende.

SUMMARY OF FINDINGS

10. Contrary to the claims of LaVigna and Trende, there is no evidence of substantial partisan bias that favors the Democratic Party and its incumbents in the 2022 New York Congressional Map.

11. Trende offers a computer simulation of 5,000 maps. Based on his simulations, one would expect there to be three Republican Congressional Districts (CDs). In the enacted 2022 Map, there are four Republican CDs.

12. LaVigna repeatedly mischaracterizes the voting history and partisan orientation of New York's congressional districts. LaVigna offers no statistical evidence to support his claims concerning the voting behavior of districts and communities, and these claims repeatedly prove false. Implementing LaVigna's proposed changes to the map would produce a substantial partisan bias in favor of the Republican party.

13. LaVigna repeatedly asserts that there are no compelling reasons apart from party and incumbency for the 2022 New York Congressional District Map. He offers no analysis of other traditional redistricting principles to support that assertion.

14. Closer examination of the map reveals four clear principles that appear to have guided the configuration of the 2022 New York Congressional District Map. First, uneven population growth across the State of New York and the loss of one congressional district required substantial changes in district boundaries. The disproportionate population loss in the rural areas of Upstate New York meant that one of the Upstate rural districts had to be eliminated. Equalizing district populations, then, required substantial changes in boundaries.

15. Second, the state legislature maintained a high degree of core retention of the CDs enacted in 2012 and in place through the 2020 election. Core retention is a traditional redistricting principle; it respects communities of interest as reflected in the boundaries of the 2012 New York Congressional District Map.

16. Third, the configuration of congressional districts by the state legislature clearly follows the need to respect communities of interest. The map, for example, maintains four Upstate urban districts centered in Albany, Buffalo, Rochester, and Syracuse.

17. Fourth, the New York Congressional District Map maintains nine congressional districts in which minorities are the majority of the population and would be able to elect their preferred candidates. Trende claims that there may be as many as 12 majority-minority districts, but he offers no evidence that the majority-minority districts that his computer simulations generated are required by the Voting Rights Act or even that they actually provide minority voters with an opportunity to elect candidates of their choice.

FINDINGS

A. Population

18. Claude LaVigna repeatedly states that the changes in boundaries were motivated by party and incumbency. He offers no assessment of the fundamentals driving the change in the Congressional Map. First among these is population. The loss of one Congressional District (CD) and shrinking populations in Upstate rural areas means that one of the rural Upstate CDs had to be eliminated in order to achieve population equality across all CDs. As discussed in the next section 2012 CD-22 is the district that is dismantled. Even still, almost all of the CDs in the state must have their boundaries moved in order to achieve population equality.

19. From 2010 to 2020, the population in New York State grew by 4.1% to reach a total of slightly over 20.2 million residents.¹ Despite this growth, the state narrowly lost a congressional seat in the decennial reapportionment process, going from 27 districts to 26.² Substantial changes to the map are required because the State of NY lost one CD in reapportionment. The ideal district population for the 2022 Map is 776,971 people, which is the state population divided by the number of CDs (26). The 2012 Map was adopted by the federal district court in the case *Favors v. Cuomo*.³ Under district boundaries for the 2012 Map, which had 27 districts, only CDs 5, 8, 10, and 12 had at least 776,971 people. All four of these CDs are in New York City. All other CDs in the State had too few people.

20. There were also substantial shifts of population within New York State, as presented in the NY State Comptroller's report on the 2020 Census.⁴ Specifically, the regions of New York City, Long Island, and the Mid-Hudson Valley (north Suburban New York City) saw a combined population growth of 824,899 people (6.2%), while many of the upstate rural areas of the State lost population, especially the Southern Tier (-3.0% decline), North Country (-2.9%), and Mohawk Valley (-2.2%) regions.⁵ Even within the regions with overall population decline, urban areas grew while rural cities and towns shrunk.⁶

21. For the purposes of this analysis, I distinguish four regions of the state: Long Island, New York City, Mid-Hudson Valley (or north Suburban), and Upstate. I assign a CD to a region if that CD draws a majority of its population from the counties in that region. Under the 2012 Map, Long Island consists of CD-1, CD-2, CD-3, and CD-4. A majority of the population of these 4 CDs are in either Nassau or Suffolk Counties. New York City consists of CD-5 through CD-15. A majority of the populations of these 11 CDs are in the five boroughs of New York City. The Mid-Hudson Valley (or north Suburban) region consists of CD-16, CD-17, and CD-18. A majority of these CDs are in Dutchess, Orange, Putnam, Rockland, Sullivan, or

¹ DiNapoli, Thomas P., State Comptroller. "2020 Census: Municipal Population Shifts in New York State" *Office of the New York State Comptroller* <https://www.osc.state.ny.us/files/local-government/publications/pdf/2020-census-municipal-population-shifts-in-new-york-state.pdf>

² <https://www.nytimes.com/2021/04/26/nyregion/new-york-census-congress.html>

³ *Favors v. Cuomo* in the U.S. District Court in the Eastern District of New York 1:2011cv05632, 2012 WL928223.

⁴ DiNapoli, *supra* note 1, Figure 2

⁵ *Ibid*

⁶ *Ibid*, Figures 3-4

Westchester Counties. Upstate corresponds to CD-19 through CD-27 under the 2012 Map. These nine CDs are located in the counties in the northern and in the western parts of the state.

22. All four areas of the state were under-populated under the 2012 Map. The loss of one CD, then, affects all regions of the state. However, population changes occurred unevenly throughout the State of New York, with the most severe under-population being in Upstate New York.

23. Upstate. All of the Upstate NY CDs were under-populated under the 2012 Map. Combined the nine upstate Congressional Districts had population deficit of 539,725, or three quarters of a district. There is no neighboring area from which to draw population to maintain nine upstate CDs, as the Mid-Hudson (North Suburban NYC) area, which borders the Upstate region, also has a population deficit. Therefore, this region had to lose a district.

24. Long Island. All four CDs on Long Island were underpopulated. Combined these CDs have a population deficit of 148,667. Constrained by the geography of Long Island and the state boundary, these districts had to move westward to capture enough population to satisfy the equal population requirement.

25. New York City. Four of the NYC CDs (5, 8, 10, and 12) were over-populated and seven CDs (6, 7, 9, 11, 13, 14, and 15) were under-populated. Combined the 11 CDs in NY City had a population deficit of 40,257.

26. Mid-Hudson (north Suburban). CD-16, CD-17, and CD-18 were all under-populated. Combined these three CDs had a population deficit of 48,319.

B. Core Retention

27. LaVigna criticizes the 2022 NY Congressional District map as lacking any clear justification other than party and incumbency. (See page 3.) He does not offer a comprehensive analysis of traditional redistricting principles and approaches, such as respect for communities of interest or core retention of existing districts. Instead, LaVigna focuses on a limited number of areas to which he offers objections. I will address those specific boundary objections in the sections below on Partisan Bias and Communities of Interest.

28. LaVigna fails to account for core retention in his analysis. Core retention is the extent to which the new district boundaries respect past district boundaries. Past district boundaries often reflect communities of interest and other considerations that were approved and accepted. Drawing completely new lines can also lower voter information and turnout.⁷ In my experience, legislatures and commissions almost always begin the redistricting process with the existing district map and make adjustments to that map to address specific problems, such as population deficits and surpluses.

⁷ Daniel Hayes and Seth C. McKee, "The Participatory Effects of Redistricting," *American Journal of Political Science* 53 (2009): 1006-1023.

