

IN THE SUPREME COURT OF OHIO

Regina C. Adams, et al.,

Petitioners,

v.

Governor Mike DeWine, et al.,

Respondents.

Case No. 2021-1428

**Original Action Filed Pursuant to
Ohio Const., Art. XIX, Sec. 3(A)**

**EVIDENCE TO MOTION TO ENFORCE COURT'S ORDER – VOLUME 3
(Expert Affidavit of Dr. Jonathan Rodden & Exhibits)**

Abha Khanna (PHV 2189-2021)
Ben Stafford (PHV 25433-2021)
ELIAS LAW GROUP, LLP
1700 Seventh Ave., Suite 2100
Seattle, WA 98101
(206) 656-0176
akhanna@elias.law

Jyoti Jasrasaria (PHV 25401-2021)
Spencer W. Klein (PHV 25432-2021)
Harleen K. Gambhir (PHV 25587-2021)
ELIAS LAW GROUP, LLP
10 G St. NE, Suite 600
Washington, DC 20002
(202) 968-4490
jjasrasaria@elias.law

Donald J. McTigue (0022849)
Counsel of Record
Derek S. Clinger (0092075)
McTIGUE COLOMBO & CLINGER, LLC
545 East Town Street
Columbus, OH 43215
(614) 263-7000
dmctigue@electionlawgroup.com

Counsel for Adams Petitioners

Dave Yost
OHIO ATTORNEY GENERAL
Bridget C. Coontz (0072919)
Julie M. Pfeiffer (0069762)
Michael A. Walton (0092201)
Assistant Attorneys General
Constitutional Offices Section
30 E. Broad Street, 16th Floor
Columbus, OH 43215
(614) 466-2872
bridget.coontz@ohioago.gov

*Counsel for Respondent Ohio Secretary of State
Frank LaRose*

Phillip J. Strach (PHV 25444-2021)
Thomas A. Farr (PHV 25461-2021)
John E. Branch, III (PHV 25460-2021)
Alyssa M. Riggins (PHV 25441-2021)
NELSON MULLINS RILEY & SCARBOROUGH, LLP
4140 Parklake Ave., Suite 200
Raleigh, NC 27612
(919) 329-3812
phil.strach@nelsonmullins.com

*Counsel for Respondents House Speaker Bob
Cupp and Senate President Matt Huffman*

IN THE SUPREME COURT OF OHIO

Regina Adams, *et al.*

Relators,

v.

Governor Mike DeWine, *et al.*

Respondents.

Case No. 2021-1428

Original Action Filed Pursuant to Ohio
Constitution, Article XIX, Section 3(A)

EXPERT AFFIDAVIT OF DR. JONATHAN RODDEN

I, Jonathan Rodden, having been duly sworn and cautioned according to law, hereby state that I am over the age of eighteen years and am competent to testify to the facts set forth below based on my personal knowledge and having personally examined all records referenced in this affidavit, and further state as follows:

I. INTRODUCTION AND SUMMARY

1. In a previous affidavit filed in this case, I examined whether the redistricting plan for the Ohio delegation to the United States House of Representatives, adopted by the Ohio General Assembly on November 18, 2021 and signed into law by Governor Mike DeWine two days later, conformed to the requirement set forth in Article XIX, Section 1(C)(3)(a), namely, that the plan does not “unduly favor[] or disfavor[] a political party or its incumbents.” I presented evidence that the plan (the “Overturned Plan,” attached as Exhibit A) unduly favored the Republican Party and its incumbents, elevating partisan advantage over traditional redistricting criteria like compactness and the preservation of communities.
2. I have now been asked to conduct a similar exercise with a new plan, passed by the Ohio Redistricting Commission on March 2, 2022 (the “New Plan,” attached as Exhibit B). After doing so, I discovered that the key conclusions of my initial report still apply. The New Plan favors the Republican Party and its incumbents in rather obvious and consequential ways and disfavors the Democratic Party and its incumbents.
3. A comparison of the New Plan with the Overturned Plan reveals only small changes in the treatment of the two parties. Both the Overturned Plan and the New Plan produce two extremely Democratic districts: one in Columbus and one in Cleveland. And both produce three districts where the statewide Democratic vote share in recent years was rather close to 50 percent. This means that with around 47 percent of the statewide vote shares, Democratic Party can likely expect 20 or 27 percent of the seats. As with the Overturned Plan, even if Democratic candidates are very fortunate and win all three “swing” districts in a given year, the Democrats can expect no more than 33 percent of the seats. In fact, even if Democrats experience a large swing in their favor of 3 percentage points, so that the Democratic Party

wins 50 percent of the statewide vote, it still cannot anticipate winning more than 33 percent of the seats. By contrast, a similar 3 percentage point swing would result in the Republican Party winning roughly 56 percent of the statewide vote, and 87 percent of the seats.

4. As in my previous report, I seek to explain how the New Plan achieves this rather striking counter-majoritarian outcome. The answer is largely the same: subverting traditional redistricting principles by splitting communities in metro areas and strategically subsuming urban fragments in their surrounding rural areas, often relying on relatively non-compact districts. Specifically, the New Plan 1) splits the Cincinnati metro area in a way that prevents the emergence of a Democratic district; 2) splits the Columbus and Cleveland areas in ways that pack Democrats into a single district in each metro area, combining urban and suburban Democratic communities with far-flung rural areas so as to avoid the emergence of a second Democratic district; 3) separates Toledo from proximate metro areas and combines it with very rural counties; and 4) carves out Lorain County from its geographic environment and places it in a highly non-compact rural district that reaches to the Indiana border. All of these features were present in the Overturned Plan as well.
5. By examining alternative plans that were before the General Assembly and the Commission, it is clear to see that it is possible to achieve higher levels of compactness, greater respect for communities, and a better reflection of the partisan preferences of Ohio voters by drawing districts that are not crafted to advantage one political party and its incumbents. That is to say, drawing districts that adhere to Ohio's political and economic geography does not require the degree of advantage for the Republican Party exhibited in the New Plan.

II. QUALIFICATIONS

6. I am currently a tenured Professor of Political Science at Stanford University and the founder and director of the Stanford Spatial Social Science Lab—a center for research and teaching with a focus on the analysis of geo-spatial data in the social sciences. I am engaged in a variety of research projects involving large, fine-grained geo-spatial data sets including ballots and election results at the level of polling places, individual records of registered voters, census data, and survey responses. I am also a senior fellow at the Stanford Institute for Economic Policy Research and the Hoover Institution. Prior to my employment at Stanford, I was the Ford Professor of Political Science at the Massachusetts Institute of Technology. I received my Ph.D. from Yale University and my B.A. from the University of Michigan, Ann Arbor, both in political science. A copy of my current C.V. is included as Exhibit H.
7. In my current academic work, I conduct research on the relationship between the patterns of political representation, geographic location of demographic and partisan groups, and the drawing of electoral districts. I have published papers using statistical methods to assess political geography, balloting, and representation in a variety of academic journals including *Statistics and Public Policy*, *Proceedings of the National Academy of Science*, *American Economic Review Papers and Proceedings*, the *Journal of Economic Perspectives*, the *Virginia Law Review*, the *American Journal of Political Science*, the *British Journal of Political Science*, the *Annual Review of Political Science*, and the *Journal of Politics*. One of these papers was selected by the American Political Science Association as the winner of the

Michael Wallerstein Award for the best paper on political economy published in the last year, and another received an award from the American Political Science Association section on social networks. In 2021, I received a John Simon Guggenheim Memorial Foundation Fellowship, and received the Martha Derthick Award of the American Political Science Association for “the best book published at least ten years ago that has made a lasting contribution to the study of federalism and intergovernmental relations.”

8. I have recently written a series of papers, along with my co-authors, using automated redistricting algorithms to assess partisan gerrymandering. This work has been published in the *Quarterly Journal of Political Science*, *Election Law Journal*, and *Political Analysis*, and it has been featured in more popular publications like the *Wall Street Journal*, the *New York Times*, and *Boston Review*. I have recently completed a book, published by *Basic Books* in June of 2019, on the relationship between political districts, the residential geography of social groups, and their political representation in the United States and other countries that use winner-take-all electoral districts. The book was reviewed in *The New York Times*, *The New York Review of Books*, *Wall Street Journal*, *The Economist*, and *The Atlantic*, among others.
9. I have expertise in the use of large data sets and geographic information systems (GIS), and I conduct research and teaching in the area of applied statistics related to elections. My PhD students frequently take academic and private sector jobs as statisticians and data scientists. I frequently work with geo-coded voter files and other large administrative data sets, including in recent papers published in the *Annals of Internal Medicine* and *The New England Journal of Medicine*. I have developed a national data set of geo-coded precinct-level election results that has been used extensively in policy-oriented research related to redistricting and representation.
10. I have been accepted and testified as an expert witness in several election law and redistricting cases: *Romo v. Detzner*, No. 2012-CA-000412 (Fla. Cir. Ct. 2012); *Mo. State Conference of the NAACP v. Ferguson-Florissant Sch. Dist.*, No. 4:2014-CV-02077 (E.D. Mo. 2014); *Lee v. Va. State Bd. of Elections*, No. 3:15-CV-00357 (E.D. Va. 2015); *Democratic Nat’l Committee et al. v. Hobbs et al.*, No. 16-1065-PHX-DLR (D. Ariz. 2016); *Bethune-Hill v. Virginia State Board of Elections*, No. 3:14-cv-00852-REP-AWA-BMK (E.D. Va. 2014); and *Jacobson et al. v. Lee*, No. 4:18-cv-00262 (N.D. Fla. 2018). I also worked with a coalition of academics to file Amicus Briefs in the Supreme Court in *Gill v. Whitford*, No. 16-1161, and *Rucho v. Common Cause*, No. 18-422. Much of the testimony in these cases had to do with geography, electoral districts, voting, ballots, and election administration. I recently worked as a consultant for the Maryland Redistricting Commission, and I drew a Pennsylvania Congressional redistricting plan, known as the “Carter Plan,” that was chosen by the Pennsylvania Supreme Court for implementation. *Carter v. Chapman*, No. 7 MM 2022, 2022 WL 549106 (Pa. Feb. 23, 2022). I am being compensated at the rate of \$550/hour for my work in this case. My compensation is not dependent upon my conclusions in any way.

III. DATA SOURCES

11. I have collected statewide election data for 2012 to 2020 from the Ohio Secretary of State. I also accessed precinct-level election results from the Ohio Secretary of State for statewide elections from 2016 to 2020 that were matched to 2020 Ohio vote tabulation districts by a team at Harvard University called the Algorithm-Assisted Redistricting Methodology Project.¹ Additionally, I accessed several proposed Ohio congressional plans uploaded to the web page of the Ohio Redistricting Commission as well as the websites for the Ohio House and Senate, true copies of which are attached as Exhibits C, D, E, F, and G.² I also consulted geographic boundary files of the New Plan that were provided to me by Counsel (and available on the Ohio Redistricting Commission’s website). I also consulted the same U.S. Census redistricting data used by the General Assembly, as archived in the “Ohio University Common and Unified Redistricting Database.”³ For the analysis conducted in this report, I use three software packages: Stata, Maptitude for Redistricting, and ArcGIS Pro.

IV. THE PARTISANSHIP OF THE NEW CONGRESSIONAL PLAN

12. In my earlier report, I assembled data for the two major parties from statewide elections in Ohio from 2012 to 2020 and demonstrated that statewide support for Democratic candidates was around 46 percent in the period since 2012, but in more recent years, from 2016 to 2020, it was around 47 percent.
13. I then examined the plan that had been passed by the Ohio Legislature, but that has been subsequently overturned (the “Overturned Plan”). I summed up precinct-level results of elections from 2016 to 2020 within the boundaries of each of the districts of the overturned plan, and then demonstrated that Democratic candidates in statewide elections had comfortable majorities in only two districts—one in Cleveland and one in Columbus. Beyond those, the Overturned Plan included two districts in which the statewide vote share for the two parties was very evenly split, such that with 47 percent of the statewide vote, Democrats could anticipate only 20 percent of the seats (i.e., to win three of fifteen districts).
14. First, let us examine the new Congressional plan promulgated on March 2, 2022 (“the New Plan”) using a similar approach. Again, there are two extremely Democratic districts, one in Cleveland and one in Columbus. In this plan, there are also three very evenly divided districts. In each of these districts, the Democratic statewide vote share from 2016 to 2020 is slightly above 50 percent. Specifically, in District 1, which combines urban parts of Cincinnati with rural Warren County, the Democratic vote share in statewide races aggregates to 51 percent. In District 9, in Northwest Ohio, the Democratic vote share was 50.2 percent. In District 13, which combines Summit County and the Northern part of Stark County, it was 52.2 percent. The remainder of the seats have relatively comfortable Republican majorities—all equal to or greater than 53.3 percent.