29. I have analyzed the geographic area and population retention of each of the 2012 districts in the 2022 districts. I consider a 2022 CD as the analogous version of the 2012 CD if at least half of the population of the 2012 CD was put into a 2022 CD. Using this approach all of the numbering of the 2012 CDs in the State aligns with the 2022 CDs except for CD-22, CD-24, and CD-27.

30. Renumbering of districts from the 2012 to the 2022 map occurs in the Upstate region due to the loss of one seat and the necessary shift of district lines.

31. 2022 CD-24 is the analogue of 2012 CD-27. Sixty-eight percent of the area and 59 percent of the people in 2012 CD-27 are in 2022 CD-24. This district represents the rural areas of northwestern New York along Lake Ontario.

32. 2022 CD-22 is the analogue of 2012 CD-24. Seventy-five percent of the people from 2012 CD-24 are in 2022 CD-22. Both versions of this district represent the Syracuse area.

33. 2012 CD-22 is the district that was dismantled due to the loss of a district in Upstate New York.

34. On average, 77 percent of the areas covered by the 2012 CDs remain in the 2022 versions of those CDs. Based on my experience in this field, this is a high level of core area retention, especially considering that one district had to be eliminated.

35. On average, 75 percent of the population that was in the 2012 CDs remains in the 2022 CDs. Again, based on my experience, this is a high level of core population retention, especially considering that one district had to be eliminated.

36. The most substantial changes in population and geographic area of Congressional Districts occur in the Upstate region because the region no longer has enough population to support nine CDs. The loss of an upstate district has a ripple effect on the neighboring Mid-Hudson region, CD-16, CD-17, and CD-18. These north Suburban districts also have too little population and must shift northward to absorb the surplus population created by dismantling CD-22.

37. In the Long Island area, CD-1, CD-2 and CD-3 must move to the west to increase their populations. CD-4 has a relatively small population deficit. It required the least change in the region and is kept almost entirely in its current location. Even still the Long Island CDs retain the lion's share of their populations. 77 percent of the area in the 2012 version of CD-1 remains in the 2022 version of CD-1; 82 percent of the area of the 2012 version of CD-2 remains in the 2022 version of CD-2; 87 percent of the area of the 2012 version of CD-3 remains in the 2022 version of CD-3; and 100 percent of the area of the 2012 version of CD-4 remains in the 2022 version of CD-4. These districts are not, as LaVigna claims, "entirely rearranged" in the case of CD-1 and CD-2 or "completely transformed" in the case of CD-3.

38. Core retention is a traditional redistricting principle. The 2022 Map exhibits a high degree of core retention. LaVigna's report does not examine this principle as a possible justification for the configuration of the New York Congressional District map. Nor do the simulations

conducted by Trende give any weight to core retention in randomly generating his simulated CDs.

C. Partisan Bias

C.1. Overall Partisan Bias Claims

C.1 (i) LaVigna Analysis

39. The LaVigna report claims that the 2022 New York Congressional District Map

“creates a partisan gerrymander with no coherent explanation except for seeking partisan and incumbent-protection advantage for the Democratic Party.” (LaVigna, Page 3)

LaVigna offers no analysis to substantiate this assertion of the degree of the bias and no overall assessment of how many districts must be changed in order to achieve an unbiased map. Nor does the report offer an assessment of whether the overall map would become less biased if the court were to adopt his proposed changes or make corrections to the objections he raises.

40. It is evident that the changes that LaVigna proposes would amount to a pro-Republican gerrymander. LaVigna raises objections to the configuration of Long Island, Staten Island, Mid-Hudson, and Upstate districts, suggesting that additional Republican seats are possible in each of these regions. The plan already has a slight pro-Republican Partisan Bias. Adding any one additional Republican district would increase significantly the bias of the plan – however that is measured – in the Republican direction. Adding four additional Republican districts, as LaVigna suggests, would make the map overwhelmingly biased in favor of Republicans. What Lavigna describes, then, is an extreme pro-Republican gerrymander.

C.1 (ii) Trende Analysis

41. Sean Trende conducts simulations for the plaintiffs of 5,000 districting plans that he states are “reasonably compact” and “which respect county subdivisions.” He, then, concludes the legislature-enacted congressional districts “favor[] Democratic interests more than any of the[] 5,000 computer-generated maps, all drawn without partisan considerations.”

42. Taking Trende’s simulations at face value undercuts Trende’s and LaVigna’s claims that additional Republican seats ought to be created. The simulation results on Page 15 of Trende’s report show that under the assumptions of Trende’s simulation there definitely ought to be two Republican seats and there probably ought to be a third Republican seat. The two definite seats arise in all of the simulations. A third Republican seat arises in most, but not all simulations (based on the graph, about three out of four randomly drawn maps). A fourth seat would rarely be Republican, occurring in perhaps one out of four simulations. A fifth Republican seat, as is recommended by the LaVigna report, would be extremely unlikely to arise by chance. Taking the simulations at face value, and following the interpretation given in Trende’s report, the

implication of the simulation results is that the creation of five or more Republican seats would be very unlikely to have occurred by chance and would be indicative of partisan gerrymandering.

43. The 2022 Map creates four Republican CDs. That is consistent with the result that the map shows a slight partisan bias in favor of Republicans, as Trende's simulations would yield an expectation of Republicans winning only three seats. (See Page 15 of the Trende Report.)

44. Trende characterizes the 2022 Map as extremely unlikely to have arisen by chance. In support of this claim he offers a composite indicator, called the Gerrymandering Index, due to Bangia et al. (2017). The indicator measures whether there is an unusually large number of safe seats relative to what one would expect under the assumptions of a specific simulation. First, the indicator is highly dependent on the assumptions of the simulations. Second, the index is not instructive about how many seats need to be shifted one way or the other in order to balance the map for the purposes of eliminating any partisan slant in the map.

45. The results of simulations depend crucially on their inputs. Trende's simulations prioritize not splitting county lines. That places a value on that criterion above others. Communities of interest, for instance, are not always compact, and sometimes they span multiple counties. Thus, the simulations will not appropriately take into account communities of interest that follow anything other than county lines. As an example, consider CD-3. In both the 2012 map and in the 2022 map, that district represents the coastal communities on the western end of Long Island sound. This community of interest is cognizable with shared economic and local governmental issues. This region spans multiple counties, but not in ways that follow county boundaries.

46. Trende's simulated maps evidently do not follow core areas or past district boundaries. Trende's simulation resulted in CDs that split between 12 and 16 counties. Yet, the old congressional district map split 19 counties. If the simulations are not set up to preserve communities of interest, they will not reflect the broad set of considerations that legislatures must take into account in making districting plans, and hence cannot be used to infer partisan intent.

47. Increasing the number of Republican seats, as is argued by LaVigna, would only increase the partisan bias of the map in favor of Republicans. None of Trende's simulations predicts 6 or 7 Republican CDs; 5 Republican CDs would be extraordinarily unlikely; and, even, 4 Republican CDs would occur with a very low probability. If the 2022 map indeed favors one of the parties, Trende's simulations underscore it is the Republican party.

C.2. Specific Partisan Claims

CD-1 and CD-2

48. LaVigna at pages 3 and 4 of his report states:

“The new map moves areas with high populations of Republican voters into new Congressional District 2 while moving heavily Democratic communities into Congressional District 1. The

Republican communities in Brookhaven on Long Island’s South Shore are now in District 2, whereas the strongly Democratic areas in the center of Long Island are now in District 1. This partisan revision creates multiple new town splits and adds an additional county split where Congressional District 1 now extends into Nassau County between Oyster Bay and Huntington. The Legislature effectively shifted Congressional District 1 from a strong Republican district into a Democrat-leaning district by packing Republicans into Congressional District 2. In addition, this redrawing turned District 2 from a sure Republican district into an overwhelmingly Republican stronghold.”

There are factually incorrect statements in this paragraph.

49. First, 2012 CD-1 is not a “strong Republican district.” The average vote for candidates for statewide office in 2016, 2018, and 2020 was 50.4 percent Democratic and 49.6 percent Republican. If anything, CD-1 has a slight lean to the Democrats. Democratic candidates for statewide office won the majority of the vote in precincts in 2012 CD-1 in four out of six contests (i.e., 2016 President, 2016 US Senate, 2018 US Senate, 2018 Governor, 2018 Attorney General, and 2020 President).

50. Second, 2012 CD-2 is not “a sure Republican district.” The average vote for candidates for statewide office in 2016, 2018, and 2020 was 51.8 percent Democratic and 48.2 percent Republican. Hence, CD-2 was a Democratic leaning district. Democratic candidates for statewide office won the majority of the vote in precincts in 2012 CD-2 in four out of six contests.

CD-3

51. LaVigna claims that

“In drawing the Congressional District 3 in this way, the Legislature decreased competitiveness, transforming Congressional District 3 from a competitive district to a Democrat stronghold.”

52. This statement is false. The 2012 version of CD-3 was already a strong Democratic district; it was not a competitive seat. The average vote for candidates for statewide office in 2016, 2018, and 2020 was 57.7 percent Democratic and 42.3 percent Republican in 2012 CD-3. Democratic candidates for statewide office won the majority of the vote in precincts in 2012 CD-3 in six out of six contests.

CD-8, CD-9, CD-10, and CD-11

53. LaVigna states that

“The new Congressional Districts 8, 9, 10, and 11 illustrate how the Legislature ‘cracked’ established Republican-leaning communities of interest in Brooklyn to create a partisan advantage for Democrats.”

54. LaVigna's description of Brooklyn fails to acknowledge an obvious and compelling reason for the configuration of this area that is separate from party or incumbency. CD-8, CD-9 and neighboring CD-7 are majority minority districts. Their configuration affects the configuration of CD-10 and CD-11.

55. From 2016-2020, the voters in 2012 CD-8, 2012 CD-9, 2012 CD-10, and 2012 CD-11 on average voted more for Democrats than for Republicans. Democrats won, on average, 86.5 percent of the vote in 2012 CD-8, 85.5 percent of the vote in 2012 CD-9, and 79.7 percent of the vote in 2012 CD-10. In 2012 CD-11, Democrats on average won 51.1 percent of the vote and Republicans won 47.1 percent of the vote, and Democrats won the majority of the vote in four out of six statewide elections in the precincts in the 2012 version of CD-11. None of these are Republican districts.

CD-16, CD-17, and CD-18

56. LaVigna claims that 2012 CD-18 was a lean Republican district that switched to "lean Democratic." This claim is false. All three of the Mid-Hudson districts usually voted for Democrats. Under the 2012 Map, CD-16, CD-17, and CD-18 are Democratic districts. From 2016-2020, Democrats on average won 78 percent of the Democratic plus Republican vote in CD-16, 64 percent of the vote in CD-17, and 54 percent of the vote in CD-18.

57. Under the 2022 Map, CD-16, CD-17, and CD-18 remain Democratic districts. From 2016-2020, Democrats on average won 72 percent of the Democratic plus Republican vote in CD-16, 60 percent of the vote in CD-17, and 55 percent of the vote in CD-18. Not only were all three of these districts Democratic under the 2012 map, but the changes in Democratic performance by the 2022 Map are extremely small.

58. LaVigna claims that the 2022 Map "Congressional District 16 'cracks' Republican voters out of CD-18." And that "it connects Republican towns of Putnam Valley, Carmel, Yorktown and Somers to densely populated Democratic communities." This claim is factually incorrect. These are not "Republican towns." (LaVigna page 5) These four towns combined split their vote fairly evenly between the parties. Carmel and Putnam Valley lean Republican, but Yorktown and Somers lean Democratic. From 2016-2020, the average vote in Somers was 51.3 percent Democrat and 48.7 percent Republican, in Yorktown 54.0 percent Democratic and 46.0 percent Republican.

CD-19

59. LaVigna claims that CD-19 in the 2012 map was a lean Republican district that has been changed to a lean Democratic district. This claim is false. It was a lean Democratic district in the 2012 Map and remains so in the 2022 Map. From 2016 to 2020, Democrats won, on average, 51 percent of the Democratic share of the two party vote, and they won the majority of the vote in four out of six statewide elections. Under the 2022 Map, in those same elections, Democrats won on average 56 percent of the vote, and they won a majority of the vote in five out of six elections. Even if you remove Bethlehem (Albany) or Utica (Oneida), and Binghamton (Broome) from CD-19, the remaining area is still 54-46 Democratic.

CD-22

60. LaVigna states that the 2022 Map flips CD-22 from Republican to Democratic. This interpretation reflects confusion about the numbering of the CDs. As explained above, new CD-22 contains 75 percent of the population of old CD-24. The change in the configuration of 2012 CD-24 was required by the loss of an upstate district. In both the 2012 and 2022 map, this remains the district anchored in Syracuse. Hence, 2012 CD-24 should be compared to 2022 CD-22.

61. Comparing the election results in 2012 CD-24 to those in 2022 CD-22 reveals that in fact there was very little change in the electoral performance of the Syracuse District. From 2016 to 2020, the Democrats won on average 57 percent of the vote in the precincts in 2012 CD-24, and they won the majority five of six elections. The Democrats won on average 60 percent of the vote in the precincts in the analogous district in the 2022 Map, 2022 CD-24, and they won the majority in six of six elections. That is hardly a complete reversal. In both maps, this district is a Democratic district.

D. Minority Representation

62. Trende finds that in his simulations there are as few as 8 and as many as 12 minority CDs. He comments that there may be as many as 12 “consistent with the Voting Rights Act.” (page 18)

63. Trende offers no racially polarized voting analysis to assess whether any of the majority-minority CDs in these simulations are required. Trende offers no racial cohesion and polarization analysis, such as would be part of a Voting Rights Act analysis of a map, as laid out in *Thornburg v. Gingles*. As such, it is unknown if any of the districts in the simulations would be required under Section 2 of the Voting Rights Act.

64. Trende offers no assessment of the performance of the majority-minority CDs in his simulations. It is unknown as to whether any of these simulated districts would in fact be districts in which minorities would have the opportunity to elect their preferred candidates. Some of them might in fact be majority-minority in their composition but not districts in which the minorities can elect their preferred candidates.

E. Communities of Interest

E.1. Upstate

65. The Upstate districts reflect two distinctive sorts of communities of interest – urban areas and rural areas. There are four population centers Upstate – Buffalo, Rochester, Syracuse, and Albany. Between these centers, there are extensive rural areas.

66. The 2012 Map anchored one CD in each of the Upstate population centers. They were 2012 CD-26 (Buffalo), 2012 CD-25 (Rochester), 2012 CD-24 (Syracuse), and 2012 CD-20 (Albany).

67. The Enacted Map follows exactly the same approach. It creates four CDs anchored in the four Upstate population centers. The Buffalo district is 2022 CD-26. The Rochester district is 2022 CD-25. The Syracuse district is 2022 CD-22 (*note the renumbering*). The Albany district is CD-20.

68. The geographic areas of the Upstate urban districts are kept largely the same from the 2012 Map to the 2022 Map. Specifically, 100 percent of the area of 2012 CD-26 is contained in 2022 CD-26; 95 percent of the area of 2012 CD-25 is in 2022 CD-25; and 86 percent of the area of 2012 CD-20 is in 2022 CD-20. The 2012 version of the Syracuse district was old district CD-24, and the 2022 version of the Syracuse district is new CD-22 and contains 75 percent of the population of the old district.