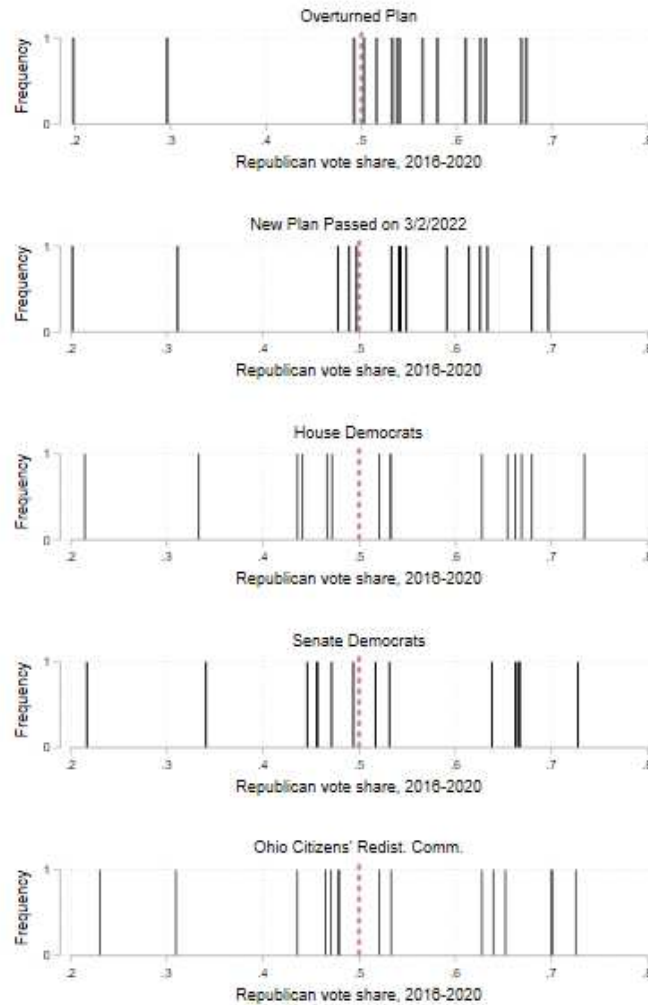
¹ <https://alarm-redist.github.io/posts/2021-08-10-census-2020/>.

² <https://redistricting.ohio.gov/maps>.

³ <https://www.redistricting.ohio.gov/resources>.

15. If one wishes to assess the anticipated division of seats for the two parties under this plan, one must come up with a way to allocate these three evenly divided seats. As described in my previous report, District 1 has a longstanding Republican incumbent, Steve Chabot, who over the last decade, received around 58 percent of the votes cast for the two major parties in District 1, even though his statewide co-partisans had received, on average, around 54 percent of the votes in his district. If we consider his 4-point incumbency advantage, and the fact that around 70 percent of the population in the new version of District 1 was in the old version of District 1, this district should be viewed as having a Republican lean.
16. District 9 has been very evenly divided between the parties when we sum over all statewide races from 2016 to 2020. However, in the most recent election, Donald Trump won 51.5 percent of the vote. The Democratic incumbent, Marcy Kaptur, has outperformed her statewide co-partisans in the past, but her district has been redrawn so that only around half of the population of the new, more rural version of District 9 was in the old version of District 9. As a result, this district is probably best seen as a true tossup.
17. To my knowledge, District 13 does not include any incumbents. With a Democratic vote share of just over 52 percent in statewide races, and a Democratic vote share of 51.4 percent in the most recent presidential election, it is best understood as a district with a slight Democratic lean.
18. If one accepts this analysis, and considers that one of these districts leans Democratic, another leans Republican, and a third is a toss-up where the expected probability of a Democratic victory is .5, we would end up with the conclusion that Democratic candidates can anticipate 3.5 seats, or 23 percent.
19. Alternatively, we might simply classify all three seats as tossups in which Democratic candidates would win with probability .5. Summing over these probabilities, we would end up with the same expectation: 3.5 seats, or 23 percent.
20. If one considered the seat with a 52.2 percent Democratic majority as a safer Democratic seat and focused only on the bare majority Districts 1 and 9 as toss-ups, Democrats would still win only 4 districts, giving them 27 percent of the seats.
21. Another approach might be to ignore these 3 evenly divided seats, and simply ask how many of the remaining 12 seats lean Democratic, and how many Republican. With this approach, we would view the Democratic seat share as 2 out of 12, or 17 percent. Even if we ignored only 2 of the seats (District 1 and 9), we would view the Democratic seat share as 3 out of 13, or 23 percent.
22. In the event of a pro-Democratic wave, if Democrats would win all three seats, giving them a total of 5, they would have a seat share of 33 percent.
23. In short, with around 47 percent of the statewide vote share, the Democrats could anticipate anywhere from 13 percent of the seats if they lose all three of the competitive districts, to 33 percent if they win all three. Perhaps the most reasonable (but still optimistic) expectation, ex ante, is 27 percent. In other words, the Democrats' expected seat share falls far short of their vote share.

Figure 1: Discrete Histograms for Several Ohio Congressional Redistricting Plans



24. Moreover, it is important to note that 33 percent is very likely the ceiling on the number of seats the Democratic Party could possibly win under the New Plan. This is because the other 10 seats have been drawn to be very comfortable for Republican candidates. To comprehend this, see the top two panels in Figure 1, which provides discrete histograms for the Overturned Plan, and then for the New Plan. A discrete histogram simply displays a bar for each district, arranged on the horizontal axis according to the Republican vote share, with a red dotted line indicating 50 percent.
25. Figure 1 demonstrates that the main difference between the Overturned Plan and the New Plan is that a couple of the bars have moved ever so slightly to the left, to the other (Democratic) side of the 50 percent line. Note that this leaves a large gap on the *right* side of 50 percent in the New Plan. That is to say, there are no highly competitive Republican-leaning districts that Democratic candidates might hope to capture in a pro-Democratic wave election.

26. The most competitive Republican-leaning district is District 10, where the statewide Democratic vote share aggregates to 46.7 percent. However, as explained in my previous report, the Republican incumbent, Mike Turner, won each general election from 2012 to 2020 with an average two-party vote share above 62 percent, outperforming his statewide co-partisans by around 8.7 percentage points. In the New Plan, Representative Turner keeps 90 percent of the population of his old district, so there is no reason to anticipate that District 10 would be competitive in a typical election scenario.
27. Due to the lack of competitive but Republican-leaning districts, it is difficult to envision a scenario in which the Democratic Party would be able to win more than 5 seats under this plan. Relative to their 47 percent vote share in the period from 2016 to 2020, imagine a very large uniform shift of 3 percentage points toward the Democratic Party in all districts, giving them 50 percent of the statewide vote. Democratic candidates could *still* only anticipate only 33 percent of the seats. If we take a naïve approach and ignore incumbency advantage, focusing only on statewide vote shares, we might imagine that a truly extraordinary 4-point uniform swing would be enough to tip District 10 to the Democrats, but it would be too little for the Democrats to gain majorities in any other districts. This would generate a highly counter-majoritarian result in which the Democrats received 51 percent of the votes but 40 percent of the seats.
28. In stark contrast, if the Republican Party experienced the same large uniform shift of 3 percentage points, it would win 56 percent of the statewide vote and all three of the competitive seats—just about *87 percent* of the congressional seats.
29. There is nothing about the geography of Ohio or the requirements of the Ohio Constitution that requires this type of counter-majoritarian redistricting plan. In my previous report, I discussed three alternative redistricting plans: one that was introduced by the House Democrats on November 5, 2021 (Exhibit C); one that was introduced by the Senate Democrats on November 10, 2021 (Exhibit D); and one that was introduced by the Ohio Citizens' Redistricting Commission on September 30, 2021 (Exhibit E).
30. Discrete histograms for these three plans have also been included in Figure 1. Note that the distribution of partisanship is quite different in these plans than in the Overturned Plan and the New Plan. Not only do they include a larger number of plans where the Democratic vote share is above 50 percent—7 districts in the Senate Democrats' and OCRC plans, 6 in the House Democrats' Plan—but the Democratic-leaning districts are not tightly clustered around the 50 percent line.

V. HOW DOES THE NEW PLAN TREAT INCUMBENTS?

31. In addition to analyzing the extent to which the New Plan favors or disfavors a party in the aggregate, I have also been asked to examine the extent to which it disproportionately favors or disfavors the *incumbents* for one of the two parties. Under the previous plan, there were 12 Republican incumbents. One of these, Anthony Gonzalez, has announced his retirement. Representative Brad Wenstrup has announced that he intends to seek re-election in District

2, which is a comfortably Republican district.⁴ All the remaining districts with Republican incumbents continue to have Republican majorities—most of them quite comfortable. The only exception is District 1, where it was necessary to make changes due to the Ohio Constitution’s requirement that Cincinnati be kept whole and the Ohio Supreme Court’s opinion striking down the Overturned Plan. Nevertheless, as described above, though statewide races have been evenly divided in the redrawn version of the district, the incumbent has enjoyed a large incumbency advantage in recent years and has been able to retain most of the population of his old district. In all the other districts with Republican incumbents, as documented above, safe margins have been maintained so that incumbents are likely to survive even a significant statewide swing toward the Democratic Party.

32. In contrast, of the four Democratic incumbents, only two continue to reside in districts that are clearly Democratic. The other two reside in dramatically reconfigured districts. Marcy Kaptur represented a relatively urban and comfortably Democratic District 9 (drawn in 2011 to pair Kaptur with another Democratic incumbent). This district has been redrawn to separate Ohio’s northern industrial cities, thus subsuming Toledo in a much more rural district that is now evenly divided. Only around half of the new version of District 9 was in her previous district. While the 2011 version of District 9 was rather non-compact, the version of District 9 in the alternative maps discussed in my previous report are markedly more compact than the 2011 version, while retaining more of the northern industrial cities that comprised the 2011 version. Tim Ryan, who has announced that he is running for the U.S. Senate, was the incumbent in the Youngstown-based District 13, which has been completely reconfigured, with Ryan now placed in the predominantly rural, safe Republican District 6 in the New Plan.

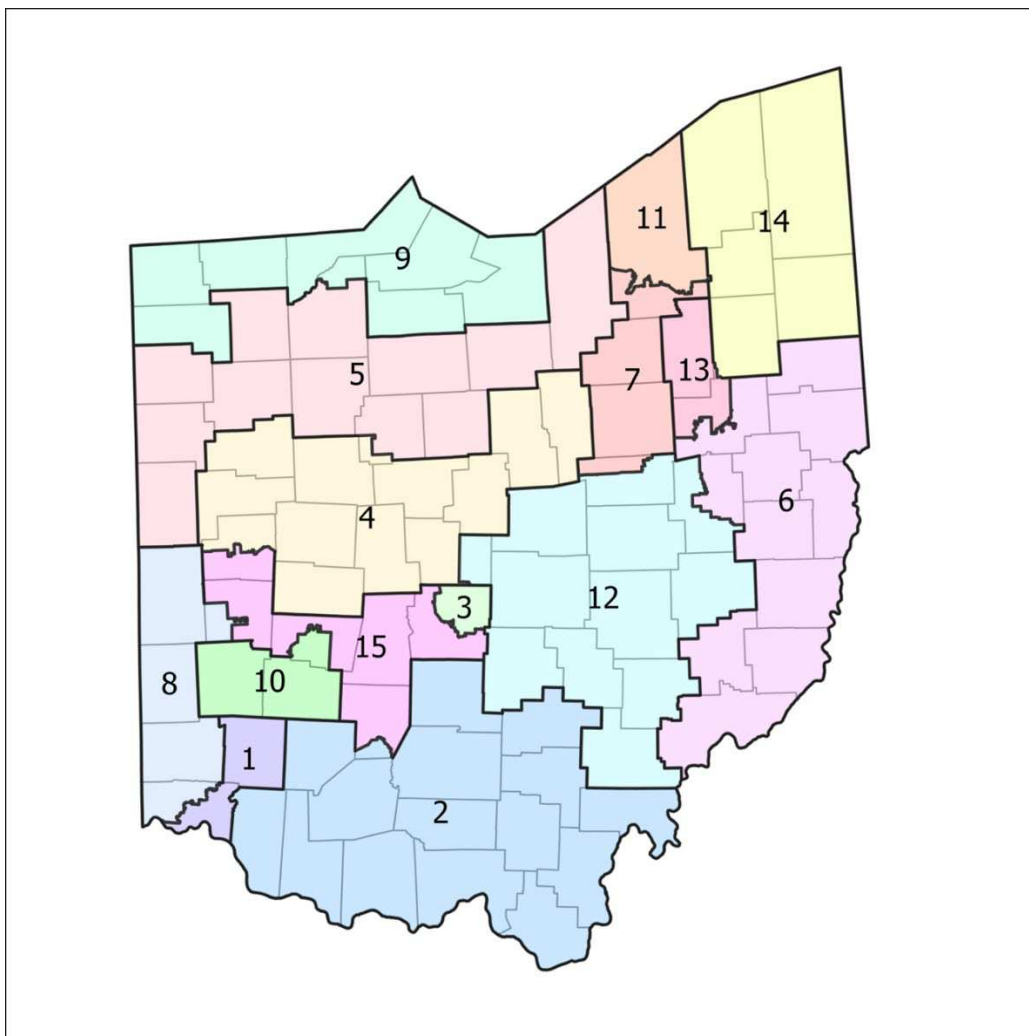
VI. HOW DOES THE NEW PLAN ACHIEVE THESE RESULTS?

33. Like the Overturned Plan, the New Plan favors the Republican Party and its incumbents, while disfavoring the Democratic Party and its incumbents. My previous report demonstrated that in order to achieve this partisan advantage, the Overturned Plan subordinated traditional redistricting principles in several ways. Above all, the Overturned Plan contained needlessly non-compact districts and split metropolitan area communities in order to prevent the emergence of districts with Democratic majorities. The following decisions stood out most clearly: 1) the Cincinnati metro area was split in a way that prevented the emergence of an obvious, compact district with a clear Democratic majority, 2) Columbus and Cleveland-area districts were drawn to prevent the creation of a second metro-area Democratic district, 3) District 9 in Northwest Ohio was drawn so as to overwhelm Toledo and other Democratic communities on Lake Erie with more rural communities, and 4) rather than being combined with suburban Cleveland to its East or other proximate Democratic-leaning communities to its West on Lake Erie, Lorain County is extracted from Northeast Ohio and connected via a corridor of rural counties to the Western border of the state.
34. Each of these features remains in the New Plan. Before taking a closer look at specific regions, it is useful to view the overall architecture of the New Plan, along with several

⁴ <https://highlandcountypress.com/Content/In-The-News/In-The-News/Article/Rep-Wenstrup-announces-intent-to-seek-re-election-in-2nd-District/2/20/74059>.