69. The 2012 Map had five rural Upstate CDs. They were 2012 CD-19, 2012 CD-21, 2012 CD-22, 2012 CD-23, and 2012 CD-27.

70. The 2022 Map consolidates the rural CDs into four rural districts. These are 2022 CD-19, 2022 CD-21, 2022 CD-23, and 2022 CD-24. The large majority of the area of the 2012 versions of these CDs are kept in the 2022 versions of these CD. Specifically, 60 percent of the area of 2012 CD-19 remains in 2022 CD-19; 88 percent of the area of 2012 CD-21 remains in 2022 CD-21; 83 percent of the area of 2012 CD-23 is in 2022 CD-23; and 64 percent of the area of 2012 CD-24 is in 2022 CD-24. A large majority (87%) of the area of 2012 CD-22 was distributed to the new rural districts: from the 2012 CD-22, 23% of the area goes to 2022 CD-19, 36% of the area goes to 2022 CD-21, 21% of the area goes to 2022 CD-23, and a remaining 7% goes to 2022 CD-24. In addition, new CD-24 covers 68 percent of the area of old CD-27. In every instance, the majority of the area of the 2012 version of the CD remains as the core of the 2022 version of the analogous CD.

71. In short, the configuration of the 2022 Map in Upstate New York follows the same communities of interest as were reflected in the 2012 Map, creating four urban upstate districts to represent Albany, Buffalo, Rochester and Syracuse and four upstate rural districts.

E.2. Long Island

72. LaVigna's report claims that there is significant alteration of boundaries in the Long Island region. (LaVigna pages 3 and 4) In fact, the 2022 Map retains a very high percentage of the area of the Long Island CDs. Specifically, 77 percent of the geographic area of 2012 CD-1 remains in 2022 CD-1; 82 percent of the area of 2012 CD-2 remains in 2022 CD-2; 87 percent of the area of 2012 CD-3 remains in 2022 CD-3; and 100 percent of the area of 2012 CD-4 remains in 2022 CD-4. See Figure 1.

73. Nassau and Suffolk Counties both tend to vote Democratic. In statewide elections from 2016-2020 in Suffolk County, Democratic candidates won, on average, 52.8 percent of the Democratic plus Republican votes cast, compared to 47.2 percent for Republicans. In statewide

elections from 2016-2020 in Nassau County, Democratic candidates won, on average, 57.8 percent of the Democratic plus Republican votes cast, compared to 42.2 percent for Republicans.

74. CD-3 represents Inner Long Island Sound. This is a recognized ecological zone. Both sides are part of the Long Island Sound Watershed, which is defined and managed by the NY Department of Environmental Conservation.⁸ CD-3 connects the Stewardship Areas on both sides of Long Island Sound that are under the oversight of the Long Island Sound Study, a long-standing regional planning and conservation organization. These areas include Huckleberry and Davids Islands and Pelham Bay Park in Pelham Bay and the Edith G. Read Marshland in Rye, as well as sites on the Long Island.⁹ These areas are significantly tied to the New York City economy and have large commuter populations who work in New York City and live in these suburban towns. Both the 2012 and 2022 versions of CD-3 are entirely within the same commuting zone. The areas newly incorporated into CD-3 in the 2022 Map have similar commuting patterns and incomes to those who were included in the 2012 CD-3.¹⁰

E.3. New York City

75. LaVigna objects to the boundary between CD-8, CD-9 and CD-10 as those, he claims, split Asian and Jewish communities. He does not specify where these communities are located. Nor does he describe where, how and to what extent they are divided. He does not recognize any other feature of the districts that might relate to these boundaries.

76. CD-8, CD-9, and neighboring CD-7 are majority-minority districts. The configuration of CD-8 and CD-9 and their boundary with CD-10 clearly serves the purpose of representing minority voters.

77. The Jewish communities in this part of Brooklyn are concentrated in Borough Park and Midwood.¹¹ The configuration of 2012 CD-10 was approved by a federal court and was meant to connect Jewish communities in Borough Park with Jewish communities on the upper West Side.¹² Under the 2022 Map, Borough Park is wholly in CD-10, and Midwood is wholly in CD-9.

E.4. Mid-Hudson

78. LaVigna objects to the apparent division of Jewish communities in Orange, Rockland, and Sullivan counties along the border of CD-17 and CD-18. He argues that this population should be united in a single district and that division of these communities is evidence of anti-Republican gerrymandering.

⁸ <https://www.dec.ny.gov/lands/53733.html>

⁹ https://longislandsoundstudy.net/wp-content/uploads/2011/10/management_plan.pdf

¹⁰ NYC Planning, “Ins and Outs of Commuting,” Research Release, September 2019.

<https://www1.nyc.gov/assets/planning/download/pdf/planning-level/housing-economy/nyc-ins-and-out-of-commuting.pdf>

¹¹ Borough Park: <https://www.nytimes.com/2020/09/25/nyregion/coronavirus-orthodox-jewish-communities.html>; Midwood: <https://www.nytimes.com/2009/12/06/realestate/06livi.html>

¹² *Favors v. Cuomo* (E.D.N.Y. 2012, case 1:2011cv05632, 2012WL928223).

79. LaVigna's complaint rests with boundaries and the Jewish communities in Orange, Rockland, and Sullivan Counties. He states that all of these communities should be in the same district and that the exclusion of the Kiryas Joel community makes CD-17 reliably Democratic. (page 5). LaVigna offers no evidence that these communities vote the same way or align with the Republican Party, and he offers no evidence that the exclusion of Kiryas Joel makes CD-17 more Democratic.

80. The first problem with this claim is the assertion that the exclusion of Kiryas Joel makes CD-17 more Democratic. In fact, the voting record shows that this community on average votes two-thirds Democratic. The average vote of the Kiryas Joel community in the 2016, 2018, and 2020 elections was 67.3 percent Democratic and 31.2 percent Republican, with the remainder going to other candidates. Kiryas Joel voted 94 percent for Andrew Cuomo for Governor and 93 percent for Kirsten Gillibrand for Senator in 2018; it voted 93 percent for Charles Schumer for Senator in 2016.

81. A second problem with the claim that these communities ought to be in the same district is that there is no precedent for putting these communities in the same district. These communities were not all in the same Congressional District in the 2012 Map.

82. The Orange, Rockland, and Sullivan County Jewish communities are not electorally aligned. The Orange County community of Kiryas Joel voted 67 percent Democratic from 2016 – 2020. The Town of Fallsburg in Sullivan County, where the Orthodox community is concentrated, divides its votes evenly between the parties. The average vote in 2016, 2018, and 2020 in Fallsburg was 48.8 percent Democratic and 47.3 percent Republican. The Orthodox community in Rockland County is concentrated in the town of Ramapo, especially East Ramapo and Monsey. The Town of Ramapo voted, on average, 56.3 percent Democratic and 41.6 percent Republican.

CONCLUSIONS

83. The 2022 New York Congressional District Map is a fair map. Using the standard indicators to detect partisan gerrymandering it is clear that the 2022 Map, if anything, favors Republicans, but that tilt is a slight one. By Trende's own analysis, there ought to be three Republican CDs. The New York State Legislature created four.

84. The State Legislature appears to have followed traditional redistricting principles in creating this map. These include respect for communities of interest, retention of core areas of the existing map, ensuring appropriate minority representation, and, of course, population equality.

85. LaVigna offers no statistical analysis to support his claims, and his characterization of the voting behavior of specific communities and of congressional districts repeatedly prove false.