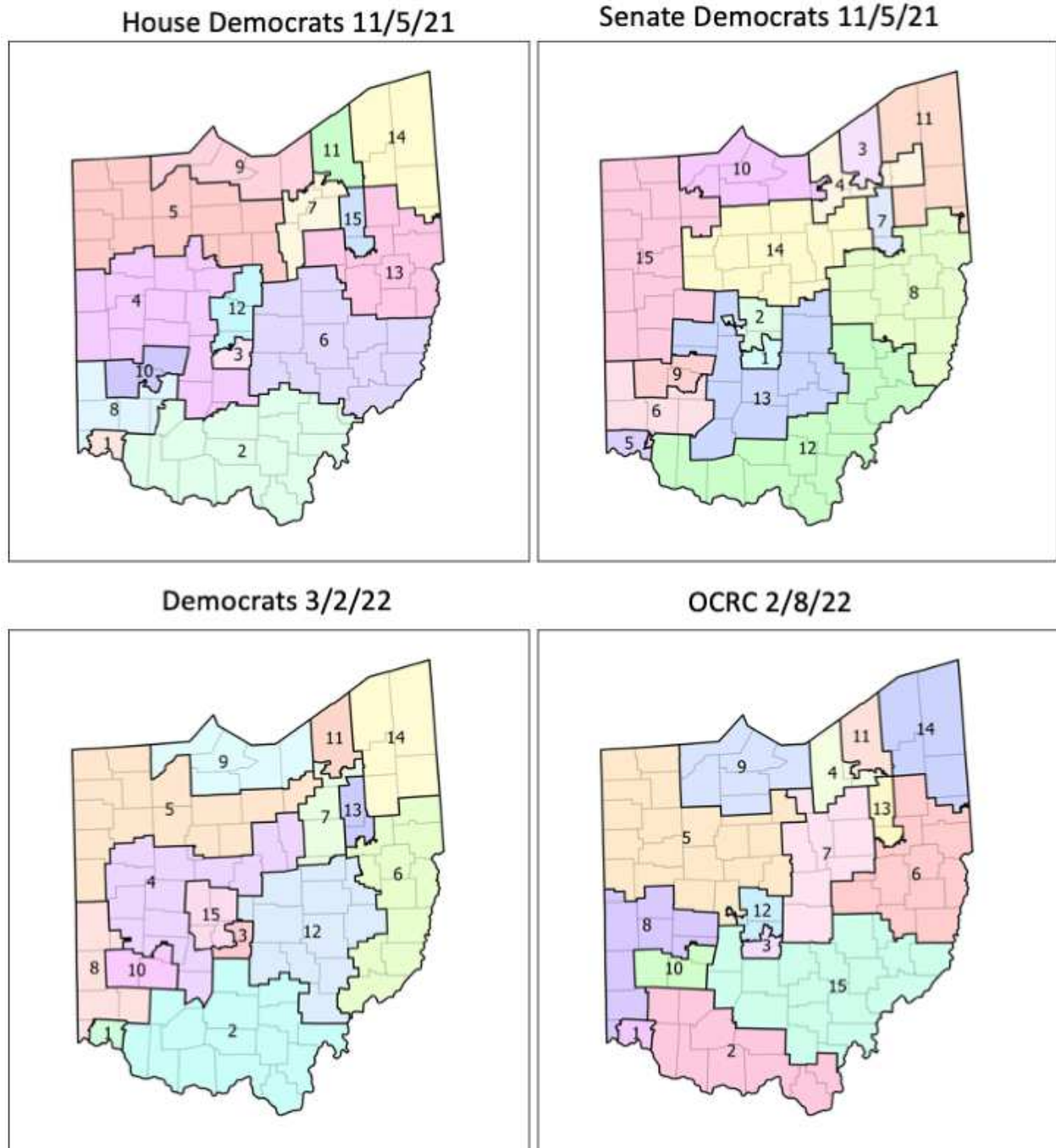
alternative plans. Figure 2 displays a map of the New Plan. For comparison, Figures 3 displays four alternative maps. First, it includes the maps produced by the Ohio House and Senate Democrats that were discussed in my previous report. Additionally, I have examined two additional redistricting plans that were submitted to the General Assembly and Commission: The first was proposed by the Senate Democrats on March 2 (Exhibit F), and the second was proposed by the Ohio Citizens' Redistricting Committee (OCRC) on February 8 (Exhibit G).⁵ I note that the February 8 OCRC Plan is very similar to the earlier OCRC Plan that was discussed in my initial report, so in Figure 3 and subsequent figures, I only include the more recent OCRC map. It is not my intention to endorse any of these maps. Rather, they provide valuable comparisons that help illuminate certain features of the New Plan.

Figure 2: The New Plan



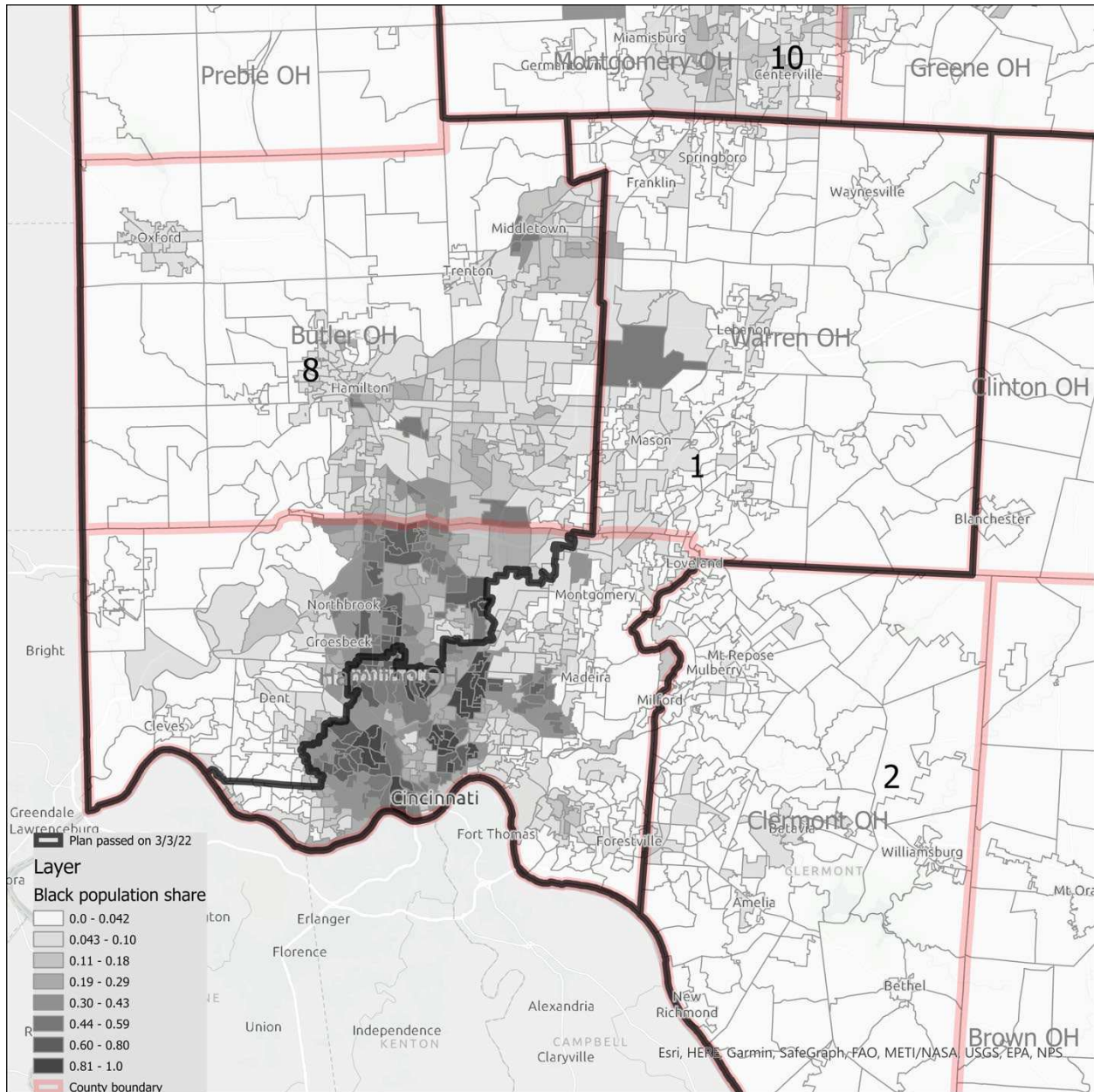
⁵ I note that the OCRC Plan includes population deviations that may be greater than those allowed under equal population requirements. I nevertheless consider the OCRC Plan's partisanship and district configuration for demonstrative purposes.

Figure 3: Four Alternative Plans



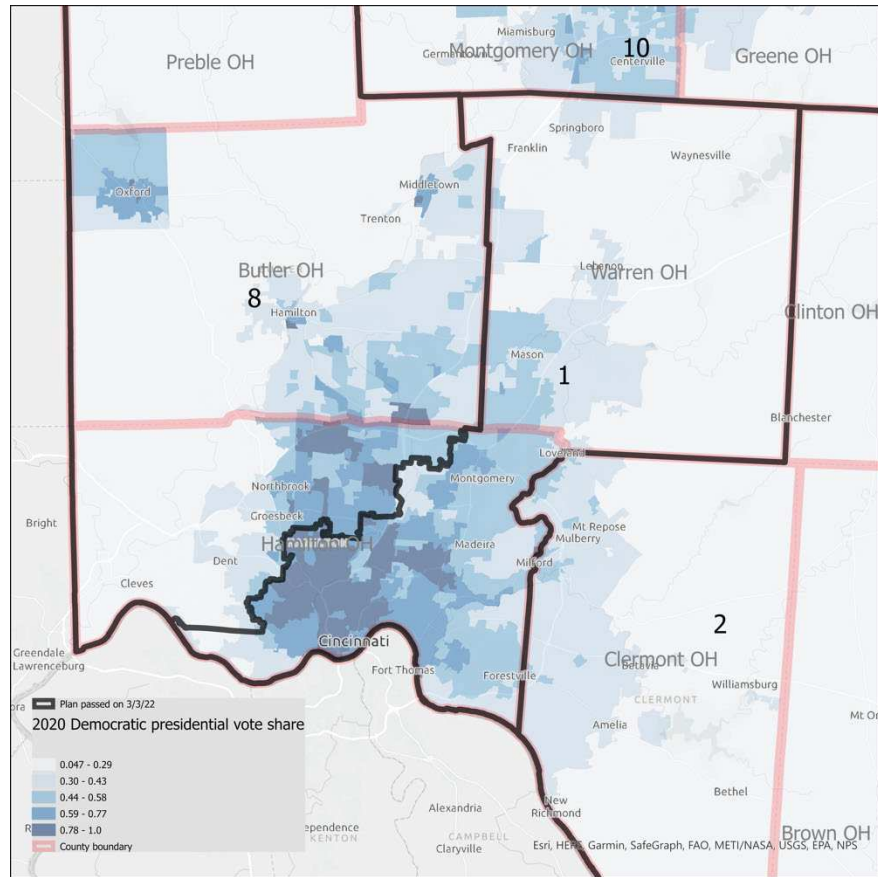
35. Already from this bird's eye view, it is possible to appreciate the non-compact arrangement of District 1 in the New Plan relative to the alternatives, the extraction of part of Columbus and its placement into a highly non-compact District 15, the non-compact arrangement of District 9 designed to add Republicans to the Toledo district, and the extraction of Lorain County from its geographic environment and placement in District 5. Let us now take a close look at each of these maneuvers.

Figure 4: Black Population and New Districts, Cincinnati Area



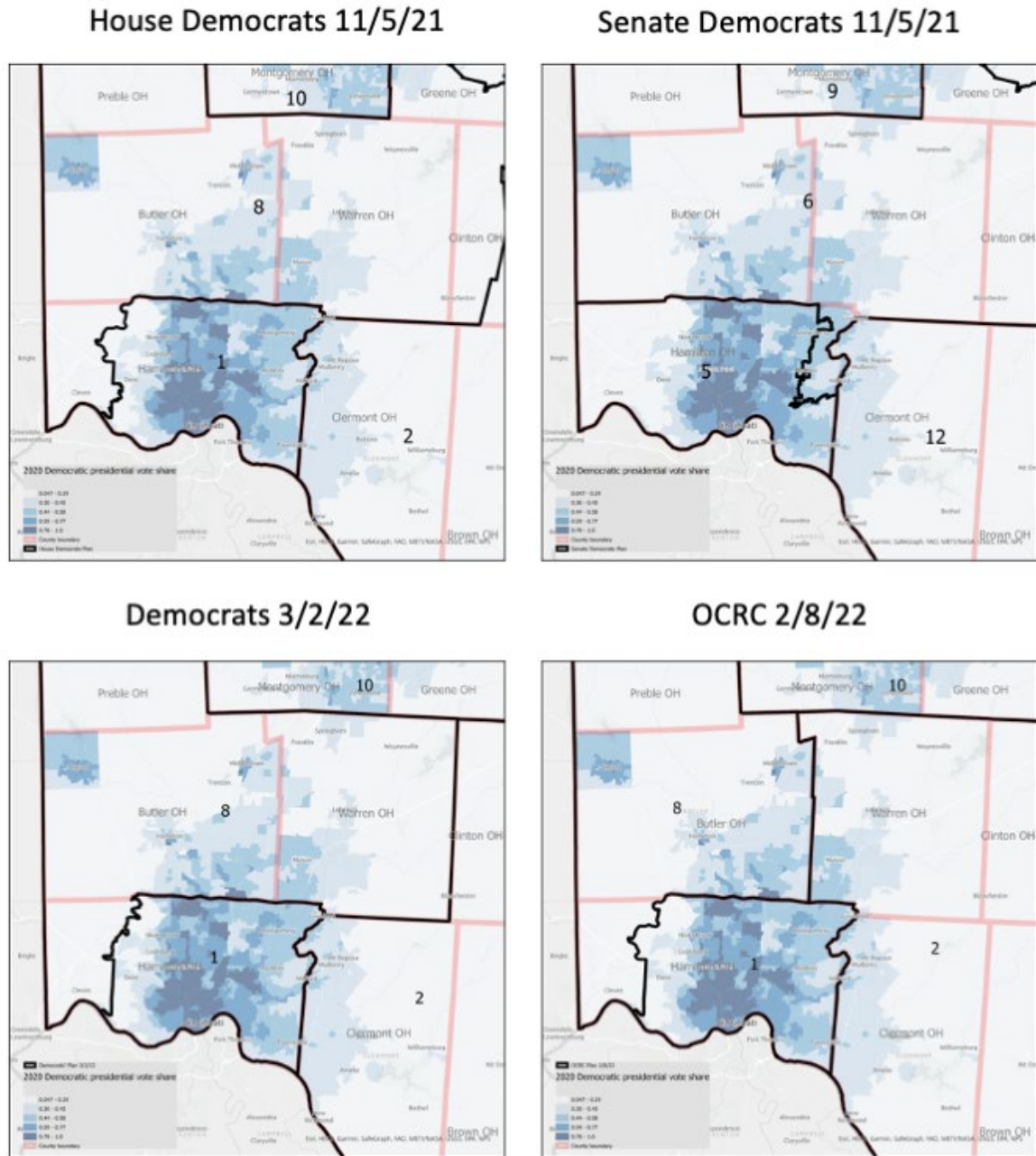
36. Figure 4 displays the boundaries of the New Plan, along with data from the most recent census on race. It shows that the boundary between Districts 1 and 8 bisect the Black community of Cincinnati, ensuring that it cannot contribute to the creation of a clear Democratic district. District 1 maintains its old architecture, splitting the Black community of Cincinnati from that of the Northern suburbs, combining the city of Cincinnati with exurban and rural white areas to the Northeast, traveling via a narrow corridor to Warren County.

Figure 5: Democratic Vote Share and Boundaries of the New Plan, Cincinnati Area



37. Figure 5 replaces the data on race with data on partisanship, using darker colors of blue to capture more Democratic precincts. A comparison of Figures 4 and 5 reveals that partisanship and race are highly correlated in the Cincinnati area, and demonstrates how the line between Districts 1 and 8 in the New Plan not only needlessly splits the Black community in two, but prevents the emergence of a clear Democratic district by generating a highly non-compact arrangement.

Figure 6: Democratic Vote Share and Boundaries of Alternative Plans, Cincinnati Area



38. Figure 6 present the boundaries of four alternative maps, demonstrating that it is quite straightforward to draw a compact Cincinnati district that keeps metro area communities together. For instance, the Reock compactness score for District 1 in the New Plan is .31, while it is .56 in the Democrats' most recent (3/2/2022) plan, and .55 in the most recent OCRC Plan. A higher Reock score indicates a greater level of compactness. The same is true for the Polsby-Popper score, which is .24 in the New Plan, .43 in the Democrats' 3/2/2022 Plan, and .46 in the OCRC 2/8/2022 Plan.

39. Next, Figure 7 displays the districts of the New Plan in the Columbus Area, again overlaying them on precinct-level partisanship. It demonstrates that District 3 is drawn to pack the most Democratic part of Columbus in one district, extracting Democratic-leaning parts of Columbus (including downtown Columbus) and its suburbs, and combining them with some of the most rural, Republican communities of West-Central Ohio, circumnavigating Springfield along the way, and splitting 4 counties to create a single, highly non-compact District 15. These maneuvers made it possible to avoid the emergence of a second Columbus-area Democratic district, creating a relatively comfortable Republican district with a Republican incumbent.

Figure 7: Columbus Area: New Plan

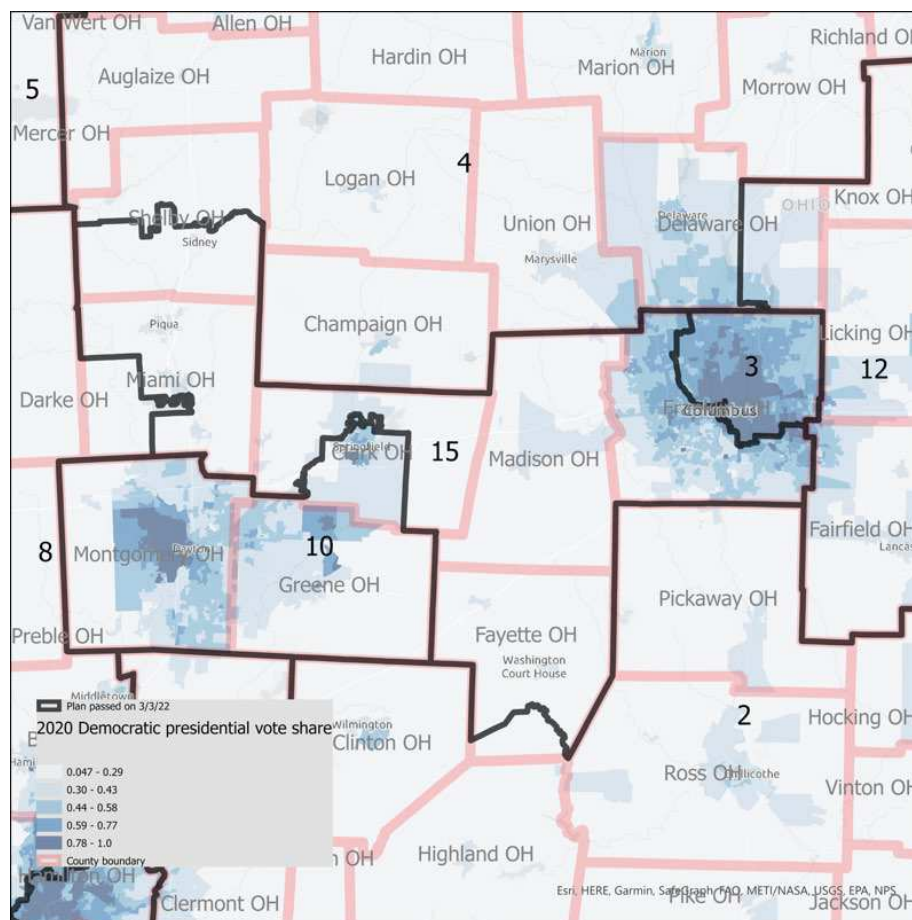
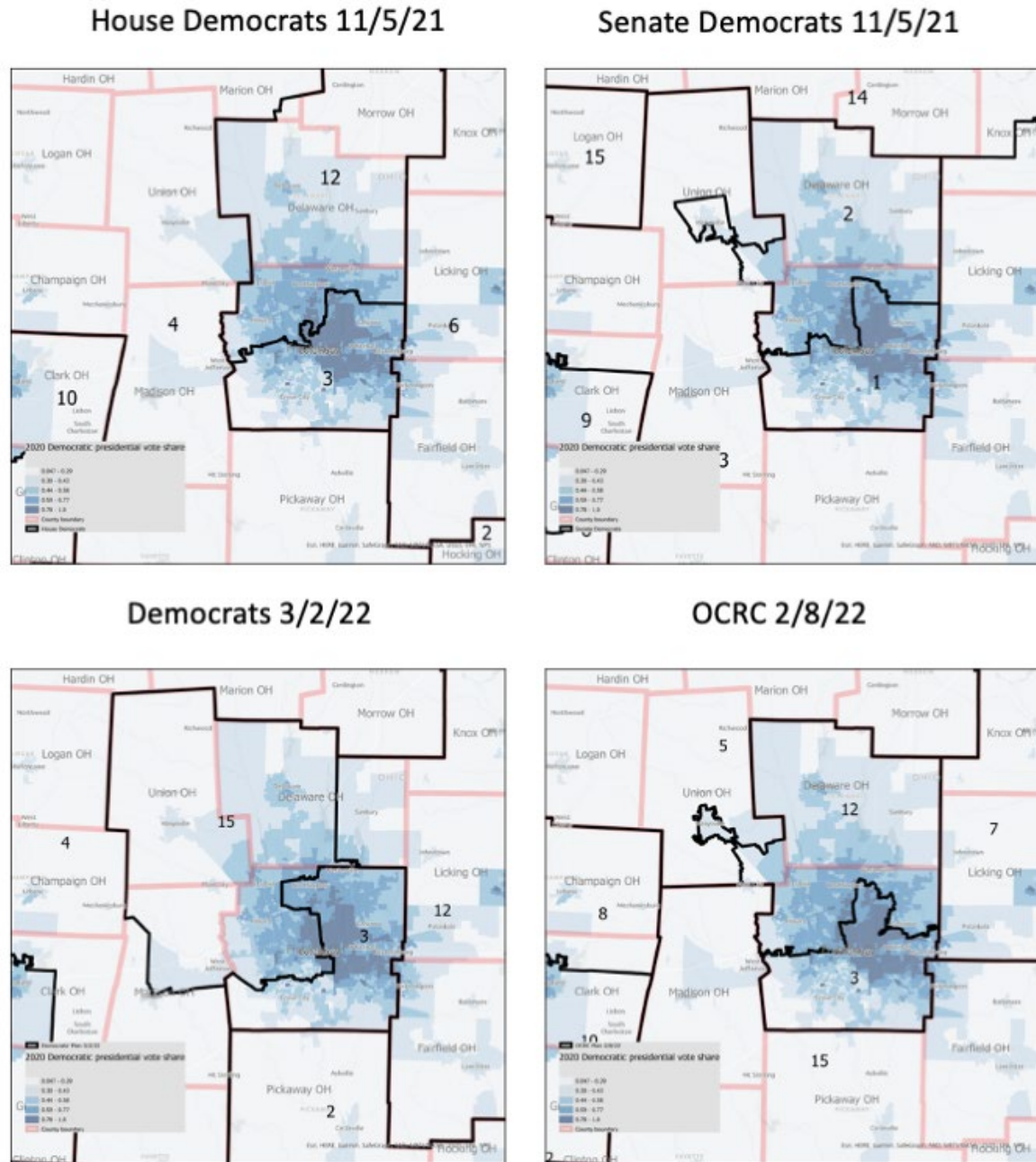


Figure 8: Columbus Area: Alternative Plans



40. Figure 8 displays the Columbus-area districts for four alternative plans. Each demonstrates ways to split fewer counties and draw more compact districts while keeping metro area communities together. District 15 in the New Plan has a Reock score of .28, whereas District 15 in the Democrats' most recent plan is .56, and District 12 in the most recent OCRC Plan is .59. As for the Polsby-Popper Score, it is .14 for the New Plan, .42 for the Democrats' Plan, and .3 for the OCRC Plan.

41. Next, let us examine the Cleveland Area. Figure 9 provides a map of the districts of the New Plan, and Figure 10 examines the alternative plans. A familiar strategy emerges again in the New Plan. The most Democratic parts of metro Cleveland are packed into one district, District 11, with the district lines carefully following the precinct-level vote shares. Instead of keeping the Western suburbs together and extending District 7 into Lorain County, the district reaches to the South and combines Democratic-leaning suburban areas with very rural areas to produce a comfortable Republican district 7 with a Republican incumbent.