86. The requests to create additional Republican districts in specific areas, especially by Claude LaVigna, would result in a pro-Republican gerrymander and would create a substantial pro-Republican bias in the map.

Dated: February 24, 2022

/s/ Stephen Ansolabehere
Stephen Ansolabehere

APPENDIX A

STEPHEN DANIEL ANSOLABEHHERE

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EDUCATION

Harvard University	Ph.D., Political Science	1989
University of Minnesota	B.A., Political Science	1984
	B.S., Economics	

PROFESSIONAL EXPERIENCE

ACADEMIC POSITIONS

2016-present	Frank G. Thompson Professor of Government, Harvard University
2008-present	Professor, Department of Government, Harvard University
2015-present	Director, Center for American Politics, Harvard University
1998-2009	Elting Morison Professor, Department of Political Science, MIT (Associate Head, 2001-2005)
1995-1998	Associate Professor, Department of Political Science, MIT
1993-1994	National Fellow, The Hoover Institution
1989-1993	Assistant Professor, Department of Political Science, University of California, Los Angeles

FELLOWSHIPS AND HONORS

American Academy of Arts and Sciences	2007
Carnegie Scholar	2000-02
National Fellow, The Hoover Institution	1993-94
Harry S. Truman Fellowship	1982-86

PUBLICATIONS

Books

- 2014 *Cheap and Clean: How Americans Think About Energy in the Age of Global Warming*. With David Konisky. MIT Press. Recipient of the Donald K. Price book award.
- 2013 *American Government*, 13th edition. With Ted Lowi, Benjamin Ginsberg and Kenneth Shepsle. W.W. Norton.
- 2008 *The End of Inequality: One Person, One Vote and the Transformation of American Politics*. With James M. Snyder, Jr., W. W. Norton.
- 1996 *Going Negative: How Political Advertising Divides and Shrinks the American Electorate*. With Shanto Iyengar. The Free Press. Recipient of the Goldsmith book award.
- 1993 *Media Game: American Politics in the Television Age*. With Roy Behr and Shanto Iyengar. Macmillan.

Journal Articles

- Forthcoming “ADGN: An Algorithm for Record Linkage Using Address, Date of Birth, Gender and Name,” *Statistics and Public Policy* (with Eitan Hersh)
- Forthcoming “Measuring Issue-Salience in Voters’ Preferences” *Electoral Studies* (with Maria Socorro Puy)
- 2017 “Divided Government and Significant Legislation: A History of Congress,” *Social Science History* (with Maxwell Palmer and Benjamin Schneer).
- 2016 “Identity Politics” (with Socorro Puy) *Public Choice*. 168: 1-19.
DOI 10.1007/s11127-016-0371-2
- 2016 “A 200-Year Statistical History of the Gerrymander” (with Maxwell Palmer) *The Ohio State University Law Journal*
- 2016 “Do Americans Prefer Co-Ethnic Representation? The Impact of Race on House Incumbent Evaluations” (with Bernard Fraga) *Stanford University Law Review* 68: 1553-1594

- 2016 Revisiting Public Opinion on Voter Identification and Voter Fraud in an Era of Increasing Partisan Polarization” (with Nathaniel Persily) *Stanford Law Review* 68: 1455-1489
- 2015 “The Perils of Cherry Picking Low Frequency Events in Large Sample Surveys” (with Brian Schaffner and Samantha Luks) *Electoral Studies* 40 (December): 409-410.
- 2015 “Testing *Shaw v. Reno*: Do Majority-Minority Districts Cause Expressive Harms?” (with Nathaniel Persily) *New York University Law Review* 90
- 2015 “A Brief Yet Practical Guide to Reforming U.S. Voter Registration, *Election Law Journal*, (with Daron Shaw and Charles Stewart) 14: 26-31.
- 2015 “Waiting to Vote,” *Election Law Journal*, (with Charles Stewart) 14: 47-53.
- 2014 “Macro-economic Voting: Local Information and Micro-Perceptions of the Macro-Economy” (With Marc Meredith and Erik Snowberg), *Economics and Politics* 26 (November): 380-410.
- 2014 “Does Survey Mode Still Matter?” *Political Analysis* (with Brian Schaffner) 22: 285-303
- 2013 “Race, Gender, Age, and Voting” *Politics and Governance*, vol. 1, issue 2. (with Eitan Hersh)
<http://www.librelloph.com/politicsandgovernance/article/view/PaG-1.2.132>
- 2013 “Regional Differences in Racially Polarized Voting: Implications for the Constitutionality of Section 5 of the Voting Rights Act” (with Nathaniel Persily and Charles Stewart) 126 *Harvard Law Review* F 205 (2013)
http://www.harvardlawreview.org/issues/126/april13/forum_1005.php
- 2013 “Cooperative Survey Research” *Annual Review of Political Science* (with Douglas Rivers)
- 2013 “Social Sciences and the Alternative Energy Future” *Daedalus* (with Bob Fri)
- 2013 “The Effects of Redistricting on Incumbents,” *Election Law Journal* (with James Snyder)
- 2012 “Asking About Numbers: How and Why” *Political Analysis* (with Erik Snowberg and Marc Meredith). doi:10.1093/pan/mps031

- 2012 “Movers, Stayers, and Registration” *Quarterly Journal of Political Science* (with Eitan Hersh and Ken Shepsle)
- 2012 “Validation: What Big Data Reveals About Survey Misreporting and the Real Electorate” *Political Analysis* (with Eitan Hersh)
- 2012 “Arizona Free Enterprise v. Bennett and the Problem of Campaign Finance” *Supreme Court Review* 2011(1):39-79
- 2012 “The American Public’s Energy Choice” *Daedalus* (with David Konisky)
- 2012 “Challenges for Technology Change” *Daedalus* (with Robert Fri)
- 2011 “When Parties Are Not Teams: Party positions in single-member district and proportional representation systems” *Economic Theory* 49 (March)
DOI: 10.1007/s00199-011-0610-1
- 2011 “Profiling Originalism” *Columbia Law Review* (with Jamal Greene and Nathaniel Persily).
- 2010 “Partisanship, Public Opinion, and Redistricting” *Election Law Journal* (with Joshua Fougere and Nathaniel Persily).
- 2010 “Primary Elections and Party Polarization” *Quarterly Journal of Political Science* (with Shigeo Hirano, James Snyder, and Mark Hansen)
- 2010 “Constituents’ Responses to Congressional Roll Call Voting,” *American Journal of Political Science* (with Phil Jones)
- 2010 “Race, Region, and Stephen Ansolabehere, Nathaniel Persily, and Charles H. Stewart III, “Race, Region, and Vote Choice in the 2008 Election: Implications for the Future of the Voting Rights Act” *Harvard Law Review* April, 2010.
- 2010 “Residential Mobility and the Cell Only Population,” *Public Opinion Quarterly* (with Brian Schaffner)
- 2009 “Explaining Attitudes Toward Power Plant Location,” *Public Opinion Quarterly* (with David Konisky)
- 2009 “Public risk perspectives on the geologic storage of carbon dioxide,” *International Journal of Greenhouse Gas Control* (with Gregory Singleton and Howard Herzog) 3(1): 100-107.
- 2008 “A Spatial Model of the Relationship Between Seats and Votes” (with William