Figure 9: Cleveland Area, New Plan

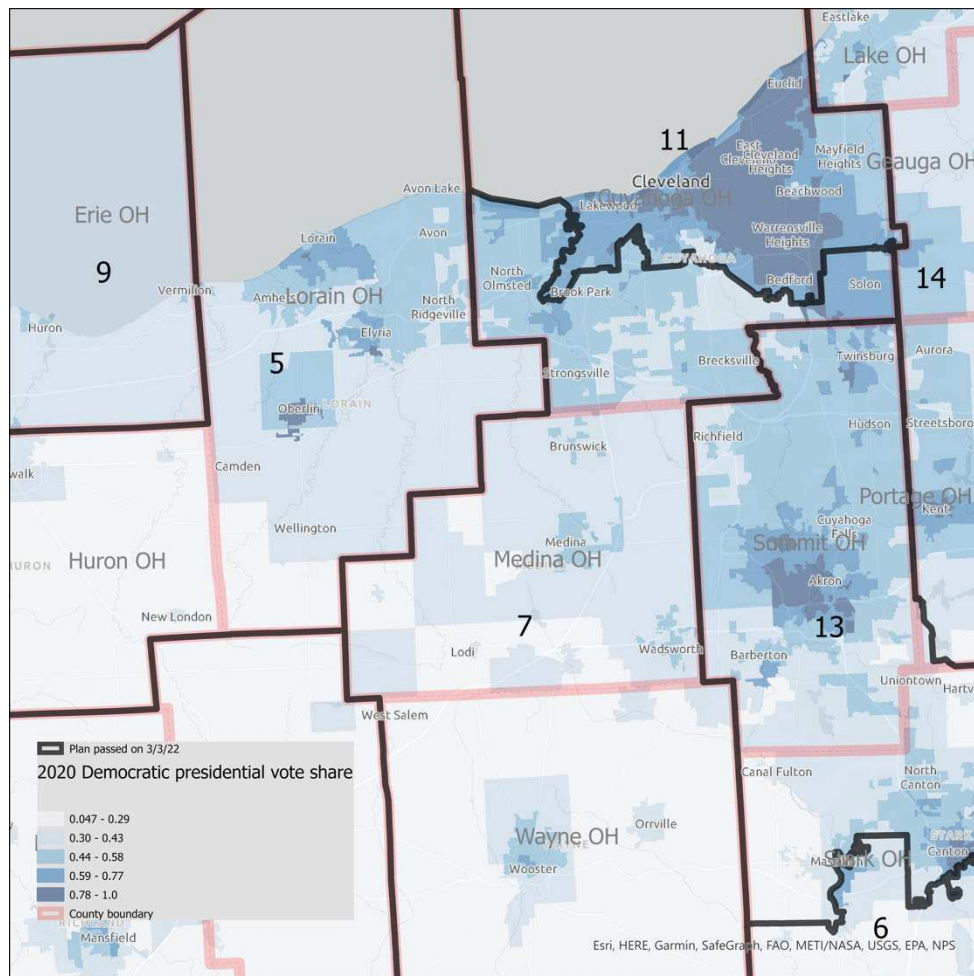
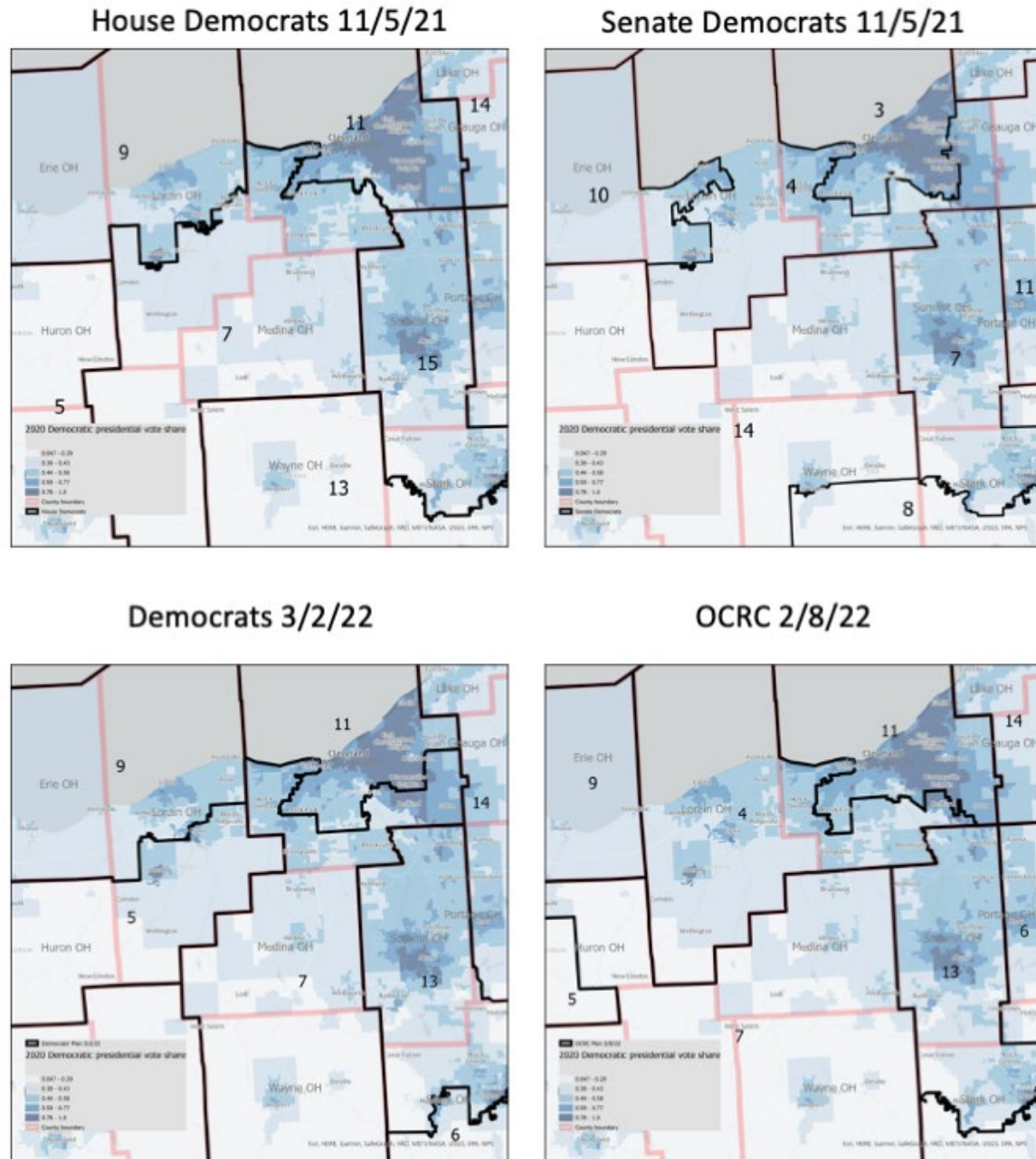


Figure 10: Cleveland Area: Alternative Plans



42. The alternative maps display a number of alternative approaches to the Cleveland area, several of which keep Democratic-leaning communities of Cuyahoga County together. For instance, using the most compact arrangement of the three, the OCRC Plan keeps the Western suburbs together, combining all of Lorain County with the suburban parts of Cuyahoga, creating a rather natural Western Cleveland district with a Democratic majority of the statewide vote.

43. Finally, let us consider Northwest Ohio. Figure 11 presents the districts of the New Plan, and Figure 12 displays the districts of alternative plans. The New Plan studiously avoids the creation of a clear Democratic district by combining metro Toledo with rural counties and avoiding a link to Lorain County. This results in a highly non-compact District 5, which extracts Lorain County and connects it via a narrow corridor of rural counties all the way to the Western border of the state.
44. In contrast, the alternative plans display more natural metro-oriented versions of District 9 that are also more compact. The Reock Score for District 9 in the New Plan is .26, compared with .33 for the Democrats' most recent plan, and .53 for the newest OCRC Plan. The Polsby-Popper Score for the New Plan is .27, compared with .34 for the Democrats' Plan and .58 for the OCRC Plan.

Figure 11: Northwest Ohio: New Plan

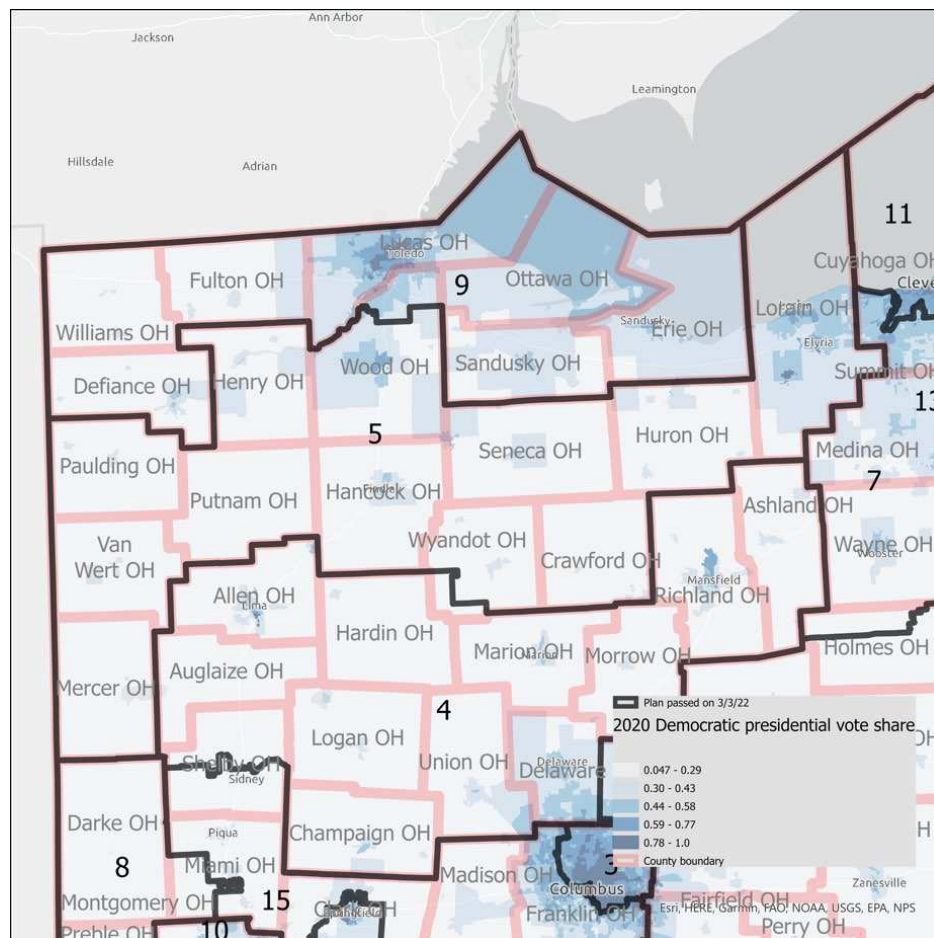
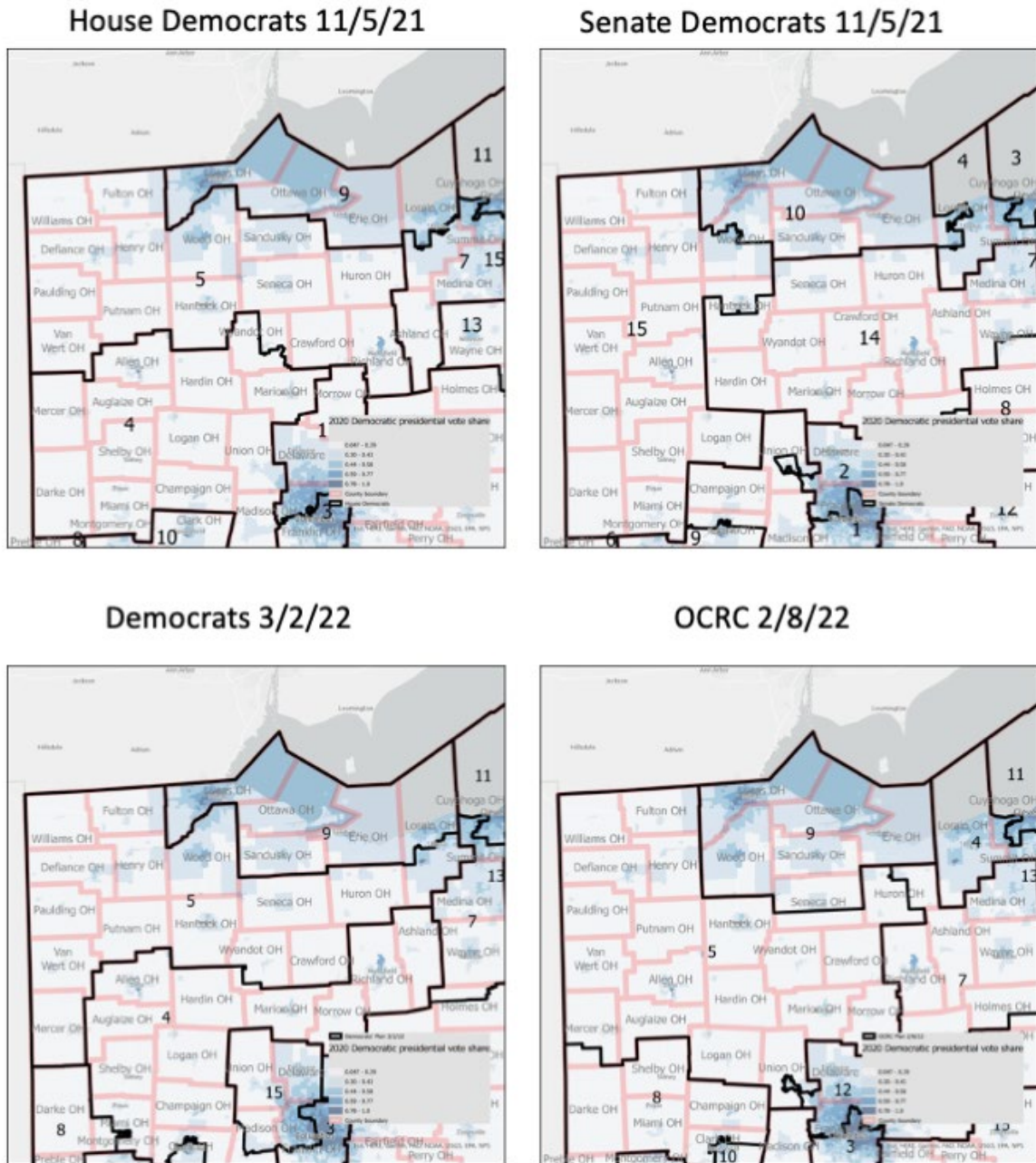


Figure 12: Northwest Ohio, Alternative Plans



45. The House Democrats' approach to Northwest Ohio, also reflected in the Democrats' March 2 map, includes the cities of Lorain County in District 9, while the OCRC version, as described above, combines Lorain with Western Cleveland in District 4. Needless to say, not only do they produce more compact districts, but both are more respectful of communities of interest than the New Plan, which extracts Lorain County from its environment altogether.

Table 1: Average Compactness Scores

	Reock	Polsby-Popper	Area/Convex Hull
New Plan	0.4	0.32	0.75
House Democrats 11/5/21 Plan	0.43	0.33	0.78
Senate Democrats 11/5/21 plan	0.43	0.29	0.76
Democrats 3/2/22 Plan	0.42	0.33	0.77
OCRC 2/8/22 Plan	0.46	0.34	0.79

46. In the paragraphs above, I have shown that efforts to split Democratic-leaning metro-area neighborhoods from their communities and combine them with rural areas while keeping Republican incumbents in their old districts sometimes required rather obvious violations of traditional redistricting criteria and non-compact districts. This also leads to districts that are, on average, less compact than those of the alternative plans, as set forth in Table 1. On each of three common measures of compactness, the House Democrats' Plan, the most recent Democratic Plan of March 2, 2022, and especially the OCRC Plan are more compact than the New Plan. The only exception is the Senate Democrats' Plan on the Polsby-Popper metric.
47. In my earlier report, I also reported simple statistics on the efficiency gap and electoral bias. Recall that electoral bias involves imagining a hypothetical tied election, and asking whether, and by how much, a party would exceed 50 percent of the seat share. As discussed above, the Democratic Party could expect 5 seats in this scenario, which corresponds to 33 percent of the seats for Democrats, and 67 percent for Republicans, for a bias measure of around 17 percent. As discussed in my initial report, this is identical to the Overturned Plan.
48. Table 2 provides information on the efficiency gap, using the statewide aggregate district-level votes shares that have been described throughout this report. By making the three swing districts slightly more Democratic, the New Plan reduces the efficiency gap from 24% to 10%, but this is still relatively high in comparison to other states, and to alternative Ohio Congressional plans.

Table 2: Efficiency Gap

	Efficiency Gap
Overturned Plan	24%
New Plan	10%
House Democrats 11/5/21 Plan	3.5%
Senate Democrats 11/5/21 plan	-3.7%
Democrats 3/2/22 Plan	-3.6%
OCRC 2/8/22 Plan	-3.6%

VII. CONCLUSION

49. Like the Overturned Plan, the New Plan is highly favorable to the Republican Party and its incumbents, and it disfavors the Democratic Party and its incumbents. This is true not because of the requirements of the Ohio Constitution or the political geography of Ohio, but because of discretionary choices made by those drawing the districts, which had the effect of “packing” Democrats into districts where they win by large majorities and “cracking” Democratic communities that would otherwise have produced majority-Democratic districts. In drawing districts to achieve partisan gain, the legislature sacrificed compactness, introduced unnecessary splits to urban counties, and divided a number of urban and suburban communities, including minority communities, throughout the state.

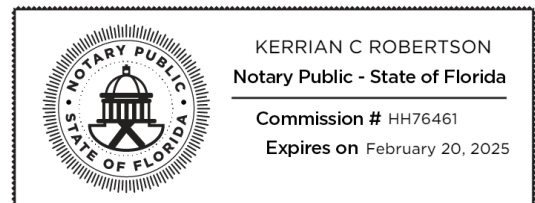
Jonathan Rodden

Jonathan Rodden

Sworn to before me this 4th day of March 2022.

Kerrian C Robertson

Kerrian C Robertson
Notary Public



Broward County, FL

Jurat
Jonathan Andrew Rodden
DRIVER LICENSE

Notarized online using audio-video communication

My commission expires 02/20/2025

How to Verify This Transaction

Every Notarize transaction is recorded and saved for a minimum of five years. Whether you receive an electronic or printed paper copy of a Notarize document, you can access details of the transaction and verify its authenticity with the information below.

To get started, visit verify.notarize.com and enter this information:

Notarize ID:	7R2NJY47
Access PIN:	HHX4C6

For more information on how to verify Notarize transactions, please visit:
support.notarize.com/notarize-for-signers/verifying-document-authenticity