- Leblanc) *Mathematical and Computer Modeling* (November).
- 2008 “The Strength of Issues: Using Multiple Measures to Gauge Preference Stability, Ideological Constraint, and Issue Voting” (with Jonathan Rodden and James M. Snyder, Jr.) *American Political Science Review* (May).
- 2008 “Access versus Integrity in Voter Identification Requirements.” *New York University Annual Survey of American Law*, vol 63.
- 2008 “Voter Fraud in the Eye of the Beholder” (with Nathaniel Persily) *Harvard Law Review* (May)
- 2007 “Incumbency Advantages in U. S. Primary Elections,” (with John Mark Hansen, Shigeo Hirano, and James M. Snyder, Jr.) *Electoral Studies* (September)
- 2007 “Television and the Incumbency Advantage” (with Erik C. Snowberg and James M. Snyder, Jr.) *Legislative Studies Quarterly*.
- 2006 “The Political Orientation of Newspaper Endorsements” (with Rebecca Lessem and James M. Snyder, Jr.) *Quarterly Journal of Political Science* vol. 1, issue 3.
- 2006 “Voting Cues and the Incumbency Advantage: A Critical Test” (with Shigeo Hirano, James M. Snyder, Jr., and Michiko Ueda) *Quarterly Journal of Political Science* vol. 1, issue 2.
- 2006 “American Exceptionalism? Similarities and Differences in National Attitudes Toward Energy Policies and Global Warming” (with David Reiner, Howard Herzog, K. Itaoka, M. Odenberger, and Phillip Johanssen) *Environmental Science and Technology* (February 22, 2006),
http://pubs3.acs.org/acs/journals/doi/lookup?in_doi=10.1021/es052010b
- 2006 “Purple America” (with Jonathan Rodden and James M. Snyder, Jr.) *Journal of Economic Perspectives* (Winter).
- 2005 “Did the Introduction of Voter Registration Decrease Turnout?” (with David Konisky). *Political Analysis*.
- 2005 “Statistical Bias in Newspaper Reporting: The Case of Campaign Finance” *Public Opinion Quarterly* (with James M. Snyder, Jr., and Erik Snowberg).
- 2005 “Studying Elections” *Policy Studies Journal* (with Charles H. Stewart III and R. Michael Alvarez).

- 2005 “Legislative Bargaining under Weighted Voting” *American Economic Review* (with James M. Snyder, Jr., and Michael Ting)
- 2005 “Voting Weights and Formateur Advantages in Coalition Formation: Evidence from Parliamentary Coalitions, 1946 to 2002” (with James M. Snyder, Jr., Aaron B. Strauss, and Michael M. Ting) *American Journal of Political Science*.
- 2005 “Reapportionment and Party Realignment in the American States” *Pennsylvania Law Review* (with James M. Snyder, Jr.)
- 2004 “Residual Votes Attributable to Voting Technologies” (with Charles Stewart) *Journal of Politics*
- 2004 “Using Term Limits to Estimate Incumbency Advantages When Office Holders Retire Strategically” (with James M. Snyder, Jr.). *Legislative Studies Quarterly* vol. 29, November 2004, pages 487-516.
- 2004 “Did Firms Profit From Soft Money?” (with James M. Snyder, Jr., and Michiko Ueda) *Election Law Journal* vol. 3, April 2004.
- 2003 “Bargaining in Bicameral Legislatures” (with James M. Snyder, Jr. and Mike Ting) *American Political Science Review*, August, 2003.
- 2003 “Why Is There So Little Money in U.S. Politics?” (with James M. Snyder, Jr.) *Journal of Economic Perspectives*, Winter, 2003.
- 2002 “Equal Votes, Equal Money: Court-Ordered Redistricting and the Public Spending in the American States” (with Alan Gerber and James M. Snyder, Jr.) *American Political Science Review*, December, 2002.
Paper awarded the Heinz Eulau award for the best paper in the American Political Science Review.
- 2002 “Are PAC Contributions and Lobbying Linked?” (with James M. Snyder, Jr. and Micky Tripathi) *Business and Politics* 4, no. 2.
- 2002 “The Incumbency Advantage in U.S. Elections: An Analysis of State and Federal Offices, 1942-2000” (with James Snyder) *Election Law Journal*, 1, no. 3.
- 2001 “Voting Machines, Race, and Equal Protection.” *Election Law Journal*, vol. 1, no. 1
- 2001 “Models, assumptions, and model checking in ecological regressions” (with Andrew Gelman, David Park, Phillip Price, and Lorraine Minnite) *Journal of the Royal Statistical Society*, series A, 164: 101-118.

- 2001 “The Effects of Party and Preferences on Congressional Roll Call Voting.” (with James Snyder and Charles Stewart) *Legislative Studies Quarterly* (forthcoming).
Paper awarded the *Jewell-Lowenberg Award* for the best paper published on legislative politics in 2001. Paper awarded the *Jack Walker Award* for the best paper published on party politics in 2001.
- 2001 “Candidate Positions in Congressional Elections,” (with James Snyder and Charles Stewart). *American Journal of Political Science* 45 (November).
- 2000 “Old Voters, New Voters, and the Personal Vote,” (with James Snyder and Charles Stewart) *American Journal of Political Science* 44 (February).
- 2000 “Soft Money, Hard Money, Strong Parties,” (with James Snyder) *Columbia Law Review* 100 (April):598 - 619.
- 2000 “Campaign War Chests and Congressional Elections,” (with James Snyder) *Business and Politics*. 2 (April): 9-34.
- 1999 “Replicating Experiments Using Surveys and Aggregate Data: The Case of Negative Advertising.” (with Shanto Iyengar and Adam Simon) *American Political Science Review* 93 (December).
- 1999 “Valence Politics and Equilibrium in Spatial Models,” (with James Snyder), *Public Choice*.
- 1999 “Money and Institutional Power,” (with James Snyder), *Texas Law Review* 77 (June, 1999): 1673-1704.
- 1997 “Incumbency Advantage and the Persistence of Legislative Majorities,” (with Alan Gerber), *Legislative Studies Quarterly* 22 (May 1997).
- 1996 “The Effects of Ballot Access Rules on U.S. House Elections,” (with Alan Gerber), *Legislative Studies Quarterly* 21 (May 1996).
- 1994 “Riding the Wave and Issue Ownership: The Importance of Issues in Political Advertising and News,” (with Shanto Iyengar) *Public Opinion Quarterly* 58: 335-357.
- 1994 “Horseshoes and Horseraces: Experimental Evidence of the Effects of Polls on Campaigns,” (with Shanto Iyengar) *Political Communications* 11/4 (October-December): 413-429.

- 1994 “Does Attack Advertising Demobilize the Electorate?” (with Shanto Iyengar), *American Political Science Review* 89 (December).
- 1994 “The Mismeasure of Campaign Spending: Evidence from the 1990 U.S. House Elections,” (with Alan Gerber) *Journal of Politics* 56 (September).
- 1993 “Poll Faulting,” (with Thomas R. Belin) *Chance* 6 (Winter): 22-28.
- 1991 “The Vanishing Marginals and Electoral Responsiveness,” (with David Brady and Morris Fiorina) *British Journal of Political Science* 22 (November): 21-38.
- 1991 “Mass Media and Elections: An Overview,” (with Roy Behr and Shanto Iyengar) *American Politics Quarterly* 19/1 (January): 109-139.
- 1990 “The Limits of Unraveling in Interest Groups,” *Rationality and Society* 2: 394-400.
- 1990 “Measuring the Consequences of Delegate Selection Rules in Presidential Nominations,” (with Gary King) *Journal of Politics* 52: 609-621.
- 1989 “The Nature of Utility Functions in Mass Publics,” (with Henry Brady) *American Political Science Review* 83: 143-164.