Exhibit A



Exhibit B



Exhibit C

Brown/Galonski Congressional District Proposal

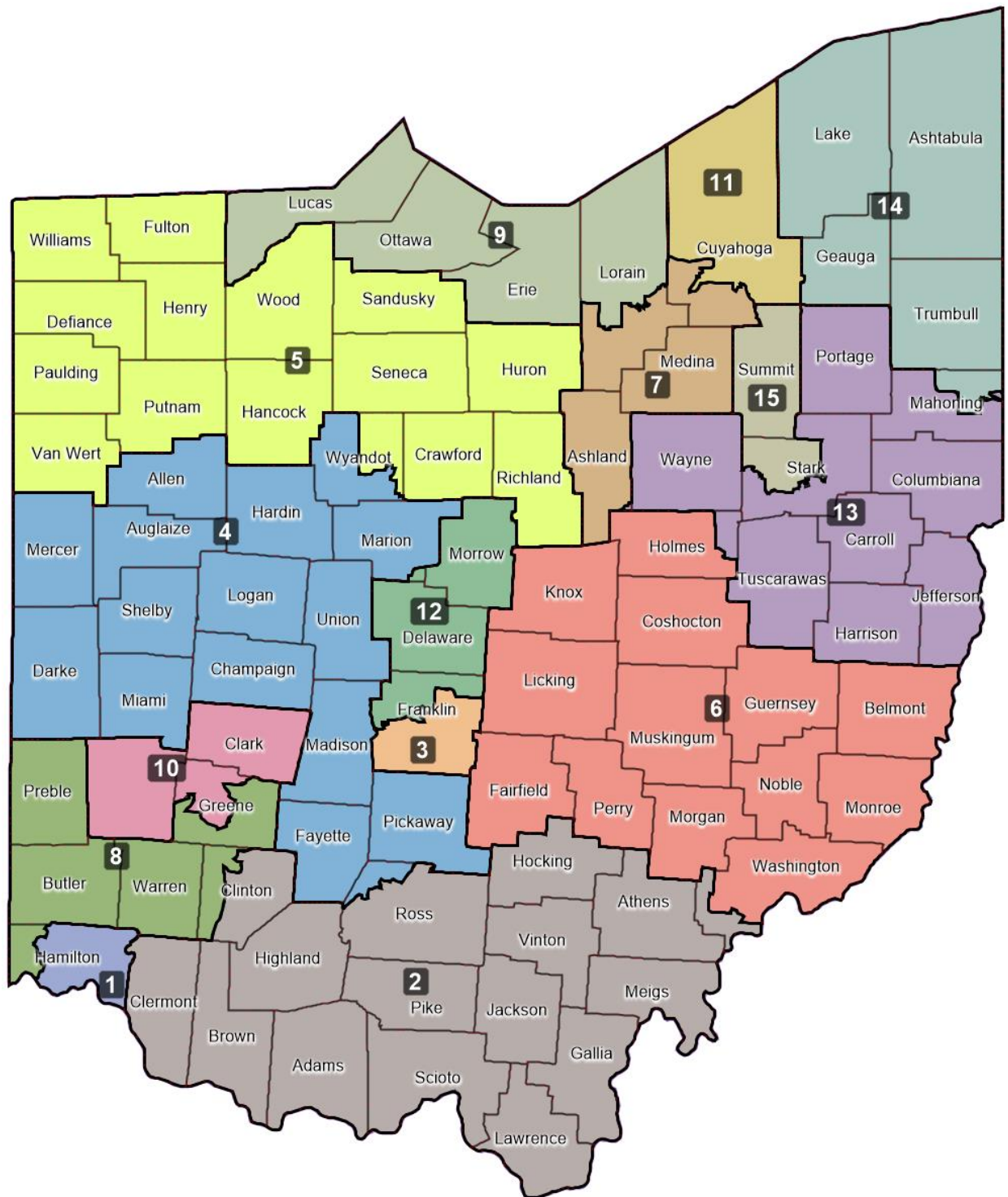


Exhibit D

Proposed Sub SB 237 Map

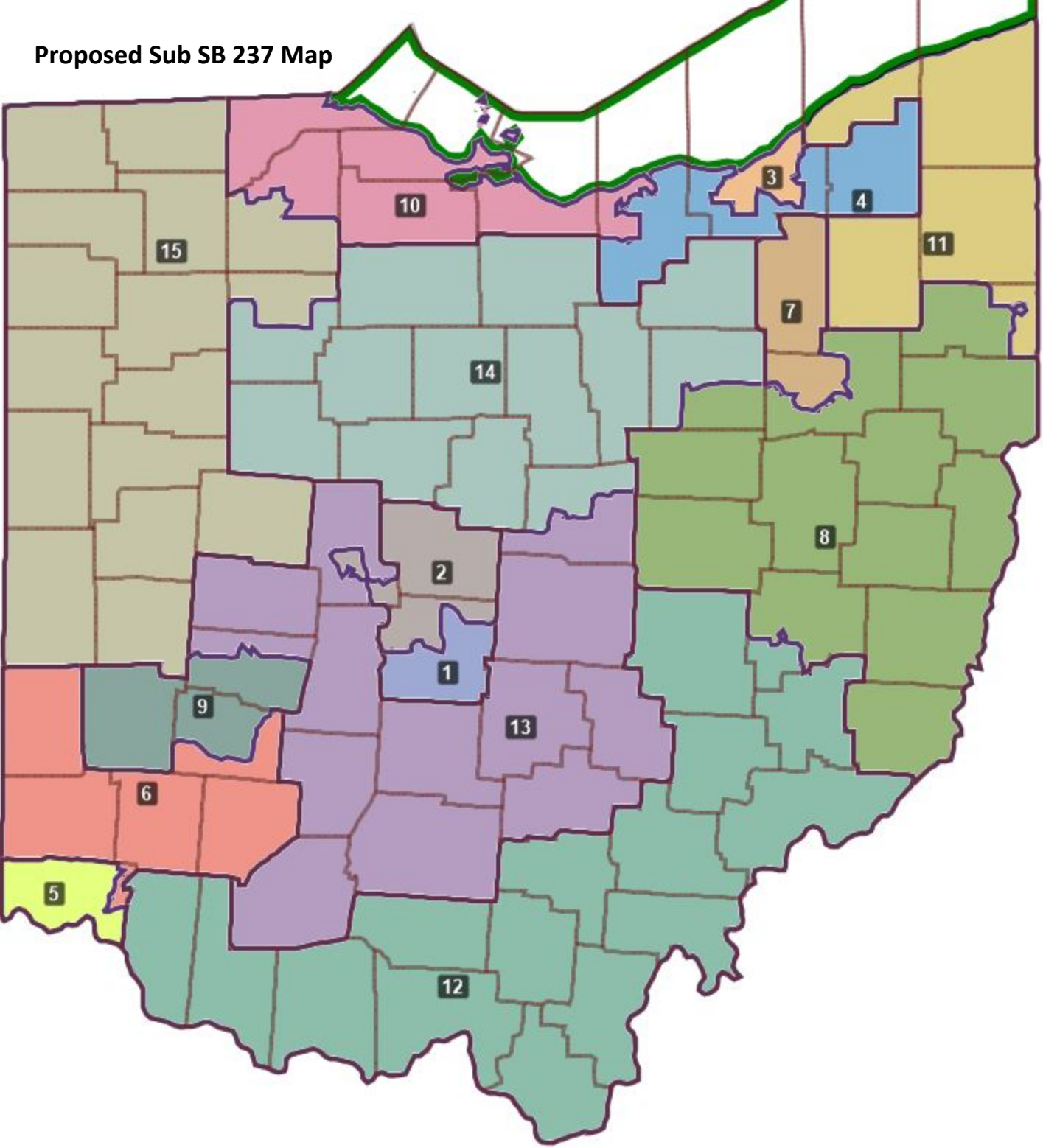


Exhibit E

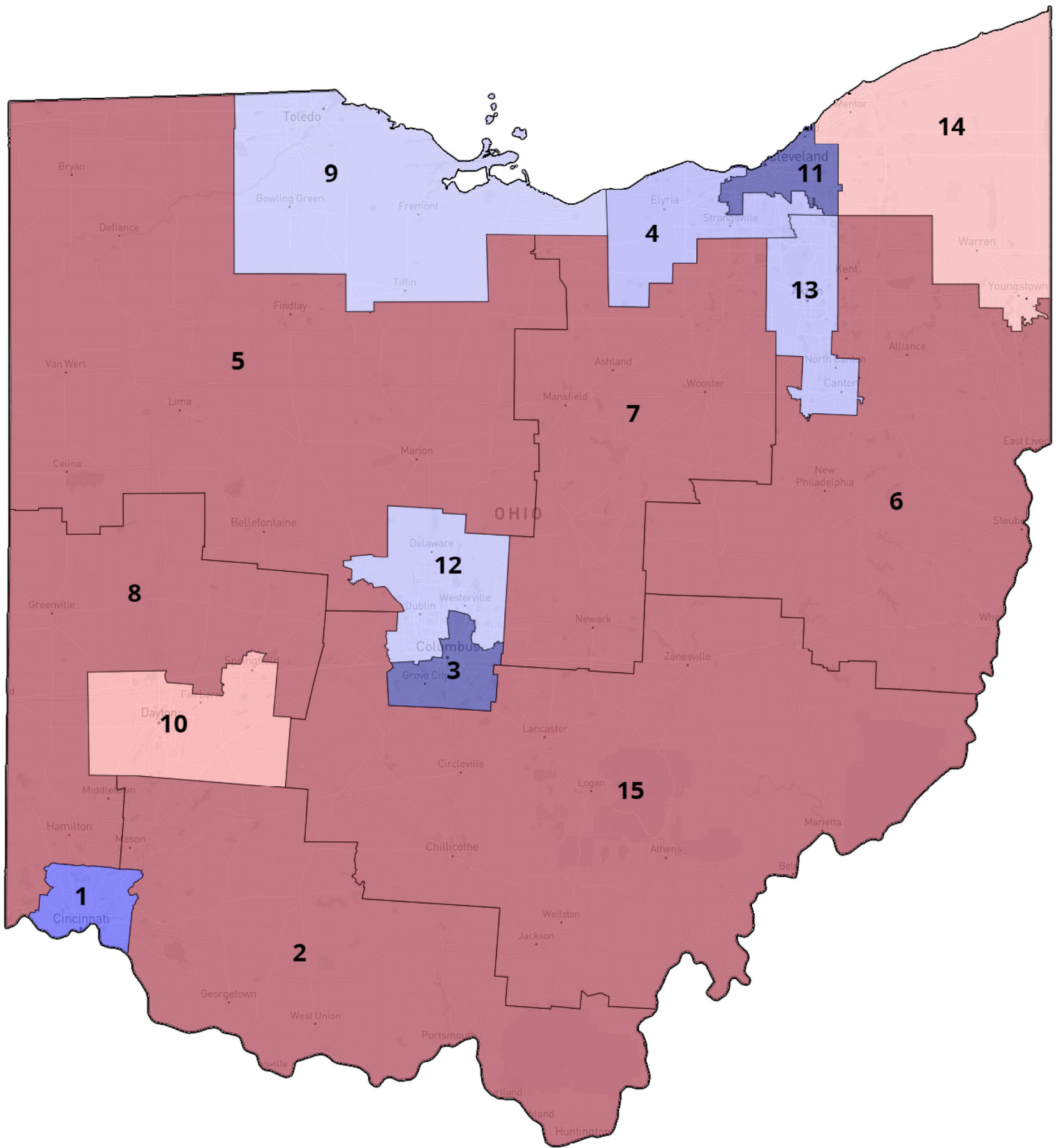


Exhibit F

Democratic Amendments to Strigari March 1, 2022 Map

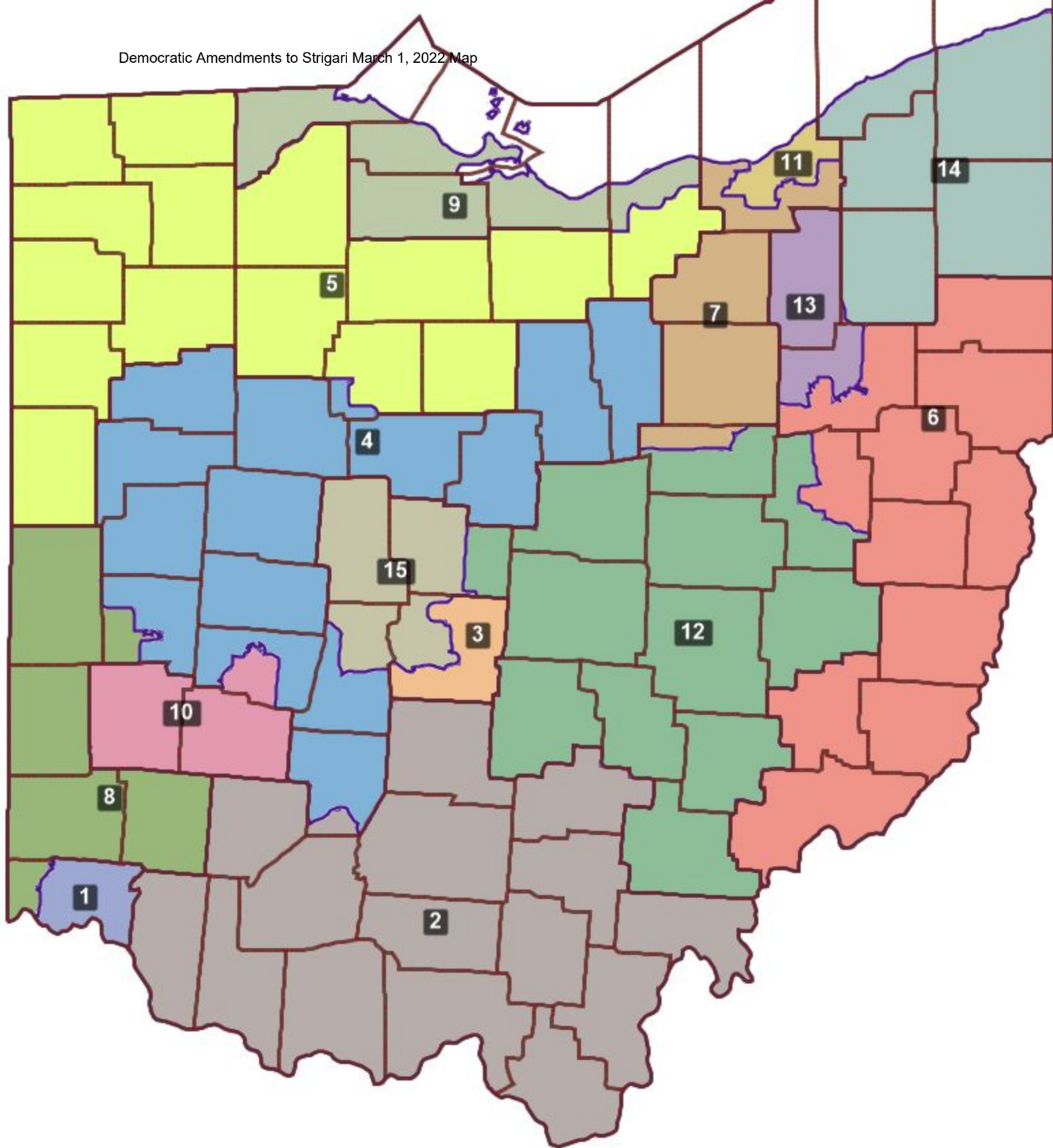


Exhibit G

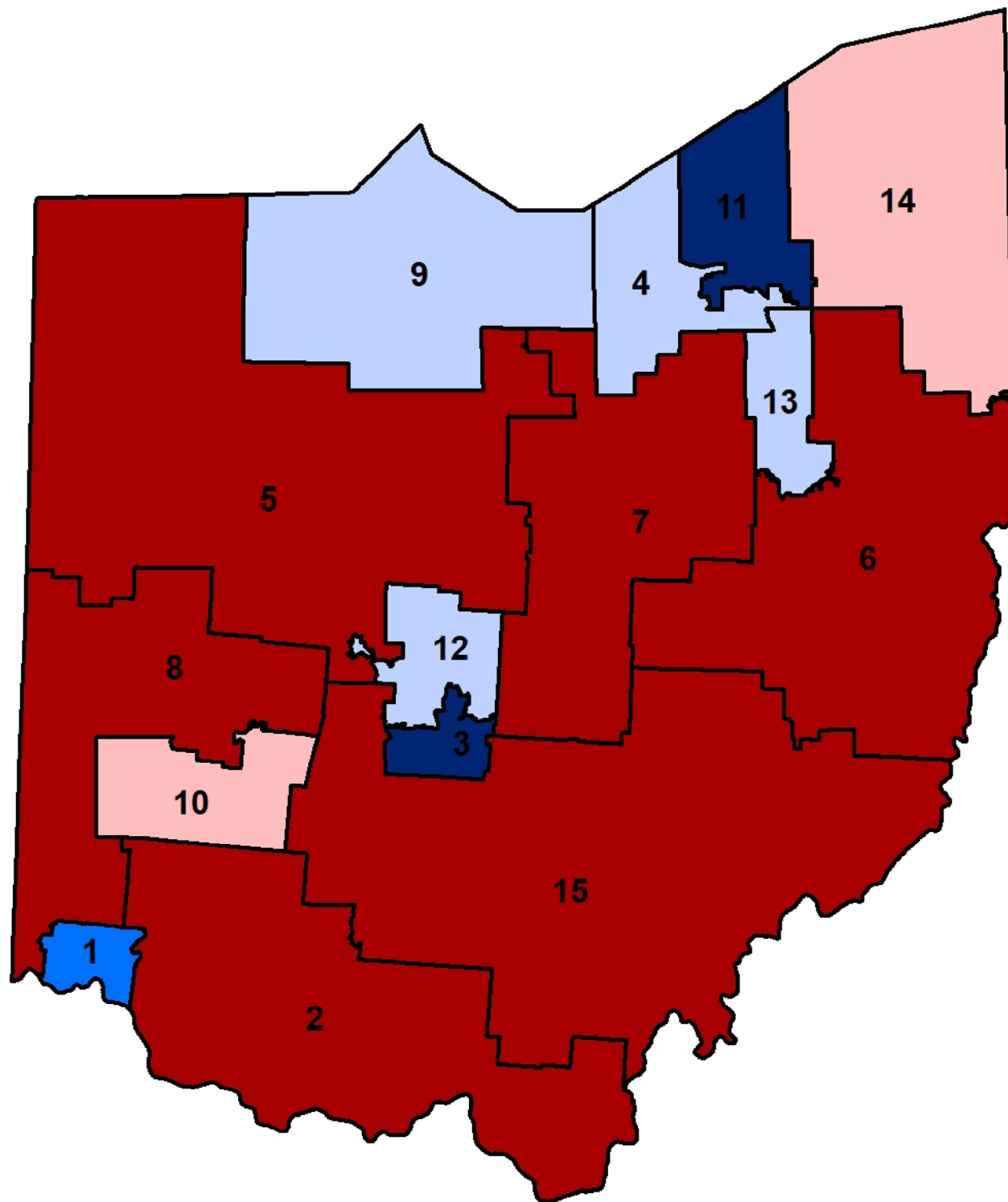


Exhibit H

Jonathan Rodden

Stanford University
Department of Political Science
Encina Hall Central
616 Serra Street
Stanford, CA 94305

Phone: (650) 723-5219
Email: jrodden@stanford.edu
Homepage: <http://www.jonathanrodden.com>

Personal

Born on August 18, 1971, St. Louis, MO.

United States Citizen.

Education

Ph.D. Political Science, Yale University, 2000.

Fulbright Scholar, University of Leipzig, Germany, 1993–1994.

B.A., Political Science, University of Michigan, 1993.

Academic Positions

Professor, Department of Political Science, Stanford University, 2012–present.

Senior Fellow, Stanford Institute for Economic Policy Research, 2020–present.

Senior Fellow, Hoover Institution, Stanford University, 2012–present.

Director, Spatial Social Science Lab, Stanford University, 2012–present.

W. Glenn Campbell and Rita Ricardo-Campbell National Fellow, Hoover Institution, Stanford University, 2010–2012.

Associate Professor, Department of Political Science, Stanford University, 2007–2012.

Fellow, Center for Advanced Study in the Behavioral Sciences, Palo Alto, CA, 2006–2007.

Ford Career Development Associate Professor of Political Science, MIT, 2003–2006.

Visiting Scholar, Center for Basic Research in the Social Sciences, Harvard University, 2004.

Assistant Professor of Political Science, MIT, 1999–2003.

Instructor, Department of Political Science and School of Management, Yale University, 1997–1999.

Publications

Books

Why Cities Lose: The Deep Roots of the Urban-Rural Divide. Basic Books, 2019.

Decentralized Governance and Accountability: Academic Research and the Future of Donor Programming. Co-edited with Erik Wibbels, Cambridge University Press, 2019.

Hamilton's Paradox: The Promise and Peril of Fiscal Federalism, Cambridge University Press, 2006. Winner, Gregory Luebbert Award for Best Book in Comparative Politics, 2007; Martha Derthick Award for lasting contribution to the study of federalism, 2021.

Fiscal Decentralization and the Challenge of Hard Budget Constraints, MIT Press, 2003. Co-edited with Gunnar Eskeland and Jennie Litvack.

Peer Reviewed Journal Articles

Who Registers? Village Networks, Household Dynamics, and Voter Registration in Rural Uganda, 2021, *Comparative Political Studies* forthcoming (with Romain Ferrali, Guy Grossman, and Melina Platas).

Partisan Dislocation: A Precinct-Level Measure of Representation and Gerrymandering, 2021, *Political Analysis* forthcoming (with Daryl DeFord Nick Eubank).

Who is my Neighbor? The Spatial Efficiency of Partisanship, 2020, *Statistics and Public Policy* 7(1):87-100 (with Nick Eubank).

Handgun Ownership and Suicide in California, 2020, *New England Journal of Medicine* 382:2220-2229 (with David M. Studdert, Yifan Zhang, Sonja A. Swanson, Lea Prince, Erin E. Holsinger, Matthew J. Spittal, Garen J. Wintemute, and Matthew Miller).

Viral Voting: Social Networks and Political Participation, 2020, *Quarterly Journal of Political Science* (with Nick Eubank, Guy Grossman, and Melina Platas).

It Takes a Village: Peer Effects and Externalities in Technology Adoption, 2020, *American Journal of Political Science* (with Romain Ferrali, Guy Grossman, and Melina Platas). Winner, 2020 Best Conference Paper Award, American Political Science Association Network Section.

Assembly of the LongSHOT Cohort: Public Record Linkage on a Grand Scale, 2019, *Injury Prevention* (with Yifan Zhang, Erin Holsinger, Lea Prince, Sonja Swanson, Matthew Miller, Garen Wintemute, and David Studdert).

Crowdsourcing Accountability: ICT for Service Delivery, 2018, *World Development* 112: 74-87 (with Guy Grossman and Melina Platas).

Geography, Uncertainty, and Polarization, 2018, *Political Science Research and Methods* doi:10.1017/psrm.2018.12 (with Nolan McCarty, Boris Shor, Chris Tausanovitch, and Chris Warshaw).

Handgun Acquisitions in California after Two Mass Shootings, 2017, *Annals of Internal Medicine* 166(10):698-706. (with David Studdert, Yifan Zhang, Rob Hyndman, and Garen Wintemute).

Cutting Through the Thicket: Redistricting Simulations and the Detection of Partisan Gerrymanders, 2015, *Election Law Journal* 14,4:1-15 (with Jowei Chen).

The Achilles Heel of Plurality Systems: Geography and Representation in Multi-Party Democracies, 2015, *American Journal of Political Science* 59,4: 789-805 (with Ernesto Calvo). Winner, Michael Wallerstein Award for best paper in political economy, American Political Science Association.

Why has U.S. Policy Uncertainty Risen Since 1960?, 2014, *American Economic Review: Papers and Proceedings* May 2014 (with Nicholas Bloom, Brandice Canes-Wrone, Scott Baker, and Steven Davis).

Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures, 2013, *Quarterly Journal of Political Science* 8: 239-269 (with Jowei Chen).

How Should We Measure District-Level Public Opinion on Individual Issues?, 2012, *Journal of Politics* 74, 1: 203-219 (with Chris Warshaw).

Representation and Redistribution in Federations, 2011, *Proceedings of the National Academy of Sciences* 108, 21:8601-8604 (with Tiberiu Dragu).

Dual Accountability and the Nationalization of Party Competition: Evidence from Four Federations, 2011, *Party Politics* 17, 5: 629-653 (with Erik Wibbels).

The Geographic Distribution of Political Preferences, 2010, *Annual Review of Political Science* 13: 297-340.

Fiscal Decentralization and the Business Cycle: An Empirical Study of Seven Federations, 2009, *Economics and Politics* 22,1: 37-67 (with Erik Wibbels).

Getting into the Game: Legislative Bargaining, Distributive Politics, and EU Enlargement, 2009, *Public Finance and Management* 9, 4 (with Deniz Aksoy).

The Strength of Issues: Using Multiple Measures to Gauge Preference Stability, Ideological Constraint, and Issue Voting, 2008. *American Political Science Review* 102, 2: 215-232 (with Stephen Ansolabehere and James Snyder).

Does Religion Distract the Poor? Income and Issue Voting Around the World, 2008, *Comparative Political Studies* 41, 4: 437-476 (with Ana Lorena De La O).

Purple America, 2006, *Journal of Economic Perspectives* 20,2 (Spring): 97-118 (with Stephen Ansolabehere and James Snyder).

Economic Geography and Economic Voting: Evidence from the U.S. States, 2006, *British Journal of Political Science* 36, 3: 527-47 (with Michael Ebeid).

Distributive Politics in a Federation: Electoral Strategies, Legislative Bargaining, and Government Coalitions, 2004, *Dados* 47, 3 (with Marta Arretche, in Portuguese).

Comparative Federalism and Decentralization: On Meaning and Measurement, 2004, *Comparative Politics* 36, 4: 481-500. (Portuguese version, 2005, in *Revista de Sociologia e Politica* 25).

Reviving Leviathan: Fiscal Federalism and the Growth of Government, 2003, *International Organization* 57 (Fall), 695-729.

Beyond the Fiction of Federalism: Macroeconomic Management in Multi-tiered Systems, 2003, *World Politics* 54, 4 (July): 494-531 (with Erik Wibbels).

The Dilemma of Fiscal Federalism: Grants and Fiscal Performance around the World, 2002, *American Journal of Political Science* 46(3): 670-687.

Strength in Numbers: Representation and Redistribution in the European Union, 2002, *European Union Politics* 3, 2: 151-175.

Does Federalism Preserve Markets? *Virginia Law Review* 83, 7 (with Susan Rose-Ackerman). Spanish version, 1999, in *Quorum* 68.

Working Papers

Elections, Political Polarization, and Economic Uncertainty, NBER Working Paper 27961 (with Scott Baker, Aniket Baksy, Nicholas Bloom, and Steven Davis).

Federalism and Inter-regional Redistribution, Working Paper 2009/3, Institut d'Economia de Barcelona.

Representation and Regional Redistribution in Federations, Working Paper 2010/16, Institut d'Economia de Barcelona (with Tiberiu Dragu).

Chapters in Books

Political Geography and Representation: A Case Study of Districting in Pennsylvania (with Thomas Weighill), in *Political Geometry*, edited by Moon Duchin and Olivia Walch, forthcoming 2021, Springer.

Keeping Your Enemies Close: Electoral Rules and Partisan Polarization, in *The New Politics of Insecurity*, edited by Frances Rosenbluth and Margaret Weir, forthcoming 2021, Cambridge University Press.

Decentralized Rule and Revenue, 2019, in Jonathan Rodden and Erik Wibbels, eds., *Decentralized Governance and Accountability*, Cambridge University Press.

Geography and Gridlock in the United States, 2014, in Nathaniel Persily, ed. *Solutions to Political Polarization in America*, Cambridge University Press.

Can Market Discipline Survive in the U.S. Federation?, 2013, in Daniel Nadler and Paul Peterson, eds, *The Global Debt Crisis: Haunting U.S. and European Federalism*, Brookings Press.

Market Discipline and U.S. Federalism, 2012, in Peter Conti-Brown and David A. Skeel, Jr., eds, *When States Go Broke: The Origins, Context, and Solutions for the American States in Fiscal Crisis*, Cambridge University Press.

Federalism and Inter-Regional Redistribution, 2010, in Nuria Bosch, Marta Espasa, and Albert Sole Olle, eds., *The Political Economy of Inter-Regional Fiscal Flows*, Edward Elgar.

Back to the Future: Endogenous Institutions and Comparative Politics, 2009, in Mark Lichbach and Alan Zuckerman, eds., *Comparative Politics: Rationality, Culture, and Structure* (Second Edition), Cambridge University Press.

The Political Economy of Federalism, 2006, in Barry Weingast and Donald Wittman, eds., *Oxford Handbook of Political Economy*, Oxford University Press.

Fiscal Discipline in Federations: Germany and the EMU, 2006, in Peter Wierds, Servaas Deroose, Elena Flores and Alessandro Turrini, eds., *Fiscal Policy Surveillance in Europe*, Palgrave MacMillan.

The Political Economy of Pro-cyclical Decentralised Finance (with Erik Wibbels), 2006, in Peter Wierds, Servaas Deroose, Elena Flores and Alessandro Turrini, eds., *Fiscal Policy Surveillance in Europe*, Palgrave MacMillan.

Globalization and Fiscal Decentralization, (with Geoffrey Garrett), 2003, in Miles Kahler and David Lake, eds., *Governance in a Global Economy: Political Authority in Transition*, Princeton University Press: 87-109. (Updated version, 2007, in David Cameron, Gustav Ranis, and Annalisa Zinn, eds., *Globalization and Self-Determination: Is the Nation-State under Siege?* Routledge.)

Introduction and Overview (Chapter 1), 2003, in Rodden et al., *Fiscal Decentralization and the Challenge of Hard Budget Constraints* (see above).

Soft Budget Constraints and German Federalism (Chapter 5), 2003, in Rodden, et al, *Fiscal Decentralization and the Challenge of Hard Budget Constraints* (see above).

Federalism and Bailouts in Brazil (Chapter 7), 2003, in Rodden, et al., *Fiscal Decentralization and the Challenge of Hard Budget Constraints* (see above).

Lessons and Conclusions (Chapter 13), 2003, in Rodden, et al., *Fiscal Decentralization and the Challenge of Hard Budget Constraints* (see above).

Online Interactive Visualization

Stanford Election Atlas, 2012 (collaboration with Stephen Ansolabehere at Harvard and Jim Herries at ESRI)

Other Publications

Supporting Advanced Manufacturing in Alabama, Report to the Alabama Innovation Commission, Hoover Institution, 2021.

How America's Urban-Rural Divide has Shaped the Pandemic, 2020, *Foreign Affairs*, April 20, 2020.

An Evolutionary Path for the European Monetary Fund? A Comparative Perspective, 2017, Briefing paper for the Economic and Financial Affairs Committee of the European Parliament.

Representation and Regional Redistribution in Federations: A Research Report, 2009, in *World Report on Fiscal Federalism*, Institut d'Economia de Barcelona.

On the Migration of Fiscal Sovereignty, 2004, *PS: Political Science and Politics* July, 2004: 427–431.

Decentralization and the Challenge of Hard Budget Constraints, *PREM Note* 41, Poverty Reduction and Economic Management Unit, World Bank, Washington, D.C. (July).

Decentralization and Hard Budget Constraints, *APSA-CP* (Newsletter of the Organized Section in Comparative Politics, American Political Science Association) 11:1 (with Jennie Litvack).

Book Review of *The Government of Money* by Peter Johnson, *Comparative Political Studies* 32,7: 897-900.

Fellowships, Honors, and Grants

John Simon Guggenheim Memorial Foundation Fellowship, 2021.

Martha Derthick Award of the American Political Science Association for “the best book published at least ten years ago that has made a lasting contribution to the study of federalism and intergovernmental relations,” 2021.

National Institutes of Health, funding for “Relationship between lawful handgun ownership and risk of homicide victimization in the home,” 2021.

National Collaborative on Gun Violence Research, funding for “Cohort Study Of Firearm-Related Mortality Among Cohabitants Of Handgun Owners.” 2020.

Fund for a Safer Future, Longitudinal Study of Handgun Ownership and Transfer (LongSHOT), GA004696, 2017-2018.

Stanford Institute for Innovation in Developing Economies, Innovation and Entrepreneurship research grant, 2015.

Michael Wallerstein Award for best paper in political economy, American Political Science Association, 2016.

Common Cause Gerrymandering Standard Writing Competition, 2015.

General support grant from the Hewlett Foundation for Spatial Social Science Lab, 2014.

Fellow, Institute for Research in the Social Sciences, Stanford University, 2012.

Sloan Foundation, grant for assembly of geo-referenced precinct-level electoral data set (with Stephen Ansolabehere and James Snyder), 2009-2011.

Hoagland Award Fund for Innovations in Undergraduate Teaching, Stanford University, 2009.

W. Glenn Campbell and Rita Ricardo-Campbell National Fellow, Hoover Institution, Stanford University, beginning Fall 2010.

Research Grant on Fiscal Federalism, Institut d'Economia de Barcelona, 2009.

Fellow, Institute for Research in the Social Sciences, Stanford University, 2008.

United Postal Service Foundation grant for study of the spatial distribution of income in cities, 2008.

Gregory Luebbert Award for Best Book in Comparative Politics, 2007.

Fellow, Center for Advanced Study in the Behavioral Sciences, 2006-2007.

National Science Foundation grant for assembly of cross-national provincial-level dataset on elections, public finance, and government composition, 2003-2004 (with Erik Wibbels).

MIT Dean's Fund and School of Humanities, Arts, and Social Sciences Research Funds.

Funding from DAAD (German Academic Exchange Service), MIT, and Harvard EU Center to organize the conference, "European Fiscal Federalism in Comparative Perspective," held at Harvard University, November 4, 2000.

Canadian Studies Fellowship (Canadian Federal Government), 1996-1997.

Prize Teaching Fellowship, Yale University, 1998-1999.

Fulbright Grant, University of Leipzig, Germany, 1993-1994.

Michigan Association of Governing Boards Award, one of two top graduating students at the University of Michigan, 1993.

W. J. Bryan Prize, top graduating senior in political science department at the University of Michigan, 1993.

Other Professional Activities

Selection committee, best paper award, American Journal of Political Science.

International Advisory Committee, Center for Metropolitan Studies, Sao Paulo, Brazil, 2006-2010.

Selection committee, Mancur Olson Prize awarded by the American Political Science Association Political Economy Section for the best dissertation in the field of political economy.

Selection committee, Gregory Luebbert Best Book Award.

Selection committee, William Anderson Prize, awarded by the American Political Science Association for the best dissertation in the field of federalism and intergovernmental relations.

Courses

Undergraduate

Politics, Economics, and Democracy
Introduction to Comparative Politics
Introduction to Political Science
Political Science Scope and Methods
Institutional Economics
Spatial Approaches to Social Science

Graduate

Political Economy
Political Economy of Institutions
Federalism and Fiscal Decentralization
Politics and Geography

Consulting

2017. Economic and Financial Affairs Committee of the European Parliament.

2016. Briefing paper for the World Bank on fiscal federalism in Brazil.

2013-2018: Principal Investigator, SMS for Better Governance (a collaborative project involving USAID, Social Impact, and UNICEF in Arua, Uganda).

2019: Written expert testimony in *McLemore, Holmes, Robinson, and Woullard v. Hosemann*, United States District Court, Mississippi.

2019: Expert witness in *Nancy Corola Jacobson v. Detzner*, United States District Court, Florida.

2018: Written expert testimony in *League of Women Voters of Florida v. Detzner* No. 4:18-cv-002510, United States District Court, Florida.

2018: Written expert testimony in *College Democrats of the University of Michigan, et al. v. Johnson, et al.*, United States District Court for the Eastern District of Michigan.

2017: Expert witness in *Bethune-Hill v. Virginia Board of Elections*, No. 3:14-CV-00852, United States District Court for the Eastern District of Virginia.

2017: Expert witness in *Arizona Democratic Party, et al. v. Reagan, et al.*, No. 2:16-CV-01065, United States District Court for Arizona.

2016: Expert witness in *Lee v. Virginia Board of Elections*, 3:15-cv-357, United States District Court for the Eastern District of Virginia, Richmond Division.

2016: Expert witness in *Missouri NAACP v. Ferguson-Florissant School District*, United States District Court for the Eastern District of Missouri, Eastern Division.

2014-2015: Written expert testimony in *League of Women Voters of Florida et al. v. Detzner, et al.*, 2012-CA-002842 in Florida Circuit Court, Leon County (Florida Senate redistricting case).

2013-2014: Expert witness in *Romo v Detzner*, 2012-CA-000412 in Florida Circuit Court, Leon County (Florida Congressional redistricting case).

2011-2014: Consultation with investment groups and hedge funds on European debt crisis.

2011-2014: Lead Outcome Expert, Democracy and Governance, USAID and Social Impact.

2010: USAID, Review of USAID analysis of decentralization in Africa.

2006-2009: World Bank, Independent Evaluations Group. Undertook evaluations of World Bank decentralization and safety net programs.

2008-2011: International Monetary Fund Institute. Designed and taught course on fiscal federalism.

1998-2003: World Bank, Poverty Reduction and Economic Management Unit. Consultant for *World Development Report*, lecturer for training courses, participant in working group for assembly of decentralization data, director of multi-country study of fiscal discipline in decentralized countries, collaborator on review of subnational adjustment lending.

Last updated: September 23, 2021

CERTIFICATE OF SERVICE

I hereby certify that the foregoing was sent via email this 4th day of March, 2022 to the following:

Bridget C. Coontz, bridget.coontz@ohioago.gov
Julie M. Pfeiffer, julie.pfeiffer@ohioago.gov
Michael Walton, michael.walton@ohioago.gov

Counsel for Respondent Ohio Secretary of State LaRose

W. Stuart Dornette, dornette@taftlaw.com
Beth A. Bryan, bryan@taftlaw.com
Philip D. Williamson, pwilliamson@taftlaw.com
Phillip J. Strach, phil.strach@nelsonmullins.com
Thomas A. Farr, tom.farr@nelsonmullins.com
John E. Branch, III, john.branch@nelsonmullins.com
Alyssa M. Riggins, alyssa.riggins@nelsonmullins.com

Counsel for Respondents House Speaker Robert R. Cupp and Senate President Matt Huffman

/s/ Derek S. Clinger
Derek S. Clinger (0092075)