Special Reports and Policy Studies

- 2010 *The Future of Nuclear Power*, Revised.
- 2006 *The Future of Coal*. MIT Press. Continued reliance on coal as a primary power source will lead to very high concentrations of carbon dioxide in the atmosphere, resulting in global warming. This cross-disciplinary study – drawing on faculty from Physics, Economics, Chemistry, Nuclear Engineering, and Political Science – develop a road map for technology research and development policy in order to address the challenges of carbon emissions from expanding use of coal for electricity and heating throughout the world.
- 2003 *The Future of Nuclear Power*. MIT Press. This cross-disciplinary study – drawing on faculty from Physics, Economics, Chemistry, Nuclear Engineering, and Political Science – examines the what contribution nuclear power can make to meet growing electricity demand, especially in a world with increasing carbon dioxide emissions from fossil fuel power plants.
- 2002 “Election Day Registration.” A report prepared for DEMOS. This report analyzes the possible effects of Proposition 52 in California based on the experiences of 6

states with election day registration.

- 2001 *Voting: What Is, What Could Be.* A report of the Caltech/MIT Voting Technology Project. This report examines the voting system, especially technologies for casting and counting votes, registration systems, and polling place operations, in the United States. It was widely used by state and national governments in formulating election reforms following the 2000 election.
- 2001 “An Assessment of the Reliability of Voting Technologies.” A report of the Caltech/MIT Voting Technology Project. This report provided the first nationwide assessment of voting equipment performance in the United States. It was prepared for the Governor’s Select Task Force on Election Reform in Florida.

Chapters in Edited Volumes

- 2016 “Taking the Study of Public Opinion Online” (with Brian Schaffner) *Oxford Handbook of Public Opinion*, R. Michael Alvarez, ed. Oxford University Press: New York, NY.
- 2014 “Voter Registration: The Process and Quality of Lists” *The Measure of American Elections*, Barry Burden, ed..
- 2012 “Using Recounts to Measure the Accuracy of Vote Tabulations: Evidence from New Hampshire Elections, 1946-2002” in *Confirming Elections*, R. Michael Alvarez, Lonna Atkeson, and Thad Hall, eds. New York: Palgrave, Macmillan.
- 2010 “Dyadic Representation” in *Oxford Handbook on Congress*, Eric Schickler, ed., Oxford University Press.
- 2008 “Voting Technology and Election Law” in *America Votes!*, Benjamin Griffith, editor, Washington, DC: American Bar Association.
- 2007 “What Did the Direct Primary Do to Party Loyalty in Congress” (with Shigeo Hirano and James M. Snyder Jr.) in *Process, Party and Policy Making: Further New Perspectives on the History of Congress*, David Brady and Matthew D. McCubbins (eds.), Stanford University Press, 2007.
- 2007 “Election Administration and Voting Rights” in *Renewal of the Voting Rights Act*, David Epstein and Sharyn O’Hallaran, eds. Russell Sage Foundation.
- 2006 “The Decline of Competition in Primary Elections,” (with John Mark Hansen, Shigeo Hirano, and James M. Snyder, Jr.) *The Marketplace of Democracy*, Michael P. McDonald and John Samples, eds. Washington, DC: Brookings.

- 2005 “Voters, Candidates and Parties” in *Handbook of Political Economy*, Barry Weingast and Donald Wittman, eds. New York: Oxford University Press.
- 2003 “Baker v. Carr in Context, 1946 – 1964” (with Samuel Isaacharoff) in *Constitutional Cases in Context*, Michael Dorf, editor. New York: Foundation Press.
- 2002 “Corruption and the Growth of Campaign Spending”(with Alan Gerber and James Snyder). *A User’s Guide to Campaign Finance*, Jerry Lubenow, editor. Rowman and Littlefield.
- 2001 “The Paradox of Minimal Effects,” in Henry Brady and Richard Johnston, eds., *Do Campaigns Matter?* University of Michigan Press.
- 2001 “Campaigns as Experiments,” in Henry Brady and Richard Johnson, eds., *Do Campaigns Matter?* University of Michigan Press.
- 2000 “Money and Office,” (with James Snyder) in David Brady and John Cogan, eds., *Congressional Elections: Continuity and Change*. Stanford University Press.
- 1996 “The Science of Political Advertising,” (with Shanto Iyengar) in *Political Persuasion and Attitude Change*, Richard Brody, Diana Mutz, and Paul Sniderman, eds. Ann Arbor, MI: University of Michigan Press.
- 1995 “Evolving Perspectives on the Effects of Campaign Communication,” in Philo Warburn, ed., *Research in Political Sociology*, vol. 7, JAI.
- 1995 “The Effectiveness of Campaign Advertising: It’s All in the Context,” (with Shanto Iyengar) in *Campaigns and Elections American Style*, Candice Nelson and James A. Thurber, eds. Westview Press.
- 1993 “Information and Electoral Attitudes: A Case of Judgment Under Uncertainty,” (with Shanto Iyengar), in *Explorations in Political Psychology*, Shanto Iyengar and William McGuire, eds. Durham: Duke University Press.

Working Papers

- 2009 “Sociotropic Voting and the Media” (with Marc Meredith and Erik Snowberg), American National Election Study Pilot Study Reports, John Aldrich editor.
- 2007 “Public Attitudes Toward America’s Energy Options: Report of the 2007 MIT Energy Survey” CEEPR Working Paper 07-002 and CANES working paper.

- 2006 "Constituents' Policy Perceptions and Approval of Members' of Congress" CCES Working Paper 06-01 (with Phil Jones).
- 2004 "Using Recounts to Measure the Accuracy of Vote Tabulations: Evidence from New Hampshire Elections, 1946 to 2002" (with Andrew Reeves).
- 2002 "Evidence of Virtual Representation: Reapportionment in California," (with Ruimin He and James M. Snyder).
- 1999 "Why did a majority of Californians vote to lower their own power?" (with James Snyder and Jonathan Woon). Paper presented at the annual meeting of the American Political Science Association, Atlanta, GA, September, 1999. Paper received the award for the best paper on Representation at the 1999 Annual Meeting of the APSA.
- 1999 "Has Television Increased the Cost of Campaigns?" (with Alan Gerber and James Snyder).
- 1996 "Money, Elections, and Candidate Quality," (with James Snyder).
- 1996 "Party Platform Choice - Single- Member District and Party-List Systems,"(with James Snyder).
- 1995 "Messages Forgotten" (with Shanto Iyengar).
- 1994 "Consumer Contributors and the Returns to Fundraising: A Microeconomic Analysis," (with Alan Gerber), presented at the Annual Meeting of the American Political Science Association, September.
- 1992 "Biases in Ecological Regression," (with R. Douglas Rivers) August, (revised February 1994). Presented at the Midwest Political Science Association Meetings, April 1994, Chicago, IL.
- 1992 "Using Aggregate Data to Correct Nonresponse and Misreporting in Surveys" (with R. Douglas Rivers). Presented at the annual meeting of the Political Methodology Group, Cambridge, Massachusetts, July.
- 1991 "The Electoral Effects of Issues and Attacks in Campaign Advertising" (with Shanto Iyengar). Presented at the Annual Meeting of the American Political Science Association, Washington, DC.
- 1991 "Television Advertising as Campaign Strategy: Some Experimental Evidence" (with Shanto Iyengar). Presented at the Annual Meeting of the American Association for Public Opinion Research, Phoenix.

- 1991 “Why Candidates Attack: Effects of Televised Advertising in the 1990 California Gubernatorial Campaign,” (with Shanto Iyengar). Presented at the Annual Meeting of the Western Political Science Association, Seattle, March.
- 1990 “Winning is Easy, But It Sure Ain’t Cheap.” Working Paper #90-4, Center for the American Politics and Public Policy, UCLA. Presented at the Political Science Departments at Rochester University and the University of Chicago.

Research Grants

- 1989-1990 Markle Foundation. “A Study of the Effects of Advertising in the 1990 California Gubernatorial Campaign.” Amount: \$50,000
- 1991-1993 Markle Foundation. “An Experimental Study of the Effects of Campaign Advertising.” Amount: \$150,000
- 1991-1993 NSF. “An Experimental Study of the Effects of Advertising in the 1992 California Senate Electoral.” Amount: \$100,000
- 1994-1995 MIT Provost Fund. “Money in Elections: A Study of the Effects of Money on Electoral Competition.” Amount: \$40,000
- 1996-1997 National Science Foundation. “Campaign Finance and Political Representation.” Amount: \$50,000
- 1997 National Science Foundation. “Party Platforms: A Theoretical Investigation of Party Competition Through Platform Choice.” Amount: \$40,000
- 1997-1998 National Science Foundation. “The Legislative Connection in Congressional Campaign Finance. Amount: \$150,000
- 1999-2000 MIT Provost Fund. “Districting and Representation.” Amount: \$20,000.
- 1999-2002 Sloan Foundation. “Congressional Staff Seminar.” Amount: \$156,000.
- 2000-2001 Carnegie Corporation. “The Caltech/MIT Voting Technology Project.” Amount: \$253,000.
- 2001-2002 Carnegie Corporation. “Dissemination of Voting Technology Information.” Amount: \$200,000.
- 2003-2005 National Science Foundation. “State Elections Data Project.” Amount: \$256,000.

- 2003-2004 Carnegie Corporation. "Internet Voting." Amount: \$279,000.
- 2003-2005 Knight Foundation. "Accessibility and Security of Voting Systems." Amount: \$450,000.
- 2006-2008 National Science Foundation, "Primary Election Data Project," \$186,000
- 2008-2009 Pew/JEHT. "Measuring Voting Problems in Primary Elections, A National Survey." Amount: \$300,000
- 2008-2009 Pew/JEHT. "Comprehensive Assessment of the Quality of Voter Registration Lists in the United States: A pilot study proposal" (with Alan Gerber). Amount: \$100,000.
- 2010-2011 National Science Foundation, "Cooperative Congressional Election Study," \$360,000
- 2010-2012 Sloan Foundation, "Precinct-Level U. S. Election Data," \$240,000.
- 2012-2014 National Science Foundation, "Cooperative Congressional Election Study, 2010-2012 Panel Study" \$425,000
- 2012-2014 National Science Foundation, "2012 Cooperative Congressional Election Study," \$475,000
- 2014-2016 National Science Foundation, "Cooperative Congressional Election Study, 2010-2014 Panel Study" \$510,000
- 2014-2016 National Science Foundation, "2014 Cooperative Congressional Election Study," \$400,000
- 2016-2018 National Science Foundation, "2016 Cooperative Congressional Election Study," \$485,000

Professional Boards

Editor, Cambridge University Press Book Series, Political Economy of Institutions and Decisions, 2006-present

Member, Board of the Reuters International School of Journalism, Oxford University, 2007 to present.

Member, Academic Advisory Board, Electoral Integrity Project, 2012 to present.

Contributing Editor, *Boston Review*, The State of the Nation.

Member, Board of Overseers, American National Election Studies, 1999 - 2013.

Associate Editor, Public Opinion Quarterly, 2012 to 2013.

Editorial Board of American Journal of Political Science, 2005 to present.

Editorial Board of Legislative Studies Quarterly, 2005 to present.

Editorial Board of Public Opinion Quarterly, 2006 to present.

Editorial Board of the Election Law Journal, 2002 to present.

Editorial Board of the Harvard International Journal of Press/Politics, 1996 to 2008.

Editorial Board of Business and Politics, 2002 to Present.

Scientific Advisory Board, Polimetrix, 2004 to 2006.

Special Projects and Task Forces

Principal Investigator, Cooperative Congressional Election Study, 2005 – present.

CBS News Election Decision Desk, 2006-present

Co-Director, Caltech/MIT Voting Technology Project, 2000-2004.

Co-Organizer, MIT Seminar for Senior Congressional and Executive Staff, 1996-2007.

MIT Energy Innovation Study, 2009-2010.

MIT Energy Initiative, Steering Council, 2007-2008

MIT Coal Study, 2004-2006.

MIT Energy Research Council, 2005-2006.

MIT Nuclear Study, 2002-2004.

Harvard University Center on the Environment, Council, 2009-present

Expert Witness, Consultation, and Testimony

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| 2001 | Testimony on Election Administration, U. S. Senate Committee on Commerce. |
| 2001 | Testimony on Voting Equipment, U.S. House Committee on Science, Space, and Technology |
| 2001 | Testimony on Voting Equipment, U.S. House Committee on House Administration |
| 2001 | Testimony on Voting Equipment, Congressional Black Caucus |
| 2002-2003 | <i>McConnell v. FEC</i> , 540 U.S. 93 (2003), consultant to the Brennan Center. |
| 2009 | Amicus curiae brief with Professors Nathaniel Persily and Charles Stewart on behalf of neither party to the U.S. Supreme Court in the case of <i>Northwest Austin Municipal Utility District Number One v. Holder</i> , 557 U.S. 193 (2009). |

- 2009 Testimony on Voter Registration, U. S. Senate Committee on Rules.
- 2011-2015 *Perez v. Perry*, U. S. District Court in the Western District of Texas (No. 5:11-cv-00360). Exert witness on behalf of Rodriguez intervenors.
- 2011-2013 *State of Texas v. United States*, the U.S. District Court in the District of Columbia (No. 1:11-cv-01303), expert witness on behalf of the Gonzales intervenors.
- 2012-2013 *State of Texas v. Holder*, U.S. District Court in the District of Columbia (No. 1:12-cv-00128), expert witness on behalf of the United States.
- 2011-2012 *Guy v. Miller* in U.S. District Court for Nevada (No. 11-OC-00042-1B), expert witness on behalf of the Guy plaintiffs.
- 2012 *In re Senate Joint Resolution of Legislative Apportionment*, Florida Supreme Court (Nos. 2012-CA-412, 2012-CA-490), consultant for the Florida Democratic Party.
- 2012-2014 *Romo v. Detzner*, Circuit Court of the Second Judicial Circuit in Florida (No. 2012 CA 412), expert witness on behalf of Romo plaintiffs.
- 2013-2014 *LULAC v. Edwards Aquifer Authority*, U.S. District Court for the Western District of Texas, San Antonio Division (No. 5:12cv620-OLG,), consultant and expert witness on behalf of the City of San Antonio and San Antonio Water District
- 2013-2014 *Veasey v. Perry*, U. S. District Court for the Southern District of Texas, Corpus Christi Division (No. 2:13-cv-00193), consultant and expert witness on behalf of the United States Department of Justice.
- 2013-2015 *Harris v. McCrory*, U. S. District Court for the Middle District of North Carolina (No. 1:2013cv00949), consultant and expert witness on behalf of the Harris plaintiffs. (later named *Cooper v. Harris*)
- 2014 Amicus curiae brief, on behalf of neither party, Supreme Court of the United States, *Alabama Democratic Conference v. State of Alabama*.
- 2014- 2016 *Bethune-Hill v. Virginia State Board of Elections*, U. S. District Court for the Eastern District of Virginia (No. 3:2014cv00852), consultant and expert on behalf of the Bethune-Hill plaintiffs.
- 2015 Amicus curiae brief in support of Appellees, Supreme Court of the United States, *Evenwell v. Abbott*
- 2016-2017 *Perez v. Abbott*, U. S. District Court in the Western District of Texas (No. 5:11-cv-00360). Exert witness on behalf of Rodriguez intervenors.